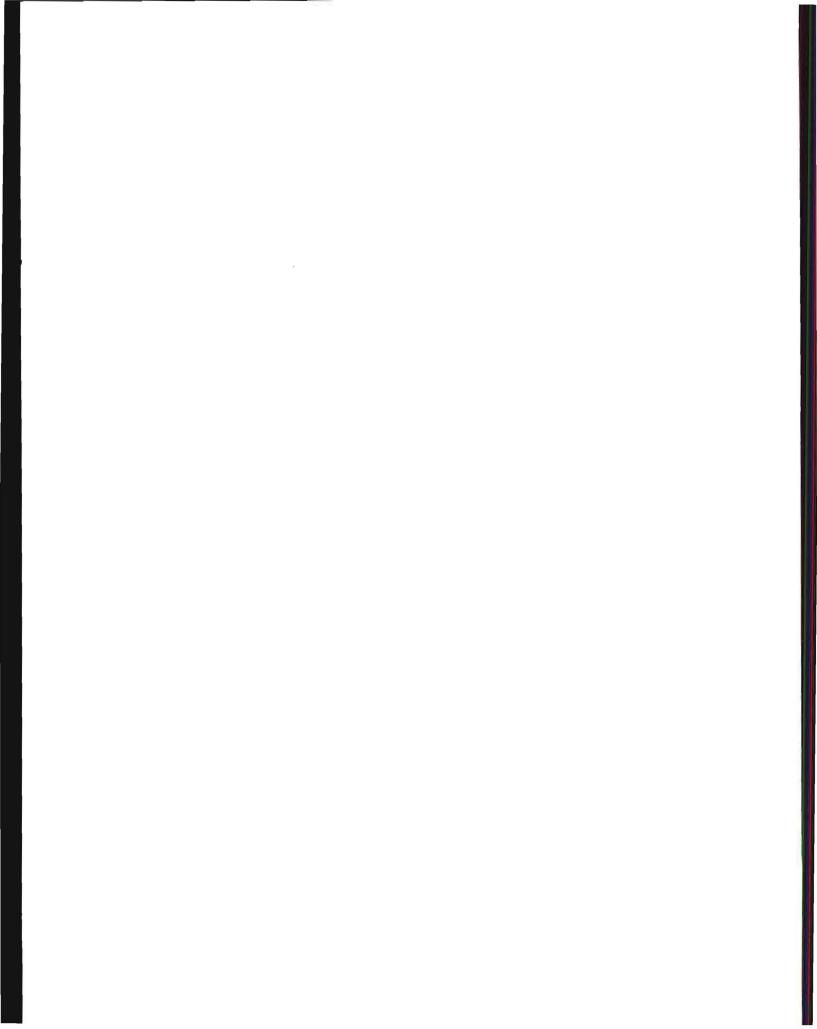


ANNOTATED
BIBLIOGRAPHY
OF NEW YORK
BIGHT,
HUDSON-RARITAN
ESTUARINE
SYSTEM AND
CONTIGUOUS
COASTAL WATERS:
1973-1981

VOL. 1 OF 2



MARINE SCIENCES RESEARCH CENTER SUNY STONY BROOK, N.Y. 11794-5000



MARINE SCIENCES RESEARCH CENTER STATE UNIVERSITY OF NEW YORK STONY BROOK, NEW YORK 11794

ANNOTATED BIBLIOGRAPHY OF NEW YORK BIGHT, HUDSON-RARITAN ESTUARINE SYSTEM AND CONTIGUOUS COASTAL WATERS: 1973-1981

Volume 1

R.F. Horvath G.E. Carroll S.A. Covell A.J. Evjen J. Schoof

June 1984

ACKNOWLEDGEMENTS

Preparation of this bibliography was supported by the National Oceanic and Atmospheric Administration's Ocean Assessments Division (Contract No. NA79RAA04476), the Hudson River Foundation for Science and Environmental Research, Inc. and the William H. Donner Foundation. NOAA's Technical Representative Charles A. Parker's advice and guidance were the impetus for this bibliography. We thank Betty Ann Adamson, Suzanne Demond, John Ellsworth, Debra Keith, Harvey Simon, Susan Troll, Barbara Wolin and Debra Yedwabnick for their assistance in researching and proofreading the citations. The graphics are by the MSRC Graphics Group directed by Mitzi Eisel. Theresa Crescimanno assisted in typing the bibliography.

Additional copies of this report are available in computer printout form at cost from The Director, Marine Sciences Research Center, State University of New York, Stony Brook, NY 11794-5000.

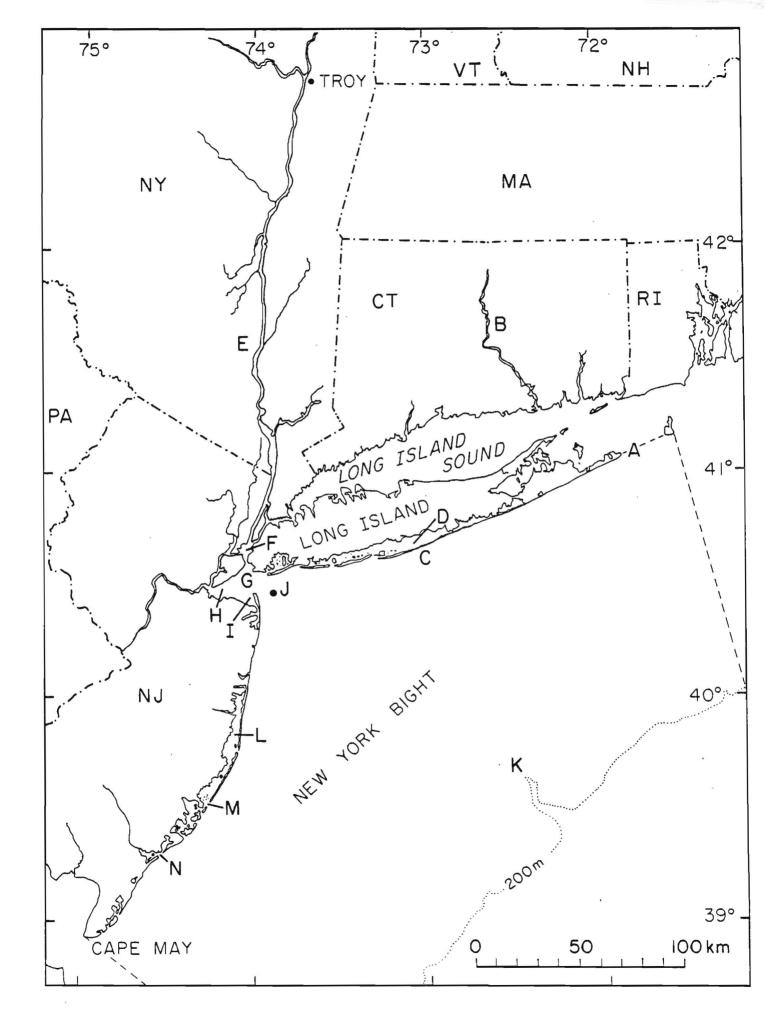
INTRODUCTION

In the fall of 1979, the Marine Sciences Research Center (MSRC) began to prepare an annotated bibliography to supplement two existing New York Bight bibliographies. This work was initiated under the sponsorship of the National Oceanic and Atmospheric Administration's (NOAA) MESA N.Y. Bight Project and resulted from a meeting held at the Marine Sciences Research Center. At this meeting representatives of NOAA and the Environmental Protection Agency indicated a need for an update of the earlier bibliographies. This supplemental bibliography, as originally conceived, was to be a comprehensive and accurate listing of annotated citations of all publications dealing with the New York Bight Apex-Hudson-Raritan estuarine system. The geographical areas covered were to include the New York Bight Apex, the Hudson-Raritan estuarine system to the limit of tidal effects, the East River and western Long Island Sound. Existing MESA and MSRC New York Bight bibliographies were to be searched and those publications dealing with these geographical areas were to be incorporated into the supplemental bibliography. The search of other sources for the bibliography was to be restricted to the period 1 April 1973 through 31 December 1978. Cited publications were to include all published literature, institutional grey literature, and masters and doctoral dissertations. The end product was to be a manually produced publication in the MSRC's Special Report series.

In 1981 after exhaustive library research and over 2500 annotated entries, it was decided it would be much more useful to produce a computer-generated bibliography that could be updated easily on a periodic basis. The end product was re-designed to be a large, soft cover, computer-printed bibliography containing three major lists:

1) complete citations sorted by citation numbers providing seven fields of information: authors, publication date, title, publication data, keywords, subject areas, and abstracts; 2) author index with date, title and citation number; and 3) keyword index providing primary author, date, title, and citation number. The period covered was extended through 31 December 1981.

In 1983, the Hudson River Foundation provided supplemental funding to cover the extensive editing and proofreading of the bibliographic computer entries and the keyword listing.



MAP KEY

- A. MONTAUK POINT
- B. CONNECTICUT RIVER
- C. FIRE ISLAND
- D. GREAT SOUTH BAY
- E. HUDSON RIVER
- F. UPPER BAY
- G. LOWER BAY

- H. RARITAN BAY
- I. SANDY HOOK
- J. AMBROSE LIGHT
- K. HUDSON CANYON
- L. BARNEGAT BAY
- M. LITTLE EGG INLET
- N. GREAT EGG INLET

ORGANIZATION OF THE BIBLIOGRAPHY

The bibliography is arranged in three main parts: a listing of annotated bibliographic citations, an author index and a keyword index. For easy use, the citations are in the first volume while the two indices are in the second. This allows the user to work with the indices and citations simultaneously.

In the first volume, the bibliography citations are arranged in alphabetical order by primary author. Citations with individuals as authors are listed first followed by citations of publications authored by organizations. Each citation has been assigned a "citation number." Each entry contains the following information:

- citation number
- author(s)
- date of publication
- title
- publication data
- abstract

National Technical Information Service (NTIS) reference numbers are included in the publication data when available. There are two lists of abbreviations used in the bibliography, one for journals and one for societies and governmental organizations.

The author index lists each author alphabetically, including secondary authors. Following each author's name is a list of his publications that appear in the bibliography in chronological order. The author index lists citation number followed by title and date. As in volume one, the list of individual authors comes first followed by a list of organization authors.

The keyword index was generated with flexibility and usability in mind. The words contained within this index include general and specific descriptors, species names, and specific geographic locations. The keyword list is arranged alphabetically and each keyword is followed by a list of publications, in citation number order, to which the keyword applies. As in the author index, publication are listed with citation number first, followed by title and date. In addition, there is an alphabetical list of keywords for quick reference in locating alternate keywords. This enables the user to locate all the possible related keywords for a given topic before turning to the more lengthy keyword index.

PUBLICATIONS

Abbreviations	Publication Name
Acous Soc J	Acoustical Society of America Journal
ASCE J Environ Eng Div	American Society of Civil Engineers Journal of the Environmental Engineering Division
ASCE J Geotech Eng Div	American Society of Civil Engineers Journal of the Geotechnical Engineering Division
ASCE J Hydrau Div	American Society of Civil Engineers Journal of the Hydraulics Division
ASCE J Sanit Eng Div	American Society of Civil Engineers Journal of the Sanitation Engineering Division
ASCE J Waterways Div	American Society of Civil Engineers Journal of the Waterways, Harbors & Coastal Engineering Division
ASCE J Trans Eng Div	American Society of Civil Engineers Journal of the Transportation Engineering Division
Adv Hydrosci	Advanced Hydroscience
Am Assoc Pet Geol Bull	American Association of Petroleum Geologists Bulletin
Ambio Spec Rep	Ambio Special Report
Am Econ Rev	American Economic Review
Amer Dyestuff Reporter	American Dyestuff Reporter
Am Ethnolog	American Ethnology
Am Gas Assoc Mon	American Gas Association Monthly
Am J Sci	American Journal of Science
Anal Chim Acta	Analytica Chimica Acta
Ann Rev Earth Planet Sci	Annual Review of Earth & Planetary Sciences

Appl Environ Microbiol	Applied Environmental Microbiology
Aquat Mamm	Aquatic Mammals
Aquat Sci	Aquatic Science
Arch Environ Contam Toxicol	Archives of Environmental Contamination & Toxicology
Atlantic	Atlantic
Atmos Environ	Atmospheric Environment
Biol Bull	Biological Bulletin
Biol Conserv	Biological Conservation
Botanica Marina	Botanica Marina
Boundary-Layer Meteorol	Boundary-Layer Meterology
Br Phycol J	British Phycological Journal
Bull Am Litt Soc	Bulletin of the American Littoral Society
Bull Environ Contam Toxicol	Bulletin of Environmental Contamination & Toxicology
Bull Mar Sci	Bulletin of Marine Science
Bull NJ Acad Sci	Bulletin of the New Jersey Academy of Science
Bull Torrey Bot Club	Bulletin of the Torrey Botanical Club
Can Field Nat	Canadian Field Naturalist
Can Field Nat Can J Fish Aquatic Sci	Canadian Field Naturalist Canadian Journal of Fisheries & Aquatic Sciences
	Canadian Journal of Fisheries &
Can J Fish Aquatic Sci	Canadian Journal of Fisheries & Aquatic Sciences
Can J Fish Aquatic Sci Can J Microbiol	Canadian Journal of Fisheries & Aquatic Sciences Canadian Journal of Microbiology
Can J Fish Aquatic Sci Can J Microbiol Chem Week	Canadian Journal of Fisheries & Aquatic Sciences Canadian Journal of Microbiology Chemical Week

Coastal Oceanogr Climatol News Coastal Oceanography & Climatology

News

Coastal Zone Manag J Coastal Zone Management Journal

Coast Eng Coastal Engineering

Comp Biochem Physiol Comparative Biochemistry and

Physiology

Cons Int Explor Mer Zooplankton Conseil Internationale pour

Sheet L'Exploration de la Mer Zooplankton

Sheet

Conservationist

2.....

Conservationist

Constr Methods Equip Construction Methods & Equipment

Coop Res Rep Cooperative Research Report

Cornell LR Cornell Law Review

Crustaceana Crustaceana

Deep-Sea Res Deep-Sea Research

Earth Planet Earth & Planetary Science Letters

Ecol Model Ecological Modelling

Ecology Ecology

Effluent Water Treatm J Effluent & Water Treatment Journal

Empire State Report Empire State Report

Eng Found Engineering Foundation

Eng News-Rec Engineering News - Record

Env Biol Fish Environmental Biology of Fishes

Environ Conserv Environmental Conservation

Environ Geol Environmental Geology

Environ Internat1 Environmental International

Environ Lett Environmental Letters

Environ Manage Environmental Management

Environmental Law Environmental Law

Environ Pollut Environmental Pollution

Environ Quart	Environmental Quarterly
Environ Res	Environmental Research
Environ Sci Technol	Environmental Science & Technology
EOS: Trans Am Geophys Union	Transactions, American Geophysical Union
EPA J	Environmental Protection Agency Journal
Estuaries	Estuaries
Estuarine Coastal Mar Sci	Estuarine Coastal Marine Science
FAO Fish Tech Pap	Food and Agriculture Organization Fisheries Technical Paper
Federal Register	Federal Register
Fish Boat	Fish Boat
Fish Bull	Fishery Bulletin
Florida Science	Florida Science
Forest Prod J	Forest Products Journal
Geochim Cosmochim Acta	Geochimica et Cosmochimica Acta
Geology	Geology
Geol Soc Am Bull or Abstr Prog	Geological Society of America Bulletin or Abstracts with Programs
Geomorph	Geomorphology
Geophys R L	Geophysical Research Letters
Govern Rep Announc	Government Reports Announcements
Harper's Mag	Harper's Magazine
Health Phys	Health Physical
Helg W Meer	Helgolander Wissenschaftliche Meersuntersuchunger
Hov Craft Hydrof	Hovering Craft & Hydrofoil
ICNAF Res Bull	International Commission on Northwest Atlantic Fisheries

Research Bulletin

IEEE Spectrum	Institute of Electrical and Electronics Engineers Spectrum
IEEE Trans Syst Man Cybern	Institute of Electrical and Electronics Engineers Transactions on Systems, Man & Cybernetics
Ind Eng	Industrial Engineering
Int Constr	International Construction
Int Revue ges Hydrobiol	Internationale Revue der gesamten Hydrobiolgie
Iowa Res News	Iowa Research News
J Acoust Sci	Journal of Acoustical Science
J Am Inst P	Journal of the American Institute of Planners
J Am Water Works Assoc	Journal of the American Water Works Association
J Appl Meteorol	Journal of Applied Meteorology
J Assoc Off Anal Chem	Journal of the Association of Official Analytical Chemists
J Atm Ter P	Journal of Atmospheric & Terrestrial Physics
J Bacteriol	Journal of Bacteriology
J Cons Cons Int Explor Mer	Journal du Conseil, Conseil Internationale pour l'Exploration de la Mer
J Environ Sci Health Part A	Journal of Environmental Sciences: Health Part A
J Exp Mar Biol Ecol	Journal of Experimental Marine Biology & Ecology
J Fish Biol	Journal of Fish Biology
J Fish Disease	Journal of Fish Disease
J Geophys Res	Journal of Geophysical Research
J Hydrol	Journal of Hydrology
J Invert Pathol	Journal of Invertebrate Pathology

J Maritime Law	Journal of Maritime Law & Commerce
J Mar Res	Journal of Marine Research
J Oceanic Eng	Journal of Oceanic Engineering
J Phycol	Journal of Phycology
J Phys Oceanog	Journal of Physical Oceanography
J Plankton Res	Journal of Plankton Research
J Protozool	The Journal of Protozoology
J Res USGS	Journal of Research, United States Geological Survey
J Sediment Petrol	Journal of Sedimentary Petrology
J Spacecraft	Journal of Spacecraft & Rockets
J Test Eval	Journal of Testing & Evaluation
J Water Pollut Control Fed	Journal of the Water Pollution Control Federation
J Wild Disease	Journal of Wildlife Disease
Kingbird	Kingbird
Limnol Oceanogr	Limnology & Oceanography
Long Isl Mag	Long Island Magazine
Malacol Rev	Malacological Review
Manag Sci	Management Science
Mar Bio	Marine Biology
Mar Chem	Marine Chemistry
Mar Engineer/Log	Marine Engineering/Log
Mar Environ Res	Marine Environmental Research
Mar Fish Rev	Marine Fisheries Review
Mar Geol	Marine Geology
Mar Pollut Bull	Marine Pollution Bulletin
Mar Sci	Marine Science

Marine Technology

Mar Technol

Mar Technol Soc J Marine Technology Society Journal Maritime Sediments Maritime Math Geol Mathematical Geology Memoires Societe Royal des Sciences Mem Soc R Sci Liege de Liege M Weather Rev Monthly Weather Review National Wildlife Natl Wildl Nature Nature Nautilus Nautilus NJSA New Jersey Statutes Annotated National Resources Defense Council NRDC Newsletter Newsletter Nuclear Sci Abs Nuclear Science Abstracts Nucl Eng Int Nuclear Engineering International Nucl Saf Nuclear Safety NY Acad Sci Ann New York Academy of Sciences Annals New York Fish and Game Journal NY Fish Game J NY State Water Resource Comm New York State Water Resource Bull Commission Bulletin Ocean Ind Ocean Industry Oceanus Oceanus Oecologia 0ecologia Offshore Offshore Ohio J Sci Ohio Journal of Science Ophelia Ophelia ORNL Review Oak Ridge National Laboratory Review

Parasitol Proc Helminthol Parasitological Proceedings,
Soc Wash Helminthological Society of
Washington

Pest Bioch Pesticide Biochemistry and Physiology

Pest Monit J	Pesticide Monitoring Journal
Philos Trans R Soc Lond	Philosophical Transactions of the Royal Society of London
Photogr E R	Photogrammetric Engineering and Remote Sensing
Phycologia	Phycologia
Phys Chem Earth	Physics and Chemistry of the Earth
Pipeline Ind	Pipeline Industry
Pollut Engineer	Pollution Engineering
Power	Power
Proc Colonial Waterbird Group	Proceedings, Colonial Waterbird Group
Proc Int Conf Cynbern Soc	Proceedings, International Conference of the Cybernetics Society
Proc Natl Shellfish Assoc	Proceedings, National Shellfish Association
Prog Fish Cult	Progressive Fish Culturist
Public Works	Public Works
Pulp and Paper	Pulp and Paper
Radioprotection	Radioprotection
Remote Sens Environ	Remote Sensing of the Environment
Res Popul Ecol	Researches on Population Ecology
Reun Cons Int Explor Mer	Rapports et Proces - Verbaux des Reunions, Conseil Internationale pour l'Exploration de la Mer
Revista Espanola de Micropaleontologia	Revista Espanola de Micropaleontologia
Sat Rev .	Saturday Review

Science Science

Sci Am

Sci Teach The Science Teacher

Scientific American

Sci Tech Aero Rep Scientific & Technical Aerospace

Reports

Sci Total Environ Science of the Total Environment

Sea Front Sea Frontiers

Search Search

Sea Technol Sea Technology

Sediment Geol Sedimentary Geology

Sedimentol Sedimentology

Ship Boat Internat Ship and Boat International

Shore Beach Shore & Beach

Socio Econ Plan Sci Socio-Economic Planning Sciences

Soc Petrol Eng Society for Petroleum Engineers,

Journal Prince of the second

Southeast Geol Southeastern Geology

Spill Technol Newsletter Spill Technology Newsletter

Stud Mar Sinica Studica Mar Sinica

Surveyor Surveyor

Trans Am Fish Soc Transactions of the American

Fisheries Society

Trans Am Micros Soc Transactions of the American

Microscopical Society

Trans Am Nucl Soc Transactions of the American

Nuclear Society

Trans Ill State Acad Sci Transactions of the Illinois State

Academy of Science

Trans NY State Acad Sci Transactions of the New York

Academy of Sciences

Underwater Nat Underwater Naturalist

Veliger Veliger

Waste Age Waste Age

Water Air Soil Poll Water, Air, & Soil Pollution

Water Res Water Research

Water Resources Bulletin

Water Resources Research

Water Sewage Works Water and Sewage Works

Water Spectrum Water Spectrum

Water Wastes Eng Water and Wastes Engineering

WHOI Annual Rep Woods Hole Oceanographic Institute

Annual Report

WHOI Tech Rep Woods Hole Oceanographic Institute

Technical Report

World Dredging Mar Constr World Dredging and Marine

Construction

SOCIETIES & AGENCIES

Abbreviation Society Name

ABA American Bar Association

ACS American Chemical Society

Actual Specif Eng Actual Specifying Engineers

Am Assoc Pet Geol American Association of Petroleum

Geologists

Am Inst Chem Eng American Institute of Chemical

Engineers

Am Meteorol Soc American Meteorological Society

Am Soc Limnol Oceanog American Society of Limnology and

Oceanography

Am Soc Microbiol American Society of Microbiology

Am Soc Photogr American Society for Photography

Am Water Resour Assoc American Water Resource Association

API American Petroleum Institute

ASCE American Society of Civil Engineers

ASME American Society of Mechanical

Engineers

Assoc Am Geograph Association of American Geographers

ASTM American Society of Testing &

Materials

IEEE Institute of Electrical and

Electronics Engineers

Inst of Environ Sci Institute of Environmental Science

Int Assoc on Water Pollut Res International Association on Water

Pollution Research

Inst of Environ Sci Institute of Environmental Science

Nat Acad Sci

National Academy of Science

International Agencies

IAEA International Atomic Energy Agency

ICES International Council for the

Exploration of the Sea

ICNAF International Commission on

Northwest Atlantic Fisheries

IDOE International Decade of Ocean

Exploration

Federal Agencies

AEC Atomic Energy Commission

AOML Atlantic Ocean and Meteorological

Lab

APCA Air Pollution Control Association

BNL Brookhaven National Laboratory

CERC Coastal Engineering Research Center

EPRI Electric Power Research Institute

ERDA Energy Research & Development

Administration

LISS Long Island Sound Study

MACFC Mid Atlantic Coastal Fisheries

Center

NCWQ National Commission on Water

Quality

NEFC North East Fisheries Commission

NERC National Environmental Research

Center

NESS National Environmental Satellite

Service

NMFS National Marine Fisheries Service

NMRC National Maritime Research Center

NOAA	National Oceanic and Atmospheric Administration
NSF	National Science Foundation
NTIS	National Technical Information Service
OWRT	Office of Water Research and Technology
TRB	Transportation Research Board
US Army Corp of Eng WES	United States Army Corps of Engineers, Waterways Experiment Station
USCG	United States Coast Guard
US DOE	United States Department of Energy
US EPA	United States Environmental Protection Agency
US ERL	United States Environmental Research Laboratory
US FAA	United States Federal Aviation Authority
USFWS	United States Fish & Wildlife Service
US GAO	United States General Accounting Office
US GPO	United States Government Printing Office
USGS	United States Geological Survey
US HUD	United States Housing and Urban Development
US NRC	United States Nuclear Regulatory Commission
US NWRC	United States National Weather Records Center
us nws	United States National Weather Service

United States Public Health Service

US PHS

STATE AND LOCAL AGENCIES

APP DIV Appelate Division, New York State

Supreme Court

CT DEP Connecticut Department of

Environmental Protection

LIRPB Long Island Regional Planning Board

NJ DEP New Jersey Department of

Environmental Protection

NJSG New Jersey Sea Grant

NY ASDA New York Atomic and Space

Development Authority

NY DEC New York Department of

Environmental Conservation

NY DMCR New York Division of Marine and

Coastal Resources

NYOSL New York Ocean Science Lab

NYS ERDA New York State Energy Research and

Development Authority

NYSG New York Sea Grant

SCCWRP Southern California Coastal Water

Resources Project

UNIVERSITIES

Adelphi Univ Adelphi University

CUNY City University of New York

Hofstra Univ Hofstra University

LIU Long Island University

MIT Massachusetts Institute of

Technology

NCSU North Carolina State University

NYU New York University

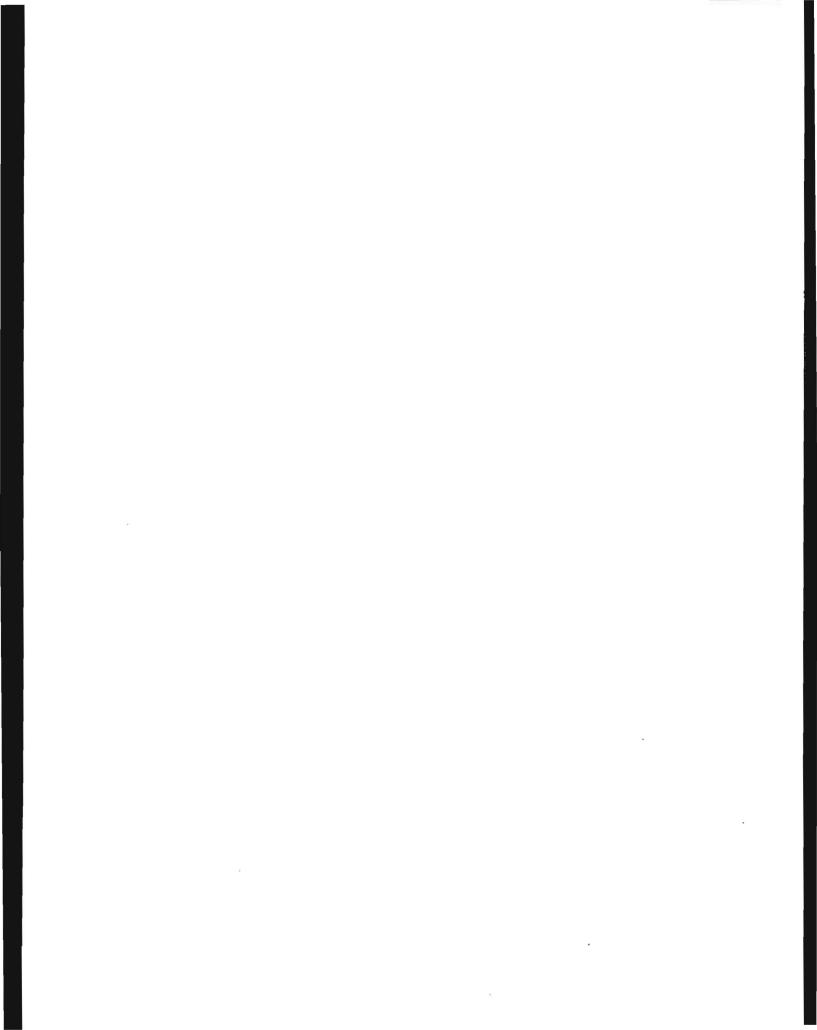
SCCC Suffolk County Community College

SUNY

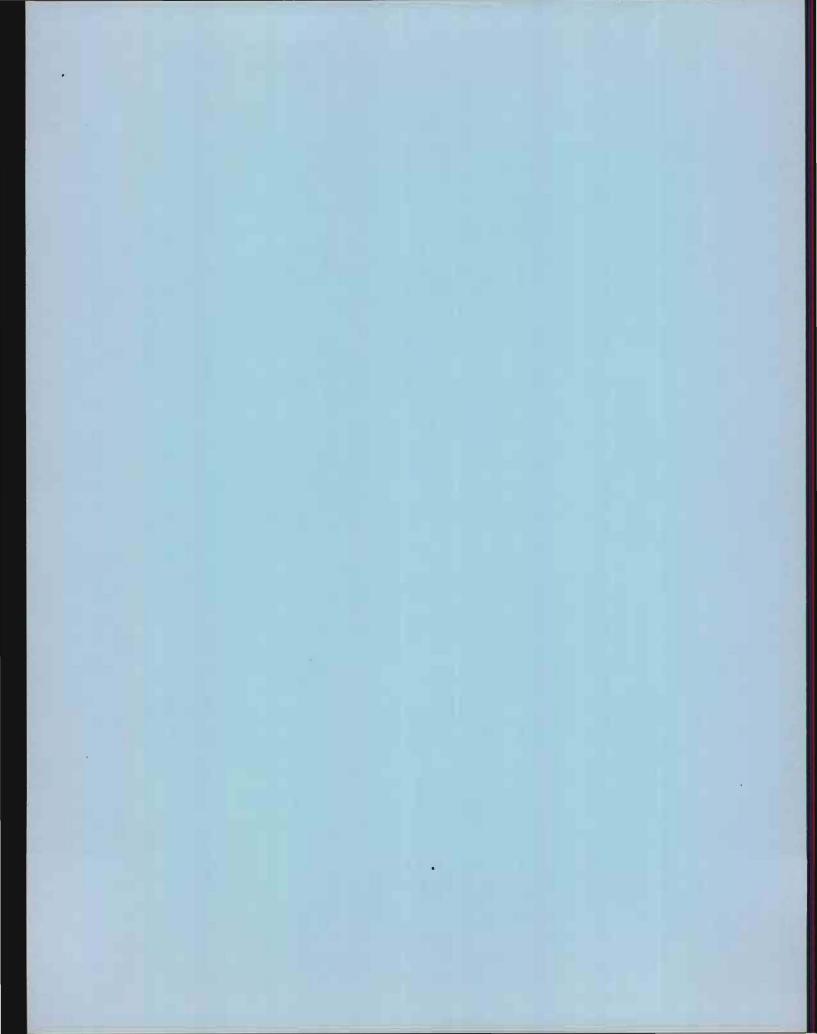
URI

State University of New York

University of Rhode Island



ANNOTATED BIBLIOGRAPHIC CITATIONS



0001 ABOOD. K.A.

CIRCULATION IN THE HUDSON ESTUARY [1974]

NY ACAD SCI ANN 250:39-111

THE FIRST TWO SECTIONS DESCRIBED ESTUARINE CIRCULATION PATTERNS AND CHARACTERISTICS OF PARTIALLY STRATIFIED ESTUARIES; THE THIRD DESCRIBES CIRCULATION PATTERNS IN PARTIALLY STRATIFIED ESTUARIES; AND THE FOURTH DEVELOPS SOME ANALYTICAL AND EMPIRICAL RELATIONSHIPS CONCERNING THE CIRCULATION PATTERNS AND FEATURES OF THE SYSTEM. THE FINAL SECTION USES EXTENSIVE DATA FROM QUIRK, LAWLER, AND MATUSKY ENGINEERS OF TAPPAN: NY AND OTHER SOURCES TO DESCRIBE THE MIXING CHARACTERISTICS AND CIRCULATION PATTERNS OF THE HUDSON RIVER. A NOMOGRAM THAT RELATES FRESHWATER FLOW, SALINITY, AND LENGTH OR DISTANCE OF SALT-FRONT INTRUSION ABOVE THE BATTERY IS DESCRIBED.

0002 ABOOD, K.A.; E.L. BOURDDIMOS

EVALUATION OF CIRCULATION IN ESTUARIES [1976]

ASCE J HYDR DIV 102 (HYN): 1211-1224

SEVERAL APPROACHES FOR DESCRIBING DENSITY-INDUCED CIRCULATION PATTERNS IN PARTIALLY STRATIFIED ESTUARIES HAVE BEEN DEVELOPED. PUBLISHED TECHNIQUES DEVELOPED BY SEVERAL INVESTIGATORS AND RECENTLY ESTABLISHED METHODS WHICH WERE USED TO CONVERT HUDSON RIVER TIDAL VELOCITIES AND SALINITY OBSERVATIONS TO DENSITY-INDUCED FLOW RATES WERE REPORTED IN THIS PAPER. GENERALLY, THE TWO-LAYER STRATIFIED FLOW SYSTEM APPROACH EXHIBITED SEVERAL FAVORABLE CHARACTERISTICS SUCH AS RELATIVELY MORE STABLE AND PREDICTABLE DISTRIBUTION; GREATER INDEPENDENCE OF TEMPORARY METEOROLOGICAL AND LOCAL EDDY CONDITIONS; AND SIMPLICITY, EASE, AND AVAILABILITY OF MORE PRECISE DETECTION INSTRUMENTS. DENSITY-INDUCED FLOW VALUES OBTAINED USING THE TWO-LAYER FLOW METHOD WERE MORE REALISTIC THAN THEIR SALT BUDGET COUNTERPARTS AND WERE SOMEWHAT HIGHER THAN THOSE DERIVED FORM TIDAL VELOCITY OBSERVATIONS.

0003 ABOOD, K.A.

EVALUATION OF CIRCULATION IN PARTIALLY STRATIFIED ESTUARIES AS TYPIFIED BY THE HUDSON RIVER [1977]

PH-D. THESIS. RUTGERS UNIV. NEW BRUNSWICK, NJ NP

THE METHODS DEVELOPED IN THE COURSE OF THIS STUDY INCLUDED: ADVECTIVE SALT BUDGET, TWO LAYER STRATIFIED FLOW, GENERALIZED SALINITY PROFILES, SEMI-ANALYTICAL CLOSED FORM SOLUTION, AND THE THREE DIMENSIONAL STEADY STATE MODEL. THE FIRST FOUR METHODS WERE PREVIOUSLY DEVELOPED AND/OR GENERALIZED IN THIS STUDY. THE THREE DIMENSIONAL MODEL IS THE MAIN CONTRIBUTION OF THIS STUDY.

OCO4 ACHREM. T.J.

OCEAN WASTE DISPOSAL IN THE NEW YORK BIGHT [1973]

REP NO 4460C1559. OCEANICS DIV. INTERSTATE ELECTRONICS CORP. ANAHEIM. CA 119 PP NTIS-PB-224 983

CRITERIA ARE GIVEN FOR THE CONTROL OF OCEAN WASTE DISPOSAL IN THE NEW YORK BIGHT. AN INTENSIVE FIELD SURVEY WAS CONDUCTED IN THE NYC METROPOLITAN REGION DURING THE SPRING OF 1973. THE TOPICS SURVEYED INCLUDE OCEAN DUMP SITE CHARACTERISTICS, THEIR GEOGRAPHIC LOCATION, TYPE AND VOLUME OF MATERIAL DUMPED, METHOD OF DISPOSAL, DESCRIPTION OF DISPOSAL SITES, MONITORING PROCEDURES, LOCAL REGULATING AGENCIES, ESTUARINE ECONOMICS, AN EXTENSIVE CHRONOLOGY OF RELATED MAJOR EVENTS, AND ALTERNATIVES AND RECOMMENDATIONS FOR OCEAN DISPOSAL IN THE NEW YORK BIGHT.

0005 ACHREM, T.J.

COASTAL ZONE WATER QUALITY MONITORING IN THE NEW YORK BIGHT [1973]

REP NO 445-B1. OCEANICS DIV. INTERSTATE ELECTRONICS CORP. ANAHEIM. CA 59 PP

A FIELD CASE STUDY OF THE NEW YORK BIGHT TO DETERMINE THE EXTENT OF AND NEED FOR COASTAL ZONE WATER QUALITY MONITORING IN THE AREA IS PRESENTED. INFORMATION IS PROVIDED ON ORGANIZATIONS, THEIR LABORATORY CAPABILITIES, DATA NEEDS, AND INTERNAL ORGANIZATION. SOCIOECONOMIC PROBLEMS ARE DISCUSSED AND RECOMMENDATIONS ARE MADE FOR DESIGN AND IMPLEMENTATION OF A COORDINATED COASTAL ZONE WATER QUALITY MONITORING NETWORK. BASIC POLLUTION PROBLEMS IN THE AREA ARE COMPLEX AND INCLUDE SEWER EFFLUENTS, DREDGING AND INDUSTRIAL WASTES. A SELECTED BIBLIOGRAPHY AND LIST OF PERSONNEL CONCERNED WITH WATER MONITORING IN THE AREA ARE INCLUDED.

0006 ACHREM, T.J.; U.B. MERSELIS; H.G. STANLEY

IMPLEMENTATION OF AN INITIAL NETWORK FOR AN EPA OCEAN WASTE DISPOSAL INFORMATION CENTER IN THE NEW YORK BIGHT [1975]

REP NO 1EC-468001. OCEANICS DIV. INTERSTATE ELECTRONICS CORP. ANAHEIM. CA 23 PP NTIS-PB-253 371/9SL

THE REPORT PRESENTS A DESCRIPTION OF THE INFORMATION CENTER AND ITS OPERATION. THE ASSOCIATED INFORMATION CENTER CATALOG CONTAINS A SUMMARY OF THE SPECIFIC ACTIVITIES OF THE AGENCIES RESPONSIBLE FOR WATER QUALITY MONITORING AND SURVEILLANCE OF OCEAN WASTE DISPOSAL OPERATIONS IN THE NEW YORK BIGHT, ALONG WITH OTHER APPROPRIATE REVISABLE INFORMATION. AS PRESENTED, THE INFORMATION CENTER IS CONTINGENT UPON THE CONTINUED COOPERATION ALREADY DEMONSTRATED BETWEEN FEDERAL, STATE, AND LOCAL GOVERNMENT AGENCIES. THE PRIMARY ROLE OF THE INFORMATION CENTER IS TO FACILITATE CRITICAL INFORMATION EXCHANGE BETWEEN VARIOUS AGENCIES. IT IS PLANNED TO SERVE THE NEEDS OF PERMIT ADMINISTRATION, THE REQUIREMENTS OF ENFORCEMENT AND THE VARIOUS SCIENTIFIC NEEDS OF OTHER USERS. THE PURPOSE OF THE INFORMATION CENTER IS TO BRING INTO ONE CENTRAL LOCATION A QUICK-RESPONSE CLEARINGHOUSE FOR ASSEMBLAGE OF INFORMATION RELATED TO OCEAN WASTE DISPOSAL IN THE NEW YORK BIGHT.

0007 ADAMS, W.N.

GROWING AREA SURVEY--GREAT SOUTH BAY, LONG ISLAND, NEW YORK, MARCH 1974 [1974]

NORTHEAST TECH SERVICES UNIT, DAVISVILLE, RI 36 PP

RESULTS FROM COLIFORM ANALYSIS OF SEA ATER SAMPLES FROM MAR 18-23, 1974. A TEMPERATURE RANGE OF 3.3 C AND 6.1 C WOULD PROBABLY NOT HAVE AN ADVERSE EFFECT ON THE INDICATOR BACTERIA (E. COLI). THESE LOW TEMPERATURES WOULD TEND TO PROLONG THE VIABILITY OF THE BACTERIA IN THE SEA WATER. THERE WAS A TREND TOWARD A DECREASE IN SALINITY CONCENTRATION PROBABLY BECAUSE OF THE DILUTION EFFECT OF RUNOFF SURFACE WATER BROUGHT ABOUT BY HEAVY RAINFALL. SALINITY RANGES FROM 24 TO 30 PPT CAN BE INHIBITORY TO COLIFORM PROLIFERATION AND WOULD TEND TO REDUCE THE COLIFORM DENSITIES OVER A 24-HOUR PERIOD WHEN IN DIRECT CONTACT WITH INDICATOR COLIFORMS. FROM 8 TO 24 HOURS AFTER THE 2.18 INCHES OF RAINFALL, THE TOTAL AND FECAL COLIFORM DENSITIES WERE WELL ABOVE THE NSSP STANDARDS SET FOR SAFE SHELLFISHING ALONG THE GREAT SOUTH BAY CLOSURE LINE SEA WATER SAMPLING STATIONS. ALSO THE TOTAL COLIFORM DENSITIES WERE ABOVE THE NSSP STANDARD IN NINE OF THE ELEVEN SELECTED OUTER STATIONS SOUTH OF THE CLOSURE LINE. SEVEN OF THE ELEVEN OUTER STATIONS EXCEEDED THE PROPOSED FECAL COLIFORM STANDARD. THE GREAT COVE SAMPLING STATION COUNTS EXCEEDED THE TOTAL AND FECAL COLIFORM STANDARDS IN BACKGROUND (ZERO RAINFALL) COUNT. ALSO THERE WAS A RELATIVE INCREASE IN MPYS AT GREAT COVE AFTER HEAVY RAINFALL. THE DRY WEATHER MPNS FOR PRACTICALLY ALL STATIONS EXCEPT THE GREAT COVE STATIONS WERE BELOW THE NSSP STANDARDS. THE PREDOMINATE COLIFORM IDENTIFIED BY IMVIC AND API ANALYSIS WAS E. COLI INDICATING RECENT FECAL POLLUTION.

0308 ADAMS, W.N.; J.J. MIESCIER

COMMENTARY ON AGAC METHOD FOR PARALYTIC SHELLFISH POISONING [1980]

0005 ACHREM, T.J.

COASTAL ZONE WATER QUALITY MONITORING IN THE NEW YORK BIGHT [1973]

REP NO 445-B1. OCEANICS DIV. INTERSTATE ELECTRONICS CORP. ANAHEIM, CA 59 PP

A FIELD CASE STUDY OF THE NEW YORK BIGHT TO DETERMINE THE EXTENT OF AND NEED FOR COASTAL ZONE WATER QUALITY MONITORING IN THE AREA IS PRESENTED. INFORMATION IS PROVIDED ON ORGANIZATIONS, THEIR LABORATORY CAPABILITIES, DATA NEEDS, AND INTERNAL ORGANIZATION. SOCIOECONOMIC PROBLEMS ARE DISCUSSED AND RECOMMENDATIONS ARE MADE FOR DESIGN AND IMPLEMENTATION OF A COORDINATED COASTAL ZONE WATER QUALITY MONITORING NETWORK. BASIC POLLUTION PROBLEMS IN THE AREA ARE COMPLEX AND INCLUDE SEWER EFFLUENTS, DREDGING AND INDUSTRIAL WASTES. A SELECTED BIBLIOGRAPHY AND LIST OF PERSONNEL CONCERNED WITH WATER MONITORING IN THE AREA ARE INCLUDED.

0006 ACHREM, T.J.; U.B. MERSELIS; H.G. STANLEY

IMPLEMENTATION OF AN INITIAL NETWORK FOR AN EPA OCEAN WASTE DISPOSAL INFORMATION CENTER IN THE NEW YORK BIGHT [1975]

REP NO IEC-468001. OCEANICS DIV. INTERSTATE ELECTRONICS CORP. ANAHEIM. CA 23 PP NTIS-PB-263 371/9 SL

THE REPORT PRESENTS A DESCRIPTION OF THE INFORMATION CENTER AND ITS OPERATION. THE ASSOCIATED INFORMATION CENTER CATALOG CONTAINS A SUMMARY OF THE SPECIFIC ACTIVITIES OF THE AGENCIES RESPONSIBLE FOR WATER QUALITY MONITORING AND SURVEILLANCE OF OCEAN WASTE DISPOSAL OPERATIONS IN THE NEW YORK BIGHT, ALONG WITH OTHER APPROPRIATE REVISABLE INFORMATION. AS PRESENTED, THE INFORMATION CENTER IS CONTINGENT UPON THE CONTINUED COOPERATION ALREADY DEMONSTRATED BETWEEN FEDERAL, STATE, AND LOCAL GOVERNMENT AGENCIES. THE PRIMARY ROLE OF THE INFORMATION CENTER IS TO FACILITATE CRITICAL INFORMATION EXCHANGE BETWEEN VARIOUS AGENCIES. IT IS PLANNED TO SERVE THE NEEDS OF PERMIT ADMINISTRATION, THE REQUIREMENTS OF ENFORCEMENT AND THE VARIOUS SCIENTIFIC NEEDS OF OTHER USERS. THE PURPOSE OF THE INFORMATION CENTER IS TO BRING INTO ONE CENTRAL LOCATION A QUICK-RESPONSE CLEARINGHOUSE FOR ASSEMBLAGE OF INFORMATION RELATED TO OCEAN WASTE DISPOSAL IN THE NEW YORK BIGHT.

0007 ADAMS, W.N.

GROWING AREA SURVEY--GREAT SOUTH BAY, LONG ISLAND, NEW YORK, MARCH 1974 [1974]

NORTHEAST TECH SERVICES UNIT, DAVISVILLE, RI 36 PP

RESULTS FROM COLIFORM ANALYSIS OF SEA ATER SAMPLES FROM MAR 18-23, 1974. A TEMPERATURE RANGE OF 3.3 C AND 6.1 C WOULD PROBABLY NOT HAVE AN ADVERSE EFFECT ON THE INDICATOR BACTERIA (E. COLI). THESE LOW TEMPERATURES WOULD TEND TO PROLONG THE VIABILITY OF THE BACTERIA IN THE SEA WATER. THERE WAS A TREND TOWARD A DECREASE IN SALINITY CONCENTRATION PROBABLY BECAUSE OF THE DILUTION EFFECT OF RUNOFF SURFACE WATER BROUGHT ABOUT BY HEAVY RAINFALL. SALINITY RANGES FROM 24 TO 30 PPT CAN BE INHIBITORY TO COLIFORM PROLIFERATION AND WOULD TEND TO REDUCE THE COLIFORM DENSITIES OVER A 24-HOUR PERIOD WHEN IN DIRECT CONTACT WITH INDICATOR COLIFORMS. FROM 8 TO 24 HOURS AFTER THE 2.18 INCHES OF RAINFALL, THE TOTAL AND FECAL COLIFORM DENSITIES WERE WELL ABOVE THE NSSP STANDARDS SET FOR SAFE SHELLFISHING ALONG THE GREAT SOUTH BAY CLOSURE LINE SEA WATER SAMPLING STATIONS. ALSO THE TOTAL COLIFORM DENSITIES WERE ABOVE THE NSSP STANDARD IN NINE OF THE ELEVEN SELECTED OUTER STATIONS SOUTH OF THE CLOSURE LINE. SEVEN OF THE ELEVEN OUTER STATIONS EXCEEDED THE PROPOSED FECAL COLIFORM STANDARD. THE GREAT COVE SAMPLING STATION COUNTS EXCEEDED THE TOTAL AND FECAL COLIFORM STANDARDS IN BACKGROUND (ZERO RAINFALL) COUNT. ALSO THERE WAS A RELATIVE INCREASE IN MPN'S AT GREAT COVE AFTER HEAVY RAINFALL. THE DRY WEATHER MPNS FOR PRACTICALLY ALL STATIONS EXCEPT THE GREAT COVE STATIONS WERE BELOW THE NSSP STANDARDS. THE PREDOMINATE COLIFORM IDENTIFIED BY IMVIC AND API ANALYSIS WAS E. COLI INDICATING RECENT FECAL POLLUTION.

0008 ADAMS, W.N.; J.J. MIESCIER

COMMENTARY ON AGAC METHOD FOR PARALYTIC SHELLFISH POISONING [1980]

J ASSOC OFF ANAL CHEM 63(6):1336-1343

PARALYTIC SHELLFISH POISONING (PSP) IS CAUSED BY INGESTING BIVALVE MOLLUSCAN SHELLFISH WHICH HAVE FED ON THE TOXIGENIC MARINE DINOFLAGELLATES GONYAULAX CATANELLA OR G. TAMARENSIS. THE TOXINS FROM THESE ORGANISMS ARE NEUROTOXIC ALKALOIDS WHICH INTERFERE WITH NERVE CONDUCTION AND BLOCK MUSCLE-ACTION POTENTIAL. THE US FDA COOPERATES WITH STATE SHELLFISH CONTROL OFFICIALS IN THE NATIONAL SHELLFISH SANITATION PROGRAM TO PREVENT MARKETING OF TOXIN-CONTAMINATED SHELLFISH. THE TOXINS ARE QUANTITATED BY THE STANDARD MOUSE BIOASSAY METHOD, AS FOUND IN OFFICAL METHODS OF ANALYSIS OF THE ADAC. THIS PAPER DISCUSSES THE PROCEDURE FOLLOWED IN THE STANDARD BIOASSAY METHOD IN AN ATTEMPT TO CLARIFY FOR THE PSP ANALYST THE RATHER COMPLEX OFFICIAL METHODOLOGY. AND. THUS, PROMOTE MORE UNIFORM RESULTS AMONG LABORATORIES.

0009 ADLER, R.E.

A STUDY OF FLUORESCENT WHITEYING AGENTS FOR TRACING SEWAGE &FFLUENT IN THE MARINE ENVIRONMENT [1977]

M.S. THESIS. SUNY, STONY BROOK, NY 77 PP

THE USE OF FLUORESCENT WHITENING AGENTS (FWAS) AS A TRACER OF SEWAGE EFFLUENT HAS BEEN INVESTIGATED. DETERGENT RELEASED WHITENING AGENTS HAVE BEEN DETECTED IN WATERS RECEIVING SEWAGE EFFLUENT. FWAS ENTER A SEWAGE TREATMENT PLANT AS LAUNDRY DETERGENT WASTES AND WERE FOUND IN THE DISPOSAL WATERS. ANALYSIS SHOWED THE SIMILARITY OF FLUORESCENT SPECTRA IN SAMPLES OF HOME LAUNDRY SOAP. A FLUORESCENT WHITENING AGENT, AND SAMPLES OF WATER FROM THE EAST RIVER AND LONG ISLAND SOUND (LIS). SAMPLES OF THE RIVER AND LIS WERE TAKEN FOR FLUORESCENT MEASUREMENTS. SHIPBOARD FLUOROMETER WAS ALSO EMPLOYED FOR IN-SITU FLUORESCENT MEASUREMENTS. DATA SHOWED RELATIVELY HIGH FLUORESCENCE IN THE EAST RIVER AND A GENERAL DIMINISHING TREND WITH DISTANCE EASTWARD IN LONG ISLAND SOUND. THE RESULTS WERE SIMILAR TO OTHER POLLUTION STUDIES THAT HAVE MONITORED INTROGENOUS AND PHOSPHORIC COMPOUNDS. FURTHER INVESTIGATION, HOWEVER, SHOWED THAT FLUORESCENCE WAS NOT FWAS SPECIFIC. CONSIDERABLE EVIDENCE ALSO SUGGESTED THAT WHITENING COMPOUNDS ARE NOT CONSERVATIVE. THEY READILY PHOTODECOMPOSE AND ARE DEPENDENT ON ENVIRONMENTAL CONDITIONS. SUCH CHARACTERISTICS WOULD PRECLUDE THEIR USE AS A RELIABLE SEWAGE TRACER IN A COASTAL ENVIRONMENT.

0010 AGGARWAL, Y.P.; L.R. SYKES

EARTHQUAKES, FAULTS, & NUCLEAR POWER PLANTS IN SOUTHERN NEW YORK [1978]

SCIENCE 200:425-429 .

SEISMIC ACTIVITY IN THE GREATER NEW YORK CITY AREAS IS CONCENTRATED ALONG SEVERAL NORTHEAST-TRENDING FAULTS OF WHICH THE RAMAPO FAULT APPEARS TO BE THE MOST ACTIVE. THREE NUCLEAR POWER PLANTS AT INDIAN POINT, NY, ARE SITUATED CLOSE TO THE RAMAPO FAULT. FOR A REACTOR SITE IN USE FOR 40 YEARS, THE PROBABILITY THAT THE SITE WILL EXPERIENCE AN INTENSITY EQUAL TO OR IN EXCESS OF THE DESIGN (SAFE SHUTDOWN) EARTHQUAKE IS ESTIMATED TO BE ABOUT 5 TO 11 PERCENT.

0011 AHLERT, R.C.

STOCHASTIC VARIATIONS IN WATER QUALITY PARAMETERS [1975]

OWRT, WASHINGTON, DC 9 PP NTIS-PB-240 980

THE REPORT GIVES A VERY BRIEF SUMMARY OF RESEARCH IN WHICH A COMBINED FORM OF DETERMINISTIC-STOCHASTIC MODELING HAS BEEN APPLIED TO THE SIMULATION OF WATER QUALITY PARAMETERS. THE OBJECTIVE WAS TO IDENTIFY AN OPTIMUM MEANS OF DYNAMIC SIMULATION FOR THE PURPOSE OF WATER QUALITY PREDICTION AND MANAGEMENT. CONSISTENT WITH EARLIER EXPERIENCE, DISCHARGE RECORDS FOR WATERSHEDS OF VARIOUS SIZES (FASSAIC RIVER BASIN) ARE EASILY MODELED. TEMPERATURE IS MODELED EXTREMELY WELL, ALSO. SIMULATIONS OF BOD (CARBONACEOUS), DISSOLVED OXYGEN, OXYGEN DEFICIT AND AMMONIA-N CONCENTRATIONS WERE RELATIVELY POOR. A SIMPLE LINEAR CORRELATION BETWEEN ANNUAL BOD LOADING (CARBONACEOUS) AND ANNUAL RAINFALL WAS OBSERVED.

DO12 AHLERT, R.C.; S.F. HSUEH

A REACTOR NETWORK MODEL OF THE PASSAIC RIVER [1980]

ECOL MODEL 10(1):47-61

A MODELING CONCEPT, BASED ON A NETWORK OF IDEAL REACTOR ELEMENTS, IS ILLUSTRATED WITH TRACER DATA FOR THE PASSAIC RIVER OF NJ. THIS APPROACH TO SIMULATION PERMITS EVALUATION OF MIXING WITHOUT DETAILED KNOWLEDGE OF INTERNAL PROCESSES OR CONCENTRATION PROFILES. THE EFFECT OF DISPERSION CAN BE SUPERIMPOSED ON FIRST-ORDER DECAY PROCESSES, SUCH AS OXYGEN DEMAND, AND EVALUATED WITH THIS METHOD. APPLICATION AS A WATER QUALITY MANAGEMENT TOOL EXTENDS PRESENT USE OF THIS CONCEPT TO WASTEWATER TREATMENT PLANT ANALYSES.

0013 ALEVRAS, R.A.

OCCURRENCE OF A LOOKDOWN IN THE HUDSON RIVER [1973]

NY FISH GAME J 20 (1):76

A SINGLE SPECIMEN OF THE LOOKDOWN WAS COLLECTED ON A WATER INTAKE SCREEN AT THE INDIAN POINT NUCLEAR POWER PLANT. THIS IS THE FIRST REPORTED OCCURRENCE OF THIS SPECIES IN THE HUDSON RIVER.

0014 ALEVRAS. R.A.

STATUS OF AIR BUBBLE FISH PROTECTION SYSTEM AT INDIAN POINT STATION ON THE HUDSON RIVER [1976]

PAGES 289-291 IN ENTRAINMENT AND INTAKE SCREENING, PROCEEDINGS OF WORKSHOP FEB 5-9, 1973, JOHNS HOPKINS UNIV, BALTIMORE, MD

VARIOUS TYPES OF AIR BUBBLER SYSTEMS WERE EVALUATED. THE AVERAGE NUMBER OF FISH COLLECTED PER DAY DURING THE TEST PERIOD EXCEEDED THE DAILY AVERAGE DURING SAMPLING PERIODS BEFORE AND AFTER THE TEST. THE DIFFERENCE BETWEEN THE COLLECTING PERIODS MAY INDICATE A CHANGE IN THE DENSITY OF FISH IN THE VICINITY OF THE INTAKE. IT WAS TENTATIVELY CONCLUDED THAT THE AIR CURTAIN DID NOT APPEAR TO REPEL FISH AND MAY ATTRACT FISH DURING HOURS OF DARKNESS.

0015 ALEXANDER, J.E.

MERCURY IN STRIPED BASS AND BLUEFISH [1973]

NY FISH GAME J 20(2):147-151

BLUEFISH AND STRIPED BASS TAKEN IN THE VICINITY OF MONTAUK POINT ON LONG ISLAND WERE ANALYZED FOR MERCURY CONTENT. IN BOTH SPECIES, THERE WAS A CORRELATION BETWEEN MERCURY AND WEIGHT. BLUEFISH WEIGHING LESS THAN 2.4 KG HAD CONCENTRATIONS OF MERCURY BELOW 0.5 MG/KG, WHILE IN THOSE BETWEEN 2.4 AND 5.6 KG THE CONCENTRATION FLUCTUATED ABOVE AND BELOW THAT LEVEL. ALL FISH WEIGHING MORE THAN 5.6 KG CONTAINED MERCURY IN EXCESS OF 0.5 MG/KG. THE CORRESPONDING WEIGHT CATEGORIES FOR STRIPED BASS WERE: LESS THAN 3.2 KG; BETWEEN 3.2 AND 5.7 KG; AND MORE THAN 5.7 KG, RESPECTIVELY.

0016 ALEXANDER, J.E.; E.C. ALEXANDER

THE CHEMICAL OCEANOGRAPHY OF THE NEW YORK BIGHT [1975]

NYOSL, MONTAUK, NY 61 PP

THIS IS A REVIEW OF AVAILABLE INFORMATION ON CHEMICAL OCEANOGRAPHY OF THE NEW YORK BIGHT. NO EXTENSIVE TRACE ELEMENT DATA (EXCEPT CHLOROPHYLL AND UREA) EXISTS AND UNTIL THESE DATA AND OTHER DATA NEEDED FOR CLASSICAL CHEMICAL PARAMETERS ARE COLLECTED PROPER MANAGEMENT OF THE AREA WILL NOT BE POSSIBLE. SUGGESTED FUTURE STUDIES ARE: 1) PROCESSES OF INORGANIC COMPOSITION 2) CHEMICAL FLUXES THROUGH THE REGION AND 3) THE IMPACT OF LIFE PROCESSES ON THE CHEMISTRY OF THESE WATERS.

0017 ALEXANDER, J.E.; E.C. ALEXANDER

CHEMICAL PROPERTIES [1977]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 2. NYSG. ALBANY, NY 52 PP NTIS-PB-272 326

KNOWLEDGE OF THE CHEMICAL PROPERTIES OF NEW YORK SIGHT IS LIMITED DUE TO LACK OF RESEARCH. TEMPERATURE-SALINITY RELATIONSHIPS INDICATED A TWO-LAYERED SYSTEM IN SUMMER AND A VERTICALLY HOMOGENEOUS SYSTEM IN WINTER. THE PH OF BIGHT WATERS GENERALLY RANGES BETWEEN 7.6 AND 8.4. AVERAGE CA, MG, K, SR/ CHLORINITY RATIOS ARE USUALLY LOWER THAN THOSE FOUND IN THE OPEN NORTH ATLANTIC. TRACE METAL DATA INDICATE THAT MORE STUDY IS NEEDED, ESPECIALLY FOR CD, CU, PB, AND ZN. DISSOLVED OXYGEN CONCENTRATIONS OF SURFACE WATERS ARE COMMONLY AT OR NEAR SATURATION. SUBSURFACE DISSOLVED OXYGEN CONCENTRATIONS VARY DIURNALLY AND SEASONALLY; LOW SUBSURFACE VALUES ARE ATTRIBUTED TO CHEMICAL AND BIOLOGICAL OXYGEN DEMAND. CONCENTRATIONS OF MICRO-NUTRIENTS, NITROGEN, PHOSPHORUS, AND SILICA REFLECT RESPONSES TO PHYTOPLANKTON GROWTH, POLLUTION, AND REGIONAL VARIATION. NO SIGNIFICANT RADIOACTIVITY WAS FOUND.

0018 ALEXANDER, J.E.; R. HOLLMAN; T. WHITE

HEAVY METAL CONCENTRATIONS AT THE APEX OF THE NEW YORK BIGHT [1978]

TM-ERL-MESA-34. NOAA, BOULDER, CO 34 PP

PARTICULATE AND TOTAL SOLUBLE CD, CO, CU, FE, AND PB, AND TOTAL SOLUBLE HG CONCENTRATIONS WERE DETERMINED FOR 146 SEAWATER SAMPLES COLLECTED ON NOV 8-9, 1973, IN THE WATER COLUMN ALONG THE SANDY HOOK, NJ-ROCKAWAY POINT, NY, TRANSECT OF THE NEW YORK BIGHT. WITH FEW EXCEPTIONS, PARTICULATE PB, CD, CO, AND NI CONCENTRATIONS WERE BELOW THE LIMITS OF DETECTION FOR THE ATOMIC ABSORPTION SPECTROPHOTOMETRY SCHEME USED. THE CONCENTRATIONS OF PARTICULATE FE AND CU AND TOTAL SOLUBLE NI VARIED AS A FUNCTION OF TIDE AND SAMPLE LOCATIONS. MOST OF THE FE WAS IN THE PARTICULATE FORM. TEMPERATURES AND SALINITIES WERE ALSO MEASURED AS PART OF THE PROGRAM TO DETERMINE TRACE METAL CONCENTRATIONS.

0019 ALI, S.A.; C.D. HARDY; E.R. BAYLOR; M.G. GROSS

A KEYWORD-INDEXED BIBLIOGRAPHY OF THE MARINE ENVIRONMENT IN THE NEW YORK BIGHT AND ADJACENT ESTUARIES [1973]

MSRC. SUNY. STONY BROOK. NY 721 PP

A BIBLIOGRAPHY ON THE NEW YORK BIGHT WHICH INCLUDES A KEYWORD INDEX, AUTHOR INDEX, AND COMPLETE CITATIONS UP TO 1973.

UO20 ALI, S.A.; M.G. GROSS; J.R.L. KISHPAUGH

CLUSTER ANALYSIS OF MARINE SEDIMENTS AND WASTE DEPOSITS IN THE NEW YORK BIGHT [1975]

ENVIRON GEOL 1(3):143-148

CLUSTER ANALYSIS OF SOME CHEMICAL CHARACTERISTICS OF MARINE SEDIMENTS AND ASSOCIATED WASTE DEPOSITS IN THE NEW YORK BIGHT REVEALS THE CONTAINMENT OF DREDGED WASTES FROM NEW YORK HARBOR. CLUSTER FACIES II IS WIDESPREAD SAND AND GRAVEL DEPOSIT OF THE

CONTINENTAL SHELF. CLUSTER FACIES III IS THE FINER GRAINED MATERIAL IN THE HUDSON CHANNEL AND THE MATERIAL ACCUMULATED IN THE SEWAGE SLUDGE DISPOSAL AREA. CLUSTER FACIES IV IS NOT EASILY IDENTIFIED; IT MAY CORRESPOND TO SOME RELICT SEDIMENTARY FEATURE IN THE AREA.

0021 ALI. S.A.; R.H. LINDEMANN; P.H. FELDHAUSEN

GRAIN SIZE DISTRIBUTIONS AND DEPOSITIONAL PROCESSES OF GREAT SOUTH BAY AND SOUTH OYSTER BAY, NEW YORK [1975]

GEOL SOC AM ABSTR PROG 7(1):21

THE MULTIVARIATE STATISTICAL STRATEGY FORMALIZED BY PARK IN 1974 WAS APPLIED TO GRAIN SIZE DATA FROM WESTERN GREAT SOUTH BAY AND SOUTH OYSTER BAY, NY. THE 11 WHOLE PHI WEIGHT PERCENT VARIABLES WERE TESTED FOR REDUNDANCY WITH R-MODE CLUSTER ANALYSIS. THEN THE SAMPLES WERE PARTITIONED INTO 5 STATISTICALLY AND ENVIRONMENTALLY SIGNIFICANT FACIES USING Q-MODE CLUSTER ANALYSIS:

(A) SAYDY GRAVEL, (B) SANDY SILT, (C) SILTY SAND, (D) SLIGHTLY GRAVELY SAND, AND (E) FINE SAND. ORDINATION WAS EMPLOYED TO DEPICT THE GRADATIONAL RELATIONSHIPS AMONG THE SAMPLES AND THE FACIES, AND TO EVALUATE THE ENVIRONMENTAL AND TEXTURAL PARAMETER GRADIENTS WITHIN THE SAMPLE SPACE. INTERPRETATIONS OBTAINED IN THIS MANNER AND BY EXAMINATION OF THE GRAIN SIZE CURVES SUGGEST THAT THESE SEDIMENTS WERE DEPOSITED BY WAVES AND CURRENTS ON BEACHES AND IN WAVE ZONES (FACIES C,E), SHOAL AREAS (FACIES B), AND TIDAL CHANNELS (FACIES A, C, D).

0022 ALI, S.A.; R.H. LINDEMANN; P.H. FELDHAUSEN

A MULTIVARIATE SEDIMENTARY ENVIRONMENTAL ANALYSIS OF GREAT SOUTH BAY, AND SOUTH OYSTER BAY, NEW YORK [1976]

MATH GEOL 8(3):283-304

A MULTIVARIATE STATISTICAL STRATEGY FOR CLASSIFYING PALEOENVIRONMENTS IS EFFECTIVE FOR STUDYING MODERN SEDIMENTARY PROCESSES IN WESTERN GREAT SOUTH THAY AND SOUTH OYSTER BAY, NY. THE 13 WHOLE PHI WEIGHT PERCENT VARIABLES WERE TESTED FOR REDUNDANCY WITH R-MODE CLUSTER ANALYSIS. THE SAMPLES WERE PARTITIONED STATISTICALLY INTO FIVE ENVIRONMENTALLY SIGNIFICANT FACIES USING Q-MODE CLUSTER ANALYSIS: (A) SANDY GRAVEL, (3) SANDY SILT, (C) SILTY SAND, (D) SLIGHTLY GRAVELLY SAND, AND (E) FINE SAND. AN ORDINATION DEPICTED GRADATIONAL RELATIONSHIPS AMONG THE SAMPLES AND THE FACIES. IT WAS USED TO EVALUATE THE ENVIRONMENTAL AND TEXTURAL PARAMETER GRADIENTS WITHIN THE SAMPLE SPACE. INTERPRETATIONS OBTAINED IN THIS MANNER AND BY EXAMINATION OF THE GRAIN-SIZE CURVES SUGGEST THAT THESE SEDIMENTS WERE DEPOSITED BY WAVES AND CURRENTS ON BEACHES AND IN WAVE ZONES (FACIES C AND DISTRIBUTION OF SEDIMENTS WITHIN THE IWO BAYS.

0023 ALLEN, J.R.; K.F. NORDSTROM

BEACH FORM CHANGES IN THE LEE OF GROINS AT SANDY HOOK, NEW JERSEY [1977]

PAGES 33-47 IN SYMP OF THE WATERWAYS, PORT, COASTAL AND OCEAN DIV OF ASCE, NOV 2-4, 1977. ASCE, NEW YORK, NY

GIVEN NEW MANAGEMENT OBJECTIVES FOR SANDY HOOK, DECISIONS ARE REQUIRED TO EITHER ALTER THE EXISTING PROTECTIVE STRUCTURES TO FIT THE LAND USE NEED OR ALTER THE LAID USE TO FIT THE CHARACTERISTICS OF PRESENT STRUCTURAL CONTROL. BECAUSE THE LATTER CANNOT BE EFFECTIVELY STUDIED UNTIL THE GEOLOGIC CONDITIONS ARE UNDERSTOOD, THIS PAPER FOCUSES ON THE EFFECTS OF PROTECTIVE STRUCTURES ON THE ADJACENT BEACH FORMS AND SEDIMENT FLOWS. A SEGMENT HAS BEEN SELECTED FOR DETAILED ANALYSIS BECAUSE IT HAS EXPERIENCED CONSIDERABLE SHORELINE CHANGE RESULTING FROM THE EFFECTS OF GROINS. IT IS SUGGESTED THAT THE EFFECTS OF THESE GROINS CAN BE JUDITIFIED USING STANDARD GEOLOGIC TOOLS AND THAT THE OUTPUT FROM THIS ANALYSIS WILL PROVIDE THE NECESSARY INFORMATION FOR THE SELECTION OF THE MOST APPROPRIATE LAND USES.

0024 ALLER, R.C.; J.K. COCHRAN

TH-234/U-238 DISEQUILIBRIUM IN NEAR-SHORE SEDIMENT: PARTICLE REWORKING AND DIAGENETIC TIME SCALES [1976]

EARTH PLANET 29(1):37-50

THE DISTRIBUTION OF TH-234 (T(1/2)=24.1 DAYS) IN EXCESS OF ITS PARENT U-238 IN THE UPPER LAYERS OF NEAR-SHORE SEDIMENT MAKES POSSIBLE THE EVALUATION OF SHORT-TERM SEDIMENT REWORKING AND DIAGENETIC RATES. TH-234 HAS A MAXIMUM RESIDENCE TIME IN LONG ISLAND SOUND WATER OF 1.4 DAYS. SEASONAL MEASUREMENT OF TH-234/U-238 DISEQUILIBRIUM IN SEDIMENT AT A SINGLE STATION IN CENTRAL LONG ISLAND SOUND DEMONSTRATES RAPID PARTICLE REWORKING AND HIGH TH-234 (>1 DPM/G) IN THE UPPER 4 CM OF SEDIMENT WITH SLOWER, IRREGULAR REMORKING AND LOW TH-234 TO AT LEAST 12 CM. THE RATE OF RAPID PARTICLE REWORKING VARIES SEASONALLY AND IS HIGHEST IN THE FALL. THE RAPIDLY MIXED ZONE IS CHARACTERIZED BY STEEP GRADIENTS IN SEDIMENT CHEMISTRY IMPLYING FAST REACTIONS SPANNED BY TH-234 DECAY TIME SCALES. U-238 IS DEPLETED IN THE UPPER MIXED ZONE AND SHOWS ADDITION IN REDUCING SEDIMENT AT DEPTH.

0025 ALLER, R.C.

INFLUENCE OF MACROBENTHOS ON CHEMICAL DIAGENESIS OF MARINE SEDIMENTS [1977]

PH.D. THESIS. YALE UNIV. NEW HAVEN. CT 616 PP

DIAGENETIC REACTIONS INVOLVING THE DECOMPOSITION OF ORGANIC MATTER AND THE DISSOLUTION, MOBILIZATION, AND REPRECIPITATION OF METALS SENSITIVE TO OXIDATION-REDUCTION REACTIONS, ARE MOST INTENSE AND RAPID IN THE UPPER 1 M AND ESPECIALLY THE UPPER 10 CM OF MARINE SEDIMENT. IT IS IN THIS UPPER ZONE WHERE MOST BENTHIC ORGANISMS LIVE AND INTERACT WITH SEDIMENTS AND WHERE EXCHANGE RATES OF DISSOLVED AND PARTICULATE MATERIAL BETWEEN SEDIMENT AND OVERLYING WATER ARE LARGELY DETERMINED. IN LONG ISLAND SOUND, BOTH SPATIAL AND TEMPORAL TRENDS IN SEDIMENT CHEMISTRY AND THE FLUX OF MATERIAL OUT OF THE BOTTOM DEMONSTRATE THE CONTROL OF DIAGENESIS BY BOTTOM FAUNA. TH-234/U-238 DISEQUILIBRIUM STUDIES DEMONSTRATE THAT PARTICLE REWORKING RATES NEAR THE SEDIMENT—WATER INTERFACE VARY BOTH TEMPORALLY AND SPATIALLY IN THE SOUND. THE MOST RAPID REWORKING OCCURS IN PROTOGRANCH-INHABITED BOTTOM AREAS AS DO THE HIGHEST TH-234 INVENTORIES. EXCESS TH-234 PROFILES IN THE SEDIMENT ALLOW DETERMINATION OF THE RATES OF SELECTED DIAGENETIC REACTIONS, SUCH AS MN++ PRODUCTION, NEAR THE SEDIMENT SURFACE. BOTH THE TH-234 DISEQUILIBRIUM AND FLUX MEASUREMENTS INDICATE THAT INTRA-ESTUARINE REDISTRIBUTION OF METALS CONTINUALLY TAKES PLACE.

0026 ALMAND. J.D.

PUBLICATIONS AND SERVICES OF THE NATIONAL MARINE FISHERIES SERVICE [1974]

MAR FISH REV 36(3):1-9

TITLES OF PUBLICATIONS, PERIODICALS, NEWS RELEASES AND SERVICES OFFERED BY NMFS WITH THE ADDRESS OF THE SOURCE.

DO27 AMATO, R.V.

RESULTS AND CURRENT ACTIVITY OF THE COST WELL PROGRAM. ATLANTIC OUTER CONTINENTAL SHELF [1977]

SPE 6631. SOC PETROL ENG OF AIME, PITTSBURGH, PA 8 PP

THE CONTINENTAL OFFSHORE STRATIGRAPHIC TEST (COST) PROGRAM WAS BEGUN AS AN EXPENSE-SHARING METHOD OF DRILLING TEST WELLS TO OBTAIN SCIENTIFIC DATA ON THE ROCK STRATA BENEATH THE FRONTIER OFFSHORE AREAS OF THE US. FOUR SUCH WELLS WERE DRILLED ON THE ATLANTIC COAST IN 1975-77; THESE WELLS HAVE BEEN DESIGNATED THE COST B-2, DRILLED IN THE BALTIMORE CANYON AREA OFF NJ TO 4,893 M (16,043 FT), THE COST G-1, DRILLED TO 4,902 M (16,071 FT) IN THE GEORGES BANK AREA, AND THE COST GE-1 WHICH WAS DRILLED TO 4,043 M (13,254 FT) IN THE SOUTH ATLANTIC OFF JACKSONVILLE, FL. DATA AND ANALYTICAL RESULTS OF THE COST B-2 WERE RELEASED IN

NOV 1976, 60 D AFTER THE 1ST ATLANTIC OUTER CONTINENTAL SHELF (OCS) LEASE SALE. THESE DATA INDICATE THAT THE BALTIMORE CANYON TROUGH AREA (MID-ATLANTIC OCS) HAS THE POTENTIAL FOR OIL AND GAS ACCUMULATION. THE WELL PENETRATED 1,403 M (4,600 FT) OF MARINE SANDSTONE, SHALE, LIMESTONE OF TERTIARY AGE, 946 M (3,100 FT) OF PREDOMINANTLY MARINE UPPER CRETACEOUS SANDSTONE AND SHALE, AND 2,410 M (7,900 FT) OF NONMARINE LOWER CRETACEOUS SANDSTONE, SHALE, AND COAL. ABUNDANT POTENTIAL RESERVOIR ROCKS WERE ENCOUNTERED, ALONG WITH ADEQUATE SEALING BEDS AND ORGANIC-RICH POTENTIAL SOURCE ROCKS. RESULTS OF THE OTHER COST WELLS WILL BE RELEASED IF AND WHEN FUTURE LEASE SALES ARE HELD OR 5 YRS AFTER COMPLETION OF THE WELL. TO DATE, THERE HAVE BEEN NO INDICATIONS OF SERIOUS PROBLEMS FOR DEEP DRILLING AND NO UNEXPECTED HAZARDS.

0028 AMOS . A.F.

NEW YORK BIGHT AND HUDSON CANYON IN OCTOBER 1974: HYDROGRAPHY, NEPHELOMETRY, BOTTOM PHOTOGRAPHY, CURRENTS. VEMA CRUISE 32 LEG 1

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, COLUMBIA UNIV. PALISADES, NY 192 PP

THIS REPORT PRESENTS DATA COLLECTED IN THE LAST TWO WEEKS OF OCT 1974 FROM LAMONT-DOHERTY'S RESEARCH VESSEL VEMA DURING THE FIRST OF A SERIES OF CRUISES DESINED TO EXAMINE THE SEASONAL VARIATIONS IN THE PHYSICAL OCEANOGRAPHY AND GEOCHEMISTRY OF THE NEW YORK BIGHT. THE PHYSICAL OCEANOGRAPHY DATA INCLUDES THE HYDROGRAPHY, NEPHELOMETRY, BOTTOM PHOTOGRAPHY, AND CURRENTS. THE AIM OF THE PROJECT IS TO UNDERSTAND THE INTERACTION BETWEEN SHELF, SLOPE AND OCEANIC WATERS AND THE MECHANISMS THAT DETERMINE THE FATE OF ENERGY-RELATED POLLUTANTS IN THE NEW YORK BIGHT.

0029 ANDELMAN, D.A.

60,000-GALLON OIL SPILL FOULS 16 MILES OF THE HUDSON [1972]

NEW YORK TIMES CXXI (41636):58

MORE THAN 16 MI OF THE HUDSON RIVER SOUTH OF ALBANY WERE COVERED FROM SHORE TO SHORE WITH 60,000 GALLONS OF LIGHT FUEL OIL. THE NY DEC SAID THE SPILL FROM A LEAKY FUEL LINE IN THE POWELL MINNICK BROTHERS BRICK PLANT AT LOEYMANS, NY, WHICH WENT UNREPORTED FOR NEARLY TWO DAYS, CAUSED THE SLICK. IT HAD ALREADY BEGUN FOULING THE SHORE OF THE RIVER.

0030 ANDERSON, A.R.; J.A. MUELLER

ESTIMATE OF NEW YORK BIGHT FUTURE (2000) CONTAMINANT INPUTS [1976]

MANHATTAN COLLEGE, BRONX, NY 31 PP

FUTURE WASTE LOADS OF SELECTED WATER QUALITY PARAMETERS FROM VARIOUS SOURCES ARE ESTIMATED AND COMPARED WITH PRESENT LOAD VALUES AND WASTE SOURCE DISTRIBUTION FOR THE NEW YORK BIGHT. PRESENT WASTE LOAD ESTIMATES FOR THE YEARS 1972-73 ARE AVAILABLE AND IN THIS REPORT "PRESENT" IS DEFINED AS THAT TIME PERIOD. "FUTURE" MEANS THE PERIOD OF APPROXIMATELY THE YEAR 2000, WHICH IS RELEVANT TO AVAILABLE POPULATION PROJECTIONS AND ALLOWS ENOUGH TIME FOR COMPLETION OF CURPENTLY PLANNED TREATMENT FACILITIES.

0031 ANDERSON, A.R.; P.W. ANDERSON; W.M. DUNSTAN; L.L. FALK; J.E. KERRIGAN

SOURCES [1979]

PAGES 3-58 IN PROCEEDINGS OF A WORKSHOP ON ASSIMILATIVE CAPACITY OF US COASTAL WATERS FROM POLLUTANTS. US ERL, BOULDER, CO

THE COASTAL OCEANS OF THE UNITED STATES HAVE BEEN USED FOR DISPOSAL OF WASTES FOR MANY YEARS. THE WASTE MASS LOADING RATES HAVE

GROWN AS FUNCTIONS OF PUPULATION AND PRODUCTION. MATERIALS REACH THE OCEAN FROM MANY SOURCES: INFLOW FROM RIVERS AND ICE MELT; TRANSFER FROM THE AIR BY FALLOUT, ABSORPTION, OR PRECIPITATION; VOLCANIC ACTIVITY; AND DIRECT RELEASE BY HUMANS, AS TREATED OR UNTREATED SEWAGE, INDUSTRIAL WASTES AND DREDGED DUMPED MATERIALS. ESTIMATES OF TOTAL MASS EMISSION RATES OF A NUMBER OF PARAMETERS TO US COASTAL WATERS ARE PRESENTED. THE DATA BASES USED ARE THOSE DEVELOPED FOR THE NEW YORK BIGHT AND THE SOUTHERN CALIFORNIA BIGHT. A QUALITATIVE SUMMARY OF RAW LIQUID EFFLUENTS FROM A NUMBER OF SOURCES IS PRESENTED AND WASTES THAT ARE NOW, OR COULD BE, DISPOSED OF AT SEA ARE LISTED.

0032 ANDERSON, A.R.; J.A.; MUELLER; J.A. HALDEN

THE IMPACT OF MARINE COASTAL WATERS OF THE OCEAN DISCHARGE OF MUNICIPAL WASTEWATER AND ITS CONSTITUENTS. CASE HISTORY OF THE NEW YORK BIGHT: ENVIRONMENTAL ENGINEERING ASPECTS [1979]

HYDROSCIENCE, INC., WESTWOOD, NJ 115 PP

DISSOLVED OXYGEN IS SERIOUSLY DEPLETED AND HIGH CONCENTRATIONS OF COLIFORM BACTERIA ARE PRESENT. THESE TWO PROBLEMS MUST BE RELIEVED BY IMPROVE TREATMENT OF WASTEWATER. THE LARGEST AMOUNT OF FLOATING MATERIAL IS WOOD FROM DERELICT SHORE STRUCTURES AND HAS BEEN SERIOUS ENOUGH TO CLOSE BEACHES. MOST OF THE WASTEWATER IS DISCHARGED INTO THE TRANSECT ZONE IN WATERS THAT ARE UTILIZED FOR RECREATION, AND SHELLFISHING. SLUDGE IS DUMPED ZOKM AT SEA AND IS AFFORDED GREATER DILUTIONS. SLUDGE DUMPING IS SCHEDULED TO BE PHASED OUT IN 1981.

UU33 ANDERSON. J.W.

THE TRANSPORT OF PETROLEUM HYDROCARBONS FROM SEDIMENTS TO BENTHOS [1979]

PACIFIC NORTHWEST LABS, SEQUIM, WA 22 PP

THIS PAPER DISCUSSES POLYCYCLIC AROMATIC HYDROCARBONS (PAH) AND OTHER SLOWLY DEGRADATING POLLUTANTS. PAH IN NY BIGHT MARINE ENVIRONMENT, POSSIBLE TRANSFER ROUTES FROM SEDIMENTS TO ANIMALS, AND IMPLICATIONS FOR THE BENTHOS AND MAN ARE COVERED.

0034 ANDERSON, P.W.; S.D. FAUST

IMPACT OF DROUGHT ON QUALITY IN A NEW JERSEY WATER SUPPLY SYSTEM [1972]

WATER RESOUR BULL 8(4):750-760

NEW JERSEY, TOGETHER WITH OTHER STATES IN THE NORTHEAST, WAS STRICKEN WITH DROUGHT DURING 1961-1966. THE EFFECT OF THIS DROUGHT WAS MOST SEVERE IN THE NORTHERN PART OF THE STATE. THE WATER QUALITY OF THE PASSAIC RIVER, THAT DRAINS THE URBAN, INDUSTRIALIZED NORTHEAST, PERHAPS DETERIORATED THE MOST AMONG THE MAJOR DRAINAGE SYSTEMS. THIS RIVER SYSTEM IS USED AS A RAW-WATER SOURCE BY 10 WATER SUPPLIERS. THE IMPACT OF THE DROUGHT UPON THE WATER SUPPLY OF THE PASSAIC VALLEY WATER COMMISSION, THE MOST DOWNSTREAM OF THE BASIN'S SUPPLIERS, WHICH SUPPLIES AN AVERAGE OF ABOUT 90 MILLION GALLONS A DAY TO MORE THAN 650,000 PEOPLE, IS EVALUATED HEREIN. THE DROUGHT'S IMPACT ON THE RAW-WATER QUALITY IS APPRAISED BY THE COMPARISON OF BEFORE-AND-AFTER QUALITIES OF DISSOLVED SOLIDS, DISSOLVED OXYGEN, BIOCHEMICAL OXYGEN DEMAND, TURBIDITY, AND HARDNESS. FOR EXAMPLE, AT THE WORST POINT DURING THE DROUGHT, MONTHLY AVERAGE, DISSOLVED-SOLIDS CONTENT IN THE RAW WATER WAS ABOUT 210%; HARDNESS, ABOUT 167%; AND BIOCHEMICAL OXYGEN DEMAND ABOUT 270% HIGHER THAN ANTECEDENT VALUES. IN GENERAL, THE STUDY CONCLUDES THAT THE DROUGHT PRODUCED A DETERIORATION IN BOTH RAW AND FINISHED WATER QUALITY, AND IS ESTIMATED TO HAVE INCREASED CHEMICAL TREATMENT COSTS BY ABOUT \$650,000.

0035 ANDERSON, P.W.; S. SUBITZKY

REMOTE-SENSING STUDIES OF HYDROLOGIC ENVIRONMENTS IN THE LOWER HARITAN HIVER SYSTEM. NEW JERSEY [1973]

OPEN-FILE REPORT, 1973. USGS, TRENTON, NJ 18 PP NTIS-N74-22972.

THE USGS, IN COOPERATION WITH NASA, CONDUCTED A SERIES OF REMOTE-SENSING EXPERIMENTS IN THE LOWER RARITAN RIVER SYSTEM IN EAST-CENTRAL NJ IN JAN AND NOV 1968. THE AIRBORNE MULTISENSOR MISSIONS INCLUDED PHOTOGRAPHIC AND THERMAL-INFRARED SENSORS OPERATED OVER A SINGLE SITE AT A TIME WHEN STREAM FLOW AND WATER TEMPERATURE OBSERVATIONS WERE BEING MADE ON THE GROUND-REMOTE-SENSING DATA SHOWED THE EFFECT OF THERMAL WASTE WATER DISCHARGES ON STREAM TEMPERATURES; CROSS-CHANNEL VARIATION IN THERMAL CHARACTERISTIC DUE TO WASTE WATER DISCHARGE, CHANNEL CHARACTERISTICS, AND TIDAL CURRENTS; INFLUENCE OF FLOW RATES ON DISPERSION; PATTERNS AND DISTRIBUTION OF ICE COVER; AND MOVEMENT OF SEDIMENT LOADS.

0036 ANDERSON, P.W.; S.D. FAUST

CHARACTERISTICS OF WATER QUALITY AND STREAM FLOW, PASSAIC RIVER BASIN ABOVE LITTLE FALLS, NEW JERSEY [1973]

WATER-SUPPLY PAPER 2026. USGS. TRENTON. NJ 80 PP

THE FINDINGS OF A PROBLEM-ORIENTED RIVER SYSTEM INVESTIGATION OF THE WATER QUALITY AND STREAM FLOW CHARACTERISTICS OF THE PASSAIC RIVER ABOVE LITTLE FALLS, NJ (DRAINAGE AREA 762 SQ MI) ARE DESCRIBED. INFORMATION ON STREAM FLOW DURATION, TIME-OF-TRAVEL MEASUREMENTS, AND ANALYSES OF CHEMICAL, BIOCHEMICAL, AND PHYSICAL WATER QUALITY ARE SUMMARIZED. THIS INFORMATION IS USED TO DEFINE RELATIONS BETWEEN WATER QUALITY, STREAM FLOW, GEOLOGY, AND ENVIRONMENTAL DEVELOPMENT IN THE BASIN'S HYDROLOGIC SYSTEM. THE EXISTENCE. NATURE. AND MAGNITUDE OF LONG-TERM TRENDS IN STREAM QUALITY--AS MEASURED BY DISSOLVED SOLIDS. CHLORIDE, DISSOLVED OXYGEN, BIOCHEMICAL OXYGEN DEMAND, AMMONIA, NITRATE, AND TURBIDITY--AND IN STREAM FLOW TOWARD EITHER IMPROVEMENT OR DETERIORATION ARE APPRAISED AT SELECTED SITES WITHIN THE RIVER SYSTEM. THE QUALITY OF STREAMS IN THE UPPER PASSAIC RIVER BASIN IN NORTHEASTERN NJ IS SHOWN TO BE DETERIORATING WITH TIME. FOR EXAMPLE, BIOCHEMICAL OXYGEN DEMAND, AN INDIRECT MEASURE OF ORGANIC MATTER IN A STREAM, IS INCREASING AT MOST STREAM-QUALITY SAMPLING SITES. SIMILARLY, THE DISSOLVED SOLIDS CONTENT, A MEASURE OF INORGANIC MATTER, ALSO IS INCREASING. THESE OBSERVATIONS SUGGEST THAT THE PASSAIC RIVER SYSTEM IS BEING USED MORE AND MORE AS A MEDIUM FOR THE DISPOSAL OF INDUSTRIAL AND MUNICIPAL WASTE WATERS. DISSOLVED OXYGEN. AN ESSENTIAL INGREDIENT FOR THE NATURAL PURIFICATION OF STREAMS RECEIVING WASTE DISCHARGES, IS UNDERSATURATED (THAT IS, BELOW THEORETICAL SOLUBILITY LEVELS) AT ALL SAMPLING SITES AND 1S DECREASING WITH TIME AT MOST SITES. THIS IS ANOTHER INDICATION OF THE GENERAL DETERIORATION OF STREAM QUALITY IN THE UPPER BASIN. IT ALSO INDICATES THAT THE ABILITY OF THE RIVER SYSTEM TO RECEIVE, TRANSPORT, AND ASSIMILATE WASTES, ALTHOUGH EXCEEDED NOW ONLY FOR SHORT PERIODS DURING THE SUMMER MONTHS, MAY BE EXCEEDED MORE CONTINUALLY IN THE FUTURE IF PRESENT TRENDS HOLD. DECREASING RATIOS OF AMMONIA TO NITRATE IN A DOWNSTREAM DIRECTION ON THE MAIN STEM PASSAIC RIVER SUGGESTS THAT NITRIFICATION (THE BIOCHEMICAL CONVERSION OF AMMONIA TO NITRATE) AS WELL AS MICROBIOLOGICAL DECOMPOSITION OF ORGANIC MATTER (WASTE WATERS) IS CONTRIBUTING TO THE CONTINUED AND INCREASING UNDERSATURATION OF DISSOLVED OXYGEN IN THE RIVER SYSTEM.

0037 ANDERSON, P.W.; S.D. FAUST

WATER QUALITY AND STREAMFLOW CHARACTERISTICS, RARITAN RIVER BASIN, NEW JERSEY [1974]

WATER RES INVESTIG 14-74. USGS, TRENTON, NJ 82 PP

THE STREAM QUALITY AND STREAM FLOW CHARACTERISTICS OF THE RARITAN RIVER BASIN, NJ, ARE DESCRIBED. THE INVESTIGATION COVERS MAINLY THE PERIOD 1955-72. PRECIPITATION IN THE BASIN IS 47 INCHES PER YEAR. A GENERAL TREND TOWARD LOWER FLOWS WAS OBSERVED DURING THE STUDY PERIOD; THIS IS ATTRIBUTED TO GENERALLY LOWER THAN NORMAL PRECIPITATION. THE DISSOLVED SOLIDS CONCENTRATION OF STREAMS IN AREAS LITTLE INFLUENCED BY MAN'S ACTIVITIES GENERALLY RANGE FROM 40 TO 200 MG/L. THOSE IN AREAS INFLUENCE BY MAN OFTEN RANGE MUCH HIGHER SOMETIMES EXCEEDING 800 MG/L. SUSPENDED-SEDIMENT YIELDS IN THE BASIN RANGE FROM 25 TO 500 TONS/SQ MI ANNUALLY. THE WATER QUALITY OF THE RARITAN RIVER AND MOST TRIBUTARIES ABOVE MANVILLE GENERALLY IS GOOD FOR MOST INDUSTRIAL, DOMESTIC, AND RECREATIONAL USES. THERE HAS BEEN A SIGNIFICANT INCREASE IN SULFATE, CHLORIDE, AND NITRATE IONS TRANSPORTED PER UNIT OF STREAMFLOW SINCE 1920. THESE INCREASES REFLECT INCREASED WASTEWATER DISCHARGES AND NUTRIENTS IN AGRICULTURAL RUNOFF IN

THE UPPER BASIN. DETRIMENTAL ACTIVITIES OF MAN ARE REFLECTED IN HIGHER CONCENTRATIONS OF MOST CONSTITUENTS BELOW MANVILLE. A GENERAL DETERIORATION IN WATER QUALITY WITH TIME IN THE RIVER BELOW MANVILLE IS DEMONSTRATED THROUGH COMPARISONS OF DISSOLVED OXYGEN AND BIOCHEMICAL OXYGEN DEMAND DATA COLLECTED BETWEEN THE LATE 1920'S AND EARLY 1970'S. SEVERAL TIME-OF-TRAVEL MEASUREMENTS WITHIN THE BASIN ARE REPORTED.

0038 ANDERSON. P.W.

OCEAN DUMPING OFF NEW YORK [1978]

EPA J 4(8):28-29

MOST ENVIRONMENTAL INCIDENTS IN THE NEW YORK BIGHT, AN 11,000 M2 OCEAN AREA OFF THE EASTERN COASTLINE EXTENDING FROM CAPE MAY, NJ, TO MONTAUK POINT, NY, ARE ATTRIBUTED TO OCEAN DUMPING OF MUNICIPAL SEWAGE AND INDUSTRIAL WASTE SLUDGE. THESE INCLUDE ELEVATED CONCENTRATIONS OF HEAVY METALS, ORGANIC MATTER, AND BACTERIA IN THE WATER AND BOTTOM SEDIMENTS WITH ATTENDANT THREAT OF BIOACCUMULATION IN THE FOOD CHAIN. REDUCED CATCHES OF BONY FISH IN HIGH CARBON SEDIMENT AREAS ALSO HAVE BEEN NOTED. EXTENSIVE AREAS HAVE BEEN CLOSED TO SHELLFISHING. NUTRIENT ENRICHMENT HAS INCREASED PHYTOPLANKTON PRODUCTIVITY. FIN ROT, EXOSKELETON EROSION, AND GILL CLOGGING HAVE OCCURRED IN CERTAIN TYPES OF MARINE LIFE AND SEDIMENTS IN THE VICINITY OF THE DUMP SITES ARE DEVOID OF NORMAL BOTTOM-DWELLING MARINE LIFE. RECOGNIZING THE MAGNITUDE OF ENVIRONMENTAL PROBLEMS IN THE BIGHT AND ITS RESPONSIBILITIES UNDER THE MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT, THE US EPA HAS CARRIED OUT AN OCEAN MONITORING PROGRAM INVOLVING SEVERAL FEDERAL, STATE, AND LOCAL AGENCIES. IMPLEMENTATION OF THE ACT IN APRIL 1973 SPURRED INDUSTRIAL OCEAN DUMPERS IN THE REGION TO CONSTRUCT LAND-BASED TREATMENT FACILITIES OR TO FIND OTHER ENVIRONMENTALLY ACCEPTABLE ALTERNATIVES FOR HANDLING THEIR WASTES. OF THE ROUGHLY 150 INDUSTRIAL OCEAN DUMPERS IN 1973, ONLY 8 REMAIN. DURING 1977, THESE 8 DUMPED ALMOST 1.5 MILLION WET TONS OF AQUEOUS WASTES. FIVE OF THE 8 WASTE DUMPERS HAVE AGREED TO STOP OCEAN DUMPING ON OR BEFORE APRIL 1981. THE RETAINING 3 HAVE PROMISED TO COMPLY WITH EPA'S RESTRICTIVE OCEAN DUMPING CRITERIA BY 1981 AND TO INVESTIGATE INNOVATIVE TREATMENT TECHNOLOGY. MUNICIPAL WASTEMATER TREATMENT FACILITIES SCHEDULED FOR COMPLETION 1977-1983 MOULD INCREASE THE AMOUNT OF SLUDGE DISPOSED BY 250%. ALTERNATIVES, E.G.. INCINERATION AND COMPOSTING, POSE POTENTIAL ENVIRONMENTAL PROBLEMS.

0039 ANDERSON. R.E.

THE SITE SELECTION AND EVALUATION PROCESS IN WATER-ORIENTED RECREATION PLANNING ON THE HUDSON RIVER OF ALBANY AND RENSSELAER COUNTIES. NY [1976]

M.S. THESIS. SUNY, ALBANY, NY 155 PP

PRESENT RECREATION FACILITIES ON THE HUDSON SHOREFRONT ARE GROSSLY INADEQUATE, ESPECIALLY GIVEN THE SIZE AND POTENTIAL RECREATION CAPACITY OF THE HUDSON RIVER AND ITS SHORELANDS. POTENTIAL RECREATION SITES DO EXIST AND SHOULD BE PROTECTED FROM DEVELOPMENT FOR NON-RECREATIONAL USES; AND THE HUDSON RIVER, THOUGH NOT LIKELY TO FACILITATE PRIMARY WATER CONTACT RECREATION BY 1990 OR THE FORESEEABLE FUTURE, WILL FACILITATE A VARIETY OF SECONDARY CONTACT RECREATION ACTIVITIES (E.G., FISHING AND BOATING). THE POTENTIAL RECREATION SITES SELECTED IN THIS RESEARCH ARE BOTH WITHIN CLOSE PROXIMITY TO THE REGION'S POPULATION CONCENTRATION AREAS. THEY ARE, THEREFORE, EXPECTED TO ATTRACT CONSIDERABLE PATRONAGE IF AND WHEN THEY ARE DEVELOPED. DEVELOPMENT COSTS ARE NOT EXPECTED TO BE PROHIBITIVE SINCE THE LAND IS PRESENTLY UNDEVELOPED AND QUITE SUITABLE TO RECREATION. IN ADDITION, PHYSICAL AND BIOLOGICAL SITE CONDITIONS POSE ONLY MODERATE LIMITATIONS TO DEVELOPMENT FOR A VARIETY OF RECREATION ACTIVITIES.

0.040 ANDERSON, V.T., JR.

REVERSED SUMMER FLOUNDER (PARALICHTHYS DENTATUS L.) FROM THE MIDDLE ATLANTIC BIGHT [1978]

BULL NJ ACAD SCI 23(1):39-41

DEXTRAL SUMMER FLOUNDER (PARALICHTHYS DENT^ATUS L.) ARE DE_SC_RIBED FOR THE FIRST TIME WITH A FULLY MIGRATED LEFT EYE AND NORMAL DORSAL FIN ORIGIN. MORPHOMETRY AND MERISTICS ARE GIVEN FOR FOUR SPECIMENS. MORPHOLOGICAL DIFFERENCES IN THE OPTIC NERVES OF REVERSED BOTHIDAE AND PLEURONECTIDAE ARE DISCUSSED AND ILLUSTRATED FOR SUMMER FLOUNDER.

0041 ANDREWS, J.B.; B.A. MAGNELL

OBSERVATIONS OF NEAR SHORE UPWELLING AND DOWNWELLING [1975]

EOS: TRANS AM GEOPHYS UNION 56(6):382

OCEANOGRAPHIC MEASUREMENTS IN AN AREA APPROXIMATELY 4.5 KM OFF LITTLE EGG INLET, NJ, SUGGEST THE PRESENCE IN SUMMER OF 2 PRINCIPAL CURRENT-WATER TEMPERATURE REGIMES ASSOCIATED WITH COASTAL UPWELLING AND DOWNWELLING. THE MEASUREMENTS, CONDUCTED IN WATER OF ABOUT 12-M DEPTH, CONSISTED OF CONTINUOUS MOORED CURRENT AND TEMPERATURE RECORDINGS AT 5 STATIONS AT 5- AND 10-M DEPTH, SUPPLEMENTED BY HYDROGRAPHIC SURVEYS OF THE SURROUNDING AREA AT ABOUT 2-WK INTERVALS. THE REGIME ASSOCIATED WITH UPWELLING IS CHARACTERIZED BY RELATIVELY LOW WATER TEMPERATURES AT FIXED DEPTHS TOGETHER WITH WEAK AND VARIABLE OR NORTHERLY CURRENTS. THE WELL-DEFINED THERMOCLINE IS SHALLOW NEAR THE COAST AND SLOPES DOWN TO SEAWARD. WIND STRESS TENDS TO INDUCE OFFSHORE FLOW AT THE SURFACE. THE OTHER REGIME, WHICH IS ASSOCIATED WITH DOWNWELLING, IS CHARACTERIZED BY RELATIVELY HIGH WATER TEMPERATURES AT FIXED DEPTHS TOGETHER WITH STRONG SOUTHERLY CURRENTS. THE THERMOCLINE BECOMES DEEP AND DIFFUSE NEAR SHORE AND TENDS TO SLOPE UP TO SEAWARD. IN EXTREME CASES, THE THERMOCLINE MAY INTERSECT THE BOTTOM TO SEAWARD OF THE MEASUREMENT SITE.

WIND STRESS TENDS TO INDUCE AN ONSHORE FLOW AT THE SURFACE. THE CHANGEOVER BETWEEN THESE REGIMES IS ASSOCIATED WITH THE PASSAGE OF MAJOR WEATHER SYSTEMS AND GENERALLY OCCURS IN ABOUT 1 D. THE DURATION OF A REGIME VARIES FROM SEVERAL DAYS TO ABOUT 2 WK.

SUCMYNONA SAOO

POLLUTION MITIGATION NOTES [1971]

PETROLEUM ENGINEER 43(10):22

THE ARTICLE DISCUSSES PLANS BY THE EPA TO TEST DEVICES FOR CAPTURING OIL AND CHEMICAL SPILLAGE IN A NEW MULTI-MILLION DOLLAR "OCEAN IN A BASIN."

0043 ANONYMOUS

DEEP CAISSONS CARRY SEWAGE PLANT OVER RIVER [1973]

ENG NEAS-REC 190(14):17-19

A FOREST OF CRANE BOOMS, CLOSE TO 20 AT THE LAST COUNT, IS THE LATEST ADDITION TO THE SKYLINE OF MANHATTAN ISLAND'S UPPER WEST SIDE. THE ARMADA OF FLOATING EQUIPMENT IS WORKING ON THE SUBSTRUCTURE OF A SEWAGE TREATMENT PLANT THAT, DESPITE ITS SIZE, WILL ADD NOTHING TO THE SKYLINE WHEN IT'S COMPLETED. IN FACT, THE 220-MGD ACTIVATED SLUDGE PLANT WILL COVER OVER 30 ACRES, YET BE BARELY NOTICEABLE. IT WILL CARRY A RECREATION COMPLEX ON ITS ROOF. THE SECONDARY SEWAGE TREATMENT PLANT WILL BE CONTAINED WITHIN A WINDOWLESS BUILDING COVERING THE ENTIRE PLATFORM. WALLS WILL BE 50 TO 65 FT. HIGH. THE ROOF WILL CARRY THE STATE PARK. THE COMPLETELY ENCLOSED PLANT WILL HAVE A SYSTEM OF FORCED-AIR VENTILATION AND AIR CONDITIONING THAT WILL INTRODUCE AND REMOVE OVER 2.5 MILLION FT3 OF AIR/MIN. THE MAIN EXHAUST AIR DUCT, AS PRESENTLY DESIGNED WILL BE 116 FT WIDE AND 10 FT HIGH. ODORS WILL BE COMPLETELY REMOVED BEFORE THE AIR IS DISCHARGED. WITH A ROOF DESIGNED TO CARRY 400 LB/FT2, THE STATE PARK ON TOP WILL BE MORE THAN GRASS AND TENNIS COURTS. THE PRELIMINARY DESIGN BY NYC ARCHITECTS, BOND RYDER ASSOCIATES, INCLUDES: FOOTBALL AND BASEBALL FIELDS, HANDBALL AND TENNIS COURTS, A SWIMMING POOL, RESTAURANT AND CAFE, PARKING FACILITIES, COMMUNITY BUILDINGS, AND, OF COURSE TREES AND GRASS. THE TOTAL ESTIMATED COST OF CONSTRUCTION, INCLUDING THE TREATMENT PLANT, AN INTERCEPTOR SYSTEM AND A SEA-GOING SLUDGE VESSEL, IS \$750 MILLION.

SUCMYNONA 4400

WATER USED TO PRE-LOAD MARSHY GROUND [1974]

INT CONSTR 13(3):23-29

A 25 HA SITE AT THE ELIZABETH-PORT AUTHORITY MARINE TERMINAL ON NEWARK BAY IN NJ WAS STABILIZED BY USING SEA WATER FOR THE PRELOAD IN THE PLACE OF USUAL SAND FILL. THE PRELOAD WAS PROVIDED BY TWO RESERVOIRS LINED WITH PLASTIC MEMBRANE AND FILLED WITH 6.4 M OF WATER. THE FACILITY HAS BEEN CONSTRUCTED OVER A TIDAL MARSH DEPOSIT CONSISTING OF 3 TO 6 M OF VERY SOFT AND HIGHLY COMPRESSIBLE ORGANIC SILTS AND PEATS.

DO45 ANDNYMOUS

BRITISH PHYCOLOGICAL SOCIETY--ABSTRACTS OF PAPERS READ AT THE WINTER MEETING AT GOLDSMITH'S COLLEGE, LONDON 2-4 JAN 1975 [1975]

BR PHYCOL J 10(3):309-314

THIS SET OF ABSTRACTS OF PAPERS PRESENTED AT JAN 1975 MEETING OF THE BRITISH PHYCOLOGICAL SOCIETY INCLUDES SUCH TOPICS AS INTROGENASE ACTIVITY IN BLUE-GREEN ALGAE, EFFECTS OF SALINITY ON MACRO-ALGAE, SYNOPTIC RELATIONSHIPS OF MACRO-ALGAE, ULTRASTRUCTURAL STUDIES ON BLUE-GREEN ALGAE, MIXED ALGAL-BACTERIAL SYSTEMS, BELT TRANSECT METHODS FOR ALGAL COVER ESTIMATION, ZONATION OF NJ BENTHIC ALGAE, PHOTOSYNTHETIC ACTIVITIES OF BLUE-GREEN ALGAE, FEATURES OF APICAL GROWTH IN ALGAE, STUDIES OF PHYTOPLANKTON DISTRIBUTION.

0046 ANONYMOUS

EAST COAST NOMINATIONS SHOW TWO AREAS [1975]

OFFSHORE 35(9):101

OIL COMPANIES REPORTED TO THE DEPARTMENT OF INTERIOR THAT THERE ARE TWO SITES FAVORED FOR ATLANTIC OFFSHORE DRILLING. ONE IS 60 MI OFF THE COAST AND 75 MI SOUTH OF FIRE ISLAND, NY. THE SECOND IS 65 MI EAST OF CAPE MAY, NJ. THE TWO SITES TOTAL 3.2 MILLION ACRES.

0047 ANONYMOUS

MARINE PILING [1975]

DOCK HARB AUTH 55 (652):405-409

MARINE PILING IN THE PORT OR IMMEDIATE OFFSHORE AREA HAS SHOWN A STEADY IF UNEXCITING DEVELOPMENT OVER THE YEARS. APART FROM THE RAPID GROWTH IN PILE-SIZE AND EQUIPMENT PARTICULARLY FOR NORTH SEA PLATFORMS, IT IS ONLY IN RECENT TIMES THAT THERE HAS BEEN A NOTICEABLE INCREASE IN INNOVATIONS AND TECHNIQUES FOR CONVENTIONAL PILING. SOME OF THE DEVELOPMENTS ARE DESCRIBED ALONG WITH MATTERS OF GENERAL INTEREST.

SUCMY NONA 8400

HOW THE COAST GUARD SAVED A SHIP, ITS CARGO AND THE ENVIRONMENT [1975]

OCEAN IND 10(3):56-59, 62-63

THIS ARTICLE DESCRIBES THE OIL CLEAN-UP ACTIVITIES OF THE COAST GUARD WHEN THE LIBERIAN TANKER. AEOLUS. SANK NEAR THE AMBROSE CHANNEL.

DO49 ANONYMOUS

DUMPING SEWAGE SLUDGE IN THE OCEAN [1976]

ENVIRON SCI TECHNOL 10(6):530-531

THE NOAA SHIP GEORGE B. KELEZ ACTS AS THE MAIN PLATFORM FOR SURVEYING AND DATA ACQUISITION OF SEWAGE SLUDGE DUMPED AT THE DESIGNATED NEW YORK PIGHT SITE OFF THE COAST OF NY AND NJ. A SHORT TIME AFTER SEWAGE SLUDGE IS DUMPED, VERY LITTLE EVIDENCE IS FOUND THAT THE SLUDGE WAS EVER DUMPED THERE. CONTAMINATING MATERIALS CANNOT NECESSARILY BE SPECIFIED AS HAVING COME FROM SEWAGE SLUDGE ALTHOUGH THE FOLLOWING ADVERSE EFFECTS WERE NOTED IN THE NEW YORK BIGHT APEX: FIN ROT ON CERTAIN FISH; EXOSKELETON EROSION AND GILL CLOGGING ON CRABS AND LOBSTERS; DO OFTEN DOWN TO ABOUT 30% OF SATURATION; AND HIGH CONCENTRATIONS (3%-5%) OF TOC. WATER POLLUTION FROM THE HUDSON RIVER, AIR POLLUTION FALLOUT, AND WASTE DISPOSAL ACTIVITIES WERE ALSO IMPLICATED AS SOURCES OF POLLUTION OTHER THAN SEWAGE SLUDGE. NOAA DOES NOT RECOMMEND RELOCATION OF DUMPSITES TO CLEAN AREAS OF THE MIDDLE ATLANTIC SHELF BUT RATHER SUGGESTS USING THE EXISTING DUMP SITES UNTIL THE 1981 OCEAN DUMPING PHASEOUT OCCURS.

DOSD ANONYMOUS

OIL SPILL RESPONSE COMPANY FORMED TO COVER NEW YORK HARBOR [1977]

SEA TECHNOL 18(11):36

A NEW OIL SPILL CONTROL ORGANIZATION FOR THE PORT OF NEW YORK WAS FORMED IN OCT 1977, AND WILL COVER THE PORT AREA FROM BASES IN NY AND NJ FOR A WIDE RANGE OF OIL SPILLS. CLEAN VENTURE, INC., INVOLVES THE UNION OF FOUR COMPANIES TALENTS AND OIL SPILL EXPERIENCE. THE COMPANIES FORMING CLEAN VENTURE ARE SEAL AND ENVIRONMENTAL ENGINEERING INC., OF MILFORD, CT, INDUSTRIAL MARINE SERVICE INC., OF NORFOLK, VA., AND JET LINE SERVICES INC., OF BOSTON, MA. THEY WILL JOIN WITH REYNOLDS SHIPYARD CORP. ON STATEN ISLAND. PRIMARY BASES FOR THE OPERATION HAVE BEEN ESTABLISHED AT THE RARITAN CENTER INDUSTRIAL PARK NEAR PERTH AMBOY, NJ AND AT THE REYNOLDS SHIPYARD ON STATEN ISLAND.

0051 ANONYMOUS

OPERATING US POWER REACTORS [1977]

NUCLEAR SAFETY 18(6):839-845

SALIENT INFORMATION--UNIT AVAILABILITY AND CAPACITY, FORCED OUTAGE RATE, AND POWER GENERATION--OF NUCLEAR POWER REACTORS FOR THE PERIOD OF JULY-AUG 1977, IS TABULATED. INFORMATION IS INCLUDED SHOWING SIGNIFICANT CHANGES IN OPERATING STATUS OF FACILITIES, REGULATORY AGENCY-IMPOSED SHUTDOWNS, AND NEW INSPECTION REQUIREMENTS. FACTORS INVOLVED IN THE NRC'S REFUSAL TO PERMIT PACIFIC GAS AND ELECTRIC COMPANY'S HUMBOLDT BAY PLANT TO RESUME OPERATIONS ARE OUTLINED, AND A DRAFT ENVIRONMENTAL STATEMENT FILED BY CONSOLIDATED EDISON IN REGARD TO SELECTION OF A COOLING SYSTEM FOR ITS INDIAN POINT PLANT IS DISCUSSED.

0052 ANONYMOUS

TILEFISH, SEAFOOD MAPKETING'S MYSTERY FISH [1978]

FISH BOAT 23(10):33-38

TILEFISH (LOPHOLATILUS CHAMAELEONTICEPS) ARE FOUND FROM THE GULF OF MAINE TO GUYANA AND THROUGHOUT THE GULF OF MEXICO. MAKING THEIR HOME IN UNDERWATER CANYON HEADS AND GLACIAL BOULDER FIELDS. THEY BOTTOM FEED PRIMARILY ON CRUSTACEANS. THEY CAN BE FOUND >80 MI AT SEA AND IN DEPTHS OF 50-12) FM. ALTHOUGH AVERAGE WT IS 10-15 LBS SOME WEIGH >50 LBS. THE MILD TASTING FLESH OF THE TILEFISH IS COMPARED TO THAT OF LOBSTER, SHRIMP, CRAB, OR RED SNAPPER. THE NAME PROBABLY STEMS FROM REPORTS THAT COMMUNITIES COVER THE BOTTOM OF THE SEA LIKE TILES ON A ROOF. A BRIEF HISTORICAL REVIEW IS GIVEN. COMMERCIAL LANDINGS HAVE INCREASED STEADILY--FROM 70,000 LBS IN 1968 TO 4.5 MILLION LBS IN 1977. A SUBSTANTIAL FISHERY HAS DEVELOPED--ESPECIALLY OFF THE NJ COAST WHERE COMMERCIAL TILEFISH BOATS ACCOUNTED FOR >1/2 OF THE TOTAL CATCH. MARINE BIOLOGISTS AT COOK AND RUTGERS COLLEGES, FUNDED BY A NOAA-BACKED NJ SEA GRANT, ARE STUDYING TILEFISH TO ESTABLISH A SOUND BIOLOGICAL BASIS FOR MANAGEMENT OF THE FOOD RESOURCE. NOT MUCH IS KNOWN ABOUT THE BIOLOGY OF THE TILEFISH, SO THE NJ SCIENTISTS ARE EXAMINING SUCH DATA AS AGE, GROWTH, MORTALITY, AND SEXUAL MATURITY. AGE STUDIES INCLUDE THE OBSERVATION OF ANNUALAR RINGS ON OTOLITHS. RESEARCH TECHNIQUES INVOLVE INTRICATE SCIENTIFIC ANALYSIS OF GENETIC VARIATION IN EYE, LIVER, AND MUSCLE PROTEIN. RACIAL STUDIES ARE BEING CONDUCTED TO FIND OUT IF DISTINCT SUBGROUPS WITHIN THE SPECIES HAVE DIFFERENT CHARACTERISTICS THAT MIGHT NEED INDIVIDUAL MANAGEMENT STRATEGIES. TILEFISH INHABITING THE MID-ATLANTIC BIGHT HAVE SOME GENETIC VARIATIONS FROM THEIR RELATIVES IN THE GULF OF MEXICO AND SOUTH-ATLANTIC BIGHT.

SUCMY NONA COO

NOAA SCIENTISTS DEVELOP TRACER FOR SEAAGE IN COASTAL WATERS [1978]

SEA TECHNOL 19(10):33

NOAA SCIENTISTS HAVE DEVELOPED A BIOCHEMICAL TECHNIQUE THAT CAN BE USED TO TRACE SEWAGE IN COASTAL'AREAS. THE NEW TECHNIQUE USES COPROSTANOL, A STEROID THOUGHT TO BE PRODUCED EXCLUSIVELY BY BACTERIA IN MAMMAL INTESTINES, TO MEASURE SEWAGE IN OFFSHORE SEDIMENTS. RESEARCHERS AT AOML, MIAMI, FL, WHERE THE TECHNIQUE WAS DEVELOPED, FEEL THAT THE COPROSTANOL METHOD PROMISES TO BECOME STANDARD FOR SEWAGE POLLUTION DETECTION. LOOKING FOR A SEWAGE TRACER FOR STUDIES IN THE NEW YORK BIGHT, THE NOAA WORKERS TURNED TO STEROIDS, BIOCHEMICAL COMPOUNDS THAT RESIST DETERIORATION IN THE ENVIRONMENT. WITH THE TECHNIQUE, A MAP OF THE BIGHT AREA WAS DEVELOPED WHICH SHOWS SEWAGE DIMINISHING RAPIDLY WITH DISTANCE FROM THE DUMP SITE. THE HIGHEST VALUE FOUND WAS 15% COPROSTANOL IN HIGHLY CONTAMINATED MUDS NEAR THE DUMP SITE. PURE SEWAGE CONTAINS MORE THAN 30%.

0054 ANONYMOUS

CLEANUP PROGRAM FOR NEW YORK HARBOR [1978]

AM SEAPORT 40(5):19-26

SINCE 1974 THE ACE HAS BEEN INVOLVED IN A MASSIVE CLEANUP PROJECT IN THE NEW YORK/NEW JERSEY HARBOR. THE PROJECT IS EXPECTED TO TAKE 10 YRS TO COMPLETE AND COST \$60 MILLION. THE FEDERAL GOVERNMENT WILL SUBSIDIZE TWO-THIRDS OF THE FUNDING WITH THE REMAINDER DERIVED FROM AFFECTED COMMUNITIES. ONE MAJOR PROJECT, LIBERTY SATE PARK IN JERSEY CITY, NJ. HAS BEEN DEVELOPED ON LAND THAT HAD BEEN IN A STATE OF DISREPAIR SINCE WORLD WAR I. FUTURE PLANS FOR THE PARK INCLUDE A 2 MI WATERFRONT PROMENADE OVERLOOKING THE DOWNTOWN SKYLINE OF MANHATTAN. THE CLEANUP PROGRAM SHOULD RESULT IN ANNUAL ECONOMIC BENEFITS OF \$23 MILLION FOR LOCAL AND FEDERAL GOVERNMENTS, THE SHIPPING INDUSTRY, PRIVATE BOAT OWNERS, AND PROPERTY OWNERS; THESE BENEFITS WILL BE REALIZED THROUGH FEWER SHIPPING ACCIDENTS, INCREASED HARBOR TRAFFIC SPEED, LESS SHORELINE AND BEACH DAMAGE, AND LOWER DEBRIS REMOVAL COSTS. PRELIMINARY PLANS INCLUDE THE REMOVAL OF >23.6 MILLION FT3 OF POTENTIAL DRIFFT DEBRIS; THIS ENTAILS THE REMOVAL OF 2000 ABANDONED VESSELS, NONREPAIRABLE SHORE STRUCTURES (SUCH AS WOODEN PIERS) AND DEBRIS CONCENTRATED ALONG THE SHORELINE. THE REMOVAL OF POTENTIAL DRIFFT DEBRIS WILL IMPROVE THE WATER QUALITY AND REDUCE SUCH RISKS AS FIRE AND AIR POLLUTION IN THE HARBOR AREA. A BRIEF HISTORY OF PAST CLEANUP EFFORTS AND COSTS IS GIVEN.

0055 ANONYMOUS

MIXED RESULTS SHOWN PY MAJOR PORTS [1978]

MAR ENGINEER/LOG 83(7):147-149.212-221

IN 1977 RECORD TONNAGE WAS REPORTED AT VARIOUS PORTS INCLUDING HOUSTON, TAMPA, AND LOS ANGELES; CONTAINER GROWTH AT HONG KONG AND OSLO, INCREASED VALUE AT NEW YORK; BUT TONNAGE DECLINE AT ROTTERDAM, WORLD'S BUSIEST PORT, AND SOME OTHER PORTS. PHILADELPHIA ADDED A 730 FT EXTENSION OF CONTAINERSHIP BERTHING FACILITIES, BUT MANY EUROPEAN PORTS' CONSTRUCTION WAS GENERALLY SLOW BECAUSE EUROPEAN ECONOMIES HAVE NOT RECOVERED AND BECAUSE OF ENVIRONMENTAL CONCERNS. HOWEVER, LE HAVRE OPENED FACILITIES FOR DEEP-DRAFT OIL TANKERS WITH THE VLCC BATILLUS' ARRIVAL DRAWING 85 FT AND CARRYING 476,290 TONS OF OIL-BOTH RECORDS FOR EUROPEAN PORTS. US GULF COAST AND EAST COAST PORTS SUFFERED FROM A 2 MO LONGSHOREMEN'S STRIKE AGAINST AUTOMATED CARRIERS. MANY US PORTS HAD INCREASED OIL IMPORTS WHICH MASKED DECLINES IN EXPORTS AND CONTAINER CARGO TRAFFIC. IN THE FIRST OF A 2-PART EXAMINATION OF MAJOR WORLD PORTS FOR 1977 THE FOLLOWING PORTS' CARGO STATISTICS, FACILITIES, PHYSICAL CHANGES, AND FACTORS AFFECTING INTERNATIONAL TRADE ARE DISCUSSED: ROTERDAM, NEW YORK, MARSEILLES, LE HAVRE, PHILADELPHIA, HOUSTON, ANTWERP, TAMPA, HAMBURG, HONG KONG, VIRGINIA PORTS, NEW ORLEANS, BREMEN, LOS ANGELES, LONG BEACH, AND MIAMI.

SUCMYNONA 6200

MARINE CURRENTS MAY HAVE CAUSED 1976 NEW JERSEY FISH KILL [1978]

MAR FISH REV 40(7):26

AT A RECENT MEETING OF THE AGU, SCIENTISTS WITH THE NOAA REPORTED AN UNCOMMON CURRENT PATTERN THAT COULD HAVE TRANSPORTED PHYTOPLANKTON FROM WIDE REGION AND CONCENTRATED THEM IN ONE AREA. IT WAS ORIGINALLY THOUGHT THAT THE PHYTOPLANKTON COMBINED WITH NORMAL SUMMER STRATIFICATION OF THE WATER CAUSED THE ANDXIA, BUT A COMPUTER MODEL SIMULATING THE CURRENTS OFF NEW JERSEY DURING THE SUMMER OF 1976 PROVED OTHERWISE. IN THE SUMMER, CURRENTS E OF NEW JERSEY NORMALLY FLOW TO THE SW. IN 1976, WINDS FROM THE S TURNED THE FLOW NORTHWARD, CAUSING CONVERGING CURRENTS THAT BROUGHT IN LARGE NUMBERS OF PHYTOPLANKTON CALLED CERATIUM TRIPOS. COMBINED WITH AN UPWELLING OF WATER NEAR THE SHORE, THIS CREATED AN ONSHORE FLOW ALONG THE BOTTOM AND AN OFFSHORE FLOW AT THE SURFACE. THE CONCENTRATION OF C. TRIPOS IN A SMALL AREA ADDED TO THE CONSUMPTION OF THE OZ SUPPLY, BOTH THROUGH RESPIRATION AND DECOMPOSITION WITH OTHER TYPES OF ORGANIC MATTER, CAUSING THE FISH KILL.

OUT ANONYMOUS

POLLUTANTS RECOVERED FROM UNDERWATER [1979]

WATER WASTE 16(7):40

AN ENVIRONMENTALLY SAFE PATENTED METHOD OF UNDERWATER MINING AND POLLUTANT CLEANUP RECOVERS POLLUTANTS AND MINERALS FROM RIVER, OCEAN, OR LAKE SEDIMENTS, AND FROM RAINWATER RUNOFF OF MINE TAILING PILES BY DISTRIBUTING AN APPROPRIATE ION-EXCHANGE OR SORBENI MEDIUM IN THE POLLUTED AREA. ONE OF THE TWO RECOVERY METHODS INVOLVES INCORPORATING MAGNETIC MATERIAL IN THE MEDIUM, DISTRIBUTING IT AS SAND-SIZED PARTICLES AMONG THE TARGET. SUBSTANCE, AND REMOVING IT WITH A MAGNET AFTER IT HAS BEEN IN PLACE LONG ENOUGH TO COMB-INE WITH THE POLLUTANT. IN ANOTHER METHOD THE MEDIUM IS PLACED IN POROUS BAGS AND DISTRIBUTED IN THE SEDIMENT OR TAILINGS. THE MAGNETIC MATERIAL IS INCLUDED IN OR ATTACHED TO THE BAGS, WHICH ARE RECOVERED MAGNETICALLY AFTER COMBINATION WITH THE TARGET SUBSTANCE. SUCCESSFUL LABORATORY EVALUATIONS HAVE BEEN MADE WITH KEPONE-CONTAMINATED SEDIMENTS FROM THE JAMES RIVER AND FROM PCB SEDIMENTS FROM THE HUDSON RIVER.

0058 ANON YMOUS

STUDY CITES SYNTHETIC ORGANICS IN THE OCEAN [1980]

CHEM WEEK 126(1):15

RELEASED THROUGH THE NOAA, A NEW STUDY WILL BE USED AS A "WORKING PAPER" BY 11 GOVERNMENT DEPARTMENTS AND AGENCIES CARRYING OUT

NEARLY 1,000 OCEAN-POLLUTION PROJECTS. THE STUDY NOTES THAT THE LARGEST OUTLAY OF FUNDS IN 1978 WAS FOR RESEARCH ON PETROLEUM AND PETROLEUM PRODUCTS FOLLOWED BY OTHER POLLUTANTS, METALS, INORGANIC CHEMICALS, SYNTHETIC ORGANICS, AND RAPIONUCLIDES. THE STUDY FURTHER SUGGESTS THAT MORE RESEARCH INTO THE EFFECTS OF SUCH CHEMICALS AS KEPONE, PCBS, AND DDT IN THE OCEAN BE CONDUCTED. PROJECTS OF SPECIAL INTEREST TO THE CHEMICAL INDUSTRY FOCUS ON OCEAN-DUMPING SITES OFF THE COASTS OF NJ AND PUERTO RICO.

0059 APEL, J.R.; R.L. CHARNELL

OCEAN INTERNAL WAVES OFF THE NORTH AMERICAN AND AFRICAN COASTS FROM ERTS-1 [1974]

PAGES 1309-1316 IN 3RD EARTH RESOURCES TECHNOL SATELLITE-1 SYMP, DEC 10-14, 1973. NOAA, MIAMI, FL

PERIODIC FEATURES OBSERVED IN THE OCEAN PORTIONS OF CERTAIN ERTS-1 IMAGES HAVE BEEN IDENTIFIED WITH REASONABLE CERTAINTY AS SURFACE MANIFESTATIONS OF OCEANIC INTERNAL GRAVITY WAVES. A SERIES OF IMAGES TAKEN OVER THE NEW YORK BIGHT, COMMENCING IN JULY 1972 AND CONTINUING ON INTO AUTUMN OF 1973, HAS SHOWN THE INTERNAL WAVES TO BE PRESENT WHEN SUMMER SOLAR HEATING STRATIFIES THE WATER SUFFICIENTLY WELL TO SUPPORT SUCH OSCILLATIONS. WHEN FALL AND WINTER WIND ACTION MIXES THE SHELF WATER DOWN TO THE BOTTOM, THE WAVES NO LONGER APPEAR. IN THE BIGHT, THE WAVELENGTHS RANGE FROM APPROXIMATELY 400 TO 1000 M, WITH THE WAVE FIELD BEING MOST SHARPLY DELINEATED NEAR THE EDGES OF THE CONTINENTAL SHELF, AT THE MOUTH OF THE HUDSON CANYON. THEY APPEAR IN PACKETS CONSISTING OF SEVERAL WAVES SEPARATED BY 10-15 KM, WHICH PROPAGATE UP ON THE SHELF AND DISAPPEAR. THE WAVES HAVE ALSO BEEN DETECTED OFF THE EAST AND WEST COASTS OF AFRICA, WHERE THE WAVELENGTHS APPROACH 4 KM. ON THE WESTERN CONTINENTAL SHELF. THEY APPEAR IN PACKETS SEPARATED BY 30-40 KM AND ARE HIGHLY PHASE-ORIENTED PARALLEL TO THE BOTTOM SHELF TOPOGRAPHY.

0060 APEL, J.R.; H.M. BYRNE; J.R. PRONI; R.L. SELLERS

A STUDY OF OCEANIC INTERNAL WAVES USING SATELLITE IMAGERY AND SHIP DATA [1976]

REMOTE SENS ENVIRON 5:125-135

SURFACE MANIFESTATIONS OF OCEANIC INTERNAL WAVES HAVE BEEN STUDIED IN LANDSAT 1 AND 2 DATA SINCE 1972. THE INTERNAL WAVES APPEAR AS PERIODIC, INTERMITTENT VARIATIONS IN THE SURFACE OPTICAL REFLECTIVITY AND ARE VISIBLE FROM SPACECRAFT, AIRCRAFT, AND SURFACE VEHICLES UNDER CERTAIN CIRCUMSTANCES. THE LANDSAT DATA SUGGEST THAT THE SOURCE OF THE WAVES IS SEMIDIURNAL AND DIURNAL TIDAL ACTION AT THE EDGE OF THE CONTINENTAL SHELF. A STUDY OF THE WAVE CHARACTERISTICS VIELDS CONSIDERABLE INSIGHT INTO THE PHYSICS OF THEIR EXCITATION, PROPAGATION, AND DISSIPATION. PACKETS HAVE BEEN OBSERVED FROM THE GULF OF MAINE TO CAPE HATTERAS AND IN IMAGES TAKEN OFF THE US AND AFRICAN EAST AND WEST COASTS, THE GULF OF MEXICO AND THE CARIBBEAN, THE GULF OF CALIFORNIA, THE SULU SEA, AND THE BALTIC. THE INTERNAL WAVE GROUPS SHOW AN ORDERLY VARIATION IN WAVELENGTH FROM FRONT TO REAR OF THE PACKET, DUE TO A COMBINATION OF FREQUENCY DISPERSION AND NONLINEAR AMPLITUDE EFFECTS. AN OCEANOGRAPHIC CRUISE WAS CARRIED OUT IN SYNCHRONY WITH TWO 18 DAY LANDSAT 1 CYCLES, AND DATA WERE TAKEN ON TEMPERATURE, DENSITY VARIATIONS, ACOUSTIC ECHOES, AND SURFACE SLICKS ACCOMPANYING THE INTERNAL WAVES. THE DATA WERE SATISFACTORILY CORRELATED WITH SPACECRAFT AND U-2 IMAGERY TAKEN SIMULTANEOUSLY.

0061 APICELLA, G.A.; T.F. ZINMIE

SEDIMENT AND PCB TRANSPORT MODEL OF THE HUDSON RIVER [1978]

PAGES 645-653 IN PROC, 25TH ANNUAL HYDRAULICS DIVISION SPECIALTY CONF, AUG 9-11, 1978. UNIV OF MARYLAND, COLLEGE PARK, MD

THE PURPOSE OF THIS STUDY WAS TO MODEL MATHEMATICALLY THE TRANSPORT OF PCB-CONTAMINATED SEDIMENTS THROUGH A 40-MILE SEGMENT OF THE UPPER HUDSON RIVER. FURTHERMORE, BECAUSE PCBS WERE RECOGNIZED TO BE PRESENT IN BOTH THE RIVER BED AND WATER COLUMN PARTITIONS OF THE RIVER SYSTEM, THE MAJOR OBJECTIVES WERE TO ANALYZE THE STABILITY OF THE PCB-LADEN SEDIMENTS LYING ON THE RIVER BED AND PROJECT THE CONTAMINANT LOADING OF THE UPPER RIVER TO THE ESTUARY. THE AREA MODELED INCLUDES APPROXIMATELY 40

MILES OF THE HUDSON RIVER BETWEEN LOCK 7 (RMI 193.7) AND THE TROY DAM (RMI 153.9), AND REPRESENTS A TOTAL DRAINAGE AREA OF 8090 SQ MI. A SERIES OF EIGHT DAMS DIVIDES THIS PORTION OF THE RIVER INTO EIGHT REACHES DEFINED AS THE EXTENT OF RIVER FROM ONE DAM TO THE NEXT. A SYSTEMS ANALYSIS APPROACH TO THE STUDY CONSISTED OF VARIOUS SUBMODELS THAT RELATE THE QUANTITY OF FLOW THROUGH THE RIVER TO AN ASSOCIATED SEDIMENT LOAD, WHICH CONTAINS A CERTAIN MASS OF PCB IN TRANSPORT. THIS ANALYSIS WHICH ASSUMES THE CONTINUATION OF NATURAL RIVER CONDITIONS SERVES AS A BENCHMARK FOR COMPARING VARIOUS REMEDIAL ACTION PROGRAMS. THIS MODELING FRAMEWORK IS CAPABLE OF ASSESSING THE EFFECTS OF VARIOUS REMEDIAL ALTERNATIVES AND SHOULD BE APPLIED TO THE PARTIAL DREDGING PROGRAM CURRENTLY UNDER CONSIDERATION.

0062 ARCEMENT, R.J.; J.W. RACHLIN

A STUDY OF THE KARYOTYPE OF A POPULATION OF BANDED KILLIFISH (FUNDULUS DIAPHANUS) FROM THE HUDSON RIVER [1976]

J FISH BIO 8(1):119-125

STUDIES WERE CARRIED OUT TO FIND APPROPRIATE TECHNIQUES FOR SECURING A SUITABLE KARYOTYPE FROM A POPULATION OF FUNDULUS DIAPHANUS IN THE HUDSON RIVER AND TO COMPARE IT WITH A PUBLISHED KARYOTYPE OF A POPULATION OF THE SAME SPECIES FROM THE NEW HAVEN, CONNECTICUT AREA. A MODIFICATION OF THE BASIC METHOD OF DENTON & HOWELL PROVED TO BE A SIMPLE, EFFECTIVE AND INEXPENSIVE APPROACH FOR ACQUIRING NUMEROUS AND DISTINCT CHROMOSOMAL SPREADS FOR DETAILED KARYOTYPE ANALYSES. THE TWO KARYOTYPES WERE IDENTICAL IN MODEL NUMBER, ARM NUMBER AND NUMBER OF SUBMETACENTRICS; HOWEVER, THEY DIFFERED IN NUMBERS OF ACROCENTRICS AND SECONDARY CONSTRICTIONS. THESE DIFFERENCES MAY INDICATE INCIPIENT CHROMOSOMAL EVOLUTION WITH THE TWO DISTINCT ENVIRONMENTS ACTING AS SELECTIVE AGENTS. THIS METHOD APPEARS TO BE EFFECTIVE THE PRELIMINARY WORK CARRIED OUT WIT A PROMISING TOOL FOR FISH CYTOGENETIC STUDIES.

0063 ARCHER, R.J.

DISCHARGE, GAGE HEIGHT, AND ELEVATION OF 100-YEAR FLOODS IN THE HUDSON RIVER BASIN [1978]

OPEN-FILE REP 78-332'. USGS, ALBANY, NY 5 PP

THE FLJOD DISCHARGE THAT MAY BE EXPECTED TO BE EQUALED OR EXCEEDED ON THE AVERAGE OF ONCE IN 100 YEARS (100-YEAR FLOOD) WAS COMPUTED BY THE LOG-PEARSON TYPE-111 FREQUENCY RELATION FOR 72 STATIONS IN THE HUDSON RIVER BASIN. THESE DISCHARGES AND, WHEN AVAILABLE, THEIR CORPESPONDING GAGE HEIGHT AND ELEVATION ABOVE MEAN SEA LEVEL ARE PRESENTED IN TABULAR FORM. A SHORT EXPLANATION OF COMPUTATION METHODS IS INCLUDED. THE DATA ARE TO BE USED AS PART OF A FEDERALLY FUNDED STUDY OF THE WATER RESOURCES AND RELATED LAND RESOURCES OF THE HUDSON RIVER BASIN.

0064 ARMACOST, R.L.

QUEUING SYSTEM APPROACH FOR THE DESIGN OF COAST GUARD VESSEL TRAFFIC SERVICES COMMUNICATIONS [1977]

IEEE J OCEANIC ENG 2(3):255-262

IN ORDER TO PROVIDE FOR THE SAFE AND EXPEDITIOUS PASSAGE OF MARITIME TRAFFIC IN CONGESTED WATERS, THE US COAST GUARD IS AUTHORIZED TO ESTABLISH, OPERATE, AND MAINTAIN VESSEL TRAFFIC SERVICES (VTS) WHERE NEEDED. IN LARGER AREAS, A VTS WILL GENERALLY REQUIRE A COMMUNICATIONS SYSTEM TO ENABLE THE VESSEL TRAFFIC CENTER AND THE PARTICIPATING VESSELS TO EXCHANGE INFORMATION. IN DESIGNING SUCH A SYSTEM, IT IS NECESSARY TO ASSESS THE EXPECTED COMMUNICATIONS LOADING IN ORDER TO DETERMINE FREQUENCY REQUIREMENTS AND EVALUATE ALTERNATIVE CONFIGURATIONS FOR THE SYSTEM. VTS COMMUNICATIONS ARE VIEWED AS A QUEUING SYSTEM. THE CUSTOMERS (MESSAGES) ARRIVE AT THE SERVICE FACILITY (COMMUNICATIONS CHANNEL) ACCORDING TO SOME PROBABILISTIC PROCESS. AND ARE THEN SERVICED (TRANSMITTED) ACCORDING TO SOME OTHER PROBABILISTIC PROCESS. QUEUES OR WAITING LINES FORM AS ARRIVING MESSAGES WAIT TO BE TRANSMITTED BECAUSE THE COMMUNICATIONS CHANNELS ARE BUSY. THREE CLASSES OF MESSAGES AND

BRIDGE-TO-BRIDGE MESSAGES. EACH CLASS IS CHARACTERIZED BY AN INDEPENDENT POISSON DISTRIBUTION, AND THE RESULTANT ARRIVAL PROCESS IS A WELL-DEFINED NONHOMOGENEOUS POISSON PROCESS. THE SERVICE TIME IS CHARACTERIZED BY A GENERAL DISTRIBUTION WITH A KNOWN MEAN AND VARIANCE. THE QUEUING RESULTS, WHICH ARE DEVELOPED, INCLUDE THE UTILIZATION FACTOR, THE EXPECTED WAITING TIME, AND THE EXPECTED NUMBER OF MESSAGES WAITING TO BE TRANSMITTED. THE ARRIVAL PROCESS AND THE QUEUING RESULTS VARY ACCORDING TO THE TIME OF THE DAY, REFLECTING THE VARYING TRAFFIC LOAD THROUGHOUT THE DAY. AN EXAMPLE IS GIVEN FOR A PRELIMINARY ANALYSIS OF NEW YORK HARBOR VTS COMMUNICATIONS.

DO65 ARMENTANO, T.V.; G.M. WOODWELL

SEDIMENTATION RATES 'IN A LONG ISLAND MARSH DETERMINED BY PB-210 DATING [1975]

LIMNOL OCEANOGR 20(3):452-455

MEAN RATES OF VERTICAL ACCRETION FROM 0.47 TO 0.63 CM/YR HAVE BEEN DETERMINED FOR THE PAST CENTURY FROM TWO WIDELY SEPARATED SITES AT FLAX POND, A SPARTINA ALTERNIFLORA MARSH ON THE NORTH SHORE OF LONG ISLAND. SEDIMENTS WERE DATED FROM PB-210 ACTIVITY. THE RATES ARE EQUIVALENT TO DEPOSITION OF 325 TO 436 G OF DRY ORGANIC MATTER/M2/YR. ALTHOUGH THE TWO SITES DIFFERED IN SALT PEAT THICKNESS. THE BASAL LAYER OF THE PEAT WAS DEPOSITED ABOUT 100 YEARS AGO AT BOTH SITES.

0066 ARMSTRONG, R.S.; S. REED

CLIMATIC CONDITIONS RELATED TO THE FISH KILL AND ANOXIA OFF NEW JERSEY DURING THE SUMMER OF 1976 [1979]

PAGES 289-300 IN J.R. GOULET, JR. AND E.D. HAYNES, EDS. OCEAN VARIABILITY IN THE US FISHERY CONSERVATION ZONE, 1976. NMFS, SEATTLE, WA

A MASSIVE FISH KILL IN THE BOTTOM WATERS OVER THE MIDDLE CONTINENTAL SHELF OFF NJ OCCURRED DURING THE SUMMER OF 1976. BEGINNING IN LATE JUNE 1976, DEAD OR DYING FISH AND SHELLFISH WERE SIGHTED OFF THE NORTHERN NJ COAST AND, THROUGH THE SUMMER, THE FISH KILL AREA EXPANDED CONTINUOUSLY SOUTHWARD. LOW OXYGEN OR ANOXIC CONDITIONS ACCOMPANIED THE FISH KILLS. BY MID-SEPT THE REGION OF EXTENSIVE FISH MORTALITIES COVERED AN AREA OF ABOUT 2,100 SQUARE MILES. OBSERVATIONS IN AUGUST 1976 INDICTED THAT THE FISH KILL WAS PROBABLY RELATED TO THE PRESENCE OF EXCEPTIONALLY LOW OXYGEN CONCENTRATIONS IN THE BOTTOM WATERS ON THE SHELF. BY MID-OCT, OXYGEN CONCENTRATIONS IN THE BOTTOM WATERS HAD RETURNED TO NEAR NORMAL CONDITIONS. COMPARISON OF THE AUG 1976 DATA WITH HISTORIC AUGUST OBSERVATIONS FROM THE NATIONAL OCEANOGRAPHIC DATA CENTER (NODC) ARCHIVES INDICATES THE TEMPERATURE OF THE WATERS BELOW THE THERMOCLINE AND OXYGEN CONCENTRATIONS IN THE SURFACE LAYER WERE NOT UNUSUAL IN 1976. THEREFORE, ANY PHYSICAL PHENOMENA RELATED TO THE ANOXIC CONDITION IN THE BOTTOM WATERS MUST HAVE OCCURRED EARLIER. TO DEFINE ENVIRONMENTAL CONDITIONS THAT MIGHT HAVE LED TO ANOXIC CONDITIONS, VARIOUS SETS OF HISTORICAL AND CLIMATOLOGICAL DATA WERE EXAMINED.

0067 ARMSTRONG, R.W.; R.J. SLOAN

TRENDS IN LEVELS OF SEVERAL KNOWN CHEMICAL CONTAMINANTS IN FISH FROM NEW YORK STATE WATERS [1980]

NY DEC, ALBANY, NY 77 PP

THIS REPORT SUMMARIZES A REVIEW OF A VARIETY OF DATA ON THE LEVELS OF TOTAL DDT, MERCURY, TOTAL PCB AND MIREX IN THE FLESH OF FISH TAKEN FROM NEW YORK STATE FRESH HATERS OVER THE PAST DECADE. ALL MERCURY ANALYSES WERE CARNIED OUT BY FLAMELESS ATOMIC ABSORPTION SPECTROPHOTOMETRY. CHEMICAL ANALYSES FOR DDT, PCB AND MIREX WERE DONE BY GAS CHROMATOGRAPHY, UTILIZING ELECTRON-CAPTURE DETECTORS. ALTHOUGH CERTAIN PROCEDURAL MODIFICATIONS HAVE BEEN INVOKED OVER THE YEARS OF DATA COLLECTION, THE BASIC TECHNIQUES AND QUANTITATION METHODS HAVE REMAINED SUBSTANTIALLY UNCHANGED.

0068 ASH. D.W.

SEDIMENT RATING CURVE FOR LONG ISLAND'S SOUTH SHORE BARRIER BEACH LITTORAL DRIFT SYSTEM [1976]

GEOL SOC AM ABSTR PROG 8(6):759

THE RELATIONSHIP BETWEEN THE ALONGSHORE COMPONENT OF WAVE ENERGY (EA) AND THE KINETIC ENERGY (KE) IT TAKES TO MOVE AN AMOUNT OF SEDIMENT CAN BE USED TO DEFINE A SEDIMENT RATING CURVE FOR THE LITTORAL DRIFT SYSTEM. VALUES FOR EA CAN EASILY BE CALCULATED FROM VARIOUS WAVE PARAMETERS. VALUES FOR KE CAN BE CALCULATED FROM DRIFT RATES DETERMINED FROM TRACER TESTS AND THE JAMES CLASS OF PROBABILITY MODELS. STUDIES ON LONG ISLAND'S SOUTH SHORE BARRIER BEACHES HAVE DEFINED THAT RELATIONSHIP AS: KE=(EA EXPA1)(E EXP-AU/A1) WHERE AD AND A1 ARE CONSTANTS FOR ANY GIVEN BEACH AND WHOSE VALUES DEPEND ON GRAIN SIZE, SHAPE, DENSITY, DISTRIBUTION, BEACH SLOPE, RANGE OF TIDE AND OTHER UNDETERMINED PARAMETERS. FOR LONG ISLAND'S SOUTH SHORE BARRIER BEACHES, AO AND A1 ARE 3.7 AND 1.5 RESPECTIVELY. THUS, THE DRIFT RATE FOR ANY GIVEN DAY ALONG LONG ISLAND'S SOUTH SHORE CAN BE DETERMINED BY CALCULATING EA FROM MAVE PARAMETERS, FINDING KE FROM THE ABOVE FORMULA, AND CALCULATING THE DRIFT RATE FROM THE FORMULA: KE 1/2 TVEXP2, WHERE, M IS THE MASS (VOLUME) OF SEDIMENT MOVED AND V (VELOCITY OF THE SEDIMENT LOAD) CAN BE DETERMINED FROM A SIMPLE TRACER TEST. THE RELATIONSHIP BETWEEN EA AND KE WAS TESTED FOR THREE YEARS AT VARIOUS POINTS ALONG THE SOUTH SHORE UNDER A VARIETY OF WAVE CONDITIONS AND WAS FOUND TO HAVE A CORRELATION COEFFICIENT OF 0.94.

0069 ASHWORTH. J.A.

NATURE'S COOLING POND: THERMAL DISCHARGES ATLANTIC GENERATING STATION [1975]

NUCLEAR SCI ABS 31(2):357 ABS ONLY

THE DESIGNS AND DESIGN ALTERNATIVES FOR THE COOLING SYSTEM FOR THE ATLANTIC GENERATING STATION, A NUCLEAR POWER PLANT TO BE LOCATED APPROXIMATELY 2.8 MI OFF THE NJ COAST ARE DESCRIBED, AND THE ENVIRONMENTAL EFFECTS OF THE THERMAL EFFLUENTS DISCHARGED FROM THE PLANT ARE DISCUSSED. IT IS CONCLUDED THAT THE DESIGN OF INTAKE AND DISCHARGE STRUCTURE FOR THE SYSTEM MINIMIZES POSSIBLE ADVERSE ENVIRONMENTAL EFFECTS AND THAT THE SLIGHTLY WARMER WATERS NEAR THE PLANT AND THE PRESENCE OF THE REEF-LIKE BREAKWATER WILL PRODUCE BENEFICIAL EFFECTS.

0070 ATHOW, R.F. JR. W.H. BOBB; R.A. SAGER

NORTON POINT DIKE STUDY, CONEY ISLAND, NEW YORK. HYDRAULIC MODEL INVESTIGATION [1975]

US ARMY CORPS ENG WES, VICKSBURG, MS 271 PP NTIS-AD-AU54 083

AN EXISTING COMPREHENSIVE PHYSICAL MODEL THAT CORRECTLY REPRODUCED TIDES, TIDAL CURRENTS, AND DENSITY CURRENTS THROUGHOUT THE ENTIRE NEW YORK HARBOR WAS USED TO DETERMINE THE EFFECTS OF CONSTRUCTING A CURRENT DEFLECTION DIKE AT NORTON POINT, CONEY ISLAND, NY. THE STUDY INCLUDED TESTS IN THE MODEL TO DEFINE THE EFFECTS OF THE DIKE ON TIDAL HEIGHTS, CURRENT VELOCITIES, SURFACE CURRENT PATTERNS, SALINITIES, AND THE DISTRIBUTION OF DYE FROM FOUR SOURCES THROUGHOUT THE NEW YORK HARBOR COMPLEX. BASED ON RESULTS OF THE MODEL TESTS, IT WAS SHOWN THAT THE NORTON POINT DIKE WOULD HAVE THE FOLLOWING EFFECTS IN THE STUDY AREA: LOCAL CURRENT PATTERNS WOULD BE CHANGED AND A CONTINUOUS EAST-WEST CURRENT WOULD BE SET UP ALONG THE CONEY ISLAND BEACHES, TIDAL HEIGHTS AND TIDAL PHASING AS WELL AS THE SALINITY REGIME WOULD NOT BE AFFECTED SIGNIFICANTLY, SEDIMENT BUILD-UP BEACHES, TIDAL HEIGHTS AND TOTAL PHASING AS WELL AS THE SALINITY REGIME WOULD NOT BE AFFECTED SIGNIFICANTLY, SEDIMENT BUILD-UP BEACHES WOULD OCCUR IN THE PERIOD WHILE THE AREA IS BEING FILLED BY THE LITTORAL DRIFT, AND CONCENTRATION OF POLLUTION FROM THE PASSAIC VALLEY OUTFALL SHOWED A SLIGHT NET DECREASE AT LOW-WATER SLACK ALONG CONEY ISLAND, BUT A SIGNIFICANT NET INCREASE AT HIGH-WATER SLACK.

0071 ATHON, R.F., JR.

EFFECTS OF HURRICANE SURGE BARRIER ON HYDRAULIC ENVIRONMENT, JAMAICA BAY, NEW YORK; HYDRAULIC MODEL INVESTIGATION [1976]

US ARMY CORPS ENG WES, VICKSBURG, MS 261 PP NTIS-AD-A1030 638

AN EXISTING COMPREHENSIVE PHYSICAL MODEL THAT CORRECTLY REPRODUCED TIDES, TIDAL CURRENTS, HURRICANE SURGES, AND SALINITY DISTRIBUTION THROUGHOUT THE NEW YORK HARBOR AREA AND ESPECIALLY THE JAMAICA BAY COMPLEX WAS USED TO DETERMINE THE EFFECTS OF 13 DIFFERENT HURRICANE SURGE BARRIER PLANS ON THE HYDRAULIC ENVIRONMENT OF JAMAICA BAY. THE STUDY INCLUDED TESTS IN THE MODEL TO DETERMINE: (A) THE SIZE OF THE UPGRADED NAVIGATION OPENING THAT WILL PROVIDE THE SUPPRESSION REQUIRED INSIDE JAMAICA BAY DURING PERIODS OF HURRICANES AND NORTHEASTERLY STORMS; (3) THE MAXIMUM CURRENT VELOCITIES IN AND NEAR THE NAVIGATION OPENING THAT WILL BE EXPERIENCED BY NAVIGATION DURING NORMAL TIDAL CONDITIONS; (C) THE EFFECTS OF THE HURRICANE SURGE PROTECTION STRUCTURE ON TIDES, TIDAL CURRENTS, SALINITIES, AND POLLUTION DISPERSION PATTERNS WITHIN THE BAY FOR NORMAL TIDE CONDITIONS; AND (D) THE MINIMUM AREA OF GATED TIDAL PASSAGES REQUIRED TO MAINTAIN EXISTING CONDITIONS IN THE BAY WITH RESPECT TO SALINITIES AND POLLUTION DISPERSION. DURING THE COURSE OF THE STUDY, ADDITIONAL TESTS WERE CONDUCTED TO INVESTIGATE SCHEMES TO ENHANCE CIRCULATION WITHIN THE BAY.

0072 ATHOW, R.F., JR.; R.A. BOLAND, JR.

EFFECTS OF CONSTRUCTION OF LIBERTY STATE PARK ON HYDRAULIC CHARACTERISTICS OF NEW YORK HARBOR. HYDRAULIC MODEL INVESTIGATION [1976]

US ARMY CORPS ENG WES, VICKSBURG, MS 159 PP NTIS-AD-A030 471

AN EXISTING COMPREHENSIVE PHYSICAL MODEL THAT CORRECTLY REPRODUCED TIDES, TIDAL CURRENTS, AND DENSITY CURRENTS THROUGHOUT THE ENTIRE NEW YORK HARBOR WAS USED TO DETERMINE THE EFFECTS OF CONSTRUCTING A PROPOSED STATE PARK COMPLEX ON THE JERSEY CITY WATERFRONT, JUST WEST OF ELLIS AND LIBERTY ISLANDS. THE STUDY INCLUDED TESTS IN THE MODEL OF SEVEN DIFFERENT PARK COMPLEX ON THE FFECTS ON TIDAL HEIGHTS, CURRENT VELOCITIES, SUFFACE CURRENT PATTERNS, SALINITIES, AND FLUSHING CHARACTERISTICS OF A PROPOSED SERPENTINE (A TIDAL-INFLUENCED CANAL WEST OF THE PARK AREA). BASED ON THE RESULTS OF THE MODEL TESTS, THE FOLLOWING CONCLUSIONS WERE REACHED: (1) NONE OF THE PLANS TESTED WOULD HAVE ANY SIGNIFICANT EFFECTS ON TIDAL HEIGHTS OR TIDAL PHASING IN THE STUDY AREA; (2) THE PLANS TESTED WOULD NOT SIGNIFICANTLY CHANGE THE VELOCITY REGIME OF THE AREA, EXCEPT VERY LOCALLY AND WITH MAGNITUDES NOT THOUGHT TO BE HAZARDOUS TO SAFE NAVIGATION OR TO INCREASE THE EXISTING EROSION POTENTIAL OF THE AREA; (3) THE EXISTING SALINITY REGIME OF THE AREA WOULD NOT SIGNIFICANTLY CHANGE AS A RESULT OF THE PLANS TESTED; (4) IN PLANS 1,4, AND 7 WHICH INCLUDE THE SERPENTINE, MASS FLOW WILL OCCUR THROUGH THE SERPENTINE, AND A SMALL GYRE ROTATING COUNTERCLOCKHISE WILL DEVELOP AT THE APPROXIMATE LOCTION OF SALINITY AND DYE STATION 2, INDICATING NO THROUGH FLOW AT THIS STATION, ONLY ROTATIONAL MOTION; AND (5) DYE RELEASED AT THE WESTERNMOST END OF MORRIS CANAL BASIN WILL MOVE THROUGH THE SERPENTINE, RESULTING IN INCREASED DYE CONCENTRATIONS IN THE WILDLIFE AREA AND A LESSER INCREASE AT THE SOUTH ENTRANCE TO THE SERPENTINE, RESULTING IN INCREASED DYE CONCENTRATIONS IN THE WILDLIFE AREA AND A LESSER INCREASE AT THE SOUTH ENTRANCE TO THE SERPENTINE.

0073 ATLAS, R.M.; R. BARTHA

ABUNDAYCE, DISTRIBUTION AND OIL BIODEGRADATION POTENTIAL OF MICROORGANISMS IN RARITAN BAY [1973]

ENVIRON POLLUT 4(4):291-300

USING AN IMPROVED ENUMERATION TECHNIQUE, THE ABUNDANCE OF OIL DEGRADING MICROORGANISMS WAS MONITORED IN RARITAN BAY DURING A ONE-YEAR PERIOD. THE DETERMINED NUMBERS VARIED FROM A LOW OF 20/L TO A HIGH OF 3400/L OF SURFACE SEA WATER. THE ABUNDANCE OF OIL-DEGRADING MICROORGANISMS WAS POSITIVELY CORRELATED WITH EXISTING PATTERNS OF LOW-LEVEL OIL POLLUTION AND WITH THE WATER TEMPERATURE, BUT WAS INDEPENDENT OF TOTAL MICROBIAL COUNTS. ALL TESTED SEA WATER SAMPLES CONTAINED AN ADEQUATE MICROBIAL POPULATION TO CAUSE THE EXTENSIVE BIODEGRADATION OF ADDED SWEDEN CRUDE OIL WITHIN EIGHTEEN DAYS. THE NUMBER OF OIL-DEGRADING MICROORGANISMS IN SEA WATER SAMPLES WAS FOUND TO BE A USEFUL AND SENSITIVE INDICATOR OF LOW-LEVEL OIL POLLUTION THAT ESCAPED ROUTINE GAS CHROMATOGRAPHIC DETECTION.

0074 ATWOOD, D.K.; D.W. BROWN; V.J. CABFLL1; J.W. FARRINGTON; C. GARSIDE

THE NEW YORK BIGHT [1979]

PAGES 148-178 IN PROC OF A WORKSHOP ON ASSIMILATIVE CAPACITY OF US COASTAL WATERS FOR POLLUTANTS. 1979. US ERL. BOULDER. CO

A FEW REPRESENTATIVE, FAIRLY WELL UNDERSTOOD CONTAMINANTS WERE SELECTED FOR CONSIDERATION. THE IMPACTS CHOSEN FOR USE IN THE ANALYSES ARE THOSE THAT CONSTITUTE RADICAL CHANGES IN THE ECOSYSTEM OR THREATS TO HUMAN HEALTH. MICROBIAL CONTAMINATION IS PROBABLY THE MOST STRAIGHTFORWARD ISSUE ADDRESSED. THE PANEL SELECTED POLYCHLORINATED BIPHENYLS (PCBS) AS REPRESENTATIVE OF THIS CLASS OF CONTAMINANTS AND AS A GROUP FOR WHICH SOME BIOGEOCHEMICAL DATA ARE AVAILABLE. THREAT TO HUMAN HEALTH FROM FINFISH CONSUMPTION WAS CHOSEN AS THE CRITICAL IMPACT FUNCTION, CD AS REPRESENTATIVE OF CONTAMINANT TRACE METALS, AND AGAIN THREAT TO HUMAN HEALTH (THROUGH THE CONSUMPTION OF EDIBLE FISH AND SHELLFISH) WAS SELECTED AS THE IMPACT FUNCTION. CONTAMINATION BY EXCESS NITROGEN WAS CHOSEN BECAUSE IT IS A PARTICULARLY BIOACTIVE SUBSTANCE, INTIMATELY LINKED TO BIOLOGICAL PRODUCTIVITY AND TO THE ECOSYSTEM GENERALLY, AND BECAUSE IT IS A SUBJECT OF PRESENT CONCERN IN THE NEW YORK BIGHT IN CONNECTION WITH SEWAGE SYSTEM ENGINEERING PPACTICES. ANOXIA, AS A RESULT OF EXCESS PLANKTON PRODUCTION AND ENSUING EUTROPHICATION, WAS IDENTIFIED AS THE CRITICAL IMPACT FUNCTION. THIS SELECTION OF CONTAMINANTS AND IMPACTS EXEMPLIFIED THE DIVERSITY OF THE TIME AND SPACE SCALES THAT MUST ENTER INTO CONSIDERATION OF REGIONAL ASSIMILATIVE CAPACITY.

0075 ATZ, J.W.; C.L. SMITH

HERMAPHRODITISM AND GONADAL TERATOMA-LIKE GROWTHS IN STURGEON (ACIPENSER) [1977]

BULL SOUTH CALIF ACAD SCI 75(2):119-126

TWO ADULT STURGEON (ACIPENSER OXYRHYNCHUS AND A. BREVIROSTRUM) FROM THE HUDSON RIVER EXHIBITED OVOTESTES. IN THE FORMER, TESTICULAR AND OVARIAN TISSUES WERE MOSTLY SEPARATED, IN THE LATTER, THESE TISSUES WERE INTER ONE OVOTESTIS OF A. BREVIROSTRUM CONTAINED SMALL, CYST-LIKE STRUCTURES THAT CONSISTED OF DISORGANIZED TISSUES INCLUDING CARTILAGE, BONE, BLOOD VESSELS, GUT EPITHELIUM, AND CONNECTIVE TISSUE. THESE TERATOMA-LIKE STRUCTURES MAY HAVE BEEN THE RESULT OF THE ABNORMAL DEVELOPMENT OF A PARTHENOGENETIC OR SELF-FERTILIZED EGG RATHER THAN A NEOPLASTIC PROCESS. NONE OF THE ABNORMAL GROWTHS IN FISHES THAT HAVE BEEN DESCRIBED AS TERATOMAS CAN BE CONSIDERED UNEQUIVOCALLY AS EXAMPLES OF A TRUE OR NEOPLASM.

0076 AUSTIN. H.M.; A.D. SOSNOW; C.R. HICKEY. JR.

THE EFFECTS OF TEMPERATURE ON THE DEVELOPMENT AND SURVIVAL OF THE EGGS AND LARVAE OF THE ATLANTIC SILVERSIDE, MENIDIA MENIDIA [1975]

TRANS AM FISH SOC (4):762-765

EGGS OF ATLANTIC SILVERSIDE (MENIDIA MENIDIA) WERE FERTILIZED AND INCUBATED AT 15, 17, 20, 25 AND 30 C. THE TIMES TO HATCHING AT EACH TEMPERATURE WERE 27.0, 12.4, 3.8, 4.8 AND 3.0 DAYS, RESPECTIVELY. THERMAL SHOCKS OF +8 C PRODUCED A 0% MORTALITY FOR LARVAE REARED AT 17 AND 20 C, 19% FOR LARVAE REARED AT 25 C, AND 11% FOR LARVAE REARED AT 30 C. THERMAL SHOCKS OF +14 C PRODUCED 3% MORTALITY FOR LARVAE REARED AT 17 C, 0% FOR LARVAE REARED AT 20 C, AND 100% FOR LARVAE REARED AT 25 AND 30 C. SINCE THE LARVAE OF M. MENIDIA ARE PRESENT IN THE 15-20 C RANGE, IT APPEARS THAT THE POPULATION WOULD UNDERGO A MINIMUM OF STRESS DUE TO THERMAL SHOCK AS A RESULT OF NUCLEAR POWER PLANT DEVELOPMENT AT LONG ISLAND.

0077 AUSTIN. H.M.

DISTRIBUTION AND ABUNDANCE OF ICHTHYOPLANKTON IN THE NEW YORK BIGHT DURING THE FALL IN 1971 [1976]

NY FISH GAME J 23(1):58-72

SAMPLING FOR PHYTOPLANKTON, ZOOPLANKTON, WATER CHEMISTRY AND PHYSICAL PARAMETERS WAS CONDUCTED AT A SERIES OF STATIONS IN THE NY BIGHT IN SEPT AND NOV OF 1971. THE RELATIONSHIPS OF THE FINFISH EGGS AND LARVAE COLLECTED, TO THE ASSOCIATED DECANOGRAPHIC CONDITIONS ARE DISCUSSED IN TERMS OF THE SOURCES OF THE PARENT STOCKS AND THE TIME AND PLACE OF SPAWNING. THE BULK OF THE

SPAUNING THAT OCCURS IN COASTAL NY WATERS IS BY MIGRATORY STOCKS, THE PRINCIPAL SPECIES IN THE NY BIGHT BEING THE MENHADEN.
ANCHOVY, WEAKFISH, MACKEREL AND SEAROBIN.

0078 AUSTIN, H.M.; O. CUSTER

SEASONAL MIGRATION OF STRIPED BASS IN LONG ISLAND SOUND [1977]

NY FISH GAME J 24 (1):53-68

RETURNS FROM A PROGRAM OF TAGGING STRIPED BASS CONDUCTED BY THE AMERICAN LITTORAL SOCIETY BETWEEN 1966 AND 1972 ARE REVIEWED WITH PARTICULAR ATTENTION TO POPULATION MOVEMENT WITHIN LONG ISLAND SOUND. THE DATA INDICATE THAT BASS ENTER THE SOUND FROM BOTH ENDS BUT CHIEFLY FROM THE EAST AND THAT THERE IS A STABLE SUMMER POPULATION WITH THE FALL MIGRATION BEING ONE OF PRIMARY EGRESS THROUGH THE EASTERN PASSAGES. MOST SIGNIFICANT IS EVIDENCE OF AN INTRA-SOUND FALL MIGRATION AS BASS ALONG THE ENTIRE CONNECTICUT COAST APPEAR TO MIGRATE TO THE CENTRAL PART OF THE SOUND, CROSS TO THE LONG ISLAND SHORE AND THEN MIGRATE OUT VIA THE FASTERN END OF THE SOUND.

DO79 AYER, G.R.; F.H. PAUSZEK

STREAMS IN DUTCHESS COUNTY, NEW YORK--THEIR FLOW CHARACTERISTICS AND WATER QUALITY IN RELATION TO WATER PROBLEMS [1968]

'NY WATER RESOURCE COMMISSION BULL 63. NY WATER RES COMMISSION, ALBANY, NY 105 PP

RECORDS OF STREAM FLOW FROM 1928 TO 1968 IN DUTCHESS COUNTY, NY, ARE ANALYZED AND TABULATED. DUTCHESS COUNTY, ON THE EAST SIDE OF THE HUDSON RIVER BETWEEN ALBANY AND NEW YORK CITY, HAS AN AVERAGE RAINFALL OF 40 IN, WHICH VARIED FROM 25.98 IN TO 55.83 IN FOR THE PERIOD 1932-65. TOTAL WATER USE IS ABOUT 26 MGD, OF WHICH 8 MGD IS FROM THE HUDSON AND 18 MGD IS FROM SMALLER STREAMS; USE MAY TRIPLE BY 2010. THE HUDSON AND ITS TWO LARGEST TRIBUTARIES IN THE COUNTY FLOW AN AVERAGE OF 543 MGD. THE RANGE IN FLOW IN WAPPINGER CREEK IN THE SAME PERIOD WAS FROM 0.7 CFS TO 18,600 CFS, THE AVERAGE WAS 236 CFS; 90% OF THE TIME FLOW EXCEEDED 21 CFS. OTHER STREAMS HAD SIMILAR BEHAVIOR. FLOW WAS MAINTAINED EVEN IN SEVERE DROUGHTS. FLOODING IS FREQUENT AND SEVERE. THE FLOODS OF 1938 AND 1955 WERE THE WORST ON RECORD. CHANCE OF FLOODING IS GREATEST FROM DEC TO APR BUT FLOODS FREQUENTLY OCCUR AT OTHER TIMES. THE SURFACE WATER IS HARD; ITS HARDNESS EXCEEDS 109 PPM 95% OF THE TIME AND AVERAGES 145 PPM. WATER STORAGE PROJECTS ARE NEEDED TO ASSURE SUPPLIES AT LOW FLOW AND ALLEVIATE FLOODING AT HIGH FLOW.

0080 AZAROVITZ, T.R.; M.J. SILVERMAN; V.T. ANDERSON, JR.; A. THOMS; C. AUSSICKER

DEMERSAL FINFISH CATCHES IN THE NEW YORK BIGHT BY STATIONS AND SPECIES. R/V ALBATROSS IV AND ATLANTIC TWIN, MARCH 4-24, 1975 [1976]

DR-ERL-MESA-16. US ERL, BOULDER, CO 142 PP

THE DATA REPORT SERIES PRESENTS ADP SUMMARIES OF FINFISH AND ASSOCIATED DATA COLLECTED IN THE NEW YORK BIGHT ON CRUISES CONDUCTED BY THE MIDDLE ATLANTIC CENTER. THIS REPORT SUMMARIZES THE CATCH IN THE NEW YORK BIGHT OF THE INSHORE AND OFFSHORE SEGMENTS OF THE SPRING 1975 SURVEY. ALBATROSS IV SAILED FROM WOODS HOLE, MASS., ON MARCH 4, 1975 AND RETURNED MAR 21, 1975. THE CHARTERED VESSEL ATLANTIC TWIN SAILED FROM SANDY HOOK, NEW JERSEY ON MARCH 18 AND COMPELTED COASTAL SURVEY OPERATIONS ON MARCH 24, 1975.

0081 AZAROVITZ, T.R.; M.J. SILVERMAN; V.T. ANDERSON, JR.; A. THOMS; C. AUSSICKER

DEMERSAL FINFISH CATCHES IN THE NEW YORK BIGHT BY STATIONS AND SPECIES. R/V ALBATROSS IV AND DELAWARE II, SEPTEMBER 23-OCTOBER 4, 1974 [1976]

DR-ERL-MESA-15. US ERL. BOULDER. CO 115 PP

THE DATA REPORT SERIES PRESENTS ADP SUMMARIES OF FINFISH AND ASSOCIATED DATA COLLECTED IN THE NEW YORK BIGHT ON CRUISES CONDUCTED BY THE MIDDLE ATLANTIC CENTER. THIS REPORT SUMMARIZES THE CATCH OF THE INSHORE AND OFFSHORE SEGMENTS OF THE AUTUMN 1974 SURVEY. ALBATROSS IV SAILED FROM WOODS HOLE, MA, ON SEPT 23, AND RETURNED OCT 4, 1974 AND DELAWARE II SAILED FROM SANDY HOOK. NJ ON SEPT 28 AND COMPLETED COASTAL SURVEY OPERATIONS ON OCT 4, 1974.

0082 AZAROVITZ, T.R.; M.J. SILVERMAN; V.T. ANDERSON, JR.; A. THOMS; C. AUSSICKER

DEMERSAL FINFISH CATCHES IN THE NEW YORK BIGHT BY STATIONS AND SPECIES. R/V DELAWARE II AND ATLANTIC TWIN, APRIL 1-MAY 2, 1974

DR-ERL-MESA-14. US ERL. BOULDER. CO 106 PP

THE DATA REPORT SERIES PRESENTS ADP SUMMARIES OF FINFISH AND ASSOCIATED DATA COLLECTED IN THE NEW YORK BIGHT. THIS REPORT SUMMARIZES THE CATCH OF THE INSHORE SEGMENT OF THE SPRING 1974 SURVEY BY THE CHARTERED RESEARCH VESSEL ATLANTIC TWIN WHICH SAILED FROM SANDY HOOK, NJ ON APR 1, 1974 AND RETURNED APR 22, 1974, AND BY THE R/V DELAWARE II WHICH SAILED FROM SANDY HOOK, NJ ON APR 24 AND COMPLETED COASTAL SURVEY OPERATIONS ON MAY 2, 1974.

0083 AZAROVITZ, T.R.; M.J. SILVERMAN; V.T. ANDERSON, JR.; A. THOMS, C. AUSSICKER

DEMERSAL FINFISH CATCHES IN THE NEW YORK BIGHT BY STATIONS AND SPECIES. R/V ATLANTIC TWIN MAY 8-JUNE 4, 1973 [1976]

DR-ERL-MESA-12. US ERL, BOULDER, CO NP

THE DATA REPORT SERIES PRESENTS ADP SUMMARIES OF FINFISH AND ASSOCIATED DATA COLLECTED IN THE NEW YORK BIGHT ON CRUISES CONDUCTED BY THE MIDDLE ATLANTIC CENTER. THIS REPORT SUMMARIZES THE CATCH IN THE NEW YORK BIGHT OF THE INSHORE SEGMENT OF THE SPRING 1973 SURVEY. THE CHARTERED RESEARCH VESSEL ATLANTIC TWIN SAILED FROM SANDY HOOK, NJ ON MAY 8 AND COMPLETED COASTAL SURVEY OPERATIONS ON JUNE 4, 1973.

0084 AZAROVITZ, T.R.; M.J. SILVERMAN; V.T. ANDERSON, JR.; A. THOMS; C. AUSSICKER

DEMERSAL FINFISH CATCHES IN THE NEW YORK BIGHT BY STATIONS AND SPECIES. R/V ATLANTIC TWIN OCTOBER 31-DECEMBER 5, 1972 [1976]

DR-ERL-MESA-11. US ERL, BOULDER, CO 102 PP

IN THE FALL OF 1972 THE SANDY HOOK LAB BEGAN A FINFISH ASSESSMENT SURVEY OF THE MIDDLE ATLANTIC SHELF. THIS EXTENDED EARLIER LESS SYSTEMATIC FISH SURVEYS OF THE MIDDLE AND SOUTH ATLANTIC COAST CONDUCTED SINCE 1966. SURVEY CRUISES BEGUN IN 1972 WERE DESIGNED TO COMPLEMENT ONGOING OFFSHORE SURVEYS BEING CONDUCTED BY THE NORTHEAST FISHERIES CENTER. THIS COOPERATIVE EFFORT PROVIDED FOR THE FIRST TIME CONTINUOUS SYNOPTIC COVERAGE FROM LESS THAN 5 TO 200 FATHOMS. THE DATA REPORT SERIES PRESENT ADP SUMMARIES OF FINFISH AND ASSOCIATED DATA COLLECTED IN THE NEW YORK BIGHT ON CRUISES CONDUCTED BY THE MIDDLE ATLANTIC CENTER. THIS REPORT SUMMARIZES THE CATCH IN THE NEW YORK BIGHT OF THE INSHORE SEGMENT OF THE FALL 1972 SURVEY. THE CHARTERED RESEARCH VESSEL ATLANTIC TWIN SAILED FROM SANDY HOOK, NJ ON OCT 31 AND COMPELTED COASTAL SURVEY OPERATIONS IN DEC 5, 1972.

0085 AZAROVITZ: T.R.; M.J. SILVERMAN; V.T. ANDERSON, JR.; A. THOMS; C. AUSSICKER

DEMERSAL FINFISH CATCHES IN THE NEW YORK BIGHT BY STATIONS AND SPECIES, R/V ATLANTIC TWIN, OCT 1-NOV 7, 1973 [1976]

DR-ERL-MESA-13. US ERL, BOULDER, CO 114 PP

THE DATA REPORT SERIES PRESENTS ADP SUMMARIES OF FINFISH AND ASSOCIATED DATA C IN THE NY BIGHT ON CRUISES CONDUCTED DURING THIS PERIOD. THIS REPORT COVERS THE CATCH ON THE INSHORE SEGMENT OF THE SURVEY.

0086 BABINCHAK, J.A.; J.T. GRAIKOSKI; S. DUDLEY; M.F. NITKOWSKI

DISTRIBUTION OF FAECAL COLIFORMS IN BOTTOM SEDIMENTS FROM THE NEW YORK BIGHT [1977]

MAR POLLUT BULL 8(7):150-153

THE DISTRIBUTION OF FAECAL COLIFORM DENSITIES FOUND IN NEW YORK BIGHT SEDIMENTS INDICATED THAT SEWAGE SLUDGE MATERIAL HAS CONTAMINATED AREAS EXTENDING 11 KM NORTH AND 37 KM SOUTH FROM THE DISPOSAL SITE. A HIGH DEGREE OF CONFIDENCE FOR ENUMERATING FAECAL COLIFORMS IN MARINE SEDIMENTS WAS DEMONSTRATED BY STANDARD WATER METHODOLOGY SINCE 82.3% OF THE FAECAL COLIFORM GROUP ISOLATED WERE ESCHERICHIA COLI. THIS STUDY ALSO INDICATED THAT MARINE SEDIMENTS COULD BE STORED 4 DAYS AT 4 C WITHOUT APPRECIABLE CHANGES IN THE FAECAL COLIFORM COUNT, AND THAT, IN SITU, FAECAL COLIFORMS WOULD PERSIST LONGER WHEN SEDIMENT TEMPERATURES WERE LOW.

0087 BABINCHAK, J.A.; J.B. PEARCE

REPORT TO THE WORKING GROUP ON POLLUTION BASELINE AND MONITORING STUDIES IN THE NORTH ATLANTIC ON INPUT OF POLLUTANTS TO COASTAL WATERS OF NORTHEAST UNITED STATES [1978]

NMFS, SANDY HOOK LAB, HIGHLANDS, NJ 4 PP

OUR EFFORTS TO DATE INDICATE THAT THERE ARE SIZABLE AMOUNTS OF POLLUTANTS ENTERING THE COASTAL AND ESTUARINE WATERS OF THE NORTHEASTERN US. THE AMOUNTS OF POLLUTANTS ON A PER CAPITA BASIS WOULD, AT FIRST GLANCE, SUGGEST THAT THIS AMOUNT IS ABOUT THE SAME AS FOR INHABITANTS OF INDUSTRIALIZED WESTERN EUROPEAN NATIONS. ANALYSES OF INFORMATION TO DATE INDICATE THAT A MUCH GREATER EFFORT MUST BE MADE TO OBTAIN A VERY PRECISE ESTIMATE OF TOTAL POLLUTANTS AS WELL AS SPECIFIC POLLUTANTS ENTERING THE COASTAL WATERS OF THE NORTHEASTERN US. NEVERTHELESS. THE MATERIAL PROVIDED BY MUELLER ET AL., IS DEEMED TO BE REASONABLY ACCURATE AND GIVES A FIRST APPROXIMATION OF CONTAMINANT/POLLUTANTS INPUT INTO COASTAL WATERS. THE PAPER BY DUCE ET AL. (1976) IS IMPORTANT IN THAT IT PROVIDES A REASONABLE ESTIMATE OF AIRBORNE CONTAMINANTS WHICH ARE ENTERING THE COASTAL WATERS, AT LEAST WITHIN THE NEW YORK BIGHT AREA. RECENT ARTICLES IN MAJOR NEWSPAPERS WOULD INDICATE SIZABLE AMOUNTS OF ACIDIC WASTES ARE CARRIED INTO PRISTINE MOUNTAIN LAKES OF NORTHERN NEW YORK STATE. THESE AIRBORNE WASTE MATERIALS HAVE SIGNIFICANTLY AFFECTED THE INDIGENOUS FISH POPULATIONS, OFTEN TO THE POINT WHERE CERTAIN SPECIES OF TROUT ARE NO LONGER ABLE TO LIVE IN THE STREAMS AND LAKES. AGAIN. THIS SUGGESTS THAT WE MUST HAVE A MUCH GREATER UNDERSTANDING OF HOW AIRBORNE POLLUTANTS ARE AFFECTING MARINE RESOURCES. RECENT WORK BY LONGWELL (1977) INDICATES A MUCH HIGHER THAN NORMAL INCIDENCE OF FISH EGGS HAVING CHROMOSOMAL ANOMALIES. IT IS SUSPECTED THAT THESE GENETIC ANOMALIES ARE DUE TO POLLUTANTS IN THE WATER AND SOME PRELIMINARY EVIDENCE WOULD SUGGEST THAT THERE MAY BE A CORRELATION BETWEEN METALS AND CERTAIN HYDROCARBONS PRESENT IN THE WATERS AND HIGHER THAN NORMAL INCIDENCE OF CHROMOSOMAL ABERRATIONS. AGAIN, THIS EMPHASIZES A NEED FOR FURTHER RESEARCH IN DOCUMENTING DISTRIBUTION AND ABUNDANCE OF POLLUTANTS IN MARINE WATERS AS THEY RELATE TO CHANGES IN POPULATIONS AND DISEASE AND PHYSIOLOGICAL DISABILITIES IN CERTAIN FISH.

DO88 BACHMANN, J.

LONG ISLAND WATER RESOURCES--BIBLIOGRAPHY OF COOPERATIVE WATER RESOURCES REPORT [1978]

USGS, LONG ISLAND, NY NP

THIS BIBLIOGRAPHY INCLUDES PUBLISHED AND OPEN-FILE REPORTS PREPARED BY THE LONG ISLAND, NEW YORK SUBDISTRICT OFFICE OF THE WATER RESOURCES DIVISION THROUGH NOVEMBER 1978. IT SUPERSEDES SUPPLEMENTS 1 THROUGH 5, AND THE LIST OF SELECTED REFERENCES IN NEW YORK WATER RESOURCES COMMISSION BULLETIN 62.

UO89 BADER C.D.

CONTINUOUS MONITORING SYSTEM WARDS OFF POTENTIAL DISASTER IN NYC SEWER SYSTEMS [1979]

WATER SEWAGE WORKS 125(1):77-79

NEW YORK CITY TREATS 1.5 BILLION GPD OF SEWAGE IN 14 TREATMENT PLANTS AND 110 PUMPING STATIONS; THE AVERAGE PLANT PRODUCES 750,000 FT3 OF METHANE EACH DAY, SOME OF WHICH IS USED TO MEET PLANT ELECTRICAL NEEDS. THE DEVELOPMENT OF A NETWORK OF GAS DETECTION DEVICES AND VENTILATION SYSTEMS TO DETECT AND PREVENT DANGEROUS BUILDUPS OF METHANE AND HYDROGEN SULFIDE (H2S) IS DESCRIBED. THE SYSTEM CONSISTS OF SOLID-STATE SENSORS, LOCAL ALARM UNITS, CONSOLES, AND MODULES THAT PLUG INTO PLANT ANNUNCIATOR PANELS. COMBUSTIBLE-GAS AND 02-DEFICIENCY SENSORS, PRESET AT 20% AND 19.5% LOWER LIMIT, RESPECTIVELY, ARE INSTALLED IN THE DIGESTER COMPLEX, THE SLUDGE COMPLEX, THE GAS COMPRESSION ROOM, THE SCREENING CHAMBER, AND THE TUNNELS. THO SENSORS OF EACH TYPE ARE USED IN EACH LOCATION, THE HIGH SENSORS DETECTING EARLY METHANE BUILDUP, THE LOW ONES DETECTING GASOLINE VAPORS. THE H2S SENSORS ARE INSTALLED ON A REEL IN THE SCREENING CHAMBER, AT EACH ENTRY CHANNEL. BEFORE MEN ENTER THIS AREA, THE SENSORS ARE LOWERED TO CHECK FOR THE PRESENCE OF THE GAS. BESIDES SETTING OFF ALARMS, THE SENSORS AUTOMATICALLY TRIGGER THE VENTILATING SYSTEM. IF THE BUILDUP CONTINUES, THE SYSTEM SHUTS DOWN THE PLANT BY CLOSING THE MAIN EFFLUENT GATES.

0090 BAGG, J.F., JR.

A STUDY OF PROPOSED ALTERNATE LONG ISLAND SOUND BRIDGE SITES AND THEIR PROJECTED IMPACTS ON THE NATURAL ENVIRONMENT [1975]

M.S. THESIS. SUNY, STONY BROOK, NY 253 PP

8 ALTERNATIVE LONG ISLAND SOUND BRIDGES AND THEIR APPROACHES WERE PROPOSED BY THE NY DOT. THE POTENTIAL IMPACT ON THE NATURAL ENVIRONMENT WAS EVALUATED FOR EACH. DATA WERE COMPILED FROM SECUNDARY INFORMATIONAL SOURCES AND FROM FIELD SURVEYS. IMPACTS ON OPEN SPACE, FINFISH, SHELLFISH, BIRDS AND OTHER WILDLIFE AND WATER QUALITY WERE EVALUATED FOR EACH SITE. THE GREATEST IMPACT OF A BRIDGE ACROSS LONG ISLAND SOUND WOULD RESULT FROM ALTERATION OF OPEN SPACE, I.E., WETLANDS, FOREST AREAS AND FARMLANDS, TO MORE INTENSIVE USES SUCH AS ROADWAYS AND COMMUNITY DEVELOPMENT. SUCH A CONVERSION OF OPEN SPACE WOULD HAVE A CORRESPONDING NEGATIVE EFFECT ON FINFISH, SHELLFISH, BIRDS, AND OTHER WILDLIFE. GENERALLY, OPEN SPACE REQUIRED BY THE BRIDGES AND THEIR APPROACHES WAS LOWEST FOR THE WESTERN SITES AND INCREASED FOR THE EASTERN SITES. SITE #3 ROUTES F.B AND F.D DESTROYED THE LEAST AMOUNT OF OPEN SPACE AND SITE #6 THE GREATEST AMOUNT. INCREASED GROWTH GENERATED BY A LONG ISLAND SOUND BRIDGE WOULD ALSO HAVE A SUBSTANTIAL IMPACT ON OPEN SPACE RESOURCES IF CURRENT DEVELOPMENT PRACTICES ARE CONTINUED. THIS INCREASED GROWTH WOULD REMOVE APPROXIMATELY 23,000 ACRES OF OPEN SPACE FROM A WESTERN CROSSING OR 5,000 ACRES FROM AN EASTERN CROSSING BY THE YEAR 2000. NEW REGULATIONS TO CONTROL GROWTH COULD LESSEN OR POSSIBLY EVEN ELIMINATE THE IMPACT OF SECONDARY DEVELOPMENT THAT WOULD RESULT FROM A BRIDGE.

0091 BAITER, R.A.

LOWER MANHATTAN WATERFRONT: THE SPECIAL BATTERY PARK CITY DISTRICT, THE SPECIAL MANHATTAN LANDING DISTRICT, THE SPECIAL SOUTH STREET SEAPORT DISTRICT [1975]

NY OFFICE OF LOWER MANHATTAN DEVELOPMENT. NEW YORK. NY 115 PP

THIS PAPER DESCRIBES BACKGROUND OF LOWER MANHATTAN WATERFRONT DEVELOPMENT. IT DISCUSSES GOALS OF THE DISTRICTS AND THE DESIGN CONTROLS. PEDESTRIAN CIRCULATION SYSTEM AND ADJACENT DEVELOPMENT POSSIBLITIES ARE ALSO DESCRIBED. DESIGNS FOR ALLOWING WATERFRONT ACCESS, SHOPPING, RESIDENTIAL NEIGHBORHOODS ARE INCLUDED.

0092 BAKER, M., III

NATIONAL DAM SAFETY PROGRAM. ORADELL RESERVOIR DAM (NJOU258), HACKENSACK RIVER BASIN, HACKENSACK RIVER, BERGEN COUNTY, NJ.

PHASE I INSPECTION REPORT [1978]

MICHAEL BAKER, JR., INC., BEAVER, PA 122 PP NTIS-AD-1060 025

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0093 BARADA, W.

THE DAY THE OCEAN DIED: POLLUTION ANNIHILATES MARINE LIFE ON EAST COAST WRECKS [1977]

SKIN DIVER JUNE: 45-49

THIS ARTICLE DEALS WITH THE EFFECTS OF OCEAN DUMPING IN THE NEW YORK BIGHT ON MARINE LIFE AND DISCUSSES THE 1976 FISH KILL DUE TO OCEAN DUMPING.

Q094 BARDIN, D.J.

AN INVENTORY OF THE NEW JERSEY COASTAL AREA -- A REPORT TO THE GOVERNOR AND LEGISLATURE SEPTEMBER 19, 1975 [1975]

NJ DEP. TRENTON. NJ 31 PP

THIS REPORT INDICATES THE RANGE OF ISSUES AND THE MOSAIC OF INFORMATION THAT MUST BE CONSIDERED IN MANAGING NEW JERSEY'S COASTAL RESOURCES. WHILE IT REPRESENTS COMPLETION OF ONE STATUTORY REQUIREMENT, THIS REPORT DOES NOT SIGNAL THE END OF THE PROCESS OF ISSUE DEFINITION AND INFORMATION IDENTIFICATION. RATHER, THESE ESSENTIAL TASKS WILL CONTINUE AS THE ELEMENTS OF A PLAN FOR THE COASTAL AREA TAKE SHAPE OVER THE NEXT TWO YRS. THE CAFRA STATUTE MANDATED A FOUR-YR PLANNING PROCESS AND DID N IMPOSE AN INTERIM MORATORIUM ON LAND DEVELOPMENT. INSTEAD, IT AUTHORIZED A SYSTEM OF LAND USE REGULATION BY PERMIT FOR THIS SPECIAL PART OF THE STATE. AS A RESULT OF EXPERIENCE WITH THE CAFRA PERMIT PROGRAM, DEP IS PREPARING AN INTERIM PLAN, IN THE FORM OF LAND USE AND DEMSITY GUIDELINES, TO BE RELEASED WELL AHEAD OF THE SEPTEMBER 1977 DATE FOR SELECTION OF A FINAL PLAN FOR THE COASTAL AREA. ELEMENTS OF THE INTERIM PLAN SHOULD BE AVAILABLE IN EARLY 1976 AND WILL BE APPLIED THROUGH THE PERMIT PROGRAM. THE INTERIM PLAN WILL THEN BE EVALUATED AND REVISED AS DEP DEVISES THE ALTERNATIVE MANAGEMENT STRATEGIES SCHEDULED TO BE PRESENTED TO THE GOVERNOR AND LEGISLATURE IN SEPTEMBER 1976. FINALLY, BY SEPTEMBER 1977, THE COMMISSIONER OF ENVIRONMENTAL PROTECTION WILL, AS REQUIRED BY LAW, SELECT A MANAGEMENT STRATEGY FOR THE COASTAL AREA. THIS WILL CULMINATE A FOUR-YEAR PLANNING EFFORT THAT SHOULD HELP INSURE THAT THE NATURAL AND BUILT ENVIRONMENT OF THE NEW JERSEY COAST WILL SERVE THE DIVERSE NEEDS OF TODAY'S CITIZENS AS WELL AS THOSE OF FUTURE GENERATIONS.

0095 BARNTHOUSE, L.W.; J.P. CANNON; S.G. CHRISTENSEN

SELECTIVE ANALYSIS OF POWER PLANT OPERATION ON THE HUDSON RIVER WITH EMPHASIS ON THE BOWLINE POINT GENERATING STATION. VOL 2

ORNL. DAK RIDGE. IN NP

BECAUSE OF THE LOCATION OF THE BOWLINE, ROSETON, AND INDIAN POINT POWER GENERATING FACILITIES IN THE LOW-SALINITY ZONE OF THE HUDSON ESTUARY, OPERATION OF THESE PLANTS WITH THE PRESENT ONCE-THROUGH COOLING SYSTEMS WILL ADVERSELY INFLUENCE THE FISH POPULATIONS THAT USE THE AREA FOR SPAJNING AND INITIAL PERIODS OF GROWTH AND DEVELOPMENT. RECRUITMENT RATES AND STANDING CROPS OF SEVERAL FISH SPECIES MAY BE LOWERED IN RESPONSE TO THE INCREASED MORTALITY CAUSED BY ENTRAINMENT OF NONSCREENABLE EGGS AND LARVAE AND BY IMPINGEMENT OF SCREENABLE YOUNG-OF-THE-YEAR. ENTRAINMENT AND IMPINGEMENT DATA ARE PARTICULARLY RELEVANT FOR

ASSESSING WHICH FISH SPECIES HAVE THE GREATEST POTENTIAL FOR BEING ADVERSELY AFFECTED BY OPERATION OF BOWLINE, ROSETON, AND INDIAN POINT WITH ONCE-THROUGH COOLING. THESE DATA FROM EACH OF THESE THREE PLANTS SUGGEST THAT THE SIX SPECIES THAT MERIT THE GREATEST CONSIDERATION ARE STRIPED BASS, WHITE PERCH, TOMCOD, ALEWIFE, BLUEBACK HERRING, AND BAY ANCHOVY. TWO POINTS OF VIEW ARE AVAILABLE FOR ASSESSING THE RELATIVE IMPORTANCE OF THE FISH SPECIES IN THE HUDSON RIVER. FROM THE FISHERIES POINT OF VIEW, THE ONLY TWO SPECIES OF MAJOR IMPORTANCE ARE STRIPED BASS AND SHAD. FROM THE FISH COMMUNITY AND ECOSYSTEM POINT OF VIEW, THE DOMINANT SPECIES, AS DETERMINED BY SEASONAL AND REGIONAL STANDING CROPS (IN NUMBERS AND BIOMASS PER HECTARE), ARE THE SIX SPECIES MOST COMMONLY ENTRAINED AND IMPINGED, NAMELY, STRIPED BASS, WHITE PERCH, TOMCOD, ALEWIFE, BLUEBACK HERRING, AND ANCHOUY.

0096 BARNTHOUSE. L.W.: J.P. CANNON: S.G. CHRISTENSEN

SELECTIVE ANALYSIS OF POWER PLANT OPERATION ON THE HUDSON RIVER WITH EMPHASIS ON THE BOWLINE POINT GENERATING STATION. VOL 1 [1977]

ORNL. OAK RIDGE. IN NP

A COMPREHENSIVE STUDY OF THE EFFECTS OF POWER PLANT OPERATION ON THE HUDSON RIVER WAS CONDUCTED. THE STUDY INCLUDED THERMAL, BIOLOGICAL, AND AIR QUALITY EFFECTS OF EXISTING AND PLANNED ELECTRICAL GENERATING STATIONS. THIS SECTION ON THERMAL IMPACTS PRESENTS A COMPREHENSIVE MATHEMATICAL MODELING AND COMPUTER SIMULATION STUDY OF THE EFFECTS OF HEAT REJECTION FROM THE PLANTS. THE OVERALL STUDY CONSISTED OF THREE MAJOR PARTS: NEAR-FIELD ANALYSIS; FAR-FIELD ANALYSIS; AND ZONE-MATCHED NEAR-FIELD ANALYSIS. NEAR-FIELD ANALYSIS WERE COMPLETED FOR ROSETON, DANSSKAMMER, AND BOWLINE POINT GENERATING STATIONS, AND NEAR-FIELD ANALYSIS INCLUDED A CRITICAL REVIEW OF ABOUT 2 FOR BOWLINE POINT AND 3 FOR ROSETON TO A MAXIMUM OF 6 FOR BOTH PLANTS. THE FAR-FIELD ANALYSIS INCLUDED A CRITICAL REVIEW OF EXISTING STUDIES AND A PARAMETRIC REVIEW OF OPERATING PLANTS. THE MAXIMUM THERMAL LOAD CASE, BASED ON HYPOTHETICAL 1974 RIVER CONDITIONS, GIVES THE DAILY MAXIMUM CROSS-SECTION-AVERAGED AND 2-MILE-SEGMENT-AVERAGED WATER TEMPERATURES AS 83.80 F IN THE VICINITY OF THE INDIAN POINT STATION AND 83.25 F IN THE VICINITY OF THE BOWLINE STATION. THIS MAXIMUM CASE HILL BE SIGNIFICANTLY MODIFIED IF COOLING TOWERS ARE USED AT CERTAIN UNITS. A FULL ANALYSIS AND DISCUSSION OF THESE CASES IS PRESENTED. A STUDY OF THE HUDSON RIVER STRIPED BASS POPULATION IS DIVIDED INTO THE FOLLOWING EIGHT SUBSECTIONS: DISTRIBUTION OF STRIPED BASS EGGS, LARVAE, AND JUVENILES IN THE HUDSON RIVER; ENTRAINMENT MORTALITY FACTOR; INTAKE FACTOR; IMPINGEMENT; EFFECTS OF DISCHARGES; COMPENSATION; MODEL ESTIMATES OF PERCENT REDUCTION; AND HUDSON RIVER STRIPED BASS STOCK.

UO97 BARNTHOUSE. L.W.; D.L. DEANGELIS; S.W. CHRISTENSEN

EMPIRICAL MODEL OF IMPINGEMENT IMPACT [1979]

ENVIRON SCI DIV PUB 1289. ORNL. OAK RIDGE. TN 28 PP

A SIMPLE MODEL, DERIVED FROM RICKER'S (1975) THEORY OF FISHERIES DYNAMICS, THAT CAN BE USED TO ESTIMATE THE IMPACT OF IMPINGEMENT OF JUVENILE FISH BY POMER PLANTS ON YEAR-CLASS ABUNDANCE IN VULNERABLE SPECIES IS DESCRIBED. THE ONLY DATA REQUIRED ARE ESTIMATES OF THE INITIAL NUMBER OF IMPINGEABLE JUVENILES, THE NUMBER IMPINGED, AND THE RATE OF TOTAL MORTALITY DURING THE PERIOD OF VULNERABILITY. THE IMPACT OF IMPINGEMENT IS EXPRESSED IN THE MODEL AS THE CONDITIONAL MORTALITY RATE, RATHER THAN THE MORE CJMMONLY USED EXPLOITATION RATE. THE CONDITIONAL MORTALITY RATE IS SUPERIOR AS A MEASURE OF IMPACT FOR TWO REASONS: IT ACCOUNTS FOR THE DIFFERENTIAL IMPACT OF IMPINGING FISH OF DIFFERENT AGES, AND IT IS NUMERICALLY EQUIVALENT TO THE FRACTIONAL REDUCTION IN YEAR-CLASS ABUNDANCE DUE TO IMPINGEMENT. WE PRESENT AN APPLICATION OF THE MODEL USING THE 1974 YEAR-CLASS OF THE HUDSON RIVER STRIPED BASS POPULATION AS AN EXAMPLE. HE THEN SHOW HOW THE MODEL CAN BE MODIFIED TO ACCOUNT FOR SEASONAL FLUCTUATIONS IN THE RATE OF IMPINGEMENT, DISCUSS THE EFFECT OF THESE FLUCTUATIONS ON THE CALCULATED IMPACT, AND DISCUSS THE INFLUENCE ON MODEL OUTPUT OF ERRORS IN THE MEASUREMENT OF ABUNDANCE, IMPINGEMENT, AND TOTAL MORTALITY. IT IS EVIDENT FROM THIS ANALYSIS THAT ESTIMATES OF IMPINGEMENT IMPACT ARE AS SENSITIVE TO ERRORS IN ESTIMATES OF POPULATION SIZE AND MORTALITY AS TO ESTIMATES OF THE NUMBER OF FISH IMPINGED. THUS, IT IS NOT POSSIBLE TO RELIABLY ESTIMATE THE IMPACT OF IMPINGEMENT ON A VULNERABLE FISH SPECIES UNLESS A SUBSTANTIAL EFFORT IS DEVOTED TO POPULATION STUDIES.

0098 BARNTHOUSE, L.W.; W. VAN WINKLE, JR.

IMPACT OF IMPINGEMENT ON THE HUDSON RIVER WHITE PERCH POPULATION [1980]

NAT WORKSHOP ON ENTRAINMENT AND IMPINGEMENT, SAN FRANCISCO, CA 19 PP

THE IMPACT OF POWER PLANT IMPINGEMENT ON THE 1974 AND 1975 YEAR CLASSES OF THE HUDSON RIVER WHITE PERCH POPULATION IS ASSESSED USING A SIMPLE MODEL DERIVED FROM RICKER'S THEORY OF FISHERIES DYNAMICS. THE IMPACT OF IMPINGEMENT IS EXPRESSED IN THE MODEL AS THE CONDITIONAL MORTALITY RATE, RATHER THAN AS THE MORE COMMONLY USED EXPLOITATION RATE. SINCE THE CALCULATED IMPACT IS SENSITIVE TO ERRORS IN THE ESTIMATION OF POPULATION SIZE AND TOTAL MORTALITY, RANGES OF PROBABLE VALUES OF THESE QUANTITIES ARE USED TO COMPUTE UPPER AND LOWER BOUNDS ON THE FRACTIONAL REDUCTION IN ABUNDANCE OF EACH YEAR CLASS. BEST ESTIMATES OF ABUNDANCE AND MORTALITY ARE USED TO COMPUTE THE CONDITIONAL IMPINGEMENT MORTALITY RATE SEPARATELY FOR EACH PLANT AND MONTH. THE RESULTS ARE USED TO ASSESS THE RELATIVE IMPACTS OF WHITE PERCH IMPINGEMENT AT SIX HUDSON RIVER POWER PLANTS AND TO IDENTIFY THE SEASONS DURING WHICH THE IMPACT IS HIGHEST.

0099 BARVENIK, F.W.; B.W. HILL; V.P. ANEJA; R.M. FELDER

HYDROGEN SULFIDE IN BOTTOM WATER NEAR A SEWAGE SLUDGE DUMPING SITE [1975]

BNL, UPTON, NY 27 PP

AN ATTEMPT WAS MADE TO DETECT VOLATILE SULFUR COMPOUNDS IN BOTTOM WATER AT A SEWAGE SLUDGE DUMPING SITE IN THE APEX OF THE NEW YORK BIGHT. WATER FROM 2 M ABOVE BOTTOM WAS PUMPED ON BOARD SHIP AND THEN THROUGH A GAS-LIQUID CONTACTOR. VOLATILE COMPOUNDS TRANSFERRED TO THE GAS PHASE WERE PASSED TO A GAS CHROMATOGRAPH SENSITIVE TO SULFUR COMPOUNDS. SIGNIFICANT PEAKS WERE FOUND FOR HYDROGEN SULPHIDE BUT PEAKS FOR OTHER SULFUR COMPOUNDS WERE NOT CLEARLY EVIDENT. ASSUMING AN EQUILIBRIUM DISTRIBUTION OF H2S BETWEEN GAS AND LIQUID PHASES IN THE CONTACTOR, THE CONCENTRATION OF TOTAL SULFIDE IN SOLUTION IN THE BOTTOM WATER WAS ESTIMATED TO BE 0.03 TO 0.08 MICRO MOLES. THE BOTTOM WATER WAS FOUND TO BE PARTIALLY DEPLETED OF DISSOLVED OXYGEN AND CONTAINED A SMALL POPULATION OF SULFATE REDUCERS (DESULFOVIBRIO DESULFURICANS). ADDITIONAL EXPERIMENTS DESIGNED TO PERMIT FURTHER CHARACTERIZATION OF THE MARINE EXPERIMENT IN THE VICINITY OF SEWAGE SLUDGE DUMPING SITES INSOFAR AS SULFUR COMPOUNDS ARE CONCERNED ARE SUGGESTED.

0100 BARVENIK, F.W.; M.J. DAGG; D.C. JUDKINS; J.T. SCOTT; A.G. TINGLE; J.J. WALSH; T.E. WHITLEDGE; C.D. WIRICK

ANALYSIS OF TIME DEPENDENT FACTORS LEADING TO ANOXIC CONDITIONS WITHIN THE MIDDLE ATLANTIC BIGHT DURING 1976 [1976]

PAGES 1-7 IN OCEAN 76 SYMPOSIUM, WASHINGTON, DC, 13 SEPT 1976

STEADY STATE CONSIDERATIONS OF THE ANNUAL ORGANIC LOADING FROM PRIMARY PRODUCTION, RIVER RUNOFF, AND WASTE DISPOSAL TO COASTAL WATERS OF NY AND NJ SUGGEST THAT 10 TIMES MORE CARBON IS INTRODUCED THAN CAN BE OXIDIZED. ANOXIC BOTTOM WATER SHOULD BE A PERMANENT FEATURE OF THESE COASTAL WATERS UNDER SUCH STEADY STATE ASSUMPTIONS. CONCENTRATION OF NEAR BOTTOM DISSOLVED OXYGEN DECREASES DURING THE SUMMER WITH ONSET OF VERTICAL STRATIFICATION IN THE NEW YORK BIGHT BUT HISTORY INDICATES VERY FEW CASES OF ANOXIA. PRESUMABLY OXYGEN MUST BE RENEWED AT LEAST 10 TIMES FASTER THAN INDICTED BY THE STEADY STATE ANALYSES. IN FACT, FAILURE TO CONSIDER THE TIME DEPENDENT, SPATIALLY HETEROGENEOUS NATURE OF THE CONTINENTAL SHELVES WILL LEAD TO BOTH MISUNDERSTANDING OF THEIR IMPORTANT RATE PROCESSES AND MISMANAGEMENT OF THEIR LIVING RESOURCES. DATA ARE REVIEWED FROM STUDIES OF TIME DEPENDENT BIOLOGICAL, CHEMICAL, AND PHYSICAL PROCESSES THAT PROVIDE INSIGHT INTO CONSEQUENCES OF ENERGY DEVELOPMENT ON THE NORTHEAST CONTINENTAL SHELF. A UNIQUE DATA SET OF 50 VARIABLES MEASURED OVER 25 CRUISES DURING 36 MONTHS ALLOW US TO MAKE A PRELIMINARY HOLISTIC ASSESSMENT OF THE EVENTS PRECEEDING THE 1976 FISH KILL.

0101 BARVENIK, F. J.; S.L. MALLOY

KINETIC PATTERNS OF MICROBIAL AMINO ACID UPTAKE AND MINERALIZATION IN MARINE WATERS [1979] .

ESTUARINE COASTAL MAR SCI 8(3):241-250

UPTAKE AND MINERALIZATION OF SINGLE AMINO ACIDS AND AMINO ACID MIXTURES BY MICROBIAL COMMUNITIES IN LONG ISLAND COASTAL WATERS WERE MEASURED WITH C-14 LABELLED COMPOUNDS. DIVERSE KINETIC PATTERNS OF UPTAKE AND MINERALIZATION OF VARIOUS AMINO ACIDS, NOT CONFORMING TO THE MICHAELIS-MENTEN MODEL, WERE OBSERVED FREQUENTLY, ESPECIALLY IN RELATIVELY OLIGOTROPHIC WATERS. THE RESULTS SUGGEST THAT IT IS SOMETIMES IMPOSSIBLE TO SOLVE FOR ALL THE KINETIC PARAMETERS, PARTICULARLY V AND K+S. A NUMBER OF POSSIBLE MECHANISMS FOR THESE ABERRATIONS, INCLUDING POPULATION DIVERSITY, THRESHOLD EFFECTS, TRANSPORT LIMITATION, AND EXPERIMENTAL ARTIFACTS ARE DISCUSSED. PLOTS OF CARBON MINERALIZATION AND NET UPTAKE WERE OFTEN STRIKINGLY SIMILAR, WITH INFLECTIONS OCCURRING AT THE SAME POSITIONS IN BOTH CURVES, SUGGESTING THAT FILTRATION ARTIFACTS ARE NOT THE PRIMARY CAUSE FOR THE SHAPE OF THE CURVES. DESPITE THE COMPLEXITY OF THE OBSERVED KINETIC PATTERNS, THE EXTRAPOLATED TURNOVER TIMES FOR GLYCINE DID NOT DIFFER DRAMATICALLY FROM THE SPECIFIC TURNOVER TIMES AT THE LOWEST GLYCINE CONCENTRATION EMPLOYED, SUGGESTING THAT A SINGLE LOW CONCENTRATION OF AN ORGANIC SUBSTRATE CAN BE USED TO ESTIMATE NATURAL TURNOVER TIME.

0102 BARWIS. J.H.

ANNOTATED BIBLIOGRAPHY ON THE GEOLOGIC, HYDRAULIC, AND ENGINEERING ASPECTS OF TIDAL INLETS [1976]

US ARMY ENG WES. VICKSBURG, MS. 340 PP

ABSTRACTS OF APPROXIMATELY 1,000 PUBLISHED AND UNPUBLISHED REPORTS ON THE ENGINEERING AND GEOLOGIC ASPECTS OF TIDAL INLETS ARE GIVEN. THE MATERIAL DATES FROM 1973 AND EARLIER. REFERENCES ARE GIVEN FOR TIDAL HYDRAULICS, ENGINEERING STRUCTURES, LITTORAL PROCESSES, STRATIGRAPHY AND GEOLOGIC HISTORY. COASTAL AND AERIAL PHOTOGRAPHY. AND CORPS OF ENGINEERS INLET REPORTS.

0103 BARWIS, J.H.

RELATIVE STABILITIES OF TIDAL-INLET COMPONENT FEATURES -- COMPUTER-AIDED, PHOTOINTERPERTATIVE APPROACH [1977]

AM ASSOC PET GEOL BULL 61(5):764

COMPUTER-AIDED AERIAL PHOTOINTERPRETATION PROVIDES A QUANTITATIVE HISTORICAL REVIEW OF THE MORPHOLOGIC CHANGES ASSOCIATED WITH TIDAL INLETS. ADDITIONALLY, IT PROVIDES AN APPROXIMATE INLET-SEDIMENT BUDGET BY YIELDING INFORMATION ON SIZE-LOCATION RELATIONS OF INTERTIDAL GEOMORPHIC COMPONENTS. A 20-YEAR HISTORICAL PHOTOANALYSIS. ENCOMPASSING THE EFFECTS OF SEVERAL MAJOR STORMS. WAS PERFORMED FOR FIRE ISLAND INLET, NY. THE LOCATIONS OF SHOALS, CHANNELS, SHORELINES, BERM CRESTS, AND DUNE SCARPS WERE DIGITIZED FROM 13 SEMICONTROLLED PHOTOMOSAICS (POST-1962). THESE DIGITIZED DATA THEN WERE ANALYZED TO RECTIFY PHOTOS TO IDENTICAL SCALES. COMPUTE AREAS OF INLET MORPHOLOGIC COMPONENTS, AND DETERMINE THE GEOGRAPHIC FREQUENCY FOR BOTH EBB-TIDAL DELTAS AND FLOOD-TIDAL DELTAS. THE GROWTH OR ATTRITION OF INTERTIDAL COMPONENT FEATURES OCCURS BY TWO MODES OF SEDIMENT INFLUX. MODE 1 IS EVIDENCED BY THE AREA OF THE UPDRIFT SPIT BEING INVERSELY PROPORTIONAL TO THE SIZE OF THE MAIN EBB-TIDAL DELTA. SAND DEPOSITED ON THE EBB-TIDAL DELTA IS EPODED FROM THE UPDRIFT SPIT BY WAVES AND LONGSHORE CURRENTS; THE SPIT ELONGATES AND BECOMES WELDED TO THE EBB-TIDAL DELTA, UNTIL BREACHING CAUSES THE DISTAL END OF THE SPIT TO BECOME PART OF THE EBB-TIDAL DELTA. MODE 2 IS RELATED TO A NET INFLUX OF SAND TO THE SYSTEM AS A WHOLE. CAUSED BY AN INCREASE IN GROSS LONGSHORE-TRANSPORT RATE. THE INFLUX IS DISTRIBUTED AMONG ALL INLET INTERTIDAL COMPONENT FEATURES IN AMOUNTS PROPORTIONAL TO THEIR AREAL EXTENT. SAND EXCHANGE BETWEEN COMPONENTS COMMONLY OCCURS IN THIS DYNAMIC EQUILIBRIUM MODE, BUT NOT AT THE NET EXPENSE OF ANY GIVEN COMPONENT. THE EXPOSED AND PROTECTED BEACHES RESPOND IN OPPOSITE WAYS TO STORM CONDITIONS; DURING STORMS, THE OCEAN REACHES ARE ERODED, WHEREAS BEACHES WITHIN AND BEHIND THE INLET APPARENTLY STORE SAND. THE TREND IS REVERSED DURING PERIODS OF CALM. COMPARISON OF THESE DATA TO PHOTOINTERPRETIVE INVESTIGATIONS OF OTHER INLETS SUPPORTS TWO CONCLUSIONS ABOUT THE GROSS STABILITY AND SEDIMENT BUDGETS OF TIDAL INLETS: (1) TIDAL INLETS ARE LONG-TERM SEDIMENT SINKS ONLY IF THE INLET MIGRATES ALONGSHORE, PROVIDING NEW DEPOCENTERS FOR FLOOD-TIDAL DELTAS: (2) THE SHORELINE AND TIDAL-DELTA CONFIGURATIONS OF AN INLET SYSTEM DISPLAY LESS VARIABILITY WHEN THE INLET IS SUBJECT TO HIGH RATIOS OF NET TO GROSS LONGSHORE-TRANSPORT RATE, EVEN THOUGH THE INLET IS MORE LIKELY TO MIGRATE.

0104 BARWIS, J.H.; F.C. PERRY; C. FREDERICK; V.E. LAGARDE

A COMPUTER-AIDED AERIAL PHOTOGRAPHIC ANALYSIS OF FIRE ISLAND INLET GEOMORPHOLOGY [1977]

US ARMY CORPS ENG WES, VICKSBURG, MS 87 PP NTIS-AD-A045 187

IN ORDER TO PROVIDE INFORMATION ON CHANNEL LOCATION AND CONFIGURATION AND ASSIST IN PLANNING OF DREDGING OPERATION, THE GEOMETRY OF FIRE ISLAND INLET, NY, IS ANALYZED. USING THE 18 SETS OF AERIAL PHOTOGRAPHS TAKEN BETWEEN APR 1962 AND APR 1972, THE LOCATIONS OF SHOALS, BEACHES, AND CHANNELS WERE DETERMINED, DIGITIZED FOR COMPUTER ANALYSIS, AND DISPLAYED ON DRUM PLOTS. ONE OF TWO CHANNEL LOCATIONS PROPOSED BY THE NEW YORK DISTRICT IS CONSIDERED MORE APPROPRIATE IN TERMS OF MATCHING THE AVERAGE CHANNEL LOCATION.

0105 BATES. S.S.

EFFECTS OF LIGHT AND AMMONIUM ON NITRATE UPTAKE BY TWO SPECIES OF ESTUARINE PHYTOPLANKTON [1976]

LIMNOL OCEANOGR 21(2):212-218

THE INCIDENT LIGHT INTENSITY, PRECONDITIONING LIGHT HISTORY, AND THE PRESENCE OF ABSENCE OF AMMONIUM AFFECTED THE RATE OF NITRATE UPTAKE BY A CHLOROPHYTE AND SKELETONEMA COSTATUM ISOLATED FROM THE HUDSON ESTUARY. IN THE ABSENCE OF AMMONIUM, SHADE-ADAPTED CELLS REACHED THE HIGHEST MAXIMUM VELOCITY OF NITRATE UPTAKE (V MAX). SKELETONEMA COSTATUM HAD A LOWER HALF-SATURATION CONSTANT FOR LIGHT (KLT) THAN THE CHLOROPHYTE AND REACHED A GREATER V MAX. IN THE PRESENCE OF AMMONIUM, NITRATE UPTAKE WAS DEPRESSED AT ALL LIGHT INTENSITIES, BUT MORE IN SHADE-ADAPTED THAN IN SUN-ADAPTED CELLS OF BOTH SPECIES, AND MORE IN S. COSTATUM THAN IN THE CHLOROPHYTE. THE V MAX FOR AMMONIUM WAS GREATER IN SHADE-ADAPTED THAN IN SUN-ADAPTED CELLS. SINCE NITRATE AND AMMONIUM UPTAKE WERE RELATED TO THE CHL A CONTENT OF THE CELL, ENERGY FOR UPTAKE WAS PROBABLY DERIVED PRIMARILY FROM PHOTOSYNTHESIS IN THE LIGHT BUT MAY ALSO BE DERIVED FROM RESPIRATION SINCE SUBSTANTIAL DARK UPTAKE WAS OBSERVED, ESPECIALLY IN S. COSTATUM.

0106 BATES, S.S.; J.S. CRAIGIE

CHLOROPLAST PIGMENTS OF A GREEN PHYTOPLANKTER FROM THE HUDSON ESTUARY, USA [1978]

PHYCOLOGIA 17(1):79-84

EXTRACTION AND CHROMATOGRAPHIC FRACTIONATION OF CHLOROPLAST PIGMENTS FROM A NONMOTILE GREEN PHYTOPLANKTER, HR-1, ISOLATED FROM THE LOJER HUDSON RIVER, NY IN DEC 1972, PROVIDED A BASIS FOR ASSIGNING THE ALGA TO THE CHLOROPHYCEAE. THE 5-MICRON DIAMETER NONFLAGELLATED PHYTOPLANKTER HAS BEEN STUDIED WITH RESPECT TO EFFECTS OF LIGHT INTENSITY AND AMMONIUM ON NITRATE UPTAKE, BUT HAS NOT YET BEEN ASSIGNED TO A GENUS OR SPECIES. OBSERVATIONS BY LIGHT MICROSCOPY WERE INCONCLUSIVE, DUE TO ITS SIMILARITY TO MEMBERS OF SEVERAL ALGAL CLASSES. ANALYSIS REVEALED CHLOROPHYLLS A AND B, BETA-CAROTENE, LUTEIN, VIOLAXANTHIN, AND NEOXANTHIN. CHROMATOGRAPHIC PROPERTIES AND VISIBLE ABSORPTION MAXIMA ARE REPORTED FOR TWO MINOR UNIDENTIFIED CAROTENOIDS, ONE OF WHICH OCCURRED IN THE CAROTENE FRACTION. THE PRESENCE OF CHLOROPHYLL B AND THREE XANTHOPHYLLS ASSOCIATED WITH CHLOROPHYCEAE JUSTIFY ASSIGNMENT TO THIS CLASS. THIS STUDY REPORTS A PROCEDURE SUCCESSFULLY USED TO EXTRACT PIGMENTS FROM THIS THICK-WALLED CHLOROPHYTE. PIGMENT EXTRACTION CONSISTED OF BOILING CELLS FOR THREE MIN IN FIVE ML DISTILLED WATER WITH THREE ML OF 1% W/V MAGNESIUM CARBONATE, THEN COOLING IMMEDIATELY IN AN ICE BATH. AFTER CENTRIFUGATION THE WATER WAS DECANTED AND REPLACED WITH ABSOLUTE METHANOL. PIGMENTS WERE EXTRACTED FROM THE PELLET AFTER 30 MIN IN COLD AND DARKNESS.

0107 BATKY, R.J.

FEASIBILITY OF USING SEWAGE SLUDGE AS FERTILIZER ON A SANDY BEACH [1975]

M.S. THESIS. ADELPHI UNIV. GARDEN CITY. NY 48 PP

THE PRACTICALITY AND DESIRABILITY OF USING SEWAGE SLUDGE AS FERTILIZER FOR SANDY BEACH AREAS WAS THE FOCUS OF THIS THESIS. THERE ARE TWO MAJOR REASONS FOR USING SEWAGE SLUDGE IN THIS WAY. FIRST, IT PROVIDES A CHEAP ALTERNATIVE MEANS OF SEWAGE SLUDGE DISPOSAL. SECOND, ITS USE ON BEACHES PROVIDES A SOURCE OF NUTRIENTS TO ENHANCE PLANT GROWTH AND THEREFORE STABILIZE BEACH FRONTS MORE BAPIDLY. HOWEVER, THERE ARE SEVERAL DISADVANTAGES TO THIS PROPOSAL. EFFECTS ON PUBLIC HEALTH COULD POTENTIALLY BE SERIOUS. A TOTAL STUDY OF THE PUBLIC HEALTH EFFECTS WAS NOT POSSIBLE IN THE CHOSEN STUDY AREA, GREAT SOUTH BAY (NY) DUE TO THE MANY INPUTS TO THE BAY. RECREATION AREAS WOULD ALSO BE EFFECTED AESTHETICALLY.

0108 BAUMGAERTNER. I.V.

SOME NEW PROCESSES OF BEACH DYNAMICS, ROBERT MOSES STATE PARK, FIRE ISLAND, NY [1977]

PH.D. THESIS. COLUMBIA UNIV. NEW YORK, NY NP

THE MAJOR OBJECTIVES OF THIS STUDY ARE TO UNDERSTAND THE ORIGIN OF BERM SCARPS, VERTICAL SCARPS OF EROSIONAL ORIGIN COMMONLY FOUND IN THE BERM AND IN THE STORM RIDGES (ALSO CALLED "DUNES," "BEACH RIDGES" OR "SAND RIDGES"), AND TO BETTER DEFINE JUST HOW BEACHES ALONG BARRIERS ACCUMULATE AND LOSE THEIR SEDIMENTS. THE MAGNITUDE OF SAND LOSS FROM THE BEACH AT TIMES OF BEACH-SCARP FORMATION MAY BE UP TO 100 M3 PER METER OF BEACH LENGTH DURING A SINGLE RISE OF THE TIDE. THEREFORE, THE FORMATION AND RETREAT OF BEACH SCARPS RANKS AS A MAJOR BEACH-EROSIONAL PROCESS. THE EROSIONAL MECHANISM RESPONSIBLE FOR THE FORMATION OF BEACH SCARPS IS A SPECIAL FORM OF THE SWASH, TERMED KNOWLEDGE OF THE FORESHORE'S GRADIENT, THE SPEED AND DIRECTION OF THE EXPECTED WIND, THE FORECAST OF THE STATE OF THE TIDE DURING THE YEARS 1973 TO 1976 HAS LED TO A 90% SUCCESS RATE FOR CORRECTLY PREDICTING THE FORMATION OF BERM SCARPS 3 TO 4 DAYS IN ADVANCE. AND THUS THE EXPECTED RATES OF BEACH EROSION.

0109 BAYLOR, E.R.; M.B. BAYLOR; C.D. HARDY

THE TRANSFER OF COLON-PARATYPHOID BACTERIA AND VIRUSES FROM OCEAN TO ATMOSPHERE OVER OCEAN DUMPING GROUNDS [1976]

PREPROPOSAL. MSRC. SUNY, STONY BROOK, NY 15 PP

THE RESEARCH PROPOSED HERE ASKS WHETHER SIGNIFICANT CONCENTRATIONS OF COLON-PARATYPHOID ORGANISMS AND THEIR ASSOCIATED VIRUSES EXIST IN SURFACE FILMS AND IN SUSPENSION OVER THE SEWAGE SLUDGE DUMPSITE OF THE NEW YORK BIGHT AND WHETHER THESE BACTERIA AND VIRUSES ARE EJECTED INTO THE ATMOSPHERE BY DROPLETS FROM BURSTING BUBBLES. IT IS KNOWN FROM THE WORK OF BLANCHARD (1963) AND OF BEZDEK AND CARLUCCI (1972) THAT BACTERIA ARE EJECTED FROM WATER INTO THE ATMOSPHERE IN DROPLETS FROM BURSTING BUBBLES. WE WISH TO EXTEND THESE OBSERVATIONS BY ASKING WHETHER BACTERIA AND ASSOCIATED VIRUSES OF THE COLON-PARATYPHOID GROUP BECOME SIMILARLY AIR-BOURNE. WHETHER A PUBLIC HEALTH PROBLEM EXISTS AT THE SEWAGE SLUDGE DUMPSITE OF THE NEW YORK BIGHT IS UNKNOWN BECAUSE OF THE TOTAL LACK OF DATA DESCRIBING THE SEA SURFACE CONCENTRATION AND AEROSOL DISPERSION OF MICROBES IN THAT AREA. THE WORK PROPOSED HERE WOULD PROVIDE AN INITIAL INSIGHT INTO THE PROBLEM.

0110 BAYLOR, E.R.; M.B. BAYLOR; D.C. BLANCHARD; ET.AL.

VIRUS TRANSFER FROM SURF TO WIND [1977]

SCIENCE 198(4317): 575-580

BUBBLES IN THE SEA SURF ADSORB AND CARRY VIRUSES TO THE SURFACE WHERE THEY ARE PROPELLED INTO THE AIR ON TINY JETS OF SEAWATER WHEN THE BUBBLE BURSTS. THE EJECTED JETS BECOME TINY DROPS OF AEROSOL. INJECTIONS OF 2 L LYSATE CONTAINING 10EXP12 VIRUSES/ML, THE COLIPHAGES T2 HERSEY AND T4 DOERMAN, AND 1 L OF FLUORESCEIN WERE RELEASED SIMULTANEOUSLY IN BREAKING SURF AT A WAVE-TROUGH DEPTH OF 1.5 M. SETTLING PLATES FOR COLLECTING VIRUS-LADEN AEROSOL DROPS FROM THE SURF WERE SEEDED WTH STRAINS B, B/2, AND B/4 OF ESCHERICHIA COL1. KISMET BEACH, FIRE ISLAND, NY WAS CHOSEN FOR EXPERIMENTS TESTING A HIGH SURF (2 M) BEACH. THE DYE AND

VIRUS WERE RELEASED 100 M UPSTREAM OF THE SAMPLING STATIONS. ABOUT 200 TIMES MORE VIRUS/ML WERE PRESENT IN THE AEROSOL OF INJECTED SURF THAN IN THAT OF THE CONTROL. THE FREQUENCY OF VIRUS-BEARING DROPS ON SEEDED PLATES EXPOSED ON THE BEACH DECREASED EXPONENTIALLY WITH THE DISTANCE DOWNWIND FROM THE SURF. THE LOW-SURF BEACH PRODUCED AEROSOL VERY SLOWLY SO THAT SOME VIRUS PERSISTED THE FOLLOWING DAY. THE HIGH SURF OF KISMET BEACH LEFT NO PHAGES AFTER THE DYE HAD DISAPPEARED. VIRUSES CAUGHT IN SEA-FOAM SURVIVE 3 HR OF DRYING AND SUNLIGHT. NATURALLY OCCURRING SURFACE ACTIVE MATERIALS IN SEAWATER WHICH ALSO ADSORD TO BURBLES MAY CONFER PROTECTION TO THE ADSORDED VIRUSES. BACTERIA, AND ALGAE AGAINST DRYING AND INACTIVATION.

O111 BEARDSLEY, R.C.; W.C. BOICOURT; D.V. HANSEN

PHYSICAL DCEANOGRAPHY OF THE MIDDLE ATLANTIC BIGHT [1976]

PAGES 20-34 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG. ALLEN PRESS. LAWRENCE. KS

KINETIC ENERGY SPECIRA FROM MOORED CURRENT METERS IN THE MID-ATLANTIC BIGHT REVEAL MARKED DIFFERENCES IN CURRENT VARIABILITY BETWEEN THE INNER SHELF AND THE OUTER SHELF AND SLOPE REGIONS. THE NEARSHORE SUBTIDAL CURRENT VARIABILITY APPEARS TO BE DOMINATED BY METEOROLOGICAL FORCING. THE AMPLITUDE OF THE SEMIDIURNAL AND DIURNAL TIDAL PEAKS DECREASES IN THE OFFSHORE DIRECTION. SHALLOW WATER RECORDS SHOW LITTLE OR NO INERTIAL ENERGY, WHILE AT THE SHELF BREAK AND OVER THE SLOPE, INERTIAL MOTION CONTRIBUTES SIGNIFICANTLY TO THE CURRENT VARIANCE. A SIMPLE CONCEPTUAL MODEL IS PRESENTED TO EXPLAIN HOW INTENSE WINTER LOW PRESSURE SYSTEMS ("NORTHEASTERS") DRIVE STRONG ALONGSHORE CURRENTS WHICH ARE COHERENT OVER MUCH OF THE BIGHT. A MAP OF "MEAN" CURRENTS MEASURED IN RECENT MOORED ARRAY EXPERIMENTS DEMONSTRATES SUBSURFACE WATER FLOW ALONG THE SHORE TOWARD THE SOUTHWEST. THE AVERAGE CURRENTS GENERALLY INCREASE IN MAGNITUDE OFFSHORE AND DECREASE WITH CLOSENESS TO BOTTOM. AT MOST SITES, THE MEAN CURRENT VEERS TOWARD SHORE WITH INCREASING DEPTH. THE ALONGSHORE VOLUME TRANSPORT MEASURED AT THREE TRANSECTS ACROSS THE BIGHT SHOWS SURPRISING UNIFORMITY, CONSIDERING THE POSSIBLE SOURCES FOR DISCREPANCY. THIS TRANSPORT OF WATER WITHIN THE 100-M ISOBATH IMPLIES A MEAN RESIDENCE TIME OF THE ORDER 3/4 YEAR. MUCH OF THE SHELF WATER OBSERVED FLOWING MESTWARD SOUTH OF NEW ENGLAND MUST ORIGINATE IN THE GULF OF MAINE-GEORGES BANK AREA.

0112 BEARDSLEY, R.C.; H. MOFJELD; M. WIMBUSH; C.N. FLAGG; J.A. VERMERSCH , JR.

OCEAN TIDES AND WEATHER-INDUCED BOTTOM PRESSURE FLUCTUATIONS IN THE MIDDLE ATLANTIC BIGHT [1977]

J GEOPHYS RES 82(21):3175-3182

FIVE BOTTOM PRESSURE GAGES WERE DEPLOYED IN THE MIDDLE-ATLANTIC BIGHT DURING THE LATE WINTER OF 1974. ANALYSIS OF THE RESULTING PRESSURE SERIES AND NEIGHBORING COASTAL TIDE GAGE SERIES SHOWS THAT TIDES ARE THE DOMINANT PRESSURE SIGNAL IN THIS SECTION OF THE CONTINENTAL SHELF. MOST OF THE REMAINING PRESSURE FLUCTUATIONS APPEAR TO BE FORCED BY METEOROLOGICAL TRANSIENTS. DURING MARCH 21, 1974, A DEVELOPING CYCLONE MOVING UP THE COAST EXCITED A COHERENT GROUP OF SEA LEVEL OSCILLATIONS WITH CHARACTERISTIC PERIODS OF 5-7 HR. WHICH ARE INTERPRETED HERE AS COASTAL-TRAPPED EDGE WAVES. SPECTRA OF THE NONTIDAL PRESSURE SERIES ARE RED, HOWEVER, MOST OF THE NONTIDAL VARIABILITY IS CAUSED BY LOWER-FREQUENCY (SUBTIDAL) COMPONENTS. THE SUBSURFACE PRESSURE (SSP) FLUCTUATIONS DO APPEAR COHERENT OVER THE SPATIAL EXTENT OF THE ARRAY IN THE MOST ENERGETIC SUBTIDAL FREQUENCY BANDS, AND ESTIMATES MADE OF THE RELATIVE HORIZONTAL SSP GRADIENTS INDICATE THAT CROSS-SHELF GRADIENT VARIATIONS ARE SIGNIFICANTLY LARGER THAN ALONGSHORE GRADIENT VARIATIONS. SOME CONSEQUENCES OF THESE LARGE WEATHER-INDUCED GRADIENT FLUCTUATIONS ON THE SHELF CIRCULATION ARE DISCUSSED.

0113 BEARDSLEY, R.C.; W.C. BOICOURT; L.C. HUFF; J.T. SCOTT

CMICE 76: A CURRENT METER INTERCOMPARISON EXPERIMENT CONDUCTED OFF LONG ISLAND IN FEBRUARY-MARCH. 1976 [1977]

TECH REP. WHOI, WOODS HOLE, MA 123 PP

A CURRENT METER INTERCOMPARISON EXPERIMENT (CALLED CMICE 76) WAS CONDUCTED ABOUT 6 KM OFF THE SOUTHERN COAST OF LONG ISLAND NEAR 40 47"N 72 30" W DURING FEB AND MAR. 1976. A TOTAL OF 20 CURRENT METERS WERE DEPLOYED ON 6 MOORINGS SET IN A ROUGHLY LINEAR ARRAY PARALLEL TO THE LOCAL COASTLINE AND TOPOGRAPHY. THE INSTRUMENTS INCLUDED THE AANDERAA RCM-4, THE AMF VACM, THE BROOKHAVEN NATIONAL LABORATORY SPAR BUOY SYSTEM UTILIZING CYLINDRICAL AND SPHERICAL MARSH-MCBIRNEY ELECTROMAGNETIC SENSORS. THE EGR 850 AND CT-3, AND THE CHESAPEAKE BAY INSTITUTE MODIFIED ENDECO 105. LOCAL MEAN WATER DEPTH WAS 27.8 M AND CURRENT METERS WERE CLUSTERED NEAR 4 DEPTH LEVELS (3.5 M, 7.4 M, 15.7 M, AND 25.0 M). WAVE DATA WAS ALSO OBTAINED AT THE ARRAY SITE AND 10 M WIND AND TIDAL DATA WAS OBTAINED FROM NEARBY COASTAL STATIONS. INTERCOMPARISONS OF 1 HR VECTOR AVERAGE VELOCITIES MEASURED WITH SIMILAR INSTRUMENTS DEPLOYED NEAR THE SAME DEPTH LEVEL INDICTED SUFFICIENT HORIZONTAL HOMOGENEITY THAT MOST DIFFERENCES IN THE OBSERVED CURRENT DATA HAVE BEEN ATTRIBUTED TO REAL DIFFERENCES IN INSTRUMENT AND MOORING PERFORMANCE. DETAILED DISCUSSIONS OF THE OBSERVED DATA, INSTRUMENT AND MOORING CHARACTERISTICS AND PERFORMANCE, AND THE EFFECT OF SURFACE WAVE AND WAVE-INDUCED MOORING MOTION ON DIFFERENT MEASUREMENT SYSTEMS ARE PRESENTED.

O114 BEARDSLEY, R.C.; J. HART

A SIMPLE THEORETICAL MODEL FOR THE FLOW OF AN ESTUARY ONTO A CONTINENTAL SHELF [1978]

J GEOPHYS RES 83(C2):873-883

A MODEL WAS DEVELOPED TO DESCRIBE THE STEADY FLOW OF AN ESTUARY ONTO AN ADJACENT CONTINENTAL SHELF. A 2-LAYER DENSITY STRATIFICATION IS ASSUMED FOR THE SHELF WATER, AND THE FLUID MOTION IS DRIVEN BY THE POSITIVE (UPPER LAYER) AND NEGATIVE (LOWER LAYER) MASS FLUXES ASSOCIATED WITH A PAIR OF POINT SOURCES LOCATED AT THE MOUTH OF THE ESTUARY. THE DYNAMICS ARE LINEAR AND INCLUDE THE EFFECTS OF CORIOLIS ACCELERATION, TURBULENT FRICTION, AND BOTTOM TOPOGRAPHY. ANALYTIC SOLUTIONS FOR THE 1-LAYER SINGLE-SOURCE PROBLEM ARE FOUND FOR SPECIAL DEPTH PROFILES. THE FAR-FIELD FLOW IS ASYMMETRICALLY CONCENTRATED TOWARD THE RIGHT-HAND COAST IN THE NORTHERN HEMISPHERE, A CONSEQUENCE OF THE BASIC BALANCE BETWEEN TOPOGRAPHIC VORTEX STRETCHING AND BOTTOM FRICTION. THIS MECHANISM ALSO APPLIES WHEN A CONSTANT ALONGSHORE CURRENT IS PRESENT. IN THE 2-LAYER CASE THE FLOW IN THE UPPER LAYER GENERALLY IS CONCENTRATED TOWARD THE LEFT-HAND COAST, SINCE THE UPPER FLUID FEELS THE INTERFACE AND NOT THE BOTTOM TOPOGRAPHY AND THE INTERFACIAL DRAG EXERTED BY THE LOWER FLUID TOWARD THE RIGHT-HAND COAST. A BRIEF COMPARISON IS MADE BETWEEN MODEL PREDICTIONS AND OBSERVATIONS FOR THE HUDSON AND CHESAPEAKE BAY ESTUARIES.

0115 BEAUCHAMP, C.H.: M.L. SPAULDING

TIDAL CIRCULATION IN COASTAL SEAS [1978]

PAGES 518-528 IN PROC. ASCE SPECIALTY CONFERENCE ON VERIFICATION OF MATHEMATICAL AND PHYSICAL MODELS IN HYDRAULIC ENGINEERING, COLLEGE PARK, MD, AUG 1978. MARINE REPRINT-110. URI, KINSTON, RI NTIS-PB-291 022

AN APPLICATION OF LEENDERTSE'S MULTI-OPERATIONAL FINITE DIFFERENCE SCHEME FOR SOLUTION TO THE TWO-DIMENSIONAL, VERTICALLY INTEGRATED MOMENTUM AND CONTINUITY EQUATIONS HAS BEEN MADE FOR TIDAL CIRCULATION IN LONG ISLAND SOUND, BLOCK ISLAND SOUND, RHODE ISLAND SOUND, AND BUZZARDS BAY (REFERRED TO AS THE SOUTHERN NEW ENGLAND INTRACOASTAL SYSTEM). THE CIRCULATION WITHIN THE MODELED REGION IS PREDOMINANTLY FORCED BY SPECIFICATION OF TIDAL ELEVATION ALONG THE LARGE OPEN BOUNDARY SEPARATING THE SYSTEM FROM NEW ENGLAND SHELF WATERS. NO DIRECT MEASUREMENTS OF TIDAL ELEVATION ALONG THIS BOUNDARY EXIST, HOWEVER, AND AN ATTEMPT TO ESTIMATE THIS BOUNDARY CONDITION HAS BEEN MADE USING RANGE AND PHASE AT STATIONS ON THE COAST AND LIMITED TIDAL INFORMATION FOR THE SHELF IN THE VICINITY OF THE OPEN BOUNDARY. THE MODEL WAS CALIBRATED BY COMPARING PHASE AND RANGE OF TIDAL ELEVATIONS OBTAINED FROM THE SIMULATIONS WITH THOSE MEASURED AT 46 LOCATIONS WITHIN THE MODELED REGION. AN OPTIMAL MATCHING WAS ACCOMPLISHED BY ADJUSTMENT OF BOTTOM FRICTION. FURTHER COMPARISON HAS BEEN CONDUCTED USING TIDAL CURRENT OBSERVATIONS.

0116 BECCASIO, A.D.; G. WEISSBERG; A.E. REDFIELD; R.L. FREW; W.M. LEVITAN; J.E. SMITH; R. GODWIN

ATLANTIC COAST--ECOLOGICAL INVENTORY [1980]

DAMES AND MOORE, WASHINGTON, DC 163 PP

THIS STUDY PROVIDES AN INVENTORY OF IMPORTANT ECOLOGICAL RESOURCES ALONG THE ATLANTIC COASTAL ZONE, AN AREA OF SOME 196,840 KM (76,000 SQ MI). THIS INVENTORY IS INTENDED TO PROVIDE GOVERNMENT AND INDUSTRY DECISION-MAKERS WITH VALUABLE ECOLOGICAL INFORMATION WHICH WILL ASSIST IN THE REGIONAL SITING OF OIL- AND GAS-PROCESSING AND MANUFACTURING FACILITIES AND THEIR RESPECTIVE TRANSPORTATION SYSTEMS. THE PREPARATION OF THIS ECOLOGICAL INVENTORY INVOLVED FOUR MAJOR TASKS: THE COLLECTION, REVIEW, AND ANALYSIS OF AVAILABLE DATA ON COASTAL FISH AND WILDLIFE SPECIES AND THEIR HABITATS AND SPECIAL LAND-USE AREAS; THE SYNTHESIS AND COMPILATION OF THESE DATA INTO A FORMAT WHICH IS COMPATIBLE WITH THE REQUIREMENTS OF 1:250,000-SCALE MAPPING; THE PREPARATION OF A SERIES OF 31 RESOURCE INVENTORY GRAPHICS FOR THE ATLANTIC COASTAL ZONE; AND THE PREPARATION OF A REPORT NARRATIVE KEYED TO THE INVENTORY GRAPHICS. THE REPORT IS ORGANIZED IN ACCORDANCE WITH THE HIERARCHICAL CLASSIFICATION SCHEME FOR COASTAL ECOSYSTEMS DEVISED BY TERRELL (1979). ECOLOGICAL RESOURCES ARE SUMMARIZED BY THEIR APPROPRIATE GEOGRAPHIC ZONE, AND DESCRIPTIONS AND LOCATIONS OF SPECIES WITH SPECIAL STATUS AND AGUATIC AND TERRESTRIAL SPECIES OF HIGH COMMERCIAL, RECREATIONAL AND AESTHETIC VALUE ARE INCLUDED. THE DESIGNATION OF MORE THAN 550 SPECIAL LAND-USE AREAS ALONG THE ATLANTIC COAST ALSO IS PROVIDED.

0117 BECKER, D.S.

EVALUATION OF A HARD CLAM SPANNER TRANSPLANT SITE USING A DYE TRACER TECHNIQUE [1978]

SPEC REP 10. MSRC. SUNY. STONY BROOK. NY 37 PP NTIS-PB-299 881

THE HARD CLAM (MERCENARIA MERCENARIA) SPAWNER TRANSPLANT SITE IN THE TOWN OF ISLIP, NY WAS EVALUATED USING A WATER SOLUBLE, FLUORESCENT DYE TRACER. THE TRACER WAS INTRODUCED TO THE SITE AT THE SAME TIME AS THE TRANSPLANTING AND WAS SUBSEQUENTLY FOLLOWED FOR 18 DAYS. DYE CONCENTRATIONS WERE MEASURED BY CONTINUOUS UNDERWAY SAMPLING USING A FLUOROMETER SECURED IN A SMALL BOAT. THE RESULTING PATTERN OF DISPERSION SUGGESTED THAT THE SITE IS IN AN UNDESTRABLE LOCATION WITH RESPECT TO MAXIMIZING THE SET OF SPAWNER LARVAE WITHIN TOWN WATERS. AN ALTERNATE SITE IN A LESS DISPERSIVE AREA IN THE NORTH CENTRAL PART OF TOWN WATERS IS RECOMMENDED. FOUR OF THE DYE DISTRIBUTIONS WERE COMPARED WITH TURBULENT DIFFUSION THEORY AND A MEAN DIFFUSION VELOCITY OF 0.42 +/- 0.024 CM/SEC WAS DETERMINED FOR THE AREA. THIS INFORMATION WAS USED TO CONSTRUCT A SIMPLE MODEL TO PREDICT THE THEORETICAL DISPERSION OF LARVAE FROM AN ALTERNATE SITE IN TOWN WATERS. THE MODEL WAS ALSO USED TO DETERMINE WAYS IN WHICH ISLIP CAN MAXIMIZE THE SETTING DENSITIES OF SPAWNER LARVAE WITH TOWN WATERS.

0118 REHRENS, W.J.

HEAVY METALS IN TRANSPLANTED HARD CLA4, MERCENARIA MERCENARIA, IN GREAT SOUTH BAY, NEW YORK [1978]

M.S. THESIS. SUNY. STONY BROOK. NY 51 PP

AN AREA IN GREAT SOUTH BAY, NY WHICH HAS BEEN CLOSED TO SHELLFISHING ON THE BASIS OF COLIFORM BACTERIA STANDARDS WAS SHOWN TO HAVE ELEVATED LEVELS OF HEAVY METALS IN HARD CLAMS, MERCENARIA MERCENARIA, AND SEDIMENTS. CLAMS FROM THIS AREA WERE TRANSPLANTED INTO THE CENTRAL PORTION OF THE BAY WHICH IS OPEN TO SHELLFISHING. NO DEPURATION OF ANY HEAVY METAL ANALYZED (CD, CR, CU, NI, PB AND ZN) WAS NOTED OVER THE 50 DAY DURATION OF THIS STUDY, WHILE SIGNIFICANT INCREASES IN THE TOTAL BODY CONTENT OF CD, NI AND PB OCCURRED. RESULTING CD AND PB LEVELS IN HARD CLAMS WERE NOT ELEVATED ABOVE NATURAL LEVELS FOUND IN THE TRANSPLANT AREA, BUT NI LEVELS WERE APPROXIMATELY 56% HIGHER. TRANSPLANTING MAY THEREFORE INTRODUCE HARD CLAMS WITH SIGNIFICANTLY HIGHER LEVELS OF NI INTO THE HARVESTABLE RESOURCE. COPPER, PB AND NI LEVELS IN NATURAL POPULATIONS OF HARD CLAMS DECREASED FROM MAY TO JULY AND THEN INCREASED THROUGH SEPTEMBER, REFLECTING SEASONAL TRENDS ASSOCIATED WITH BIOLOGICAL PROCESSES OF THE ORGANISMS AND ENVIRONMENTAL FACTORS.

0119 BEHRENS, W.J.; I.W. DUEDALL

THE BEHAVIOUR OF HEAVY METALS IN TRANSPLANTED HARD CLAMS, MERCENARIA MERCENARIA [1978]

J CONS CONS INT EXPLOR MER 59:223-230

AN AREA IN GREAT SOUTH BAY, NY WHICH HAS BEEN CLOSED TO SHELLFISHING ON THE BASIS OF COLIFORM BACTERIA STANDARDS WAS SHOWN TO HAVE ELEVEATED LEVELS OF HEAVY METALS IN HARD CLAMS, MERCENARIA MERCENARIA, AND SEDIMENTS. CLAMS FROM THIS AREA WERE TRANSPLANTED INTO THE CENTRAL PORTION OF THE BAY WHICH IS OPEN TO SHELLFISHING. THE BEHAVIOUR OF HEAVY METALS IN THE TRANSPLANTED CLAMS WAS PRIMARILY AFFECTED BY LONG-TERM TRENDS BASED ON SEASONAL FLUCTUATIONS IN THE ORGANISMS. WHILE THESE CLAMS WERE BEING DEPURATED OF BACTERIA, NO DEPURATION OF ANY HEAVY METAL ANALYZED (CD,CR,CU,NI,PB, AND ZN) WAS NOTED OVER THE 50 DAY DURATION OF THIS STUDY. ON THE CONTRARY, SIGNIFICANT INCREASES IN THE TOTAL BODY CONTENT OF CD, NI, AND PB OCCURRED. RESULTING CD AND PB LEVELS IN HARD CLAMS WERE NOT ELEVATED ABOVE NATURAL LEVELS FOUND IN THE TRANSPLANTATION AREA, BUT NI LEVELS WERE APPROXIMATELY 56% HIGHER. THIS TRANSPLANTATION THEREFORE INTRODUCED HARD CLAMS WITH SIGNIFICANTLY HIGHER LEVELS OF NI INTO THE HARVESTABLE RESOURCE.

0120 BELL. E.O.

NATURE OF POTENTIAL OIL INDUSTRY OPERATIONS ON THE ATLANTIC CONTINENTAL SHELF [1975]

PAGES 12-30 IN B. MANOWITZ, ED. EFFECTS OF ENERGY-RELATED ACTIVITIES ON THE ATLANTIC CONTINENTAL SHELF, PROC OF CONFERENCE, BROOKHAVEN NAT'L LAB. 10-12 NOV 1975. BNL. UPTON. NY

THIS BRIEF OVERVIEW OF OFFSHORE OIL INDUSTRY ACTIVITY DISCUSSES SEISMIC SURVEYS, EXPLORATORY DRILLING, DEVELOPMENTAL DRILLING AND PRODUCTION PHASE. 20,000 OFFSHORE OIL AND GAS WELLS WERE DRILLED OFF GULF OF MEXICO, CALIFORNIA, AND ALASKA WITH NO INCIDENT PRODUCING PERMANENT DAMAGE TO THE ENVIRONMENT.

0121 BELTRAMI, E.: N. BHAGAT; L. BODIN

REFUSE DISPOSAL IN NEW YORK CITY: AN ANALYSIS OF BARGE DISPATCHING [1971]

BATTELLE COLUMBUS LAGS. NSF. COLUMBUS. OH 37 PP NTIS-PB-241 439

THIS STUDY ADDRESSES THE PROBLEM OF MAINTAINING A GIVEN FLOW OF REFUSE TO THE FRESH KILLS LANDFILL ON STATEN ISLAND USING MINIMUM TIME TOURS AND THE LEAST NUMBER OF BARGES AND TUGS. THE STUDY PROVIDES INSIGHTS INTO WAYS OF MAXIMIZING TUGBOAT AND BARGE UTILIZATION AND OFFERS SOME PLAUSIBLE ARGUMENTS FOR PREDICTING THE NUMBER OF VESSELS OF EITHER KIND WHICH WOULD BE NEEDED AS WORKLOAD INCREASES. A NUMBER OF ROUTES ARE RECOMMENDED, ALL OF WHICH ARE IN SOME SENSE MINIMUM COST TOURS.

U122 BELTRAMI. E.: T.O. CARROLL

A LAND-USE PLANNING MODEL FOR COASTAL ZONE MANAGEMENT [1978]

COASTAL ZONE MANAGE J 4(1-2):83-96

A LINEAR PROGRAMMING MODEL FOR ASSESSING THE AGGREGATE IMPACT OF LAND-USE ACTIVITIES SCATTERED OVER A LARGE AREA ON THE RESULTANT POLLUTANT CONCENTRATIONS IN COASTAL WATERS IS CONSIDERED. THE DISPERSION TO COASTAL WATERS OF THE ADVERSE ENVIRONMENTAL LOADS GENERATED BY THE LAND USES IS DESCRIBED BY A SET OF TRANSPORT COEFFICIENTS THAT MEASURE THE ATTENUATION OF POLLUTANTS, I.E., INDUSTRIAL BOD, CARRIED TO THE COAST ALONG SURFACE DRAINAGE BASINS. FURTHER DISPERSION IN THE WATERS CAUSED BY TIDAL ACTION IS DESCRIBED BY A PROCEDURE KNOWN AS "POLLUTION SUSCEPTIBILITY." THE MODEL SEEKS TO MINIMIZE THE STEADY-STATE CONCENTRATIONS OF POLLUTANTS BY ESTABLISHING AN OPTIMAL SPATIAL CONFIGURATION OF RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL LAND USES. THIS CONFIGURATION IS CONSTRAINED BY A NUMBER OF RESTRICTIONS BASED ON LOCAL AND REGIONAL TARGETS FOR GROWTH AND DEVELOPMENT. THE METHODOLOGY DISCUSSED IS INTENDED TO BE USEFUL TO REGIONAL PLANNERS, AND IS BASED ON A STUDY CONDUCTED FOR THE LONG ISLAND AREA.

0123 BENDER. E.

"SECOND-GENERATION" OIL SPILL CHEMICALS [1978]

SEA TECHNOL 19(10):25

THE EPA SUCCESSFULLY USED 1,000 L OF EXXON CHEMICAL COMPANY'S WATER-BASED COREXITREG 9527 IN THE SUMMER OF 1978 TO TREAT AN OIL SPILL OF 125,000 L OF FUEL OIL IN NEW YORK HARBOR AFTER OTHER METHODS FAILED. DISPERSANTS DEVELOPED SINCE THE TORREY CANYON SPILL PLAY AN INCREASING ROLE IN US SPILL CONTROL. THEIR USE IS AUTHORIZED FOR HEALTH, HAZARD, AND ENVIRONMENTAL REASONS. EXXON HAS SOLD >1 MILLION L WORLDWIDE AT APPROXIMATELY \$2/L; APPROXIMATELY 10% WAS SOLD IN THE US. EXXON MAKES ANOTHER DISPERSANT, ALSO WATER BASED, COREXITREG 7664, WHICH IS USEFUL IN SPILLS AND ALSO IN SHORELINE PROTECTION AND AFTER-SPILL CLEANUP. BOTH CONTAIN SURFACTANTS. THEY ARE APPLIED AS A SPRAY OF DROPS (NOT A MIST) FROM HANDHELD EQUIPMENT, BOATS, OR AIRCRAFT. DOSE RATE IS CALCULATED USING PUMP CAPACITY, CHEMICAL DILUTION RATE, CRAFT SPEED, AND SWATH WIDTH COVERED. SOME EQUIPMENT AND HANDLING METHODS ARE DESCRIBED. OPERATIONS PROCEED GENERALLY FROM A SPILL'S OUTSIDE EDGE INWARD. EXXON MAKES 2 SOLVENT-BASED PRODUCTS--ONE' FOR HEAVY OR WAXY OIL SPILLS OR LOW TEMPERATURE CONDITIONS AND THE OTHER SURFACE COLLECTOR AGENT OR "CHEMICAL BOOM" FOR CALM WATERS. EPA'S ACCEPTANCE OF TOXICITY DATA FOR CHEMICAL AGENTS DOES NOT CONSTITUTE A RECOMMENDATION FOR USE. USE IS JUDGED ON A CASE-BY-CASE BASIS BY THE EPA AND USCG.

0124 BENN, C.H.

NATIONAL DAM SAFETY PROGRAM. KENSICO DAM (NY51), BRONX RIVER BASIN, WESTCHESTER COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 75 PP NTIS-AD-AJ86 183

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. THE KENSICO DAM IS MAINTAINED IN EXCELLENT OPERATIONAL CONDITION BY THE NYC PERSONNEL. THE DAM, SPILLWAY AND PERTINENT WORKS EXHIBIT NO EVIDENCE OF DISTRESS AND IS STABLE FOR ALL ANTICIPATED CONDITIONS. KENSICO RESERVOIR IS UNIQUE IN THAT THE MAJOR SOURCE OF INFLOW, AND REGULATION OF DISCHARGE AND IMPOUNDMENT, ARE A FUNCTION OF THE AQUEDUCT SYSTEM RATHER THAN THE CONTRIBUTING WATERSHED AREA; WHICH IS RELATIVELY SMALL. AS SUCH IT HAS BEEN DETERMINED THAT THE KENSICO DAM SPILLWAY CAN SAFELY DISCHARGE THE PROBABLE MAXIMUM FLOOD.

0125 BENNETT, J.R.; B.A. MAGNELL

A DYNAMICAL ANALYSIS OF CURRENTS NEAR THE NEW JERSEY COAST [1979]

J GEOPHYS RES 84(C3):1165-1175

A NUMERICAL MODEL WAS USED TO ANALYZE CURRENTS MEASURED ON THE CONTINENTAL SHELF NEAR THE SHORE OF NEW JERSEY. THE MODEL
NEGLECTED LONGSHORE VARIATIONS OF CURRENT AND ALL VARIATIONS OF DENSITY, BUT IT INCLUDED INERTIAL ACCELERATIONS AND A NONLINEAR
EDDY VISCOSITY. LOCAL WIND STRESS, SEA LEVEL CHANGES, AND A CONSTANT LONGSHORE PRESSURE GRADIENT WERE THE FORCING TERMS. THE
MODEL SUCCESSFULLY REPRODUCED MOST OF THE CURRENT VARIANCES. HOWEVER, THE PREDICTED CURRENTS DID NOT EXHIBIT THE DOMINANT
4-HOUR RESPONSE TIME OF THE OBSERVED CURRENTS, AND THE MODEL SOMETIMES MISSED ENERGETIC CURRENT EVENTS. THESE DIFFERENCES WERE
ASCRIBED TO THREE-DIMENSIONAL SETUP EFFECTS ELSEWHERE IN THE NEW YORK BIGHT.

0126 BENNINGER. L.K.; D.M. LEWIS; R.J. MCCAFFREY; K.K. TUREKIAN

THE USE OF NATURAL PR-210 AS A HEAVY 1ETAL TRACER IN THE RIVER-ESTUARINE SYSTEM [1975]

IN SPECIAL SYMP ON MARINE CHEM IN THE COASTAL ENVIRON, 169TH MEETING OF THE ACS. ACS, WASHINGTON, DC NP ABS ONLY

THE NATURALLY OCCURRING RADIOACTIVE ISOTOPE OF LEAD, PB-210, CAN BE USED AS A TRACER TO UNDERSTAND THE BEHAVIOR OF HEAVY METALS DURING WEATHERING, RIVERINE TRANSPORT AND ESTUARINE PROCESSING. RADON-222 RELEASED FROM SOILS AS A GAS, DECAYS TO PB-210 IN THE ATMOSPHERE AND THEN FOLLOWS THE PATH OF AEROSOLS BACK TO THE EARTH'S SURFACE. ON THE CONTINENTS IT BECOMES ASSOCIATED WITH ORGANIC COMPOUNDS IN THE SOIL. DURING THE WEATHERING OF ROCK ADDITIONAL PB-210 IS MOBILIZED TOGETHER WITH THE OTHER MEMBERS OF THE URANIUM DECAY SERIES. MOST OF THIS ALSO BECOMES SEQUESTERED ON SOIL ORGANIC PARTICLES. WHATEVER PB-210 IS SUPPLIED TO STREAMS IN SOLUTION, GENERALLY ONLY WHEN THE WATER IS VERY ACIDIC, IT IS EXTRACTED ONTO PARTICLES ONCE THE PH INCREASES TO NORMAL RIVERINE VALUES DOWNSTREAM. THIS IS DEMONSTRATED IN A LONG TERM STUDY OF THE SUSQUEHANNA RIVER AND ITS TRIBUTARIES. THE SOLUBLE PB-210 FLUX TO AN ESTUARY THEN APPROACHES ZERO. THE MAJOR FLUX OF PB-210 IS IN ORGANIC PARTICULATE FORM. AS SEEN IN LONG ISLAND SOUND, ACCUMULATION OF PB-210 IN ESTUARINE DEPOSITS FROM THE RIVERINE ORGANIC PARTICULATE SOURCE IS COMPLEMENTED BY DIRECT AEROSOL INPUT INTO THE ESTUARINE BODY AND BY EXTRACTION FROM SEA WATER.

0127 BENNINGER, L.K.

URANIUM-SERIES RADIONUCLIDES AS TRACERS OF GEOCHEMICAL PROCESSES IN LONG ISLAND SOUND [1976]

THESIS. YALE UNIV, NEW HAVEN, CT 163 PP NTIS-COO-3573-14

AN ESTUARY CAN BE VISUALIZED AS A MEMBRANE BETWEEN LAND AND THE DEEP OCEAN, AND THE UNDERSTANDING OF THE ESTUARINE PROCESSES WHICH DETERMINE THE PERMEABILITY OF THIS MEMBRANE TO TERRIGENOUS MATERIALS IS NECESSARY FOR THE ESTIMATION OF FLUXES OF THESE MATERIALS TO THE OCEANS. NATURAL RADIONUCLIDES ARE USEFUL PROBES INTO ESTUARINE GEOCHEMISTRY BECAUSE OF THE TIME-DEPENDENT RELATIONSHIPS AMONG THEM AND BECAUSE, AS ANALOGS OF STABLE ELEMENTS, THEY ARE MUCH LESS SUBJECT TO CONTAMINATION DURING SAMPLING AND ANALYSIS. IN THIS STUDY THE FLUX OF HEAVY METALS THROUGH LONG ISLAND SOUND IS CONSIDERED IN LIGHT OF THE MATERIAL BALANCE FOR EXCESS PB-210, AND ANALYSES OF CONCURRENT SESTON AND WATER SAMPLES FROM CENTRAL LONG ISLAND SOUND ARE USED TO PROBE THE INTERNAL WORKINGS OF THE ESTUARY.

0128 BENNINGER. L.K.; R.C. ALLER; E.P. DION; K.K. TUREKIAN

PB-21J DISTRIBUTION IN SEDIMENTS OF LONG ISLAND SOUND [1977]

EOS: TRANS AM GEOPHS UNION 58(6):422

APPLICATION OF EXCESS PB-210 CHRONOLOGY TO MUDDY SEDIMENTS FROM LONG ISLAND SOUND YIELDS APPARENT SEDIMENT ACCUMULATION RATES IN THE RANGE 0.1-0.7 CM/Y. ACTUAL RATES OF SEDIMENT ACCUMULATION ARE PROBABLY MUCH LESS VARIABLE, SINCE LONG-TERM RATES BASED ON THE TOTAL THICKNESS OF MUD ACCUMULATED DURING POST-GLACIAL TIME LIE BETWEEN 0.05 AND 0.10 CM/Y. THERE IS A DIRECT CORRELATION BETWEEN THE STANDING CROP OF EXCESS PB-210 IN EACH CORE AND THE PB-210 APPARENT SEDIMENT ACCUMULATION RATE. THIS DOES NOT APPEAR TO BE THE RESULT OF REAL DIFFERENCES IN SEDIMENT ACCUMULATION, IT MUST BE DUE TO MIXING PROCESSES. TWO MIXING REGIMES ARE DISTINGUISHABLE. THE TOP FEW CM OF THE MUD ARE EVERYWHERE RAPIDLY REWORKED, TENDING TO HOMOGENIZE EXCESS PB-210 IN SURFACE SEDIMENT. TIDAL CURRENTS TEND GENERALLY TO HOMOGENIZE THE SUSPENDED MATTER OVER THE ENTIRE MUD BOTTOM OF THE SOUND. HIGH APPARENT SEDIMENT ACCUMULATION RATES AND LARGE STANDING CROPS OF EXCESS PB-210 ARE THE CONSEQUENCES OF EFFICIENT BURIAL OF EXCESS PB-210 BELOW. THE SURFACE ZONE OF HIGH-FREQUENCY DISTURBANCE. DEEP-DWELLING ORGANISMS ARE THE AGENTS OF THIS TRANFER. METALS AND ARTIFICAL RADIONUCLIDES IN IRODUCED INTO LONG ISLAND SOUND CAN BE EXPECTED TO FOLLOW THE ROUTE OF PB-210 ON A LONG TIME SCALE EVEN THOUGH THE SURFACE LAYERS SHOW THE SAME CONCENTRATIONS.

0129 BENNINGER, L.K.

PB-210 BALANCE IN LONG ISLAND SOUND [1978]

GEOCHI4 COSMOCHIM ACTA 42(8):1165-1174

A MATERIAL BALANCE IS CONSTRUCTED FOR EXCESS PB-210 (RELATIVE TO RA-226) AS A TEST OF THE RETENTIVITY OF LONG ISLAND SOUND FOR

A REACTIVE HEAVY METAL. EXCESS PB-210 IS SUPPLIED TO LONG ISLAND SOUND CHIEFLY BY DIRECT ATMOSPHERIC DEPOSITION

(DISW/MIN/CM2/YR). RIVERS SUPPLY 20% OF THE ATMOSPHERIC FLUX. AND OTHER INPUTS (FROM OPEN OCEAN WATERS, RA-226 DECAY.

GROUNDWATER SEEPAGE, AND SEWAGE DISCHARGE) APPEAR TO BE NEGLIGIBLE. THE TOTAL INPUT OF EXCESS PB-210 REPRESENTS APPROXIMATELY

THE FLUX REQUIRED TO MAINTAIN THE INVENTORY OF EXCESS PB-210 MEASURED IN SEDIMENT CORES FROM CENTRAL LONG ISLAND SOUND; I.E.,

EXCESS PB-210 IS LOST FROM LONG ISLAND SOUND CHIEFLY BY RADIOACTIVE DECAY. THE RETENTION OF EXCESS PB-210 WITHIN LONG ISLAND

SOUND IS ACHIEVED IN 2 STEPS AS FOLLOWS: A RAPID REMOVAL OF SOLUBLE PB-210 ONTO SUSPENDED PARTICLES AND THE ONGOING ENTRAPMENT

OF PARTICLES IN THE BASIN BY THE RESIDUAL BOTTOM-WATER INFLUX FROM THE EAST.

0130 BENNINGER. L.K.: R.C. ALLER: J.K. COCHRAN: K.K. TUREKIAN

EFFECTS OF BIOLOGICAL SEDIMENT MIXING ON THE PB-210 CHRONOLOGY AND TRACE METAL DISTRIBUTION IN A LONG ISLAND SOUND SEDIMENT CORE [1979]

EARTH PLANET 43(2):241-259

AN EXPERIMENT WAS DESIGNED TO ASSESS THE RELATIVE IMPORTANCE OF SEDIMENT ACCUMULATION AND BIOTURBATION IN DETERMING THE VERTICAL DISTRIBUTION OF NUCLIDES IN ESTUARINE SEDIMENTS. EXCESS PB-210 (RELATIVE TO RA-226) IS ROUGHLY HOMOGENEOUS IN THE TOP 2-4 CM, THEN DECREASES QUASI-EXPONENTIALLY TO ZERO AT (OR ABOVE) 15 CM PU-239/240 AND EXCESS ZN, CU, AND PB, RELATIVE TO BACKGROUND VALUES AT GREATER DEPTHS, ARE DISTRIBUTED LIKE EXCESS PB-210 IN THE TOP 10-15 CM. THE ABSENCE OF MN ENRICHMENT AT THE TOP OF THE CORE, IN CONTRAST TO OTHER CORES RAISED FROM THIS STATION, SUGGESTS THAT 1-3 CM OF SEDIMENT WAS LOST BY EROSION AT THE SITE OF THIS CORE SOMETIME PRIOR TO SAMPLING. BELOW 15 CM EXCESS PB-210 AND EXCESS ZN, CU, AND PB ARE FOUND ONLY IN THE BULK SAMPLE FROM 25 TO 30 CM AND IN CLEARLY IDENTIFIABLE BURROW FILLINGS DISSECTED FROM 70 CM AND 115 CM DEPTH. INFILLING OF LARGE BURROWS, EXCAVATED AND THEN ABANDONED BY CRUSTACEANS, IS THEREFORE A MECHANISM FOR TRANSFER OF SURFICIAL MATERIAL TO USING THESE SEDIMENTS. THE BIOTURBATION RATE IN THE TOP SEVERAL CENTIMETERS AT THIS STATION HAS BEEN DETERMINED PREVIOUSLY USING TH-234 (24-DAY HALF-LIFE). THE DISTRIBUTION OF PU-239/240 CAN BE USED TO ESTIMATE A BIOTURBATION RATE FOR THE UNDERLYING LAYER (TO 10 CM DEPTH). THIS RATE IS FOUND TO BE 1-3% OF THE MAXIMUM MIXING RATE FOR THE TOP 2-3 CM. USING THESE TWO MIXING RATES IN A COMPOSITE-LAYER, MIXING + SEDIMENTATION MODEL, THE DISTRIBUTION OF EXCESS PB-210 IN THE TOP 15 CM WAS USED TO CONSTRAIN THE SEDIMENT ACCUMULATION (ASSUMING NO MIXING BELOW 2-4 CM) IS 0.11 CM/YR, THE MODEL REQUIRES < 0.05 CM/YR. THUS IN AN AREA OF SLOW SEDIMENT ACCUMULATION, A LOW RATE OF BIOTURBATION BELOW THE SURFICIAL ZONE OF RAPID MIXING CAUSES AN INCREASE OF AT LEAST A FACTOR OF TWO IN APPARENT ACCUMULATION RATE.

0131 BENOIT, G.J.; K.K. TUREKIAN; L.K. BENNINGER

RADIOCARBON DATING OF A CORE FROM LONG ISLAND SOUND [1979]

ESTUARINE COASTAL MAR SCI 9(2):171-130

RADIOCARBON MEASUREMENTS SEQUENTIALLY WITH DEPTH IN A DIVER-OBTAINED CORE FROM LONG ISLAND SOUND WERE INTERPRETED IN TERMS OF SEDIMENT ACCUMULATION RATES AND SOURCES OF ORGANIC CARBON IN THE SEDIMENT. A SEDIMENT ACCUMULATION RATE OF 0.075+/-0.013 CM/YR IS DETERMINED MATHEMATICALLY FROM THE DATA BELOW 10 CM IN THE CORE. AN AGE OF 2,320 YEAR B.P. IS OBTAINED FOR THE SEDIMENT-WATER INTERFACE BY EXTRAPOLATION. THE DOMINANT CARBON COMPONENT PRESERVED IN THE CORE IS APPARENTLY SOIL-DERIVED. THE CONTRIBUTIONS OF FOSSIL FUEL CARBON AND BOMB RADIOCARBON ASSOCIATED WITH PLANKTON ARE ALSO EVALUATED.

0132 BERGGREN, T.J.; J.T. LIEBERMAN

RELATIVE CONTRIBUTION OF HUDSON, CHESAPEAKE, AND ROANOKE STRIPED BASS, MORONE SAXATILIS, STOCKS TO THE ATLANTIC COAST FISHERY
[1978]

FISH BULL 76(2):335-345

MORPHOLOGICAL CHARACTERS WERE USED IN DISCRIMINANT ANALYSIS TO QUANTITATIVELY ESTIMATE THE RELATIVE CONTRIBUTION OF STRIPED BASS, M. SAXATILIS, STOCKS FROM VARIOUS ESTUARIES TO THE STRIPED BASS FISHERY ALONG THE ATLANTIC COAST. REPRESENTATIVE SAMPLES OF THE SPAWNING STOCKS OF THE HUDSON RIVER, CHESAPEAKE BAY SYSTEM, AND ROANOKE RIVER WERE COLLECTED AND COUNTS AND HEASUREMENTS WERE TAKEN ON EACH SPECIMEN. DISCRIMINANT FUNCTIONS BASED ON FIVE MORPHOLOGICAL CHARACTERS CORRECTLY CLASSIFIED APPROXIMATELY 75% OF THE SPECIMENS. THE EFFECTIVENESS OF THREE TYPES OF ESTIMATES BASED ON THESE FUNCTIONS IN ACCURATELY ESTIMATING STOCK PROPORTIONS WAS INVESTIGATED IN A SIMULATION STUDY. RESULTS OF THE SIMULATION STUDY INDICATED WHICH TYPE OF ESTIMATE WAS LEAST BIASED. A SAMPLING DESIGN USING GEOGRAPHICAL AND TEMPORAL STRATA WAS THEN EMPLOYED TO SAMPLE THE ATLANTIC COASTAL FISHERY FROM CAPE HATTERAS, NC, TO MAINE. OBSERVATIONS FOR THE MORPHOLOGICAL CHARACTERS WERE TAKEN ON COLLECTED FISH AND THE RESULTING DATA ENTERED INTO DISCRIMINANT FUNCTIONS OBTAINED FROM SPAWNING-STOCK COLLECTIONS. THE SPECIMENS WERE CLASSIFIED BY AREA OF ORIGIN AND THE THREE TYPES OF ESTIMATES OF RELATIVE CONTRIBUTION OF THE HUDSON, CHESAPEAKE, AND ROANOKE STOCKS WERE OBTAINED. RESULTS INDICATED THAT THE CHESAPEAKE STOCK WAS THE MAJOR CONTRIBUTOR TO THE ATLANTIC COASTAL STRIPED BASS FISHERY AND THE HUDSON AND ROANOKE STOCKS WERE PINOR CONTRIBUTORS.

0133 BERGH, A.K.; R.S. PEOPLES

DISTRIBUTION OF POLYCHLORINATED BIPHENYLS IN A MUNICIPAL WASTEWATER TREATMENT PLANT AND ENVIRONS [1977]

SCI TOTAL ENVIRON 8:197-204

DISTRIBUTION OF PCBS IN SEWAGE WASTES AT A MUNICIPAL SEWAGE TREATMENT PLANT WAS STUDIED, REVEALING MOST PCBS ENTERING THE PLANT BECOME ADSORBED ONTO THE GRIT CHAMBER SOLIDS AND THE SLUDGE THAT IS PASSED THROUGH FROM ANAEROBIC DIGESTERS. WHEN HIGH CONCENTRATIONS OF PCPS WERE PRESENT, SIGNIFICANT AMOUNTS PASSED THROUGH WITH THE EFFLUENTS DISCHARGED FROM THE PLANT. IN SECONDARY AND TERTIARY PLANTS, PCB CONCENTRATIONS WERE CONSISTENT WITH THE LIMITED SOLUBILITIES OF THE PCBS. HOWEVER, HIGH CONCENTRATIONS WERE PRESENT IN THE SEDIMENTS NEAR THE DISCHARGE AND BIOACCUMULATION IN THE FISH DOES OCCUR. ALSO DESCRIBED ARE QUANTITATIVE DATA ON PCBS IN SOILS FERTILIZED WITH PCB-CONTAMINATED SLUDGE.

0134 BERGMAN, E.F.; T.W. POHL

A GEOGRAPHY OF THE NEW YORK METROPOLITAN REGION [1975]

KENDALL/HUNT PUBL. CO., DUBUQUE, IA 205 PP

USING VARIOUS WORKING DEFINITIONS FOR THE NEW YORK METROPOLITAN REGION, THE BOOK DESCRIBES THE DEVELOPMENT FROM 1626 TO 1975. INCLUDED ARE POPULATION GROWTH, ETHNIC AND SOCIAL PATTERNS, TRANSPORTATION, ECONOMY, AND INDUSTRY. CHAPTER 10 DESCRIBES THE DEMANDS ON THE ENVIRONMENT, WHICH INCLUDES AIR QUALITY, WATER NEEDS, SEWAGE SLUDGE DISPOSAL. AND ENERGY NEEDS.

0135 BERGMANN, J.

THE NEW YORK BIGHT, 1977 [1979]

UNDERWATER NAT 11 (3):14-18

THIS ARTICLE COMPARES CLIMATOLOGICAL AND BIOLOGICAL DATA OBTAINED FROM JAN TO SEP 1977 WITH SIMILAR DATA COMPILED IN 1976 WHEN A SUMMER FISH KILL RESULTED IN MORTALITIES IN ECONOMICALLY IMPORTANT MARINE RESOURCES, DUE TO DISSOLVED OXYGEN LEVELS OF <2 PPM BELOW THE THERMOCLINE.

Q136 BERNER, R.A.

STOICHIOMETRIC MODELS FOR NUTRIENT REGENERATION IN ANOXIC SEDIMENTS [1977]

LIMNOL OCEANOGR 22(5):781-786

THE OVERALL C-N-P STOICHIOMETRIC COMPOSITION OF ORGANIC MATTER UNDERGOING DECOMPOSITION DURING SULFATE REDUCTION IN ANOXIC SEDIMENTS CANNOT BE CORRECTLY DEDUCED FROM PORE WATER CHEMISTRY UNLESS CORRECTIONS FOR DIFFERENTIAL DIFFUSION AND ADSORBTION ARE MADE. THIS PAPER PRESENTS A METHOD FOR MAKING THESE CORRECTIONS BASED ON STEADY STATE DIAGENETIC MODELING OF PORE WATER DATA AND ESTIMATES OF DIFFUSION COEFFICIENTS, ADSORPTION CONSTANTS, AND RATES OF SEDIMENTATION. FOR A SEDIMENT SITE IN LONG ISLAND SOUND, CALCULATIONS INDICATE THAT IGNORING DIFFERENTIAL DIFFUSION AND ADSORPTION RESULTS IN DEDUCED NITROGEN AND PHOSPHORUS CONTENTS IN DECOMPOSING ORGANIC MATTER WHICH ARE TOO LOW BY A FACTOR OF 2. FURTHER CALCULATION SUGGESTS THAT THE EFFECTS OF DIFFERENTIAL ADSORPTION CANNOT BE NEGLECTED IN MOST OTHER SEDIMENTS THAT UNDERGO APPRECIABLE ADSORPTION.

0137 BEPNER, R.A.; J.T. WESTRICH; R. GRABER; J. SMITH; C.S. MARTENS

INHIBITION OF ARAGONITE PRECIPITATION FROM SUPERSATURATED SEAWATER: A LABORATORY AND FIELD STUDY [1978]

AM J SCI 278(6):816-837

THE EFFECT OF NATURAL MARINE HUMIC SUBSTANCES, SPECIFIC DISSOLVED ORGANIC COMPOUNDS, AND DISSOLVED ORTHOPHOSPHATE UPON THE SEEDED PRECIPITATION OF ARAGONITE FROM SUPERSATURATED SEAWATER HAS BEEN STUDIED IN THE LABORATORY USING THE STEADY STATE DISEQUILIBRIUM METHOD. HUMIC AND FULVIC ACIDS EXTRACTED FROM LONG ISLAND SOUND SEDIMENTS. CERTAIN AROMATIC CARBOXYLIC ACIDS (MELLITIC, GALLIC, TANNIC), AND ORTHOPHOSPHATE WERE ALL FOUND TO EXHIBIT RELATIVELY STRONG PRECIPITATION INHIBITION WHEN PRESENT AT LOW LEVELS (MG C/1 MICROMOL P). MANY OTHER ORGANIC SUBSTANCES (FOR EXAMPLE, AMINO ACIDS, SODIUM STEARATE, EDTA) WERE FOUND AT THE SAME LEVELS TO HAVE LITTLE OR NO EFFECT ON PRECIPITATION RATE. FOR SPECIFIC ORGANIC COMPOUNDS, NO SIMPLE CORRELATIONS WERE FOUND BETWEEN INHIBITION POWER AND EITHER CALCIUM COMPLEXING ABILITY, ACIDITY, AROMATICITY, OR NUMBER OF CARBOXYL GROUPS PER MOLECULE. THE POWER OF HUMIC SUBSTANCES TO INHIBIT PRECIPITATION MUST RESIDE IN STRUCTURAL PROPERTIES OF THE MOLECULES AND HOW THEY ATTACH TO THE SURFACE OF ARAGONITE, ALTHOUGH THE PRESENCE OF BENZENE-CARBOXYL GROUPS MAY BE A NECESSARY (BUT NOT SUFFICIENT) PREREQUISITE. PORE WATERS OF ANOXIC SEDIMENTS FROM LONG ISLAND SOUND EXHIBIT A HIGH DEGREE OF SUPERSATURATION WITH RESPECT TO BOTH ARAGONITE AND CALCITE AS DETERMINED BY CHEMICAL ANALYSES PLUS SATURATION STATE CALCULATIONS AND BY IN SITU CARBONATE SATUROMETRY. ADDITION OF REACTIVE FINE-GRAINED CALCITE AND ARAGONITE NUCLEI TO THE SEDIMENT DOES NOT RESULT IN THE ATTAINMENT OF SATURATION. ALTHOUGH SOME PRECIPITATION DOES OCCUR. IT IS BELIEVED THAT THE LONG TERM (>100 YRS) SUPERSATURATION WITH RESPECT TO ARAGONITE IS MAINTAINED IN THE SEDIMENTS BY THE VERY HIGH DISSOLVED PHOSPHATE AND/OR HUMIC CONTENT OF THE INTERSTITIAL WATERS. THESE RESULTS SUGGEST THAT THE SUPERSATURATION OF SURFACE WATERS OF THE OCEAN WITH RESPECT TO ARAGONITE IS MAINTAINED BECAUSE SUSPENDED PARTICLES. WHICH COULD OTHERWISE ACT AS PRECIPITATION NUCLEI. ARE COATED WITH HUMIC COMPOUNDS AND/OR PHOSPHATE. THE COATINGS MAY RESULT FROM THE FEEDING HABITS OF MARINE ORGANISMS OR BY ADSORPTION FROM ORGANIC CARBON AND PHOSPHATE ENRICHED PORE WATERS WHILE RESTING ON THE BOTTOM. RATHER THAN BY SIMPLE ADSORPTION FROM SEAWATER.

0138 BERNER, R.A.

KINETICS OF NUTRIENT REGENERATION IN ANOXIC MARINE SEDIMENTS [1979]

PHYS CHEM EARTH 11:279-292

ANOXIC SEDIMENTS UNDERGOING BACTERIAL SULFATE REDUCTION, BECAUSE OF THE BUILDUP IN THEM OF DISSOLVED AMMONIA AND PHOSPHATE FROM THE DECOMPOSITION OF ORGANIC MATTER, MAY SERVE AS IMPORTANT SOURCES OF THESE NUTRIENTS FOR THE OCEANS. THIS PAPER DEMONSTRATES HOW PORE WATER CONCENTRATIONS V. DEPTH DATA, ALONG WITH LABORATORY MEASUREMENTS, CAN BE COMBINED WITH THEORETICAL MODELS TO DEDUCE RATES AND RATE LAWS FOR NUTRIENT RELEASE AND BACTERIAL SULFATE REDUCTION IN SEDIMENTS. FURTHER APPLICATION OF THE MODELS ENABLES DETERMINATION OF THE STOICHIOMETRIC C:N:P COMPOSITION OF THE ORGANIC MATTER UNDERGOING DECOMPOSITION AND THE FRACTION OF LIBERATED NUTRIENT WHICH IS RETURNED TO THE OVERLYING WATER. FOR AN ANOXIC SEDIMENT FROM LONG ISLAND SOUND, DIAGENETIC MODELING OF PORE WATER DATA SHOWED THAT RATES OF ORGANIC N AND P DECOMPOSITION AND OF MICROBIAL SULFATE REDUCTION, BELOW THE TOP FEW CM OF SEDIMENT, IS FIRST ORDER WITH RESPECT TO THE ORGANIC MATTER BEING DECOMPOSED. APPLICATION OF THE FIRST-ORDER RATE LAW TO A VARIETY OF OTHER SEDIMENTS REVIEWED A DIRECT PROPORTIONALITY BETWEEN THE RATE CONSTANT FOR SULFATE REDUCTION AND THE

SQUARE OF THE RATE OF DEPOSITION. ALSO, DECOMPOSITION RATES CALCULATED FROM MODELING ARE IN GOOD AGREEMENT WITH RATES MEASURED IN THE LABORATORY USING THE SAME SEDIMENT. IN THE UPPER PORTION OF ANOXIC SEDIMENTS OVERLAIN BY OXYGENATED WATER, HIGHER CONCENTRATIONS OF MORE READILY METABOLIZED ORGANIC MATTER ARE FOUND, AND MIGRATION OF DISSOLVED CONSTITUENTS IS ENHANCED DUE TO IRRIGATION AND OTHER MODES OF MIXING BY BENTHIC ORGANISMS (BIOTURBATION).

0139 BERRIEN, P.L.

A DESCRIPTION OF ATLANTIC MACKEREL, SCOMBER SCOMBRUS, EGGS AND EARLY LARVAE [1975]

FISH BULL 73(1):186-192

THE DEVELOPMENT OF LABORATORY-REARED ATLANTIC MACKEREL, SCOMBER SCOMPRUS, EGGS AND EARLY LARVAE IS DESCRIBED IN ORDER TO AUGMENT PUBLISHED DESCRIPTIONS OF THIS SPECIES. THE EGGS ARE SPHERICAL, HAVE A DIAMETER OF 1.01 TO 1.28 MM, AND HAVE A SINGLE, YELLOWISH OIL GLOBULE, U.22 TO 0.38 MM IN DIAMETER. MELANOPHORES, FIRST VISIBLE AFTER BLASTOPORE CLOSURE, ASSUME A DISTINCT PATTERN ON THE EMBRYO. MELANOPHORES ARE PRESENT ON THE OIL GLOBULE BUT ARE ABSENT FROM THE YOLK SURFACE EXCEPT IMMEDIATELY PRIOR TO HATCHING. HATCHING OCCURS AT 90 TO 102 HR AFTER FERTILIZATION AT AN AVERAGE INCUBATION TEMPERATURE OF 13.8 C. BODILY PIGMENTATION OF THE LARVAE UNDERGOES CONSIDERABLE CHANGE DURING YOLK ABSORPTION; EYE PIGMENTATION IS APPARENT AT 66 HR AFTER HATCHING. THE YOLK IS FULLY ABSORBED BY 137 HR AFTER HATCHING, AND TEETH ARE PRESENT IN 192 HR-OLD LARVAE.

0140 BERRIEN, P.L.

EGGS AND LARVAE OF SCOMBER SCOMBRUS AND SCOMBER JAPONICUS IN CONTINENTAL SHELF WATERS BETWEEN MASSACHUSETTS AND FLORIDA [1978]

FISH BULL 76(1):95-115

LARVAL SCOMBER SCOMBRUS AND SCOMBER JAPONICUS FROM THE WESTERN NORTH ATLANTIC OCEAN ARE COMPARED. AT 4 TO 11 MM S. JAPONICUS ARE DEEPER BODIED, AND AT 3 TO 15 MM HAVE GREATER PREANUS LENGTHS THAN S. SCOMBRUS OF COMPARABLE SIZE. SCOMBER SCOMBRUS LARVAE ARE MORE HEAVILY PIGMENTED THAN S. JAPONICUS, PARTICULARLY ON THE DORSAL TRUNK SURFACE AND AT THE CLEITHRAL SYMPYSIS. FROM 1966-63, IN CONTINENTAL SHELF WATERS BETWEEN MARTHA'S VINEYARD, MA, AND P BEACH, FL, S. SCOMBRUS EGGS OCCURRED NORTH OF CAPE HATTERAS, NC, MOSTLY IN THE SHOREWARD HALF OF SHELF WATERS, DURING SPRING AND SUMMER. SURFACE TEMPERATURES ASSOCIATED WITH EGG OCCURRENCES VARIED FROM 6.3 TO 16.9 C. SCOMBER JAPONICUS EGGS WERE TAKEN SOUTH OF CAPE HATTERAS, IN THE OUTER HALF OF SHELF WATERS, DURING WINTER AND SPRING CRUISES. SURFACE TEMPERATURES ASSOCIATED WITH EGG OCCURRENCES RANGED FROM 20.4 TO 25.4 C. LARVAL S. SCOMBRUS OCCURRED NORTH OF CAPE HATTERAS DURING SPRING AND SUMMER WITH CONCURRENT SURFACE TEMPERATURES RANGING FROM 12.3 TO 20.7 C WITH THE EXCEPTION OF THREE SPECIMENS, S. JAPONICUS LARVAE OCCURRED SOUTH OF CAPE HATTERAS AND WERE TAKEN WHERE THE SURFACE TEMPERATURE TEMPERATURE RANGED FROM 16.0 TO 29.4 C.

0141 BERRIEN, P.L.: M.P. FAHAY; A.W. KENDALL, JR.; W.G. SMITH

ICHTHYOPLANKTON FROM THE RV DOLPHIN SURVEY OF CONTINENTAL SHELF WATERS BETWEEN MARTHA'S VINEYARD, MASSACHUSETTS AND CAPE LOOKOUT, NORTH CAROLANA, 1965-66 [1978]

TECH REP 15. NMFS, NOAA, HIGHLANDS, NJ 152 PP

DATA ARE TABULATED ON ICHTHYOPLANKTON AND CONCOMITANT PHYSICAL CONDITIONS COLLECTED DURING A SURVEY OF ATLANTIC CONTINENTAL SHELF JATERS. SAMPLING INFORMATION AND LABORATORY PROCEDURES ARE DESCRIBED. NUMBERS AND LENGTHS OF 87 SPECIES OF LARVAL FISHES ARE TABULATED BY STATION; EGG CATCHES FOR 9 OF THESE ARE INCLUDED. ADDITIONALLY, THE PRESENCE OF 79 CATEGORIES OF LARVAE, PRESENTLY IDENTIFIED ONLY TO GENUS OR A HIGHER TAXON, IS NOTED BY STATION.

U142 BETZER, P.R.

A STUDY OF THE SOURCES. TRANSPORT. AND REACTIONS OF SUSPENDED PARTICLES IN WATERS OF THE NEW YORK BIGHT [1978]

TM-ERL-MESA-23. NOAA, BOULDER, CO 40 PP

86 SAMPLES OF SUSPENDED MATTER COLLECTED ON FIVE CRUISES TO THE NEW YORK BIGHT HAVE BEEN SUBJECTED TO CHEMICAL ANALYSES. THE RESULTS DEMONSTRATE THAT SOME OF THE MAJOR INPUTS OF PARTICULATE MATTER TO THIS SYSTEM CAN BE CHEMICALLY TYPED AND THEN TRACED. SEASONAL CHANGES IN THE DISTRIBUTION AND COMPOSITION OF SUSPENDED MATERIALS ARE RELATED TO: (1) RIVER INPUT, (2) DIATOM PRODUCTIVITY. (3) SEDIMENT-WATER INTERACTIONS. AND (4) THE DUMPING OF ANTHROPOGENIC MATERIALS.

0143 BIGGS, D.C.; J.J. MCDERMOTT

VARIATION IN TEMPERATURE-SALINITY TOLERANCE BETWEEN TWO ESTUARINE POPULATIONS OF PAGURUS LONGICARPUS SAY (CRUSTACEA: ANOMURA)

BIOL BULL 145(1):91-102

SPECIES LIVING IN AN ESTUARINE ENVIRONMENT ARE NORMALLY SUBJECTED TO FREQUENT AND VARIABLE FLUXES IN TEMPERATURE AND SALINITY. THE HERMIT CRAB, PAGURUS LONGICARPUS SAY, IS FOUND IN THE LITTORAL AREA OF ESTUARIES FROM NO VA SCOTIA TO NORTHERN FL, AND FROM SANIBEL ISLAND, FL, TO TX (WILLIAMS, 1965). THE OPTIMAL SALINITY RANGE FOR LARVAL DEVELOPMENT THROUGH THE MEGALOPA STAGE IS FROM 13.0 TO 30.5% (POBERTS, 1971). OPTIMAL ENVIRONMENTAL CONDITIONS FOR GROWTH, REPRODUCTION AND SURVIVAL OF THE POSTLARVAL STAGES, HOWEVER, HAVE NOT BEEN CLEARLY DEFINED. THE EURYHALINE DISTRIBUTION OF THE ADULT AND RATHER BROAD SALINITY TOLERANCE OF THE LARVAE OF P. LONGICARPUS SUGGEST THAT THE SPECIES AS A WHOLE HAS THE ABILITY TO ADAPT TO MOST ESTUARINE CONDITIONS. THE TOLERANCE OF TWO POPULATIONS FROM SOUTHERN NJ TO CHANGES IN SALINITY AND TEMPERATURE WAS INVESTIGATED.

0144 BIGGS, D.C.; R.G. ROWLAND; H.B. O'CONNORS, JR.; C.D. POWERS; C.F. WURSTER

A COMPARISON OF THE EFFECTS OF CHLORDANE AND PCB ON THE GROWTH. PHOTOSYNTHESIS. AND CELL SIZE OF ESTUARINE PHYTOPLANKTON [1978]

ENVIRON POLLUT 15(4):253-263

REPEATED DAILY DOSES OF CHLORDANE (A CHLORINATED INSECTICIDE, C10 H6 CL8) OR AROCHLOR 1254 (A MIXTURE OF POLYCHLORINATED BIPHENYL COMPOUNDS, PCB) AT 5 OR 10 PARTS PER THOUSAND MILLION (MICROG/L) REDUCED GROWTH AND C-14 FIXATION PER UNIT OF CHLOROPHYLL A IN MIXED SPECIES, ESTUARINE PHYTOPLANKTON COMMUNITIES. INHIBITION BY CHLORDANE WAS SHORT-TERM (24 TO 48 HR), AND COMMUNITY CELL-SIZE DISTRIBUTION WAS NOT SUBSTANTIALLY ALTERED. PCB, HOWEVER, CAUSED LONG-TERM EFFECTS, INHIBITING THE GROWTH OF PHYTOPLANKTON LARGER THAN 8 MICRONS IN EQUIVALENT SPHERICAL DIAMETER (I.E., LARGE CENTRIC DIATOMS) MORE STRONGLY THAN THAT OF SMALLER FORMS (PENNATE DIATOMS AND MICROFLAGELLATES) AND THUS SHIFTING COMMUNITY COMPOSITION IN FAVOR OF SMALL-SIZE ALGAE.

0145 BIGGS, D.C.; R.G. ROWLAND; C.F. WURSTER

EFFECTS OF TRICHLOROETHYLENE. HEXACHLOROBENZENE AND POLYCHLORINATED BIPHENYLS ON THE GROWTH AND CELL SIZE OF MARINE PHYTOPLANKTON [1979]

BULL ENVIRONM CONTAM TOXICOL 21:196-201

THE CHEMICAL DDT HAS ATTAINED CONSIDERABLE FAME AS AN ENVIRONMENTAL MENACE. BUT IT IS BY NO MEANS THE ONLY ORGANOCHLORINE COMPOUND THAT IS RELEASED INTO THE ENVIRONMENT. WHILE WORLD PRODUCTION OF DDT PEAKED AT ABOUT 10 TONS/YR IN THE MID-1960°S, ANNUAL PRODUCTION OF SEVERAL OTHER ORGANOCHLORINE COMPOUNDS IS CURRENTLY MANY TIMES HIGHER. SOME OF THESE CHEMICALS ARE WIDESPREAD IN THE ENVIRONMENT, INCLUDING MARINE WATERS AND ORGANISMS, BUT THEIR EFFECTS HAVE NOT BEEN EXTENSIVELY STUDIED. THE AUTHORS SOUGHT TO DETERMINE THE EFFECTS OF TWO OF THESE HEAVILY PRODUCED ORGANOCHLORINE COMPOUNDS, TCE AND HCB, ON MARINE PHYTOPLANKTON. AROCLOR 1254, A MIXTURE OF POLYCHLORINATED BIPHENYLS (PCB) KNOWN TO INHIBIT ALGAL GROWTH AND PHOTOSYNTHESIS. WAS

USED AS A CONTROL SUBSTANCE AGAINST WHICH TO COMPARE THE TOXICITY OF TCE AND HCB. TWO TYPES OF MARINE PHYTOPLANKTON.
THALASSIORISA PSEUDONANA AND THE GREEN ALGA BUNALIELLA TERTIOLECTA, WERE USED IN MIXED LABORATORY CULTURES TO TEST THE EFFECTS
OF THE CHEMICALS. COMPARED TO AROCLOR 1254, TCE AND HCB WERE NOT FOUND TO HAVE SIGNIFICANTLY HARMFUL EFFECTS ON THE
PHYTOPLANKTON.

0146 BILLETER. P.A.

ECOLOGY AND SYSTEMATICS OF GYRODACTYLUS (MONOGENEA, TREMATODA) INFESTING THE MUMMICHOG, FUNDULUS HETEROCLITUS L., IN LONG
ISLAND FRESH AND ESTUARINE WATERS, INCLUDING DESCRIPTIONS OF TWO NEW SPECIES AND CERTAIN REMARKS ON THE GENUS SWINGLEUS ROGERS,
1969 [1973]

M.S. THESIS. HOFSTRA UNIV. HEMPSTEAD, NY NP

THE POPULATION DYNAMICS OF SPECIES OF GYRODACTYLUS INFESTING THE EURHALINE CYPRINODONT FUNDULUS HETEROCLITUS IN T₩D SOUTHERN LONG ISLAND LOCALITIES WAS EXAMINED FOR A PERIOD OF ONE YEAR, FROM APR 1972 TO MAR 1973. BOTH LOCALITIES WERE ON THE MEADOW BROOK DRAINAGE SYSTEM AND WERE 5/8 MI APART. ONE SITE WAS FRESH WATER AND THE OTHER WAS ESTUARINE. FUNDULUS HETEROCLITUS WAS FOUND TO BE INFESTED WITH FOUR GYRODACTYLID SPECIES, THREE OF THE GENUS GYRODACTYLUS AND ONE OF THE GENUS SWINGLEUS. GYRODACTYLUS KAPLANI SP. N. (FROM THE GILLS) AND G. PROLONGOIDES SP. N. (FROM THE SKIN) WERE THE PREDOMINANT SPECIES. A TOTAL OF 307 FUNDULUS WERE EXAMINED AND MORE THAN 3000 PARASITES RECOVERED MOUNTED. AND CLASSIFIED. AT THE FRESH WATER SITE. 93.4% OF THE FISH WERE INFESTED WITH ONE OR MORE OF THE FOUR SPECIES WITH A MEAN OF 31.4 PARAGITES PER INFESTED FISH. IN THE ESTUARINE SAMPLES ONLY 45.2% OF THE FUNDULUS WERE INFESTED AND THE MEAN NUMBER OF PARASITES PER HOST WAS 6.0. THE MEAN NUMBER OF G. KAPLANI AND G. PROLONGOIDES PER HOST JAS FOUND TO BE SIGNIFICANTLY GREATER IN SAMPLES TAKEN FROM THE FRESHWATER SITES THAN IN SAMPLES TAKEN FROM THE ESTUARINE SITE. FUNDULUS HETEROCLITUS WERE NOT FOUND AT THE FRESH WATER SITE FROM MAY TO OCTOBER. FLUCTUATIONS OF THE PARASITE POPULATION DENSITY INDICATE THAT HEAVILY INFESTED FRESH-WATER HOSTS MIGRATE DOWNSTREAM AND MIX WITH THE LIGHTLY INFESTED ESTUARY FISH POPULATION IN MAY, AND THAT LIGHTLY INFESTED HOSTS MIGRATE UPSTREAM TO THE FRESH WATER SITE IN NOVEMBER WHERE THE GYRODACTYLUS POPULATIONS INCHEASE TO HIGH LEVELS DURING THE TIME THE FISH SOJOURN IN THE FRESH WATER SITE. THE THIRD SPECIES OF GYRODACTYLUS ENCOUNTERED WAS NOT NAMED. IT INFESTED 8.1% OF THE FISH EXAMINED; THE NUMBER PER INFESTED HOST WAS GENERALLY FEWER THAN EIGHT ALTHOUGH ONE F. HETEROCLITUS WAS INFESTED WITH 144 G. SP. THE PRESENT REPORT OF SWINGLEUS IS THE FIRST REPORT OF THIS PARASITE NORTH OF GEORGIA. ONLY 2% OF THE F. HETEROCLITUS EXAMINED WERE INFESTED WITH SWINGLEUS AND NO MORE THAN TWO WERE EVER FOUND ON ANY HOST. RELATIONSHIPS OF LOCATION ON HOST. INTENSITY. AND INCIDENCE OF INFESTATIONS TO TRANSMISSION IN G. KAPLANI AND G. PROLONGOIDES AND THE SYSTEMATIC POSITION OF THE GENUS SWINGLEUS ARE ALSO DISCUSSED.

0147 BIRKEMEIER, W.A.

THE EFFECTS OF THE 19 DEC 1977 COASTAL STORM ON BEACHES IN NORTH CAROLINA AND NEW JERSEY [1979]

SHORE BEACH 47(1):7-15

A SIGNIFICANT COASTAL STORM DEVELOPED OVER NORTH CAROLINA, DEC 18, 1977, AND MOVED ALMOST DIRECTLY OFFSHORE. BECAUSE OF THIS TRACK, SIMILAR WIND AND WAVE CONDITIONS OCCURRED IN NEW JERSEY AND NORTHERN NORTH CAROLINA, ALLOWING THE CHANGES CAUSED BY THE STORM IN THESE AREAS TO BE COMPARED. THE BEACHES AT LONG BEACH ISLAND AND LUDLAM ISLAND, NJ, AND DARE COUNTY, NC, WERE SURVEYED BEFORE, JUST AFTER AND A DAY AFTER THE STORM. OF THE 32 PROFILE LINES SURVEYED, ALL BUT 2 ERODED DURING THE STORM, SUGGESTING PREDOMINANTLY OFFSHORE RATHER THAN ALJNGSHORE MOVEMENT OF MATERIAL. SOUNDING DATA COLLECTED ALONG 4 PIERS IN DARE COUNTY ALSO INDICATES OFFSHORE MOVEMENT WITH A NET LOSS OF 243 M3/M OF MATERIAL. SOUNDING DATA COLLECTED ALONG 4 PIERS IN DARE COUNTY ALSO RESEARCH FACILITY. ON THE BEACH ABOVE MSL, LONG BEACH ISLAND ERODED THE MOST, LOSING 19.7 M3/M. IT ALSO RECOVERED THE MOST, REGAINING 10.0 M3/M JUST 1 DAY AFTER THE STORM. LUDLAM ISLAND ERODED AN AVERAGE OF 16.9 M3/M AND SHOWED A SLIGHT ADDITIONAL LOSS OF 1 M3/M AFTER THE STORM. PROFILE LINES WITHIN AND UPDRIFT OF THE SEA ISLAND CITY GROIN FIELD ERODED MORE THAN DOWNDRIFT ONES. THE LEAST AFFECTED LOCALITY WAS DARE COUNTY WHERE THE AVERAGE CHANGE FOR THE 10 PROFILE LINES M3/M. A DAY AFTER THE STORM, THE BEACH HAD REGAINED 2.5 M3/M. THERE WAS CONSIDERABLE VARIATION IN VOLUME CHANGES AMONG PROFILE LINES. THE LARGEST CHANGE (-37.0 M3/M) OCCURRED AT LINE 14 ON LONG BEACH ISLAND WHILE LINE 20 ON LONG BEACH 1SLAND ACCRETED 7.0 M3/M. THE RESULTS

OF ANALYSIS OF SURFACE SEDIMENT SAMPLES COLLECTED BEFORE AND AFTER THE STORM AT EACH LOCALITY INDICATE THAT THE NJ BEACHES BECAME COARSER DUE TO THE STORM WHILE THE BEACH FACE IN DARE COUNTY BECAME FINER. AGAIN THERE WAS CONSIDERABLE VARIATION AMONG SAMPLES.

0148 BIRNIE. R.W.: E.S. POSMENTIER

IDENTIFICATION OF LATERAL SPECTRAL CONTRASTS IN THE LOWER HUDSON RIVER ESTUARY USING LANDSAT DIGITAL DATA [1980]

PAGES 1663-1672 IN PROC, 14TH INTERNATIONAL SYMP ON REMOTE SENSING OF ENVIRONMENT, 23-30 APR 1980, SAN JOSE, COSTA RICA. ENVIRON RES INST OF MICHIGAN, ANN ARBOR, MI

AN ANALYSIS OF LANDSAT DIGITAL DATA HAS ALLOWED US TO DETECT AND MAP LATERAL SPECTRAL CONTRASTS IN THE HUDSON RIVER ESTUARY.

THESE CONTRASTS ARE BELIEVED TO BE RELATED TO TURBIDITY IN THE ESTUARY WITH THE WESTERN SIDE BEING MORE TURBID. IT IS CLEAR

THAT LANDSAT DIGITAL DATA CAN BE MAPPED AND USED AS AN INDICATOR OF OF CIRCULATION AND DISPERSION IN THE HUDSON RIVER ESTUARY.

0149 BISAGNI, J.J.

PASSAGE OF ANTICYCLONIC GULF STREAM EDDIES THROUGH DEEPWATER DUMPSITE 106 DURING 1974 AND 1975 [1976]

NOAA. ROCKVILLE. MD 46 PP NTIS-PB-257 523

THE FORMATIONAL THEORY AND CHARACTERISTICS OF ANTICYCLONIC GULF STREAM EDDIES IN THE WESTERN NORTH ATLANTIC OCEAN ARE SUMMARIZED. THEIR OCCURRENCE, TRAJECTORIES, AND STRUCTURE, ARE OBSERVED USING XBT DATA AND INFRARED SATELLITE IMAGERY TO RELATE THEIR PASSAGE THROUGH DEEPWATER DUMPSITE 106 OFF THE NEW YORK BIGHT AND OVER THE CONTINENTAL SLOPE AND RISE. THE FREQUENCY WITH WHICH THESE EDDIES PASS THROUGH THE DUMPSITE, THEIR RESIDENCE TIMES WITHIN THE DUMPSITE, AND THE TOTAL TIME THEY OCCUPY THE DUMPSITE EACH YEAR ARE COMPUTED TO DETERMINE THEIR POTENTIAL EFFECTS ON OCEAN DUMPING.

0150 BISCAYE, P.E.; W.S. PROECKER; H.W. FEELY; R.D. GERARD

TRANSPORT AND TRANSFER RATES IN THE WATERS OF THE CONTINENTAL SHELF: ANNUAL REPORT [1976]

ERDA. GAK RIDGE. TN 138 PP NTIS-COO-2185-9

THE REPORT IS TO THE ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION ON ACCOMPLISHMENTS OF THE LAMONT-DOHERTY GEOLOGICAL OBSERVATORY GEOCHEMISTRY AND PHYSICAL OCEANOGRPHY GROUPS DURING THE 1975-1976 FUNDING PERIOD. GOALS ARE TO OBTAIN DETAILED, QUANTITATIVE KNOWLEDGE OF THE RATES OF MXING WITHIN COASTAL WATERS OF THE NEW YORK BIGHT AND ACROSS THE CONTINENTAL SLOPE AND THE EXCHANGE OF WATER MASSES AND SPECIES TRANSPORTED WITHIN THEM BETWEEN SHELF AND ATLANTIC OCEAN WATERS. THE RESEARCH IS AIMED AT UNDERSTANDING. THE CHEMICAL, PHYSICAL AND BIOLOGICAL PROCESSES WHICH CONTROL THE ORIGIN, DISPERSAL, AND FATE OF PARTICULATE MATTER AND TRACE METALS, AND TO ULTIMATELY MODEL THE IMPACT OF ENERGY RELATED POLLUTANTS ON THE CONTINENTAL SHELF.

0151 BISCAYE, P.E.; C.R. OLSEN

SUSPENDED PARTICULATE CONCENTRATIONS AND COMPOSITION IN THE NEW YORK BIGHT [1976]

PAGES 124-137 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

SUSPENDED PARTICULATE CONCENTRATIONS IN THE NEW YORK BIGHT DURING 1973-1975 DECREASE SEAWARD ACROSS THE SHELF, DECREASING MORE RAPIDLY IN SURFACE THAN IN BOTTOM WATERS. RESUSPENSION OF FINE-GRAINED SEDIMENTS CAUSES LOCAL HIGH CONCENTRATIONS OF SUSPENDED

PARTICLES IN NEAR-BOTTOM WATERS, HORIZONTAL DISPLACEMENT OF THESE HIGH CONCENTRATION PLUMES FROM THEIR SOURCES SUGGESTS SHORT RESIDENCE TIMES FOR SUSPENDED PARTICLES. VERTICAL MIXING OF RESUSPENDED PARTICLES IS LIMITED BY THE THERMOCLINE. ALONG THE UPPER CONTINENTAL SLOPE OVER A DEPTH RANGE OF APPROXIMATELY 1,000 M, THERE IS A MINIMUM IN NEAR-BOTTOM SUSPENDED PARTICULATE CONCENTRATIONS SUGGESTING HORIZONTAL MIXING WITH WATERS FROM THE OPEN OCEAN. ANOMALOUS CONCENTRATIONS OF TRACE METALS OF ANTHROPOGENIC ORIGIN ASSOCIATED WITH ORGANIC PARTICLES, FE-TI (OXIDE) COATINGS AND DISCRETE TI (OXIDE) PARTICLES ARE POTENTIAL TRACERS OF PARTICLE DISPERSION PATHS AND TRANSPORT PROCESSES. DIFFERENT TYPES OF ORGANIC PARTICLES EXHIBIT DIFFERENT INTERPARTICLE AND TRACE ELEMENT ASSOCIATIONS AND APPEAR TO HAVE DIFFERENT GEOGRAPHIC DISTRIBUTIONS. SOME OF THIS VARIABILITY MAY BE SEASONAL. SURFACE WATER SUSPENDED MATTER HAS A HIGHER PROPORTION OF BIOGENIC (INORGANIC SKELETAL AS WELL AS ORGANIC) PARTICLES THAN NEAR-BOTTOM SUSPENDED MATTER WHICH IS DOMINANTLY NONBIOGENIC (PRINCIPALLY ALUMINOSILICATE). SKELETAL DEBRIS IS PRIMARILY SILICEOUS IN SHELF WATERS, BECOMING MORE CARBONATE-RICH SEAWARD OF THE SHELF BREAK. ALUMINOSILICATE SUSPENDED PARTICLES IN SHELF WATERS ARE PREDOMINATELY K-RICH WHEREAS MG-CA-K-FE-RICH ALUMINOSILICATES DOMINATE BEYOND THE SHELF BREAK.

0152 BISCAYE, P.E.

ORIGINS OF THE DEEP-SEA SEDIMENTS AND THEIR VARIATIONS WITH TIME-- ANN PROG REP NO 6, MAY 1975 [1976]

ERDA ENERGY RES ABSTR 1(2):233

TECHNIQUES FOR STUDYING WATER MASS MIXING AND SEDIMENT TRANSPORT IN THE BENTHIC LAYER OF THE DEEP SEA AND THE EFFECTS OF THESE PROCESSES ON THE CONTINENTAL SHELF SPECIFICALLY IN THE NEW YORK BIGHT WERE STUDIED. RESULTS ARE PRESENTED FOR THE FIRST MAJOR COMBINED GEOCHEMISTRY-PHYSICAL OCEANOGRAPHY CRUISE. DATA ON THE NATURE OF THE BOTTOM SEDIMENTS ARE PRESENTED PRINCIPALLY IN CONTEXT OF THEIR POTENTIAL AS SOURCES OF BOTH RADON AND METHANE IN THE LOWER WATER COLUMN. PRELIMINARY DATA ON THE NATURE AND COMPOSITION OF SUSPENDED PARTICULATES ALSO INDICATE POTENTIAL FOR TRACING THE MECHANISMS OF SOLIDS DISPERSAL IN THE BIGHT.

0153 BISCAYE, P.E.; C.R. OLSEN; G. MATHIEU

SUSPENDED PARTICULATES AND NATURAL RADIONUCLIDES AS TRACERS OF POLLUTANT TRANSPORTS IN CONTINENTAL SHELF WATERS OF THE EASTERN USA [1277]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 28 PP

PRELIMINARY RESULTS ARE REPORTED FROM A STUDY OF THE DISPERSION OF ANTHROPOGENIC POLLUTANTS BY EXAMINING THE SUSPENDED PARTICULATE PHASES WITH WHICH MANY POLLUTANTS ARE ASSOCIATED AND ON WHICH THEY ARE TRANSPORTED IN THE MARINE ENVIRONMENT. THE POPULATIONS OF SUSPENDED PARTICLE TYPES, THEIR DISTRIBUTIONS AND THEIR ASSOCIATIONS WITH TRACE METALS POLLUTANTS HAVE BEEN ANALYZED BY EXAMINING INDIVIDUAL PARTICLES USING COMBINED SCANNING ELECTRON MICROSCOPY AND ENERGY-DISPERSIVE X-RAY FLUORESCENCE. THE DISTRIBUTION OF DISCRETE POLLUTANT PARTICLES, E.G. TI-OXIDES AND TRACE-METAL BEARING ORGANIC PARTICLES, WHICH HAVE THEIR ORIGINS IN THE APEX OF THE NEW YORK BIGHT, SUGGEST PATHS BY WHICH THESE POLLUTANTS ARE DISPERSED ACROSS THE CONTINENTAL SHELF. GROSS FEATURES OF SURFACE AND NEAR-BOTTOM SUSPENDED PARTICLE CONCENTRATIONS REFLECT VERTICAL AND HORIZONTAL MIXING PROCESSES AND INDICATE A FLUX OF PARTICLES BOTH INTO AND OUT OF THE SEDIMENTS. THE DISTRIBUTION OF RM-222, A NATURALLY RADIOACTIVE TRACER, WHICH ALSO HAS A FLUX FROM THE SEDIMENTS (PARTICULARLY FINE-GRAINED SEDIMENTS), WAS SIMILAR TO THAT OF NEAR-BOTTOM SUSPENDED PARTICLES. IT WAS CONCLUDED THAT MODELLING THE DISPERSION OF RADON WILL YIELD INFORMATION ON THE RATES OF DISPERSION AND REMOVAL OF SUSPENDED PARTICLES. FROM THE WATER COLUMN.

O154 BISCAYE, P.E.; W.S. FROECKER; A.L. GORDON; Y.H. LI; T.C. MALONE

TRANSPORT AND TRANSFER RATES IN THE WATERS OF THE CONTINENTAL SHELF: ANNUAL REPORT [1977]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 215 PP NTIS-COO-2185-19

PROGRESS IS REPORTED ON STUDIES OF GEOCHEMISTRY, MARINE BIOLOGY, AND PHYSICAL OCEANOGRPHY. DETAILED, QUANTITATIVE DATA ON THE

RATES OF MIXING WITHIN COASTAL WATERS OF THE NEW YORK BIGHT AND ACROSS THE CONTINENTAL SLOPE AND THE EXCHANGE OF WATER MASSES AND SPECIES TRANSPORTED WITHIN THEM BETWEEN SHELF AND OCEAN WATERS ARE PRESENTED. THE RESEARCH IS AIMED AT UNDERSTANDING THE CHEMICAL, PHYSICAL, AND BIOLOGICAL PROCESSES WHICH CONTROL THE ORIGIN, DISPERSAL AND FATE OF PARTICULATE MATTER, AND TO ULTIMATELY MODEL THE IMPACT OF ENERGY-RELATED POLLUTANTS ON THE CONTINENTAL SHELF.

0155 RISCAVE. P.E.

TRANSPORT AND TRANSFER RATES IN THE WATERS OF THE CONTINENTAL SHELF. ANNUAL REPORT [1978]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 115 PP NTIS-COO-2185-11

THE PRESENT CONTRACT YEAR HAS BEEN ONE OF TRANSITION FROM AN EMPHASIS ON FIELD WORK AND SAMPLE GATHERING TO THE PREDOMINANCE OF SAMPLE AND DATA ANALYSIS AND THE FORMULATION OF TESTABLE HYPOTHESES CONCERNING SPECIFIC PROCESSES IN THE NEW YORK BIGHT. WE HAVE BEGUN TO UNDERSTAND THE SEASONAL TRANSITION IN THE ROLE OF PHYTOPLANKTON V. GRAZING ZOOPLANKTON IN FORMING THE PARTICLES ON WHICH SOME REACTIVE POLLUTANTS ARE REMOVED. USING NATURAL RADIOACTIVE TRACERS WE HAVE ESTIMATED THE REMOVAL RATES OF REACTIVE METALS FROM THE SURFACE WATERS AND THESE RANGE OVER AN ORDER OF MAGNITUDE FROM MOST RAPID NEARSHORE TO LEAST RAPID OVER THE UPPER CONTINENTAL SLOPE. ONCE REMOVED NEARSHORE, HOWEVER, THESE TRACERS, AND THE POLLUTANTS FOR WHICH THEY PROXY, DO NOT REMAIN PERMANENTLY IN THE SEDIMENTS BUT APPEAR TO BE REMOBILIZED (PROBABLY BY OXIDATION) DURING THE WINTER AND ARE REINTRODUCED INTO THE WATER COLUMN. WORK ON TRANSPORT AND MIXING PROCESSES OF POLLUTANTS WHICH ARE OR BEHAVE LIKE THOSE IN SOLUTION HAS CONTINUED ALONG SEVERAL FRONTS. HYDROGRAPHIC DATA ON THE STRUCTURE OF THE WATER COLUMN CONTINUES TO GIVE A DESCRIPTION OF THE SYSTEM THAT IS CRUCIAL TO UNDERSTANDING GEOCHEMICAL AND BIOLOGICAL PROCESSES WHICH AFFECT POLLUTANTS. HYDROGRAPHIC CHARACTERIZATION OF WATER MASSES FROM THE DATA SETS OF CRUISES HAS RESULTED IN HYPOTHESES CONCERNING THE RENEWAL OF SHELF WATER BY DIRECT EXCHANGE BETWEEN SHELF AND UPPER SLOPE WATER.

0156 PISCAYE, P.E.

TRANSPORT AND TRANSFER RATES IN THE WATERS OF THE CONTINENTAL SHELF [1979]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 160 PP NTIS-COO-2185-12

SAMPLES AND DATA FROM PREVIOUS CRUISES WERE ANALYZED WITH A VIEW TO UNDERSTANDING THOSE BIOLOGICAL, CHEMICAL, AND PHYSICAL PROCESSES WHICH AFFECT ENERGY-RELATED POLLUTANTS IN THE MARINE ENVIRONMENT OF THE CONTINENTAL MARGIN. TWO CRUISES DESIGNED TO EXPAND THE SAMPLE BASE, MEASURE THE TIME VARIABILITY OF SEVERAL TRANSFER PROCESSES, AND TO TEST SPECIFIC HYPOTHESES ON THE MECHANISMS FOR PROCESSES WHICH EFFECT EXCHANGE OF CONTINENTAL MARGIN WITH OPEN OCEAN WATERS WERE CARRIED OUT. PROGRESS WAS MADE IN UNDERSTANDING THE RELATIVE ROLES OF NUTRIENTS AND LIGHT IN CONTROLLING THE PRODUCTIVITY OF IMPORTANT PRIMARY BIOMASS (AND HENCE, PARTICLE) PRODUCERS. PROGRESS WAS ALSO MADE IN UNDERSTANDING THE INFLUENCES OF PHYTOPLANKTON POPULATIONS ON DISTRIBUTION OF INORGANIC NUTRIENTS, DISSOLVED OXYGEN AND PARTICULATE ORGANIC MATTER. IN ADDITION, PRELIMINARY RESULTS FROM FIELD WORK SUPPORT THE HYPOTHESIS THAT MOST DIATOM PRODUCTION ON THE SHELF SINKS TO THE BOTTOM WHERE IT ENTERS BENTHIC FOOD CHAINS OR PROVIDES SEED POPULATIONS FOR SUBSEQUENT BLOOMS. RADIONUCLIDES WERE STUDIED IN WATER COLUMNS AND IN SEDIMENTS TO DEVELOP AN UNDERSTANDING OF PROCESSES ASSOCIATED WITH SUSPENDED SOLIDS AND WITH SEDIMENTS AS SINKS FOR RADIONUCLIDES AND OTHER POLLUTANTS. MAJOR PROGRESS WAS MADE ON THE ANALYSIS OF HYDROGRAPHIC DATA FROM ALL PREVIOUS CRUISES AND TO EVOLVE A COMPREHENSIVE PICTURE OF THE STRATIFICATION OF THE WATERS OF THE NEW YORK BIGHT. THE CO2-H2O EQUILIBRATION SYSTEM REQUIRED FOR THE PREPARATION OF SAMPLES FOR OXYGEN ISOTOPE ANALYSIS WAS COMPLETED. WORK HAS CCITINUED IN THE USE OF RADON AS A TRACER OF SMALL SCALE WATER MOTIONS AND MIXING IN THE DEFINITION OF THE SOURCE FUNCTION NEEDED FOR MODELLING THE DATA, AND IN DEFINING THE RANGE OF VARIABILITY OF THE RADON DISTRIBUTIONS.

0157 BISCAYE, P.E.

TRANSPORT AND TRANSFER RATES IN THE WATERS OF THE CONTINENTAL SHELF: ANNUAL REPORT [1980]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 237 PP NTIS-COO-2185-13

THE GOAL OF THIS PROJECT IS TO UNDERSTAND AND QUANTIFY THE PROCESSES OF THE TRANSPORT AND DISPERSAL OF ENERGY-RELATED POLLUTANTS INTRODUCED TO THE WATERS OF THE CONTINENTAL SHELF AND SLOPE. THE REPORT IS DIVIDED INTO SECTIONS DEALING WITH PROCESSES ASSOCIATED WITH SUSPENDED SOLIDS; PROCESSES ASSOCIATED WITH SEDIMENT SINKS FOR RADIONUCLIDES AND OTHER POLLUTANTS; AND SPREADING OF WATER CHARACTERISTICS AND SPECIES IN SOLUTION.

0158 BISHOP, J.M.

AN ANALYTICAL SEA CUPRENT MODEL FOR COASTAL REGIONS WITH APPLICATION TO THE NEW YORK BIGHT [1975]

TECH REP 75-2. USCG, WASHINGTON, DC 27 PP NTIS-AD-A015 372

SEASONAL COASTAL CURRENTS ON A CONTINENTAL SHELF ARE MODELED FOR USE IN SEARCH AND RESCUE PLANNING. THE MODEL CONSIDERS A BALANCE OF CORIOLIS, PRESSURE GRADIENI, AND FRICTIONAL FORCES. INPUT PARAMETERS ARE THE CLIMATOLOGICAL WIND AND DENSITY FIELDS. COMPARISON OF RESULTS TO CURRENTS DEPICTED ON CLIMATOLOGICAL ATLASES FOR THE NEW YORK BIGHT INDICATES THE VALIDITY OF THE APPROACH. IN THIS LIGHT, ONE MIGHT EXTEND THIS APPROACH TO OTHER GEOGRAPHICAL REGIONS WHERE ANALOGOUS OCEANOGRAPHIC CONDITIONS PREVAIL.

0159 BISHOP, J.M.

SURFACE CURRENTS IN THE NEW YORK BIGHT AS RELATED TO A SIMPLE OIL TRAJECTORY MODEL [1976]

PAGES 78-101 IN CONF ON COASTAL METEOROLOGY, VIRGINIA BEACH, VA, SEPT 21-23, 1976. AM METEOROL SOC, BOSTON, MA

A HYPOTHETICAL PATH OF OIL MOVEMENT IS GENERATED BY COMPUTING TRAJECTORIES FROM EACH THIRD HOURLY WIND OBSERVATION. THE RESULTS OF 2 SIMULATED SPILLS ARE PRESENTED AS PROBABILITY DIAGRAMS. ABOUT 1000 SIMULATED SPILLS WERE USED FOR EACH SPILL SITE. THESE DIAGRAMS INDICATE THE PERCENTAGE OF TIME THAT A 10 MILE X 10 MILE OFFSHORE AREA AND 10 MILE COASTAL SEGMENTS WOULD BE IMPACTED BY THE CALCULATED OIL TRAJECTORIES ON AN ANNUAL BASIS. OIL MOVEMENTS FROM BOTH SPILL SITES EXHIBIT A STRONG OFFSHORE TENDENCY. THIS MIGHT BE EXPLAIMED IN TERMS OF THE SEASONAL MARCH OF THE ANNUAL WIND AND DENSITY FIELD IN THE NEW YORK BIGHT. IN THE SUMMER, WINDS ARE WEAK AND COMBINE WITH A STRONG SOUTHWESTERLY BAROCLINIC FLOW TO PRODUCE GENERALLY LONGSHORE OIL MOVEMENT. DURING THE WINTER A STRONG EASTWARD MEAN WIND AND A RELATIVELY WEAK BAROCLINIC FLOW GIVE A STRONG OFFSHORE TENDENCY FOR OIL MOVEMENT. THUS. THE ANNUAL PATTERN OF OIL MOVEMENT EXHIBITS A MARKED OFFSHORE AND LONGSHORE (SOUTHERLY) CHARACTER.

0160 BISHOP, J.M.

A CLIMATOLOGICAL OIL SPILL PLANNING GUIDE. NUMBER 1: THE NEW YORK BIGHT [1980]

NOAA, WASHINGTON, DC 131 PP NTIS-P837-157 613

THIS REPORT SUMMARIZES APPROPRIATE ENVIRONMENTAL DATA, DISCUSSES THE MOVEMENT OF OIL AT SEA, AND ATTEMPTS TO PREDICT THE EFFECTS OF OIL SPILLS FOR THE NEW YORK BIGHT, A REGION LYING BETWEEN MONTAUK POINT, NY AND CAPE MAY, NJ. THE OBJECTIVE OF THIS STUDY IS TO PROVIDE THIS INFORMATION IN A FORMAT THAT CAN BE BOTH UNDERSTOOD AND USED BY DECISION MAKERS FOR OIL SPILL CONTINGENCY PLANNING AND FOR SCIENTIFIC SUPPORT PERSONNEL DURING SPILLS.

0161 BISHOP, S.L.; J.P. VITTANDS

COMPUTER METHODOLOGY AND WATER RESOURCE DEVELOPMENT [1971]

J AM WATER WORKS ASSOC 63(9) 589-595

OVER 170 SEPARATE WATER-SUPPLY PROJECTS WERE INVESTIGATED, OF WHICH OVER 40 WERE ANALYZED BY COMPUTER SIMULATION. COMPREHENSIVE COMPUTER PROGRAMS FOR HYDROLOGIC ANALYSIS OF RIVER SYSTEMS AND RIVER BASINS ALLOW ANALYSIS OF MANY ALTERNATIVE RESERVOIR DEVELOPMENT PLANS. THIS PROJECT SPECIFICALLY OUTLINED THE APPROACHES USED AND THE COMPUTER TECHNIQUES EMPLOYED IN ANALYZING THE HYDROLOGIC CAPABILITY OF SYSTEMS OF RESERVOIRS, IN PARTICULAR THE HUDSON AND HOUSATONIC RIVER BASINS. HISTORIC STREAMFLOW DATA WERE USED TO DETERMINE THE HYDROLOGIC CAPABILITY OF EACH RESERVOIR'S DEVELOPMENT PLAN. SELECTED GAGING STATION RECORDS WERE MULTIPLIED BY A FACTOR IN ORDER TO ACCOUNT FOR DIFFERENT-SIZED DRAINAGE AREAS. A FACTOR CLOSE TO UNITY WAS DESIRED. EMPIRICAL EVALUATION OF THIS APPROACH WAS ACHIEVED BY COMPARING SELECTED GAGING STATION DATA. HYDROLOGIC EQUATIONS WERE PREPARED DESCRIBING WATER RUNOFF TO EACH SECTION OF THE BASIN. COMPUTER SIMULATION CHECKED AND DETERMINED THE HYDROLOGIC CAPABILITY OF THE ALTERNATIVE DEVELOPMENT PLANS ON AN OVERALL RIVER-BASIN BASIS AND SCHEMATIC MODELS OF EACH BASIN WERE PREPARED. AN ITERATIVE PROCEDURE WAS USED TO ASCERTAIN THE BASIN YIELD OF THE RESERVOIR SYSTEM-ANALYSIS COMPUTER PROGRAM. VARIOUS WATER DEMANDS WERE SATISFIED ON THE BASIS OF AN UPSTREAM-TO-DOWNSTREAM ORDER AT CONTROL POINTS.

0162 BLANCHARD, R.L.; B. KAHN

ABUNDANCE AND DISTRIBUTION OF RADIONUCLIDES DISCHARGED FROM A BWR NUCLEAR POWER STATION INTO A MARINE BAY [1979]

NUCL SAF 20(2):190-205

THIS ARTICLE SUMMARIZES A PORTION OF ONE OF A SERIES OF RADIOLOGICAL SURVEILLANCE STUDIES CONDUCTED BY THE US EPA AT NUCLEAR POWER STATIONS. RADIONUCLIDE CONCENTRATIONS WERE MEASURED IN BARNEGAT BAY AT THE NJ SHORE DURING EPA'S 2-YEAR RADIOLOGICAL SURVEILLANCE STUDY AT THE OYSTER CREEK NUCLEAR GENERATING STAYION. THE STATION DISCHARGES BATCHES OF RADIOACTIVE LIQUID WASTE INTO EFFLUENT CONDENSER COOLING WATER, WHICH FLOWS THROUGH OYSTER CREEK INTO BARNEGAT BAY 3 KM FROM THE POINT OF DISCHARGE. THE BAY IS LONG, NARROW, AND SHALLOW, WITH FEW PASSAGES TO THE ATLANTIC OCEAN. RADIONUCLIDE CONCENTRATIONS WERE MEASURED REPEATEDLY IN WATER, SEDIMENT, MARINE VEGETATION, FISH, CLAMS, AND CRABS AT VARIOUS SAMPLING POINTS. MEASURED VALUES WERE COMPARED TO CALCULATED VALUES BASED ON BIOACCUMULATION FACTORS, AND BOTH SETS WERE USED TO COMPUTE DOSE EQUIVALENT RATES TO THE MOST EXPOSED PERSONS IN THE ENVIRONMENT. THE TWO OBSERVED CRITICAL RADIATION EXPOSURE PATHWAYS—FISH CONSUMPTION AND STANDING ON BEACHES—RESULTED IN DOSE EQUIVALENTS OF LESS THAN 1 MREM/YEAR. THE CRITICAL RADIONUCLIDES WERE SR-90 AND CO-60, RESPECTIVELY. INDICATOR RADIONUCLIDES WERE IDENTIFIED, AND ENVIRONMENTAL RADIOLOGICAL MONITORING ACTIVITIES WERE RECOMMENDED.

0163 BLEECKER. A.L.

PRIMARY PRODUCTIVITY IN RARITAN BAY AND ITS RELATIONSHIP TO POLLUTION [1971]

PH.D. THESIS. RUTGERS UNIV, NEW BRUNSAICK, NJ 532 PP

RARITAN BAY (NEW YORK HARBOR AREA) WHICH DAILY RECEIVES OVER 40 MILLION GALLONS OF EFFLUENTS FROM THE MIDDLESEX SEWER SYSTEM, WAS STUDIED TO DETERMINE WHETHER THE JAY WAS DYSTROPHIC. IN SITU PRIMARY PRODUCTIVITY MEASUREMENTS OVER A TWO-YEAR PERIOD WERE PERFORMED WITH A LIGHT AND DARK BOTTLE RIG. RHODAMINE B. A DYE TRACER, WAS USED TO RELATE PRODUCTIVITY AND POLLUTION INFLUENCES. FOR THE 1961 SAMPLE PERIOD GROSS PRODUCTION AT A DEPTH OF 2 FT AVERAGED 1.6 G CARBON/CU M/24 HR, AND THE MAXIMUM VALUE RECORDED WAS 4.4 G CARBON/CU M/24 HR. THE MAXIMUM UNIT AREA PRODUCTION RECORDED WAS 6.3 G CARBON/CU M/24 HR AND STATION MEANS FOR THE 1961 SAMPLE PERIOD RANGED BETWEEN 2.2 AND 3.4 G C/CU M/24 HR. MINIMAL ANNUAL GROSS PRODUCTION WAS CONSERVATIVELY ESTIMATED AT 440 G C/CU M WHICH COMPARES FAVORABLY WITH VALUES FOR OTHER ESTUARIES WHICH INDICATES POLLUTION IS PROMOTING RATHER THAN INHIBITING PRIMARY PRODUCTIVITY.

0164 BLOM, 2.E.; T.F. JENKINS; D.C. LEGGETT; R.P. MURRMANN

EFFECT OF SEDIMENT OPGANIC MATTER ON MIGRATION OF VARIOUS CHEMICAL CONSTITUENTS DURING DISPOSAL OF DREDGED MATERIALS [1976]

DREDGED MATERIAL RES PROG D-76-7. US ARMY COLD REGIONS RES AND ENG LAB. HANOVER. NH 161 PP

THE DISPOSAL OF BOTH FRESHWATER AND SALTWATER SEDIMENTS IN OPEN WATERS HAS BEEN EXPERIMENTALLY INVESTIGATED IN THE LABORATORY. THE EMPHASIS OF THE EXPERIMENTAL WORK WAS DIRECTED TOWARDS IDENTIFYING THE ROLE THAT SEDIMENT ORGANIC CARBON HAS IN CONTROLLING VARIOUS WATER-QUALITY PARAMETERS AT DISPOSAL SITES. LONG-TERM STUDIES EXAMINED THE POSSIBILITY OF TRANSPORT OF MATERIAL FROM SEDIMENTS INTO AN OVERLYING WATER COLUMN AS WELL AS MONITORING THE CHANGES IN THE AQUEOUS PHASE WHICH INITIALLY CONTAINED LARGE AMOUNTS OF SUSPENDED MATTER. FOR THE LATTER CASE, METAL AND NUTRIENT CONCENTRATIONS WERE INITIALLY HIGH BUT DECREASED SIGNIFICANTLY WITH TIME. EXCEPTIONS TO THIS BEHAVIOR WERE NOTED. SPECIFIC COMPONENTS WERE IDENTIFIED WHICH MIGRATED FROM THE SEDIMENT INTO THE WATER COLUMN. THEY INCLUDE AMMONIUM-NITROGEN, ORTHOPHOSPHATE, CADMIUM, AND MANGANESE, THE LATTER ONLY IN SEAWATER MEDIA. ORGANIC CARBON AND INORGANIC NITROGEN UNDERWENT TRANSFORMATIONS WITH THE SYSTEMS INVESTIGATED. BOTH SEDIMENT ORGANIC CARBON AND SOLUBLE ORGANIC MATTER WERE GENERALLY FOUND TO HAVE NO DEMONSTRABLE EFFECT ON WATER QUALITY. EXCEPTIONS TO THIS GENERAL CONCLUSION WERE FOUND IN TWO SEDIMENTS CONTAINING SIGNIFICANT AMOUNTS OF PETROLEUM HYDROCARBONS.

0165 BLUM, J.E.

METHYLATION OF INORGANIC MERCURY IN ESTUARINE SEDIMENTS [1978]

IN AM SOC MICROBIOL, ABSTRACTS OF ANNUAL MEETING

THE METHYLATION OF HG++ IN ESTUARINE SEDIMENTS AND THE DEPENDENCE OF THIS PROCESS ON VARIOUS ENVIRONMENTAL PARAMETERS HAS BEEN MONITORED IN CONJUNCTION WITH A MERCURY POLLUTION SURVEY OF NEWARK BAY. MONOMETHYL AND DIMETHYLMERCURY FROM SEDIMENT AND WATER AND VOLATILE DIMETHYLMERCURY FROM TRAPS WERE ANALYZED, AFTER EXTRACTION, PARTITION AND CLEANUP STEPS, BY ELECTRON CAPTURE GAS CHROMATOGRAPHY. METHYLATION EXPERIMENTS, DEPENDING ON THE NATURE OF THE ENVIRONMENTAL PARAMETERS STUDIED, WERE CONDUCTED IN SEALED TEST TUBES, MICROFERNBACH FLASKS OR AN APPARATUS DESIGNED TO ACCEPT INTACT SEDIMENT CORES. AT SALINITY LEVELS OF FRESH WATER AND UNDER ANAEROBIC CONDITIONS, RAPID METHYLATION ACTIVITY WAS OBSERVED THAT RESULTED IN A PLATEAU OF 0.9 PPM TOTAL METHYLATER 15 DAYS OF INCUBATION AT 100 PPM HG++. WITH INCREASING SALINITY, METHYLATION ACTIVITY DECLINED. UNDER REDUCING CONDITIONS, THE HIGH SULFATE CONTENT OF ESTUARINE WATER AND SEDIMENT GIVES RISE TO H2S THAT PRECIPITATES HG++ AS SULFIDE AND DECREASES ITS AVAILABILITY FOR METHYLATION. AT 10 PPM HG++ IN ESTUARINE SEDIMENT CORES INCUBATED AT SIMULATED IN SITU CONDITIONS, METHYLATION ACTIVITY WAS FOUND TO BE EXTREMELY LOW. THESE RESULTS HELP TO EXPLAIN THE FINDINGS OF GENERALLY LOW METHYLMERCURY CONCENTRATIONS (0.01-0.4 PPM) IN VARIOUS VERTEBRATE AND INVERTEBRATE ANIMALS FROM NEWARK BAY, AN ESTUARY STRONGLY POLLUTED WITH INORGANIC MERCURY.

0166 BLUM. J.E.; R. BARTHA

EFFECT OF SALINITY ON METHYLATION OF MERCURY [1981]

BULL ENVIRON CONTAM TOXICOL 25(3):404-408

ESTUARINE SEDIMENT CORE SAMPLES 50-200 CM IN DEPTH WERE COLLECTED IN CHEESEQUAKE CREEK, NJ, AND SLURRIED WITH WATER FROM A FRESHWATER POND. SALINITIES WERE ADJUSTED FROM 1 TO 30 PPT WITH SEVEN SEAS MARINE MIX, AND HG (10 PPM) WAS ADDED AS MERCURIC CHLORIDE. TEST TUBES OF THE SLURRIES WERE INCUBATED IN THE DARK AT 28 C AND ANALYZED AT INTERVALS OVER A 25 D PERIOD. ANALYTICAL PROCEDURES CONSISTED OF CONVERTING THE METHYL MERCURY INTO METHYL MERCURY BROWIDE (CH3HGBR) AND EXTRACTING IT INTO TOLUENE. THE CH3HGBR WAS CLEANED UP, CONVERTED TO THE IODIDE FORM, AND EXTRACTED INTO BENZENE. ANALYSIS WAS BY GC. THE RATE OF MICROBIAL METHYLATION IN ANAEROBIC CONDITIONS WAS INVERSELY RELATED TO SALINITY. SALINITIES >2 PPT HAD LITTLE ADDITIONAL EFFECT ON METHYLATION, AND METHYL MERCURY CONCENTRATIONS DECLINED SIGNIFICANTLY AFTER 15-20 D OF INCUBATION.

D167 BLUMBERG, A.F.; G.L. MELLOR; S. LEVITUS

THE MIDDLE ATLANTIC FIGHT: A CLIMATOLOGICAL ATLAS OF OCEANOGRAPHIC PROPERTIES [1977]

NJ MARINE SCIENCES CONSORTIUM, HIGHLANDS, NJ NP

AN ATLAS OF THE CLIMATOLOGICAL TEMPERATURE, SALINITY, OXYGEN, DENSITY AND GEOSTROPHIC VELOCITY DISTRIBUTIONS IS PRESENTED FOR THE MIDDLE ATLANTIC BIGHT. THE SOURCE OF THE DATA IS 484,118 TEMPERATURE, 40,339 SALINITY AND 18,340 OXYGEN MEASUREMENTS ON FILE AT THE NATIONAL OCEANOGRAPHIC DATA CENTER COLLECTED IN THE FIELD UP TO JUNE, 1973. THE MAJOR FEATURES OF THE VARIOUS DISTRIBUTIONS ARE BRIEFLY DISCUSSED.

0168 BLUMBERG, A.F.

THE INFLUENCE OF DENSITY VARIATIONS ON ESTUARINE TIDES AND CIRCULATIONS [1978]

ESTUARINE COASTAL MAR SCI 6:209-215

NUMERICAL EXPERIMENTS WERE APPLIED TO A PREVIOUSLY DEVELOPED MODEL TO INVESTIGATE THE INFLUENCE OF DENSITY VARIATIONS ON ESTUARINE TIDES AND CIRCULATION. TWO TRIALS ARE ANALYZED IN DETAIL--ONE USED DENSITY VARIATIONS. THE OTHER ASSUMED A CONSTANT DENSITY. DISCHARGE, TIDAL RANGE, AND PHASE WERE FOUND TO BE INDEPENDENT OF THE DENSITY STRUCTURE; THEREFORE, DENSITY VARIATIONS MAY NOT BE A NECESSARY MODEL REQUIREMENT. HOWEVER, FOR DETAILED ANALYSIS OF ACTUAL OR INSTANTANEOUS TIDE LEVELS, MEAN ELEVATION. OR VELOCITY AND CIRCULATION PATTERNS, DENSITY VARIATIONS MUST BE INCLUDED.

0169 BOBB. W.H.

EFFECTS OF ARTHUR KILL-KILL VAN KULL CHANNEL DEEPENING ON TIDES, CURRENTS AND SHOALING: HYDRAULIC MODEL INVESTIGATION [1967]

US ARMY ENG WES, VICKSBURG, MS 7 PP NTIS-AD-735 638

THE EXISTING COMPREHENSIVE FIXED-BED MODEL OF NEW YORK HARBOR WAS USED TO DETERMINE THE EFFECTS OF INCREASING THE DEPTH OF THE NAVIGATION CHANNELS IN ARTHUR KILL AND KILL VAN KULL FROM THE EXISTING -35 FT MLW (BELOW MEAN LOW WATER) DEPTH TO -42 FT MLW ON TIDES, CURRENTS, AND SHOALING IN THE FEDERAL NAVIGATION CHANNELS. THE TEST RESULTS CONSIST OF MEASUREMENTS OF TIDE HEIGHTS, CURRENT VELOCITIES, AND SHOALING QUANTITIES. THE PROPOSED DEEPENING WOULD HAVE NO SIGNIFICANT EFFECTS ON TIDAL RANGES BUT WOULD CAUSE REDUCTIONS IN TIDAL CURRENT VELOCITIES IN BOTH ARTHUR KILL AND KILL VAN KULL. THE OVERALL SHOALING RATE IN THE FEDERAL NAVIGATION CHANNELS IN THE KILLS WOULD BE INCREASED ABOUT 15%. SHOALING IN THESE CHANNELS IS NOW RESTRICTED TO ONE REACH, ADJACENT TO SHOOTERS ISLAND; HOWEVER, IT APPEARS THAT NEW SHOALS MAY DEVELOP IN ELIZABETHPORT RANGE IN ARTHUR KILL AND IN ALL THREE RANGES IN KILL VAN KULL IF THE CHANNELS ARE DEEPENED TO -42 FT MLW.

0170 BOBB, W.H.

EFFECTS OF REMOVAL OF SHOOTERS ISLAND AND SHORE MODIFICATIONS ON TIDES, CURRENTS, AND SHOALING IN THE KILL CHANNELS [1967]

US ARMY ENG WES, VICKSBURG, MS 68 PP NTIS-AD-735 779

THE EXISTING COMPREHENSIVE FIXED-BED MODEL OF NEW YORK HARBOR WAS USED TO DETERMINE IF CONSTRUCTION OF A CONTAINERSHIP TERMINAL ON ARTHUR KILL OPPOSITE ELIZABETHPORT, NJ, WOULD HAVE ADVERSE EFFECTS ON TIDES, CURRENTS, AND SHOALING IN ADJACENT FEDERAL NAVIGATION CHANNELS. TERMINAL CONSTRUCTION PLANS INCLUDED THE RÉMOVAL OF SHOOTERS ISLAND FROM LOWER NEWARK BAY FOR FILL MATERIAL- AND WIDENING OF ARTHUR KILL TO PROVIDE BERTHING AREAS ADJACENT TO THE TERMINAL. CONSIDERATION WAS GIVEN TO INCREASING THE DEPTHS OF THE NAVIGATION CHANNELS IN ARTHUR KILL AND KILL VAN KULL FROM THE EXISTING 35 FT DEPTH TO 42 FT. TESTS WERE MADE TO EVALUATE THE EFFECTS OF THE TERMINAL SCHEME FOR BOTH CHANNEL CONDITIONS. THE TESTS CONSISTED OF MEASUREMENTS OF TIDE HEIGHTS, CURRENT VELOCITIES, SHOALING QUANTITIES, AND TIME-EXPOSURE PHOTOGRAPHS OF SURFACE-CURRENT PATTERNS. FROM THESE DATA IT WAS CONCLUDED THAT CONSTRUCTION OF THE TERMINAL, INCLUDING THE REMOVAL OF SHOOTERS ISLAND, WOULD HAVE NO ADVERSE EFFECTS ON NAVIGATING CONDITIONS. MAINTENANCE OF THE KILL CHANNELS, OR CIRCULATION PATTERNS IN THE KILLS AND LOWER NEWARK BAY.

0171 BOEHM, P.D.; D.L. FIEST; A. ELSKUS

ORGANIC CHEMICAL MEASUREMENTS--DREDGED MATERIAL TRACKING EXPERIMENT [1979]

MESA, NOAA, STONY BROOK, NY 63 PP

A DESCRIPTION OF A FIELD SAMPLING AND ANALYTICAL PROGRAM TO EXAMINE TIME DEPENDENT CHANGES IN THE ORGANIC CHEMICAL COMPOSITION OF THE WATER COLUMN. THE AIMS OF THE PROGRAM WERE: TO DESIGN A RAPID SAMPLING ON-BOARD FILTRATION SYSTEM TO OBTAIN SUSPENDED PARTICULATE MATERIAL; TO DETERMINE THE LEVELS OF POLYNUCLEAR AROMATIC HYDROCARBONS AND PCB IN DREDGE SPOIL AND IN PRE-DUMP AND POST-DUMP WATER SAMPLES; AND TO USE THESE ORGANIC TRACERS TO DETERMINE THE RESIDUAL TIME OF THE DREDGE SPOIL PLUME IN THE WATER COLUMN.

0172 BOERICKE. R.R.; J.M. HOGAN

AN X-2 HYDRAULIC/THERMAL MODEL FOR ESTUARTES [1977]

ASCE J HYDR DIV 103 (HY1):19-37

A TWO-DIMENSIONAL, TIME-DEPENDENT NUMERICAL MODEL FOR PARTIALLY STRATIFIED ESTUARIES WAS DESCRIBED. THE MODEL WAS BASED ON A COUPLED SOLUTION TO THE CONTINUITY, MJMENTUM, AND SALINITY EQUATIONS IN THE LOGITUDINAL (X) AND VERTICAL (Z) DIRECTIONS. THE HYDROSTATIC APPROXIMATION WAS USED, AND THE VERTICAL EXCHANGE OF MOMENTUM, MASS, AND ENERGY WAS MODELED WITH AN EDDY VISCOSITY BY USING EMPIRICAL MODIFICATIONS FOR STABLE AND UNSTABLE STRATIFICATION. THE NUMERICAL METHOD WAS A TIME AND SPACE STAGGERED SCHEME, WITH THE YERTICAL DIRECTION TREATED IMPLICITLY. CONVECTION TERMS IN THE TRANSPORT EQUATIONS WERE TREATED WITH UPWIND DIFFERENCING. THE MODEL RESULTS SHOWED GOOD AGREEMENT WITH OBSERVED TIDAL PHASE LAG, CURRENT, AND SALINITY DATA. AT LOW FRESHWATER FLOWS, THE MODEL PREDICTS A LARGE DENSITY-INDUCED CIRCULATION (DIC), WHICH STRONGLY INFLUENCES THE DILUTION OF THERMAL DISCHARGES. AN IMPORTANT RESULT WAS THAT THE DIC IS NOT MONOTONIC, BEING MUCH LARGER IN THE DEEP SECTIONS OF THE RIVER DUE TO RECIRCULATION.

0173 BOESCH, D.F.

ECOSYSTEMS CONSEQUENCES OF ALTERATIONS OF BENTHIC COMMUNITY STRUCTURE AND FUNCTION IN THE NEW YORK BIGHT REGION [1979]

IN SYMPOSIUM: ECOLOGICAL EFFECTS OF ENVIRONMENTAL STRESS. MESA, SUNY, STONY BROOK, NY 45 PP

STRUCTURE AND FUNCTION ARE DIVORCED IN MOST STUDIES OF THE ECOLOGY OF BENTHOS; FURTHERMORE, THE INTERACTION OF THE BENTHOS WITH THE REMAINDER OF THE ECOSYSTEM IS SELDOM CONSIDERED. DATA ON THE STRUCTURE AND FUNCTION OF BENTHOS IN THE NEW YORK BIGHT REGION ARE DRAWN TOGETHER AND INFERENCES ARE MADE ABOUT THE ROLE OF BENTHOS IN THESE ECOSYSTEMS AND THE CONSEQUENCES OF HUMAN ALTERATIONS OF BENTHIC COMMUNITIES.

0174 BOHLEN, W.F.

CONTINUOUS MONITORING SYSTEMS IN LONG ISLAND SOUND: DESCRIPTION AND EVALUATION [1974]

PAGES 61-69 IN PROC, IEEE INTERNAT'L CONF ON ENGINEERING IN THE OCEAN ENVIRON, HALIFAX, NOVA SCOTIA, AUG 1974. VOL 2. IEEE, NEW YORK, NY

DURING THE PAST YEAR AN INSTRUMENTATION ARRAY CONSISTING OF A SAVONIUS ROTOR CURRENT METER, WATER TEMPERATURE AND SALINITY
SENSOR AND A SPECIALLY DESIGNED TRANSMISSOMETER HAS BEEN IN OPERATION ON A CONVERTED NOMAD BUOY DEPLOYED IN EASTERN LONG ISLAND
SOUND. THIS ARRAY IN COMBINATION WITH METEOROLOGICAL SENSORS INCLUDING WIND SPEED AND DIRECTION, AIR TEMPERATURE AND BAROMETRIC
PRESSURE IS DESIGNED TO DETAIL APERIODIC STORM EVENTS AND TO PROVIDE QUANTITATIVE ASSESSMENTS OF THEIR EFFECT ON SUSPENDED

MATERIAL CONCENTRATIONS AND MASS TRANSPORT. THE SYSTEM'S CHARACTERISTICS AND PERFORMANCE DURING ITS FIRST YEAR ON STATION IS DISCUSSED.

0175 BOISVERT, R.N.; N.L. BILLS

A NON-SURVEY TECHNIQUE FOR REGIONAL I-O MODELS--APPLICATION TO RIVER BASIN PLANNING [1976]

DEPT OF AGRICULTURAL ECON, CORNELL UNIV, ITHACA, NY 95 PP

THE PRIMARY PURPOSE OF THIS BULLETIN IS TO OUTLINE PROCEDURES FOR ESTIMATING SUB-STATE INTERINDUSTRY TABLES WHICH RELY TO A LARGE EXTENT ON SECONDARY DATA. TO HELP PLACE THE PROCEDURE INTO PROPER PERSPECTIVE THE BULLETIN BEGINS WITH A REVIEW OF REGIONAL GROWTH THEORY AND INPUT-OUTPUT ECONOMICS. DTHER PROCEDURES FOR CONSTRUCTING I-O TABLES FOR SMALL REGIONS ARE DISCUSSED AND COMPARED WITH THE ONE DEVELOPED IN THIS BULLETIN. AN INTERINDUSTRY MODEL OF THE LOWER HUDSON BASIN IS DEVELOPED TO ILLUSTRATE THE METHODOLOGY. THE MODEL IS DISCUSSED BRIEFLY IN THE CONTEXT OF BASIN-WIDE NATURAL RESOURCE DEVELOPMENT OBJECTIVES. THIS DISCUSSION IS USED TO POINT OUT THE ASSUMPTIONS NEEDED TO CONSTRUCT THE TABLE AND TO HIGHLIGHT THE ADVANTAGES WHEN COMPARED TO OTHER METHODS. OTHER NON-SURVEY METHODS FOR CONSTRUCTING REGIONAL INTERINDUSTRY TABLES HAVE USED RELATIVELY AGGREGATE NATIONAL INPUT-OUTPUT TABLES AS A BASIC STARTING POINT. OUR PROCEDURE RELIES HEAVILY ON THE 367 SECTOR NATIONAL I-O TABLE. WHILE THIS STILL IMPLIES THAT THE TABLE IS BASED ON NATIONAL AVERAGE COEFFICIENTS, ONE CAN ARGUE THAT AT THIS LEVEL OF DISAGGREGATION, AVERAGE COEFFICIENTS MAY BE QUITE REASONABLE, EXCEPT FOR SPECIALIZED INPUTS SUCH AS HEATING COSTS WHICH OBVIOUSLY DIFFER BETWEEN NORTH AND SOUTH.

0176 BOKUNIEWICZ, H.J.; R.B. GORDON; D.C. RHOADS

MECHANICAL PROPERTIES OF THE SEDIMENT-WATER INTERFACE [1975]

MAR GEOL 18(4):263-278

THE HARDNESS OF MARINE SEDIMENTS IN THE NEAR-SHORE WATERS OF LONG ISLAND SOUND HAS BEEN MEASURED BY PENETRATION TESTS MADE BOTH IN SITU AND IN THE LABORATORY. PENETRATION OF THE SEDIMENT-WATER INTERFACE IS FOUND TO BE RATE-INSENSITIVE AND, FOR A GIVEN DRIVING STRESS, INDEPENDENT OF INDENTOR SIZE. ANALYSIS OF PENETRATION EXPERIMENTS IN TERMS OF PUNCHING A RIGID-PLASTIC MATERIAL CANNOT ACCOUNT FOR THESE OBSERVATIONS, BUT A MODEL BASED ON A DESCRIPTION OF THE SEDIMENT AS A LOCKING MATERIAL IS SUCCESSFUL. THE OBSERVATIONS ARE APPLIED TO DEFINING THE BEARING CAPACITY OF THE BOTTOM AND ITS RESISTANCE TO BURROWING BY MARINE ANIMALS.

D177 BOKUNIEWICZ, H.J.; R.G. GORDON; C.C. PILBEAM

STRESS ON THE BOTTOM OF AN ESTUARY [1975]

NATURE 257(5527):575-577

MANY ESTUARIES ARE SUFFICIENTLY DEEP RELATIVE TO THEIR MAXIMUM FETCH THAT EVEN IN SEVERE STORMS THE BOTTOM REMAINS UNDISTURBED BY WIND-GENERATED WAVES. YET OBSERVATIONS OF SEDIMENT TRANSPORT AND OF CHANGES IN BENTHIC ANIMAL POPULATIONS INDICATE THAT AGITATION OF THE BOTTOM OF DEEP ESTUARIES IS NOT INFREQUENT. WE REPORT HERE AN ANALYSIS OF CURRENT METER RECORDS WHICH SHOWS THAT SUCH BOTTOM DISTURBANCES CAN ARISE BECAUSE WIND STRESS AT THE SURFACE CAUSES INCREASED TURBULENCE DEEP IN THE WATER COLUMN AND, CONSEQUENTLY, A MORE FREQUENT OCCURRENCE OF UNUSUALLY HIGH VELOCITIES NEAR THE BOTTOM.

0178 BOKUNIEWICZ, H.J.; R.B. GORDON

ESTUARINE SEDIMENT DISPERSAL [1975]

EOS: TRANS AM GEOPHYS UNION 56 (2):83 ABS ONLY

CURRENT VELOCITIES MEASURED 2M ABOVE THE BOTTOM IN A LARGE TIDAL ESTUARY (LONG ISLAND SOUND) OVER A YEAR SHOW: 1) 85% OF THE ENERGY AVAILABLE FOR SEDIMENT TRANSPORT OCCURS AT VELOCITIES LESS THAN THE MAXIMUM TIDAL VELOCITY V, 2) 60% OF THE ENERGY OCCURS AT VELOCITIES BETWEEN V AND 0.66 V, AND 3) THE HIGHEST OBSERVED VELOCITY WAS 3V. REPEATED BATHYMETRIC SURVEYS OF SAND WAVES IN THE EASTERN SOUND DEMONSTRATE THE NET WESTWARD SAND FLUX DUE TO A NON-TIDAL FLOW SUPERIMPOSED ON THE TIDAL OSCILLATIONS. FOR TIMES MUCH LONGER THAN THE TIDAL PERIOD, THE DISPERSION OF SAND MAY BE DESCRIBED BY A TRANSPORT EQUATION ASSUMING SAND MOVES IN A THIN ZONE AT THE SEDIMENT-WATER INTERFACE BY ADVECTION AND DIFFUSION UNTIL REMOVED FROM THE ZONE AND IMMOBILIZED BY THE ACCRETION OF THE BOTTOM. THE MODEL IS APPLIED TO THE TRANSPORT OF SAND PARALLEL TO THE CURRENT DIRECTION FROM THE SANDY BOTTOM OF THE EASTERN SOUND, ACROSS 20KM TRANSITION ZONE, TO A SILT BOTTOM IN THE CENTRAL SOUND. THE ANALYSIS PREDICTS THAT THE SAND DISTRIBUTION APPROACHES STEADY-STATE IN A FEW DECADES, AND REQUIRES THE ADVECTIVE SAND FLUX TO BE 3.5 X 10EXP-3 CM/SEC. WHILE THE DIFFUSIVE FLUX IS CONSISTANT WITH OBSERVED CHANGES IN THE SANDWAVE FIELD.

0179 BOKUNIEWICZ, H.J.; R.B. GORDON

RATE OF ESTUARINE SEDIMENT TRANSPORT [1975]

EOS: TRANS AM GEOPHYS UNION 56(6):370 ABS ONLY

ENERGY FOR SEDIMENT TRANSPORT MAY BE SUPPLIED BY TIDAL, WIND-DRIVEN, OR GRAVITY INDUCED CIRCULATION. TO EVALUATE THE RELATIVE IMPORTANCE OF THESE AGENTS IN A LARGE TIDAL ESTUARY (LONG ISLAND SOUND), VELOCITY CHARACTERISTICS 2M ABOVE THE BOTTOM WERE EXAMINED FOR A YEAR AT 2 STATIONS AND FOR SHORTER PERIODS AT 28 ADDITIONAL LOCATIONS. THE OBSERVATIONS SHOW THAT 85% OF THE ENERGY AVAILABLE FOR SEDIMENT TRANSPORT OCCURS AT VELOCITIES LESS THAN THE MAXIMUM TIDAL VELOCITY, U. FLUCTUATIONS IN THE OBSERVED VELOCITY ARE ISOTROPIC AND UNCORRELATED TO THE PHASE OF THE TIDE. THE MAGNITUDE OF HIGH FREQUENCY FLUCTUATIONS (APPROX 0.2 CPM) APPEARS TO INCREASE WITH INCREASING WIND STRESS. THE MEAN SQUARED FLUCTUATING VELOCITY INCREASES BY A FACTOR OF TWO DURING THE WINTER MONTHS. THE MEAN SEDIMENT FLUX IS J PROPORTIONAL TO V (1.5U 2 + V 2 + 3V 2), WHERE V IS THE MEAN VELOCITY DUE PRIMARILY TO THE ESTUARINE CIRCULATION AND V IS THE FLUCTUATING VELOCITY COMPONENT. THE MAGNITUDES OF THE THREE TERMS ARE IN A RATIO OF 10:1:1. FOR FINE SAND IN LONG ISLAND SOUND, J APPROX 0.004 CM3/CM-SEC TO THE WEST (INWARD). OBSERVATIONS OF THE MIGRATION OF SAND MAVES IN THE EASTERN SOUND BY REPEATED BATHYMETRIC SURVEYS YIELD A SAND FLUX OF 0.005 CM3/CM-SEC TO THE WEST. FURTHER, THE OBSERVED DISTRIBUTION OF SAND MAY BE DESCRIBED BY A DYNAMIC MODEL OF THE DISPERSION-ACCRETION PROCESSES, REQUIRING A SAND FLUX OF 0.004 CM3/CM-SEC WESTWARD OUT OF THE EASTERN SOUND.

0180 BOKUNIEWICZ, H.J.; J. GEBERT; R.B. GORDON

SEDIMENT MASS BALANCE OF A LARGE ESTUARY, LONG ISLAND SOUND [1976]

ESTUARINE COASTAL MAR SCI 4(5):523-535

ACOUSTIC REFLECTION PROFILES AND BOTTOM SAMPLING WERE USED TO MEASURE THE VOLUME OF SEDIMENTS ACCUMULATED IN LONG ISLAND SOUND. THERE IS PRESENT 10EXP10 CU M OF SEDIMENT OF WHICH 5.3 X 10EXP9 CU M IS MARINE MUD AND 4.9 X 10EXP8 CU M IS PROBABLY OF PRE-MARINE, LACUSTINE ORIGIN. THE BALANCE CONSISTS OF REWORKED SAND DERIVED FROM GLACIAL DRIFT. THE ACOUSTICALLY DETERMINED SUBBOTTOM STRUCTURE OF THE SOUND AND AVAILABLE SEA LEVEL DATA INDICATE THAT THE SOUND BASIN WAS OCCUPIED BY A LARGE LAKE FOR AT LEAST 6,000 YR AND HAS BEEN AN ARM OF THE SEA SINCE 8,000 YR B.P. THE VOLUME OF LACUSTRINE SEDIMENT WAS ACCOUNTED FOR BY DIRECT RIVERINE INPUT OVER 6,000 YR, BUT THE VOLUME OF MARINE MUD PRESENT SUBSTANTIALLY EXCEEDS THE RIVERINE SUPPLY OVER 8,000 YR. THE SOUND WAS SHOWN TO ACT AS A TRAP FOR SEDIMENTS ORIGINATING ON THE CONTINENTAL SHELF.

0181 BOKUNIEWICZ, H.J.

ESTUARINE SEDIMENT FLUX EVALUATED IN LONG ISLAND SOUND [1976]

PH.D. THESIS. YALE UNIV. NEW HAVEN. CT 176 PP

ENERGY FOR SEDIMENT TRANSPORT IN AN ESTUARY MAY BE SUPPLIED BY WIND-DRIVEN OR GRAVITY-INDUCED CIRCULATION. OR TIDAL CURRENTS. TO EVALUATE THE RELATIVE IMPORTANCE OF THESE AGENTS IN A LARGE TIDAL ESTUARY (LONG ISLAND SOUND). WATER VELOCITY CHARACTERISTICS 2 M ABOVE THE BOTTOM JERE EXAMINED FOR A YEAR AT 2 STATIONS AND FOR SHORTER PERIODS AT 30 ADDITIONAL LOCATIONS. THE OBSERVATIONS SHOW THAT 85% OF THE ENERGY AVAILABLE FOR SEDIMENT TRANSPORT IS DERIVED FROM CURRENTS FLOWING AT VELOCITIES LESS THAN THE MAXIMUM TIDAL VELOCITY, U O. FLUCTUATIONS IN THE OBSERVED VELOCITY ARE ISOTROPHIC AND UNCORRELATED TO THE PHASE OF THE TIDE. THE MAGNITUDE OF VELOCITY FLUCTUATIONS INCREASES WITH INCREASING WIND STRESS. THE MEAN SEDIMENT FLUX IS J A U(1.5U 0 2 + U 2 + 3 U"2), WHERE U IS THE MEAN VELOCITY DUE PRIMARILY TO THE ESTUARINE CIRCULATION IN LONG ISLAND SOUND AND U" IS THE FLUCTUATING VELOCITY COMPONENT. THE MAGNITUDES OF THE THREE TERMS ARE IN A RATIO OF 10:1:1. FOR FINE SAND IN LONG ISLAND SOUND, J MAY BE CALCULATED FROM CURRENT OBSERVATIONS TO BE ABOUT 0.003 CM3/CM-SEC TO THE WEST(INWARD). OBSERVATIONS OF THE MIGRATION OF SAND WAVES IN THE EASTERN SOUND BY REPEATED BATHYMETRIC SURVEYS SHOW THE SAND FLUX TO BE ABOUT 0.01 CM3/CM-SEC TO THE WEST. FOR TIMES MUCH LONGER THAN THE TIDAL PERIOD, THE DISPERSION OF SAND MAY BE DESCRIBED BY A TRANSPORT EQUATION ASSUMING SAND MOVES IN A THIN ZONE AT THE SEDIMENT-MATER INTERFACE BY ADVECTION AND DIFFUSION UNTIL REMOVED FROM THE ZONE AND IMMOBILIZED BY THE ACCRETION OF THE BOTTOM. THE MODEL IS APPLIED TO THE TRANSPORT OF SAND PARALLEL TO THE CURRENT DIRECTION FROM THE SANDY BOITOM OF THE EASTERN SOUND. ACROSS A 20 KM TRANSITION ZONE. TO A SILT BOTTOM IN THE CENTRAL SOUND. THE ANALYSIS PREDICTS THAT THE SAND DISTRIBUTION APPROACHES STEADY - STATE IN A FEW DECADES. AND REQUIRES THE ADVECTIVE SAND FLUX TO BE 3.5 X 1D EXP-3 cm3/cm-sec. while the diffusive flux is less than 0.6 x 10 Exp-3 cm3/cm-sec.

0182 BOKUNIEWICZ, H.J.; M. DOWLING; J. GEBERT; R.B. GORDON; P. KAMINSKY; C.C. PILBEAM; C. TUTTLE

AQUATIC DISPOSAL FIELD INVESTIGATIONS, EATONS NECK DISPOSAL SITE, LONG ISLAND SOUND. APPENDIX A. INVESTIGATION OF THE HYDRAULIC REGIME AND THE PHYSICAL CHARACTERISTICS OF BOTTOM SEDIMENTATION [1977]

US ARMY CORPS ENG WES. VICKSBURG. MS 203 PP NTIS-AD-A047 421

THE MAJOR GOAL OF THE EATONS NECK DISPOSAL SITE FIELD INVESTAGATION WAS TO EVALUATE THE EFFECTS OF AQUATIC DISPOSAL OF DREDGED MATERIAL ON ORGANISMS AND WATER QUALITY, INCLUDING THE SIGNIFICANCE OF PHYSICAL, CHEMICAL, AND BIOLOGICAL FACTORS THAT INFLUENCE THE RATE OF DISPOSAL SITE RECOLONIZATION BY BENTHIC ANIMALS. A COMPREHENSIVE RESEARCH PROGRAM WAS PLANNED AND CONDUCTED AT EATONS NECK IN ORDER TO EVALUATE CAUSE AND EFFECT RELATIONSHIPS ASSOCIATED WITH THE IMPACTS OF OPEN-WATER. DISPOSAL. THIS VOLUME OF THE STUDY PRESENTS THE INVESTIGATION OF THE HYDRAULIC REGIME AND THE PHYSICAL CHARACTERISTICS OF BOTTOM SEDIMENTATION. ACOUSTIC-REFLECTION PROFILES AND MECHANICAL ANALYSIS OF CORE AND GRAB SAMPLES OF THE BOTTOM WERE USED TO DEFINE THE SEDIMENT-TYPE DISTRIBUTION OF THE AREA. RESULTS WERE CONFIRMED BY PENETROMETER TESTS AND BOTTOM AND PROFILE PHOTOGRAPHS. THE STUDY CONCLUDED THAT THERE WAS NO PHYSICAL EVIDENCE OF SIGNIFICANT DISPERSION OF DREDGED MATERIAL FROM THE EATONS NECK DISPOSAL SITE. NO PREVIOUSLY DEPOSITED MATERIAL WAS DETECTED OUTSIDE THE DESIGNATED DISPOSAL AREA.

0183 BOKUNIEWICZ, H.J.; R.B. GORDON

CONTAINMENT OF PARTICULATE WASTE IN MARINE ENVIRONMENT [1977]

IN AM ASSOC PETROL GEOL AND SOC ECON PALEONTOL & MINERALOG JOINT SESSION, JUNE 1977, WASHINGTON, DC 83 PP

WASTE ON THE BOTTOM OF AN ESTUARY CAN BE DISPERSED BY THE TIDAL STREAM, ESTUARINE CIRCULATION, WAVES, AND DISTURBANCE OF THE HYDRAULIC-FLOW FIELD BY STORMS. ALLOWANCE FOR PERTURBATION OF THE FLOW FIELD BY THE DEPOSIT OF WASTE MATERIAL MUST BE MADE IF THE WASTE OCCUPIES A SIGNIFICANT FRACTION OF THE WATER COLUMN. THESE FACTORS ARE EVALUATED FROM LONG-TERM CURRENT METER RECORDS AT A SITE IN CENTRAL LONG ISLAND SOUND USED FOR THE DISPOSAL OF 106 M3 OF DREDGED MATERIAL. THE SITE IS IN AN AREA OF NATURAL ACCUMULATION OF SILT. THE TOP OF THE PILE OF WASTE PENETRATES THE WAVE-AFFECTED ZONE. BELOW THIS ZONE TIDAL RESUSPENSION OF THE SURROUNDING NATURAL MUD ROTTOM AND OF THE WASTE OCCURS EVERY TIDAL CYCLE AND IS INCREASED BY A FACTOR OF 3 DURING SEVERE STORMS. A LAYER OF THE WASTE >1 CM THICK IS INTERMIXED WITH SEDIMENT FROM THE NEIGHBORING SEAFLOOR WITHIN A FEW WEEKS AFTER DEPOSITION IS COMPLETED; SUBSEQUENT ENTRANCE OF WASTE INTO THE WATER COLUMN IS DUE TO BIOTURBATION, WHICH CAN REACH TO DEPTHS OF 10 CM. WASTE DEEPER THAN THIS REMAINS IMMOBILE, OUT OF DIRECT COMMUNICATION WITH THE SEAWATER. THESE OBSERVATIONS ARE USED

TO DESIGN A DISPOSAL PROCEDURE WHICH WILL RESULT IN MAXIMUM CONTAINMENT OF THE WASTE.

Q184 BOKUNIEWICZ, H.J.; J. GEBERT; R.B. GORDON; P. KAMINSKY; C.C. PILBEAM

FIELD STUDY OF THE EFFECTS OF STORMS ON THE STABILITY AND FATE OF DREDGED MATERIAL IN SUBAQUEOUS DISPOSAL AREAS [1977]

US ARMY CORPS ENG WES. VICKSBURG. MS 86 PP

LONG ISLAND SOUND IS A LARGE ESTUARY. DREDGED SEDIMENT PLACED ON THE BOTTOM OF THE SOUND IS SUBJECT TO DISPERSION BY THE TIDAL STREAM, ESTUARINE CIRCULATION, WAVES, AND DISTURBANCES OF THE HYDRAULIC FLOW FIELD BY STORMS. THE TIDAL STREAM IS THE DOMINANT SOURCE OF ENERGY FOR THE RESUSPENSION AND TRANSPORT OF SEDIMENTS; WAVES DO NOT CONTRIBUTE SIGNIFICANTLY TO DISPERSION IN WATER DEPTHS GREATER THAN 60 FT. RANDOM FLUCTUATIONS IN THE WATER VELOCITY ARE DETECTED AT ALL DEPTHS. THE DATA OBTAINED SHOW THAT TO BEST CONTAIN SILT-CLAY DREDGED MATERIAL, THE DISPOSAL SITE SHOULD BE ON A NATURALLY ACCRETING MUD BOTTOM, THE DISPOSAL OPERATION SHOULD EMPLACE A LARGE VOLUME OF MATERIAL ON THE SITE EXPEDITIOUSLY, AND THE DEPOSIT SHOULD BE BUILT TO AN OPTIMUM CONFIGURATION. THE CAPACITY OF THE DISPOSAL SITE IS LIMITED BY THE MAXIMUM HEIGHT OF THE DISPOSAL MOUND AND THE MAXIMUM SLOPE OF THE PILE SIDES WHICH PRESENT A MINIMUM DISTURBANCE OF THE NATURAL HYDRAULIC REGIME. THE CAPACITY OF THE NEW HAVEN SITE IS ESTIMATED TO BE UP TO 1.7 X 10EXP6 YD3 OF UNARMORED, SILTY, DREDGED MATERIAL. LARGER VOLUMES MAY BE CONTAINED IF THE SURFACE OF THE DEPOSIT IS ARMORED WITH COARSER MATERIAL.

0185 BOKUNIEWICZ, H.J.: R.B. GORDON: K.A. KASTENS

FORM AND MIGRATION OF SAND WAVES IN A LARGE ESTUARY. LONG ISLAND SOUND [1977]

MAR GEOL 24(3):185-199

SAND WAVES OCCUR IN EASTERN LONG ISLAND SOUND WITH HEIGHTS UP TO 4 M AND LENGTHS TO 100 M. THE WAVES DO NOT FORM IF EITHER MORE THAN 10% MUD OR 12% COARSE SAND IS PRESENT IN THE SEDIMENT. MUD SUPPRESSES WAVE FORMATION BY INCREASING THE COHESION OF THE SEDIMENT. OBSERVATION OF THE MIGRATION OF SAND WAVES BY REPEATED BATHYMETRIC SURVEYS INDICATES A NET SAND FLUX GREATER THAN 0.01 CM3/CM/SEC IN THE DIRECTION FACED BY THE STEEP SLOPES OF THE WAVES (E.E. WESTWARD, INTO THE SOUND). UNDER THIS SAND FLUX, WAVES MORE THAN 30 CM HIGH WILL NOT BE MEASURABLY ALTERED BY A REVERSAL OF THE SEMIDIURNAL TIDAL CURRENT.

0186 BOKUNIEWICZ, H.J.; J. GEBERT; R.B. GORDON; J.L. HIGGINS; P. KAMINSKY; C.C. PILBEAM; M. REED; C. TUTTLE

FIELD STUDY OF THE MECHANICS OF THE PLACEMENT OF DREDGED MATERIAL AT OPEN-WATER DISPOSAL SITES [1978]

US ARMY CORPS ENG, WASHINGTON, DC 318 PP

A FIELD STUDY HAS BEEN MADE OF THE MECHANICS OF THE PLACEMENT OF DREDGED MATERIAL AT FIVE LOCATIONS, AN ESTUARINE SITE ON THE ATLANTIC AND ONE ON THE PACIFIC COAST, TWO SITES IN THE GREAT LAKES, AND ONE IN THE OPEN OCEAN. THE OBJECTIVE WAS TO OBSERVE ALL OF THE PROCESSES BY WHICH DREDGED MATERIAL IS EMPLACED ON THE BOTTOM AT A DISPOSAL SITE. INSTRUMENT ARRAYS WERE DESIGNED TO DEFINE THE TRANSIT OF DREDGED MATERIAL IN TIME AND SPACE FROM THE MOMENT OF ITS RELEASE UNTIL ITS FINAL DEPOSITION. CLOSE ATTENTION WAS GIVEN TO ACCURATE TIMING OF EVENTS AND TO THE PLACEMENT OF INSTRUMENTS CLOSE TO THE DISCHARGING VESSEL. METHODS USED INCLUDED OPTICAL TRANSMITTANCE, ACOUSTIC PULSE ECHO AND WATER FLOW MEASUREMENTS WITH INSTRUMENT ARRAYS, AND WATER SAMPLING BY CONTINUOUS PUMPING. ADDITIONAL OBSERVATIONS WERE MADE TO CHARACTERIZE THE MECHANICAL PROPERTIES OF THE DREDGED MATERIAL, ITS QUANTITY, AND THE RATE AT WHICH IT IS RELEASED INTO THE RECEIVING WATER. PLACEMENT PROCEEDS BY A THREE-STEP PROCESS AT ALL LOCALITIES: DESCENT THROUGH THE WATER COLUMN, IMPACT WITH THE BUTTOM, AND SPREAD OF A BOTTOM SURGE GENERATED BY THE IMPACT. THE DESCENT PHASE PROCEEDS BY EITHER OR BOTH OF TWO PROCESSES. COHESIVE BLOCKS OR CLODS OF DREDGED MATERIAL FALL AT THEIR TERMINAL SPEED AND ARRIVE AT THE BOTTOM INTACT, WHEREAS NONCOHESIVE DREDGED MATERIAL FALLS AS A JET OF DENSE FLUID. THE DESCENT SPEED OF THE JET IS CONSTANT AND THERE IS A LARGE ENTRAINMENT OF AMBIENT WATER. THE DREDGED MATERIAL IS DILUTED ABOUT SEVENTYFOLD WHEN DESCENT IS COMPLETED. IF THE IMPACT STRENGTH OF CLODS REACHING THE BOTTOM IS LARGE, THEY SURVIVE IMPACT AND FORM A COMPACT

MOUND OF DREDGED MATERIAL ON THE DISPOSAL SITE. OTHERWISE, THEY DISINTEGRATE AND RELEASE THEIR CONTAINED SOLIDS TO THE BOTTOM SURGE. THIS SURGE IS FORMED BY DEFLECTION OF THE DESCENDING JET BY THE BOTTOM. THE JET MAY ERODE THE BOTTOM IN THE IMPACT AREA. THE BOTTOM SURGE SPREADS RADIALLY OUTWARDS AT A DECREASING SPEED AND RUNS UNTIL THE KINETIC ENERGY LEFT AFTER DESCENT AND IMPACT IS DISSIPATED. DREDGED MATERIAL IS DEPOSITED FROM THE SURGE IN THE FORM OF A FLAT RING. ALL OF THE DREDGED MATERIAL IS CONFINED TO THE ZONE WHERE THESE THREE PROCESSES ARE ACTIVE. THE FIELD OBSERVATIONS DEMONSTRATE THE DEPENDENCE OF THE PLACEMENT PROCESSES ON WATER DEPTH, THE CURRENTS AT THE DISPOSAL SITE, AND THE PROPERTIES OF THE DREDGED MATERIAL. ACCURATE, CONTROLLED PLACEMENT IS POSSIBLE UNDER A WIDE RANGE OF DISPOSAL SITE CONDITIONS. CONTROL OF THE PLACEMENT CAN BE ATTAINED THROUGH SELECTION OF DREDGING METHOD. DESIGN OF THE CONTAINING VESSEL. AND CHOICE OF DISPOSAL SITE CHARACTERISTICS.

0187 BOKUNIEWICZ, H.J.; R.B. GORDON

STORM ENERGY IN ESTUARINE, SEDIMENTARY PROCESSES [1978]

EOS: TRANS A' GEOPHYS UNION 59 (4):295 ABS ONLY

THE RATE OF HYDRAULIC ENERGY DISSIPATION, P, IS A FACTOR IN MANY SEDIMENT TRANSPORT FORMULAE. IN COASTAL WATERS, THE RELATIVE IMPORTANCE OF STORM ENERGY IN DRIVING SEDIMENT TRANSPORT MAY BE EVALUATED BY COMPARING THE RATE OF ENERGY DISSIPATION OF STORM EVENTS TO THE RATE AT WHICH TIDAL ENERGY IS DISSIPATED, PT. THIS EVALUATION WAS MADE IN A LARGE ESTUARY (LONG ISLAND SOUND) USING A 33-YR WATER LEVEL RECORD, AND ANEMOMETER, CURRENT METER AND WAVE RECORDER DATA. THE RESONANT, CO-OSCILLATING TIDE IN LIS HAS AN INTERNAL FRICTION OF 0.8; PT = 460 MW. TIDAL POWER RESUSPENDS A 1 MM-THICK SILT LAYER EACH HALF CYCLE AND, WITH THE ESTUARINE CIRCULATION, DRIVES A SAND FLUX OF 1.5 GMS/(M-SEC). PRESSURE RECORDS SHOW THAT THE WAVE-AFFECTED ZONE EXTENDS TO A DEPTH OF 20 M. IN DEEPER WATER P DUE TO WAVES IS LESS THAN 0.05 PT AND P OF BOTTOM CURRENTS DRIVEN BY LOCAL WINDS WERE OBSERVED COMPARABLE TO PT ONLY DURING A HURRICANE. WATER LEVEL CHANGES GENERATED ON THE CONTINENTAL SHELF DURING A WINTER STORM HAVING A 10-MO RECURRENCE INTERVAL INCREASED THE AVAILABLE ENERGY IN LIS BY 1.52 TIMES OVER THE TIDAL ENERGY. THE MEAN, FRICTIONAL, ENERGY DISSIPATION RATE WAS INCREASED BY A FACTOR OF 1.7 DURING THIS STORM. SEASONAL MEAN STORM ENERGY IN WINTER IS ABOUT TWICE THAT IN SUMMER. SEASONAL MEAN STORM ENERGY MAY VARY BY A FACTOR OF 1.5 AMONG WINTER SEASONS; IT WAS LOWEST IN 1960-61 AND HIGHEST IN 1973-74. NO LONG-TERM TREND IN STORM ENERGY IS FOUND.

0188 BOKUNIEWICZ, H.J.; R.B. GORDON

CONTAINMENT OF PARTICULATE WASTES AT OPEN-WATER DISPOSAL SITES [1979]

PAGES 109-129 IN H.D. PALMER AND M.G. GROSS, EDS. GEOLOGICAL OCEAN DUMPING AND MARINE POLLUTION--ASPECTS OF WASTE DISPOSAL. DOWDEN, HUTCHINSON AND ROSS, INC., STROUDSBERG, PA

THE DEGREE OF RETENTION OF PARTICULATE SILT-CLAY SIZE WASTE AT OPEN-MATER DISPOSAL SITES DEPENDS PRIMARLY ON THE SEDIMENTARY REGIME AT THE SITE AND THE HEIGHT OF THE WASTE DEPOSIT. IN MARINE LOCALITIES THE TIDAL STREAM WILL DISPERSE WASTE PLACED IN A DEPOSIT RISING ABOVE NATURAL TOPOGRAPHIC FEATURES OF THE BOTTOM UNLESS ITS SURFACE IS ARMORED BY EROSION-RESISTANT MATERIAL OR THE NATURAL SEDIMENTATION RATE EXCEEDS A CRITICAL VALUE THAT DEPENDS ON PILE HEIGHT. THESE FACTORS ARE EVALUATED FOR DREDGED MATERIAL DISPOSAL SITES IN LONG ISLAND SOUND. SILT-CLAY IS FOUND TO BE DISPERSED AT THE CORNFIELD POINT SITE, WHERE THE NATURAL SEDIMENTATION RATE IS ZERO, BUT RETAINED AT THE NEW HAVEN SITE, WHERE NATURAL SEDIMENTATION IS 0.8 KG/SQ M/YR. AT THE LATTER SITE 1.2 X 1,000,000 CU M OF DREDGED MATERIAL WAS PLACED IN A CONICAL MOUND 8 M HIGH. SELF-CONSOLIDATION OCCURRED OVER SEVERAL WEEKS AND CAUSED AN OUTWARD ADVECTION VELOCITY OF INTERSTITIAL WATER AS GREAT AS 0.00005 CM/SEC. THE TOP OF THE WASTE PILE PENETRATES THE WAVE-AFFECTED ZONE BUT, BECAUSE IT IS ARMORED WITH SAND AND CLODS OF COHESIVE SILT, IT IS NOT DISPERSED. THE LOWER PART OF THE WASTE PILE IS UNARMORED. TIDAL RESUSPENSION OF THE NEIGHBORING MUDDY BOTTOM AND THE WASTE DEPOSIT OCCURS EVERY TIDAL CYCLE AND IS INCREASED BY AS MUCH AS A FACTOR OF TEN DURING SEVERE STORMS. A LAYER OF WASTES LESS THAN 1 CM THICK IS INTERMIXED WITH SEDIMENTS FROM THE NEIGHBORING SEA FLOOR WITHIN A FEW WEEKS AFTER DEPOSITION IS COMPLETED; SUBSEQUENT ENTRANCE OF WASTES INTO THE WATER COLUMN IS DUE TO BIOLOGICAL MIXING IN THE TOP 10 CM OF THE WASTE DEPOSIT. THE RESULTS SHOW THAT PERMANENT WASTE DEPOSITS MAY BE CONSTRUCTED IN COASTAL LOCALITIES WITH FAVORABLE NATURAL SEDIMENTARY REGIMES PROVIDED CLOSE CONTROL OVER THE DEPOSITION PROCESS IS ATTAINED.

0189 BOKUNIEWICZ, H.J. C.T. FRAY

THE VOLUME OF SAND AND GRAVEL RESOURCES IN THE LOWER BAY OF NEW YORK HARBOR [1979]

SPEC REP 32. MSRC. SUNY, STONY BROOK, NY 34 PP

THE SHALLOW (< 100 FT) STRATIGRAPHY OF THE LOWER BAY FLOOR WAS INVESTIGATED IN ORDER TO ESTIMATE THE VOLUME OF SAND AND GRAVEL DEPOSITS UNDER THE LOWER BAY. FOUR TYPES OF INFORMATION WERE STUDIED. THESE WERE: 1) CORE AND BORING LOGS, 2) SEISMIC REFLECTION PROFILES, 3) THE SURFICIAL SEDIMENT DISTRIBUTION ON THE FLOOR OF THE LOWER BAY. 4) THE STRATIGRAPHY IN LONG ISLAND, STATEN ISLAND, NORTHERN NEW JERSEY AND THE NEW YORK BIGHT. IN GENERAL, MARINE SANDS OVERLIE GLACIAL OUTWASH SANDS WHICH, IN TURN, OVERLIE UNCONSOLIDATED CRETACEOUS SEDIMENTS. ALONG THE MARGINS OF THE BAY, SANDS ARE KNOWN TO REST ON FINE-GRAINED DEPOSITS AT DEPTH; THE COMPOSITION OF LAYERS UNDERLYING THE SURFICIAL SAND DEPOSITS IN THE CENTRAL AND EASTERN BAY IS UNKNOWN. SURFICIAL MUD DEPOSITS ARE CONFINED PRIMARILY TO RARITAN AND SANDY HOOK BAYS. THEY MAY BE AS MUCH AS 150 FT THICK. SAND DEPOSITS WERE IDENTIFIED THAT HAVE A TOTAL VOLUME OF 3.429 MILLION CU YDS.

0190 BOKUNIEWICZ, H.J.

GROUND JATER SEEPAGE INTO GREAT SOUTH BAY, NEW YORK [1980]

ESTUARINE COASTAL MAR SCI 10(4):437-444

GREAT SOUTH BAY, NY, IS A LARGE LAGOON ON THE NORTHEAST COAST OF THE US. THE FLOW OF GROUNDWATER ACROSS THE FLOOR OF GREAT SOUTH BAY HAS BEEN REPORTED TO ACCOUNT FOR AS MUCH AS 2/3 OF THE TOTAL FRESHWATER INFLOW. IN SITU MEASUREMENTS OF THIS SEEPAGE FLOW HAVE BEEN MADE ALONG FOUR OFFSHORE TRANSECTS IN THE BAY. THESE MEASUREMENTS SHOW THAT THE FLOW RATE DECREASES RAPIDLY OFFSHORE WITHIN 30 M OF THE SHORELINE, THE SUBMARINE OUTFLOW RATES WERE TYPICALLY 40 L (M2/D) AND DECREASED TO LESS THAN 10 L (M2/D) AT A DISTANCE OF 100 M FROM SHORE. THE BAY FLOOR AT THE STUDY LOCATIONS WAS SAND OR SILTY SAND WITH VERTICAL INTRINSIC PERMEABILITIES RANGING FROM 14 TO 78 DARCYS. THE FLOW RATE ACROSS THE BAY FLOOR MAY BE DESCRIBED BY AN EXPONENTIALLY DECREASING FUNCTION. THE FLOW DISTRIBUTION MAY, THEREFORE, BE SPECIFIED WITH TWO PARAMETERS—THE FLOW VALUE AT THE SHORELINE, A, AND A DECAY CONSTANT, C, THAT GOVERNS THE RATE OF DECREASE OF THE FLOW OFFSHORE. THE CALCULATED TOTAL FLOWS ALONG THE FOUR TRANSECTS WERE 2.1 X 10EXP-3, 1.1 X 10EXP-3, 8.5 X 10EXP-3 AND 3.9 X 10EXP-3 L M2/D. BETWEEN 40% AND 98% OF THIS FLOW ENTERS THE BAY WITHIN 100 M FROM SHORE. THE TOTAL FLOW OF GROUNDWATER ACROSS THE BAY FLOOR WAS CALCULATED TO BE ABOUT 2 X 10EXP-8 L/D, OR 10-20% OF THE TOTAL FRESHWATER INFLOW.

0191 BONASIA, J.

ARTIFICIAL ISLANDS FOR INDUSTRIAL PORTS [1975]

WATER SPECTRUM 7(3):31-38

FEASIBILITY STUDIES WERE MADE OF THE CONSTRUCTION OF OFFSHORE, MULTI-PURPOSE INDUSTRIAL-PORT ISLANDS, AND ENGINEERING SURVEYS WERE CONDUCTED ON THE ATLANTIC AND GULF COASTS TO IDENTIFY ISLAND CANDIDATE SITES. THO CANDIDATE AREAS ABOUT 10 MI OFF THE NJ AND VA COASTS WERE LOCATED. THO ALTERNATIVE CONCEPTUAL LAYOUTS WERE DEVELOPED FOR EACH SITE AND INCLUDE SUCH CANDIDATE INDUSTRIES AS A CRUDE OIL REFINERY, PETROCHEMICAL PLANT, ACID PLANT, DESALINATION PLANT, A SEAFOOD PROCESSING PLANT, AND ISLAND WASTE TREATMENT PLANT. A CIRCLE CONFIGURATION USED FOR BOTH SITES LIMITS THE POSSIBLITY OF LOCALIZED WAVE ENERGY CONCENTRATIONS ON ANY ONE PART OF THE SEA DEFENSE SYSTEM. REFRACTED WAVES AND WAVES GENERATED BY ONSHORE WINDS ARE PREVENTED FROM ENTERING THE HARBOR BY A BREAKWATER. DESIGN AND CONSTRUCTION TECHNIQUES FOR THE MANMADE, SAND-FILLED ISLANDS ALSO WERE EVALUATED. CONSIDERATION WAS GIVEN TO DETERMINING THE REQUIREMENTS FOR ISLAND HARBOR FACILITIES, SHIP ACCESS, SHORE-TO-ISLAND ACCESS, ISLAND SUPPORT FACILITIES, SOURCES OF BORROW MATERIAL, AND CONSTRUCTION METHODS, COSTS, AND SCHEDULING.

STATE GOVERNMENT AND COASTAL ZONE MANAGEMENT [1977]

COASTAL NOTE R-2. CENTER FOR COASTAL AND ENVIRON STUDIES, RUTGERS UNIV, NEW BRUNSWICK, NJ 16 PP

THIS ACCOUNT OF THE MAJOR STATE GOVERNMENTAL AGENCIES INDICATES THE DEGREE TO WHICH EACH IS INVOLVED IN COASTAL ZONE MANAGEMENT. NOT INCLUDED ARE THE STATE AGENCIES OF EDUCATION, INSURANCE, TREASURY, STATE CIVIL SERVICE, AND INSTITUTION AND AGENCIES. THESE DEPARTMENTS HAVE LITTLE DIRECT INVOLVEMENT IN THE COASTAL ZONE OR WITH COASTAL ZONE MANAGEMENT POLICIES.

0193 BONSALL, S.

THE FISHING INDUSTRY OF NEW JERSEY [1977]

COASTAL NOTE R-4. CENTER FOR COASTAL AND ENVIRON STUDIES. RUTGERS UNIV. NEW BRUNSWICK, NJ NP

NEW JERSEY IS FORTUNATE TO HAVE A WIDE VARIETY OF FINFISH AND SHELLFISH AVAILABLE OFF THE SHORES OF THE STATE. THIS PAMPHLET DESCRIBES NEW JERSEY'S FISHERY RESOURCES AND THE PEOPLE WHO UTILIZE THEM. IN ADDITION, PROBLEMS WITHIN THE COMMERCIAL AND RECREATIONAL FISHING INDUSTRIES ARE DISCUSSED IN CONJUNCTION WITH FEDERAL AND STATE GOVERNMENT PROGRAMS.

0194 BOPP, R.F.; H.J. SIMPSON; C.R. OLSEN

PCBS AND CS-137 IN SEDIMENTS OF THE HUDSON ESTUARY [1977]

EOS: TRANS AM GEOPHYS UNION 58(6):407

DURING THE PAST TWO DECADES, SIGNIFICANT QUANTITIES OF BOTH PCBS AND CS-137 HAVE BEEN INTRODUCED INTO THE HUDSON RIVER. THE TWO MAJOR SOURCES OF CS-137 ARE GLOBAL FALLOUT FROM NUCLEAR MEAPONS TESTING AND LOW LEVEL RELEASES FROM A NUCLEAR REACTOR SITUATED APPROXIMATELY 70 KM UPSTREAM FROM THE SOUTHERN TIP OF MANHATTAN. THE SINGLE LARGEST SOURCE OF PCBS IN THE HUDSON RIVER IS THE DISCHARGE FROM TWO CAPACITOR PLANTS LOCATED APPROXIMATELY 60 KM UPSTREAM FROM ALBANY, NY. CS-137 IS ADSORBED TO FINE-GRAINED PARTICLES AND HAS BEEN USED TO TRACE RECENT SEDIMENTATION IN THE HUDSON ESTUARY. PCBS ARE ALSO ASSOCIATED WITH FINE-GRAINED SEDIMENTS AND WE HAVE FOUND EXCELLENT CORRELATION BETWEEN THE AMOUNT OF PCBS AND CS-137 IN SEDIMENT SAMPLES. THE CORRELATION SUGGESTS THAT THE RELATIVELY EASY CS-137 MEASUREMENT CAN BE USED TO SCREEN LARGE NUMBERS OF SAMPLES TO DETERMINE WHICH ONES WOULD BE APPROPRIATE FOR THE MUCH MORE DIFFICULT PCB ANALYSIS. THE PRELIMINARY RESULTS OF OUR MEASUREMENTS INDICATE THAT RECENT SEDIMENTS OF THE HUDSON ESTUARY ARE CONTAMINATED WITH PCBS TO LEVELS OF SEVERAL PPM ON A DRY WEIGHT BASIS. THIS REPRESENTS A SEVERE CONTAMINATION PROBLEM WHICH HAS ALREADY RESULTED IN THE CLOSING OF THE HUDSON RIVER TO COMMERCIAL FISHING. AREAS MOST AFFECTED INCLUDE NEW YORK HARBOR AND MARGINAL AREAS WHERE MUCH OF THE RECENT SEDIMENTATION TAKES PLACE. THE CONTINUOUS DREDGING OF THE RIVER CHANNEL AND SHOALING AREAS IN THE HARBOR HAS RESULTED IN A SIGNIFICANT TRANSPORT OF PCBS TO THE CONTINUOUS DREDGING WHERE THE DREDGE SPOILS ARE DUMPED.

0195 BOPP, R.F.; H.J. SIMPSON; C.R. OLSEN

PCBS AND THE SEDIMENTARY RECORD OF THE HUDSON RIVER [1978]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 12 PP

POLYCHLORINATED BIPHENYLS ARE AMONG THE MOST IMPORTANT ANTHROPOGENIC POLLUTANTS OF THE HUDSON RIVER SYSTEM. THE ASSOCIATION OF PCBS WITH RECENT, FINE GRAINED SEDIMENTS PERMITS THE USE OF CS-137 DISTRIBUTIONS IN THE SEDIMENTS AS AN INDICATOR OF PCB ACCUMULATION PATTERNS. SEDIMENTS OF THE HUDSON CONSTITUTE A MAJOR, WIDELY DISTRIBUTED SOURCE OF PCBS TO THE WATER COLUMN. PCB TRANSPORT IN THE RIVER OCCURS BOTH AS AN ADSORBED PHASE ON SUSPENDED MATTER AND ASSOCIATED WITH THE WATER PHASE. PCB CONTAMINATION OF THE HUDSON HAS HAD A DIRECT IMPACT ON THE SHELF BECAUSE OF SIGNIFICANT TRANSPORT ASSOCIATED WITH HUDSON RIVER WATER AND WITH SEDIMENTS DREDGED FROM NEW YORK HARBOR.

0196 BOPP , R.F.

THE GEOCHEMISTRY OF POLYCHLORINATED BIPHENYLS IN THE HUDSON RIVER [1979]

PH.D. THESIS. COLUMBIA UNIV. NEW YORK. NY NP

THE CASE OF POLYCHLORINATED BIPHENYL (PCB) CONTAMINATION IN THE HUDSON IS UNIQUE IN THAT THE LOCATION, COMPOSITION AND DURATION OF THE MAJOR SOURCE IS WELL KNOWN. THE VERY HIGH LEVELS OF PCB CONTAMINATION THROUGHOUT THE SYSTEM PERMIT INDIVIDUAL CHROMATOGRAPHIC PEAK ANALYSIS TO BE USED AS A GEOCHEMICAL TOOL. THE MAJOR SINK FOR PCBS IN THE SYSTEM IS THE RECENT SEDIMENTS WHICH HAS BEEN SAMPLED IN OVER 50 CORES. USING BOTH RADIONUCLIDES (CS-137, CS-134 AND CO-70) AND PCBS TO PROVIDE A TIME SCALE, THE MAJOR DEPOSITIONAL ENVIRONMENTS OF THE HUDSON HAVE BEEN DESCRIBED AND CHARACTERIZED IN TERMS OF THEIR PCB CONTAMINATION. THE DISTRIBUTION OF OF PCB COMPONENTS BETWEEN SUSPENDED MATTER AND WATER AND IN SEDIMENTS AS A FUNCTION OF GRAIN SIZE AND ORGANIC CONTENT HAS PEEN STUDIED. INDIVIDUAL CHROMATOGRAPHIC PEAK ANALYSIS HAS BEEN USED TO PREDICT SUSPENDED MATTER CONCENTRATIONS, TO STUDY THE STABILITY OF PCB COMPONENTS IN THE SEDIMENT COLUMN AND TO DETERMINE THE CONTRIBUTION OF NYC AREA SEWAGE TO THE PCB CONTAMINATION IN NEW YORK HARBOR. A PRELIMINARY SURVEY OF PESTICIDE RESIDUES IN HUDSON RIVER SEDIMENTS HAS ALSO BEEN MADE. THE FINAL SECTION OF THIS THESIS IS DEVOTED TO A THEORETICAL CONSIDERATION OF THE PROPERTIES THAT DETERMINE THE TRANSPORT OF PCB COMPONENTS IN NATURAL SYSTEMS. IN THIS CONTEXT, AQUEOUS DIFFUSION CONSTANTS, VAPOR PRESSURES AND HENRY'S LAW CONSTANTS HAVE BEEN PREDICTED AND APPLIED TO THE PROBLEMS OF VAPOR PHASE TRANSPORT OF PCBS FROM THE HUDSON AND EQUILIBRATION OF PCB COMPONENTS BETWEEN THE ATMOSPHERE AND NATURAL WATER SYSTEMS.

0197 BOPP, R.F.; H.J. SIMPSON; C.R. OLSEN; N. KOSTYK

PCBS IN HUDSON RIVER SEDIMENTS [1979]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 10 PP

THE HUDSON RIVER HAS RECEIVED A MAJOR POINT SOURCE DISCHARGE OF POLYCHLORINATED BIPHENYLS BETWEEN THE EARLY 1950'S AND 1976 FROM THE EFFLUENT OF TWO GENERAL ELECTRIC CAPACITOR AND TRANSFORMER MANUFACTURING PLANTS LOCATED APPROXIMATELY 60 KM UPSTREAM OF THE SOUTHERNMOST DAM ON THE RIVER AT TROY, NY. CONTAMINATED WATER AND SUSPENDED MATTER PASSING OVER THE DAM HAS BEEN THE SINGLE DOMINANT SOURCE OF PCBS ENTERING THE TIDAL HUDSON FOR THE PAST TWO DECADES. THIS REPORT PRESENTS A SUMMARY OF THE PCB DATA FOR THE MORE THAN 200 SEDIMENT SAMPLES FROM THE HUDSON THAT WE HAVE ANALYZED OVER THE PAST TWO YEARS.

0198 BOPP, R.F.; H.J. SIMPSON; C.R. OLSEN; N. KOSTYK

POLYCHLORINATED BIPHENYLS IN SEDIMENTS OF THE TIDAL HUDSON RIVER, NEW YORK [1981]

ENVIRON SCI TECHNOL 15:210-216

AS THE RESULT OF DISCHARGES OF PCBS FROM TWO MANUFACTURING FACILITIES ON THE UPPER HUDSON RIVER BETWEEN APPROX. 1950 AND 1976, RECENT SEDIMENTS OF THE TIDAL HUDSON HAVE BEEN CONTAMINATED TO AN AVERAGE LEVEL OF 10 PPM. THIS IS 1-2 ORDERS OF MAGNITUDE HIGHER THAN LEVELS IN A NUMBER OF OTHER LARGE RIVERS AND ESTUARIES THAT HAVE BEEN STUDIED. THE DEGREE OF CONTAMINATION DECREASES REGULARLY WITH DISTANCE DOWNSTREAM FROM THE SOURCE. DOWNSTREAM CHANGES IN PCB COMPOSITION ALONG THE AXIS OF THE HUDSON CAN BE UNDERSTOOD QUALITATIVELY IN TERMS OF SUSPENDED MATTER-WATER PARTITIONING OF PCB COMPONENTS. THE PRESENCE OF CS-137 IN THE SEDIMENTS CAN BE USED AS AN INDEPENDENT INDICATION OF SEDIMENT DEPOSITION SINCE THE ERA OF ATMOSPHERIC TESTING OF NUCLEAR WEAPONS. CS-137 AND PCB DEPTH PROFILES IN CORES ARE USED TO DETERMINE A FIRST-ORDER PCB BUDGET FOR SEDIMENTS OF THE TIDAL HUDSON AND TO INDICATE REGIONAL LEVELS OF PCB CONTAMINATION PRIOR TO THE LARGE POINT-SOURCE DISCHARGES TO THE UPPER HUDSON.

0199 BOROWSKY, B.

THE NATURE OF AGGREGATIONS OF NASSARIUS OBSOLETUS IN THE INTERTIDAL ZONE BEFORE THE FALL OFFSHORE MIGRATION [1979]

MALACOL REV 12(1-2):89-90

N. OBSOLETUS, IN TEMPERATE CLIMATES, MIGRATES FROM THE INTERTIDAL ZONE INTO DEEPER WATER WITH THE ONSET OF COLDER WEATHER. OBSERVATIONS WERE MADE ON A POPULATION OF THESE ORGANISMS AT JAMAICA BAY AND RAUNT WILDLIFE PARK, GATEWAY NATIONAL PARK, BROOKLYN, NY. THE AGGREGATIONS OF SNAILS IN THE INTERTIDAL ZONE WERE NOT SOCIAL UNITS; THEY MOVED INDEPENDENTLY AND IN RANDOM DIRECTIONS.

0200 BOTT. P.A.

AN EVALUATION OF THE FITNESS OF THE PJBLIC SHELLFISH GROUNDS OF DYSTER BAY HARBOR, NY REGARDING THEIR SUITABILITY FOR THE GROWTH AND REARING OF THE NORTHERN HARD CLAM (MERCENARIA, MERCENARIA) [1977]

M.S. THESIS. LONG ISLAND UNIV. BROOKVILLE. NY NP

THE SUITABILITY OF THE PUBLIC SHELLFISH BEDS OF OYSTER BAY HARBOR, NY FOR THE GROWTH AND REARING OF THE NORTHERN HARD CLAM (MERCENARIA) WAS DETERMINED. THOSE ENVIRONMENTAL PARAMETERS AFFECTING THE GROWTH, REPRODUCTION AND SURVIVAL OF THE HARD CLAM IN BOTTOM CULTURE, SUCH AS DISSOLVED OXYGEN, SALINITY, PH, WATER TEMPERATURE, SEDIMENT PERCENT COMPOSITION (PARTICLES GREATER THAN 2MM DIAMETER), SEDIMENT TOTAL OXIDIZABLE CARBON CONTENT AND BACTERIOLOGICAL WATER QUALITY WERE STUDIED. THE VALUES OBTAINED FOR MOST OF THE PARAMETERS MEASURED ARE FOUND TO BE NEAR OR WITHIN THE OPTIMAL RANGES ESTABLISHED BY PREVIOUS INVESTIGATORS. A NEAR LINEAR RELATIONSHIP IS SUGGESTED BETWEEN HARD CLAM ABUNDANCE AND SEDIMENT PERCENT COMPOSITION OF PARTICLES GREATER THAN 2MM DIAMETER. MAXIMUM NUMBERS OF CLAMS WERE ENCOUNTERED IN SEDIMENTS CONTAINING BETWEEN 1.3-2.7% ORGANIC CARBON. THE STANDING STOCK AND AGE FREQUENCY DISTRIBUTION WERE CALCULATED FOR THIS HARD CLAM FISHERY. WITH THE EXCEPTION OF THE COOPER'S BLUFF SHELLFISH BEDS, THE DISTRIBUTION AND ABUNDANCE OF CLAMS ON THE PUBLIC BEDS ARE FOUND TO BE SPORADIC AND TO SHOW SIGNS OF DEPLETION. THE AGE FREQUENCY DISTRIBUTION OF ALL THE BEDS REVEAL A DEPRESSION IN THE ABUNDANCE OF 4-5 YEAR OLD CLAMS. THIS IS ATTRIBUTED TO COMMERCIAL CLAMMING PRACTICES ON THE BEDS. A VOID BEYOND THE SIXTH YEAR IS NOTED IN THE COOPER'S BLUFF DISTRIBUTION, AN EXPLANATION IS PROPOSED. ALL FACTORS BEING CONSIDERED, THE COOPER'S BLUFF. AND WEST HARBOR SHELLFISH BEDS ARE DETERMINED QUITE SUITABLE FOR THE GROWTH AND REARING OF THE HARD CLAM. THE CYSTER BAY COVE AREA IS FOUND TO BE LESS SUITABLE. THE COVE IS FOUND TO BE MARGINAL OR DEFICIENT IN MEETING THE OPTIMAL VALUES ESTABLISHED FOR SOME OF THE PARAMETERS MEASURED.

0201 BOTTON, M.L.

EFFECTS OF SEWAGE SLUDGE ON THE BENTHIC INVERTEBRATE COMMUNITY OF THE INSHORE NEW YORK BIGHT [1979]

ESTUARINE COASTAL MAR SCI 8(2):169-180

BENTHIC INVERTEBRATE COMMUNITY STRUCTURE, INCLUDING SPECIES DIVERSITY, BIOMASS, AND TROPHIC STRUCTURE, WAS EXAMINED AT A SEWAGE SLUDGE DISPOSAL SITE AND NEARBY "CONTROL" SITE IN THE INNER NEW YORK BIGHT OFF NYC. ALTHOUGH BOTH SITES ARE CHARACTERIZED BY SOFT BOTTOMS, HIGH ORGANIC CARBON, AND SUPPORT SIMILAR DEPOSIT FEEDING ASSEMBLAGES, SPECIES DIVERSITY IS LOWER AT THE SLUDGE SITE, REFLECTING DECREASED SPECIES RICHNESS AND EVENNESS. LIKEWISE, TOTAL BIOMASS, AS WELL AS THE PROPORTIONAL DISTRIBUTION OF BIOMASS AMONG TROPHIC GROUPS, DIFFERED BETWEEN SITES. A PREVIOUSLY SUGGESTED INDICATOR SPECIES, CAPITELLA CAPITATA, IS PRESENT IN GREATER NUMBERS AT THE CONTROL STATION THAN THE SLUDGE STATION. IT IS, THEREFORE, UNSUITABLE AS AN INDICATOR SPECIES OF POLLUTION TOLERANCE IN THE PORTION OF THE NEW YORK BIGHT EXAMINED IN THIS STUDY. A SMALL POLYCHAETE BELONGING TO THE FAMILY AMPHARETIDAE, AMAGE AURICULA, IS BY FAR THE MOST ABUNDANT ANIMAL AT THE SLUDGE DISPOSAL SITE BUT ITS POTENTIAL USE AS AN INDICATOR SPECIES IS COMPLICATED BY THE FACT THAT IT EXHIBITS A GREAT TENDENCY FOR AGGREGATION. AMPELISCID AMPHIPODS APPEAR SENSITIVE TO THE PRESENCE OF SLUDGE AND MAY BE USEFUL AS INDICATORS OF CONTAMINATION. MOST OF THE COMMON ANIMALS AT BOTH STATIONS WERE AGGREGATED, AND IT WAS RECOMMENDED THAT FUTURE SAMPLING IN THE AREA SHOULD BE BY THE USE OF A LARGER NUMBER OF SMALL GRABS SUCH AS THE SHIPEK, RATHER THAN A SMALLER NUMBER OF LARGE GRABS, AS THIS WILL INCREASE THE PROBABILITY THAT PATCHY FAUNA ARE ENCOUNTERED.

0202 BOURODIMOS, E.L.

TURBULENT TRANSFER AND MIXING OF SUBMERGED HEATED WATER JET [1972]

WATER RESOUR RES 8(4):982-997

THE TURBULENT DIFFUSION, TRANSFER, AND MIXING OF A WARM SUBMERGED JET DISCHARGED HORIZONTALLY INTO A BODY OF WATER OF DIFFERENT TEMPERATURE IN A RIVER OR LAKE ARE ANALYZED. WHEN A JET OF HEATED EFFLUENT IS DISCHARGED INTO A RECEIVING BODY OF WATER AT SOME DEPTH BELOW ITS SURFACE, IT RISES AS A PLUME TO THE SURFACE AND THEN SPREADS LATERALLY AND LONGITUDINALLY AT THE FREE SURFACE. THE RISING OF THE PLUME IS A COMBINATION OF BOTH THE INITIAL MOMENTUM FLUX AND THE NET BUOYANT FORCE DUE TO THE DIFFERENCE IN DENSITY BETWEEN THE HEATED EFFLUENT AND THE SURROUNDING AMBIENT FLOW WATER. ON THE BASIS OF CONSERVATION LAWS FOR HEAT, MASS, AND MOMENTUM TRANSFER, NUMERICAL SOLUTIONS WERE DEVELOPED AND COMPARED WITH EXISTING EXPERIMENTAL DATA. THE PRACTICAL OBJECTIVE OF THIS ANALYSIS IS TO FIND THE PARAMETERS OF TURBULENT MIXING, ENTRAINMENT, AND DILUTION AND THEREBY TO ESTABLISH THEORETICAL AND PRACTICAL ENGINEERING CRITERIA FOR PREVENTING THERMAL DISCHARGES. THE RESULTS OF THESE NUMERICAL MODEL TECHNIQUES (SUITABLE FOR HIGH-SPEED DIGITAL COMPUTATION) HAVE ALREADY BEEN SUCCESSFULLY EMPLOYED IN PREDICTING PATTERNS OF ACTUAL HYDRODYNAMICS AND THERMAL BEHAVIOR OF HEATED JET DISCHARGES FROM POWERPLANTS ALONG THE HUDSON ESTUARY AND RIVER IN NEW YORK.

0203 BOURODIMOS, E.L.; S.L. YU; R.A. HAHN

STATISTICAL ANALYSIS OF DAILY WATER QUALITY DATA [1974]

WATER RESOUR BULL 10(5):925-941

THE STOCHASTIC NATURE OF SOME WATER QUALITY TIME SERIES WERE EXAMINED. THESE TIME SERIES INCLUDE 9 YEARS OF DAILY OBSERVATION IN THE STREAM FLOW, THE WATER TEMPERATURE, THE DISSOLVED OXYGEN, AND THE BIOCHEMICAL OXYGEN DEMAND (BOD) OF THE PASSAIC RIVER AT LITTLE FALLS, NJ. SPECTRAL ANALYSIS SHOWS MULTIPLE PEAKS IN THE BOD SERIES, REFLECTING EFFECTS OF STORM RUNOFF AND OTHER NON-POINT SOURCE POLLUTION ON RIVER WATER QUALITY.

0204 BOURODIMOS, E.L.; A.M. OGUNTUASE

CROSS-SPECTRAL ANALYSIS OF RAINFALL AND RUNOFF FOR RARITAN AND MULLICA RIVER BASINS IN NEW JERSEY [1974]

J HYDROL 21(1):61-79

CROSS-CORRELATION AND CROSS-SPECTRAL ANALYSIS WERE EMPLOYED IN THE ANALYSIS OF RAINFALL AND RUNOFF IN TWO RIVER BASINS: THE RARITAN AND MULLICA FIVER BASINS IN NJ. CROSS-COVARIANCE AND COHERENCE WERE STUDIED IN THE CORRELOGRAMS FOR THE FOLLOWING CASES: A) RAINFALL-RUNOFF FOR EACH BASIN SEPARATELY; (B) RAINFALL-RAINFALL ANALYSIS FOR TWO MAIN METEOROLOGICAL STATIONS IN EACH OF THE BASINS; (C) RUNOFF-RUNOFF FOR TWO MAIN GAGING STATIONS IN EACH OF THE BASINS. FROM THE ESTIMATES OF THE COHERENCE AT VARIOUS FREQUENCIES, THE CROSS-SPECTRAL ANALYSIS SHOWS A HIGHLY NONLINEAR RELATIONSHIP BETWEEN RAINFALL AND RUNOFF. A POOR COHERENCE OF THE ANNUAL CYCLES FOR EACH BASIN MAKES IT DIFFICULT TO PREDICT THE ANNUAL OSCILLATIONS OF RUNOFF FROM THOSE OF RAINFALL BY A LINEAR REGRESSION MODEL. THE HIGH COHERENCE BETWEEN RAINFALL (OR RUNOFF) AT THE FIRST STATION AND RAINFALL (OR RUNOFF) AT THE SECOND STATION WITHIN THE SAME BASIN AT ALMOST ALL FREQUENCIES ESTABLISHES AN ACCURATE PREDICTION ON A LINEAR BASIS.

0205 BOVEE, E.C.

A PRELIMINARY REPORT ON THE AMEBAS FOUND IN MARINE COASTAL WATERS OF VIRGINIA, NEW JERSEY, AND MASSACHUSEITS [1979]

J FROTOZOOL 26(3):26A

A SURVEY OF AMEBAS FOUND IN COLLECTIONS FROM CHINOTEAGUE AND ASSATEAGUE BAYS IN VA, SANDY HOOK BAY IN NJ AND BUZZARD'S BAY, EEL POND, SALT POND AT WOODS HOLE, MA, PRODUCED A TOTAL OF 17 GENERAL INCLUDING 26 ALREADY KNOWN SPECIES AND 26 AMEBAS THAT ARE UNKNOWN TO THE LITERATURE AND ARE PROBABLY NEW SPP. THESE INCLUDED: PELOMYXA SP; SACCAMOEBA SPHAERARUM, S. GUMIA, 4 OTHER SACCAMOEBA SPP.; 2 VAHLKAMPFIA SPP.; MAYORELLA CONIPES; M. CORLISSI; M. SMALLI, 5 OTHER MAYORELLA SPP.; OSCILLOSIGNUM SP.; VEXILLIFERA TELMATHALASSA, V. OTTOI, V. BROWNI, V. PAGEI, 2 OTHER VEXILLIFERA SPP.; ACANTHAMOEBA GIGANTEA, ACANTHAMOEBA SP.; STRIOLATUS TARDUS; TRIANENAMOEBA JACHJWSKII; FLABELLULA HOGUEI, FLABELLULA SP.; VANNELLA SENSILIS, V. MIRA, VANNELLA SP.; LINGULAMOEBA LEEI; PLATYAMOEBA LANGAE, P. MURCHELANOI, P. WEINSTEINI,; CLYDONELLA ROSENFIELDI, C. WARDI, CLYDONELLA SP.; UNDA MARIS, U. SCHAEFFERI, UNDA SP.; 3 UNIDENTIFIED SPP. OF STRIAMOEBA; MASTIGAMOEBA SCHULTZEI, AN UNIDENTIFIED SP. OF MASTIGAMOEBA. ALL THE MAYORELLA SPP., (EXCEPT M. CONIPES), THE VEXILLIFERA SPP., THE OSCILLOSIGNUM SP., THE ACANTHAMOEBA SPP., TRIANENAMOEBA JACHOWSKII AND THE MASTIGAMOEBA SPP. WERE FOUND ONLY FROM CHINCOTEAGUE OR ASSATEAGUE BAYS, SUGGESTING ADAPTATION OF WARMER WATERS. THE OTHER GENERA AND MOST SPECIES OF THEM ARE DISTRIBUTED AT ALL THREE LOCALES.

0206 BOWER, P.M.; H.J. SIMPSON; S.C. WILLIAMS; Y.H. LI

HEAVY METALS IN THE SEDIMENTS OF FOUNDRY COVE. COLD SPRING. NEW YORK [1978]

ENVIRON SCI TECHNOL 12(6):638-687

THE DISTRIBUTION OF CD AND NI IN THE SEDIMENTS OF FOUNDRY COVE, A SHALLOW EMBANKMENT OF THE HUDSON RIVER, IS DETERMINED AS A FUNCTION OF DISTANCE FROM AN INDUSTRIAL POINT-SOURCE OF CD-NI RELEASE. CONCENTRATIONS OF CD AND NI DECREASE SMOOTHLY BY 4 AND 3 ORDERS OF MAGNITUDE, RESPECTIVELY, TO THE COVE MARGIN. HIGH VALUES IN SURFACE SEDIMENTS DECREASE TO PREINDUSTRIAL BACKGROUND LEVELS OF 2 PPM CD AND 30 PPM NI OF SEDIMENT DEPTHS OF SIMILAR 20 CM.

0207 BOWMAN, M.J.; P.K. WEYL

HYDROGRAPHIC STUDY OF THE SHELF AND SLOPE WATERS OF NEW YORK DIGHT [1972]

TECH REP 16. MSRC. SUNY, STONY BROOK. NY 46 PP NTIS-AD-748 012

DATA ARE SUMMARIZED FROM THREE OCEANOGRAPHIC CRUISES MADE DURING 1970 AND 1971 TO INVESTIGATE THE PHYSICAL CHARACTERISTICS OF THE SHELF AND SLOPE WATERS OF NEW YORK BIGHT. THERE WAS A SHARP TEMPERATURE—SALINITY FRONT OVER THE CONTINENTAL SLOPE DURING THE MONTHS OF JUNE 1970 AND APRIL 1971. ASSOCIATED WITH THIS FRONT WAS A SUBSURFACE WARM TONGUE DELINEATED BY A TEMPERATURE MAXIMUM WHICH INTERSECTED THE EDGE OF THE SHELF AT A DEPTH OF ABOUT 150 M. DATA OBTAINED IN AUGUST 1971 SHOWED NO EVIDENCE OF ANY TEMPERATURE FRONT OVER THE SLOPE BUT SUGGESTED THE EXISTENCE OF AN IRREGULAR SALINITY GRADIENT. THREE FACTORS APPEAR TO BE IMPORTANT IN THE DYNAMICS OF THE FORMATION AND DISPERSION OF THE SUBSURFACE WARM TONGUE OVER THE CONTINENTAL SLOPE. THESE ARE THE EXISTENCE OF THE TEMPERATURE—SALINITY FRONT AND THE ASSOCIATED CONVERGENCE ZONE, THE MEANDERINGS OF THE GULF STREAM AND THE CREATION OF WARM EDDIES. AND THE INTRUSION OF LABRADOR WATER INTO THE BIGHT.

0208 BOWMAN, M.J.

POLLUTION PREDICTION MODEL OF LONG ISLAND SOUND [1975]

PAGES 1084-1103 IN PROC, CONFERENCE ON CIVIL ENG IN THE OCEANS, NEWARK, DE, 9-12 JUNE 1975

A ONE DIMENSIONAL, STEADY STATE, NUMERICAL MASS BALANCE MODEL SUITABLE FOR THE STUDY OF SEWAGE EFFLUENT DISPERSION IN LONG ISLAND SOUND IS PRESENTED. THE PREDICTED VALUES OF CONTAMINANT CONCENTRATIONS AND TRANSPORT FOR BOTH SUMMER AND WINTER CONDITIONS REFLECT THE COMBINED EFFECTS OF DISPERSION BY TIDAL MIXING AND GRAVITATIONAL CONVECTION, ADVECTIVE TRANSPORT, NET ADDITION ACROSS THE LATERAL BOUNDARIES, AND FIRST ORDER BIOCHEMICAL DECAY. HIGH LONGITUDINAL (EAST-WEST) CONCENTRATION GRADIENTS OF INORGANIC NUTRIENTS EXIST IN WESTERN LONG ISLAND SOUND AND ARE SHOWN TO BE PRIMARILY DUE TO A LARGE INFLUX OF SEWAGE EFFLUENT FROM THE EAST RIVER, WHICH CONNECTS THE SOUND TO NEW YORK HARBOR. WINTER NUTRIENT TRANSPORT IS PRIMARILY

EASTWARD THROUGHOUT THE SOUND, BUT SEASONAL REVERSALS IN DIRECTION OCCUR IN THE EASTERN REGIONS, DUE TO LARGE INCREASES IN THE BIOCHEMICAL DECAY RATES DURING THE SUMMER. NUTRIENT INPUT FROM AGRICULTURAL SOURCES VIA RUNOFF IS SHOWN TO BE NEGLIGIBLE COMPARED TO THAT TRANSPORTED BY SEWAGE EFFLUENTS.

0209 BOWMAN. M.J.

SCALES OF VARIABILITY OF THE NON-TIDAL CHARACTERISTICS OF THE EAST RIVER, NEW YORK [1975]

EOS: TRANS AM GEOPHYS UNION 56(6):382

THE EAST RIVER IS A CO-OSCILLATING TIDAL STRAIT APPROXIMATELY 25 KM LONG THAT CONNECTS NEW YORK HARBOR TO LONG ISLAND SOUND. THE TIDE IS DOMINATED BY SEMIDIURNAL COMPONENTS, WITH A MEAN TIDAL FLUX APPROXIMATELY 2,800 M3/SEC. HISTORICAL EVIDENCE ALSO EXISTS OF A HIGHLY VARIABLE NONTIDAL TRANSPORT. 14 ESTIMATES OF THIS NET FLUX MADE AT DIFFERENT TIMES OVER THE LAST 103 YR ARE REVIEWED. VALUES RANGE FROM +22% TO -40% OF THE MEAN TIDAL FLUX (A POSITIVE FLUX IS CONSIDERED TOWARD THE HARBOR). A 5 D EXPERIMENT OF TRANSPORT MEASUREMENTS WAS MADE BY NOS IN OCT 1959 WITH 12 CURRENT METERS STRUNG IN A LINEAR ARRAY ACROSS THE RIVER. THE NONTIDAL FLUX COMPUTED FROM THESE CURRENT METER RELORDS SHOWS A SIGNIFICANT CORRELATION WITH THE CONCURRENT NONTIDAL HYDRAULIC HEAD COMPUTED FROM HOURLY NOS TIDE GAUGE DATA GATHERED AT THE BATTERY AND WILLETS POINT. HOURLY COMPUTATIONS OF THE NONTIDAL HYDRAULIC HEAD WERE ALSO MADE FROM THE NOS TIDE GAUGE DATA FOR 1 YR BEGINNING JULY 1, 1958. THE RESULTING TIME SERIES HAS THE ESSENTIAL CHARACTERISTICS OF BAND+LIMITED RANDOM NOISE. THE SD OF THE FLUCTUATIONS IS APPROXIMATELY +/- 5 CM, WHICH IS APPROXIMATELY 5% OF THE MEAN TIDAL HYDRAULIC HEAD. FREQUENT REVERSALS IN THE SIGN OF THE NONTIDAL HEAD ARE OBSERVED. SUCCESSIVE ZERO CROSSINGS OCCUR OVER PERIODS RANGING FROM 2 TO 40 D. AN INVESTIGATION OF THE MONTHLY MEAN HYDRAULIC HEAD SPECTRUM OVER THE 1941-57 EPOCH WAS ALSO MADE. THE SPECTRUM HAS SIGNIFICANT PEAKS AT 1/YR AND SEVERAL OTHER LOWER FREQUENCIES.

0210 BOWMAN, M.J.

THE TIDES OF THE EAST RIVER, NEW YORK [1976]

J GEOPHYS RES 81(9):1609-1616

THE EAST RIVER, NY, IS A CO-OSCILLATING TIDAL STRAIT CONNECTING NEW YORK HARBOR TO WESTERN LONG ISLAND SOUND. LINEAR WAVE THEORY WAS APPLIED TO THE RIVER IN AN ATTEMPT TO INTERPRET THE TIDAL CHARACTERISTICS. THE THEORY ACCURATELY DESCRIBED THE OBSERVED LONGITUDINAL VARIATION IN AMPLITUDE OF THE TIDAL CURRENT, BUT THE SIMPLE MODEL USED DID NOT ADEQUATELY PREDICT THE AMPLITUDES OF THE TIDAL HEIGHTS OR THE OVERTIDES. THE FRICTIONAL RESISTANCE TO FLOW THROUGH THE RIVER WAS CHARACTERIZED BY AN EFFECTIVE VALUE OF DE CHEZY'S COEFFICIENT OF APPROXIMATELY 26 M(1/2)/S. TIDAL CURRENT RECORDS GATHERED OVER A 5-DAY PERIOD FROM A LINEAR ARRAY PLACED ACROSS THE UPPER EAST RIVER WERE ANALYZED TO INVESTIGATE THE HARMONIC CONTENT OF THE TIDAL TRANSPORT. THE SEMIDIURNAL FREQUENCY AND ITS THIRD HARMONIC WERE DOMINANT.

D211 BOWMAN, M.J.

THE HYDRODYNAMIC CHARACTERISTICS OF THE EAST RIVER TIDAL STRAIT, NEW YORK [1976]

MEM SOC R SCI LIEGE 6(10): 165-174

THE EAST RIVER NEW YORK IS A CO-OSCILLATING TIDAL STRAIT, CONNECTING NEW YORK HARBOR TO EASTERN LONG ISLAND SOUND. LINEAR WAVE THEORY IS APPLIED TO THE RIVER IN AN ATTEMPT TO INTERPRET THE SEMI-DIURNAL TIDAL CHARACTERISTICS. THE THEORY ACCURATELY DESCRIBES THE LONGITUDINAL VARIATION IN AMPLITUDE OF THE HORIZONTAL TIDES BUT DOES NOT ADEQUATELY PREDICT THE AMPLITUDES OF THE VERTICAL TIDES. THE FRICTIONAL RESISTANCE TO FLOW THROUGH THE RIVER IS CHARACTERIZED BY AN EFFECTIVE VALUE OF DE CHEZY'S COEFFICIENT 26 M 1/2 SEC-1.

0212 BOWMAN, M.J.; W.E. ESALAS

COASTAL JETS, FRONTS, AND PHYTOPLANKTON PATCHINESS [1976]

PAGES 255-269 IN J.C.J. NIHOUL, ED. PROCEEDINGS OF 8TH LIEGE COLLUQUIUM ON OCEAN HYDRODYNAMICS. ELSEVIER, NEW YORK, NY

A FRONTAL SYSTEM HAS BEEN DISCOVERED IN LONG ISLAND SOUND, FORMING THE INSHORE BOUNDARY OF A STRONG TIDALLY INDUCED COASTAL
JET. WE REGENERATED EACH EBB TIDE, THE FRONT EXTENDS FOR SEVERAL KM AROUND A LOCAL PROMONTORY, AND ADJACENT TO A HIGHLY
PRODUCTIVE SHALLOW EMBAYMENT. CHLOROPHYLL A CONCENTRATIONS MEASURED IN APRIL WITHIN THE JET WERE TYPICALLY TWICE BACKGROUND,
AND SUGGEST THAT THE SYSTEM MAY BE AN EFFECTIVE MECHANISM FOR THE PERIODIC INJECTION AT TIDAL FREQUENCIES OF HIGH CONCENTRATION
PHYTOPLANKTON PATCHES FROM THE INSHORE EMBAYMENT INTO THE INTERIOR OF THE SOUND.

0213 BOWMAN, M.J.; L.D. WUNDERLICH

DISTRIBUTION OF HYDROGRAPHIC PROPERTIES IN THE NEW YORK BIGHT APEX [1976]

PAGES 58-68 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

SEASONAL HYDROGRAPHIC CYCLES ARE INTERPRETED THROUGH A SERIES OF ISOMETRIC BLOCK DIAGRAMS AND PLANIMETRIC PROJECTIONS ILLUSTRATING THE DISTRIBUTIONS OF TEMPERATURE, SALINITY, AND DENSITY IN THE BIGHT APEX. SEASONAL CYCLES ARE TYPICAL OF THOSE FOUND IN COASTAL SEAS NEAR RIVER MOUTHS IN DROWNED RIVER VALLEYS IN JEMPERATE LATITUDES. THE PREVAILING SOUTHWEST COASTAL DRIFT, THE RIGHT ANGLE BEND OF THE COASTLINE, SEASONAL AND SHORT TERM WIND PATTERNS, AND THE PRESENCE OF THE HUDSON SHELF VALLEY, ALL INFLUENCE THE NEARSHORE CIRCULATION.

0214 BOWMAN. M.J.

TIDAL LOCKS ACROSS THE EAST RIVER: AN ENGINEERING SOLUTION TO THE REHABILITATION OF WESTERN LONG ISLAND SOUND [1976]

PAGES 28-43 IN M. WILEY, ED. ESTUARINE PROCESSES. VOL 1: USES, STRESSES, AND ADAPTATION TO THE ESTUARY. ACADEMIC PRESS, NEW YORK, NY

WATER QUALITY IN WESTERN LONG ISLAND SOUND AND NEW YORK HARBOR IS SERIOUSLY DEGRADED. A MAJOR SOURCE OF POLLUTANTS IS SEWAGE RELEASED INTO THE EAST RIVER, A CO-OSCILLATING TIDAL STRAIT CONNECTING THE SOUND TO THE HARBOR. VERY RAPID AND SIGNIFICANT IMPROVEMENTS IN WATER QUALITY COULD BE ATTAINED BY CONSTRUCTING SHIP LOCKS ACROSS THE UPPER EAST RIVER TO INCREASE THE CIRCULATION OF THE SEA THROUGH THE HARBOR AND SOUND. DURING EBB TIDE THESE LOCKS WOULD BE OPENED, ALLOWING AN UNHINDERED FLOW OF SOUND WATER INTO THE HARBOR. AFTER SIX HRS THE LOCKS WOULD BE CLOSED AT SLACK WATER, BLOCKING THE FOLLOWING FLOOD TIDE FROM RE-ENTERING THE SOUND. THE NET RESULT WOULD BE A STRONG PULSATING UNIDIRECTIONAL FLOW (APPROXIMATELY 2500 M3/SEC) OF RELATIVELY CLEAN CENTRAL LONG ISLAND SOUND WATER, PUMPED BY THE SEMIDIURNAL TIDES THROUGH NEW YORK HARBOR, AND THE LOWER BAY, OUT INTO THE NEW YORK BIGHT. SIMPLE MODELS INDICATE THAT THE CONCENTRATION OF CONSERVATIVE CONTAMINANTS IN THE WESTERN SOUND AND THE HARBOR WOULD DROP BY APPROXIMATELY 88% AND APPROXIMATELY 45%, RESPECTIVELY, FROM PRESENT LEVELS, WITHIN A MONTH OF OPERATION. THE ACCOMPANYING DECREASES IN INORGANIC NUTRIENT CONCENTRATIONS ARE CALCULATED AND TABULATED FOR BOTH WINTER AND SUMMER CONDITIONS. THE MAJOR PHYSICAL EFFECTS OF BLOCKING HUDSON RIVER WATER FROM ENTERING THE SOUND THROUGH THE EAST RIVER WOULD BE TO CHANGE THE ESSENTIAL ESTUARINE CHARACTERISTICS OF WESTERN LONG ISLAND SOUND TO THOSE OF A COASTAL EMBAYMENT, AND INCREASING THE SALINITY OF THE WESTERN SOUND AND NEW YORK HARBOR BOTH BY APPROXIMATELY 4 PPT.

0215 BOWMAN, M.J.; L.D. WUNDERLICH

HYDROGRAPHIC PROPERTIES [1977]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 1. NYSG. ALBANY. NY 83 PP NTIS_PB_267 057

CYCLES OF TEMPERATURE, SALINITY, AND DENSITY CHARACTERISTIC OF THE MIDDLE ATLANTIC BIGHT, WHICH INCLUDES NEW YORK BIGHT, ARE DETERMINED BY SEASONAL PATTERNS OF INSOLATION, RIVER RUNOFF, EVAPORATION MINUS PRECIPATIATION, WINDS, OCEAN CURRENTS, AND SHELF SLOPE EXCHANGE PROCESSES. SHELF TEMPERATURES HAVE A LARGE ANNUAL NEARSHORE RANGE AROUND 25C; THE WATER COLUMN IS UNSTRATIFIED IN WINTER BUT IS DOMINATED BY A STRONG THERMOCLINE IN SUMMER. A COOL POOL OF BOTTOM SHELF WATER ON THE MIDDLE AND OUTER CONTINENTAL SHELF REMAINS DURING THE SUMMER AS A REMNANT OF THE PREVIOUS WINTER AND PERSISTS THROUGHOUT THE ENTIRE MIDDLE ATLANTIC BIGHT.

0216 BOWMAN, M.J.

NUTRIENT DISTRIBUTIONS AND TRANSPORT IN LONG ISLAND SOUND [1977]

ESTUARINE COASTAL MAR SCI 5(4):531-543 NTIS-P8-279 412

INDRGATIC NITROGENOUS NUTRIENT DISTRIBUTIONS AND TRANSPORT IN LONG ISLAND SOUND ARE INVESTIGATED FOR BOTH WINTER AND SUMMER CONDITIONS WITH A STEADY STATE, ONE DIMENSIONAL MASS BALANCE MODEL. NUTRIENT BUDGETS BASED ON HORIZONTAL EXCHANGE, LATERAL INPUT FROM SEWAGE AND AGRICULTURAL SOURCES, AND FIRST ORDER BIOCHEMICAL UPTAKE ARE COMPUTED FOR EACH OF 13 REGIONS IN THE SOUND. ALL NUTRIENT CONCENTRATIONS, PRINCIPALLY AMMONIA, PEAK SHARPLY IN THE UPPER EAST RIVER WHERE A STRONG POINT SOURCE EXISTS. CONCENTRATION DISTRIBUTIONS AND UPTAKE RATES ARE CONSISTENT WITH PREVIOUS STUDIES OF THE NITROGEN CYCLE AND PRODUCTIVITY OF THE SOUND. HOWEVER, THIS PAPER STRESSES HORIZONTAL EXCHANGE AND SEWAGE AS IMPORTANT AND HITHERTO NEGLECTED COMPONENTS OF THE NUTRIENT BUDGETS IN VARIOUS REGIONS.

0217 BOWMAN. M.J.

SPREADING AND MIXING OF THE HUDSON RIVER EFFLUENT INTO THE NEW YORK BIGHT. [1978]

PAGES 373-386 IN J.C.J. NIHOUL, ED. HYDRODYNAMICS OF ESTUARIES AND FJORDS. ELSEVIER, AMSTERDAM, NETHERLANDS

RESULTS ARE PRESENTED FROM THREE HUDSON RIVER PLUME SAMPLING CRUISES MADE IN THE NEW YORK BIGHT, IN AUGUST 1976. THE DATA SHOW THAT THE SET AND SHAPE OF THE SPREADING EFFLUENT VARY WIDELY OVER TIME PERIODS OF ABOUT 6 DAYS, AND ARE CLEARLY INFLUENCED BY LOCAL WIND STRESS. APPLICATION OF TAKANO'S MODEL OF A STEADY STATE PLUME SPREADING INTO A STAGNANT OCEAN SUGGESTS A HORIZTONTAL EDDY VISCOSITY OF ABOUT 10EXPB CM/SEC, AND A STRONG ANTICYCLONIC DEFLECTION OF THE PLUME. THIS VALUE IS CONSIDERED TO BE AN OVERESTIMATE, SINCE INTERFACIAL SHEAR STRESS IS NEGLECTED IN THE MODEL. MORE CAREFUL MEASUREMENTS AND CALCULATIONS ARE NEEDED TO SEPARATE OUT THE EFFECTS OF HORIZONTAL AND VERTICAL VISCOSITIES, CORIOLIS FORCE, ADVECTION BY A PREVAILING COASTAL CURRENT, AND LOCAL WIND STRESS. ON PLUME DYNAMICS.

0218 BOWMAN, M.J.; R.L. IVERSON

ESTUARINE AND PLUME FRONTS [1978]

PAGES 37-194 IN WORKSHOP ON OCEANIC FRONTS IN COASTAL PROCESSES, MSRC, SUNY, STONY BROOK, NY, MAY 1977. SPRINGER-VERLAG, NEW YORK, NY

THE PROPERTIES AND DYNAMICS OF SMALL-SCALE FRONTS WITH LENGTH AND TIME SCALES OF THE ORDER OF THE TIDAL EXCURSION AND PERIOD ARE DISCUSSED. SUCH FRONTS ARE COMMONLY FOUND IN ESTUARIES AND SHALLOW SEAS. A DETAILED ANALYSIS OF THE FORMATION, LOCATION, AND PROPERTIES OF ESTUARINE FRONTS AND OF THE BIOLOGICAL IMPLICATIONS OF RIVER PLUMES, IN PARTICULAR THE HUDSON RIVER PLUME IS PRESENTED WITH THE AID OF GRAPHICAL DATA. A MATHE MATICAL ANALYSIS OF FRONTAL DYNAMICS, INVOLVING THE USE OF SEVERAL MODELS, IS PRESENTED.

0219 BOWMAN. M.J.: W.E. ESAIAS (EDITORS)

OCEANIC FRONTS IN COASTAL PROCESSES: PROC OF A WORKSHOP, MSRC, MAY 25-27, 1977, SUNY, STONY BROOK, NY [1978]

SPRINGER-VERLAG. NEW YORK, NY 114 PP

IN THIS REPORT THE PHYSICAL AND BIOLOGICAL PROPERTIES OF COASTAL FRONTS, INCLUDING ESTUARINE FRONTS ARE DISCUSSED. THE AUTHORS ASSESS PRESENT STATE OF SCIENTIFIC KNOWLEDGE, WHAT ARE THE SIGNIFICANT ENVIRONMENTAL IMPLICATIONS, WHAT ARE THE MOST IMPORTANT AREAS UPON WHICH TO FOCUS FUTURE RESEARCH. AND WHAT RESOURCES WILL BE NEEDED TO ATTAIN THOSE GOALS.

0220 BOWMAN, T.E.; S.A. GRABE; J.H. HECHT

RANGE EXTENSION AND NEW HOSTS FOR THE CYMOTHOID ISOPOD ANILOCRA ACUTA [1977]

CHES APEAKE SCI 18 (4):390-393

ANILOCYA ACUTA (ISOPODA: CYMOTHOIDAE), PREVIOUSLY KNOWN FROM GEORGIA AND FROM TAMPA BAY, FL, IS RECORDED FROM THE LOWER OCHLOCHONEE RIVER AND FROM ALLIGATOR HARBOR, FL, FROM LOUISIANA, AND FROM THE LOWER HUDSON RIVER, NY. NEW HOSTS ARE LEPISOSTEUS SPATULA, BAIRDIELLA CHRYSURA, AND ESOX NIGER.

0221 BOYLE, R.H.

HUDSON RIVER LIVES [1971]

AUDUBON 73(2):14-58

A GENERAL OVERVIEW OF THE HUDSON RIVER AND ESTUARY FROM ITS BEGINNING IN THE ADIRONDACKS TO THE NEW YORK BIGHT IS GIVEN. THIS PAPER COVERS THE VARI OF ORGANISMS TO BE FOUND THERE--INSECTS, BIRDS, FISH, PLANT LIFE, AND ALSO DISCUSSES THE PAST AND PRESENT PROBLEMS AND WHAT CAN BE EXPECTED IN THE FUTURE. SUGGESTIONS FOR POSSIBLE SOLUTIONS FOR LAND/WATER USE, PROTECTION OF WILDLIFE, AND COMPREHENSIVE MANAGEMENT ARE DISCUSSED.

0222 BOYLE, R.H.

THE HUDSON RIVER--A NATURAL AND UNNATURAL HISTORY EXPANDED EDITION [1979]

W.W. NORTON AND COMPANY, NEW YORK, NY 325 PP

THIS BOOK IS AN ACCOUNT OF THE HUDSON RIVER, WHAT THERE IS IN IT, GOOD AND BAD, AND WHY. IN TIME, THE BOOK GOES FROM THE BEGINNING OF THE HUDSON SEVENTY-FIVE MILLION YEARS AGO TO THE PRESENT DAY, AND IN DISTANCE IT COVERS THE RIVER FROM ITS ADIRONDACK MOUNTAIN HEADWATERS TO ITS FORMER TERMINUS ON THE EDGE OF THE CONTINENTAL SHELF. IN RANGE OF SPECIES, IT GOES FROM PLANKTON TO STRIPED BASS TO MAN, WHOSE SOMETIMES UNNATURAL DEEDS THREATEN THE RIVER WITH DEATH BUT WHOSE BETTER SPIRIT IS NEEDED FOR ITS SURVIVAL AND ULTIMATELY HIS OWN.

0223 BRADLEY. L.D.

ENERGY, SOLID WASTE AND RESOURCE RECOVERY--AN ECONOMIC AND ENVIRONMENTAL OPPORTUNITY [1978]

NY LEGISLATIVE COMMITTEE ON ENERGY SYSTEMS, ALBANY, NY 63 PP

IT IS EXPECTED THAT RESOURCE RECOVERY CAN PROVIDE THE FOLLOWING BENEFITS: 1) IT CAN REDUCE THE VOLUME OF MUNICIPAL SOLID WASTE TO 25% BY WEIGHT, FOR FINAL LANDFILLING; 2) IT CAN ECONOMICALLY RECOVER FERROUS METAL FROM MIXED SOLID WASTE; 3) IT CAN RECOVER ENERGY FROM MIXED SOLID WASTE WITH A VET EFFICIENCY OF 20-80% OF GROSS ENERGY INPUT, DEPENDING ON THE PROCESS UTILIZED. THERE IS A NATIONAL ENERGY SOURCE OF 1,000,000,000,000,000 BTU IN SOLID WASTE, CONSTITUTING 1-2% OF THE TOTAL NATIONAL ENERGY CONSUMPTION, OR 10-20% OF ELECTRICITY CONSUMPTION; 4) IT CAN VIELD 45-50 MILLION TONS OF PAPER, METALS, GLASS AND RUBBER FOR RECYCLING THROUGH SOURCE SEPARATION OF 25% OF TOTAL DISCARDS; 5) THE SOLID WASTE VOLUME CAN BE REDUCED BY 10% OR 20 MILLION TONS, IF THERE IS AN 80% NATIONWIDE SHIFT TO REFILLABLE BEER AND SOFT DRINK CONTAINERS, A MAJOR SHIFT TO MORE DURABLE PASSENGER TIRES, AND A GENERAL 10% REDUCTION OF NON-FOOD PACKAGING.

0224 BRAIL, R.K.; J.W. HUGHES

TRANSPORTATION [1977]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 24. NYSG, ALBANY, NY 41 PP NTIS-PB-287 876

TRANSPORTATION FACILITIES IN THE NEW YORK BIGHT REGION INCLUDE EXTENSIVE HIGHWAYS, SUBWAYS, RAILROADS, AIRPORTS, TUNNELS, AND BRIDGES. IN 1970, 14.9 MILLION PEOPLE LIVED IN THE BIGHT REGION; THERE WERE 6.8 MILLION JOBS. THE DOMINANT MODE OF TRANSPORTATION IS THE AUTOMOBILE. FULLY 70% OF ALL WEEKDAY TRIPS IN 1970 WERE MADE BY CAR; 13% WERE MADE BY RAPID TRANSIT (PREDOMINANTLY THE SUBWAY) AND 12% BY BUS. THOUGH NYC CONTAINED MOST OF THE REGION'S EMPLOYMENT (60%) AND POPULATION (53%) IN 1970, DECENTRALIZING INFLUENCES ARE AT WORK. AS THE SUBURBAN AND OUTER FRINGE COUNTIES GROW, THEIR ALMOST TOTAL DEPENDENCE ON THE AUTOMOBILE WILL MEAN INCREASED CONGESTION AND POLLUTION UNLESS MASS TRANSIT UTILIZATION IS ENCOURAGED.

0225 BRENNAN, D.J.

COORDINATION OF MARINE-RELATED HIGHER EDUCATION IN NASSAU AND SUFFOLK COUNTIES [1974]

NYSG. ALBANY, NY 80 PP NTIS-COM-75-10674

FOLLOWING AN INVENTORY OF MARINE-RELATED EDUCATIONAL RESOURCES IN NASSAU AND SUFFOLK COUNTIES, SEVERAL RECOMMENDATIONS ARE MADE FOR ESTABLISHMENT OF A MARICULTURE RESEARCH FARM AND A TASK FORCE TO STUDY MARINE INDUSTRIAL ENGINEERING.

0226 BRENNINKMEYER, B.M.; J.E. LEGNARD; J.P. SMYTHE; C.P. JAMES; W.P. MAY; E.A. FALK; J.J. BOLTON

AMPLITUDE AND PHASE VARIATIONS OF THREE DIMENSIONAL VORTICES IN THE BREAKER AND SURF ZONES [1979]

EOS: TRANS AM GEOPHYS UNION 60(18):284-285

WAVE AND THREE-DIMENSIONAL CURRENT METER VELOCITY DATA COLLECTED IN TWO DISSIMILAR FIELD AREAS--TIANA BEACH, LONG ISLAND, NY AND MATANZAS INLET, FL--UNDER DIFFERENT ENERGY AND BEACH SLOPE CONDITIONS INDICATE THE WELL-KNOWN RELATIONSHIP BETWEEN THE PREDOMINANT FREQUENCY OF NEARSHORE VELOCITY DEPENDENCE UPON THE BREAKER PERIOD. PERTURBATIONS TO THIS, HOWEVER, DO EXIST. PRELIMINARY INTERPRETATION OF THREE-DIMENSIONAL AND SPECTRAL ANALYSIS OF THE VELOCITY COMPONENTS INDICATE A SPIRALING TRANSLATION OF WATER PARTICLES BOTH PARALLEL AND NORMAL TO THE BROKEN WAVE CREST. THE DATA SHOWS THAT THESE PERTURBATIONS ARE A FUNCTION OF THE DIFFERENCES BETWEEN AMPLITUDE AND PHASE OF THE VELOCITY COMPONENTS. THIS INTERPRETATION OF THE VELOCITY DATA CONCURS WITH THE INDEPENDENTLY COLLECTED SEDIMENT DISTRIBUTION DATA WHICH ALSO INDICATES BOTH LONGITUDINAL AND TRANSVERSE SPIRALING VORTICES. THESE VORTICES MAY BE RESPONSIBLE FOR THE BURSTING PHENOMENA WHICH INITIATES THE SUSPENSION OF HIGH SEDIMENT CONCENTRATIONS IN THE SURF ZONE.

STUDIES OF PRIMARY PRODUCTION IN MANHASSET BAY [1979]

NMRC, KINGS POINT, NY 75 PP NTIS-PB-300 359

THIS REPORT SHOWS THE YEARLY TRENDS IN PRIMARY PRODUCTIVITY FOR SELECTED TESTING SITES IN MANHASSET BAY, NY. TRENDS ARE EXPRESSED IN TERMS OF BOTH DISSOLVED OXYGEN AND ELEMENTAL CARBON, GIVEN AS RATES. RESULTS OBTAINED FOR PRIMARY PRODUCTION ARE COMPARED WITH THE CLASSICAL WINKLER METHOD AND C-14. PHYTOPLANKTON RESULTS ARE ILLUSTRATED AND CLASSIFIED ACCORDING TO GENUS AND SPECIES. PICTORIAL ILLUSTRATIONS ARE GIVEN FOR 5 DIFFERENT GENERA.

0228 BRICELAND, C.; S. BORTZ; M.J. KHINKIS; H. ABASSI; R.T. WAIBEL

EVALUATION OF FRESH KILLS LANDFILL GAS FOR INDUSTRIAL APPLICATIONS [1980]

NYS ERDA, ALBANY, NY 183 PP NTIS-PB81-110504

THIS REPORT DESCRIBES A COMBINED LABORATORY AND FIELD TEST PROGRAM CARRIED OUT AT THE FRESH KILLS LANDFILL ON STATEN ISLAND TO DETERMINE THE ACCEPTABILITY OF LANDFILL GAS AS A REPLACEMENT FOR NATURAL GAS AND IMPORTED FUELS IN INDUSTRIAL PROCESSES. LANDFILL GAS, CREATED BY THE NATURAL BREAKDOWN OF DRGANIC MATERIALS, IS ABOUT 50 % METHANE. THE FRESH KILLS GAS WAS TESTED TO GAUGE ITS PERFORMANCE, CHARACTERISTICS AND HEAT VALUE, ESPECIALLY IN RELATION TO NATURAL GAS. THE RESULT OF THE TESTS WERE SO FAVORABLE, THAT AN AGGRESSIVE PROGRAM HAS BEEN INITIATED STATEWIDE TO IDENTIFY LANDFILL SITES AND POTENTIAL INDUSTRIAL USERS FOR THE LANDFILL GAS.

0229 BRICELJ, V.M.

FECUNDITY AND RELATED ASPECTS OF HARD CLAM (MERCENARIA MERCENARIA) REPRODUCTION IN GREAT SOUTH BAY, NEW YORK [1979]

M.S. THESIS. SUNY, STONY BROOK, NY 98 PP

A SPECTROPHOTOMETRIC METHOD WAS DEVELOPED FOR RAPID QUANTIFICATION OF HARD CLAM (MERCENARIA) SPERM AND EGG CONCENTRATIONS. AN OPTIMUM GAMETE RATIO OF APPROXIMATELY 1.8 x 10 exp5 sperm/100 eggs was determined. Hard clams were repeatedly induced to spawn in the laboratory. Unfertilized spawned ova ranged in size from 50 %0 97 microns and were characterized by a bimodal size-frequency distribution. In spite of the high variability in fecundity among individuals, correlation between size (length) and fecundity of clams from great south bay, new york, was significant; 15 to 25% of the variation in fecundity was attributed to the difference in size of clams. Maximum egg production recorded was 16.8 million eggs. No significant differences in fecundity, size of eggs or larval survival were detected between clams from two diverse bay habitats. Quantitative comparison between gonads of clams from the bay, and those spawned for this study suggested that laboratory spawning tends to underestimate natural fecundities. The proportion of sexes was approximately equal. The smallest clam to spawn was a sublegal female 33.1 mm in length. Seed clams were capable of producing viable spawn, but had extremely low fecundities. The significance of the results was examined in the context of local management practices.

0230 BRIDGMAN, L.B.

POLLUTION-VESSEL OWNER HELD GUILTY OF WILLFUL MISCONDUCT UNDER FEDERAL WATER POLLUTION CONTROL ACT [1979]

J MARITIME LAW 10 (3):449-456

THE FWPCA HOLDS A VESSEL OWNER LIABLE FOR < OR = \$100/TON OF THE VESSEL'S GROSS TONNAGE UNLESS THE GOVERNMENT CAN PROVE
"WILLFUL NEGLIGENCE OR WILLFUL MISCONDUCT WITHIN THE PRIVITY AND KNOWLEDGE OF THE OWNER." THE CASE IN POINT INVOLVES THE TUG
OCEAN PRINCE WHICH RAN AGROUND ON SUBMERGED ROCK IN THE HUDSON RIVER CAUSING AN OIL SPILL. THE CIRCUIT COURT OF APPEALS FOR THE
SECOND CIRCUIT HELD THAT THE TUG OWNER WAS NOT ENTITLED TO LIMITATION OF LIABILITY BECAUSE THE FAULT IN THE MANAGEMENT OF THE

0245 BRINKHUIS, B.H.

SEASON VARIATIONS IN SALT-MARSH MACROALGAE PHOTOSYNTHESIS. I. ASCOPHYLLUM NODOSUM ECAD SCORPIOIDES [1977]

MAR BIOL 44:165-175

PHOTOSYNTHESIS IN WHOLE PLANTS OF THE INTERTIDAL ALGA ASCOPHYLLUM NODOSUM ECAD SCORPIOIDES WAS EVALUATED BY MEASURING C-14 UPTAKE A VARIETY OF LIGHT INTENSITIES AND APPROXIMATELY MONTHLY INTERVALS DURING A 15 MONTH STUDY. PHOTOSYNTHETIC RATES WERE DETERMINED IN TERMS OF DRY WEIGHT, PIGMENT CONTENT AND UPTAKE INTO ETHANOL-SOLUBLE AND INSOLUBLE FRACTIONS. THE SPECIMENS. NATURALLY ACCLIMATED TO IN SITU LIGHT INTENSITIES AND TEMPERATURES, EXHIBITED PHOTOSYNTHETIC REPONSES TO LIGHT INTENSITY WHICH DIFFERED WITH TIME OF YEAR. MAXIMUM PHOTOSYNTHETIC POTENTIAL OCCURRED DURING THE SPRING MONTHS AND MINIMUM POTENTIAL OCCURRED DURING LATE SUMMER AND WINTER MONTHS. VARIATIONS IN PHOTOSYNTHETIC POTENTIAL WERE CLOSELY RELATED TO SEASONAL CHANGES IN FIELD BIOMASS. BOTH PHOTOSYNTHETIC POTENTIAL AND BIOMASS WERE INVERSELY RELATED TO GROWTH PATTERNS OF THE SALT-MARSH PHANEROGAM SPARTINA ALTERNIFLORA.

0246 BRINKHUIS, B.H.; W.F. PENELLO; A.C. CHURCHILL

CADMIUM AND MANGANESE FLUX IN EELGRASS ZOSTERA MARINA: II. METAL UPTAKE BY LEAF AND ROOT-RHIZOME TISSUES [1980]

MAR BIJL 58:187-196

IN A PREVIOUS PAPER, BRINKHUIS AND PENELLO USED RATES OF METAL ION RELEASE TO LEARN ABOUT DIFFERENT PHASES OF THE PROCESS OF UPTAKE. IN THIS SEQUEL TO THAT STUDY, THE AUTHORS TURN TO THE PROCESS OF UPTAKE ITSELF. THROUGH THIS PROCESS, THE EELGRASS PLANT ABSORBS TWO METALS, MANGANESE AND CADMIUM, FROM THE EXTERIOR OF ITS ROOT SYSTEM INTO THE XYLEM. THE METALS ARE THEN TRANSLOCATED BETWEEN ROOT-RHIZOMES AND LEAVES. THE AUTHORS, USING INDIVIDUAL SHOOTS OF EELGRASS COLLECTED FROM GREAT SOUTH BAY, NEW YORK BETWEEN JULY 1977 AND OCTOBER 1978, FOCUS ON SOME OF THE DIFFERENCES BETWEEN MANGANESE AND CADMIUM ABSORPTION IN THE PLANT: "THE RESULTS OF THE PRESENT STUDY CLEARLY INDICATE THAT MANGANESE AND CADMIUM ARE ACCUMULATED IN ZOSTERA MARINA TISSUES, AND PROBABLY BY DIFFERENT MECHANISMS." CADMIUM WAS FOUND TO BE THE MORE MOBILE OF THE TWO METALS. MANGANESE IS "TRAPPED" BY LEAF TISSUES; FOR CADMIUM, HOWEVER, UPTAKE BY ROOT, RHIZOME, AND LEAF TISSUE AS WELL AS BIDIRECTIONAL TRANSPORT BETWEEN THESE TISSUES WERE "CLEARLY DEMONSTRATED" BY THE STUDY. SUCH FACTORS AS LIGHT, SALINITY, AND TYPE OF INCUBATION MEDIUM (WATER OR SEDIMENT) WERE ALSO FOUND TO HAVE SIGNIFICANT EFFECTS ON UPTAKE AND TRANSLOCATION OF BOTH METALS. THE AUTHORS SUPPLEMENT THEIR TEXT WITH EXTENSIVE STATISTICAL DOCUMENTATION.

D247 BROCK. T.D.

THE HABITAT OF LEUCOTHRIX MUCOR, A WIDESPREAD MARINE MICROORGANISM [1966]

LIMNOL OCEANOGR 11(2):3U3-307

LEUCOTHRIX MUCOR IS A LARGE, WIDESPREAD MARINE MICROORGANISM WITH CHARACTERISTIC MORPHOLOGICAL FEATURES RECOGNIZABLE IN NATURAL COLLECTIONS. IT GROWS AS AN EPIPHYTE ON MARINE ALGAE, OCCURRING MOST EXTENSIVELY ON RHODOPHYTES (RED ALGAE) AND ON FILAMENTOUS GREEN ALGAE. THE AUTHOR DESCRIBES THE METHOD OF ISOLATION AND SUCCESS IN EXTENSIVE EPIPHYTIC GROWTH ON ALGAE IN THE LABORATORY, CONCLUDING THAT THE ALGA NOT ONLY PROVIDES A SUBSTRATUM FOR ATTACHMENT OF LEUCOTHRIX, BUT ALSO NUTRIENTS FOR ITS GROWTH. THE ALGAL CULTURES, WHICH HAVE BEEN MAINTAINED THROUGH SUCCESSIVE TRANSFERS MADE OVER SEVERAL MONTHS, ARE APPARENTLY NOT HARMED IN ANY WAY BY ATTACHMENT AND GROWTH OF L. MUCOR. IN NATURE, A WIDE VARIETY OF FILAMENTOUS AND LEAFY RHODOPHYTES ARE COLONIZED WITH L. MUCOR. WHERE WATER IS STILL OR SLOW MOVING, L. MUCOR IS RARE, BUT IT OCCURS IN EXTREMELY HIGH DENSITIES ON RHODOPHYTES GROWING IN RAPIDLY MOVING WATER. ALL ISOLATES IN PURE CULTURE HAVE BEEN REMARKABLY SIMILAR IN PHYSIOLOGICAL AND MORPHOGENETIC BEHAVIOR, HAVING SIMILAR TEMPERATURE OPTIMA AND NUTRITIONAL REQUIREMENTS. SIX STRAINS HAVE DIA DEMONSTRATING IDENTICAL BASE COMPOSITION. THUS, THE SPECIES, AS DEFINED MORPHOLOGICALLY, COMPRISES A HOMOGENEOUS GROUP OF STRAINS PHYSIOLOGICALLY AND BIOCHEVICALLY.

0248 BROCK . T.D.

BACTERIAL GROWTH RATE IN THE SEA: DIRECT ANALYSIS BY THYMIDINE AUTORADIOGRAPHY [1967]

SCIENCE 155(3758):81-83

ESTIMATING CELLULAR GROWTH RATES WITH TRITIATED THYMIDINE (TT) ASSUMES THAT: DESOXYRIBONUCLEIC ACID (DNA) IS SYNTHESIZED ONLY BY DIVIDING CELLS; T IS INCORPORATED INTO ACID-INSOLUBLE CELLULAR FRACTION ONLY DURING DNA SYNTHESIS; CELLULAR TT INCORPORATION IS DETECTABLE AUTORADIOGRAPHICALLY. TT INCORPORATION RATES IN LEUCOTHRIX MUCOR, A MARINE FILAMENTOUS EPIPHYTE WITH RECOGNIZABLE MORPHOLOGY, WAS ESTIMATED IN PURE CULTURES BY INCUBATING WITH TT IN SEAWATER MEDIUM AND PREPARING AUTORADIOGRAMS AFTER DIFFERENT INCUBATION PERIODS. RADIOACTIVE CELLS WERE SCORED FROM AUTORADIOGRAMS. COMPARISON OF INCORPORATION RATES WITH GENERATION TIMES YIELDS RELATIONSHIP THAT 1% CELLS BECOME RADIOACTIVE AFTER 0.002 GENERATION. IF FOLLOWING ASSUMPTIONS HOLD, THAT RELATIONSHIP CAN BE USED TO ESTIMATE GENERATION TIMES IN NATURAL POPULATIONS: RELATIONSHIP BETWEEN TT UPTAKE AND GENERATION TIME IS CONSTANT WITHIN SPECIES; RATE OF TT UPTAKE IS LINEAR AND WITHOUT LAG; DILUTION OF TT UPTAKE IS LINEAR AND WITHOUT LAG; DILUTION OF TT UPTAKE IS LINEAR AND WITHOUT LAG; DILUTION OF TT WITH NATURALLY OCCURRING NONRADIOACTIVE THYMIDINE IS IS NEGLIGIBLE. GENERATION TIME (IN MINUTES), SO DETERMINED, FOR NATURAL POPULATIONS OF LEUCOTHRIX FROM TWO SITES WERE: ICELAND 685, LONG ISLAND SOUND 660. IN COMBINED PURE CULTURE WITH RED ALGA, ANTITHAMNION SARNIENSE, IN MEDIUM NOT NORMALLY SUPPORTING GROWTH OF LEUCOTHRIX ALONE, ITS GENERATION TIME WAS 94. DESCRIBED TECHNIQUE SHOULD BE ADAPTABLE TO ORGANISMS INCORPORATING T; AVAILABLE IN PURE CULTURE; MICROSCOPICALLY RECOGNIZABLE IN NATURE.

0249 BROCK, T.D.

MODE OF FILAMENTOUS GROWTH OF LEUCOTHRIX MUCOR IN PURE CULTURE AND IN NATURE, AS STUDIED BY TRITIATED THYMIDINE AUTORADIOGRAPHY

J BACTERIOL 93(3):985-990

GROWTH MODE OF LEUCOTHRIX MUCOR FILAMENTS WAS MEASURED BY AUTORADIOGRAPHY WITH TRITIATED THYMIDINE. STUDIES WERE PERFORMED ON L. MUCOR IN PURE CULTURES IN FREE SUSPENSION, AS AN EPIPHYTE OF PURE CULTURE OF THE RED ALGA ANTITHAMNION SARNIENSE, AND AS AN EPIPHYTE OF RED ALGAE IN THE SEA. STATISTICAL ANALYSES OF GROWING CELLS DISTRIBUTION WAS PERFORMED BY USE OF THE NONPARAMETRIC ONE-SAMPLE RUNS TEST AND A CLUSTER ANALYSIS ADAPTED FROM QUADRAT ANALYSES OF PLANT ECOLOGISTS. NO EVIDENCE OF PREFERENTIAL GROWTH AT BASE OR TIP OF L. MUCOR FILAMENTS WAS OBTAINED IN ANY OF THESE STUDIES. HOWEVER, IN NATURE, BUT NOT IN THE LABORATORY, THERE WERE REGIONS OF L. MUCOR FILAMENTS WHICH WERE NONGROWING OR DORMANT. SUCH NONGROWING REGIONS COULD INCORPORATE TRITIATED GLUCOSE. IN LABORATORY CULTURE OF LEUCOTHRIX ON ANTITHAMNION, LEUCOTHRIX CANNOT GROW ALONE IN THE MEDIUM (ASP-6) IN WHICH THE ALGA GROWS, BUT ONLY WHEN ATTACHED TO ALGAE. THE ALGAE SEEMINGLY RELEASED NUTRIENTS INTO THE WATER WHERE COMPLETE MIXING OCCURS. ALL REGIONS OF BACTERIAL FILAMENTS SHOULD HAVE EQUAL ACCESS TO THE NUTRIENT SUPPLY AND THERE SHOULD BE NO PREFERENTIAL GROWTH AT THE BASE. IN NATURE, EPIPHYTIC BACTERIA PROBABLY DERIVE THEIR NUTRIENTS FROM SEAWATER.

0250 BROCKSEN, R.W.; S.M. ADAMS; L.W. BARNTHOUSE; S.I. AUERBACH; D.E. REICHLE; E.G. STRUXNESS

AQUATIC ECOLOGY SECTION [1979]

PAGES 79-91 IN ENVIRON SCIENCES DIVISION ANNUAL PROGRESS REP FOR PERIOD ENDING SEPT 30, 1978. CRNL-5508. ORNL. OAK RIDGE, TN

POPULATION STUDIES INCLUDED THE FOLLOWING: EMPIRICAL TRANSPORT MODEL OF THE IMPACT OF ENTRAINMENT ON FISH; IMPINGEMENT LOSSES OF WHITE PERCH IN THE HUDSON RIVER; AND MODELING THE EFFECTS OF ENTRAINMENT ON ADULT FISH. PROGRESS IS ALSO REPORTED ON THE FOLLOWING: SEDIMENT CONTRIBUTION TO THE ACCUMULATION OF CO-60 AND CS-137 IN FISH; DOSE RATE AND THE FREQUENCY OF ABNORMAL EMBRYOS IN GAMBUSIA; DISTRIBUTION AND CONCENTRATION OF TRITIUM IN WHITE OAK LAKE; STABLE ELEMENT CONCENTRATIONS IN FISH; TOXICANT FORMATION IN CONDENSER COOLING SYSTEMS; AND ENVIRONMENTAL MONITORING OF AQUATIC SYSTEMS.

0251 BROECKER, W.S. R.D. GERARD

MIXING, DIFFUSION, AND CIRCULATION RATES IN OCEAN WATERS: ANNUAL REPORT, JULY 1973-JUNE 1974 [1974]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 205 PP

FIELD STUDIES ON OCEAN CIRCULATION ARE DESCRIBED. MAJOR EMPHASIS IS PLACED ON 1) EXAMINATION OF MEDITERRANEAN OUTFLOW; 2) EXAMINATION OF THE CIRCULATION BETWEEN THE EASTERN AND WESTERN AFLANTIC BASINS; 3) INTENSIVE STUDIES OF THE ANTARCTIC CIRCULATION SOUTHEAST OF SOUTH AFRICA; 4) OCEANOGRAPHIC STUDIES IN THE EASTERN EQUATORIAL PACIFIC; 5) ANALYSIS OF DEEP OCEAN TIDE DATA FROM AN OCEAN BOTTOM TIDE METER; AND 6) SUMMARIZATION OF THE RESULTS OF COASTAL CIRCULATION STUDIES IN THE NEW YORK BIGHT.

0252 BROECKER, W.S.; H.W. FEELY; R.D. GERARD .

TRANSPORT AND TRANSFER RATES IN THE WATERS OF THE CONTINENTAL SHELF. ANNUAL REPORT. 1 JULY 1974-30 JUNE 1975 [1975]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 163 PP NTIS-COO-2185-7

DATA ARE REPORTED FROM STUDIES ON WATER MOVEMENT AND THE SALINITY, TEMPERATURE, AND DENSITY OF WATER SAMPLES COLLECTED AT VARIOUS SEASONS IN THE NEW YORK BIGHT; MEASUREMENTS OF THE TH-228/RA-228 ACTIVITY RATIOS THAT SHOULD PROVIDE INFORMATION ON THE RATE OF REMOVAL OF REACTIVE HEAVY METALS FROM SOLUTION IN SEAWATER; AND THE USE OF ARTIFICIAL RADIONUCLIDES ADSORBED ONTO SEDIMENTS TO TRACE THE MOVEMENT OF THE SEDIMENTS AND FOR THEORETICAL STUDIES RELATED TO THE ENVIRONMENTAL EFFECTS OF ENERGY UTILIZATION.

0253 BROWER, W.A., JR.

CLIMATIC STUDY OF NEW YORK BIGHT [1977]

PAGES 117-213 IN NOAA DUMPSITE EVALUATION REP 77-1. BASELINE REPORT OF ENVIRON CONDITIONS IN DWD 106, VOL I, PHYSICAL CHARACTERISTICS. NOAA, BOULDER, CO

THE NEW YORK BIGHT, COVERS THE COASTAL REGION AND WATERS BOUNDED BY 38 N LAT, 71 LONG AND THE US COASTLINE. IT ENCOMPASSES DEEPWATER DUMPSITE 106, LOCATED AT 33 45" N, 72 15" W. THIS STUDY DESCRIBES THE ENVIRONMENT OF THE DUMPSITE, OF THE ADJACENT WATERS, AND OF THE BIGHT'S COASTAL REGION. TABLES AND FIGURES ARE FOR SELECTED STATIONS AND MARINE AREAS WITHIN NEW YORK BIGHT FOR THE GENERAL PERIOD 1949 TO 1974. THE BASELINE DATA SHOULD SERVE AS A FRAME OF REFERENCE FOR ENVIRONMENTAL IMPACT STUDIES.

0254 BROWN. J.H.; L. BUHLER: J. STALEY

VESSEL TRAFFIC DATA--NEW YORK HARBOR [1975]

USCG, GROTON, CT 124 PP NTIS-AD-A019 838

THIS REPORT PRESENTS DATA RELEVANT TO THE DESIGN OF A VESSEL TRAFFIC SYSTEM (VTS) FOR NEW YORK HARBOR. THE DATA WAS OBTAINED FROM FILMS OF A RADAR PPI FOR SEVERAL RADAR LOCATIONS IN THE NEW YORK AREA. ALSO TAPES OF COMMUNICATIONS ACTIVITY ON CHANNEL 13 AND 16 OF THE VHF/FM MARITIME MOBILE BAND PROVIDED DATA. DATA ANALYSIS OBTAINED THE FOLLOWING: VESSEL DENSITY, VESSEL ROUTE IDENTIFICATION, VESSEL SPEED, CLOSE ENCOUNTER, MESSAGE ACTIVITY, CHANNEL UTILIZATION, CHANNEL EFFICIENCY, MESSAGE DURATION.

0255 BROWN. R.J.

OCEAN WASTE DISPOSAL (A BIBLIOGRAPHY WITH ABSTRACTS). REPORT FOR 1964-JUN 1976 [1976]

NTIS, SPRINGFIELD, VA 236 PP

THE MAJORITY OF THE CITED TOPICS DISCUSS THE OCEAN DISPOSAL OF SEWAGE, SEWAGE SLUDGE, AND DREDGED MATERIAL, ALTHOUGH REPORTS ON THE DISPOSAL OF RADIOACTIVE WASTES, BRINES AND INDUSTRIAL WASTES ARE ALSO COVERED. THE ECOLOGICAL AFFECTS ARE INCLUDED AS IS RESEARCH ON THE POLLUTION OF THE NEW YORK BIGHT. HOWEVER, STUDIES ON THE DISCHARGE OF HEATED EFFLUENTS ARE EXCLUDED. THIS UPDATED BIBLIOGRAPHY CONTAINS 231 ABSTRACTS, 67 OF WHICH ARE NEW ENTRIES TO THE PREVIOUS EDITION.

0256 BROWN. R.J.

OCEAN WASTE DISPOSAL. VOLUME 2: 1977-JULY, 1978 (A BIBLIOGRAPHY WITH ABSTRACTS) [1978]

NTIS. SPRINGFIELD. VA 117 PP

THE MAJORITY OF THE CITED TOPICS COVER THE OCEAN DISPOSAL OF SEWAGE, SEWAGE SLUDGE, AND DREDGED MATERIAL, ALTHOUGH REPORTS ON THE DISPOSAL OF RADIOACTIVE WASTES, BRINES AND INDUSTRIAL WASTES ARE ALSO INCLUDED. THE ECOLOGICAL AFFECTS ARE GIVEN, AS IS RESEARCH ON THE POLLUTION OF THE NEW YORK BIGHT. HOWEVER, STUDIES ON THE DISCHARGE OF HEATED EFFLUENTS ARE EXCLUDED. THIS UPDATED BIBLIOGRAPHY CONTAINS 111 ABSTRACTS. 73 OF WHICH ARE NEW ENTRIES TO THE PREVIOUS EDITION.

0257 BROWN, R.M.; S. SETHURAMAN; C. NAGLE

ATMOSPHERIC STABILITY COMPARISONS AT SHORE AND INLAND SITES [1980]

BNL, UPTON, NY 3 PP

THE VALUES NEEDED TO PREDICT DIFFUSION AND RESULTING CONCENTRATIONS FROM SOURCES NEAR COASTLINES IS LIMITED BY LACK OF EXPERIMENTAL DATA AT COASTAL LOCATIONS. THE RESULTS OBTAINED IN THIS STUDY ARE DIRECTED TO ASSIST IN THOSE CALCULATIONS. WIND MEASUREMENTS MADE AT THE COASTAL SITE AND SOME COMPARISONS WITH THE MEASUREMENTS MADE AT AN INLAND LOCATION, BOTH ON LONG ISLAND, ARE PRESENTED. CONTINUOUS WIND SPEED AND DIRECTION MEASUREMENTS HAVE BEEN MADE AT THE TIANA BEACH SITE SINCE 1975. HOURLY AVERAGED WIND DIRECTION, SPEED AND GUSTINESS TYPES WERE OBTAINED FROM THESE RECORDS, AND PROCESSED BY COMPUTER TECHNIQUES. SIMULTANEOUS DATA FROM THE INLAND LOCATION WERE ALSO OBTAINED. THE DATA WERE GROUPED WITH A DIGITAL COMPUTER ACCORDING TO GUSTINESS TYPES, WIND-SPEED CATEGORIES AND 10 DEGREE WIND DIRECTION INCREMENTS FROM O TO 360 DEGREES. THE INITIAL ANALYSIS WAS TO SEPARATE THE VARIOUS GUSTINESS TYPES BY THE NUMBER OF OCCURRENCES PER MONTH AT EACH LOCATION. THESE DATA WERE USED TO DETERMINE THE RATIO OF EACH TYPE TO THE TOTAL MONTHLY HOURS AT EACH PLACE. THE RATIOS AT EACH LOCATION WERE COMPARED TO GIVE SOME UNDERSTANDING OF THE DIFFERENCES OF TOTAL GUSTINESS BETWEEN THE COASTAL AND INLAND SITE.

0258 BROWN, T.L.

PROBLEMS OF REESTABLISHING COMMERCIAL RECREATION AUSINESSES IN NEW YORK FOLLOWING HURRICANE AGNES [1975]

WATER RESOUR BULL 11(6):1261-1270

42 COMMERCIAL CAMPGROUNDS AND 34 COMMERCIAL MARINAS WERE STUDIED TO DETERMINE THE AMOUNT AND TYPES OF FLOOD-RELATED DAMAGES INCURRED FROM HURRICANE AGNES, AND TO EVALUATE THE INSTITUTIONAL MEASURES AVAILABLE TO HELP MANAGEMENT OVERCOME THESE LOSSES. ECONOMIC LOSSES INCURRED BY FIRMS DUE TO INABILITY TO OPERATE, AND DECLINES IN THE NUMBER OF RECREATIONISTS, WERE OVER TWICE THE MAGNITUDE OF LOSSES SUFFERED VIA DIRECT PHYSICAL DAMAGES FROM FLOODING. THE FEDERAL FLOOD INSURANCE PROGRAM, AS PRESENTLY CONSTITUTED, IS OF VERY LITTLE USE TO FIRMS HAVING STRUCTURAL INVESTMENTS IN AND OVER WATER. MOST FIRMS WERE COMPLIMENTARY OF THE SMALL BUSINESS ADMINISTRATION'S LOAN PROGRAMS. IT APPEARS THAT ACTIVE PROGRAMS OF COMMUNICATION AND PROMOTION ARE NEEDED FOLLOWING RESTORATION OF REGIONS.

0259 BROWN, T.L.

RECREATIONAL ACCESS AND OWNER LIABILITY [1979]

NYSG, ITHACA, NY 4 PP

FREQUENTLY LANDOWNERS ASK: WHAT ARE MY PROPERTY RIGHTS AND HOW DO I EXERCISE THEM? WHAT IS MY LIABILITY TO RECREATIONISTS AND HOW CAN I PROTECT MYSELF AGAINST LIABILITY SUITS? HOW DOES POSTING SIGNS AFFECT MY LIABILITY? THIS FACT SHEET ATTEMPTS TO ANSWER THESE QUESTIONS BY EXPLAINING NEW YORK'S LAWS ON TRESPASSING, LIABILITY AND SAFEGUARDS TO LANDOWNERS--PARTICULARLY THOSE ALONG LAKES ONTARIO AND ERIE, THE FINGER LAKES AND OTHER INLAND LAKES, RIVERS, AND STREAMS AND THE TIDAL WATERS OF LONG ISLAND. NATURAL HAZARDS, INJURIES AND INSURANCE ARE ALSO DISCUSSED.

0260 BRUNO, S.F.; R.D. STAKER

SEASONAL VITAMIN B12 AND PHYTOPLANKTON DISTRIBUTION NEAR NAPEAGUE BAY, NY (BLOCK ISLAND SOUND) [1978]

LIMNOL OCEANOGR 23(5):1045-1051

VITAMIN B12 LEVELS IN SEAWATER WERE ASSAYED OVER A 13-MONTH PERIOD WITH THALASSIOSIRA PSEUDONANA HASLE ET HEIMDAL, CLONE 3H. CONCENTRATIONS AT FOUR DIFFERENT STATIONS RANGED FROM UNDETECTABLE TO 10.6 Ng/L. CONCENTRATIONS DURING NOV-DEC 1975 WERE DETECTABLE AND MAY HAVE LIMITED THE GROWTH OF B12 AUXOTROPHIC PHYTOPLANKTERS. A POSITIVE SIGNIFICANT CORRELATION, ON A SEASONAL CYCLE, WAS FOUND BETWEEN B12 LEVELS AND DINOFLAGELLATE CELL NUMBERS AND NEGATIVE SIGNIFICANT CORRELATIONS BETWEEN B12 AND CHLOROPHYLL A CONCENTRATIONS AT THE SAME TWO STATIONS. B12 LEVELS WERE HIGHEST DURING SUMMER WHEN OTHER NUTRIENTS (NO3-N, PO4-P) WERE LOW. BACTERIAL PRODUCTION IS SUGGESTED AS A SOURCE OF THE SUMMER CONCENTRATIONS.

0261 BRUSH, J.E.; G.W. CAREY

GUIDEBOOK FOR FIELD EXCURSIONS ARRANGED BY THE ASSOCIATION OF AMERICAN GEOGRAPHERS IN CONNECTION WITH THE NEW YORK CITY MEETINGS APRIL 11 TO 14, 1976 [1976]

ASSOC AM GEOGRAPH, WASHINGTON, DC NP

THIS GENERAL GUIDEBOOK FOR THE NEW YORK AREA COVERS SUCH TOPICS AS: RARITAN BAY AND SANDY HOOK, NJ; PALISADES AND THE LOWER HUDSON VALLEY, NY; THE NORTH AND SOUTH SHORE OF LONG ISLAND; THE PORT OF NEW YORK AND NEW JERSEY; AND THE EAST SIDE OF MANHATTEN.

0262 BRYDON, N.F.

THE PASSAIC RIVER -- PAST, PRESENT, FUTURE [1974]

RUTGERS UNIV PRESS, NEW BRUNSWICK, NJ 376 PP

MOST OF THE THINGS THAT CAN HAPPEN TO A RIVER HAVE HAPPENED TO THE PASSAIC. IT'S BEEN CHANNELED, DIRECTED, FILLED IN, DUMPED IN, AND DAMMED. THE SEMAGE, INDUSTRIAL WASTE, SILT, AND STORM DRAINAGE THAT POUR INTO THE RIVER AND ITS TRIBUTARIES HAVE MADE IT ONE OF THE MOST POLLUTED RIVERS IN THIS COUNTRY. THE STATE OF THE RIVER HAS BEEN FURTHER COMPOUNDED BY THE DENSITY OF THE POPULATION AND GOVERNMENTAL DIVISIVENESS. THE HISTORY OF THE RIVER PARALLELS THE SLOWLY GROWING AWARENESS THAT ALL THE APPROVED PUBLIC PLANS AND ALL THE TINKERING WITH THIS PART AND THAT PART OF THE RIVER HAVE RESULTED IN ITS BECOMING AN ENVIRONMENTAL MONSTROSITY. A RIVER CANNOT, WITH IMPUNITY, BE TREATED AS IF IT WERE A SERIES OF SEPARATE ENTITIES. IT IS IMPORTANT TO UNDERSTAND WHAT HAPPENED TO THE ONCE BEAUTIFUL PASSAIC, BOTH FOR THOSE WHO LIVE IN THE VALLEY AND FOR THOSE WHO MAKE THE LAWS THAT GOVERN THE USE OF ITS RESOURCES. INDEED, IT SHOULD SERVE AS A JARNING OF WHAT NOT TO DO TO OTHER RIVER SYSTEMS IN THE

COUNTRY .

0263 BUCHANAN, C.C.

OCCURRENCE OF MATURE REDFISH, SEBASTES MARINUS, IN SPORT FISHERY OF THE NEW YORK BIGHT [1973]

FISH BULL 71(2):597-598

IN THE 1971 NEW YORK SPORT FISHERY SURVEY, REDFISH, SEBASTES MARINUS, WERE REPORTED FROM THE HUDSON CANYON EDGES. SPECIMENS WERE SEXUALLY MATURE FISH. THIS IS A FIRST RECORD IN NEW YORK WATERS AND AN EXTENSION OF THE SOUTHERN AND WESTERN BREEDING RANGE IN THE NORTH ATLANTIC.

0264 BUCK, J.D.; P.M. BUBUCIS; T.J. COMBS

OCCURRENCE OF HUMAN-ASSOCIATED YEASTS IN BIVALVE SHELLFISH FROM LONG ISLAND SOUND [1977]

APPL ENVIRON MICROBIOL 33(2):370-378

CANDIDA PARAPSILOSIS, C. TROPICALIS AND TORULOPSIS GLABRATA WERE THE HUMAN-ASSOCIATED YEASTS MOST FREQUENTLY ISOLATED FROM QUAHOG (MERCENARIA MERCENARIA), OYSTERS (CRASSOSTREA VIRGINICA). AND MUSSELS (MYTILUS EDULIS) COLLECTED FROM FOUR ESTUARINE AREAS ALONG THE NORTHERN SHORE OF LONG ISLAND SOUND, CT. SOME INCONSISTENCY AND SEASONAL VARIATION IN THE OCCURRENCE OF THESE AND OTHER YEAST SPECIES WERE NOTED. IN PARTICULAR, C. ALBICANS DENSITIES WERE GREATEST DURING COLDER MONTHS IN THE MORE HEAVILY POLLUTED WATERS. A TOTAL OF 347 YEASTS WERE ISOLATED AND CULTURED AT 37 C AND. OF THESE, 219 (62%) WERE HUMAN-ASSOCIATED FORMS. GENERALLY, THESE YEASTS IN THE ANIMALS SAMPLED REFLECTED THE OVERALL POLLUTION STATUS OF THE ESTUARY FROM WHICH THEY WERE TAKEN. THIS STUDY REPRESENTS A CLEAR DEMONSTRATION OF POTENTIALLY PATHOGENIC YEASTS IN A VALUABLE MARINE RESOURCE.

0265 BUCKLEY, F.G.; C.A. MCCAFFREY

USE OF DREDGED MATERIAL ISLANDS BY COLONIAL SEABIRDS AND WADING BIRDS IN NEW JERSEY [1978]

TECH REP D-78-1. US ARMY CORPS ENG, NEW YORK, NY NP

THE USE OF DREDGED MATERIAL ISLANDS BY COLONIAL NESTING SEABIRDS AND WADING BIRDS IN NJ WAS EXAMINED IN 5 MAJOR PHASES. THE FIRST LOCATED DREDGED MATERIAL ISLANDS FROM MANASQUAN TO CAPE MAY INLETS, NJ; THE SECOND RECORDED THE PAST HISTORY OF ALL COLONIAL NESTING SEAPIRDS AND WADING BIRDS IN NJ; THE THIRD RECORDED THE VEGETATION PATTERNS AND SUCCESSION ON 21 DREDGED MATERIAL ISLANDS' SELECTED FOR INTENSIVE STUDY: THE FOURTH RECORDED THE DISTRIBUTION IN 1977 OF COLONIAL SEABIRDS AND WADING BIRDS IN THE STUDY AREA AND THEIR UTILIZATION OF DREDGED MATERIAL ISLANDS; AND THE FIFTH DOCUMENTED THOSE FACTORS INFLUENCING THE USE AND SELECTION OF DREDGED MATERIAL ISLANDS BY BIRDS IN 1977. PLANT COMMUNITIES WERE PLACED INTO 15 CATEGORIES. THE MOST IMPORTANT ONES FOR BIRDS ON THE DREDGED MATERIAL STUDY ISLANDS WERE BARE, COMMON REED, REED-SHRUB, SHRUB-FOREST, SHRUB-DENSE GRASSLAND, AND DENSE GRASSLAND. MORE THAN 52,000 PAIRS OF COLONIAL SEABIRDS AND WADING BIRDS OF 16 SPECIES NESTED IN THE STUDY AREA. THEIR USE OF DREDGED MATERIAL ISLANDS BY PERCENT OF THEIR TOTAL POPULATION RANGED FROM ZERO (FORSTER'S TERNS) TO 71 % (HERONS). NO STATISTICALLY SIGNIFICANT VEGETATION DIFFERENCES WERE FOUND BETWEEN THE 11 BIRD (COLONY) AND 10 VEGETATION (NON-COLONY) STUDY ISLANDS, LEADING TO THE CONCLUSION THAT OTHER FACTORS, NOTABLY MICROTOPOGRAPHY, PAST HISTORY OF COLONY SUCCESS, AND FREEDOM FROM DISTURBANCE BY QUADRUPED PREDATORS AND HUMANS, MAY BE THE MOST IMPORTANT IN DETERMINING ISLAND USE BY BIRDS, GIVEN CERTAIN MINIMAL HABITAT REQUIREMENTS. 19 MANAGEMENT RECOMMENDATIONS FOR DREDGED MATERIAL ISLANDS ARE STATED, INCLUDING ANNUAL WILDLIFE SURVEYS, CAREFUL MONITORING OF CONTRACTOR PERFORMANCE, ATTENTION TO RECORD KEEPING. PRESERVATION OF ALTERNATIVE COLONY SITES, ROTATIONAL USE AND MANAGMENT OF DREDGED MATERIAL ISLANDS. PROPORTIONAL HABITAT CREATION AND MANAGEMENT, AND PROTECTION OF ALL ISLANDS WITH BIRD COLONIES.

0266 BUCKLEY, F.G.: M. GOCHFELD: P.A. BUCKLEY

BREEDING LAUGHING GULLS RETURN TO LONG ISLAND [1978]

KINGBIRD 28(4):203-207

A SINGLE LAUGHING GULL NEST WAS FOUND IN THE LINE ISLAND COMPLEX OF SALT MARSHES IN GREAT SOUTH BAY DURING A 1978 HELICOPTOR CENSUS OF NESTING COLONIAL WATERBIRDS ON LONG ISLAND. THIS SITING IS THE FIRST RECORD OF A BREEDING COLONY OF LAUGHING GULLS ON LONG ISLAND IN ALMOST 80 YEARS. THE LAUGHING GULL'S DISAPPEARANCE AS A REGULARLY BREEDING SPECIES RESULTED FROM DEPREDATIONS BY THE MILLINERY TRADE AND COMMERCIAL EGGERS DURING THE LATE 1800'S. THE REASON WHY IT TOOK SO LONG FOR BREEDING INDIVIDUALS OF THIS SPECIES TO RETURN TO LONG ISLAND IS NOT WELL UNDERSTOOD.

0267 BUCKLEY, F.G.

COLONY SITE SELECTION BY COLONIAL WATERBIRDS IN COASTAL NEW JERSEY [1978]

PROC COLONIAL WATERBIRD GROUP 1978:17-26

INVESTIGATION OF COLONIAL WATERBIRD COLONY HABITAT DURING THE 1977 BREEDING SEASON FROM CAPE MAY TO MANASQUAN INLETS, NJ DISCLOSED THAT OF FIVE GENERAL CATEGORIES (SALT MARSH AND SALT MARSH ISLANDS; BARRIER ISLANDS AND BEACHES; ALL DREDGE SPOIL; CORPS OF ENGINEERS DREDGE SPOIL ISLANDS; AND OTHER), SALT MARSH SUPPORTED THE GREATEST PERCENTAGE (76%) OF THE 52,205 BREEDING PAIRS CENSUSED AT 119 SITES. BARRIER ISLANDS, FORMERLY LESS DEVELOPED AND MORE IMPORTANT, SUPPORTED 5% OF THE TOTAL POPULATION. DREDGE SPOIL SITES, WITH 18% OF THE TOTAL POPULATION, WERE MOST IMPORTANT TO WADING BIRDS AND LARGE GULLS, WHILE CORPS SITES SUPPORTED ONLY 5% OF THE TOTAL POPULATION. GREATER USE OF THE LATTER SITES BY LESS DESIRABLE HERRING AND GREAT BLACKBACKED GULLS THEN BY OTHER SPECIES IS ATTRIBUTED IN PART TO CURRENT CORPS OF ENGINEERS MANAGEMENT PRACTICES.

0268 BUCKLEY, P.A.; F.G. BUCKLEY; M. GOCHFELD

GULL-BILLED TERN: NEW YORK STATE'S NEWEST BREEDING SPECIES [1975]

KINGBIRD 25 (4):178-183

A JUNE 11, 1975 SITING OF A GULL-BILLED TERN NEST ON THE NORTH SIDE OF THE JONES BEACH STRIP IS THE FIRST KNOWN BREEDING OF THIS SPECIES IN NY, THUS ESTABLISHING LONG ISLAND AS THE NORTHERNMOST EDGE OF THE GULL-BILL'S EAST COAST BREEDING RANGE. ALTHOUGH THIS NEST PRODUCED TWO FLEDGLINGS, THE FAILURE OF A SECOND PAIR OF ADULTS, LOCATED SHORTLY AFTER THE FIRST, TO FLEDGE ANY YOUNG WAS UNDOUBTEDLY CAUSED BY AN ALMOST DAILY DISTURBANCE BY EAGER BIRDERS.

0269 BUEHLER, K.; H.I. HIRSHFIELD

CADMIUM IN AN AQUATIC ECOSYSTEM: EFFECTS ON PLANKTONIC ORGANISMS [1974]

PAGES 283-289 IN PROC, 2ND ANN TRACE CONTAMINANTS CONFERENCE, PACIFIC GROVE, CA, AUG 1974. LBL-3217. LAWRENCE BERKELEY LAB, UNIV OF CA, BERKELEY, CA

CADMIUM, A TOXIC METAL, HAS BEEN SHOWN TO BE AN IMPORTANT CONTAMINANT AT FOUNDRY COVE, LOCATED NEAR COLD SPRING, NY ON THE HUDSON RIVER. ITS DISTRIBUTION IN WATER AND SEDIMENTS AND EFFECT ON THE MICROZOOPLNAKTON IN THE AREA IS BEING STUDIED AND EVALUATED.

0270 BUHLER, L.; J. GEIGER; T. NIGHTENGALE; P. WALCOTT

VESSEL TRAFFIC DATA FOR NEW YORK HARBOR [1976]

USCG. GROTON. CT. 26 PP NTIS-AD-A038-448

THIS REPORT PRESENTS DATA CONCERNING VESSEL TRAFFIC IN THE NEW YORK HARBOR AREA. THE DATA WAS OBTAINED FROM FILMS OF A RADAR PPI AT ONE SITE IN THE NEW YORK HARBOR AREA. ALSO, TAPES OF COMMUNICATIONS ACTIVITY ON CHANNEL 13 OF THE VHF/FM MARITIME MOBILE BAND PROVIDED DATA. DATA ANALYSIS OBTAINED THE FOLLOWING: VESSEL DENSITY; VESSEL ROUTE IDENTIFICATION; VESSEL SPEED; CLOSE ENCOUNTER; MESSAGE ACTIVITY; CHANNEL UTILIZATION; AND CHANNEL EFFICIENCY.

0271 BUMPUS. D.F.

A DESCRIPTION OF THE CIRCULATION ON THE CONTINENTAL SHELF ON THE EAST COAST OF THE UNITED STATES [1973]

PAGES 111-157 IN B.A. WARREN, ED. PROGRESS IN OCEANOGRAPHY, VOL. 6. PERGAMON PRESS, OXFORD, ENGLAND

THE CIRCULATION ON THE CONTINENTAL SHELF OF THE EAST COAST OF THE UNITED STATES IS DISCUSSED, INCLUDING THE HISTORICAL DEVELOPMENT OF THE CONCEPTS, AND THE SURFACE AND BOTTOM CIRCULATION BASED ON DRIFT-BOTTLE DATA AND SEA-BED DRIFTER DATA. SUGGESTIONS FOR FUTURE RESEARCH TO FURTHER OUR UNDERSTANDING OF THE CIRCULATION PROBLEM ARE OFFERED.

0272 BUNKER, J.G.

HARBOR & HAVEN: AN ILLUSTRATED HISTORY OF THE PORT OF NEW YORK [1979]

WINDSOR PUBLICATIONS, INC., CA 302 PP

THIS HISTORY OF PORT OF NEW YORK GOES BACK TO 1609 AND DESCRIBES THE MODERNIZATION OF THE PORT AUTHORITY AND THE PIERS. DESCRIPTIONS OF 38 MAJOR BUSINESSES ASSOCIATED WITH THE PORT ARE INCLUDED.

0273 BURBRIDGE, P.R.

WHAT PRICE TIDAL WETLANDS? [1978]

NYSG. ALBANY, NY 185 PP

CONTINUING PROBLEMS IN MANAGING TIDAL WETLANDS DEVELOP FROM DIFFERENCES IN ECOLOGIC AND ECONOMIC PHILOSOPHIES. THE ECOLOGICAL FUNCTION OF TIDAL WETLANDS GENERATES A BROAD RANGE OF ENVIRONMENTAL GOODS AND SERVICES. BUT THE OWNER, WHILE PROVIDING BENEFITS TO SOCIETY, RECEIVES NO MONETARY REWARD. YET, THE PRIVATE LAND MARKET REMAINS THE PRIME MECHANISM FOR ALLOCATING WETLAND RESOURCES. UNTIL TIDAL WETLANDS HAVE BEEN TRANSFORMED INTO DEVELOPMENT SITES, THEY PRODUCE LOW SALE PRICES. WITH DEVELOPMENT THERE IS AN INCREASE IN VALUE OF APPROXIMATELY THREE TIMES THE ORIGINAL PRICE. A COMBINATION OF REGULATION AND ECONOMIC INCENTIVES COULD REDUCE PRESSURE TO DEVELOP WETLANDS.

0274 BURCH, T.L.; J. KARPEN

COMPARISON OF AN ACCELEROMETER WAVE BUOY WITH A RESISTANCE WAVE STAFF IN COASTAL WATERS [1975]

EOS: TRANS AM GEOPHYS UNION 56(6):379 ABS ONLY

A COMPARISON OF A FIXED-MOUNT RESISTANCE WAVE STAFF AND A SLACK-MOORED ACCELEROMETER BUDY WAS CONDUCTED AT A SITE 4.5 KM OFF LITTLE EGG INLET, NJ DURING JUL AND AUG, 1974. SIGNIFICANT WAVE HEIGHTS RANGED FROM 0.3 TO 2.0 M, AND PEAK SPECTRAL WAVE PERIODS RANGED FROM 2.8 TO 14.4 SEC. ANALYSIS WAS BASED ON 37 PAIRS OF CONCURRENT WAVE RECORDS. THE EQUATIONS FOR THE MAJOR AXES OF THE ELLIPSES OF CONSTANT PROBABILITY DENSITY ON A BIVARIATE NORMAL SURFACE FOR SIGNIFICANT WAVE HEIGHT H S. MAXIMUM WAVE HEIGHT H MAX, AND MAXIMUM RANGE OF SURFACE DEFLECTION D MAX ARE: H S: Y=-0.12 + 1.14X, R = 0.984 H MAX: Y=0.01 +1.00X, R = 0.970 D MAX: Y=-0.09+1.04X, R = 0.962 WHERE Y DENOTES THE WAVE STAFF VALUE, X DENOTES THE ACCELEROMETER BUDY VALUE, (UNITS ARE METERS), AND R IS THE CORRELATION COEFFICIENT. PEAK SPECTRAL PERIODS OBTAINED WITH THE TWO MEASUREMENTS SYSTEMS SHOW MORE SCATTER (R = 0.748), PARTLY DUE TO THE OCCURRENCE OF MULTI-PEAKED WAVE SPECTRA, WERE ENERGY LEVELS AT WIDELY SEPARATED FREQUENCIES MAY BE CLOSE TO THE MAXIMUM LEVEL. AGREEMENT BETWEEN PAIRS OF WAVE SPECTRA IS GENERALLY WITHIN 90% CONFIDENCE INTERVALS.

0275 BURGER, J.; J.K. SHISLER

THE IMMEDIATE EFFECTS OF DITCHING A SALT MARSH ON NESTING HERRING GULLS LARUS ARGENTATUS [1979]

BIOL CONSERV 15:85-103

THE EFFECTS OF WATER MANAGEMENT FOR MOSQUITO CONTROL ON THE BEHAVIOUR AND BREEDING SUCCESS OF A RESIDENT COLONY OF HERRING GULLS WERE EXAMINED. THE COLONY RESIDED ON THREE CLOSE ISLANDS, ONE OF WHICH DITCHED IN MARCH BEFORE THE START OF THE SECOND BREEDING SEASON. THE NUMBER OF BREEDING PAIRS ON THE DITCHED ISLAND REMAINED THE SAME BEFORE AND AFTER DITCHING ALTHOUGH THE BREEDING NUMBER INCREASED BY 46% AND 90% ON THE OTHER TWO ISLANDS. BREEDING CHRONOLOGY WAS SIMILAR ON ALL THREE AREAS. HOWEVER, BIRDS NESTING ON SPOIL LAID EGGS A MEAN OF 8 DAYS LATER THAN NON-SPOIL NESTING BIRDS. BEHAVIOURAL OBSERVATIONS ON AGGRESSION AND DISPLAY RATES INDICATED THAT BIRDS ON SPOIL BEHAVED SIMILARLY TO THOSE IN OPEN GRASSY AREAS BUT DIFFERED FROM THOSE NESTING IN THE BUSHES. NEST SITE SELECTION, BREEDING DENSITIES, AND BREEDING SUCCESS WERE SIMILAR ON ALL THREE ISLANDS. THUS THE DIFFERENCES NOTED WERE ATTRIBUTED TO THE APPEARANCE OF THE MARSH. THE AUTHORS POSTULATED THAT PAIRS HAVING NESTED ON THE EXPERIMENTAL ISLAND IN THE PREVIOUS YEAR CONTINUED TO DO SO AFTER THE ISLAND WAS DITCHED. HOWEVER, PAIRS SEARCHING FOR NEW TERRITORY DID NOT MOVE ONTO THE ISLAND THAT WAS DITCHED, BUT INSTEAD COLONIZED THE NEARBY ISLANDS. SIMILARLY, THOSE PAIRS BREEDING ON SPOIL NESTED LATER BECAUSE OF THE NEED TO DEFEND THEIR NEST SITES WHICH WERE SITUATED IN AREAS USED FOR DISPLAYING BY UNMATED BIRDS.

0276 BUSBY, M.W.; K.I. DARMER

A LOOK AT THE HUDSON RIVER ESTUARY [1]70]

WATER RESOUR BULL 6(5):802-812

THIS PAPER PROVIDES BACKGROUND INFORMATION ON THE EFFECT OF TIDE WAVES UPON THE MOVEMENT OF WATER IN THE HUDSON RIVER ESTUARY. COMPUTATIONS BASED ON RECORDS FROM THREE CONTINUOUS STAGE RECORDERS AND CURRENT METER DISCHARGE MEASUREMENTS MADE THROUGHOUT A TIDAL CYCLE SHOW THAT PEAK DISCHARGE RATES IN THE ESTUARY AT POUGHKEEPSIE MAY BE AS GREAT AS 500,000 FT3/S AND THAT TOTAL DAILY TIDAL VOLUMES AS GREAT AS 20 BILLION FT3 MOVE IN THE ESTUARY. COMPUTATION OF WATER MOVEMENT IN THE ESTUARY REQUIRES PRECISE FIELD DATA AND CONTINUED EFFORTS ARE REEDED TO PERFECT THE DATA COLLECTION SYSTEM AND THE COMPUTATION PRECEDURE IN ORDER TO ADEQUATELY DEFINE WATER MOVEMENT IN THE HUDSON ESTUARY.

0277 BUSCH, D.A.; R.E. LOVELAND

TUBE-WORM-SEDIMENT RELATIONSHIPS IN POPULATIONS OF PECTINARIA GOULDII FROM BARNEGAT BAY. NEW JERSEY. USA [1975]

MAR BIOL 33(3):255-264

PECTINARIA GOULDII, WHICH INHABITS BARNEGAT BAY, NJ, CONSTRUCTS OVER ITS LIFETIME A CONICAL TUBE OF INCREASINGLY LARGE SAND GRAINS, REGARDLESS OF SURROUNDING SEDIMENT CHARACTERISTICS. THE RATE OF INCREASE OF MEAN GRAIN SIZE OF THE TUBE AND THE POPULATION DENSITY OF THE WORM VARY, WITH SEDIMENT TYPE. THE DISTRIBUTION OF THIS SPECIES IS LIMITED BY SEDIMENT COMPOSITION.

WORMS OF EQUAL LENGTH WILL ALWAYS HAVE EQUAL ANTERIOR TUBE APERTURES, ALTHOUGH THE THICKNESS OF THE TUBE WALLS MAY BE UNEQUAL. TUBE SURFACE AREA, WORM DRY WT, AND TUBE WT ALL INCREASE AS A POWER FUNCTION OF TUBE LENGTH. THE CONICAL SHAPE AND INCREASING MASS OF THE TUBE IMPOSE AN UPPER LIMIT TO WORM GROWTH BUT DO NOT INTERFERE WITH WORM MOBILITY.

0278 BUTLER. H.L.

NUMERICAL SIMULATION OF TIDAL HYDRODYNAMICS, GREAT EGG HARBOR AND CORSON INLETS, NEW JERSEY [1978]

US ARMY CORPS ENG WES, VICKSBURG, MS 141 PP NTIS-AD-A063 080

GREAT EGG HARBOR INLET AND CORSON INLET, LOCATED IN SE NJ, HAVE BEEN PLAGUED WITH HAZARDOUS NAVIGATION CONDITIONS AND EROSION PROBLEMS. NUMERICAL TECHNIQUES WERE USED TO INVESTIGATE THE TIDAL HYDRODYNAMICS OF THE INLET COMPLEXES FOR EXISTING CONDITIONS AS WELL AS FOR PROPOSED IMPROVEMENT PLANS. THE PHYSICAL SIZE AND COMPLEX GEOMETRY OF THE STUDY AREAS REQUIRED A SIMULATION MODEL THAT COULD BE ECONOMICALLY APPLIED. CONSEQUENTLY, AN INHERENT PART OF THE STUDY INVOLVED DEVELOPMENT OF A NUMERICAL MODEL (WI MODEL) BASED ON AN IMPLICIT FINITE DIFFERENCE FORMULATION. RESULTS OF THE NUMERICAL COMPUTATIONS INDICATED THAT THE SYSTEMS PROPOSED FOR CORSON INLET APPEAR TO FUNCTION EQUALLY WELL AND NO DETRIMENTAL EFFECTS WERE NOTED. FOR GREAT EGG HARBOR INLET, A CONCENTRATION OF EBB FLOW TOWARD THE UPCOAST DEPOSITION BASIN AND STRUCTURE WAS NOTED, SUGGESTING A POTENTIAL PROBLEM WHICH SHOULD BE RECOGNIZED FOR THE PROPOSED PLANS. TIME HISTORIES OF TIDE ELEVATIONS AND VELOCITIES ARE PRESENTED FOR SELECTED STATIONS THROUGHOUT EACH INLET COMPLEX. CIRCULATION PATTERNS AT EACH HALF HOUR DURING A COMPLETE TIDAL CYCLE ARE PRESENTED IN FILM FORM FOR THE VERIFICATION CONDITIONS AND FOR EACH PLAN.

0279 BUTLER, P.A.; C.D. KENNEDY; R.L. SCHUTZMANN

PESTICIDE RESIDUES IN ESTUARINE MOLLUSKS. 1977 VERSUS 1972-NATIONAL PESTICIDE MONITORING PROGRAM [1979]

PES MONIT J 12(3):99-101

FROM 1765-1972, THE US BUREAU OF COMMERCIAL FISHERIES MONITORED COASTAL ESTUARIES ON BOTH COASTS FOR ORGANOCHLORINES IN SHELLFISH. THE EASTERN OYSTER, CRASSOSTREA VIRGINICA, WAS THE PRINCIPAL SPECIES COLLECTED ON THE ATLANTIC COAST, WHEREAS C. GIGAS WAS THE SPECIES USUALLY MONITORED ON THE PACIFIC COAST. DUT WAS FOUND IN ALMOST ALL SAMPLES. BY 1972, THERE WAS A CLEARLY DEFINED TREND TOWARD FEWER AND SMALLER RESIDUES OF DUT AND ITS METABOLITES. EARLY IN 1977 EPA MONITORED MOLLUSKS AT SOME OF THE SAME SITES TO DETERMINE FURTHER TRENDS IN POLLUTION LEVELS AFTER THE 5-7 YR LAPSE. THE SALIENT FEATURE OF THE 1977 MONITORING DATA WAS THE ABSENCE OF DETECTABLE PESTICIDE RESIDUES IN 85 OF THE 87 ESTUARIES SAMPLED AND THE COMPLETE ABSENCE OF PCBS. ON THE ATLANTIC COAST, OYSTERS FROM 2 ADJACENT NJ REEFS AND 1 REEF ON THE DELAWARE SIDE OF UPPER DELAWARE BAY CONTAINED DDE; ONLY 1 ESTUARY (MUGA LAGOON) ON THE PACIFIC COAST CONTAINED DDT.

0280 BUTTNER, P.J.R.; R.A. BRADY; F.A. HYLAND; M.P. WOLFF; R. JOHNSON

ENVIRONMENTAL GEOLOGY OF THE JONES BEACH BARRIER ISLAND [1975]

PAGES 39-92 IN M.P. WOLFF, ED. NY GEOL ASSOC GUIDEBOOK 47TH ANNUAL MEETING, 1975, HOFSTRA UNIV, HEMPSTEAD, NY

THIS IS A BRIEF CAPSULAR DESCRIPTION OF BARRIER BEACH SYSTEM (WITH MAP).

0281 BUZAS, M.A.; J.H. CARPENTER; B.H. KETCHUM; J.H. MCHUGH; V.J. NORTON

SMITHSONIAN ADVISORY COMMITTEE REPORT ON STUDIES OF THE EFFECTS OF WASTE DISPOSAL IN THE NEW YORK BIGHT [1972]

OCEANOG AND LIMNOL PROG, SMITHSONIAN INST, WASHINGTON, DC 60 PP NTIS-AD-746 960

REPORTS OF STUDIES BY THE US ARMY COASTAL ENGINEERING RESEARCH CENTER ON THE EFFECTS OF WASTE DISPOSAL IN THE NEW YORK BIGHT WERE REVIEWED. THE REVIEWS POINT OUT SHORTCOMINGS IN THE DATA WHICH PREVENT DRAWING DEFINITE CONCLUSIONS ABOUT THE EFFECTS OF WASTE DISPOSAL AND SUGGEST AREAS FOR FURTHER RESEARCH WHICH WILL OVERCOME THIS DEFICIENCY. RECOMMENDATIONS ARE INCLUDED REGARDING FURTHER RESEARCH ON THIS AREA AND ON DUMPING PRACTICES. THE MAJOR RECOMMENDATION ON DISPOSAL IS THAT ACCEPTABLE ALTERNATIVES SHOULD BE SOUGHT BUT IN THE MEANTIME MORE EFFECTIVE MANAGEMENT AND CONTROL MUST BE INSTITUTED.

0282 CAPELLI, V.J.: A.P. DUFOUR; M.A. LEVIN; P.W. HABERMANN

THE IMPACT OF POLLUTION ON MARINE BATHING BEACHES: AN EPIDEMIOLOGICAL STUDY [1976]

PAGES 424-432 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

AS PART OF A NATIONAL PROGRAM TO DEVELOP HEALTH EFFECTS CRITERIA FOR MARINE RECREATIONAL WATERS, THE US EPA CONDUCTED A PROSPECTIVE EPIDEMIQLOGICAL-MICROBIOLOGICAL STUDY AT BATHING BEACHES IN THE VICINITY OF NYC, SPECIFICALLY AT 20TH ST ON CONEY ISLAND AND 67TH ST AND RIIS PARK AT THE ROCKAWAYS. THE MOST CONSISTENT FINDINGS OVER THE FIRST 2 YRS OF THIS STUDY WERE THAT, FOR MOST OF THE WATER QUALITY INDICATORS EXAMINED, THE MEAN DENSITIES AT THE CONEY ISLAND BEACH WERE APPRECIABLY AND SIGNIFICANTLY HIGHER THAN THOSE AT THE ROCKAWAYS, AND THAT THE RATE OF GASTROINTESTINAL (GI) SYMPTOMS WAS SIGNIFICANTLY HIGHER AMONG SWIMMERS RELATIVE TO NONSWIMMERS AT THE CONEY ISLAND BEACH BUT NOT AT THE ROCKAWAYS. WHEN THE DATA FROM TWO SUMMERS AT BOTH BEACHES WERE EXAMINED, GOOD AGREEMENT WAS OBTAINED BETWEEN THE MEAN ESCHERICHIA COLI AND ENTEROCOCCUS DENSITIES AND THE DIFFERENTIAL (SWIMMERS MINUS NONSWIMMERS) RATE OF GI SYMPTOMS. THIS PRELIMINARY FINDING ADDRESSES THE OBJECTIVE OF THE STUDY: RELATING ILLNESS AS MEASURED BY SYMPTOMATOLOGY TO SOME INDICATOR OF WATER QUALITY.

0283 CALABRESE, A.; F.P. THURBERG; E. GOULD

EFFECTS OF CADMIUM, MERCURY, AND SILVER ON MARINE ANIMALS [1977]

MAR FISH REV 39 (4):5-11

THIS SUMMARY OF RECENT WORK AT THE MILFORD (CT) LABORATORY OF THE NMFS'S MIDDLE ATLANTIC COASTAL FISHERIES CENTER (MACFC) IS INTENDED AS A CONVENIENT REFERENCE FOR SCIENTISTS INVESTIGATING HEAVY-METAL STRESS IN MARINE ANIMALS. INCREASINGLY IN THE PAST DECADE, ATTENTION HAS FOCUSED ON THIS AND RELATED AREAS OF STUDY BECAUSE OF WIDESPREAD CONCERN OVER EXTENSIVE DUMPING OF WASTE MATERIAL AND RUNOFF OF POLLUTED WATERS INTO OUR ESTUARINE, COASTAL, AND OCEANIC ECOSYSTEMS. POPULATION GROWTH AND TECHNOLOGICAL DEVELOPMENT ARE PUTTING SERIOUS STRESS ON THESE AREAS, AND SUCH STRESS FOSTERS CONDITIONS THAT DIMINISH THE HARVEST OF MARINE RESOURCES. THE CONCERN IS NOT ONLY FOR MARINE ANIMALS THAT ARE IMPORTANT TO COMMERCIAL AND SPORT FISHERIES, BUT ALSO FOR THOSE ANIMALS WHOSE PRESENCE INDICATES A HEALTHY AND STABLE ENVIRONMENT. INFORMATION ON THE NATURE AND DEGREE OF MAN-INDUCED DAMAGE TO OUR LIVING MARINE RESOURCES IS EITHER FRAGMENTARY OR LACKING. YET SUCH KNOWLEDGE IS ESSENTIAL FOR FORMULATING BASELINE ESTIMATES OF MARINE ENVIRONMENTAL QUALITY. WITHOUT WHICH RESOURCE-ORIENTED WATER-QUALITY STANDARDS CANNOT BE ESTABLISHED OR ENFORCED BY FEDERAL AND STATE REGULATORY AGENCIES. TO ESTABLISH SUCH STANDARDS. IT IS FIRST NECESSARY TO DETERMINE HOW AND TO WHAT DEGREE POLLUTANTS, INDIVIDUALLY AND IN COMBINATION, AFFECT VARIOUS MARINE ANIMALS AT DIFFERENT LIFE STAGES. MORE IMPORTANT THAN DEATH ITSELF, PERHAPS, IS THE DAMAGE CAUSED BY SUBLETHAL CONCENTRATIONS OF POLLUTANTS. THE GRADUAL ELIMINATION OF AN ANIMAL SPECIES BY LOW LEVELS OF POLLUTANTS IS NO LESS SERIOUS THAN RAPID DEATH CAUSED BY HIGH LEVELS. POSSIBLY IT IS EVEN MORE SERIOUS, AS LOW-LEVEL EFFECTS ARE LESS LIKELY TO BE DETECTED AND TRACED TO THEIR SOURCE BEFORE IRREPARABLE DAMAGE HAS OCCURRED. NUMEROUS STUDIES HAVE BEEN PUBLISHED ON THE TOXICITY OF HEAVY METALS TO AQUATIC ANIMALS, PARTICULARLY FINFISH, BUT THESE HAVE DEALT PRIMARILY WITH FRESHWATER RATHER THAN MARINE SPECIES. NMFS, THROUGH THE MACFC IN MILFORD, HAS CONSEQUENTLY UNDERTAKEN RESEARCH PROGRAMS TO GENERATE THE BASIC KNOWLEDGE REQUIRED FOR EFFECTIVE MANAGEMENT OF THE MARINE ENVIRONMENT AND RESOURCES. MACFC HAS INITIATED STUDIES TO DETERMINE THE INFLUENCE OF POLLUTANTS ON KEY MARINE ANIMALS WITHIN THE BIGHT. IMPORTANT SPECIES OF INDIGENOUS FISHES, MOLLUSKS, AND CRUSTACEANS WERE EXPOSED TO CD, HG, AND AG IN ORDER TO STUDY MORTALITY RATES AND ANY PHYSIOLOGICAL AND BIOCHEMICAL CHANGES CAUSED BY THESE HEAVY METALS. TISSUES OF EXPERIMENTALLY EXPOSED ANIMALS HAVE ALSO BEEN PROVIDED TO MACFC LARS AT OXFORD, MD, AND SANDY HOOK, NJ, FOR HISTOPATHOLOGICAL AND BIOCHEMICAL EXAMINATION, EVALUATION OF IMMUNE RESPONSE TO VARIOUS ANTIGENS, AND MEASUREMENT OF METAL UPTAKE INTO VARIOUS TISSUES AND ORGANS.

0284 CALABRESE, A.; E. GOULD; F.P. THURBERG

HEAVY METAL EFFECTS IN MARINE ANIMALS OF THE NEW YORK BIGHT [1979]

NE FISHERIES CENTER, MILFORD LAB, NMFS, MILFORD, CT 13 PP

THIS REPORT SUMMARIZES 8 YRS OBSERVATION OF EXPERIMENTAL EXPOSURE STUDIES AT THE NMFS LABORATORY AT MILFORD, CT, ON THE EFFECTS OF HEAVY METALS IN MARINE ANIMALS, PARTICULARLY JHOSE ANIMALS FOUND IN THE NEW YORK BIGHT. HG AND AG WERE MOST TOXIC TO EARLY-LIFE STAGES (QIVALVE EMBRYOS AND LARVAE, JUVENILE CRUSTACEANS), AS DETERMINED BY BIOASSAY METHODS. CD AND HG WERE MOST TOXIC TO ADULT TELEOSTS AND CRUSTACEANS, AS DETERMINED BY PHYSIOLOGICAL AND BIOCHEMICAL MEASUREMENTS. TISSUE UPTAKE WAS FAR GREATER FOR HG THAN. FOR CD. PB WAS MORE TOXIC THAN CD FOR EARLY-LIFE FORMS, BUT FAR LESS TOXIC THAN EITHER HG OR AG. CHRONIC EXPOSURE TO 6 PPB CD OR TO 6 PPB HG INDUCED METABOLIC DISTURBANCE IN THE LOBSTER, WITH SOMEWHAT MORE SIGNIFICANT EFFECTS SEEN IN THE CADMIUM-EXPOSED ANIMALS, DESPITE THE GREATER ACCUMULATION OF HG IN BODY TISSUES. ANALOGOUS RESULTS WERE SEEN IN CHRONIC EXPOSURES OF WINTER FLOUNDER TO 10 PP3 OF EITHER CD OR HG. FIVE TIMES AS MUCH PB IN SIMILAR EXPOSURES OF FLOUNDER PRODUCED LESS METABOLIC DISTURBANCE. LOW SALINITY ENHANCED OR ALTERED SOME OF THESE EFFECTS, AND IN COMBINANTION WITH SUBOPTIMAL AMOUNTS OF HEAVY METALS CAN DRAIN THEIR ENERGY RESERVES, AND CAN LESSEN THEIR CAPACITY TO ADAPT TO AND SURVIVE NATURAL ENVIRONMENTAL STRESS.

U285 CALIFANO, R.J.; J.M. O'CONNOR; L.S. PETERS

UPTAKE, RETENTION, AND ELIMINATION OF PCB (AROCLOR 1254) BY LARVAL STRIPED BASS (MORONE SAXATILIS) [1980]

BULL ENVIRONM CONTAM TOXICOL 24(3):467-472

THE UPTAKE AND CLEARANCE RATES FOR THE PCB, AROCLOR 1254, WERE DETERMINED IN LARVAE OF THE STRIPED BASS, M. SAXATILIS. THESE FISH WERE CHOSEN FOR STUDY SINCE, UNTIL 1976, THEY WERE A MAJOR COMMERCIAL FISH IN THE HUDSON RIVER. PCB CONTAMINATION OF THE HUDSON RIVER ESTUARY HAS RESULTED IN THE CLOSURE OF THE STRIPED BASS AND EEL FISHERY. THE LARVAE REMOVED PCB FROM HUDSON RIVER WATER RAPIDLY'AND NEARLY COMPLETELY RESULTING IN FINAL WHOLE BODY CONCENTRATIONS FROM A 48-HR EXPOSURE FROM 5.9 TO 5.0 MICROG/G DRY WT. PCB ELIMINATION WAS SLOW; THE FISH RELEASED <1.0% OF THE TOTAL PCB TAKEN UP DURING THE FIRST 24 HR. LARVAL FISH CAN TAKE THE COMPOUND DIRECTLY FROM THE WATER AND ACCUMULATE IT ON A WEIGHT-RATIO BASIS.

0286 CALIFANO, R.J.

ACCUMULATION AND TISSUE DISTRIBUTION OF POLYCHLORINATED BIPHENYLS (PCBS) IN EARLY LIFE STAGES OF THE STRIPED BASS, MORONE SAXATILIS [1981]

PH.D. THESIS. NYU, NEW YORK, NY 163 PP

BODY BURDENS WERE ACCUMULATED IN YOUNG FISH EXPOSED TO 0.11 MICROG/L C-14 LABELED PCB IN WATER. PCB WAS DISTRIBUTED TO THE GILLS, LIVER, GASTROINTESTINAL TRACT, MUSCLE AND REMAINING CARCASS WITHIN ONE HOUR; PEAK CONCENTRATIONS WERE REACHED IN ALL TISSUES EXCEPT CARCASS AFTER 24 HOURS. THE MOST RAPID ACCUMULATION RATES AND GREATEST PCB BURDENS WERE FOUND IN LIVER; SLOWEST RATES OF ACCUMULATION AND LOWEST BURDENS WERE FOUND IN MUSCLE. ACCUMULATION VIA THE HEAD AND THE GENERAL BODY SURFACE WAS COMPARED. HEAD-EXPOSED FISH ACCUMULATED MORE PCB; PCB TISSUE DISTRIBUTION IN HEAD-EXPOSED FISH WAS SIMILAR TO THAT IN WHOLE-BODY EXPOSED FISH.

0287 CALLAWAY, R.J.; A.M. TEETER; D.W. BROJNE; G.R. DITSWORTH

PRELIMINARY ANALYSIS OF THE DISPERSION OF SEWAGE SLUDGE DISCHARGED FROM VESSELS TO NEW YORK BIGHT WATERS [1976]

PAGES 199-211 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOW 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG. ALLEN PRESS, LAWRENCE, KS

NEW YORK CITY SEWAGE TREATMENT PLANT MASTES DISCHARGED TO THE NEW YORK BIGHT APEX AVERAGE 2.6% SOLIDS. CORRELATION OF EXTINCTION COEFFICIENT FROM A 10 CM LIGHT-PATH BEAM-TRANSMISSOMETER WITH TOTAL SUSPENDED MATTER (TSM) ALLOWED CONTINUOUS PROFILING OF TSM. STD AND BEAM TRANSMITTANCE PROFILES WERE MADE EITHER BY TOWING THE INSTRUMENT THROUGH A SLUDGE PATCH OR WAKE OR BY MAKING VERTICAL PROFILES. DILUTION FROM A NEAR-INSTANTANEOUS RELEASE WAS ON THE ORDER OF 1,000 WITHIN 10 MIN OF RELEASE. DILUTION IN THE WAKE OF A RELEASE RANGED FROM 500-1000. THE TIME FOR TSM TO REACH BACKGROUND OR EQUILIBRIUM VALUES DEPENDS ON INITIAL CONCENTRATION. EQUILIBRIUM TIME WAS APPROACHED EXPONENTIALLY FOR WELL MIXED CONDITIONS IN ABOUT 5.5 HR. PYCNOCLINE FORMATION IN THE UPPFR 8 M CAUSED A SIMILAR APPROACH TO EQUILIBRIUM TIME; BELOW THAT DEPTH TSM INCREASED SLIGHTLY WITH TIME. TSM FROM NEW YORK HAPBOR CAN REACH THE PERMIT AREA, BUT OCEANOGRAPHIC CONDITIONS IN THE APPX USUALLY PREVENT THIS. RELOCATING THE PERMIT AREA TO OTHER DEEPER AREAS WOULD CAUSE THE AFFECTED BOTTOM AREA TO INCREASE IN PROPORTION TO THE INCREASED DEPTH, BUT CONCENTRATIONS OF SETTLED-OUT MATERIAL WOULD BE INVERSELY PROPORTIONAL, IF THE OCEANOGRAPHIC ENVIRONMENT WAS SIMILAR.

0288 CAMP, C.

REGIONAL SUPPLY AND DEMAND OF SMALL BOATS AND ASSOCIATED SERVICES [1977]

HUD. WASHINGTON. DC. 106 PP NTIS-PB87-135 866

THIS THESIS REPORTS ON ONE OF THE TASKS OF A PROJECT UNDERTAKEN BY THE CENTER FOR MUNICIPAL STUDIES AND SERVICES AT STEVENS INSTITUTE AS PART OF THE HOBOKEN WATERFRONT REDEVELOPMENT PROJECT. PREVIOUS PROJECT REPORTS HAVE INDICATED THE NEED TO FIND AND EXPLORE ALTERNATIVE USES FOR THE URBAN WATERFRONT; THIS STUDY EXPLORES CONVERTING URBAN WATERFRONT AREAS INTO SMALL BOAT MANUFACTURING, REPAIR, AND SERVICE FACILITIES, THE STUDY DETERMINES SUPPLY AND DEMAND OF BOATS AND BOATING SERVICES, WITH EMPHASIS ON LOCAL SUPPLY AND DEMAND OF RECREATIONAL BOATS. HOBOKEN IS THE CORE USER AREA. WITH NORTHERN NJ. MANHATTAN, N ISLAND, NEW YORK STATE BORDERING NJ, AND EASTERN PA FORMING THE INTERMEDIATE AND OUTER RINGS OF POPULATION USER AREAS. THE STUDY GATHERED DATA ON BOAT OWNERS, MARINAS, BOAT MANUFACTUERS, AND SUPPLIERS AND CONSULTANTS FOR THE LOCAL, REGIONAL, AND NATIONAL LEVELS. SOURCES OF DATA ARE IDENTIFIED. STUDY FINDINGS SHOW THAT THE LACK OF MOORING, LAUNCHING, AND SERVICE FACILITIES IS INHIBITING FURTHER GROWTH OF THE SMALL, RECREATIONAL BOAT INDUSTRY. THERE ARE APPROXIMATELY 226,000 REGISTERED BOAT OWNERS RESIDING WITHIN 50 MI OF HOBOKEN, AND THERE ARE NEARLY 40,000 REGISTERED BOATS WHOSE OWNERS RESIDE IN BERGEN, ESSEX, HUDSON, AND UNION COUNTIES. IT IS ESTIMATED THAT 1/4 OF THESE OWNERS KEEP THEIR BOATS IN THEIR COUNTY OF RESIDENCE. MARINA/BOAT YARD FACTORS IMPORTANT TO BOATERS INCLUDE THE AVAILABILITY OF GAS, OIL, MINOR REPAIRS; AND WINTER STORAGE. SECURITY AND ABILITY TO PERFORM MAJOR REPAIRS ARE HIGHLY RANKED. DUE TO HIGH TAXES AND LARGE INITIAL INVESTMENT. IT IS NOT EXPECTED THAT HOBOKEN MARINA OPERATIONS COULD SUPPORT ALL THE EXPENSES OF A HUDSON RIVER SITE; HOWEVER, BECAUSE SUCH A FACILITY IS IN HIGH DEMAND, IT SHOULD BE CONSIDERED A PART OF EVERY MAJOR COMMERCIAL, RETAIL, AND RESIDENTIAL URBAN WATERFRONT REDEVELOPMENT. TABULAR DATA ARE PROVIDED. ALONG WITH A BIBLIOGRAPHY. AND THE APPENDICES INCLUDE SAMPLES OF THE INSTRUMENTS USED IN THE STUDY.

0289 CAMPBELL, K.P.; I.R. SAVIDGE; W.P. DEY; J.B. MCLAREN

IMPACTS OF RECENT POWER PLANTS ON THE HUDSON RIVER STRIPED BASS (MORONE SAXATILIS) POPULATION [1977]

PAGE 134 IN W. VAN WINKLE, ED. PROC OF THE CONFERENCE ON ASSESSING THE EFFECTS OF POWER PLANT-INDUCED MORTALITY ON FISH POPULATIONS, GATLINBURG, IN, MAY 3-6, 1977. PERGAMON PRESS, NEW YORK, NY

THE IMPACT OF THE BOWLINE, ROSETON, AND INDIAN POINT POWER PLANTS HAS BEEN STUDIED BY ESTIMATING ENTRAINMENT AND IMPINGEMENT MORTALITY RATES ON STRIPED BASS AT THESE PLANTS AND RELATING THESE MORTALITY RATES TO REDUCTION IN EQUILIBRIUM STOCK SIZE UNDER VARIOUS HYPOTHETICAL STOCK-RECRUITMENT RELATIONSHIPS. THE CONDITIONAL RATES OF MORTALITY DUE TO ENTRAINMENT BY THESE THREE PLANTS WERE 3.0811 IN 1974 AND 0.1188 IN 1975. THE CONDITIONAL RATES OF MORTALITY DUE TO IMPINGEMENT WERE CALCULATED TO BE 0.0426 IN 1974 AND 0.0229 IN 1975. BASED ON A RANGE OF POTENTIAL RICKER STOCK-RECRUITMENT CURVES, REDUCTION IN EQUILIBRIUM STOCK SIZE DUE TO THE ESTIMATED LEVELS OF POWER PLANT INDUCED MORTALITY WERE DISCUSSED.

0290 CANNON, T.C.; S.M. JINKS; L.R. KING; G.J. LAUER

SURVIVAL OF ENTRAINED ICHTHYOPLANKTON AND MACROINVERTEBRATES AT HUDSON RIVER POWER PLANTS [1978]

PAGES 71-89 IN FOURTH NATIONAL WORKSHOP ON ENTRAINMENT AND IMPINGEMENT, DEC 5, 1977, CHICAGO, IL

ENTRAINMENT SURVIVAL STUDIES CONDUCTED AT SIX HUDSON RIVER POWERPLANTS INDICATED THAT ENTRAINMENT MORTALITY IS MINIMAL WHEN DISCHARGE TEMPERATURES ARE MAINTAINED BELOW LETHAL THERMAL THRESHOLDS. LABORATORY DATA ON STRIPED BASS, WHITE PERCH, AND CLUPEIDAE LARVAE INDICATED THRESHOLD THERMAL TOLERANCE LIMITS AT ABOUT 32 C WITH 10 MINUTE TL50S OF 33 TO 36 C. FOR ICHTHYOPLANKTON, HIGH MORTALITIES ATTRIBUTABLE TO THERMAL STRESS WERE OBSERVED AT THE PLANTS AT TEMPERATURES ABOVE 30 C. FOR MOST MACROINVERTEBRATES, ENTRAINMENT MORTALITY WAS NOT OBSERVED EXCEPT UNDER EXTREME SUMMER CONDITIONS (DISCHARGE TEMPERATURES OF 35 C OR HIGHER).

0291 CANTELNO, F.R.

THE ECOLOGY OF SUBLITTORAL MEIOFAUNA IN A SHALLOW MARINE EMBAYMENT [1978]

PH.D. THESIS. NYU, NEW YORK, NY 137 PP

A SHALLOW SUBTIDAL AREA IN SANDY HOOK BAY, NJ. WAS SAMPLED MONTHLY AT MEAN LOW WATER FROM MAR 1975 TO MAR 1976. HAND-OPERATED CORES WERE TAKEN TO A DEPTH OF 10 CM FOR QUANTITATIVE AND QUALITATIVE ENUMERATION OF MEIOFAUNA, EH, PH, CHLOROPHYLL A, ORGANIC CARBON. INTERSTITIAL WATER CONTENT AND GRANULOMETRIC PROPERTIES. INTERSTITIAL WATER SAMPLES WERE ALSO TAKEN TO A DEPTH OF 10 CM FOR DISSOLVED OXYGEN, SALINITY AND HYDROGEN SULFIDE CONCENTRATIONS. GENERALLY, AN OXIDIZED ZONE PERSISTED THROUGHOUT THE YEAR TO A DEPTH OF 2 CM; THIS OVERLAYS A MORE REDUCED ZONE FROM 2-10 CM. THE 0-2 CM ZONE IS CHARACTERIZED BY SIGNIFICANTLY HIGHER EH, DISSOLVED OXYGEN AND CHLOROPHYLL A AND SIGNIFICANTLY LOWER HYDROGEN SULFIDE THAN THE 2-10 CM LAYERS. POPULATION DENSITIES OF MEIOFAUNA AVERAGED 3844/10 CM2. THE NEMATODES, THE MOST ABUNDANT TAXON, AVERAGED 69.3% (2665/10 CM2) OF THE TOTAL MEIOFAUNA. COPEPODS, OSTRACODS, OLIGOCHAETES AND POLYCHAETES OCCURRED IN SIGNIFICANTLY HIGHER DENSITIES DURING THE PERIOD OF JUNE -- SEPTEMBER COMPARED TO REST OF THE YEAR. THERE WERE NO SIGNIFICANT SEASONAL CHANGES IN NEMATODE DENSITIES, NEMATODE FAMILIES AND RELATIVE ABUNDANCE OF TROPHIC TYPES. AT THE SPECIES LEVEL. SOME NEMATODES SHOWED DISTINCT SEASONAL PATTERNS. HOWEVER, THE MAJORITY DID NOT UNDERGO SIGNIFICANT SEASONAL CHANGES. GREATER THAN 95% OF THE TOTAL MEIOFAUNA OCCURRED IN THE UPPER 5 CM AND THEIR VERTICAL DENSITIES WERE SIGNIFICANTLY POSITIVELY CORRELATED WITH DISSOLVED OXYGEN. EH AND CHLOROPHYLL A AND NEGATIVELY CORRELATED WITH HYDROGEN SULFIDE. CLUSTER ANALYSIS ON NEMATODE POPULATIONS INDICATED THE PRESENCE OF A SURFACE CLUSTER AT 0-2 CM AND A DEEPER CLUSTER AT 2-6 CM. THE SURFACE ZONE IS DOMINATED BY EPIGROWTH FEEDERS WHEREAS THE DEEPER ZONE IS DOMINATED BY SELECTIVE DEPOSIT FEEDERS. SOME NEMATODES (POLYSIGMA UNIFORME, DESMODORA SCALDENSIS, DESMODORA POLYCHAETA, ODONTOPHORA SETOSA AND THERISTUS ACER) OCCURRED IN RELATIVELY EQUAL ABUNDANCE THROUGHOUT THE 0-6 CM LAYERS. THESE SPECIES MAY BE ABLE TO EXIST OVER A BROADER RANGE OF ENVIRONMENTAL CONDITIONS BECAUSE OF INCREASED PLASTICITY OF FOOD AND METABOLIC REQUIREMENTS THAN SPECIES LIVING PRIMARILY IN EITHER THE Q-2 CM LAYER OR 2-6 CM LAYER. SOME NEMATODES THAT ARE MORE EVENLY DISTRIBUTED THROUGHOUT THE SEDIMENT MAY ACT AS CONVEYOR-BELT DETRITIVORES THAT ARE CAPABLE OF BRINGING SEDIMENT FROM LOWER DEPTHS TO THE SURFACE OR AS CONVEYOR-BELT HERBIVORES THAT BRING OXIDIZED MATERIAL INTO MORE REDUCED ZONES. THUS, NEMATODES AT SANDY HOOK AND IN OTHER ESTUARINE SEDIMENTS MAY BE EXTREMELY IMPORTANT IN THE MINERALIZATION OF DETRITUS AND RECYCLING OF NUTRIENTS.

0292 CAPLAN, R.I.

AQUATIC DISPOSAL FIELD INVESTIGATIONS, EATONS NECK DISPOSAL SITE, LONG ISLAND SOUND. APPENDIX E. PREDISPOSAL BASELINE CONDITIONS OF ZOOPLANKTON ASSEMBLAGES [1977]

NYOSL, MONTAUK, NY 110 PP NTIS-AD-A045 310

A ZOOPLANKTON AND ICHTHYOPLANKTON STUDY WAS INITIATED IN OCT 1974 FOR THE PURPOSE OF ESTABLISHING A BASELINE DATA BANK AT THE EATONS NECK DISPOSAL SITE. A CONTROL SITE WAS ALSO STUDIED. DURING THE 9-MO STUDY (OCT 1974 THROUGH JUNE 1975), A TOTAL OF 147

SAMPLES WERE TAKEN AT EACH OF THREE STATIONS (TWO DISPOSAL SITES AND ONE CONTROL) CONSISTING OF MULTI-DEPTH TOWN UTILIZING 60-CM BONGO SAMPLERS (363 AND 202 MICHON MESH NETS). CONCOMITANTLY, TEMPERATURE AND SALINITY PROFILING WAS DONE.

0293 CAPONI, R.T.,

LONG ISLAND SOUND [1973]

PAGES 127-147 IN A.J. VAN TASSEL. ED. OUR ENVIRONMENT: THE OUTLOOK FOR 1980, PART 1. OUR ENVIRONMENT: WATER. LEXINGTON BOOKS, LEXINGTON, MA

THE MAJOR POLLUTION SOURCES FOR THE LONG ISLAND SOUND, WHICH HAS AN AREA OF 930 SQ MI AND AN AVERAGE DEPTH OF 60 FT, ARE THE NUMEROUS PRIMARY AND SECONDARY SEWAGE TREATMENT PLANTS WHICH SERVE THE 1,300,000 PEOPLE LIVING IN THE DIRECT VICINITY. THE CONNECTICUT RIVER, THE HOUSATONIC RIVER BASIN, AND THE THAMES RIVER BASIN ARE CHIEF FRESH WATER CONTRIBUTORS. THE MAJOR PROBLEM ARISING FROM POLLUTION DISCHARGE ARE PLANT NUTRIENTS LEADING TO EXCESSIVE GROWTHS OF ALGAE, AND BACTERIA CONCENTRATIONS. LONG ISLAND IS A HEAVILY TOURISTED AREA AND THE WORSENING WATER QUALITY IS DAMAGING THIS INDUSTRY AS WELL AS THE ONCE THRIVING SHELLFISH INDUSTRY (76,000 OF 183,000 ACRES SUITABLE FOR SHELLFISHING HAVE BEEN CLOSED DUE TO POLLUTION). IN 1936 THE INTERSTATE SANITATION COMMISSION (NY, NJ, AND CT) WAS FOUNDED AND PROCEEDED TO CLASSIFY AND OVERSEE THE MAJORITY OF WATERS IN THE TRISTATE AREA. IN 1967 THE THREE STATES AGREED TO SECONDARY TREATMENT FOR ALL THEIR MUNICIPAL PLANTS BY 1972, AND NEW YORK AND CONNECTICUT VOTERS HAVE APPROVED BOND ISSUES FOR CONSTRUCTION OF PLANTS. SUCH TREATMENT CAPACITY WILL BE NEEDED TO HANDLE THE INCREASED POPULATION PROJECTED TO BE 1,400,000 BY 1980. CONTROLS MUST ALSO BE ESTABLISHED FROM INDUSTRIAL DISCHARGES OF PHARMACEUTICAL AND PAPER INDUSTRIES ON THE THAMES AND MILL RIVERS IN CONNECTICUT, OIL SPILLS FROM HARBOR TANKERS, AND HUMAN WASTE AND GASOLINE DISCHARGES FROM PLEASURE BOATING.

0294 CAPRIULO, G.M.; E.J. CARPENTER

THE SEASONAL IMPORTANCE OF MICRO-ZOOPLANKTON GRAZING IN LONG ISLAND SOUND [1977]

UNPUB MANS. MSRC, SUNY, STONY BROOK, NY 54 PP

IN LONG ISLAND SOUND MICRO-ZOOPLANKTON WERE FOUND TO SOMETIMES REMOVE A SIGNIFICANT PORTION OF THE CHLOROPHYLL A STANDING STOCK WITH AN UPPER LIMIT OF 66 % OF THE STANDING STOCK REMOVED/DAY. AS A COMMUNITY, THE MICRO-ZOOPLANKTON WERE FOUND TO EXHIBIT THE SAME ORDER OF MAGNITUDE FILTERING AND FEEDING RATES AS THOSE OBSERVED FOR THE COPEPOD COMMUNITY. FILTERING RATES VARIED FROM 1 TO 85 MICRO L/ANIMAL/HR, SEASONALLY. FEEDING RATES VARIED FROM 0.004 TO 0.13 NG CHLOROPHYLL A REMOVED/ANIMAL/HR AND FROM 0.1 TO 87 CELLS REMOVED/ANIMAL/HR, DEPENDING ON SEASON AND TYPE OF CELL BEING INGESTED. MICRO-ZOOPLANKTON ABUNDANCE VALUES RANGED FROM 10EXP3 TO 10EXP4 ANIMALS/L. NUMERICALLY, OVER 90 PERCENT OF THESE ANIMALS WERE CILIATES WITH TINTINNID CILIATES COMPRISING APPROXIMATELY 80 % OF THE TOTAL.

0295 CAPRIULO, G.M.

THE SEASONAL IMPORTANCE OF MICRO-ZOOPLANKTON AS GRAZERS OF PHYTOPLANKTON BIOMASS [1977]

M.S. THESIS. SUNY, STONY BROOK, NY 85 PP

IN LONG ISLAND SOUND MICRO-ZOOPLANKTON WERE FOUND TO SOMETIMES REMOVE A SIGNIFICANT PORTION OF THE CHLOROPHYLL A STANDING STOCK WITH AN UPPER LIMIT OF 66 % OF THE STANDING STOCK REMOVED/DAY. AS A COMMUNITY, THE MICRO-ZOOPLANKTON WERE FOUND TO EXHIBIT THE SAME ORDER OF MAGNITUDE FILTERING AND FEEDING RATES AS THOSE OBSERVED FOR THE COPEPOD COMMUNITY. FILTERING RATES VARIED FROM 1 TO 85 MICROL/ ANIMAL/HR, SEASONALLY. FEEDING RATES VARIED FORM 0.004 TO 0.13 NG CHLOROPHYLL A REMOVED/ANIMAL/HR AND FROM 0.1 TO 87 CELLS REMOVED/ANIMAL/HR, DEPENDING ON SEASON AND TYPE OF CELL BEING INGESTED. MICRO-ZOOPLANKTON ABUNDANCE VALUES RANGED FROM 10EXP3 TO 10EXP4 ANIMALS/L. NUMERICALLY, OVER 90 % OF THESE ANIMALS WERE CILIATES WITH TINTINNID CILIATES COMPRISING APPROXIMATELY 80 PERCENT OF THE TOTAL.

0296 CAPRIULO, G.M.; E.J. CARPENTER

GRAZING BY 35 TO 202 MICRON MICRO-ZOOPLANKTON IN LONG ISLAND SOUND [1980]

MAR BIOL 56:319-326

MICRO-ZOOPLANKTON ABUNDANCE IN LONG ISLAND SOUND VARIED FROM 10EXP3 TO 10EXP4 ANIMALS/L AT THE STATION STUDIED AND CONSISTED ALMOST ENTIRELY OF TINTINNIDS. THE MICRO-ZOOPLANKTON WERE FOUND TO SOMETIMES REMOVE A SIGNIFICANT PORTION OF THE CHYLOROPHYLL A STANDING STOCK, WITH AN UPPER LIMIT OF 41% OF THE STANDING STOCK BEING INGESTED PER DAY. OBSERVED INGESTION RATES RANGED FROM 0.001 TO 0.17 NG CHLOROPHYLL A REMOVED/ANIMAL/HR AND FROM 0.06 TO 87 CELLS REMOVED/ANIMAL/HR DEPENDING ON SEASON AND TYPE OF CELL BEING INGESTED. FILTERING RATES VARIED FROM 1.03 TO 84.7 MICRO L/ANIMAL/HR. AS A COMMUNITY, THE MICRO-ZOOPLANKTON EXHIBITED IN THE SAME ORDER OF MAGNITUDE INGESTION AND FILTERING RATES AS THOSE NOTED FOR COPEPODS.

0297 CARACCIOLO, J.V.; F.W. STEIMLE, JR.

AN ATLAS OF THE DISTRIBUTION AND ABUNDANCE OF DOMINANT BENTHIC INVERTEBRATES IN THE NEW YORK BIGHT APEX WITH A REVIEW OF THEIR

SANDY HOOK LAB. NMFS. HIGHLANDS. NJ 106 PP

DISTRIBUTIONAL, QUANTITATIVE AND LIFE HISTORY SUMMARIES ARE GIVEN FOR 57 DOMINANT SPECIES OF BENTHIC INVERTEBRATES COLLECTED IN THE NEW YORK BIGHT APEX DURING FIVE SAMPLING CRUISES DURING 1973 AND 1974. THESE SPECIES SHOWED AFFINITIES TO MAJUR COMMUNITY TYPES THAT HAVE BEEN PREVIOUSLY IDENTIFIED IN THE MIDDLE ATLANTIC BIGHT AND SOME SHOWED VARYING DEGREES OF TOLERANCE OR INTOLEGANCE TO RESTRICTED AREAS IN THE APEX WHERE THE DUMPING OF NEW YORK HARBOR DREDGE SPOILS AND NEW YORK METROPOLITAN AREA SEWAGE SLUDGE OCCUR. CAPTIELLA CAPITATA, A SPECIES OFTEN ASSOCIATED WITH EXTREME POLLUTION STRESS, DOMINATED THE SEWAGE SLUDGE DUMPSITE.

0298 CARACCIOLO, J.V.; J.B. PEARCE; M.B. HALSEY; L.H. ROGERS

DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS IN THE NEW YORK BIGHT, FIRST AND SECOND MONITORING CRUISES, NOVEMBER 1975 AND MARCH 1976 [1978]

DR-ERL-MESA-40. NOAA, BOULDER, CO 43 PP NTIS-PB-290 145

ANALYSES OF BENTHIC COMMUNITIES HAVE BEEN USED SINCE 1968 TO INDICATE IMPACTS FROM CONTAMINANTS ON THE ECOSYSTEM OF THE NEW YORK BIGHT APEX. THIS DATA REPORT IS A PRODUCT OF THE FOURTH PHASE, MONITORING OF SELECTED STATIONS IN THE APEX, AND WAS PREPARED TO PROVIDE MACHINE LISTED DATA AND CERTAIN STATISTICAL CALCULATIONS, DIVERSITY AND EQUITABILITY CONCERNED WITH THE DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS COLLECTED AT 18 MONITORING STATIONS LOCATED IN THE STANDARD NEW YORK BIGHT MESA SAMPLING GRID. DATA FROM THESE STATIONS WILL YIELD INFORMATION ON CHANGES IN THE BIGHT OVER TIME BY PROVIDING MORE REPLICATE SAMPLES WHICH MAY BE COMPARED WITH EARLIER SAMPLES COLLECTED AT THE SAME STATIONS.

0299 CAREY: G.W.; L. ZOBLER; M.R. GREENBERG; R.M. HORDON

URBANIZATION, WATER POLLUTION, AND PUBLIC POLICY [1972]

CENTER FOR URBAN POLICY RESEARCH, RUTGERS UNIV, NEW BRUNSWICK, NJ 214 PP NTIS-PB-212 253

THE WATER SURVEILLANCE NETWORK OF SUPPLY AND WASTE DISPOSAL SYSTEMS OF THE NEW YORK METROPOLITAN REGION WAS EXAMINED IN DETAIL. THE STRUCTURE, OPERATION, DATA STORAGE AND EXCHANGE WERE FOUND TO BE INADEQUATE FOR THE INTEGRATED MANAGEMENT OF THE REGION'S WATER RESOURCES. THE VIABILITY OF THE URBAN WATER REGIME IS TOTALLY DEPENDENT ON CHLORINATION TECHNOLOGY, BUT THE MONITORING

SYSTEM PLAYS A NEGLIGIBLE ROLE. RECOMMENDATIONS WERE MADE FOR THE IMPROVEMENT OF THE SURVEILLANCE NET. FROM THE BEST DATA SUBSETS A POLLUTION SIMULATION MODEL WAS DEVELOPED AND TESTED, USING SEVERAL PARAMETERS OF URBANIZATION AS INDEPENDENT VARIABLES, POPULATION GROWTH, PERCENT IMPERMEABLE SURFACE, INDUSTRIAL WASTE COEFFICIENTS. THE RESULTS OF THE SIMULATION OF FUTURE BEHAVIOR INDICATE THAT THE POLICY OF FAVORING LARGE REGIONAL SEWAGE PLANTS IS QUESTIONABLE AND THAT THERE MAY BE AN ECOLOGIC CEILING TO FURTHER DEVELOPMENT IF WATER QUALITY IS TO BE MAINTAINED.

0300 CAREY. G.W.

A VIGNETTE OF THE NEW YORK-NEW JERSEY METROPOLITAN REGION [1976]

BALLINGER PUBL CO. CAMBRIDGE. MA 74 PP

THIS PAPER DESCRIBES SUBURBANIZATION AND THE MIGRATION OF PEOPLE AND ECONOMY INTO THE PERIMETERS OF NEW YORK CITY.

COMMUNICATION AND TRANSPORTATION DEVELOPMENTS HAVE ALLOWED THE DRIFT FROM THE CITY. DEVELOPMENT OF SUBURBAN ACTIVITIES INTO MINI-CITIES, WHICH ARE SAFER AND MORE DESIRABLE IS DISCUSSED. LARGE CENTER CITIES ARE LOSING MOST OF THEIR ATTRACTION AND SUBURBAN MINI-CITIES ARE GROWING IN ABUNDANCE.

0301 CARLISLE, D.; W.A. WALLACE

SAND AND GRAVEL OFFSHORE IN THE GREATER NEW YORK METROPOLITAN AREA: WHAT KIND AND HOW MUCH [1978]

GP-RS-78-13. NYSG. ALBANY, NY 72 PP NTIS-PB-289 828

THE AREA OFFSHORE CONSIDERED APPROPRIATE TO SATISFY THE GREATER NEW YORK METROPOLITAN AREA'S (GNYMA) DEMANDS FOR SAND, GRAVEL, AND FILL, STRETCHE FROM ATLANTIC CITY, NJ TO THE WESTERN BORDER OF RI. DATA ARE PRESENTED AND CONSIDERED OUT TO THE 600-FT DEPTH CONTOUR ALTHOUGH CURRENTLY, THE MOST FAVORABLE CONDITIONS FOR MECHANICAL DREDGING ARE DEPOSITS NEAR SHORE IN LESS THAN 30 FT OF WATER. DATA ARE PRESENTED AT A LEVEL OF DETAIL SUFFICIENT FOR A REGIONAL ECONOMIC ANALYSIS. EVEN IF ONLY NOMINAL GROWTH OF THE GNYMA BY THE YEAR 2000 IS CONSIDERED, REGIONAL SHORTAGES OF MINERAL AGGREGATE WILL OCCUR. BECAUSE OF HIGH TRANSPORTATION COSTS FOR MOVING EXISTING ONSHORE SUPPLY TO DEMAND SITES, CONSUMERS AND PRODUCERS OF SAND AND GRAVEL WILL BE FORCED TO LOOK OFFSHORE. REVIEW OF EXISTING SURVEYS INDICATES THAT LARGE QUANTITIES OF CLEAN SAND EXIST IN THE OFFSHORE REACHES. A SUMMARY OF OFFSORE RESOURCES IS GIVEN. SEVERAL PROBLEMS WILL EMERGE WHENEVER MIXING OCCURS SINCE THE RESOURCE IS LOCATED NEAR SHORE. CONFLICTS WILL EXIST WITH LOCAL SHELLFISHING INTERESTS. THESE CONFLICTS MAY HAVE EITHER PRIMARY IMPACT (DIRECT DISTURBANCE OF SHELLFISH BEDS BY DREDGING APPARATUS) OR INDIRECT IMPACT (DUMPING OF SILT EFFLUENT WHICH CAN COVER AND CONTAMINATE SHELLFISH AREAS).

0302 CARLS, E.G.

RECREATION [1978]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 1). NYSG, ALBANY, NY 32 PP

MARINE RECREATION IN THE NEW YORK BIGHT REGION IS A VARIED AND EXTENSIVE FIELD FOR STUDY. ALTHOUGH ITS SHORELINE RESOURCES ARE LIMITED, THE BIGHT REGION IS INCREASINGLY IN DEMAND AS A COASTAL RECREATION AREA. FEDERAL, STATE, AND LOCAL AUTHORITIES CURRENTLY PROVIDE SIGNIFICANT PARK AND OPEN SPACE OPPORTUNITIES FOR RECREATION AND RELATED SERVICES. PRIVATE AND COMMERCIAL ENTERPRISES PROVIDE IMPORTANT SERVICES AND FACILITIES AS WELL (E.G., MARINAS AND CHARTER BOAT RENTALS) AND MAY BECOME INCREASINGLY IMPORTANT IN MEETING FUTURE DEMAND. RECREATIONAL ACTIVITIES INCLUDE SWIMMING, FISHING, AND BOATING. EXTENSIVE INFORMATION IS AVAILABLE ON COASTAL RECREATION IN THE BIGHT REGION BUT NOT IN A FORM FOR INTEGRATION OF SOURCES OR OVERALL REGIONAL SYNTHESIS. FUTURE STUDY SHOULD CENTER ON PROBLEMS ASSOCIATED WITH SHORELINE ACCESS, ENVIRONMENTAL QUALITY, PLANNING AND MANAGEMENT PROCEDURES, AND ECONOMIC ANALYSIS. THE FUTURE OF COASTAL RECREATION IN NEW YORK BIGHT IS TENUOUS. ACCURATE PREDICTION OF OF RECREATION POTENTIAL IS MADE IMPOSSIBLE BY A SET OF ONGOING AND INTERACTING CHANGES, E.G., POPULATION SIZE AND

DISTRIBUTION, WATER QUALITY, AND DEMAND FOR SHORELINE USES. THE FUTURE OF RECREATION IS TIED VERY CLOSELY TO AND WILL DEPEND ON THE DYNAMICS OF THE REGION'S BROADER SOCIAL, ECONOMIC, AND ENVIRONMENTAL CONDITIONS.

0303 CARLS, E.G.; R.F. BRESNAN

LONG ISLAND SURF FISHERMAN: 1975 [1979]

NYSG REP SER 21. NYSG, ALBANY, NY 41 PP

THE OBJECTIVES OF THIS STUDY WERE TO 1) DEVELOP A DEMOGRAPHIC PROFILE OF LONG ISLAND SURF FISHERMEN, 2) EVALUATE THE ATTITUDES AND OPINIONS OF SURF FISHERMEN TOWARD SELECTED PLANNING AND MANAGEMENT ISSUES, AND 3) EXAMINE CERTAIN PSYCHO-SOCIAL AND ENVIRONMENTAL FACTORS THAT CONTRIBUTE TO THE SURF FISHING EXPERIENCE. DATA WERE COLLECTED THROUGH A SURVEY OF SURF ANGLERS DURING THE SUMMER AND FALL OF 1975. RESULTS OF THE INVESTIGATION IDENTIFY THE SURF FISHERMAN DEMOGRAPHICALLY AND REVEAL PATTERNS OF ACTIVITY PARTICIPATION, ATTITUDES, VALUES, AND OPINIONS THAT MAY BE USEFUL IN THE MANAGEMENT OF COASTAL RECREATION RESOURCES.

0304 CARLS, E.G.

COMPARATIVE CHARACTERISTICS OF SURF FISHERMEN AND BOAT FISHERMEN ON LONG ISLAND, NEW YORK [1980]

NY FISH GAME J 27(1):51-62

RESEARCH RELATED TO THE CHARACTERISTICS AND BEHAVIOR OF SPORT FISHERMEN TENDS TO SUPPORT TWO GENERAL CONCLUSIONS: (1) SPORT FISHING IS MORE THAN JUST A MATTER OF CATCHING FISH, AND THE HILTIMATE SUCCESS OF THE ANGLING INDUSTRY DEPENDS ON A NUMBER OF INTERACTING PSYCHO-SOCIAL AND ENVIRONMENTAL FACTORS; (2) SPORT FISHERMEN ARE NOT A WHOLLY HOMOGENEOUS GROUP, BUT MAY BE SEPARATED ACCORDING TO DEMOGRAPHIC TRAITS, SPECIES OF FISH SOUGHT AND ANGLING METHODS USED. THESE FACTS ARE OF CONSIDERABLE SIGNIFICANCE TO PEOPLE INVOLVED IN FISHERIES MANAGEMENT AND COMMERCIAL SPORT FISHING ENTERPRISES IN THE COASTAL ZONE. DRAWING FROM TWO EARLIER SURVEYS IN WHICH QUESTIONNAIRES WERE GIVEN ON-SITE TO LONG ISLAND FISHERMEN OVER A FIVE-MONTH SPAN. THE AUTHOR EXAMINES SOME OF THE DIFFERENCES WITHIN THIS GROUP. ONE BASIC DISTINCTION IS BETWEEN SURF FISHERMEN AND PARTY- OR CHARTER-BOAT FISHERMEN. THESE TWO COHORTS DIFFER SIGNIFICANTLY IN OCCUPATIONAL DISTINCTION, DURATION, AND FREQUENCY OF FISHING TRIPS, AND PERCEPTIONS OF FACTORS THAT MAKE FOR SUCCESSFUL FISHING TRIPS. BOTH COHORTS, HOWEVER, "CONSIDERED CLEAN FISHING WATERS AS BEING VERY IMPORTANT TO THE ENJOYMENT OF THEIR FISHING EXPERIENCE"-- A FINDING THAT TAKES ON ADDED WEIGHT IN LIGHT OF CONTINUING PROBLEMS OF POLLUTION IN NEW YORK-AREA WATERS. THESE AND OTHER SIGNIFICANT FINDINGS ARE PRESENTED BY THE AUTHOR SUPPLEMENTED BY STATISTICAL TABLES.

0305 CARLSON, D.M.

THE ECOLOGICAL ROLE OF ZOOPLANKTON IN A LONG ISLAND SALT MARSH [1978]

ESTUARIES 1(2):85-92

THE ROLE OF ZOOPLANKTON IN A SALT MARSH ECOSYSTEM WAS STUDIED IN FLAX POND, OLD FIELD, NY, A 30 HECTARE TIDAL POND ADJACENT TO LONG ISLAND SOUND. VARIOUS MARINE CRUSTACEANS ACCOUNTED FOR OVER 95% OF THE ZOOPLANKTON CALORIC BIOMASS IN ALL BUT THREE MONTHS, IN WHICH CTENOPHORES (MNEMIOPSIS LEIDYI) ACCOUNTED FOR ABOUT 20% MASS BALANCE ANALYSIS OF CRUSTACEAN BIOMASS SHOWED A SEASONAL TREND WITH INCREASED "CONSUMPTION" BY THE MARSH FROM JUL TO NOV. ANALYSIS OF GROUPS (OR SPECIES) FOR ALL MONTHS SHOWED TOTAL NUMBERS HERE REDUCED BY PASSING THROUGH, OR INTERACTING WITH, THE MARSH. THE MOST ABUNDANT GROUP FOR EACH SAMPLE DATE ALSO WAS SIGNIFICANTLY REDUCED FROM OUTFLOWING WATERS FOR ALL MONTHS, AS WERE THE GROUP COPEPODIDS AND MISCELLANEOUS CALANOIDS FROM JUL TO NOV. THE ENERGY REQUIREMENTS FOR THE CRUSTACEAN ZOOPLANKTON COMMUNITY COULD HAVE BEEN SUPPLIED AMPLY BY THE ESTIMATED STANDING CPOP OF PHYTOPLANKTON IN THE MARSH. PHYTOPLANKTON NET PRIMARY PRODUCTION WAS LOW, BUT IT WAS AMPLE TO SATISFY CRUSTACEAN ENERGY NEEDS IN ALL MONTHS. CRUSTACEANS AND PHYTOPLANKTON ALONE WERE NOT ENOUGH TO SUPPORT ESTIMATED

CTENOPHORE NUTRITION REQUIREMENTS IN SUMMER. THEREFORE. DETRITUS MAY ALSO HAVE BEEN AN IMPORTANT CTENOPHORE FOOD SOURCE.

0306 CARMODY, D.J.

THE DISTRIBUTION OF FIVE HEAVY METALS IN THE SEDIMENTS OF THE NEW YORK BIGHT [1972]

PH.D. THESIS. COLUMBIA UNIV. NEW YORK. NY 121 PP

THIS STUDY PROVIDES NEW EVIDENCE ABOUT THE LANDWARD MOVEMENT OF WASTES TOWARD LONG ISLAND AND MOVEMENT EASTWARD IN THE HUDSON SUBMARINE VALLEY. UNFORTUNATELY, MEASURING SEASONAL CHANGES IN THE METAL CONCENTRATIONS WAS FOUND TO BE IMPRACTICAL. SINCE IT HAS BEEN ASSUMED UNTIL RECENTLY THAT THE WASTES REMAINED STATIONARY ON THE BOTTOM, THESE FINDINGS MAY BE OF IMPORTANCE IN HELPING TO FORMULATE ENVIRONMENTAL POLICY DECISIONS.

0307 CARMODY, D.J.; J.B. PEARCE; W.E. YASSO

TRACE METALS IN SEDIMENTS OF NEW YORK BIGHT [1973]

MAR POLLUJ BULL 4(9):132-135

SEDIMENT SAMPLES FROM 75 STATIONS AROUND THE WASTE DISPOSAL SITES IN THE NEW YORK BIGHT WERE ANALYZED FOR THE PRESENCE OF CR. CU., PB., NI., AND ZN. 25 OTHER SITES IN THE HUDSON SHELF VALLEY AND IN DELAWARE BAY WERE SAMPLED FOR COMPARATIVE PJRPOSES. A SMITH-MCINTYRE BOTTOM GRAB WAS USED FOR SAMPLING. ALIQUOTS WERE REMOVED, FROZEN, OVEN-DRIED AT 105 C., EXTRACTED IN 8 NORMAL HNC3 FOR 30 MIN, AND-FILTERED TO A CONSTANT VOLUME. THE RESULTING SOLUTIONS WERE ANALYZED BY ATOMIC ABSORPTION. THERE WAS A GREATER VARIATION IN HEAVY METAL CONCENTRATIONS IN AND NEAR THE DUMPING AREAS THAN IN THE UNCONTAMINATED REGIONS. IN SEVERELY POLLUTED AREAS, METAL CONCENTRATIONS OCCASIONALLY VARIED AS MUCH AS 50% BETWEEN SUBSAMPLES TAKEN FROM THE SAME GRAB SAMPLE. ON COMPARING METAL CONCENTRATIONS AT DIFFERENT DEPTHS TO A DEPTH OF 15 CM., NO CONSISTENT TREND WAS DISCERNIBLE.

0308 CARPENTER, E.J.; B.B. PECK; S.J. ANDERSON

COOLING WATER CHLORINATION AND PRODUCTIVITY OF ENTRAINED PHYTOPLANKTON [1972]

MAR BIOL 16(1):37-40

CHLORINE IS WIDELY USED FOR CONTROL OF FOULING ORGANISMS IN ELECTRIC POWER PLANT COOLING WATER SYSTEMS. EFFECT OF DIFFERENT CHLORINE CONCENTRATIONS ON PRODUCTIVITY OF COASTAL PHYTOPLANKTON WAS MEASURED AT A NUCLEAR POWER STATION ON NORTHEASTERN LONG ISLAND SOUND. OBSERVATIONS WERE MADE ON WHETHER CHLORINE COULD BE APPLIED IN DOSES STRONG ENOUGH TO REDUCE FOULING ORGANISMS YET LOW ENOUGH TO LEAVE ENTRAINED PHYTOPLANKTON UNHARMED. EIGHT CONCENTRATIONS OF CHLORINE, CONTINUOUSLY APPLIED, WERE USED TO MEASURE PRODUCTIVITY. AT THE LOWEST CONCENTRATION TESTED, TOO LOW TO MEASURE (0.1 PPM AT THE INTAKE), PRODUCTIVITY DECREASED 79% AND A THE HIGHEST CONCENTRATION (ADDITION OF 1.7 PPM AT INTAKE, 0.4 PPM AT DISCHARGE) IT WAS 83% LESS THAN AT INTAKE. SUBSTANTIAL DECREASES IN PHYTOPLANKTONIC PRODUCTIVITY WERE NOTED AT CHLORINE CONCENTRAIONS LESS THAN THOSE REQUIRED TO ELIMINATE FOULING ORGANISMS (CA 0.25 TO 0.75 PPM RESIDUAL AT DISCHARGE) AND ALSO WHEN CHLORINE WAS APPLIED INTERMITTENTLY. WHEN NO CHLORINE HAS APPLIED TO ENTRAINED SEAWATER ESSENTIALLY NO EFFECT WAS NOTED ON PRODUCTIVITY. THESE DATA INDICATE THAT CHLORINE CANNOT BE USED EFFECTIVELY AS A BIOCIDE FOR FOULING ORGANISMS WITHOUT HAVING ADVERSE EFFECTS ON ENTRAINED PHYTOPLANKTON.

0309 CARPENTER, E.J.; B.B. PECK; S.J. ANDERSON

SURVIVAL OF COPEPODS PASSING THROUGH A NUCLEAR POWER STATION ON NORTHEASTERN LONG ISLAND SOUND. USA [1974]

MAR BIOL 24(1):49-55

ABOUT 70% OF THE COPEPODS ENTERING THE COOLING WATER SYSTEM OF A NUCLEAR POWER PLANT ON NORTHEASTERN LONG ISLAND SOUND ARE NOT RETURNED TO THE SOUND IN THE EFFLUENT. COPEPOD MORTALITIES ARE CAUSED BY THE MECHANICAL OR HYDRAULIC STRESSES OF PASSAGE, ALTHOUGH THE EXPERIMENTAL DESIGN COULD NOT DETERMINE WHETHER WEAT OR CHLORINATION COULD CAUSE MORTALITY IN THE ABSENCE OF MORTALITY INDUCED BY HYDRAULIC STRESS. AFTER PASSING THROUGH THE POWER PLANT, COPEPODS SINK RAPIDLY (ABOUT 2.5 TIMES FASTER THAN CONTROLS). THIS LEADS TO AN INCREASE IN CONCENTRATIONS OF COPEPODS SUSPENDED IN THE DEEP WATER (25 TO 30 M) OF THE EFFLUENT POND. ABOUT HALF OF THE LIVE COPEPODS COLLECTED AT THE DISCHARGE AND HELD IN SITU DIED WITHIN 3.5 DAYS. AND 70% DIED WITHIN 5 DAYS. WHEREAS ONLY 10% OF THOSE FROM THE INTAKE DIED IN 5 DAYS. ABOUT 60% OF THE COPEPODS OBSERVED SUSPENDED IN DEEP WATER IN THE POND WERE DEAD. THE COPEPOD MORTALITY CAUSED BY THE POWER PLANT REFLECTS THE LOSS IN SECONDARY PRODUCTION OCCURRING BELOW ABOUT 2.70 X 10EXP3 M2 OF SEA SURFACE IN LONG ISLAND SOUND ANNUALLY. THIS LOSS REPRESENTS A REDUCTION OF ABOUT 0.1% IN THE ANNUAL SECONDARY PRODUCTION OVER A 333 KM2 AREA OF LONG ISLAND SOUND ADJACENT TO THE POWER PLANT. HIGHEST LOSSES OCCURRED DURING THE SPRING (APR. 1.4 x 10EXP6 G DRY WEIGHT), THE LOWEST IN AUTUMN (NOV, 45.8 X 10EXP3 G). IF THE SAME COPEPOD LOSS RATE EXISTS FOR ALL POWER PLANTS IN LONG ISLAND SOUND, THEN SECONDARY PRODUCTION IN 1.69 X 10EXP6 M2. OR 0.05% OF THE TOTAL COPEPOD PRODUCTION MAY BE LOST ANNUALLY. A COMPARISON OF THE SURFACE OUTFLOW FROM LONG ISLAND TO BLOCK ISLAND SOUND WITH THE WATER ENTRAINED THROUGH MILLSTONE UNIT ONE. AND THE 70% COPEPOD LOSS RATE IN THE LATTER AREA. INDICATES THAT UNIT ONE ELIMINATES ABOUT 0.1 TO 0.3% OF THE COPEPOD PRODUCTION IN EASTERN LONG ISLAND SOUND. THIS CALCULATION COMPARES FAVORABLY WITH LOSSES COMPUTED FROM PRODUCTION DATA.

0310 CARPENTER, E.J.; J.J. MCCARTHY; G.T. ROWE

BENTHIC NUTRIENT REGENERATION AND HIGH RATE OF PRIMARY PRODUCTION IN CONTINENTAL SHELF WATERS [1978]

NATURE 274(5667):188-190

ON THE CONTINENTAL SHELF THE SEDIMENTS MAY PLAY A MINOR PART IN CYCLING NITROGENOUS NUTRIENTS FOR PHYTOPLANKTON. ROME'S DATA SHOWING THAT BENTHIC NUTRIENT REGRERATION MAY BE A MAJOR SOURCE OF N IS CHALLENGED AND DISCUSSED. THE DEEP WATER AT THE EDGE OF THE CONTINENTAL SHELF CONTAINS 15-25 MICRO G-ATOM NO3-N/L AND THE MOVEMENT OF THIS WATER ONTO THE SHELF IS THE MOST LIKELY SOURCE OF THE N REDED FOR ELEVATED PRODUCTION IN THIS REGION RELATIVE TO OFFSHORE AREAS. ROWE REPLIED THAT SIMPLE NUMERICAL MODELS OF THE CONVERSIONS OF ORGANIC MATTER TO INDRGANIC PRODUCTS INDICATED HIGH RATES OF METABOLISM MUST BE PUTTING LARGE QUANTITIES OF AMMONIUM (NH4+) AND NITRATE BACK INTO THE WATER COLUMN. DATA COLLECTED OFF NORTHWESTERN AFRICA IN AN UPWELLING AREA SHOWED APPROXIMATE OF THE NUTRIENTS SUPPLIED TO THE PHYTOPLANKTON CAME FROM BOTTOM REGENERATION WITH THE OTHERS SUPPLIED BY REGENERATION IN THE WATER COLUMN AND ADVECTION. DATA FROM THE NEW YORK BIGHT SHOWED 2 BANDS OF CHLOROPHYLL WERE EVIDENT ON THE CONTINENTAL SHELF, 1 NEARSHORE AND 1 ALONG THE SHELF SLOPE BREAK. THE NEARSHORE BAND WAS ASSOCIATED WITH THE BOTTOM AND BOTTOM REGENERATION; THE OFFSHORE BAND MAY HAVE RESULTED FROM UPWELLING. BOTTOM WATER NHA+ GRADIENTS ARE PRESENT OVER THE INNER HALF OF THE SHELF WHEN THE WATER IS STRATIFIED. REGENERATION ON THE BOTTOM AS OPPOSED TO THE WATER COLUMN MAY INCREASE PRODUCTVITY BECAUSE NH4+ IS A FAVORED SUBSTRATE FOR PHYTOPLANKTON AND IS THE DOMINANT FORM IN INORGANIC N IN SEDIMENT PORE WATERS. SEDIMENTS MAY ACT AS A RESERVOIR THAT IS MUCH EASIER TO TAP THAN DEEP WATER OFFSHORE. THE STRUCTURE AND FUNCTIONING OF THE SHELF ECOSYSTEM MAY BE DIFFERENT FROM AN OCEAN FAR FROM ITS BOTTOM, AND A MANIFESTATION OF THIS DIFFERENCE MAY BE THE SHELF'S HIGHER PRODUCTIVITY.

0311 CARR, D.E.

DEATH OF THE SWEET WATERS [1977]

W.W. NORTON AND COMPANY, INC., NEW YORK, NY 257 PP

THE WORLD IS RAPIDLY APPROACHING A WATER CRISIS OF MAMMOTH PROPORTIONS. CAUSES OF THE SHORTAGE OF CLEAN WATER ARE EXAMINED WITH HEAVY EMPHASIS PLACED ON THE PROBLEMS OF THE US. THE AUTHOR DISCUSSES VARIOUS ASPECTS OF THE PROBLEM INCLUDING DETERGENT POLLUTION, INDUSTRIAL WASTES, SEWAGE, DROUGHT, FLOODS, SALINE WATER INTRUSION, AND SILTING. THE CONTROL OF WATER IS VIEWED FROM AN HISTORICAL PERSPECTIVE. ONE CHAPTER IS DEVOTED SOLELY TO THE STUDY OF THE PHYSICAL PROPERTIES OF WATER. ANOTHER SUMMARIZES

LEGAL ISSUES IN THE AREA OF WATER RIGHTS. THE PROBLEM OF MAN'S LACK OF KNOWLEDGE ABOUT THE EFFECTS OF MANY WATER POLLUTANTS IS DISCUSSED. AMONG THE SOLUTIONS THAT THE AUTHOR SUGGESTS ARE DESALINATION AND WEATHER MODIFICATION. HE CONCLUDES THAT THE MAJOR PROBLEM IN THE WATER FIELD IS POLLUTION SINCE THERE IS A SHORTAGE OF CLEAN WATER. ALTHOUGH FEDERAL PROGRAMS ARE NEEDED TO ACCOMPLISH ANYTHING OF LASTING IMPORTANCE, THE AUTHOR CRITIZES SCATTERED FEDERAL RESEARCH GRANTS DISTRIBUTED UNDER THE WATER RESOURCES RESEARCH ACT. HE URGES THE USE OF A CLOSE-KNIT, HIGHLY PROFESSIONAL GROUP FOR RESEARCH. THE WORK INCLUDES AN EXTENSIVE SIXTEEN PAGE BIBLIOGRAPHY.

0312 CARROLL. W.F.

A STUDY OF THE FISH IN THE WET SPACES OF HUNTINTON TOWNSHIP. LONG ISLAND. NY [1977]

M.S. THESIS. C.W. POST CAMPUS, LONG ISLAND UNIV, BRENTWOOD, NY NP

THE FISHERIES FOR THE PREDOMINANT SPECIES OF FISH, IN THE AREAS FROM COLD SPRING HARBOR TO HUNTINGTON BAY AND ITS ASSOCIATED HARBORS, WERE STUDIED BETWEEN SPRING AND WINTER 1973. THE CATCH WAS DOMINATED BY PSEUDOPLEURONECTES AMERICANUS, SCOPTHALMUS AQUOSUS, BREVOORTIA TYRANNUS, AND TAUTOGOLABRUS ADSPERSUS. PSEUDOPLEURONECTES AMERICANUS HAD THE HIGHEST CATCHES IN MAY, JUNE AND JULY. THE LARGER GAME FISH MOST SOUGHT AFTER WERE THE POMATOMUS SALTATRIX AND MORONE SAXATILIS. HIGHEST CATCHES OF THESE WERE NOTED IN LATE SUMMER AND WERE FOUND TO BE PREDOMINANT IN THE OUTER BAY AREAS AND LONG ISLAND SOUND. THE FEEDING BEHAVIOR, MIGRATION, SUBSTRATE PREFERENCE, SPAWNING, DISTRIBUTION AND RELATION TO THE SURROUNDING AREA IS DISCUSSED FOR EACH OF THE SPECIES. DATA INDICATES THAT THERE IS MUCH MORE MIGRATION FROM HARBOR TO HARBOR THAN OUT OF THE AREA. THERE IS AN INDICATION THAT SUBSTRATES PLAY A PART IN THE FISH DISTRIBUTION IN THE HUNTINGTON AREA. THE WATERS WERE FOUND TO BE FAVORABLE FOR A SPORT FISHERY FOR THE SPECIES REPRESENTED.

0313 CARSWELL, L.D.

APPRAISAL OF #ATER RESOURCES IN THE HACKENSACK RIVER BASIN, NJ [1976]

USGS. TRENTON. NJ 68 PP

THE HACKENSACK RIVER BASIN, IN THE NORTHERN PART OF THE NJ-NY METROPOLITAN AREA, INCLUDES SOME OF THE MOST HIGHLY URBANIZED AREAS IN THE US AS WELL AS A LARGELY UNDEVELOPED 23.4 SW MI AREA OF TIDAL MARSH REFERRED TO AS THE HACKENSACK MEADOWS. REPORTED YIELDS OF INDUSTRIAL AND PUBLIC-SUPPLY WELLS TAPPING THE BRUNSWICK ARE AS MUCH AS 600 GPM (GALLONS PER MINUTE); THE MEDIAN YIELD IS 100 GPM. THE FORMATION IS ANISOTROPIC; THE GREATEST PERMEABILITY AND THUS THE MOVEMENT OF WATER IN RESPONSE TO PUMPING ARE PARALLEL TO THE STRIKE OF BEDDING. THEREFORE, WELLS IN WELL FIELDS ALINED PERPENDICULAR TO STRIKE HAVE MINIMUM INTERFERENCE. FUTURE DEVELOPMENT OF GROUNDWATER SUPPLIES IN THE UPPER AREA OF THE BASIN IS RESTRICTED, BECAUSE SUCH DEVELOPMENT WOULD DECREASE SURFACE WATER SUPPLIES WHICH ARE ALMOST ENTIRELY UTILIZED FOR WATER SUPPLY. ADDITIONAL DEVELOPMENT OF GROUNDWATER IN THE LOWER AREA OF THE BASIN IS LIMITED BY THE SMALL AMOUNT OF GROUNDWATER IN THE BASIN AND BY THE INTRUSION OF HIGHLY MINERALIZED SURFACE WATER INTO THE AQUIFERS.

0314 CARSWELL, L.D.; J.G. ROONEY

SUMMARY OF GEOLOGY AND GROUND WATER RESOURCES OF PASSAIC COUNTY, NEW JERSEY [1976]

USGS, TRENTON, NJ 47 PP

GROUNDWATER IN PASSAIC COUNTY OCCURS IN INTERGRANULAR OPENINGS OF UNCONSOLIDATED STRATIFIED DEPOSITS OF QUATERNARY AGE AND IN JOINTS AND FRACTURES IN CONSOLIDATED ROCKS OF PRECAMBRIAN, PALEOZOIC, AND TRIASSIC AGE. THE BRUNSWICK FORMATION OF TRIASSIC AGE IS THE MOST IMPORTANT A QUIFER IN THE SOUTHEASTERN 1/3 OF PASSAIC COUNTY. REPORTED YIELDS OF PUBLIC SUPPLY AND INDUSTRIAL WELLS RANGE FROM 50 TO 510 GPM (3 TO 32 L/SEC), AND THE MEDIAN YIELDS 130 GPM (8 L/SEC). MOST OF THESE WELLS ARE 200 TO 400 FT (61 TO 122 M) DEEP. THE MEDIAN YIELD OF ALL PUBLIC SUPPLY AND INDUSTRIAL WELLS OVER 300 FT (91 M) DEEP AND 8 IN (203 MM) OR LARGER IN

DIAMETER IS 230 GPM (15 L/SEC). CRYSTALLINE ROCKS OF PRECAMBRIAN AGE ARE THE MAJOR SOURCE OF GROUNDWATER FOR DOMESTIC USE IN THE NORTHWESTERN 2/3 OF PASSIAC COUNTY. REPORTED WELL YIELDS RANGE FROM 1 TO 200 GPM (.06 TO 13 L/SEC). THE MEDIAN REPORTED YIELD OF DOMESTIC WELLS IS 5 GPM (.31 L/SEC) AND THAT OF PUBLIC SUPPLY WELLS IS 30 GPM (2 L/SEC). WATER USE FROM BOTH SURFACE AND GROUNDWATER SUPPLIES IN PASSAIC COUNTY AVERAGED ABOUT 106 MILLION GPD (4.6 M3/SEC) IN 1965. GROUNDWATER PROBABLY ACCOUNTS FOR 5 TO 10% OF THIS TOTAL. GROUNDWATER PUMPAGE BY THE MAJOR PUBLIC SUPPLY COMPANIES IN THE COUNTY HAS INCREASED FROM 2.1 MILLION GPD (.09 M3/SEC) IN 1951 TO 4.39 MILLION GPD (.19 CY M/SEC) IN 1968. ABOUT 80% OF THE 4.39 MILLION GPD (.19 M3/SEC) WAS FROM WELLS TAPPING THE BRUNSWICK FORMATION IN THE SOUTHERN PART OF THE COUNTY.

0315 CARTER, C.H.

A REGRESSIVE BARRIER AND BARRIER-PROTECTED DEPOSIT: DEPOSITIONAL ENVIRONMENTS AND GEOGRAPHIC SETTING OF THE LATE TERTIARY COHANSEY SAND [1978]

J SEDIMENT PETROL 48(3):933-950

TWO FACIES SEQUENCES, WHICH ARE INTERPRETED AS REGRESSIVE BARKIER AND BARRIER-PROTECTED DEPOSITS, MAKE UP THE UPPER TERTIARY COHANSEY SAND OF SOUTHERN NJ. THE FACIES AND ENVIRONMENTS INFERRED FROM THEM, IN THE 6 M THICK BARRIER SEQUENCE ARE FROM THE BASE UP: INTERBEDDED SAND AND GRIT WITH MULTIDIRECTIONAL TROUGH SETS (SURF ZONE); GENTLY DIPPING LAMINATED SAND (FORESHORE); BURROWED LAMINATED SAND WITH HEAVY MINERAL CONCENTRATIONS (BACKSHORE-DUNE); PEAT (FRESHWATER MARSH); AND LAMINTED CLAY (SALT WATER MARSH). THE FACIES AND INFERRED ENVIRONMENTS OF THE 6 M THICK BARRIER-PROTECTED SEQUENCE, WHICH CONFORMABLY CAPS THE BARRIER SEQUENCE, ARE FROM THE BASE UP: CROSS-BEDDED SAND CHARACTERIZED BY TABULAR SETS (SUBTIDAL CHANNEL); BURROWED CROSS-BEDDED SAND CHARACTERIZED BY TABULAR SETS (SUBTIDAL CHANNEL); BURROWED, MASSIVE SAND (SAND FLAT). LENTICULAR BODIES OF INTERBEDDED SAND AND CLAY (RESTRICTED OR ABANDONED TIDAL CHANNELS) ARE SCATTERED THROUGHOUT THE SEQUENCE. THE COHANSEY SEDIMENT WAS DEPOSITED ALONG A SUBMERGENT COASTLINE RECEIVING ABUNDANT SEDIMENT AND CHARACTERIZED BY MODERATE WAVE ENERGY AND A LOW TIDAL RANGE. THIS 30 M THICK QUARTZ ARENITE DEPOSIT WAS BUILT UP DURING AT LEAST TWO REGRESSIVE-TRANSGRESSIVE CYCLES.

0316 CARTER, H.H.; J.R. SCHUBEL; R.E. WILSON; P.M.J. WOODHEAD

A RATIONALE FOR EVALUATING THERMALLY INDUCED BIOLOGICAL EFFECTS DUE TO ONCE-THROUGH COOLING SYSTEMS [1977]

SPEC REP 7. MSRC, SUNY, STONY BROOK, NY, 65 PP NTIS-PB-273 147

IT IS SHOWN HOW THE THERMALLY INDUCED BIOLOGICAL EFFECTS OF POWER PLANTS WITH ONCE-THROUGH COOLING SYSTEMS CAN BE EVALUATED IN A LOGICAL, SCIENTIFICALLY DEFENSIBLE MANNER. FIRST, EXISTING MODELS ARE USED TO PREDICT THE FIELDS OF EXCESS TEMPERATURE AND VELOCITY ASSOCIATED WITH A GENERATING STATION SITED ON A RIVER AND ON AN ESTUARY, AND TO ESTABLISH THE TIME-EXCESS TEMPERATURE EXPOSURE HISTORIES RESULTING FROM THE INTERACTION OF AN ASSUMED DISTRIBUTION OF ORGANISMS WITH THESE FIELDS. NEXT, A NEW THERMAL RESPONSE MODEL IS DEVELOPED TO ASSESS THE THERMAL EFFECTS OF THESE EXPOSURES ON A REPRESENTATIVE COMMUNITY OF ORGANISMS.

0317 CARTER, H.H.; R.E. WILSON; G.E. CARROLL

AN ASSESSMENT OF THE THERMAL EFFECTS ON STRIPED BASS LARVAE ENTRAINED IN THE HEATED DISCHARGE OF THE INDIAN POINT GENERATING FACILITIES UNITS 2 AND 3 [1979]

SPEC REP 24. MSRC. SUNY. STONY BROOK. NY 33 PP

IN THIS REPORT THERE IS MODELLED THE EXCESS TEMPERATURE AND VELOCITY FIELDS ASSOCIATED WITH THE HEATED DISCHARGE FROM A LARGE GENERATING STATION SITED ON A TIDAL ESTUARY. USING THE MODEL, TOGETHER WITH APPROPRIATE THERMAL RESISTANCE DATA, THERMALLY INDUCED MORTALITY LEVELS OF STRIPED BASS POST YOLK SAC LARVAE ENTRAINED IN THE THERMAL PLUME ARE EVALUATED. THE MODEL CONSISTS

OF SEPARATE NEAR-FIELD AND FAR FIELD PORTIONS WHICH WERE COMBINED TO FORM A COMPLETE-FIELD MODEL BY VECTOR ADDITION OF THE VELOCITY FIELDS AND BY SUPERPOSITION OF THE EXCESS TEMPERATURE FIELDS BASED ON A SIMPLE MIXING CONCEPT. BY CALCULATING AND STORING VELOCITY AND EXCESS TEMPERATURE FIELDS APPROPRIATE TO EACH OF 20 DIFFERENT PHASES OF THE TIDE. A COMPLETE-FIELD MODEL FOLLOWED. THE THERMAL DOSE EXPERIENCED BY AN ASSUMED INITIAL DISTRIBUTION OF PASSIVE ORGANISMS WHERE THE RECEIVING WATER VELOCITIES ARE TIME VARYING, SUCH AS OCCURS IN A TIDAL ESTUARY OR COASTAL SETTING. AS WELL AS UNIDIRECTIONAL IS CALCULATED. FOR THIS REASON IT IS CONSIDERED A QUASI-TRANSIENT STATE. THE MODEL FURTHER SUGGESTS THAT THE ZONE OF INFLUENCE OR WITHDRAWAL OF THE INTAKES IS LIMITED TO 20-30 M IN THE LATERAL DIRECTION.

0318 CARTER, H.H.; J.R. SCHUBEL; R.E. WILSON; P.M.J. WOODHEAD

THERMALLY INDUCED BIOLOGICAL EFFECTS CAUSED BY ONCE-THROUGH COOLING SYSTEMS, A RATIONAL FOR EVALUATION [1979]

ENVIRON MANAGE 3(4):353-368

THE PAPER COMBINES A NEAR-FIELD INTEGRAL MODEL WITH A FAR-FIELD MODEL TO PREDICT THE FIELDS OF EXCESS TEMPERATURE AND VELOCITY ASSOCIATED WITH A HYPOTHETICAL POWER PLANT SITED ON A RIVER AND AN ESTUARY, AND TO ESTABLISH THE TIME-EXCESS TEMPERATURE EXPOSURE HISTORIES RESULTING FROM THE INTERACTION OF AN ASSUMED DISTRIBUTION OF ORGANISMS WITH THESE FIELDS. NEXT, A NEW THERMAL RESPONSE MODEL IS DEVELOPED. THE THERMAL RESPONSE MODEL CAN BE USED WITH DATA FROM EXISTING AND PROPOSED POWER PLANTS TO ESTIMATE WHAT FRACTION OF PLANKTON IN WATERS CONTIGUOUS TO THE PLANT WILL BE EXPOSED TO THERMAL DOSES GREATER THAN THOSE THAT CAUSE DEATH AT ANY STATED.LEVEL. THE MODEL CAN ALSO BE USED TO AID IN THE DESIGN OF ONCE-THROUGH COOLING SYSTEMS TO KEEP THE MORTALITY RATE CAUSED BY THERMAL STRESSES BELOW ANY DESIGNATED THRESHOLD. THE INPUTS TO THE MODEL ARE THE FREQUENCY DISTRIBUTION OF TIME-EXCESS TEMPERATURE HISTORIES EXPERIENCED BY PARTICULAR PLANKTON (THE REPRESENTATIVE IMPORTANT SPECIES), THERMAL RESISTANCE CURVES FOR THOSE ORGANISMS, AND THE SPATIAL AND TEMPORAL VARIATIONS OF THE NATURAL TEMPERATURE OF THE RECEIVING WATERS. FOR ILLUSTRATION, THE THERMAL RESPONSE MODEL IS APPLIED TO THREE IMPORTANT AQUATIC ENVIRONMENTS OF NEW YORK STATE: LONG ISLAND SOUND, THE LOWER HUDSON RIVER, AND LAKE ONTARIO.

O319 CARTER, H.H.; A. OKUBO; R.E. WILSON; B. SANDERSON; D.W. PRITCHARD

LAGRANGIAN AND EULERIAN DIFFUSION STUDY IN THE COASTAL SURFACE LAYERS. PROGRESS REPORT, JULY 1, 1979-JUNE 30, 1980 [1980]

UNPUBL REP. ECOLOGICAL RESEARCH DIV, US DOE, WASHINGTON, DC 52 PP

THIS RESEARCH PROJECT ADDRESSES A FUNDAMENTAL PROBLEM IN TURBULENCE THEORY, THE RELATION BETWEEN LAGRANGIAN AND EULERIAN STATISTICS, BY CARRYING OUT, ANALYZING, AND INTERPRETING A SET OF FIELD EXPERIMENTS IN THE COASTAL WATERS OFF THE SOUTH SHORE OF LONG ISLAND. THE STUDY WILL NOT ONLY PROVIDE INFORMATION ON THE RELATION BETWEEN THE LAGRANGIAN AND EULERIAN AUTOCORRELATIONS BUT ALSO BETWEEN THE VARIOUS EXPERIMENTAL METHODS FOR QUANTITATIVELY ESTIMATING TURBULENT DIFFUSION. TWO EXPERIMENTS, ONE IN SUMMER AND ONE IN WINTER, CONSISTING OF SIMULTANEOUS MEASUREMENTS OF DYE DIFFUSION, DROGUE DISPERSION, AND EULERIAN CURRENT VELOCITIES IN A TYPICAL COASTAL LOCALE WERE PLANNED. IN ORDER TO ENSURE A MATCH BETWEEN THE LAGRANGIAN (DROGUES, DYE) SCALES OF MOTION AND THE EULERIAN (CURRENT METERS) SCALES, HOWEVER, A PRELIMINARY EXPERIMENT, CONSISTING OF A 6 MOORING CURRENT METER ARRAY AND A SHORT (APPROX. 3 HRS) DROGUE EXPERIMENT, WAS CONDUCTED DURING MAR 1980. RESULTS OF THIS PRELIMINARY EXPERIMENT AND THEIR IMPLICATIONS TO THE EXPERIMENTAL PROGRAM ARE DISCUSSED. THE PRINCIPAL RESULTS WERE AN IMPROVED DESIGN OF OUR CURRENT METER ARRAY, AND A WIDER VARIETY OF DROGUE EXPERIMENTS, I.E. MULTI-LEVEL, MULTI-SCALE, AND CONTINUOUS SOURCE SIMULATION.

0320 CARTWRIGHT, R.H.; J.A. ZIARNO

CHEMICAL QUALITY OF WATER FROM COMMUNITY SYSTEMS IN NEW YORK, NOVEMBER 1970 TO MAY 1975 [1980]

USGS, 4LBANY, NY 447 PP

CHEMICAL ANALYSES OF 2,802 WATER SAMPLES FROM 784 OF APPROXIMATELY 1,500 COMMUNITY WATER SYSTEMS IN THE STATE OF NEW YORK ARE PRESENTED. THE DATA WERE COLLECTED FROM NOVEMBER 1970 TO MAY 1975 AND WERE ORIGINALLY RELEASED IN A SERIES OF FOUR USGS OPEN-FILE REPORTS DURING THE MID-1970'S. THE DATA WERE OBTAINED AND COMPILED BY THE USGS AND HAVE BEEN USED BY NY IN DETERMINING COMMUNITY SYSTEM COMPLIANCE WITH APPLICABLE DRINKING WATER STANDARDS. THE ANALYSES INCLUDE PHYSICAL PROPERTIES, MAJOR AND MINOR CONSTITUENTS, PESTICIDE RESIDUES, AND RADIOCHEMICAL DATA. SOME BOTTOM-MATERIAL ANALYSES ARE INCLUDED.

0321 CASO. R.G.

REPORT OF A COMPREHENSIVE WATER QUALITY STUDY, SOUTH SHORE BAYS, NASSAU COUNTY, NY [1973]

DEPT OF HEALTH, NASSAU COUNTY, MINEOLA, NY NP

A COMPREHENSIVE WATER QUALITY STUDY OF THE SOUTH SHORE BAYS OF NASSAU COUNTY, CONDUCTED BY THE NASSAU COUNTY DEPARTMENT OF HEALTH, IS REPORTED HEREIN. LEVELS AND TRENDS IN WATER QUALITY WERE EVALUATED IN RELATION TO ASSIGNED STATE STANDARDS. SOURCES OF POLLUTION AND THEIR INDIVIDUAL AND COLLECTIVE WATER QUALITY IMPACTS WERE ALSO EVALUATED. ALTERNATE SOLUTIONS WERE REVIEWED IN TERMS OF THEIR EFFICIENCY IN PRESERVING AND RESTORING THE QUALITY OF THE BAY WATERS. NECESSARY ACTIONS FOR PLANNING A POLLUTION ABATEMENT PROGRAM ARE RECOMMENDED TO RESTORE WATER QUALITY TO ASSIGNED STANDARDS. DATA FROM STUDIES CONDUCTED BY SEVERAL AGENCIES AS WELL AS EXTENSIVE DATA COLLECTED BY THE HEALTH DEPARTMENT WERE USED.

0322 CASSIN, J.M.

PHYTOPLANKTON FLORISTICS OF A LONG ISLAND EMBAYMENT [1978]

BULL TORREY BOT CLUB 105(3):205-213 -

24 STATIONS IN SOUTH OYSTER BAY, GREAT SOUTH BAY, AND ADJACENT NEW YORK BIGHT WERE MONITORED FOR PHYTOPLANKTON TAXONOMIC ANALYSIS, STANDING CROP, BIOMASS, DIVERSTLY, AND FREQUENCY DETERMINATIONS. THE STUDY NOTED 241 GENERA WITH 57 CONSIDERED MAJOR ELEMENTS OF THE FLORA FROM APRIL THROUGH OCT 1977. AVERAGE STANDING CROP OF THE ESTUARINE AREA (1.612 10exp-6 cells/l) was greater than that of inshore Stations. BIOMASS AVERAGED 1.286 AND 1.293 MG/L FOR EMBAYMENT AND INSHORE STATIONS. AVERAGE DIVERSITY INDICES VARIED LITTLE IN ESTUARINE (1.245 BITS/L) AND INSHORE (1.365 BITS/L) ZONES, EVEN THOUGH POPULATIONS WERE QUITE DISTINCT. THE USE OF DIVERSITY INDICES IN JUDGING ESTUARINE WATER QUALITY MUST BE SUPPORTED BY OTHER FLORIBIIC DATA SUCH AS TAXONOMIC DISTRIBUTIONS. STANDING CROP AND BIOMASS.

0323 CATANZARO, E.J.

SOME RELATIONSHIPS BETWEEN EXCHANGEABLE COPPER AND LEAD AND PARTICULATE MATTER IN A SAMPLE OF HUDSON RIVER WATER [1976]

ENVIRON SCI TECHNOL 10(4):386-388

ALIQUOTS OF A SAMPLE OF HUDSON RIVER WATER WERE ANALYZED FOR COPPER AND LEAD BY ISOTOPE DILUTION. THE "EXCHANGEABLE" COPPER AND LEAD -- I.E. THAT WHICH EQUILIBRATED WITH THE SPIKES, RANGED FROM AN AVERAGE OF 7.276 PPB CU AND 11.72 PPB PB FOR UNFILTERED ALIQUOTS, TO 2.82 PPR CU AND 4.39 PPB PB FOR ALIQUOTS FILTERED THORUGH 2 MICRON FILTER PAPER. MORE THAN 70% OF THE CU AND PB IS ASSOCIATED WITH PARTICLES >2 MICRONS IN SIZE. THE MEASURED METAL CONTENTS OF THE UNFILTERED ALIQUOTS INCREASED WITH TIME; WITH THE CU APPARENTLY REACHING EQUILIBRIUM AFTER ABOUT 20 DAYS, AND THE PB NEVER REACHING EQUILIBRIUM DURING THE 30 DAY TIME PERIOD OF THE TESTS. THE LEAD RESULTS FOR THE UNFILTERED ALIQUOTS ARE MUCH MORE VARIABLE THAN THE CU RESULTS, SUGGESTING THE PRESENCE OF RELATIVELY LARGE (>8 MICRONS) PB-RICH PARTICLES IN THE WATER, POSSIBLY ORIGINATING FROM ATMOSPHERIC FALLOUT OF AEROSOLS DERIVED FROM AUTO EXHAUSTS OF LEADED GASOLINES.

0324 CATANZARO, E.J.

MASS SPECTROMETRIC-ISOTOPE DILUTION DETERMINATIONS OF COPPER AND LEAD IN HUDSON RIVER WATER (1976)

PAGES 513-417 IN J.O. NRIAGU, ED. ENVIRONMENTAL BIOGEOCHEMISTRY, VOL 2: METALS TRANSFER AND ECOLOGICAL MASS BALANCES. ANN ARBOR SCIENCE PUBLISHERS, ANN ARBOR, MI

THIS REPORT DESCRIBES AN ANALYTICAL TECHNIQUE FOR THE MEASUREMENT OF MICROQUANTITES OF CU AND PO IN WATER SAMPLES. THE METHOD USED WAS A STANDARD ISOTOPE DILUTION-MASS SPECTROMETRIC TECHNIQUE COMBINED WITH A SIMPLE, NONCONTAMINATING, ELECTROPLATING SEPARATION. POSSIBLE SOURCES OF ANALYTICAL ERROR ARE DISCUSSED. SOME PRELIMINARY RESULTS ARE REPORTED ON SAMPLING AND DISTRIBUTION. TWO SETS OF HUDSON RIVER SUFFACE WATER WERE ANALYZED. THE FIRST SET CONSISTED OF TRIPLICATE SAMPLES TAKEN AT TWO LOCATIONS. THE TRIPLICATE SAMPLE BOTTLES WERE TREATED IN DIFFERENT WAYS BEFORE SAMPLE COLLECTION TO DETERMINE THE EFFECTS OF ADSORPTION. ONE BOTTLE WAS UNTREATED; ONE WAS PRESPIKED; AND ONE WAS PRE-ACIDIFIED. WITHIN 24 HRS AFTER SAMPLE COLLECTION SPIKES AND ACIDS WERE ADDED TO ALL BOTTLES NOT PREVIOUSLY SO TREATED. THE RESULTS WERE INCONCLUSIVE BECAUSE IT WAS OBVIOUS THAT THE SAMPLES WERE NOT EXACT REPLICATES AND OTHER SOURCES OF SAMPLE VARIATION MARKED ANY POSSIBLE ADSORPTION EFFECTS. THE SECOND SET OF SAMPLES WAS AN ATTEMPT TO DETERMINE IF A SINGLE MEGASAMPLE WAS SUFFICIENTLY HOMOGENEOUS TO BE SPLIT INTO A NUMBER OF FILTERED AND UNFILTERED ALIQUOTS WHICH WOULD HAVE IDENTICAL COPPER AND LEAD CONTENTS. A SUBTEST WAS TO DETERMINE IF DIFFERENT ACIDS MIGHT HAVE DIFFERENT EFFECTS ON THE QUANTITIES OF COPPER AND LEAD MEASURED. BOTH FILTERED AND UNFILTERED SAMPLES DEMONSTRATED GOOD REPRODUCIBILITY FOR CU EVEN THOUGH 1/2 OF THE CU WAS ATTACHED TO PARTICLES GREATER THAN 8 MICRONS IN SIZE. THE PB SAMPLES SHOWED SIGNIFICANT VARIATION IN BOTH THE FILTERED AND UNFILTERED GROUPS. THERE WAS NO SIGNIFICANT DIFFERENCE BETWEEN SAMPLES ACIDIFIED WITH HCLO4 AND HNO3.

0325 CHAKROFF, P.; S. MELMAN; M. SPIGEL

LAND USE--REPORT OF THE REGION II YOUTH ADVISORY BOARD TO THE US EPA REGIONAL OFFICE II [1972]

US EPA, NEW YORK, NY 225 PP

THIS REPORT IS AN ATTEMPT TO TRACE THE INTERRELATIONSHIPS BETWEEN LAND USE AND ENVIRONMENTAL QUALITY, ESPECIALLY AS THEY RELATE TO THE US EPA. MANY OF THESE RELATIONSHIPS ARE SUBTLE AND THEIR SIGNIFICANCE IS OFTEN NEGLECTED. HOWEVER, THE LAND USE TASK FORCE BELIEVES THAT UNLESS INCREASING ATTENTION IS PAID TO LAND USE, THE EPA WILL PROGRESSIVELY DECREASE IN ITS EFFECTIVENESS. THE REPORT ALSO STUDIES THE EXTENT TO WHICH FEDERAL POLICY AND OTHER FEDERAL AGENCIES WORK COUNTER TO EPA'S MANDATE TO PRESERVE AND PROTECT THE ENVIRONMENT. THIS REPORT ATTEMPTS TO DEAL MORE COMPLETELY WITH THE FUNCTIONAL RELATIONSHIPS BETWEEN LAND USE AND ENVIRONMENTAL QUALITY BY DISCUSSING EPA PROGRAMS WITHIN THE CONTEXT OF MAJOR USERS OF THE LAND. THUS, THE REPORT IS DIVIDED INTO CATEGORIES WHICH REFLECT THE URBANIZATION PROCESS, THE TRANSPORTATION NETWORK, AND THE OPEN LAND AND WATER AREAS OF THE REGION. AS BEFITTING A REGION THAT CONTAINS MANY OF THE MAJOR URBAN AREAS OF THE US, THE REPORT DEVOTES CONSIDERABLE ATTENTION TO THOSE CATEGORIES WITHIN AN URBAN OR SUBURBAN CONTEXT. THE FINAL SECTION OF THE REPORT RECOMMENDS IMMEDIATE, SPECIFIC CHANGES THAT EPA COULD MAKE TO MORE ACTIVELY ENGAGE THE PROBLEM OF LAND USE.

0326 CHAMBERLIN. D.M.: S.W. MARGOLIN

LONG ISLAND SOUND SUBMARINE CABLE INTERCONNECTION OPERATING EXPERIENCE [1979]

PAGES 290-298 IN IEEE/POWER ENG SOC TRANSM AND DISTRIB CONF AND EXPO. ATLANTA, GA. APR 1979. IEEE. NEW YORK, NY

THIS PAPER DISCUSSES THE UNUSUAL OPERATING EXPERIENCE OF A 300 MVA, 19 KM (12 MI), 158KV, HIGH-PRESSURE, OIL-FILLED SUBMARINE CABLE. THIS CABLE, INSTALLED IN 1969, HAS EXPERIENCED, TO AN UNEXPECTED DEGREE, CORROSION AND PHYSICAL DAMAGE FROM EXTERNAL MECHANICAL FORCES. THE EXPERIENCE GAINED FROM OPERATION OF THIS CABLE MAY RESULT IN DESIGN CHANGES AND NEW CONSIDERATIONS FOR FUTURE LONG SUBMARINE CABLES, ESPECIALLY IN THE AREAS OF ARMORING, CABLE SPACING, CABLE EMBEDMENT, INSTALLATION INSPECTION, AND CATHODIC PROTECTION.

0327 CHANG, Y.C.; Y.J. TSAI; A.Y. KUO; E.P. RUZECKI; C.S. FANG; M.J. BOWMAN; J.T. DEALTERIS; J.R. RONEY; L.E. STAHL; C. CARR;

J.R. SCHUBEL; B.L. EDGE; C.H. EVERTS; J.L. MACHEMEHL; R.P. MASTERSON, JR.; V.V. CAVAROC, JR.

CIVIL ENGINEERING IN THE OCEANS CONF. ABSTRACTS OF PAPERS [1975]

3RD CIV ENG IN THE OCEANS CONF. UNIV OF DE, NEWARK, DE, JUN 1975. ASCE. NEW YORK, NY 258 PP

THE FOLLOWING IS A PARTIAL LIST OF TITLES AND AUTHORS OF THE PAPERS PRESENTED: TRANSIENT DRAINAGE FLOW ANALYSIS WITH APPLICATION ON FLOOD PROTECTION FOR A COASTAL SITE BY Y.C. CHANG AND Y.J. TSAI; RENEWAL CHARACTERISTICS OF CHESAPEAKE BAY BY A.Y. KUO, E.P. RUZECKI AND C.S. FANG; POLLUTION PREDICTION MODEL OF LONG ISLAND SOUND BY M.J. BOWMAN; SEDIMENT TRANSPORT STUDY, OFFSHORE NEW JERSEY BY J.T. DEALTERIS, J.R. RONEY, L.E. STAHL AND C. CARR; SUSPENDED SEDIMENT IN CHESAPEAKE BAY AND ON SHELF BY J.R. SCHUBEL; PERSENT PRESPECTIVE OF EDGE WAVES AND COASTAL DYNAMICS BY B.L. EDGE; SHOALING RATE PREDICTION USING A SEDIMENTATION TANK BY C.H. EVERTS.

0328 CHAPRA, S.C.; S. GORDIMER

ESOO1: VERIFICATION OF MODEL FOR NEW YORK HARBOR [1973]

US EPA, NEW YORK, NY 48 PP NTIS-PB-246 848

ESOO1 IS A COMPUTER MODEL WHICH PREDICTS THE STEADY-STATE DISTRIBUTION OF WATER QUALITY VARIABLES FOR A ONE DIMENSIONAL ESTUARY. THE REPORT PRESENTS AN APPLICATION OF THE COMPUTER MODEL ESOO1 TO AN ACTUAL ESTUARINE SYSTEM. BY SIMULATING THE NEW YORK HARBOR COMPLEX. THE WASTE LOADS AND SYSTEM PARAMETERS PRESENTED ARE FOR AVERAGE JULY-AUGUST CONDITIONS FOR 1954 TO 1964. THE EFFECT ON WATER QUALITY OF HYPOTHETICAL LEVELS OF RAW WASTE TREATMENT ARE ALSO PRESENTED.

0329 CHARNELL, R.L.; G.A. MAUL

OCEANIC OBSERVATION OF NEW YORK BIGHT BY ERTS-1 [1972]

NATURE 242(5398):451-453

ON AUGUST 16, 1972, THE MULTISPECTRAL SCANNER (MSS) ABOARD THE FIRST ERTS SATELLITE OBTAINED IMAGES OF NEW YORK BIGHT WHICH CONTAIN INFORMATION OF OCEANOGRAPHIC SIGNIFICANCE. THE MOST PREVALENT OCEANIC FEATURE IN THIS FRAME IS VISIBLY TURBID SURFACE WATER NEAR THE COAST. ERTS IMAGES ALL SHOW DUMP RESIDUES.

0330 CHARNELL, R.L.; G.A. MAUL

AN OCEANOGRAPHIC OBSERVATION OF NEW YORK BIGHT FROM ERTS-1 [1973]

ERL-262-AOML-9. NOAA, MIAMI, FL 8 PP

THE ERTS-1 SATELLITE MADE A TRANSIT OVER NEW YORK BIGHT ON AUGUST 16, 1972. IMAGERY FROM THIS TRANSIT SHOWS SEVERAL OCEANOGRPAHIC FEATURES THAT DEMONSTRATE THE USEFULNESS OF REMOTE SENSING OVER A LARGE AREA FOR THE SYNOPTIC OBSERVATION OF CHANGES IN WATER QUALITY IN THE COASTAL ZONE. BOTH THE EXTENT AND TURBULENT CHARACTER OF THE HUDSON RIVER PLUME ARE DISCERNIBLE. RESIDUE FROM A DUMP OF WASTE ACID IS VISIBLE OVER A 5-MILE AREA IN THE APEX OF THE BIGHT. LITTLE DISPERSION OF THIS RESIDUE HAS OCCURRED. THIS FEATURE WILL BE A PERSISTENT SIGNATURE IN IMAGES FROM FUTURE SATELLITE TRANSITS.

0331 CHARNELL, R.L.; D.V. HANSEN; R.I. WICKLUND

SURFACE AND BOTTOM WATER MOVEMENT IN NEW YORK BIGHT [1973]

PAGES 30-60 IN FINAL REPORT ON THE EFFECTS OF WASTE DISPOSAL IN THE NY BIGHT. NMFS, SANDY HOOK LAB, HIGHLANDS, NJ

A SAMPLING GRID OF 23 STATIONS WAS ESTABLISHED IN THE NEW YORK BIGHT BETWEEN 73 30° W AND 74 00° W, NORTH OF 40 20° N. PERIODICALLY AT THESE STATIONS, MEASUREMENTS WERE MADE TO DETERMINE VALUES FOR TEMPERATURE AND SALINITY AT DEPTH INTERVALS OF FOUR METERS, AND FOR DISSOLVED OXYGEN NEAR THE BOTTOM. USEABLE RECORDS OF CURRENT SPEED AND DIRECTION WERE OBTAINED AT THREE FIXED STATIONS, EACH RECORDING NEAR THE BOTTOM AND APPROXIMATELY 40 FEET ABOVE THE BOTTOM. ESTIMATES OF SURFACE AND BOTTOM PARTICULATE TRANSPORT WERE MADE WITH THE USE OF SEABED AND SURFACE DRIFTERS WHICH WERE RELEASED AT 21 OF THE FIXED GRID STATIONS ON EACH OF THE REGULAR CRUISES.

0332 CHARNELL, R.L.; J.R. APEL; W.H. MANNING, III; R.H. QUALSET

UTILITY OF ERTS-1 FOR COASTAL OCEAN OBSERVATION: THE NEW YORK BIGHT EXAMPLE [1974]

MAR TECHNOL SOC J 8(3):42-47

AN EARTH RESOURCES TECHNOLOGY SATELLITE (ERTS-1) IMAGE TAKEN OVER NEW YORK BIGHT ON 16 AUG 1972 WAS ENHANCED WITH THE VIEW TO EVALUATING THE SENSOR PACKAGE FOR OCEANIC OBSERVATION. ALTHOUGH OCEAN INFORMATION IS SUBSTANTIALLY LESS DYNAMIC THAN LAND-RELATED INFORMATION, SEVERAL IMPORTANT OCEAN FEATURES WERE DETECTED. THIS EXAMINATION LEADS TO THE CONCLUSION THAT SATELLITES SUCH AS ERTS CAN BE USED TO STUDY MOVEMENT AND STRUCTURE OF PARTICULATE PLUMES FROM RIVER OUTFLOW, TO MONITOR DEPOSITION AND DISPERSION OF WASTE DUMPS, TO OBSERVE SOME WATER MASS BOUNDARIES, AND TO DETECT THE PRESENCE AND MEASURE THE CHARACTERISTICS OF INTERNAL GRAVITY WAVES.

0333 CHARNELL, R.L.; D.V. HANSEN

SUMMARY AND ANALYSIS OF PHYSICAL OCEANOGRAPHY DATA COLLECTED IN THE NEW YORK BIGHT APEX DURING 1969+70 [1974]

MESA-74-3. NOAA, BOULDER, CO 44 PP NTIS-COM-75-10358

THE REPORT PRESENTS AN ANALYSIS OF PHYSICAL OCEANJGRAPHY DATA COLLECTED ON A MONTHLY BASIS IN THE APEX OF THE NEW YORK BIGHT DURING 1969 AND EARLY 1970. DATA INCLUDE TEMPERATURE AND SALINITY VALUES, RECOVERY INFORMATION ON SURFACE AND SEABED DRIFTERS, AND CURRENT METER OBSERVATIONS. HUDSON RIVER DISCHARGE AND WIND DATA FROM AMBROSE LIGHT STATION ARE ALSO INCLUDED. THE DATA SHOW APEX WATER TO BE STRATIFIED THREE-FOURTHS OF THE YEAR CAUSED BY HIGH RIVER RUNOFF AND INSOLATION. DURING WINTER, HEAT LOSS AND WIND MIXING DESTROY AND IMPEDE REFORMATION OF STRATIFICATION. THERE IS A STRONG NORTHWARD FLOW OF WATER IN THE LOWER LAYERS ALONG THE AXIS OF THE HUDSON SHELF CHANNEL; SOME OF THIS BOTTOM WATER FLOWS INTO THE HUDSON ESTUARY AND PART TURNS EASTWARD TO FLOW PARALLEL TO LONG ISLAND.

0334 CHARNELL, R.L.

ASSESSMENT OF OFFSHORE DUMPING, TECHNICAL BACKGROUND: PHYSICAL OCEANOGRAPHY, GEOLOGICAL OCEANOGRAPHY (1975)

TM-ERL-MESA-1. NOAA, BOULDER, CO 93 PP NTIS-COM-75-10851

THE REPORT EXAMINES PHYSICAL, GEOGRPAHICAL, AND CHEMICAL OCEANOGRAPHIC FEATURES OF THE NEW YORK BIGHT AND THEIR RELATIONSHIP TO WASTE AND SEWAGE DISPOSAL IN THE AREA. THE INVESTIGATION INCLUDES STUDIES OF OCEAN CURRENTS, SEA FLOOR TOPOGRAPHY, SEDIMENTATION, METHODS OF SEWAGE DISPOSAL, AND THE CHEMICAL COMPOSITION OF SEWAGE. DATA FROM SAMPLING IN THE AREA ARE PRESENTED.

0335 CHARNELL. R.L.

ASSESSMENT OF OFFSHORE DUMPING IN THE NEW YORK BIGHT, TECHNICAL BACKGROUND: PHYSICAL OCEANOGRAPHY, GEOLOGICAL OCEANOGRAPHY, AND CHEMICAL OCEANOGRAPHY (1975)

TR-ERL-332. NOAA, MIAMI, FL 83 PP NTIS-COM-75-11386

PHYSICAL OCEANOGRAPHY: ANALYSIS OF HISTORIC AND MESA DATA SHOWS TWO DISTINCT CIRCULATION REGIMES. 1) NEAR THE HARBOR MOUTH AND ALONG THE NEW JERSEY COAST, NEW YORK HARBOR DISCHARGE FLOWS SOUTHWARD PARALLEL TO THE NJ COAST; AT DEPTH, THERE IS A RETURN FLOW OF EXTERNAL WATER INTO THE ESTUARY. IN SPITE OF ITS IMPORTANCE IN THE OCEANOGRAPHIC AND ECOLOGICAL SYSTEMS OF THE REGION, THIS SUPERPOSED FLOW SYSTEM IS RECOGNIZED IN MEASUREMENTS AS ONLY A SLIGHT IMBALANCE OF MUCH STRONGER EBB AND FLOOD TIDAL CURRENTS. 2) OUTSIDE THE REGION OF STRONGEST INFLUENCE FROM RIVER DISCARGE. A PERSISTENT CLOCKWISE CIRCULATION ON EDDY APPEARS TO EXIST. IN THE EDDY'S MOST INSHORE PORTION, FLOW IS TOWARD THE NORTH AND EAST, COUNTER TO THE GENERAL FLOW OVER THE CONTINENTAL SHELF ADJACENT TO THIS PART OF THE COAST. DETAILS OF ITS HORIZONTAL EXTENT. ITS VERTICAL STRUCTURE, AND ITS PERSISTENCE ARE IMPERFECTLY KNOWN AT PRESENT. GEOLOGICAL OCEANOGRAPHY: FINE-GRAINED WASTE DUMPED IN NEW YORK BIGHT IS ENTRAINED IN A CLOCKWISE CIRCULATION PATTERN AND IS DISPERSED TO THE NORTH. A SIGNIFICANT PORTION IS DEPOSITED IN THE LOW AREA (CHRISTIAENSEN BASIN) IMMEDIATELY NORTHWEST OF THE DUMPSITES. THE FRACTION OF FINER DREDGE SPOILS AND THE BULK OF SEWAGE SLUDGE IS WIDELY DISPERSED THROUGH THE BIGHT APEX IN HIGHLY DILUTE FORM. THERE ARE NO "PURE" SLUDGE BEDS; THERE HAS BEEN NO DETECTABLE AGGRADATION OF THE SEWAGE SLUDGE SITE SINCE 1936. HOWEVER, THE CHRISTIAENSEN BASIN, A NATURAL ZONE OF MUD DEPOSITION, APPEARS TO BE SIGNIFICANTLY CONTAMINATED WITH SEWAGE SLUDGE. NEAR LONG ISLAND BEACHES, THERE ARE SCATTERED, THIN, SMALL PATCHES OF MUD, PHYSICALLY INDISTINGUISHABLE FROM NATURAL MUD PATCHES ON SIMILAR, LESS POPULOUS COASTS. MICROSCOPIC EXAMINATION OF SAMPLES INDICATES THAT LESS THAT 3% OF THE RESOLVABLE PARTICLES IN THESE PATCHES ARE OF ARTIFICIAL ORIGIN. THE LOWEST CONTAMINATION LEVEL DETECTED BY MICROSCOPIC TECHNIQUE IN THE BIGHT APEX. NO EVIDENCE FOR A FRONT OF SEWAGE SLUDGE APPROACHING THE LONG ISLAND SHORE WAS OBSERVED. CHEMICAL OCEANOGRAPHY: DATA FROM WATER SAMPLING SHOW THAT NUTRIENT (NITRATES, NITRITES, SILICATES, AND PHOSPHATES) DISTRIBUTIONS ARE DOMINATED BY THE LOWER NEW YORK BAY OUTFLOW, WITH DUMPED SEWAGE SLUDGE CONTRIBUTING VERY SMALL AMOUNTS. BOTTOM GRAB SAMPLES WERE ANALYZED FOR TOTAL ORGANIC CARBON AND TOTAL CARBONYDRATES. THE CARBONYDRATE/TOC RATIO INDICATES THAT THE WHOLE BIGHT CONTAINS SOME SEWAGE-DERIVED MATERIALS WITH THE GREATEST CONCENTRATION IN THE HUDSON SHELF VALLEY, IN THE CHRISTIAENSEN BASIN, AND NORTH OF THE GEOGRAPHICAL SEWAGE SLUDGE DUMPSITE. THIS IS CONSISTENT WITH THE DISTRIBUTION EXPECTED IF SEWAGE SLUDGE WERE DISSEMINATED THROUGHOUT THE APEX BY THE HYPOTHES 12ED CURRENT PATTERN (GYRE). ALTHOUGH CARBOHYDRATE/TOC RATIOS IN SEDIMENTS THROUGHOUT THE AREA CLOSE TO LONG ISLAND SUGGEST THE PRESENCE OF SEWAGE-DERIVED MATERIAL, LOW TOC VALUES FOUND IN ALL BUT ISOLATED POCKETS DEMONSTRATE THAT CONTAMINANT MATERIAL COMPRISES ONLY A SMALL FRACTION OF THE SEDIMENTS.

0336 CHARNELL, R.L.; D.A. MAYER

WATER MOVEMENT WITHIN THE APEX OF THE NEW YORK BIGHT DURING SUMMER AND FALL OF 1973 [1975]

TM-ERL-MESA-3. NOAA, BOULDER, CO 32 PP NTIS-PB-247 901

AN INVESTIGATION OF THE WATER MOVEMENT WITHIN THE NEW YORK BIGHT APEX WAS MADE DURING THE SUMMER AND FALL OF 1973. OBSERVATIONS FROM THIS STUDY PRODUCED A FAIRLY CONSISTENT PICTURE OF A GENERAL CLOCKWISE CIRCULATION FOR THE MEAN AND LOW FREQUENCY CURRENT MOTIONS. ADDITIONALLY, THE EFFECTS OF STRATIFICATION ON THE VERTICAL STRUCTURE OF THE FLOW SHOWED THE DIFFERENCE BETWEEN THE SUMMER AND LATE FALL FLOW REGIMES. THERE ALSO APPEARED TO BE, FOR LOW FREQUENCIES, EXCELLENT SPATIAL COHERENCE BETWEEN STATIONS IN THE APEX AREA AND A FAIRLY STRONG RELATION BETWEEN METEOROLOGICAL FORCING AND CURRENT MOTIONS; CURRENTS TENDED TO LAG WIND BY UP TO 18 HR.

0337 CHARNELL, R.L.; M.E. DARNELL; G.A. BERBERIAN; B.L. KOLITZ; J.B. HAZELWORTH

NEW YORK BIGHT PROJECT WATER COLUMN CHARACTERIZATION CRUISES 1 AND 2 NOAA SHIP RESEARCHER, 4-15 MARCH AND 5-14 MAY 1974 [1976]

DR-ERL-MESA-18. NOAA, BOULDER, CO 225 PP NTIS-PB-271 485

DURING SPRING 1974, TWO OCEANOGRAPHIC CRUISES WERE MADE BY THE NOAA SHIP RESEARCHER IN THE NEW YORK BIGHT. THE CRUISES WERE

USED FOR DEPLOYMENT AND RECOVERY OF THREE BOTTOM-MOUNTED PRESSURE GAUGES AND TO COLLECT PHYSICAL AND CHEMICAL OCEANOGRAPHIC DATA FROM THE WATER COLUMN. THIRTY-ONE OCEANOGRAPHIC STATIONS WERE OCCUPIED ON A SEGMENT OF THE CONTINENTAL SHELF BOUNDED ON THE EAST BY BLOCK ISLAND, ON THE SOUTH BY CAPE MAY, AND EXTENDING OUTWARD TO THE EDGE OF THE CONTINENTAL SHELF. THIS REPORT PRESENTS THE CORRECTED WATER COLUMN DATA FROM THESE TWO CRUISES AND DESCRIBES THE MEASUREMENT METHODS AND CORRECTIONS APPLIED TO THE DATA.

0338 CHASE. R.R.P.

THE COASTAL LONGSHORE PRESSURE GRADIENT: TEMPORAL VARIATIONS AND DRIVING MECHANISMS [1979]

J GEOPHYS RES 84(C8):4898-4904

ALONG THE NORTHERN COASTAL BOUNDARY OF THE MID-ATLANTIC BIGHT (SANDY HOOK, NJ, TO NANTUCKET ISLAND, MA), SYNTHETIC SUBSURFACE PRESSURE RECORDS DERIVED FROM 1975 TIDE GAUGE AND AIRWAY WEATHER OBSERVATIONS ARE EXAMINED FOR FLUCTUATIONS HAVING MONTHLY TIME SCALES. ADDITIONAL CALCULATIONS ARE PERFORMED TO DETERMINE THE THE FACTORS CONTROLLING VARIANCE IN THESE PRESSURE DATA. SIMILAR ANALYSES ARE APPLIED TO THE LONGHSORE GRADIENT IN SYNTHETIC SUBSURFACE PRESSURE. FLUCTUATIONS IN GULF STREAM POSITION HAVE A SIGNIFICANT EFFECT ON MONTHLY MEAN PRESSURES, WHICH ARE UNIFORM ALONG THE COAST. AT THE WESTERN END OF THE COASTAL SEGMENT, E-W WINDS ARE ALSO IMPORTANT, WHILE CHANGES IN WATER DENSITY CONTRIBUTE SIGNIFICANTLY TO SUBSURFACE PRESSURE VARIANCE AT THE EASTERN END. COASTAL STERIC DIFFERENCES ARE A MINOR CONTRIBUTOR TO MONTHLY FLUCTUATIONS OF LONGSHORE PRESSURE GRADIENT, WHILE THE COASTAL MEAN E-W WINDS EFFECT A LINEAR RESPONSE IN THE GRADIENT. USING THIS RELATIONSHIP AND UPON REMOVAL OF GEODETIC LEVELING ERRORS, THE ANNUAL MEAN LONGSHORE SEA SURFACE SLOPE IS CALCULATED AT 1.6X10EXP-7, FORMING A WESTWARD PRESSURE GRADIENT ALONG THE NORTHERN BOUNDARY OF THE MID-ATLANTIC BIGHT.

0339 CHEN, M.; E. CANELLI; G.W. FUHS

EFFECTS OF SALINITY ON NITRIFICATION IN THE EAST RIVER [1975]

J WATER POLLUT CONTROL FED 47(10):2474-2481

BACTERIAL NITRIFICATION RATES INCREASED WHEN SAMPLES WERE DILUTED WITH SUITABLE MEDIA PREPARED WITH DISTILLED WATER.

NITRIFICATION RATES IN SAMPLES FROM SOUTHERN OR CENTRAL PARTS OF THE EAST RIVER, NY, WERE HIGHER THAN IN SAMPLES NEAR THE SOUND WHERE RIVER WATER WAS MIXED WITH OCEANIC WATER AND HUDSON RIVER WATER, POSSIBLY AFFECTING WATER QUALITY AND/OR THE NUMBER OF NITRIFYING BACTERIA. ISOLATED NITRIFYING BACTERIA WERE NOT HALOPHILIC, INDICATING THAT LOCAL NITRIFYING FLORA ARE ESSENTIALLY TERRESTRIAL IN ORIGIN. NO ATTEMPT WAS MADE TO ESTIMATE THE NUMBERS OF NITRIFYING BACTERIA. HOWEVER, SIGNIFICANT NUMBERS WERE PRESENT. SALINITY DOES NOT APPEAR TO BE THE SOLE CAUSE FOR INHIBITION OF NITRIFICATION. CONCENTRATIONS OF FE, PO4, AND MG EXCEEDED THE MINIMUM REQUIREMENTS. THE RATE OF NITRIFICATION IN A 1 + 9 DILLUTION OF EAST RIVER WATER WAS NOT SIGNIFICANTLY CHANGED BY OMITTING THE USUAL SUPPLEMENTS OF CA, MG, PO4, AND FE. BECAUSE EAST RIVER WATER DID NOT LACK ESSENTIAL NUTRIENTS (N, CA, MG, PO4, FE), IT IS CONCLUDED THAT NITRIFICATION RATES IN THE RIVER ARE CONTROLLED BY SODIUM CHLORIDE AND UNKNOWN INHIBITORY ELEMENTS. TEMPERATURE AND DISSOLVED OXYGEN ALSO PLAY IMPORTANT ROLES.

0340 CHERNOFF. B.

HEAVY METALS IN THE KILLIFISH (FUNDULUS HETEROCLITUS) (PISCES: CYPRINODONTYDAE) FROM THREE LONG ISLAND BAYS [1976]

M.S. THESIS. ADELPHI UNIV. GARDEN CITY. NY 105 PP

THE RELATIONSHIP BETWEEN ZN, MN, CU, AND CD CONCENTRATIONS AND STANDARD LENGTH WAS FOUND TO VARY INVERSELY FOR BOTH MALE AND FEMALE MUMMICHOGS. THIS "ONTOGENETIC" EFFECT WAS ATTRIBUTED TO: A) THE DECREASE IN THE PROPORTION OF TISSUES THAT ACCUMULATE THE HIGHEST CONCENTRATION OF THESE METALS, (I.E. VISCERA), AS COMPARED TO SOMATIC MUSCLE, WHICH CONTAINS RELATIVELY LOW CONCENTRATIONS OF THESE METALS; AND B) THE GREATER ABILITY OF ADULT MUMMICHOGS TO REGULATE THEIR METAL CONTENT AS COMPARED TO

JUVENILES, SIGNIFICANT DIFFERENCE (P<.05) WERE FOUND BETWEEN MALE AND FEMALE MUMMICHOGS FROM GREAT SOUTH BAY FOR 24 AND CU. THESE DIFFERENCES WERE ATTRIBUTED TO THE DILUTING EFFECT OF THE RIPE FEMALE SEX PRODUCTS, SINCE TRACE METALS WERE NOT DETECTED IN THEM. HEMPSTEAD HARBOR HAD THE HIGHEST ZN, MN, CU, AND CD CONTENT IN ITS SEDIMENTS, YET JAMAICA BAY HAD THE HIGHEST ZN, CU, CD, AND HG CONTENT IN ITS WATER AND HIGHEST HG CONTENT IN ITS SEDIMENTS. GREAT SOUTH BAY HAD THE HIGHEST MN CONCENTRATION IN ITS WATER. WITH ONLY ONE EXCEPTION, THE ENVIRONMENT WITH THE HIGHEST TRACE METAL CONCENTRATION IN THE MATER, HAD THE MUMMICHOGS WITH THE HIGHEST METAL CONCENTRATION. EXCEPT FOR HG, THE CONCENTRATION FACTOR VARIED INVERSELY WITH THE METAL CONCENTRATIONS OF THE MUMMICHOG AND THE WATER. THEREFORE, MUMMICHOGS IN HIGH METALS ENVIRONMENTS EXCRETE AND REGULATE THE METAL CONCENTRATIONS IN THEIR TISSUES. A "THRESHOLD EFFECT" WAS POSTULATED ON THAT BASIS.

0341 CHERVIN, M.B.

ASSIMILATION OF PARTICULATE ORGANIC CARBON BY ESTUARINE AND COASTAL COPEPODS [1978]

MAR BIOL 49(3):265-275

COPEPOD PARTICULATE ORGANIC CARBON ASSIMILATION RATES IN THE LOWER HUDSON RIVER ESTUARY AND APEX OF THE NEW YORK BIGHT APRIL 1975 TO MARCH 1976 ARE ASSOCIATED WITH VARIATION IN BODY WEIGHT, TEMPERATURE, AND QUANTITY AND QUALITY OF FOOD AVAILABLE. THE NEW YORK BIGHT HAS LOW PARTICULATE ORGANIC CARBON (POC) CONCENTRATIONS (LESS THAN 0.84 MG/L) AND IS MOSTLY PHYTOPLANKTON; ASSIMILATION RATES CORRELATE POSITIVELY WITH POC CONCENTRATIONS, HUDSON ESTUARY HAS HIGH POC CONCENTRATIONS (GREATER THAN 0.73 MG/L) AND IS MOSTLY FROM SEMAGE; ASSIMILATION RATES CORRELATE NEGATIVELY WITH POC CONCENTRATIONS, ASSIMILATION RATES ARE AFFECTED NEGATIVELY BY DETRITUS QUANTITIES GREATER THAN 0.5 MG/L; AT LOWER DETRITUS CONCENTRATIONS, UTILIZATION RATES (RATIO OF POC ASSIMILATED TO POC AVAILABLE) INCREASE TO VALUES RANGING 4 TO 10. DAILY ASSIMILATION RATES IN BOTH AREAS VARY BETWEEN 2.7% AND 15% OF COPEPOD BODY WEIGHT WITH MOST VALUES BETWEEN 10% AND 50%. HIGHER COASTAL RESPIRATORY RATES ARE A FUNCTION OF GREATER DETRITUS UTILIZATION. ESTUARINE SELECTIVITY INDEX SHOWS A PREFERENCE FOR LIVING MATERIAL AND AGAINST DETRITUS WHILE COASTAL VALUES INDICATE SELECTION FOR DETRITUS AND AGAINST LIVING MATERIAL. DETRITUS FORMS BETWEEN 26% AND 44% OF COPEPOD DIETS IN THE ESTUARY COMPARED WITH 31% TO 81% IN THE APEX. NET GROWTH EFFICIENCIES RANGE FROM 9% TO 76% AND ARE INVERSELY PROPORTIONAL TO DETRITUS PERCENTAGE IN DIETS, SUGGESTING THAT DETRITUS IS INFERIOR TO PHYTOPLANKTON AS A FOOD SOURCE.

0342 CHIANG, E.

THE IMPLICATION OF SEDIMENT DYNAMICS AND HEAVY METAL DISPERSION TO OCEAN DISPOSAL AT THE "NB" BUOY, SOUTH OF FIRE ISLAND, NY [1974]

M.S. THESIS. ADELPHI UNIV. GARDEN CITY. NY 65 PP

BASELINE STUDIES OF A PROPOSED DUMPING AREA AT THE "NB" BUOY, LOCATED 10 NAUTICAL MILES SOUTH OF CENTRAL FIRE ISLAND, NY, WERE UNDERTAKEN TO EVALUATE THE ENVIRONMENTAL IMPACT OF DUMPED MATERIAL ON THE SURROUNDING AREA. BOTTOM PHOTOGRAPHS TAKEN WITH DIVER-OPERATED AND BOTTOM BOUNCE CAMERAS SHOW DISTINCT RIPPLE FIELDS SEPERATED BY AREAS OF SMOOTH SANDS. PHYSICAL PROPERTIES OF THE SUBSTRATE WERE DETERMINED THROUGH GRANULOMETRIC ANALYSIS OF 48 BOTTOM GRAB SAMPLES. A CURRENT METER SITUATED 1/2 MILE SOUTH OF THE BUOY PROVIDED CURRENT INFORMATION. MEDIAN GRAIN SIZE OF THE SUBSTRATE RANGED FROM 1.12 PHI UNITS (.480 MM) TO 2.68 PHI UNITS (.155 MM), OR GRANULAR MEDIUM SANDS TO FINE SANDS. THESE SANDS EXPERIENCE CURRENT VELOCITIES (WEATHER OR WAVE INDUCED) RANGING FROM O TO 65 CM/SEC. FIFTEEN "NB" SAMPLES WERE PAIRED WITH 15 SAMPLES FROM THE PERIPHERY OF WASTE DISPOSAL SITES OF THE NEW YORK BIGHT APEX FOR COMPARISON OF HEAVY METAL CONTENT (MN, FE, CU AND ZN). ALTHOUGH THE PHYSICAL PROPERTIES OF EACH PAIRED SAMPLE WERE VERY SIMILAR, FE, CU AND ZN WERE FOUND TO DIFFER SIGNIFICANTLY IN CONCENTRATION BETWEEN THE TWO AREAS. RESULTS OF THE ANALYSIS FOR THE PHYSICAL PROPERTIES OF THE SEDIMENTS, COUPLED WITH CURRENT METER DATA AT THE "NB" BUOY SHOW THAT THE "NB" SITE IS CHARACTERIZED BY A HIGHLY MOBILE AND THEREFORE TRANSIENT SUBSTRATE. SHOULD DISPOSAL OCCUR, TRACE METAL RESULTS INDICATE THAT THE CONTAMINATION OF THE BOTTOM SEDIMENTS CANNOT BE AVOIDED, BUT THAT CONTAMINATION OF THE SEDIMENTS MAY BE MINIMIZED BY DISPOSAL IN A RELATIVELY HIGH ENERGY ENVIRONMENT. OF GREATER CONCERN HOWEVER, WOULD BE THE SOLIDS AND SUSPENDED MATTER WHICH WOULD UNDERGO A NET DIRECTION OF TRANSPORT TO THE NORTHWEST. THESE MATERIALS WOULD POSE A SERIOUS POTENTIAL HAZARD TO LONG ISLAND'S SHORELINES.

0343 CHIANG, F.; A.E. COK

CORRESPONDENCE OF SEDIMENT DYNAMICS AND HEAVY METAL DISPERSION SOUTH OF FIRE ISLAND AND IN THE NEW YORK BIGHT APEX [1974]

GEOL SOC AM ABSTR PROG 6(1):11

BASELINE STUDIES OF A PROPOSED DUMPING AREA 10 NAUTICAL MILES SOUTH OF CENTRAL FIRE ISLAND, NY, WERE UNDERTAKEN TO EVALUATE THE ENVIRONMENTAL IMPACT ON SURROUNDING AREAS. THE "NB" BUOY AREA IS NEAR FIRE ISLAND'S RECREATIONAL BEACHES AND WILL PROBABLY BE A TRANSIT AREA FOR OFFSHORE PIPELINES. SCUBA DIVES AND BOTTOM PHOTOGRAPHY BY DIVER-OPERATED AND BOTTOM BOUNCE CAMERAS SHOW DISTINCT RIPPLE FIELDS, SAND RIBBONS, AND AS YET UNIDENTIFIED CIRCULAR DEPRESSIONS OF EITHER BIOLOGICAL OR STORM-INDUCED ORIGIN. BOTTOM TOPOGRAPHY, MICRO-RELIEF, AND SHALLOW SUBSURFACE STRUCTURE WHERE DETERMINED THROUGH THE USE OF PRECISION FATHOMETERS, SIDE-SCAN SONAR AND SEISMIC PROFILING. GRANULOMETRIC ANALYSIS OF 50 BOTTOM GRAB SAMPLES SHOW MEDIAN GRAIN SIZE RANGING BETWEEN 1.0 AND 2.0 PHI UNITS. 15 SAMPLES WERE SELECTED FOR HEAVY METAL ANALYSIS. THESE WERE COMPARED WITH 15 VERY SIMILAR, SAMPLES FROM DUMPSITES IN THE NEW YORK BIGHT APEX WITH EQUALITY OF DEPOSITIONAL ENVIRONMENTS. A SIMILAR STUDY WAS MADE WITH CORES FROM THE TWO AREAS IN ORDER TO DEMONSTRATE VARIANCE OF HEAVY METAL CONTENT WITH DEPTH OF SEDIMENT. THE "BN" SITE IS CHARACTERIZED BY A HIGHLY MOBILE AND THERFORE TRANSIENT SUBSTRATE. THIS TYPE OF BOTTOM IS SUITABLE FOR OCEAN DUMPING WHEN DISPERSION, RATHER THAN BURIAL IS THE PREFERRED FATE OF THE WASTE.

0344 CHRISTENSEN, D.J.; W.J. CLIFFORD

COMPOSITION OF CATCHES MADE BY ANGLERS FISHING FOR SUMMER FLOUNDER, PARALICHTHYS DENTATUS, FROM NEW JERSEY PARTY BOATS IN 1978
[1979]

MAR FISH REV 41(12):28-30

THE CURRENT CATCH RATE, SIZE, AND AGE COMPOSITION WERE DOCUMENTED ABOARD PARTY BOATS FROM < OR = 1 MI DFFSHORE BETWEEN SANDY. HOOK AND BARNEGAT INLET DURING 17 RANDOMLY-SELECTED DATES BEGINNING JUNE 18 AND ENDING SEPT 10, 1978. FROM 935 OF 1383 ANGLERS INTERVIEWED, THE COMBINED CATCH OF 139 FULL-DAY ANGLERS WAS 438 SUMMER FLOUNDER (X=3.15/ANGLER/TRIP). SOME 796 HALF-DAY ANGLERS TOOK 1,484 FISH (X=1.86/ANGLER/TRIP). EXAMINATION REVEALED THE CATCH RATE FELL AFTER JULY 10, BUT THE REASONS FOR THIS DECLINE WERE UNDETERMINED. OTHER SPECIES TAKEN INCLUDING SCOPHTHALMUS AQUOSUS (WINDOWPANE), MUSTELUS CANUS (SMOOTH DOGFISH), SEAROBINS (PRIONOTUS SP), BLACK SEA BASS (CENTROPRISTIS STRIATA), BLUEFISH-(POMATOMUS SALTATRIX) AS WELL AS OTHERS ACCOUNTED FOR <10% OF THE TOTAL CATCH. A SURVEY OF 828 LENGTH MEASUREMENTS AND 427 AGE SAMPLES REVEALED THAT 73% OF THE FISH WERE IN THEIR 3RD YR OF GROWTH; 20% WERE 4 YR OLD. MEAN TOTAL LENGTHS AT TIME OF CAPTURE ARE ALSO PRESENTED.

0345 CHRISTENSEN, D.L.; B.L. FREEMAN; S.C. TURNER

THE UNITED STATES RECREATIONAL FISHERY FOR ATLANTIC MACKEREL [1976]

9TH SPECIAL COMMISSION MEETING ICNAF, DEC 1976. RES DOC 76/XII/142. ICNAF. DARTMOUTH. CANADA 9 PP

ATLANTIC MACKEREL (SCOMBER SCOMBRUS) IS AN IMPORTANT SPECIES IN THE RECREATIONAL CATCH ALONG THE MIDDLE ATLANTIC AND NORTHEAST COASTS OF THE US. DURING THE PAST 15 YRS, IT HAS BEEN AMONG THE DOZEN MOST IMPORTANT SPECIES OF FISHES TO ANGLERS, ESPECIALLY TO ANGLERS FISHING FROM PARTY AND CHARTER BOATS. A FIELD SURVEY WAS CONDUCTED TO DETERMINE THE EFFORT AND CATCH OF PARTY AND CHARTER BOAT ANGLERS ALONG THE COAST OF NJ. RESULTS OF THE SURVEY INDICATED THAT THE CATCH WAS 1.028 TONS FROM JULY 1975 THROUGH JUNE 1976. BASED ON THE NJ CATCH, THE TOTAL USA RECREATIONAL CATCH FOR THAT PERIOD WAS 4.947 TONS WHICH IS THE LOWEST ON RECORD. RECREATIONAL CATCHES WERE FOUND TO FOLLOW TRENDS INDICATED BY OTHER INDICES OF MACKEREL ABUNDANCE.

0346 CHRISTENSEN, S.W.; C.P. GOODYEAR; B.L. KIRK

ANALYSIS OF THE VALIDITY OF THE UTILITIES STOCK RECRUITMENT CURVE FITTING EXERCISE [1979]

ORNL . OAK RIDGE, TN 316 PP

AN ANALYSIS WAS MADE OF THE VALIDITY OF THE STOCK-RECRUITMENT CURVE FITTING EXERCISE USED TO QUANTIFY THE CONSEQUENCES OF POWER PLANT OPERATION ON THE STRIPED BASS POPULATION OF THE HUDSON RIVER. THE USE OF A PARTICULAR STOCK-RECRUITMENT MODEL, CALLED THE RICKER MODEL, FORMS A CORNERSTONE OF THE UTILITIES" CASE. BASED ON ESTIMATES OF A PARAMETER TERMED "ALPHA" IN THE RICKER MODEL, ESTIMATES OF ANNUAL ENTRAINMENT AND IMPINGEMENT IMPACTS OF THE HUDSON RIVER POWER PLANTS ON YOUNG-OF-THE-YEAR STRIPED BASS ARE CONVERTED TO ESTIMATES OF LONG-TERM REDUCTION IN THE EQUILIBRIUM POPULATION SIZE OF ADULT STRIPED BASS. RESULTS OF THE ANALYSIS OF THE FXFRCISE INDICATE THAT IT IS NOT VALID.

0347 CHURCHILL, A.C.; M.I. RINER

ANTHESIS AND SEED PRODUCTION IN JOSTERA MARINA L. FROM GREAT SOUTH BAY, NEW YORK, USA [1978]

AQUAT BOT 4(1):83-93

FLOWERING AND SEED PRODUCTION WERE STUDIED IN SPRING AND SUMMER 1975. THE MATURATION OF STAMENS AND PISTILS WAS OBSERVED FROM APR, UNTIL THE COMPLETION OF ANTHESIS IN JUNE. POLLINATION OCCURRED SUCCESSIVELY WITHIN INCREASING SPATHE ORDERS AND LASTED APPROXIMATELY 1 MO, STARTING BETWEEN MAY 15 AND MAY 21, WHEN THE WATER TEMPERATURE WAS 17-20 C, AND ENDING BY JUNE 17, WHEN THE WATER TEMPERATURE HAD REACHED 21 C. OWARY DEHISCENCE AND SEED RELEASE WERE FIRST OBSERVED ON JUNE 17, AND ESSENTIALLY COMPLETED BY JULY 9, TOGETHER WITH THE DETERIORATION OF THE FLOWERING SHOOTS. AN AVERAGE OF 48 PISTILS WAS PRODUCED ON EACH FLOWERING SHOOT, BUT SEED FORMATION OCCURRED IN ONLY 72% OF THESE REPRODUCTIVE ORGANS. THE REMAINING 28% ABORTED, PRESUMABLY DUE TO THE FAILURE OF FERTILIZATION. THE AVERAGE DENSITY OF THE FLOWERING SHOOTS WAS 53/M2, VIELDING A POTENTIAL SEED CROP OF 1,802 SEEDS/12.

0348 CHYTALD, K.N.

PCBS IN DREDGED MATERIALS AND BENTHIC ORGANISMS IN LONG ISLAND SOUND [1979]

M.S. THESIS. SUNY. STONY BROOK. NY 109 PP

THE OCCURRENCE AND DISTRIBUTION OF POLYCHORINATED BIPHENYLS (WERE EXAMINED IN DREDGED MATERIALS AT LONG ISLAND SOUND DISPOSAL SITES AND IN NATURALLY ACCUMULATING SEDIMENTS, AND THE LEVELS OF PCBS WERE ASSESSED IN DEPOSIT-FEEDING ORGANISMS. THREE HISTORICAL DISPOSAL SITES (EATONS NECK, BRIDGEPORT, AND NEW LONDON) WERE SELECTED FOR STUDY. FOR EACH OF THE THREE DISPOSAL SITES, A CONTROL SITE OF SIMILAR SEDIMENT TEXTURE WAS SELECTED. THE RESULTS INDICATED THAT SEDIMENTS FROM DISPOSAL AREAS WERE MORE CONTAMINATED WITH PCBS THAN NATURALLY ACCUMULATING SEDIMENTS, BUT NOT SIGNIFICANTLY MORE; AND THERE WAS A MARKED PCB GRADIENT IN SURFICIAL SEDIMENTS WHICH INCREASED FROM EAST TO WEST. THE LEVELS OF PCBS IN THE SURFICIAL SEDIMENTS DOES NOT SEEM TO BE CONTROLLED BY SEDIMENT CHARACTERISTICS BUT BY SQURCES OF PCB CONTAMINATION (1.E. DISPOSAL AREAS, INDUSTRIAL ACTIVITY). THE SEDIMENT PCB CONCENTRATION WAS POORLY CORRELATED TO THE TOTAL ORGANIC CARBON, AND THE CLAY AND SILT CONTENTS. PCBS WERE PARTITIONED AMONG THE DIFFERENT SEDIMENT SIZE FRACTIONS. PCBS TENDED TO ACCUMULATE MORE IN THE CLAY FRACTION THAN IN THE SILT AND SAYD FRACTIONS. THE VERTICAL DISTRIBUTION OF PCBS IN SEDIMENTS SHOWED THAT THE CONCENTRATION OF PCBS INCREASED AND DECREASED RANDOMLY WITH DEPTH. THIS WAS PROBABLY THE RESULT OF BIOTURBATION. UNLIKE THE SEDIMENTS, DEPOSIT-FEEDING POLYCHAETES CONTAINED ONLY TRACE AMOUNTS OF PCBS (< 1 PPB); AND THUS POLYCHAETES ARE PROBABLY AN INSIGNIFICANT ROUTE IN TRANSFERRING PCBS FROM THE SEDIMENTS TO THE ESTUARINE FOOD WEB. THE SAMPLES WERE ANALYSED FOR PCBS BY GAS CHROMATOGRAPHY. AROCLORS 1254 AND 1016 WERE IDENTIFIED.

0349 CIRELLO, J.; R.A. RAPAPORT; P.F. STROM; V.A. MATULEWICH; M.L. MORRIS; S. GOETZ; M.S. FINSTEIN

THE QUESTION OF NITRIFICATION IN THE PASSAIC RIVER, NEW JERSEY: ANALYSIS OF HISTORICAL DATA AND EXPERIMENTAL INVESTIGATION [1979]

WATER RES 13(6):425-537

HISTORICAL NH4+ AND NO3- DATA FROM 6 STATIONS ON THE PASSAIC RIVER, NJ. WERE ANALYZED. THE DATA FOR 5 OF THE STATIONS SPAN 1963-76, AND FOR THE 6TH STATION 1947-76. SOME OF THE CONCLUSIONS REACHED ARE AS FOLLOWS: THE CONCENTRATION OF NH4+ FLUCTUATED WIDELY, BUT THE TREND WAS TOWARDS AN INCREASE WITH TIME; THE CONCENTRATION OF NH4+ WAS ELEVATED DURING A PERIOD OF EXTREME DROUGHT (1963 TO 1966); THE CONCENTRATION OF NO3- TENDED TO INCREASE SMOOTHLY WITH TIME; THE CONCENTRATION OF NH4+ INCREASES LONGITUDINALLY (WITH DOWNSTREAM TRAVEL); THE LOADS (CONCENTRATION X STREAM-FLOW) OF BOTH N SPECIES TENDED TO INCREASE WITH TIME; SUBSTANTIAL NO3- ENTERS THE STREAM FROM NONROINT SOURCES; AND THE POTENTIAL FOR INSTREAM NITRIFICATION IS NOT FULLY REALIZED, AS REPRESENTED BY ELEVATED LEVELS OF NH4+. THE NITRIFICATION COMPONENT OF THE PASSAIC'S SELF-PURIFICATION CAPACITY IS OVERBURDENED, AND FIRST BECAME SO IN 1953.

0350 CISTARO. P.

INTERNAL CLAMPING OF A RIVER CROSSING [1970]

AM GAS ASSOC MON 52(10):14-16

IN EARLY 1968, THE GAS DISTRIBUTION DEPARTMENT OF PUBLIC SERVICE ELECTRIC AND GAS COMPANY OF NEW JERSEY WAS CONFRONTED WITH THE PROBLEM OF A WATER LEAK IN A 16 IN MAIN WHICH CROSSES THE PASSAIC RIVER, FROM NEWARK TO SOUTH KEARNY. AFTER EXTENSIVE INVESTIGATION, DESIGN CONSIDERATIONS AND INNOVATIONS, THE PROBLEM WAS RESOLVED BY THE INSTALLATION OF INTERNAL CLAMPS. TECHNIQUES USED FOR PINPOINTING OF THE LEAK AND STOPPING IT BY INSTALLATION OF INTERNAL CLAMPS IN 20 INCH ID RISERS ARE DESCRIBED.

0351 CLARK, D.K.; J.B. ZAITZEFF; L.V. STREES; W.S. GLIDDEN

COMPUTER DERIVED COASTAL WATER CLASSIFICATIONS VIA SPECTRAL SIGNATURES [1974]

PAGES 1213-1239 IN PROC, 9TH INTERNAT^{*}L SYMP ON REMOTE SENSING OF ENVIRON, UNIV OF MI, APR 1974, VOL 2. ENVIRON RESEARCH INST OF MI, ANN ARBOR, MI

A REMOTE SENSING INVESTIGATION WAS CONDUCTED WITHIN THE COASTAL WATERS OF THE NEW YORK BIGHT. REMOTE SENSOR RECORDS ACQUIRED FROM THE ERTS-1 MULTISPECTRAL SCANNER AND THE BENDIX 24 CHANNEL MULTISPECTRAL SCANNER RECORDS WERE USED FOR WATER MASS CLASSIFICATION. FOR THE DISCRIMINATION OF WATER MASSES BASED ON THEIR BROAD AND MEDIUM BAND SPECTRAL SIGNATURES THESE DATA WERE ANALYZED WITH TWO COMPUTER CLASSIFICATION TECHNIQUES: 1) THE SUPERVISED EARTH RESOURCES INTERACTIVE PROCESSING SYSTEM (ERIPS) AND 2) THE UNSUPERVISED ITERATIVE SELF-ORGANIZAING CLUSTERING PROGRAM (ISOCLS). THE RESULTING SUPERVISED AND UNSUPERVISED CLASSIFICATIONS ARE DISCUSSED AND COMPARED. SUCH FEATURES AS THE HUDSON RIVER'S TURBID DISCHARGE PLUMES, ACID WASTE AND SHELF WATER ARE EXAMINED. CLASSIFICATION OF THESE COASTAL WATERS ARE BASED ON THE VARIATION OF RETURNED SPECTRAL IRRADIANCES.

0352 CLARK, J.R.

THERMAL POLLUTION AND AQUATIC LIFE [1969]

SCI AM 220(3):19-27

THE AUTHOR DISCUSSES IN A POPULAR MANNER THE THERMAL POLLUTION OF RIVERS, LAKES AND ESTUARIES AND ITS EFFECT ON FISH AND OTHER ORGANISMS PRESENT IN THESE WATERS. ON THE BASIS OF EARLIER CONTRIBUTIONS MADE BY THE WATER RESOURCES DIVISION, US GEOLOGICAL SURVEY, UNIVERSITY OF TORONTO (F.E.J. FRY), THE YALE UNIVERSITY (G.E. PICKFORD), AND OTHERS, COLOR THERMOGRAMS OF THE CONNECTICUT, MONONGAHELA, AND HUDSON RIVERS ARE SHOWN AND THE DIAGRAMS OF FISH ACCLIMATION AND TEMPERATURE PREFERENCE ARE PRESENTED. THE AUTHOR STATES THAT THERE IS A GREAT VARIETY OF POLLUTING FACTORS; THE EFFECTS OF ANY ONE OF THESE FACTORS MIGHT BE TOLORABLE, BUT THE CUMULATIVE AND SYNERGISTIC ACTION OF ALL OF THEM SEEMS LIKELY TO IMPOVERISH THE WATER ENVIRONMENT

DRASTICALLY.

0353 CLEARY, E.J.

PERSPECTIVE ON RIVER QUALITY DIAGNOSIS [1978]

AM WATER WORKS ASSOC J 69(10):522-527

HISTORICAL RECORDS CONCERNING THE CONDITION OF US RIVERS AND THEIR IMPACT ON SOCIAL WELFARE ARE COMPARATIVELY RECENT, DATING TO SHORTLY BEFORE THE TURN OF THE CENTURY. OBJECTIVE MEASUREMENTS OF CHEMICAL AND BIOLOGICAL CHARACTERISTICS DURING THIS PERIOD ARE SPARSE, LEAVING MUCH TO BE DESIRED AS A BASIS FOR COMPARATIVE PURPOSES. PORTRAYAL OF EARLY CONDITIONS, HOWEVER, ON THE MERRIMACK RIVER IN MA, THE PASSAIC RIVER IN NJ, AND ON WATERWAYS IN THE CHICAGO AND NEW YORK AREAS OFFER REASONS TO BELIEVE THAT PROGRESS HAS BEEN MADE IN CURBING QUALITY DEGRADATION, AT LEAST FROM THE STANDPOINT OF GROSS POLLUTION. THE MEASUREMENT OF ORGANIC N APPEARS TO HAVE DOMINATED THE ANALYTICAL INTERESTS OF EARLY INVESTIGATORS, AND MEASUREMENT OF DO APPEARS NOT TO HAVE RECEIVED MUCH ATTENTION UNTIL STUDIES OF POLLUTION IN NEW YORK HARBOR WERE INITIATED IN 1908. QUALITATIVE MEASUREMENT OF RIVER QUALITY HAS BROADENED WITH THE PASSAGE OF TIME. THE COORDINATING EFFORTS OF THE OHIO RIVER VALLEY WATER SANITATION COMMISSION ARE REVIEWED. PERHAPS THE GREATEST PROMISE FOR IMPROVING PERFORMANCE OF RIVER QUALITY EVALUATION LIES IN THE ESTABLISHMENT IN 1972 OF THE NATIONAL STREAM QUALITY ACCOUNTING NETWORK, WHILE OTHER DEVELOPMENTS WHICH SHOULD HASTEN IMPROVEMENT INCLUDE THE CHARGE PLACED ON THE EPA BY THE SAFE WATER DRINKING ACT, AND THE EFFORT MADE BY CEQ TO ASSESS CONDITIONS AND TRENDS FOR POLICY AND DECISION MAKING.

0354 COATES, D.R.

GEOMORPHOLOGY, VEHICLES, AND LEGAL AFFAIRS, FIRE ISLAND, NEW YORK [1978]

GEOL SOC AM ABSTR PROG 10(2):37

THE ROLE OF GEOMORPHOLOGY IN THE DECISION MAKING PROCESS IS ILLUSTRATED BY 4 RECENT COURT CASES THAT INVOLVE VEHICLES ON THE FIRE ISLAND, NY, BARRIER BEACH. THREE LAWSUITS TESTED THE CONSTITUTIONALITY OF THE TOWN OF ISLIP'S 1964 VEHICLE ORDINANCE. THE FOURTH CASE WAS BROUGHT AGAINST THE US DEPARTMENT OF INTERIOR TO FORCE THE FIRE ISLAND NATIONAL SEASHORE TO ADOPT STRICTER POLICIES FOR THE PROTECTION OF THE BEACH. THE COMMON ELEMENT IN ALL CASES CONCERNED WHETHER VEHICLE USE CONTRIBUTED TO DETERIORATION OF THE BEACH AND DUNE SYSTEM. TESTIMONY ADVANCED FOR HIGH LEVEL TRAFFIC ON BEACHES WAS QUALITATIVE AND ASSERTIVE THAT VEHICULAR DAMAGE TO BEACHES HAD NOT BEEN PROVED. CONTRARY GEOMORPHIC EVIDENCE THAT VEHICLES CAUSE DEGRADATION INCLUDED: 1) UNDERCUTTING OF DUNES DURING HIGH WATER, 2) OCEANWARD INCREASE OF SAND SPLAY FROM VEHICLE RUTS, AND 3) TRACKS PROVIDE CHANNELED ROUTES FOR SEDIMENT ENTRAINMENT. THE GEOMORPHIC TESTIMONY WAS SUBSTANTIATED BY DATA FROM VEHICLE EXPERIMENTATION, BEACH PROFILING, AND ANALYSIS OF NATURAL V. TRAFFICKED BEACHES. THE AMOUNT OF DISPLACED SAND DEPENDS ON VEHICLE SPEED, BEACH CHARACTERISTICS, WIND AND SEA CONDITIONS, AND NUMBER OF TRACK OCCUPATIONS. SOME EARLY COURT RULINGS DEALT ONLY WITH PROCEDURAL THE FRAGILE BEACH ENVIRONMENT.

0355 COBB, S.P.

AQUATIC DISPOSAL FIELD INVESTIGATIONS, EATONS NECK DISPOSAL SITE, LONG ISLAND SOUND; AN ENVIRONMENTAL INVENTORY [1978]

TECH REP D-77-6. US ARMY CORPS ENG WES. VICKSBURG. MS 119 PP

INVESTIGATES THE ENVIRONMENTAL EFFECTS OF OPEN WATER DREDGED MATERIAL DISPOSAL AT THE EATONS NECK DISPOSAL SITE IN CENTRAL LONG ISLAND SOUND. ENVIRONMENTAL CONDITIONS ARE DESCRIBED AT THE DISPOSAL SITE AS THEY WERE FOUR YEARS AFTER CESSATION OF DISPOSAL OPERATIONS. DREDGED MATERIAL, BUILDING RUBBLE, AND OTHER MATERIALS WERE DUMPED AT THE SITE FOR ABOUT 70 YEARS (1900 TO 1971); 9,841,000 m3 OF DREDGED SEDIMENTS WERE PLACED AT THE SITE FROM 1954 TO 1971. ANY EFFECTS OF THE PRESENCE OF DREDGED MATERIAL AT

THE SITE ON NUTRIENTS, METALS, AND OTHER CHEMICAL VARIABLES IN THE CENTRAL SOUND ARE MINIMAL AND ARE PROBABLY OVERSHADOWED BY EFFECTS OF SEWAGE EFFLUENTS AND OTHER RIVER INPUTS. THERE WERE FEW SIGNIFICANT DIFFERENCES IN THE ABUNDANCE AND COMPOSITION OF THE BENTHIC MACROFAUNA BETWEEN SAMPLING STATIONS LOCATED ON THE DREDGED MATERIAL DEPOSIT AND THE REFERENCE STATIONS. RESULTS OF HYDRODYNAMIC, BATHYMETRY, AND SEDIMENT STUDIES SHOWED NO EVIDENCE OF DISPERSION OF DREDGED MATERIAL FROM THE SITE. THUS IT APPEARS THAT THE EATONS NECK SITE IS SUITABLE, FROM A CONFINEMENT STANDPOINT, FOR THE DISPOSAL OF DREDGED SEDIMENTS.

0356 COCH, N.K.

TEMPORAL AND AREAL VARIATIONS IN SOME HUDSON RIVER ESTUARY SEDIMENTS, MARCH-OCTOBER, 1974 [1976]

GEOL SOC AM ABSTR PROG 8(2):153

CORES TAKEN MONTHLY, ALONG WITH DETAILED OCEANOGRAPHIC, CHEMICAL, AND BIOLOGICAL DATA HAVE BEEN OBTAINED BY THE CUNY HUDSON ESTUARY SURVEY. 23 SAMPLING STATIONS OVER A 115 MILE REACH OF THE HUDSON RIVER-ESTUARY FROM SAUGERTIES, NY, SOUTHWARD TO THE NEW YORK BIGHT WERE SELECTED TO MONITOR THE INPUT OF TRIBUTARY STREAMS AND DOCUMENT BOTH THE TEMPORAL (MONTHLY) AND AREAL VARIATIONS WITHIN THE TOP 10 CM SEDIMENT LAYER. MONTHLY COMPARISONS OF SEDIMENT ANALYSES AT SELECTED STATIONS SHOW TEMPORAL CHANGES WHICH ARE RELATED TO CHANGES IN DISCHARGE AND CHANNEL CONFIGURATION. PLOTS OF MEAN GRAIN S'7E VERSUS MOISTURE CONTENT SHOW AN INVERSE RELATION NORTH OF THE HUDSON HIGHLANDS AND A GREATER VARIATION, OF MOISTURE CONTENT WITH RESPECT TO MEAN GRAIN SIZE, SOUTH OF THE HUDSON HIGHLANDS. MOISTURE CONTENT IN THE SEDIMENT INCREASES AS SORTING DECREASES. THE AVERAGE SKEWNESS VALUES IN THE HUDSON SYSTEM SEDIMENTS ARE NEAR ZERO TO SLIGHTLY POSITIVE SUGGESTING THAT NET DEPOSITION IS OCCURRING ALONG THE LENGTH OF THE STUDY AREA. MEAN GRAIN SIZE AVERAGES SHOW CLEARLY DEVELOPED TRENDS WITH MEAN GRAIN SIZE DECREASING SOUTH TOWARD THE HUDSON HIGHLANDS AND INCREASING SOUTHWARD BETWEEN THE HUDSON HIGHLANDS AND THE NEW YORK BIGHT. BOTTOM SEDIMENTS IN THE HUDSON GORGE ARE UNIFORM, DARK, SANDY, CLAYEY SILTS BEING DEPOSITED AT THE UPPER LIMIT OF SALT-WATER ENCROACHMENTS. MARKED CHANGES IN THE OVERALL GRAIN SIZE TRENDS OBSERVED ARE RELATED TO: CONTRIBUTIONS OF DIFFERENT TRIBUTARIES; FLOW RESTRICTIONS; AND AREAS OF LOW CURRENT VELOCITY AND SUSPENSION SETTLING. DATA OBTAINED IN THIS PRELIMINARY PORTION OF THE STUDY SUGGEST A DEPOSITIONAL MODEL FOR THE HUDSON SYSTEM WHICH IS INDEPENDENTLY SUPPORTED BY OTHER DATA COLLECTED BY THE HUDSON ESTUARY SURVEY.

0357 COCH. N.K.; J. HELFAND; C. KASDORF

HUDSON RIVER SEDIMENTATION IN THE VICINITY OF KINGSTON, NEW YORK [1979]

GEOL SOC AM ABSTR PROG 11(1):7

HUDSON RIVER BOTTOM SAMPLES, BOX CORES, AND A PISTON CORE FROM THE KINGSTON AREA WERE ANALYZED AS PART OF A LARGER STUDY OF HUDSON RIVER ESTUARY SEDIMENTS FROM HUDSON, NY, 130 MI SOUTH TO THE NEW YORK BIGHT. THE SEDIMENT VARIATIONS OBSERVED IN THE KINGSTON AREA WERE FOUND TO BE RELATED TO PROXIMITY TO THE DELTA AT THE MOUTH OF RONDOUT CREEK AND CHANGES IN HUDSON CHANNEL CHARACTERISTICS. IN THE KINGSTON AREA THE HUDSON HAS A SUBTIDAL SHOAL AND A MEANDERING THALWEG WHICH ISOLATES SHALLOW SUBTIDAL BANKS ON EITHER SIDE. SAND/SILT/CLAY RATIOS INDICATE THAT RONDOUT CREEK IS SUPPLYING SAND TO THE HUDSON BECAUSE SAND PERCENTAGES IN THE HUDSON DECREASE BOTH UPSTREAM AND DOWNSTREAM OF THE RONDOUT ENTRANCE. MEAN SIZE IS GREATEST AT THE RONDOUT DELTA PLATFORM AND ALONG HUDSON SEGMENTS WHERE THERE ARE CHANNEL CONSTRICTIONS. SORTING IS BEST ON AND NEAR THE RONDOUT DELTA PLATFORM AND POORER IN THE FINER SEDITENTS TO THE NORTH AND SOUTH. NEGATIVE SKEWNESS VALUES, SUGGESTING SCOURING AND EXCESS COARSE ADMIXTURES, CHARACTERIZE RONDOUT CREEK, THE RONDOUT DELTA PLATFORM, THE DOWNSTREAM END OF THE SUBTIDAL SHOAL, AND AREAS OF CONSTRICTION IN THE HUDSON RIVER CHANNEL. BOX CORES SHOW VARIATIONS IN SEDIMENTARY STRUCTURES WHICH REFLECT THE CHANGES IN CHANNEL CROSS SECTION AND SEDIMENT PROVENANCE ALONG THE STUDY AREA.

0358 COCHRAN, J.K.; R.C. ALLER

PARTICLE REWORKING IN SEDIMENTS FROM THE NEW YORK BIGHT APEX: EVIDENCE FROM TH-234/U-238 DISEQUILIBRIUM [1979]

ESTUARINE COASTAL MAR SCI 9(6):739-747

TWO DIVER-COLLECTED CORES OF MUD-RICH SEDIMENT FROM THE NEW YORK BIGHT APEX WERE ANALYZED FOR U-238 AND TH-234 DECAY SERIES NUCLIDES WITH EMPHASIS ON TH-234/U-238 DISEQUILIBRIUM. EXCESS TH-234 WAS PRESENT IN BOTH CORES AND SHOWED EXPONENTIAL DECREASE IN THE TOP 4 CM. BIOGENIC REWORKING BY A DEPOSIT-FEEDING COMMUNITY CHARACTERIZED BY A NUCULA PROXIMA-NEPHTYS INCISA ASSEMBLAGE APPARENTLY CONTROLS THE FORM OF THE TH-234 PROFILES. MIXING COEFFICIENTS OF 0.0000003-0.0000006 SQ CM/S WERE CALCULATED. NO DECREASE OF PB-210 WITH DEPTH (0-11 CM) WAS FOUND NOW WAS THERE ANY VERTICAL STRUCTURE IN PROFILES OF TH-234. EPISODIC DEPOSITION FOLLOWED BY PERIODS OF STABILITY CAUSE THE OBSERVED HOMOGENEITY OF THE LONGER LIVED NUCLIDES AS WELL AS LAMINATED HORIZONS IN THE SEDIMENT. U-234/TH-233 ISOTOPE RATIOS REFLECT ADDITION OF EITHER SEAWATER OR SEWAGE SOURCE URANIUM TO THE COLLECTION AREA.

0359 COCHRAN, J.R.; M. TALWANI

GRAVITY, MAGNETICS. AND SEISMICITY [1976]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 9. NYSG. ALBANY, NY 21 PP NTIS-PB-257 266

FREE-AIR GRAVITY AND TOTAL-INTENSITY MAGNETIC ANOMALIES IN THE NEW YORK BIGHT REGION, PRESENTED AS PROFILES ALONG SHIPS'
TRACKS, ARE DOMINATED BY PROMINENT POSITIVE AND NEGATIVE BANDS. THOSE ON THE OUTER EDGE OF THE CONTINENTAL SHELF AND ON THE
CONTINENTAL SLOPE ARE ASSOCIATED WITH THE TRANSITION FROM THE NORTH AMERICAN CONTINENT TO THE ATLANTIC OCEAN. THOSE ON THE
INNER SHELF ARE ASSOCIATED WITH STRUCTURES INHERITED FROM THE REGION'S GEOLOGY PRIOR TO THE FORMATION OF THE PRESENT ATLANTIC
OCEAN. ALTHOUGH THE BIGHT REGION IS NOT PARTICULARLY ACTIVE SEISMICALLY, NUMEROUS SMALL TO MODERATE EARTHQUAKES HAVE OCCURRED.
THE CAUSE OF THE SEISMIC ACTIVITY IS NOT WELL UNDERSTOOD.

0360 COCOROS, G.; P.H. CAHN; W. SILER

MERCURY CONCENTRATIONS IN FISH, PLANKTON, AND WATER FROM THREE WESTERN ATLANTIC ESTUARIES [1973]

J FISH BIOL 5:641-647

TWENTY FISH SAMPLES, PLANKTON, AND WATER WERE OBTAINED FROM THREE WESTERN ATLANTIC ESTUARIES LOCATED OFF THE COASTS OF NC, MD, AND NY. ALL FISH SAMPLES WERE COLLECTED AT HIGH TIDE, AT APPROXIMATELY 25C AND 31 PPT SALINITY. PLANKTON AND WATER SAMPLES WERE TAKEN CONCURRENTLY AT EACH SAMPLE SITE, TOTAL MERCURY CONCENTRATIONS WERE DETERMINED BY FLAMELESS ATOMIC ABSORPTION. NO DANGEROUSLY HIGH MERCURY LEVELS WERE FOUND IN ANY OF THE SAMPLES. ALTHOUGH THERE WAS SOME INDICATION THAT THE FOOD CHAIN IS A LIKELY SOURCE OF MERCURY CONTAMINATION IN THESE FISH, SINCE LEVELS IN VISCERA WERE VERY MUCH HIGHER THAN THOSE IN THE REST OF THE FISH, NO EVIDENCE OF STRONG FOOD-CHAIN INTENSIFICATION WAS FOUND. SLOW MERCURY ACCUMULATION BY THE FISH WAS EVIDENT. ACCUMULATION OF MERCURY BY THE FISH TOOK PLACE THROUGH THE DIGESTIVE SYSTEM. FISH MERCURY LEVELS WERE TWICE THAT FOR THE PLANKTON. PHYTOPLANKTON HAD HIGHER MERCURY LEVELS THAN ZOOPLANKTON.

0361 COHEN, D.M.; J.L. RUSSO

VARIATION IN THE FOURBEARD ROCKLING ENCHELYOPUS CIMBRIUS, A NORTH ATLANTIC GADID FISH, WITH COMMENTS ON THE GENERA OF ROCKLINGS

FISH BULL 77(1):91-102

ENCHELYOPUS CIMBRIUS, THE FOURBEARD ROCKLING, IS A GADID FISH LIVING AROUND THE RIM OF THE NORTH ATLANTIC OCEAN. IT VARIES GEOGRAPHICALLY IN COLOR PATTERN; ANAL, DORSAL, AND PECTORAL FIN RAY COUNTS; AND VERTEBRAL AND GILL RACKER COUNTS. THERE IS A LACK OF OVERALL CONCORDANCE IN PATTERNS OF VARIATION IN COLOR AND MERISTICS. MORPHOMETRIC CHARACTERS DO NOT DISTINGUISH POPULATIONS FROM DIFFERENT GEOGRAPHICAL AREAS, AND THE FOURBEARD ROCKLING IS CONSIDERED TO BE A SINGLE SPECIES. NEW DISTRIBUTIONAL RECORDS INCLUDE THE GULF OF MEXICO, WEST GREENLAND, AND WEST AFRICA. WE CLASSIFY THE ROCKLINGS AS A TRIBE, GAIDROPSARINI, OF THE SUBFAMILY LOTINAE. CHARACTERS PREVIOUSLY USED TO SEPARATE ROCKLINGS INTO FIVE GENERA--SKULL SHAPE,

VOMERINE TOOTH PATCH SHAPE, NUMBER AND DISTRIBUTION OF SUPRATEMPORAL PORES, LENGTH OF FIRST DORSAL FIN RAY, AND SIZE OF JAW TEETH--DO NOT DISTINGUISH NOMINAL GENERA. NUMBER OF SNOUT BARBELS DIVIDES ROCKLINGS INTO THREE GOUPS THAT WE TENTATIVELY RECOGNIZE AS GENERA: GAIDROPSARUS, THE THREEBEARD ROCKLINGS, WITH TWO SNOUT BARBELS; ENCHELYOPUS, THE FOURBEARD ROCKLING, WITH THREE SNOUT BARBELS; AND CILIATA, THE FIVEBEARD ROCKLINGS, WITH FOUR OR MORE SNOUT BARBELS. ONOGADUS AND ANTONOGADUS ARE REFERRED TO THE SYNONYMY OF GAIDROPSARUS. THE CORRECT GENERAL NAME FOR THE FOURBEARD ROCKLING IS ENCHELYOPUS BLOCH AND SCHNEIDER 1801, WITH RHINONEMUS GILL 1863 AS A JUNIOR SYNONYM. IT IS NOT PREEMPTED BY ENCHELYOPUS GRONOVIUS 1760 IN ZOARCIDAE, WHICH WAS USED IN A WORK THAT WAS NOT CONSISTENTLY BINOMINAL.

0362 COHEN, J.S.; B.F. COLE

SHALLOW-WATER PROPAGATION, UNDER DOWNWARD-REFRACTION CONDITIONS [1977]

ACOUS SOC J 61(1):213-217

IN MAY 1975, A COMPREHENSIVE SET OF 3.5-KHZ PROPAGATION-LOSS MEASUREMENTS WAS OBTAINED UNDER DOWNWARD-REFRACTION CONDITIONS IN AN AREA 40 NM SOUTH OF MONTAUK, LONG ISLAND. A TECHNIQUE FOR MEASURING BOTTOM LOSS IN SHALLOW WATER, DERIVED BY TAKING ADVANTAGE OF THE DOWNWARD-REFRACTION CONDITIONS, WAS APPLIED TO THE TEST AREA. A BOTTOM-LOSS VALUE OF 1.3 DB PER BOUNCE WAS INFERRED FROM THE MEASUREMENTS AND WAS SHOWN TO COMPARE FAVORABLY WITH THEORETICAL LOSS VALUES GENERATED USING SEDIMENT INFORMATION FOR THE TEST AREA. AS A RESULT OF THAT AGREEMENT, A COMPUTER MODEL BASED ON RAY THEORY AND BOTTOM-IMPEDENCE CONSIDERATIONS WAS DEVELOPED TO DESCRIBE SHALLOW-WATER PROPAGATION IN THE TEST AREA (AT LEAST UNDER DOWNWARD-REFRACTION CONDITIONS). TO VALIDATE THIS MODEL AND FURTHER TEST THE VALIDITY OF THE BOTTOM-LOSS MEASUREMENT, SOME ADDITIONAL MEASUREMENTS WERE CONDUCTED IN THE SAME TEST AREA DURING MAY 1967. THIS PAPER PRESENTS THE PROPAGATION-LOSS RESULTS COLLECTED DURING THE MAY 1967 MEASUREMENTS AND COMPARES THEM WITH THOSE PREDICTED BY THE MODEL DEVELOPED FROM THE EARLIER SET OF MEASUREMENTS.

0363 COHEN, L.K.; T.J. KNEIP

ENVIRONMENTAL TRITIUM STUDIES AT A POWER POWER PLANT [1973]

PAGES 523-639 IN TRITIUM. MESSENGER GRAPHICS, PHOENIX. AR

TRITIUM PRODUCED BY NATURAL OR ARTIFICIAL PROCESSES IN THE ATMOSPHERE IS OXIDIZED TO FORM WATER, AND FOLLOWS THE HYDROLOGIC CYCLE. BEFORE THE INTRODUCTION OF LARGE QUANTITIES BY THERMONUCLEAR DETONATIONS, LEVELS OF TRITIUM IN THE ENVIRONMENT WERE VERY LOW AND WERE STUDIED ONLY AS A SCIENTIFIC CURIOSITY. BECAUSE OF THE EXTREMELY LOW CONCENTRATIONS OF TRITIUM EVEN AFTER THE ADVENT OF BOMB TESTS AND THE RESULTING MEASUREMENT PROBLEMS, THE RETENTION OR INCORPORATION CHARACTERISTICS OF TRITIUM IN BIOTA AND SEDIMENT IN THE ORGANICALLY BOUND STATE ARE NOT WELL KNOWN. WITH THE EXPANSION OF THE NUCLEAR INDUSTRY, INCREASED QUANTITIES OF TRITIUM ARE EXPECTED TO BE RELEASED IN LOCALIZED AREAS, AND THERE IS A NEED TO KNOW MORE ABOUT THE BEHAVIOR OF TRITIUM IN THE ENVIRONMENT. THIS STUDY WAS DESIGNED TO DEFINE THE RELATIVE CONCENTRATIONS OF TRITIUM IN SEVERAL COMPARTMENTS OF ANY ESTUARINE ENVIRONMENT. MEASUREMENTS WERE MADE OF TRITIUM IN THE LOOSE AND ORGANICALLY BOUND WATER IN BOTTOM SEDIMENTS, ROOTED AQUATIC PLANTS, FISH, AND AMBIENT WATER. THE AREA SELECTED FOR THIS STUDY WAS A 30 MILE SECTION OF THE HUDSON RIVER ESTUARY WHICH INCLUDES THE NUCLEAR POWER FACILITY AT INDIAN POINT. THIS PRESSURIZED WATER REACTOR HAS BEEN IN OPERATION SINCE 1962 AND IS PRESENTLY RELEASING 400 TO 1100 CURIES OF TRITIUM PER YEAR TO THE ESTUARY.

0364 COHERN, P.M.

OCEAN DUMPING--RESEARCH AND MONITORING OF OCEAN DISPOSAL EFFECTS [1977]

PAGES 23B-1 THRU 23B-4 IN OCEANS 77, PROC OF 3RD ANN CONFERENCE, LOS ANGELES, CA, OCT 1977, VOL 1. NOAA, ROCKVILLE, MD

A RELATIVELY NEW PROGRAM AT THE NATIONAL OCEAN SURVEY, IN THE RESEARCH AND MONITORING OF OCEAN WASTE DISPOSAL EFFECTS, IS DISCUSSED. THE BACKGROUND LEADING TO THE STRUCTURING OF THIS PROGRAM IS DESCRIBED. AND AN OVERVIEW OF WHAT WASTE MATERIALS ARE

DEPOSITED IN OCEAN AREAS AND WHERE THOSE AREAS ARE LOCATED IS PRESENTED. CERTAIN BASIC ISSUES OF OCEAN DISPOSAL ARE COMMENTED ON AND STUDIES IN ONE AREA ARE DESCRIBED IN SOME DETAIL. THE PRESENT TREND APPEARS TO FAVOR USE OF DEEPER, OFF-THE-SHELF SITES. THERE ARE ARGUMENTS TO BE MADE FOR AND AGAINST THIS. NO ONE CAN SAY THAT USE OF OFF-THE-SHELF SITES IS ALWAYS ENVIRONMENTALLY PREFERABLE. DISPOSAL ON THE CONTINENTAL SHELF IN MATERS OF 30-100 M CAN IMPOSE SEVERE ENVIRONMENTAL PENALTIES, BUT IMPACTS ARE USUALLY CONFINED TO A DISCRETE AREA AND ARE RELATIVELY EASIER TO MONITOR. IN THEORY DUMPSITES SHOULD BE SELECTED EITHER FOR CONTAINMENT OR DISPERSAL. ONLY WHERE NO DUMPING HAS OCCURRED CAN DESCRIPTIONS OR BASELINES OF CONDITIONS BE ESTABLISHED BEFOREHAND. THE DEEPWATER DUMPSITE, DAD 106, OFF THE COAST OF DELAWARE IS DESCRIBED IN DETAIL.

0365 COHN, M.M.; D.F. METZLER

THE POLLUTION FIGHTERS--A HISTORY OF ENVIRONMENTAL ENGINEERING IN NEW YORK STATE [1973]

NY DOH, ALBANY, NY 245 PP

TO PERFORM FUNCTIONS WHICH LOCAL HEALTH AGENCIES DID NOT OR COULD NOT PROVIDE, THE 1880 LEGISLATURE VESTED POWER IN THE STATE BOARD OF HEALTH TO PROTECT THE PUBLIC HEALTH AND CONTROL THE ENVIRONMENT AS A HABITAT FOR A LIFE WORTH LIVING. THE HISTORY OF ENVIRONMENTAL ENGINEERING IN NY IS THE CHRONICLE OF THE EFFORTS OF DEDICATED PROFESSIONALS TO PROTECT WATER, AIR AND LAND RESOURCES AGAINST THE INROADS OF MOUNTING POPULATION, BURGEONING INDUSTRY AND EXPLODING DEMANDS ON THE STATE'S BIOSPHERE. THE DRAMATIC DEVELOPMENTS IN PUBLIC HEALTH MEDICINE HAVE BEEN MADE A MATTER OF RECORD IN WAYS WHICH HAVE PRESERVED THE HISTORY OF THE STATE'S FIGHT AGAINST DISEASE AND DIABILITIES. OVER THE YEARS, THE ENVIRONMENTAL ENGINEERING PROGRAMS HAVE RECEIVED FAR LESS PUBLIC ATTENTION. KNOWLEDGE OF THE PAST POLICIES, PRACTICES AND PEOPLE THAT HAVE CONVERTED BY-GUESS ENVIRONMENTAL CONTROL TO A BY-SCIENCE PROGRAM IS LOST IN THE HAZE OF UNRECORDED HISTORY.

0366 COHN, M.S.; D. VANDE SANDE

RED TIDES IN THE NEW YORK--NEW JERSEY COASTAL AREA [1977]

UNDERWATER NAT 8(3):12-21

PHYTOPLANKTON BLOOMS HAVE BEEN RECOGNIZED AS A SERIOUS PROBLEM IN LOWER NEW YORK HARBOR AND ADJACENT NEW JERSEY COASTAL WATERS FOR ONLY ABOUT THE PAST DECADE. DURING THIS PERIOD, SURVEILLANCE OF BLOOMS IN THE AREA, CARRIED OUT BY NMFS, SANDY HOOK LABORATORY MICROBIOLOGY SECTION, IN CJOPERATION WITH THE NJ DEP, HAS SHOWN THAT THREE PHYTOFLAGELLATES HAVE BEEN DOMINANT IN THE IMPORTANT BLOOM OCCURRENCES. THESE ARE MASSARTIA ROTUNDATA, A SMALL DINOFLAGELLATE TRADITIONALLY FOUND IN BRACKISH ESTUARIES; THE XANTHOPHYCEAN OLISTHODISCUS LUTEUS; AND ANOTHER DINOFLAGELLATE, PROROCENTRUM MICANS, THE ORGANISM RESPONSIBLE FOR THE LONGEST LASTING AND MOST ECONOMICALLY SERIOUS BLOOMS IN THE REGION.

Q367 COK, A.E.; D.J.P. SWIFT; E. SHEPARD; R.J. REYNOLDS

"SEDIMENT" UNMIXING IN THE NEW YORK DIGHT AREA [1973]

GEOL SOC AM ABSTR PROG 5(2):150

IN JAN OF 1972 A FIVE YEAR NOAA CONTINENTAL MARGIN SEDIMENTATION PROGRAM WAS INITIATED BY THE ATLANTIC OCEANOGRAPHIC AND METEOROLOGIC LABORATORY AND THE MARINE GEOLOGY AND GEOPHYSICS OFFICE TO INVESTIGATE THE IMPACT OF DUMPING IN EXCESS OF 500,000 403/YR OF SEWAGE SLUDGE AND AN UNDETERMINED AMOUNT OF OTHER DEBRIS IN THE NEW YORK BIGHT. GRAB SAMPLING AT 350 STATIONS, VIBRA-CORING, SEISMIC AND SIDE-SCAN SONAR PROFILING PLUS DATA FROM RACK MOUNTED GEODYNE CURRENT METERS INDICATE THAT THE DISTRIBUTION AND MOVEMENT OF "NORMAL" SEDIMENT IN THE AREA HAS BEEN GREATLY INFLUENCED BY THE DUMPING OF SOLID WASTES. FINE GRAINED "SEDIMENT" BELIEVED TO BE REWORKED SEWAGE SLUDGE DRAPE AREAS OF MODERATELY COARSE SANDS AND GRAVELS. ALTHOUGH BOTTOM CURRENTS ATTAIN A VELOCITY GREATER THAN 1/2 KNOT IN THE VICINITY OF AMBROSE LIGHT, AN ANOMALOUS SEDIMENT DISTRIBUTION COUPLED WITH HIGHLY VAINED TOPOGRAPHY OVER MUCH OF THE NEW YORK BIGHT DUMP SITE INDICATES RECOVERY OF THIS AREA WILL BE A VERY

LONG-TERM PROCESS. A DETAILED GEOLOGIC MAP OF THE AREA REVEALS THREE AVENUES FOR SLUDGE DISPERSAL: 1) IN TOWARD VEW YORK HARBOR UNDER THE INFLUENCE OF ESTUARINE CIRCULATION, 2) DOWN THE HUDSON CANYON, AND 3) IN A NORTHEASTERN DIRECTION TOWARD THE SOUTH SHORE OF LONG ISLAND. SEDIMENT COLOR HAS PROVED TO BE A VALUABLE TOOL IN THIS AREA FOR RAPID IDENTIFICATION OF OVER FORTY DISTINCT SEDIMENT TYPES.

0368 COK, A.E.; L.A. SIRKIN

INVESTIGATION OF SURFACE AND SUBSURFACE SEDIMENTARY DEPOSITS IN OFFSHORE ENVIRONMENTS OF SOUTHERN LONG ISLAND [1973]

INST OF MAR SCI. ADELPHI UNIV. GARDEN CITY. NY 18 PP

THIS PAPER DESCRIBES METHODS USED AND RESULTS OF RESEARCH ON GEOMORPHOLOGY, SEDIMENTOLOGY, AND STRATIGRAPHY IN SURFACE AND SUBSURFACE SEDIMENTS IN THE NEAR AND OFFSHORE REGIONS OF SOUTHERN LONG ISLAND--THE RIDGE AND SWALE TOPOGRAPHY.

0369 COLTON, J.B., JR.; J.M. ST. ONGE

DISTRIBUTION OF FISH EGGS AND LARVAE IN CONTINENTAL SHELF WATERS, NOVA SCOTIA TO LONG ISLAND [1974]

V.C. BUSHNELL, ED. SER ATLAS OF THE MARINE ENVIRON, FOLIO 23. AM GEOGRAPH SOC, NEW YORK, NY 25 PP

THE MAPS OF THIS FOLIO SUMMARIZE BY MONTH THE DISTRIBUTION OF THE COMMON PLANKTONIC FISH EGGS AND LARVAE IN CONTINENTAL SHELF WATERS BETWEEN CAPE SABLE AND LONG ISLAND. THE PURPOSE OF THE SUMMARY IS TO PROVIDE BACKGROUND MATERIAL FOR FORMULATING THE SAMPLE DESIGN OF THE ICHTHYOPLANKTON SURVEYS OF THE MARINE RESOURCES MONITORING, ASSESSMENT AND PREDICTION (MARMAP) PROGRAM OF NOAA. IT IS HOPED THAT THESE DATA WILL PROVE USEFUL TO OTHER INVESTIGATORS CONCERNED WITH THE DISTRIBUTION AND ECOLOGY OF TOOPLANKTON IN BOREAL CONTINENTAL SHELF WATERS AND PROVIDE INFORMATION NECESSARY FOR UNDERSTANDING, FORECASTING, AND MANAGING THE MARINE RESOURCES IN AN AREA SUPPORTING ONE OF THE WORLD'S MOST INTENSE AND PRODUCTIVE FISHERIES.

0370 CONDIT. C.W.

THE PORT OF NEW YORK--A HISTORY OF THE RAIL AND TERMINAL SYSTEM FROM THE BEGINNINGS TO PENNSYLVANIA STATION [1980]

UNIV OF CHICAGO PRESS, CHICAGO, IL 456 PP

THE CHIEF PURPOSE IS TO DESCRIBE THE GENESIS, GROWTH, OPERATIONS, CAPACITY, URBANISTIC CONSEQUENCES, PRESENT STATE, AND FUTURE POTENTIALITIES OF THE RAIL AND TERMINAL SYSTEM THAT WAS BUILT UP OVER A CENTURY TO SERVE WHAT WAS ONCE THE GREATEST LIGHTERAGE HARBOR IN THE WORLD, THE FOREMOST COMPLEX OF RAIL AND HARBOR TERMINALS, AND THE CONTINUING SITE OF THE LARGEST ELECTRIFIED RAILROAD PASSENGER STATIONS. ONE MAY PLAUSIBLY DEBATE THE QUESTION WHETHER THE LATER CITY OF VEHICULAR BRIDGES AND TUNNELS AND DISTANT AIRPORTS IS AN URBANISTIC AND ECOLOGICAL IMPROVEMENT OVER THE EARLIER CITY OF RAILROADS, LIGHTERS, CARFLOATS, AND FERRIES.

0371 CONNER, E.B.

PROBLEM: HARBOR DEBRIS [1970]

WATER SPECTRUM 2(1):9-13

DE-LITTERING IN THE NATION'S 250 HARBORS AND CHANNELS IS A STAGGERING CHORE. IN A SURVEY OF NEW YORK'S HARBOR AND TRIBUTARIES, 2,000 ABANDONED VESSELS AND OVER 2,300 SHORE STRUCTURES AND CLUSTERS OF FLOATABLE DEBRIS WERE FOUND TO BE POTENTIAL DRIFT SOURCES. SWEEPING BOATS REMOVED SOME DEBRIS BUT THOUSANDS OF ACCIDENTS STILL OCCURRED EVERY YEAR CAUSING EXPENSIVE DAMAGE AND

DANGER. TWO GENERAL APPROACHES OFFERED SOLUTIONS TO THE DRIFT PROBLEM: (1) TO INCREASE REMOVAL AND DISPOSAL OF FLOATING DEBRIS ABOVE PRESENT LEVEL, AND (2) TO ELIMINATE THE SOURCES OF DRIFF BY REMOVAL OR REPAIR OF DERELICT VESSELS AND STRUCTURES. COST-BENEFIT ANALYSIS SHOWED THE LATTER TO BE BEST. COSTS OF REMOVAL AND REPAIR WERE ESTIMATED AT \$29 MILLION AND AN ANNUAL COST OF 1.5 MILLION, WHILE MONETARY BENEFITS WOULD BE OVER \$10 MILLION A YEAR AS WELL AS OTHER BENEFITS OF REDUCTION IN FIRE HAZARDS, AIR AND WATER POLLUTION, HAZARDS TO LIFE AND HEALTH AND IMPROVED APPEARANCE OF THE WATERFRONT. A NATIONAL SURVEY RECOMMENDS AN AGRESSIVE PROGRAM TO REMOVE SOURCES OF DRIFT. SUCH A PROGRAM OFFERS AN OPPORTUNITY FOR COOPERATION BETWEEN FEDERAL, STATE AND LOCAL GOVERNMENTS TO IMPROVE THE QUALITY OF URBAN ENVIRONMENT. SUCCESSFUL IMPLEMENTATION, REQUIRING ENACTMENT AND ENFORMCEMENT OF LOCAL ORDINANCES TO REGULATE SOURCES OF DRIFT, WOULD GREATLY HELP IN RELIEVING CONDITIONS OF WATERFRONT DECAY, UGLINESS AND BLIGHT, FREE WATERSIDE SITES FOR FUNCTIONS HAVING POSITIVE EFFECTS ON THEIR NEIGHBORHOOD AREAS; AND BRING ABOUT HIGHER LEVELS OF USEFULNESS AND SAFETY FOR BOTH COMMERCIAL AND RECREATIONAL USERS OF OUR NATION'S VITAL WATERWAYS AND HARBORS.

0372 CONNER, W.G.; D. AURAND; M. LESLIE; J. SLAUGHTER; A. AMR

DISPOSAL OF DREDGED MATERIAL WITHIN THE NEW YORK DISTRICT: VOLUME 1--PRESENT PRACTICES AND CANDIDATE ALTERNATIVES [1979]

TECH REP MTR-7808. METREK DIV. MITRE CORP. MCCLEAN. VA 360 PP

THE TWO VOLUMES OF THIS REPORT PRESENT RESULTS OF A DETAILED EVALUATION OF THE DREDGED MATERIAL OCEAN DISPOSAL PROGRAM OF THE NEW YORK DISTRICT OF THE US CORPS OF ENGINEERS. WHILE THERE IS CLEARLY A NEED FOR CONTINUED DREDGING IN THE AREA, THERE ARE MAJOR ENVIRONMENTAL PROBLEMS, MOSTLY CENTERED AROUND THE DISPOSAL OF DREDGED MATERIAL CONTAINING SUCH CONTAMINANTS AS HEAVY METALS, PETROLEUM COMPOUNDS, AND SYNTHETIC ORGANIC COMPOUNDS. VOLUME I EXAMINES THE CURRENT PROGRAM AND ITS IMPACTS IN THE NEW YORK BIGHT. ANNUAL VOLUMES OF MATERIAL DREDGED BETWEEN 1970 AND 1976 RANGED FROM 8 TO 19.5 MILLION CU YDS. AREA CONDITIONS WHICH TIGHT SIGNIFY ENVIRONMENTAL DEGRADATION INCLUDE LOW BOTTOM WATER OXYGEN CONTENT, DECLINING COMMERCIAL FISH HARVEST, AND INCREASED INCIDENCE OF FISH DISEASES AND KILLS. CONTINUED DUMPING OF DREDGED MATERIAL AND THE CURRENT MUD DUMP DISPOSAL SITE WOULD PROBABLY DIRECTLY AFFECT ONLY A RELATIVELY SMALL AREA OF THE BOTTOM. ALTERNATIVES WERE SORTED INTO THREE CATEGORIES: NOT CURRENTLY REASONABLE, POSSIBLE IN SPECIAL CASES, AND FEASIBLE FOR LARGER VOLUMES OF DREDGED MATERIAL. THREE ALTERNATIVES WERE PLACED IN THE THIRD CATEGORY AND ARE MOST LIKELY TO PROVIDE ACCEPTABLE DISPOSAL IN THE AREA: SHALLOW OCEAN DISPOSAL, SUBAQUEOUS BORROW PITS, AND CONFINED UPLAND DISPOSAL. OPEN OCEAN DISPOSAL IS RECOMMENDED ONLY AS A LAST ALTERNATIVE. MEASURES TO REDUCE THE VOLUME OF DREDGED MATERIAL INCLUDE SELECTIVE DREDGING AND SEDIMENT CONTROL.

0373 CONNORS, P.G.: V.C. ANDERLINI; R.W. RISEBROUGH; M. GILBERTON; H. HAYS

INVESTIGATIONS OF HEAVY METALS IN COMMON TERN POPULATIONS [1975]

CAN FIELD NAT 89(2):157-162

IN INVESTIGATING THE POSSIBLE CAUSES OF THE LOW HATCHABILITY OBSERVED IN COLONIES OF THE COMMON TERN (STERNA HIRUNDO) AND OTHER AQUATIC BIRDS BREEDING IN LAKE ONTARIO, ADULT BODY TISSUES OF COMMON TERNS FROM HAMILTON HARBOUR (CANADA) WERE EXAMINED FOR 9 OF THE HEAVY METALS (AG,CD,CO,CR,CU,HG,NI,PB AND ZN). FOR COMPARISON, ADULT BODY TISSUES OF COMMON TERNS FROM GREAT GULL ISLAND IN LONG ISLAND SOUND (NEW YORK, USA), WHERE HATCHING SUCCESS HAS CONSISTENTLY BEEN HIGHER THAN 90%, WERE ALSO EXAMINED FOR THESE METALS. NO SIGNIFICANT DIFFERENCES IN THE CONCENTRATIONS OF ANY OF THESE METALS WERE FOUND IN THE TISSUES; HG LEVELS REPORTED IN OTHER STUDIES OF COMMON TERN EGGS FROM HAMILTON HARBOUR WERE CONSIDERABLY HIGHER THAN THOSE FOUND IN EGGS FROM LONG ISLAND SOUND, BUT WERE EQUIVALENT TO LEVELS IN EGGS FROM A COLONY IN NORTH-WESTERN ONTARIO REPORTED TO HAVE NORMAL FLEDGING SUCCESS. IT IS UNLIKELY THAT THE METALS EXAMINED ARE THE PRIMARY CAUSE OF EMBRYONIC MORTALITY OR OTHER FACTORS WHICH LOWER HATCHING SUCCESS OF THE HAMILTON HARBOUR COLONY.

0374 CONWAY, H.L.; T.E. WHITLEDGE

DISTRIBUTION, FLUXES AND BIOLOGICAL UTILIZATION OF INORGANIC NITROGEN DURING A SPRING BLOOM IN THE NEW YORK BIGHT [1979]

J MAR RES 37(4):657-668

BIOLOGICAL PROCESSES WERE IMPORTANT IN RAPID AMMONIA REGENERATION AND RECYCLING IN THE EUPHOTIC ZONE DURING A CERATIUM TRIPOS BLOOM IN THE NEW YORK BIGHT, APRIL-MAY 1976. INSHORE PHYTOPLANKTON COMMUNITIES, TYPICALLY LOCATED AT DEPTHS 25 M, ARE CHARACTERIZED BY AMMONIA (NH4) AND NITRATE (NO3) UPTAKE RATES THAT ARE LESS LIGHT-DEPENDENT THAN THOSE OF MORE UNIFORMLY DISTRIBUTED COMMUNITIES AT THE SHELF BREAK. AMMONIA UTILIZATION, AS A PERCENTAGE OF NH4 PLUS NO3 UTILIZATION, YIELDS VALUES OF 59% INSHORE AND 70% AT THE SHELF BREAK. INSHORE ZOOPLANKTON HAVE A 1.00 G/SQ M MEAN DRY WEIGHT WHEREAS NEAR THE SHELF BREAK COPEPODS HAVE A 7.6 G DWT/SQ M MEAN BIOMASS. GREATER ZOOPLANKTON BIOMASS AT THE SHELF BREAK COMPARED TO INSHORE REGIONS CORRESPONDS TO INCREASED NH4 UTILIZATION BY PHYTOPLANKTON. ESTIMATED NH4 REGENERATION RATES OF INSHORE AND SHELF BREAK ZOOPLANKTON ARE 0.6 AND 6.4 MMOL N/SQ M/D, RESPECTIVELY. OBSERVED NH4 UTILIZATION RATES ARE 7.7 INSHORE AND 10.3 MMOL N/SQ M/D AT THE SHELF BREAK. IN INSHORE WATER, BENTHIC REGENERATION PROVIDES AN ADDITIONAL 1.6 MMOL N/SQ M/D AND BACTERIOPLANKTON, 0.65-1.85 MMOL N/SQ M/D. COMBINED INSHORE NH4 INPUT PROVIDES 38-53% OF PHYTOPLANKTON UTILIZATION POTENTIAL WHEREAS SHELF BREAK ZOOPLANKTON NH4 INPUT ALONE PROVIDES 32% DAILY REGENERATED PRODUCTION. SURFACE AMBIENT NH4 AND NO3 CONCENTRATIONS ARE 0.4 AND 0.1 MICRO MOL/L, RESPECTIVELY; HOWEVER, AT 25-60 M DEPTHS CONCENTRATIONS ARE 2 AND 4 MICRO MOL/L, RESPECTIVELY. THE NEW YORK BIGHT IS BOUNDED BY LONG ISLAND ON THE NORTH, NEW JERSEY ON THE WEST AND THE 100 FATHOM CONTOUR LINE SEAWARD.

0375 CONWAY, T.W.

THE INFLUENCE OF MARINE RECREATION UPON THE ENVIRONMENT AND LONG ISLAND'S BI-COUNTY REGION [1973]

M.S. THESIS. SUNY. STONY BROOK. NY 88 PP

THIS REPORT FORMULATES THE DATA REQUIRED FOR MARINE RECREATIONAL PLANNING OF A COMPREHENSIVE REGIONAL COASTAL ZONE MANAGEMENT PROGRAM. THE DEMAND FOR BEACH SWIMMING IS USED AS A SINGLE INDICATOR TO REPRESENT THE PRESENT AND FUTURE OVERALL MARINE RECREATIONAL DEMAND. WITHIN THE CATEGORY OF BEACH SWIMMING, THE AUTHOR: (1) FORMULATES GUIDELINES FOR BEACH INVENTORIES BASED ON TRUE AVAILABILITY OF A BEACH TO THE GENERAL PUBLIC. AVAILABILITY IS CONSIDERED A FUNCTION OF (A) ACCESSIBLITY, GEOGRAPHIC LOCATION, HIGHWAY ACCESS BY CAR AND ACCESS TRANSPORTATION, AND ENTRACE RESTRICTIONS; (B) CAPACITY-USABLY BEACH AREA AND PARKING FACILITIES; AND (C) DESIRABILITY-WATER QUALITY, BEACH TOPOGRAPHY, AESTHETIC ATTRACTIONS, FACILITIES, TOTAL USE COSTS, AND SOCIO-ECONOMIC CHARACTERISTICS OF NORMAL BEACH USERS. (2) GENERATES A BEACH INVENTORY AND DETERMINES THE PRESENTLY AVAILABLE BEACH RESOURCE SUPPLY FOR NASSAU AND SUFFOLK COUNTIES. (3) FORMULATES AN ANALYTIC TECHNIQUE TO FORECAST MAXIMUM DAILY RECREATIONAL SWIMMING DEMAND, BOTH FOR THE PRESENT AND 1985. (4) FORMULATES A TECHNIQUE TO CORRELATE SUPPLY AND DEMAND IN RELATION TO THE CAPABILITY OF THE REGION'S BEACHES TO SATISFY MAXIMUM DEMAND. (5) EVALUATES THE TECHNIQUES FORMULATED AND LIMITATIONS ON THEIR USE. IN ADDITION, THE AUTHOR CONSIDERS COLLATERAL PROBLEMS RELATED TO MARINE RECREATIONAL DEMAND, INCLUDING COMPETING USES, SHORELINE STABILITY, JURISDICTION, REGULATION, AND OWNERSHIP, PROVIDING BASIC INFORMATION PERTINENT TO THEIR EFFECT ON THE REGION'S BEACH RESOURCE.

0376 COOK, E.R.; G.C. JACOBY, JR.

TREE-RING-DROUGHT RELATIONSHIPS IN THE HUDSON VALLEY. NEW YORK [1977]

SCIENCE 198(4315):399-401

ANNUAL TREE-RING CHRONOLOGIES FROM CERTAIN WELL-DRAINED SITES IN THE HUDSON VALLEY OF NEW YORK RECORD PAST CHANGES IN TEMPERATURE AND PRECIPITATION. THIS INFORMATION ACCOUNTS FOR MUCH OF THE JULY VARIATION IN PALMER DROUGHT SEVERITY INDICES DURING THE PERIOD 1931 TO 1970 AND IS USED TO DEVELOP A PRELIMINARY RECONSTRUCTION OF DROUGHT AS LONG AGO AS 1728.

0377 COOK, E.R.; G.C. JACOBY, JR.

EVIDENCE FOR QUASI-PERIODIC JULY DROUGHT IN THE HUDSON VALLEY. NEW YORK [1979]

NATURE 282(5737):390-392

JULY PALMER DROUGHT SEVERITY INDICES (PDSI) HAVE BEEN RECONSTRUCTED FOR THE HUDSON VALLEY REGION OF NY FROM THE ANNUAL RING-WIDTH VARIATIONS OF LOCAL OLD TREES. USING ADDITIONAL, SUBSEQUENTLY DEVELOPED TREE-RING CHRONOLOGIES, WE HAVE DEVELOPED A NEW JULY DROUGHT RECONSTRUCTION THAT EXTENDS BACK TO 1694. VARIANCE SPECTRA OF THE NEW PDSI SERIES REVEAL STATISTICALLY SIGNIFICANT QUASI-PERIODICITIES OF 11.4 AND 26 YR.

0378 COOK, S.K.; C.E. GARDNER, JR.

AN EXAMPLE OF RAPID CHANGE IN THE SUMMERTIME WATER COLUMN OVER THE CONTINENTAL SHELF SOUTHEAST OF SANDY HOOK, NJ £1978]

GULFSTREAM 4(5):6-7

SIGNIFICANT CHANGES IN THE WATER COLUMN DUE TO VERTICAL MIXING WERE OBSERVED IN SHELF WATER SOUTHEAST OF SANDY HOOK, NJ, BETWEEN JULY 20 AND 25, 1977. THE OCEANOGRAPHIC CHANGES WERE APPARENTLY CAUSED BY A WEATHER FRONTAL PASSAGE. THO EXPENDABLE BATHYTHERMOGRAPH TRANSECTS JERE MADE ALONG THE TRACK FROM NEW YORK CITY TO DEEPWATER DUMPSITE 106 NEAR 39 N, 72 W, BY USCGC TAMAROA ON JULY 20, AND BY M/V PORT JEFFERSON ON JULY 25. VERTICAL SECTIONS FROM THESE TRANSECTS CLEARLY SHOW A MARKED TEMPERATURE CHANGE IN THE UPPER 20 M DURING THE 5 DAY PERIOD. TO IDENTIFY ATMOSPHERIC CONDITIONS AFFECTING THIS EVENT, JULY METEOROLOGICAL DATA WERE OBTAINED. THESE DATA INDICATED THAT A COLD FRONT MOVED THROUGH THE AREA BETWEEN THE TIMES OF THE TWO XBT TRANSECTS, LEADING TO SUBSTANTIAL CHANGES IN WIND VELOCITY AND AIR TEMPERATURE. PRIOR TO PASSAGE OF THE COLD FRONT, WINDS WERE FROM THE SOUTHWEST AT 5 TO 7 MPH (2.2-3.1 M/S) AND AIR TEMPERATURES AVERAGED 81 TO 83 F (27.2-28.4 C). ON 22 JULY THE WINDS VEERED AND BLEW DIRECTLY FROM THE NORTH AT >16 MPH (>7.2 M/S). UNTIL 23 JULY, DIMINISHING WINDS CONTINUED TO BLOW FROM THE NORTH AND NORTHWEST. AFTER 23 JULY THE WINDS BLEW AGAIN FROM THE SOUTHWEST AT 13 MPH (5.8 M/S). ASSOCIATED WITH THE PASSAGE OF THIS FRONT WAS A DECREASE IN AIR TEMPERATURE FROM 83 F (28.4 C) ON 21 JULY TO 73 F (22.8 C) ON 23 JULY.

0379 COOK, S.K.

EFFECT OF THE ANOMALOUSLY COLD WINTERS OF 1976-77 AND 1977-78 ON SPRING BOTTOM TEMPERATURES IN THE MIDDLE ATLANTIC BIGHT [1978]

COASTAL OCEANOGR CLIMATOL NEWS 1(1):3-4

A PARCEL OF COLD SHELF WATER, SOMETIMES REFERRED TO AS THE COLD CELL OR COOL POOL, LIES ON THE BOTTOM EXTENDING OUT TO AND SOMETIMES BEYOND THE SHELF BREAK WITHIN THE MIDDLE ATLANTIC BIGHT. THE COLD CELL IS GENERALLY BELIEVED TO BE FORMED PRINCIPALLY FROM LEFTOVER WINTER WATER THAT IS SEALED OFF IN LATE SPRING BY THERMAL STRATIFICATION. 6 YRS OF MAY XBT TRANSECTS ACROSS THE COLD CELL IN THE NEW YORK BIGHT WERE PROCESSED INTO A TIME SERIES THAT SHOWS STRIKING YEAR-TO-YEAR DIFFERENCES. BENERALLY BY MAY, THE MINIMUM COLD CELL TEMPERATURES IN THE NEW YORK BIGHT ARE ABOUT 7 C, BUT IN 1977 AND 1978 THEY WERE AS MUCH AS 3 C BELOW THAT.

0380 COOK, S.K.

WATER COLUMN THERMAL STRUCTURE ACROSS THE SHELF AND SLOPE SOUTHEAST OF SANDY HOOK, NEW JERSEY, IN 1976 [1979]

PAGES ?31-257 IN J.R. GOULET, JR. AND E.D. HAYNES, EDS. OCEAN VARIABILITY IN THE US FISHERY CONSERVATION ZONE, 1976. NMFS, . SEATTLE, WA

WATER TEMPERATURES IN THE MIDDLE ATLANTIC BIGHT IN 1976 GENERALLY FOLLOWED NORMAL TRENDS FOR MOST OF THE YEAR. HOWEVER, THO ANOMALOUS CONDITIONS AROSE DURING LATE WINTER AND EARLY SPRING. DURING LATE WINTER THE SST'S AVERAGED ABOUT 0.5 C WARMER THAN USUAL. DURING SPRING THE NEARSHORE SURFACE SALINITIES WERE GREATLY REDUCED. SOMETIMES THESE REDUCED SURFACE SALINITIES EXTENDED BEYOND THE SHELF WATER/SLOPE WATER FRONT. A COMBINATION OF THE HIGH RIVER DISCHARGE IN SPRING COUPLED WITH SLIGHTLY INCREASED SURFACE TEMPERATURES LED TO EARLIER THAN USUAL STRATIFICATION IN THE NEARSHORE ZONE. THE OFFSHORE WATERS (AT THE SHELF BREAK

AND BEYOND) FOLLOWED THE NORMAL TRENDS OF WARMING AND COOLING IN BOTH INTENSITY AND DURATION. EVEN THE PASSAGE OF HURRICANE BELLE DID LITTLE TO INTERRUPT THE NORMAL SEASONAL WARMING.

0381 COSULICH, W.F.

INCINERATION OF SLUDGE AND REFUSE WITH WASTE HEAT RECOVERY [1980]

J WATER POLLUT CONTROL FED 51(7):1934-1938

FACED WITH THE PROBLEM OF DISPOSING OF SLUDGE AND REFUSE AND CONCERNED ABOUT THE HIGH COST OF PROVIDING POWER FOR ITS NEW WATER POLLUTION CONTROL PLANT, GLEN COVE, NY, CONSTRUCTED A UNIQUE INCINERATOR THAT WILL COBURN REFUSE AND WASTEWATER SLUDGE. THE HEAT PRODUCED IN THE INCINERATOR WILL BE USED TO PRODUCE ENOUGH STEAM AND ELECTRICITY TO MEET THE ENTIRE POWER NEEDS OF THE WASTEWATER TREATMENT PLANT AND INCINERATOR. THE PROJECT IS FINANCED BY FEDERAL AND STATE GRANTS AND LOCAL FUNDS. THE EPA DETERMINED THAT THE ENTIRE COST OF THE WASTEWATER TREATMENT PLANT AND 1/2 THE COST OF THE INCINERATOR AND POWER GENERATION FACILITIES ARE ELIGIPLE FOR FEDERAL GRANTS UNDER THE WATER POLLUTION CONTROL ACT OF 1972.

0382 COTTRELL, W.B.

OPERATING US POWER REACTORS [1979]

NUCL SAF 19(6):771-777

THE UNIT AVAILABILITY, UNIT CAPACITY, AND FORGED OUTAGE RATES FOR ALL US POWER REACTORS OPERATING IN JUL AND AUG, 1978, ARE TABULATED. THREE PLANTS (NORTH ANNA POWER STATION, POINT BEACH NUCLEAR PLANT, AND KEWAUNEE NUCLEAR POWER PLANT) HAVE SUBMITTED AMENDMENTS TO INCREASE THEIR SPENT-FUEL STORAGE CAPACITY. THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS HAS ISSUED A FAVORABLE REPORT TO INCREASE THE AUTHORIZED POWER LEVEL OF INDIAN POINT UNIT 3 IN NEW YORK FROM 2760 MH(T) TO 3025 MW(T). THE NRC HAS REQUESTED THAT ALL OWNERS OF POWER REACTORS WHICH HAVE BABCOCK AND WILCOX REACTOR-VESSELS WELDS TO INSPECT THE VESSELS FOR APPROPRIATE NI AND SI CONTENT. THE PORTLAND GENERAL ELECTRIC COMPANY WAS FINED \$20,500 FOR NONCOMPLIANCE WITH FEDERAL REGULATIONS IN AN APRIL 5 RADIATION OFFER POSURE INCIDENT.

0383 COURTNEY, K .: J. DEHAIS: W.A. WALLACE

THE DEMAND FOR CONSTRUCTION MINERALS IN THE GREATER NEW YORK METROPOLITAN AREA [1979]

SER REP 79-13. NYSG, ALBANY, NY 37 PP

THE REPORT HAS THREE OBJECTIVES: FIRST, TO DESCRIBE A METHOD FOR DERIVING DEMAND FOR CONSTRUCTION MINERALS USING READILY AVAILABLE COMPUTERIZED DATA; SECOND, TO PRESENT MORE RECENT RESULTS ON THE DEMAND FOR THESE MINERALS IN THE GNYMA; AND THIRD, TO FORECAST REGIONAL DEMAND FOR CONSTRUCTION MINERALS FOR THE PERIOD 1980-2000. OUR WORK WAS DESIGNED TO PROVIDE INFORMATION FOR PLANNERS, COASTAL MANAGERS, AND OTHERS INVOLVED IN MANAGING THE OFFSHORE RESOURCES OF THE GNYMA. THE FIRST REPORT IN THIS SERIES DESCRIBED THE OFFSHORE SUPPLY OF CONSTRUCTION MINERALS IN THE GNYMA INDICATING SEVERAL GEOLOGICALLY SUITABLE AREAS FOR OFFSHORE MINING (6). THIS REPORT PRESENTS HISTORIC DEMAND AND FORECASTS FOR THE FUTURE. A SUBSEQUENT REPORT WILL MATCH SUPPLY AND DEMAND "OPTIMALLY" TO DETERMINE THE POTENTIAL ECONOMIC IMPACTS OF OFFSHORE MINING OPERATIONS FOR CONSTRUCTION MINERALS.

0384 COX, A.E.

THE ROLE OF WATERBORNE TRANSPORTATION IN THE NEW YORK METROPOLITAN AREA [1977]

HOV CRAFT HYDROF 17(2):20-25

3 PROPOSED WATERBORNE TRANSPORTATION SYSTEMS TO MOVE LARGE MASSES OF COMMUTERS FROM THE SUBURBS TO THE INNER CITY AND BACK ARE DISCUSSED. THE MOST PROMISING SYSTEM JOULD RUN BETWEEN THE ATLANTIC HIGHLANDS AND A MARINE TERMINAL ON THE HUDSON RIVER IN LOWER MANHATTAN ALONGSIDE THE WORLD TRADE CENTER. CANDIDATE VESSEL TYPES FOR THE SERVICE ARE DISCUSSED, INCLUDING DISPLACEMENT HULLS, HYDROFOILS, CATAMARANS, AND AIR CUSHION CRAFT. MINIMUM INITIAL INVESTMENT COMMENSURATE WITH A SPEED REQUIREMENT OF 25 KN AND A SEATING CAPACITY OF >750 ARE CONSIDERED THE DECISIVE FACTORS IN SELECTING A VESSEL. MORE BRIEFLY DISCUSSED ARE THE SYSTEMS BETWEEN THE JERSEY CENTRAL FERRY TERMINAL AND THE WORLD TRADE CENTER, AND BETWEEN GATEWAY PARK AND THE WORLD TRADE CENTER. THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY MAY BE THE BEST VEHICLE FOR ACHIEVING THE COORDINATED APPROACH TO A WATERBORNE SYSTEM FOR COMMUTER AND RECREATIONAL TRANSPORTATION.

0385 COX. G.V.

NEW YORK BIGHT--AN ENVIRONMENTAL BASELINE STUDY [1976]

PAGES 665-674 IN PROC. 8TH ANN OFFSHORE TECHNOLOGY CONF 1976, VOL 2. RAYTHEON CO. PORTSMOUTH. RI

THIS STUDY INCLUDED DATA COLLECTION OF EVERY ENVIRONMENTAL ELEMENT ASSOCIATED WITH THE PROPOSED OCEAN DISPOSAL SITE. IT RESULTED IN 45,000 DISCRETE DATA POINTS RELATING TO OVER 2000 SPECIES AND APPOXIMATELY 45 DIFFERENT TYPES OF ENVIRONMENTAL MEASUREMENTS. THREE CRUISES WERE CONDUCTED WITHIN A ONE-YEAR PERIOD, AND THE DATA COLLECTION EFFORT WAS AS SYNOPTIC AS LOGISTICS WOULD ALLOW. THE RESULTS OF THE STUDY ARE USED TO CHARACTERIZE CONDITIONS PRIOR TO SLUDGE DISPOSAL AS WELL AS TO FORM A DATA BASE AGAINST WHICH A MONITORING PROGRAM WILL BE DEVELOPED. ACCURATE BASELINE DOCUMENTATION IS ESSENTIAL TO GENERATION OF A STATISICALLY-BASED MONITORING PROGRAM CAPABLE OF DEFINING ENVIRONMENTAL CHANGES WHICH RESULT FROM SEWAGE SLUDGE DISPOSAL AT THE SITE.

D386 COX. G.V. (EDITOR)

ENVIRONMENTAL SURVEY OF A PROPOSED ALTERNATE DUMPSITE IN THE OUTER NEW YORK BIGHT [1977]

RAYTHEON CO. PORTSMOUTH, RI NP

BASED ON WATER QUALITY DEGRADATION AT THE EXISTING SEWAGE SLUDGE DISPOSAL SITE, THE US EPA ASKED NOAA TO SELECT TWO ALTERNATIVE OCEAN DISPOSAL SITES FOR FURTHER STUDY. NOAA DESIGNATED TWO AREAS, AS CANDIDATE SITES ON MAY 8. 1974, BASING THEIR SELECTION ON THE FOLLOWING CRITERIA: 1) THE LOCATION SHOULD MINIMIZE THE CHANCE OF CONTAMINANTS REACHING SHORELINES AND BEACHES: 2) THE LOCATION SHOULD MINIMIZE ADVERSE EFFECTS ON LIVING MARINE RESOURCES; 3) THE LOCATION SHOULD (A) EXCLUDE THE NO-FISHING ZONE DEFINED UNDER INTERNATIONAL BILATERAL AGREEMENT 1 AND (B) AVOID AREAS MOST INTENSIVELY FISHED FOR SURF CLAMS: 4) THE LOCATION SHOULD BE WITHIN 65 NMI (120KM) OF THE HARBOR ENTRANCE. THIS CRITERION WAS PRESCRIBED ON THE BASIS OF ECONOMIC CONSIDERATIONS BY EPA AND DOES NOT HAVE MARINE ENVIRONMENTAL SIGNIFICANCE. BY APPLYING THESE CRITERIA. AND EXISTING INFORMATION ON WATER MOVEMENTS TOPOGRAPHIC CONTROLS, BIOLOGICAL PROCESSES, AND MARINE RESOURCES, TWO AREAS WERE RECOMMENDED AS ALTERNATIVE DUMPSITE AREAS BECAUSE THEY WERE: 1) NOT IMMEDIATELY ADJACENT TO THE HUDSON SHELF VALLEY. IT IS EXTREMELY DIFFICULT TO PREDICT THE ULTIMATE FATE OF MATERIAL DUMPED INTO THE VALLEY. THERE ARE INDICATIONS OF BOTH DEPOSITION AND EROSION IN THE VALLEY AND TRANSPORT BOTH UP AND DOWN THE VALLEY. THE VALLEY ALSO IS A MIGRATION ROUTE FOR CERTAIN FISH AND SHELLFISH, SUPPORTS ACTIVE FISHERIES, AND SERVES AS A WINTER AGGREGATION ZONE FOR SOME FISHES. 2) SEAWARD OF THE CLOCKWISE CIRCULATION GYRE IN THE INNER PORTION OF OF THE BIGHT. THIS GYRE, THOUGHT TO HAVE ITS WESTERN EDGE ALIGNED WITH THE HUDSON SHELF VALLEY, COULD SERVE TO TRANSPORT MATERIAL BACK INTO THE BIGHT APEX. 3) BEYOND THE AREAS MOST INTENSIVELY FISHED FOR SURF CLAMS. THE FISHED AREAS ARE GENERALLY SHOREWARD OF THE 20-FM (36-4) ISOBATHS ALONG NJ AND LONG ISLAND. THE GREATEST CONCENTRATIONS ARE BETWEEN THE 10- AND 20-FM (18- AND 37-M) ISOBATHS. ALL PERTINENT DATA ARE INCLUDED TO ASSESS THE IMPACT OF PROPOSED SEWAGE SLUDGE DISPOSAL AT THE STUDY SITE AT PROJECTED SLUDGE CHARACTERISTICS AND VOLUMES. NO EVALUATION OF THE ECONOMICS OR THE APPLICABILITY OR ENVIRONMENTAL IMPACT OF OTHER SLUDGE DISPOSAL ALTERNATIVES ARE INCLUDED IN THIS REPORT. NO ASSUMPTION ABOUT TERMINATION OF ALL OCEAN DISPOSAL OF WASTES IS IMPLICIT IN THIS REPORT. AND WE ONLY CONSIDERED SEWAGE SLUDGE DISPOSAL AT THE STUDY SITE.

ORIGINS OF OCEANIC PLANKTON IN THE MIDDLE ATLANTIC BIGHT [1979]

ESTUARINE COASTAL MAR SCI 9(5):509-527

THE BIGHT REGION CAN BE DIVIDED INTO THREE REGIONS WITH REGARD TO OCEANIC INFLUENCES: (1) THE BAND OF LOW SALINITY WATER ALONG THE COAST SOUTH OF THE MOUTH OF THE HUDSON RIVER, EXTENDING TO THE MOUTH OF THE CHESAPEAKE (2) THE CONTINENTAL SHELF EDGE EXTENDING FROM ABOUT 37 36 TO 40 N AND EXTENDING SHOREWARD TOWARDS THE EASTERN HALF OF THE LONG ISLAND AND BLOCK ISLAND SOUND, BUT NOT INCLUDING THE REGION SOUTHEAST OF CAPE COD AND NANTUCKET (3) THE SOUTHERN SECTOR, INCLUDING THE SHELF EDGE SOUTH OF 37 N AND EXTENDING LANDWARD SOUTH OF CHESAPEAKE BAY. EACH OF THESE REGIONS IS CHARACTERIZED BY TYPES OF EXPATRIATE SPECIES AND BY HYDROGRAPHIC FEATURES. A MECHANISM IS POSTULATED WHEREBY WARM WATER SPECIES WHICH CANNOT WITHSTAND HARSH WINTER CONDITIONS IN THE MID-ATLANTIC BIGHT CAN "OVERWINTER" BY THE MOVEMENT OFFSHORE OF ADULTS OR LARVAE IN SHELF WATER ENTRAINED AT CAPE HATTERAS IN LATE SUMMER OR EARLY FALL, BY TRANSIT ALONGSIDE OR WITHIN THE GULF STREAM, BY INCORPORATION INTO A WARM CORE RING AND BY RETURN TO SHELF WATERS IN THE SPRING WHEN THE RING IMPINGES ON THE SHELF MARGIN.

D388 CRANDALL, M.E.

THE DISTRIBUTION OF BIVALVE MOLLUSCS IN THE HUDSON RIVER ESTUARY [1976]

M.S. THESIS. C.W. POST CAMPUS, LONG ISLAND UNIV. BRENTWOOD, NY NP

THE CHARACTERISTICS OF THE BIVALVE ASSEMBLAGES PRESENT IN THE LOWER 40 MI OF THE HUDSON RIVER ESTUARY, AS WELL AS SOME OF THE ENVIRONMENTAL PARAMETERS THAT MAY AFFECT THESE ASSEMBLAGES, WERE STUDIED. THREE BIVALVE ASSEMBLAGES EXIST IN THE LOWER HUDSON. THEY ARE THE MYA-MULINIA ASSEMBLAGE RANGING FROM THE NEW YORK HARBOR TO APPROXIMATELY MILE POINT (MP) 16; THE MACOMA ASSEMBLAGE RANGING FROM MP 27-MP 40. SALINITY IS THE PRIMARY ENVIRONMENTAL FACTOR INFLUENCING THE RANGE OF THE BIVALVE ASSEMBLAGES. OTHER FACTORS, SUCH AS SUBSTRATE TYPE AND DEPTH, INFLUENCE DISTRIBUTION AND DENSITY WITH THE RESPECTIVE RANGES. SIZE CHARACTERISTICS OF THE THREE MAJOR POPULATIONS ARE DISCUSSED.

D389 CRANDALL, M.E.

EPIBENTHIC INVERTEBRATES OF CROTON BAY IN THE HUDSON RIVER [1977]

NY FISH GAME J 24 (2):178-186

AN 8 MONTH SURVEY OF THE EPIBENTHIC FAUNA OF CROTON BAY IN THE HUDSON RIVER (NY) WAS CONDUCTED. MODIFIED MASON TRAPS WERE EFFICENT IN SAMPLING MANY HIGHLY MOBILE OR SESSILE ORGANISMS THAT ARE DIFFICULT TO CAPTURE WITH CONVENTIONAL GEAR. ORGANISMS OF AT LEAST 39 GENERA WERE TAKEN INCLUDING FOUR AMPHIPODS, TWO ISOPODS, TWO DECAPODS, A COMPLEX OF CHIRONOMIDS, THREE GASTROPODS AND SEVERAL POLYCHAETES. IN ADDITION, THE SETTING PATTERNS OF THE BARNACLE, BALANUS IMPROVISUS, AND THE MUSSEL, CONGERIA LEUCOPHAETEA, ARE DESCRIBED. THE BENTHIC ORGANISMS COLLECTED FROM CROTON BAY WERE REPRESENTATIVE OF THE FAUNA PRESENT IN SIMILAR HABITATS OF A LARGE PORTION OF THE TAPPAN ZEE AND HAVERSTRAW BAY WHICH IS TYPICALLY ESTUARINE. THE RESULTS OF THIS STUDY INDICATE THAT THERE IS LITTLE STRESS IMPOSED ON THE EPIBENTHIC COMMUNITY BY THE CROTON POINT LANDFILL.

0390 CRAWFORD, R.W.

THE DISTRIBUTION OF OXYGEN IN THE WATERS OF NEW YORK BIGHT, BLOCK ISLAND SOUND, AND NEWPORT BIGHT; CRUISE STIRNI I, JULY-SEPTEMBER, 1951 [1952]

ONR, ARLINGTON, VA 26 PP NTIS-AD-494 922

THE DATA PRESENTED IN THIS REPORT WERE COLLECTED DURING THE MONTHS OF JULY, AUGUST AND SEPTEMBER ON CRUISE STIRNI I OF THE PROJECT. DXYGEN SAMPLES WERE OBTAINED IN THE USUAL MANNER FROM 228 STATIONS AND THOSE FROM THE MAJORITY OF THESE STATIONS WERE

USED .

0391 CREAGER, M.G.; J.E. NADEAU

COPPER. LEAD. MERCURY, AND ZINC CONCENTRATIONS FROM BOTTOM SEDIMENTS FROM THE RARITAN RIVER SYSTEM [1979]

GEOL SOC AM ABSTR PROG 11-(1):9

80 BOTTOM SEDIMENT SAMPLES WERE COLLECTED AT REGULAR INTERVALS IN THE RARITAN RIVER SYSTEM. SAMPLES WERE SUBJECTED TO SEDIMENTARY ANALYSIS (SIEVE, HYDROMETER) TO ALLOW COMPARISON OF DEPOSITIONAL ENVIRONMENTS. IN GENERAL MEDIAN GRAIN SIZE WAS OBSERVED TO DECREASE IN THE DOWNSTREAM DIRECTION. IN ADDITION TWO MEDIAL GRAIN SIZE GROUPS WERE IDENTIFIED BY STATISTICAL METHODS. A SPLIT OF EACH SAMPLE WAS PREPARED AND ANALYSED FOR CONCENTRATIONS OF CU, PB, HG, AND ZN METALS. CONCENTRATION RANGES (IN PPM) WERE FOUND TO BE: CU 0-227; PB 0-420; HG 0.00-3.05; ZN 0-99. INCREASING LEVELS OF CONCENTRATION OF ALL FOUR METALS IN THE DOWNSTREAM DIRECTION WAS ESTABLISHED, HOWEVER THE CONCENTRATION OF EACH METAL MAY BE DEMONSTRATED. TO BEHAVE INDEPENDENTLY OF THE OTHER THREE METALS STUDIED AS INDICATED BY STATISTICAL COMPARISON. POPULATION DENSITY AS INDICATED BY THE PERCENTAGE OF LAND SERVED BY SEWAGE TREATMENT FACILITIES ALSO INCREASES IN THE DOWNSTREAM DIRECTION. THE INCREASING DOWNSTREAM CONCENTRATIONS OF CU., PB, HB, AND ZN IN THE RARITAN RIVER SYSTEM ARE INTERPRETED TO THE RESULT OF INCREASING LEVELS OF CULTURALLY DERIVED METAL CONTRIBUTIONS FROM POINT SOURCES.

0392 CROSS, R.H.; J.J. CUNNINGHAM

OIL BOOMS FOR EMERGENCY HARBOR USE [1973]

ASCE J WATERWAYS DIV 99 (WW1):27-37

EXPERIENCE IN NEW YORK HARBOR HAS SHOWN THAT SPEED OF DEPLOYMENT IS THE MOST IMPORTANT CRITERION FOR OIL BOOMS, AND THAT THIS DEPENDS SIGNIFICANTLY ON BOOM DESIGN. FOR MOST HARBORS, A LIGHT FLEXIBLE, 18 IN BOOM WITH INTEGRAL STRENGTH, WEIGHT, AND FLOTATION ELEMENTS IS DESIRABLE. THE CRITERIA EXAMINED INCLUDE BOOM SIZE (DRAFT AND FREEBOARD); STORAGE AND HANDLING; STABILITY AND WAVE CONFORMANCE: END CONNECTIONS: AND GENERAL REQUIREMENTS.

0393 CSANADY, G.T.

WHAT DRIVES THE WATERS OF THE CONTINENTAL SHELVES? [1979]

OCEANUS 22(2):28-35

A PROJECT TO BUILD THE CONCEPTUAL FRAMEWORK FOR THE UNDERSTANDING AND PREDICTION OF WATER MOVEMENTS AND MIXING PROCESSES IN THE COASTAL OCEAN WAS CONDUCTED OFF TIANA BEACH, LONG ISLAND, NY. THE FLOW PROPERTIES OF THE COASTAL BOUNDARY LAYER-AN AREA INVOLVED IN ARGUMENTS RELATING TO EFFECTS OF WASTE HEAT DISCHARGE FROM UTILITY COMPANY COOLING TOWER-ARE DOCUMENTED. THE MECHANICS OF SHELF CIRCULATION IS DISCUSSED. THE GREAT SCALE OF THE DEEPWATER GYRE N OF THE GULF STREAM PRECLUDES THE POSSIBLITY OF HAZARDOUS HEAT POLLUTION OF COASTAL WATERS FROM POWER PLANTS.

0394 CSANADY. G.T.; G. FLIERL; D. KARL; D.A. KESTER; T. O'CONNOR

DEEPWATER DUMPSITE 106 [1979]

PAGES 123-147 IN PROC OF A WORKSHOP ON ASSIMILATIVE CAPACITY OF US COASTAL WATERS FOR PULLUTANTS, CRYSTAL MOUNTAIN, WA, 29 JUL-4 AUG 1979, WORKING PAPER NO 1: FEDERAL PLAN FOR OCEAN POLLUTION RESEARCH DEVELOP & MONITORING, FY 1981-1985. US ERL, NOAA, BOULDER, CO DEEPWATER DUMPSITE (DWD) 106 IS SOUTHEAST OF THE ENTRANCE TO NEW YORK HARBOR AND IN AN AREA BEYOND THE EDGE OF THE CONTINENTAL SHELF. IT HAS BEEN A SITE FOR REGULATED DISPOSAL OF INDUSTRIAL AND SOME MUNICIPAL WASTES SINCE 1972. THIS CHAPTER DEALS JOINTLY WITH THE CAPACITY OF THE PRESENT DWD 106 SITE TO ASSIMILATE THE WASTES AND THAT OF THE ENTIRE REGION OF THE CONTINENTAL SLOPE IN THE VICINITY, WHICH POSSESSES SIMILAR PHYSICAL, BIOLOGICAL AND CHEMICAL CHARACTERISTICS. FIRST, KNOWLEDGE RELATING TO BIOLOGICAL EFFECTS OF WASTE IN THE DWD 106 ENVIRONMENT, CHEMICAL TRANSFORMATIONS OF INTEREST AND PHYSICAL PROPERTIES OF THE SITE IS REVIEWED. SECOND, THE ASSIMILATIVE CAPACITY OF THE SITE IS QUANTIFIED BY MEANS OF VARIOUS SIMPLE MODELS. FINALLY, RECOMMENDATIONS ARE MADE FOR FUTURE WORK TO SUBSTANTIATE EXISTING IDEAS, TEST CURRENT THEORIES AND IMPROVE MODELS, ALL WITH THE AIM OF MAKING ESTIMATES OF ASSIMILATIVE CAPACITY MORE RELIABLE.

0395 CSANADY, G.T.

LONGSHORE PRESSURE GRADIENTS CAUSED BY OFFSHORE WIND [1980]

J GEOPHYS RES 85(C2):1076-1084

OBSERVATIONS OF CURRENTS 12 KM SOUTH OF THE LONG ISLAND COAST SHOW THAT BITONG OFFSHORE WINDS COULD GENERATE CONSIDERABLE LONGSHORE NONTIDAL FLOW WELL BELOW ANY SURFACE EXMAN DRIFT. A MOMENTUM BALANCE CALCULATION IN THE LONGSHORE DIRECTION SHOWS A SURFACE LEVEL GRADIENT OF ORDER 10EXP-6 TO BE THE PROXIMATE CAUSE OF THE LONGSHORE FLOW. A VERY SIMPLE MODEL OF THE OBSERVED PHENOMENA IS A SLOPING PLANE BEACH ACTED UPON BY CROSS-SHORE WIND, VARYING SINUSOIDALLY IN THE LONGSHORE DIRECTION. WITH BOTTOM FRICTION PARAMETERIZED BY A LINEAR LAW, A PARABOLIC EQUATION IS FOUND TO GOVERN STEADY STATE FLOW, EXPRESSING A BALANCE OF VORTICITY TENDENCIES DUE TO CROSS-ISOBATH FLOW, CURL OF BOTTOM STRESS AND ANY FORCING. CALCULATED SOLUTIONS FOR VARIABLE CROSS-SHORE WIND SHOW A TRAPPED PRESSURE FIELD ON THE INNER SHELF WHICH CONTROLS THE TRANSITION BETWEEN AN ESSENTIALLY FRICTIONLESS MOMENTUM BALANCE ON THE OUTER SHELF TO FRICTIONALLY DOMINATED FLOW AT THE SHORE. REALISTIC ESTIMATES OF THE PARAMETERS ENTERING THE THEORY SUGGEST THAT THE LONGSHORE GRADIENTS ASSOCIATED WITH THE TRAPPED INNER SHELF FIELD ARE OF THE CORRECT ORDER OF MAGNITUDE TO EXPLAIN THE GENERATION OF LONGSHORE FLOW BY A SYSTEM OF CROSS-SHORE WINDS.

0396 CUMMINGS, R.

THE SACKING OF SUFFOLK COUNTY [1977]

EMPIRE STATE REPORT 3(3):114-125

THIS PAPER DISCUSSES SUFFOLK COUNTY, LONG ISLAND'S TRANSFORMATION FROM RURAL COMMUNITIES TO SUBURBAN COMMUNITIES TO A HUGE URBANIZED AND INDUSTRIALIZED COMPLEX. LOCAL LEGISLATORS AND COMMUNITY ENVIRONMENTAL GROUPS MUST FIGHT AGAINST A GOVERNMENT WHICH IS INEFFECTIVE AND OFTEN ANTAGONISTIC TOWARD CONSERVATION GOALS. THERE IS A LACK OF ANY COMPREHENSIVE ENVIRONMENTAL CODE. ENFORCEMENT IS LEFT UP TO THE COUNTY DEPT OF HEALTH OR THE STATE DEC., NEITHER OF WHICH HAS BEEN EFFECTIVE UP TILL NOW. MAJOR PROBLETS FACING SUFFOLK COUNTY INCLUDE: 1) LEAKAGE OF METHANE GAS FROM LANDFILLS AND CHLORINE GAS FROM SEWAGE TREATMENT PLANTS; 2) RADIOACTIVE WASTES FROM SROOKHAVEN NATIONAL LAB'S REACTOR AND POTENTIALLY FROM SHOREHAM; 3) ENVIRONMENTAL DAMAGE FROM 2 PROPOSED ENERGY FACILITIES AT JAMESPORT; 4) DANGERS OF TRANSPORTING RADIOACTIVE WASTES ACROSS THE COUNTY TO ORIENT POINT WHERE IT IS TRANSPORTED BY FERRY ACROSS THE SOUND TO CT, THEN NORTH; 5) THE LEASING OF OFFSHORE DRILLING SITES AND THE DANGERS OF OIL SPILLS; AND 6) LOSS OF GROUNDWATER THROUGH A PROPOSED SYSTEM OF DUMPING TREATED WASTE WATER INTO GREAT SOUTH BAY RATHER THAN RECHARGE TO THE AQUIFER.

0397 CUNNINGHAM, J.J.

A RAPIDLY DEPLOYABLE OIL CONTAINMENT BOOM FOR EMERGENCY HARBOR USE [1973]

GOVERNMENT REP ANNOUNC 73(18):114 ABS ONLY NTIS-Pa-221 523

THE REPORT ATTEMPTS TO DESCRIBE PERFORMANCE CRITERIA FOR AN IDEAL OIL SPILL CONTAINMENT BOOM FOR EMERGENCY HARBOR SERVICE. THE

TYPE OF BOOM RECOMMENDED IS THAT WHICH AN EMERGENCY SERVICE, SUCH AS A FIRE DEPARTMENT, OR PLANT TEAM COULD TRANSPORT PROMPTLY TO A SPILL INCIDENT WITHIN A HARBOR AND DEPLOY QUICKLY TO CONTAIN THE SPOILED OIL THE EXPERIENCE ACQUIRED BY THE MARINE DIVISION OF THE NYFD OVER THE COURSE OF ONE YEAR, BOTH AT ACTIVE SPILL CONTROL OPERATIONS AND IN TEST EXERCISES, SERVES AS THE PRINCIPAL SOURCE OF INFORMATION FOR THIS REPORT. AMONG THE BOOM CRITERIA DEVELOPED ARE: RECOMMENDED SIZE AND HANDLING PROBLEMS; OPTIMUM DESIGN CHARACTERISTICS.

0398 DAGG. 4.J.

ESTIMATED. AN SITU, RATES OF EGG PRODUCTION FOR THE COPEPOD CENTROPAGES TYPICUS (KROYER) IN THE NEW YORK BIGHT [1978]

J EXP MAR BIOL ECOL 34(3):183-196

CENTROPAGES TYPICUS AND PSEUDOCALANUS SP. ARE THE 2 PREDOMINANT COPEPODS IN THE CONTINENTAL SHELF WATERS IMMEDIATELY S OF LONG ISLAND, NY. THE ESTIMATED IN SITU RATE OF EGG PRODUCTION FOR C. TYPICUS RANGED FROM 2 TO 230 EGGS/FEMALE/D DURING THIS STUDY. VARIABILITY WAS PARTLY ATTRIBUTED TO SEASONAL VARIATION IN WATER TEMPERATURE AND PARTLY TO VARIATIONS IN THE PHYSIOLOGICAL CONDITION OF INDIVIDUAL FEMALES. IT COULD NOT BE SHOWN THAT THE ABILITY TO PRODUCE EGGS VARIED SEASONALLY DUE TO FACTORS RELATED TO FOOD. EGG, PRODUCTION BY PSEUDOCALANUS SP. IS PROBABLY FROM 1-10 EGGS/FEMALE/D. THE 2 REPRODUCTIVE BEHAVIORS RESULT IN AVERAGE ABUNDANCES OF ADULTS THAT ARE APPROXIMATELY THE SAME, ALTHOUGH THE PEAKS ARE AT DIFFERENT TIMES OF THE YEAR. INDICATING THAT C. TYPICUS HAS A HIGHER MORTALITY BETWEEN THE EGG AND ADULT STAGES THAN PSEUDOCALANUS SP.

0399 DAGG, M.J.; D.W. GRILL

NATURAL FEEDING RATES OF CENTROPAGES TYPICUS FEMALES IN THE NEW YORK BIGHT [1980]

LIMNOL OCEANOGR 24(4)597-609

BASED ON MEASUREMENTS OF THE REMOVAL RATE OF SMALL PARTICLES FROM NATURAL SEAWATER, THE INGESTION RATE OF ADULT FEMALES OF THE COPEPOD CENTROPAGES TYPICUS IS ALMOST ALWAYS LESS THAN MAXIMAL. A SURVEY OF PARTICLE CONCENTRATIONS IN THE NEW YORK BIGHT INDICATED THAT THE CONCENTRATIONS USED IN OUR FEEDING EXPERIMENTS WERE REPRESENTATIVE OF CONCENTRATIONS ENCOUNTERED BY THIS SPECIES. IN ADDITION TO THE PARTICLE REMOVAL METHOD, A GUT FLUORESCENCE METHOD WAS USED TO CALCULATE NATURAL INGESTION RATES OF PHYTOPLANKTON PARTICLES. COMPARABLE RATES RESULTED FROM BOTH METHODS. WE BELIEVE THAT FOR THIS ORGANISM, INGESTION RATES ARE CLOSELY RELATED TO FOOD QUALITY BECAUSE THE RANGE OF NATURAL FOOD CONCENTRATIONS IS RATHER NARROW.

0400 DALLAIRE. E.E.

DO FEDERAL GRANTS DISTORT A CITY'S CAPITAL INVESTMENT PRIORITIES? [1979]

CIVIL ENG 49(10):79-81

THE AVAILABILITY OF FEDERAL GRANTS IN SOME AREAS AND NO GRANTS IN OTHERS SOMETIMES LEADS TO ABSURD DISTORTIONS IN A CITY'S TRUE CAPITAL INVESTMENT NEEDS. UNDER CONSTRUCTION NOW FOR SOMETIME IS THE NORTH RIVER PLANT ON THE WEST SIDE OF MANHATTAN. THE PLANT WOULD TREAT RAW SEWAGE CURRENTLY BEING DISCHARGED INTO THE HUDSON RIVER. THOUGH THE PLANT WILL COST WELL OVER A \$1 BILLION BY THE TIME IT'S COMPLETED IN THE LATE 1780S, STUDIES SHOW IT WILL MAKE LITTLE DIFFERENCE IN THE QUALITY OF THE RECEIVING WATERS. YET THERE ARE AMPLE FEDERAL FUNDS TO BUILD THIS COSTLY PROJECT. ON THE OTHER HAND, NEW YORK HAS A PRESSING NEED TO FINISH BUILDING A BACK-UP WATER TUNNEL; FOR SHOULD ONE OF THE CITY'S TWO EXISTING WATER TUNNELS FAIL, HALF NYC WOULD BE WITHOUT WATER. DESPITE THE CRUCIAL NATURE OF THE WATER-TUNNEL PROJECT, NOT ONE DIME OF FEDERAL MONEY IS AVAILABLE TO BUILD IT. IF CITIES WERE FREE TO DECIDE THEIR OWN CAPITAL INVESTMENT PRIORITITES, RATHER THAN HAVING FEDERAL CATEGORICAL GRANT PROGRAMS, THEY WOULD BE CONSIDERABLY DIFFERENT IN SOME CITIES THAN AT PRESENT.

0401 DALLMEYER, R.D.; J.F. SUTTER

AR-40/AR-39 INCREMENTAL-RELEASE AGES OF BIOTITE AND HORNBLENDE FROM VARIABLY RETROGRADED BASEMENT GNEISSES OF THE NORTHEASTERNMOST READING PRONG, NEW YORK: THEIR BEARING ON EARLY PALEOZOIC METAMORPHIC HISTORY [1976]

AM J SCI 276(6):731-747

AR-40/AR-39 INCREMENTAL-RELEASE AGES HAVE BEEN DETERMINED FOR BIOTITE AND HORNBLENDE FROM VARIABLY RETROGRADED GRENVILLE BASEMENT GNEISSES OF THE NORTHEASTERNMOST READING PRONG, NY WEST OF THE HUDSON RIVER, MINERALS RECORD UNDISTURBED RELEASE SPECTRA WITH TOTAL-GAS AGES RANGING FROM 769 TO 788 M.Y. (BIOTITE) AND 890 TO 940 M.Y. (HORNBLENDE). RETROGRADE ALTERATION GENERALLY INCREASES IN INTENSITY EASTWARD FROM THE HUDSON RIVER. INITIALLY, ONLY BIOTITE RELEASE SPECTRA REFLECT THIS THERMAL OVERPRINTING, AND HORBLENDE SPECTRA REMAIN UNDISTURBED. EVENTUALLY, HORNBLENDE K-AR SYSTEMS ARE ALSO AFFECTED. THE DATA SHOW NO EVIDENCE OF SUPERIMPOSED PALEOZOIC THERMAL EVENTS AND THUS DO NUT SUPPORT. THE POLYMETAMORPHIC PALEOZOIC HISTORY INFERRED FOR THIS AREA BY PREVIOUS WORKERS.

0402 DAVIES, D.S.; E.W. AXELROD; J.S. O'CONNOR

EROSION OF THE NORTH SHORE OF LONG ISLAND [1973]

TECH REP 18. MSRC, SUNY, STONY BROOK, NY 101 PP

THE INSTABILITY OF BEACHES AND BLUFFS OF THE NORTH SHORES OF NASSAU AND SUFFOLK COUNTIES IS DESCRIBED OVER GEOLOGIC TIME AND AS INFLUENCED BY INDIVIDUAL STORMS. THE GEOLOGIC HISTORY AND PRESENT FEATURES OF THE SHORELINE ARE DESCRIBED. AN INVENTORY IS PROVIDED OF SHORELINE LENGTH. BLUFFS. DUNES SEDIMENT CHARACTERISTICS. SUMMER BEACH PROFILES. SHORE ZONE VEGETATION. AND MAN-MADE STRUCTURES DESIGNED TO MODIFY NATURAL PROCESSES. THE INFLUENCES OF NATURAL PROCESSES WHICH CONTINUALLY MODIFY THESE SHORELINE FEATURES ARE ALSO DESCRIBED. THESE PROCESSES ARE SEA LEVEL CHANGES, WINDS, WAVES, TIDES, LITTORAL TRANSPORT, AND RAIN RUNOFF. EMPHASIS IS PLACED UPON THE MAJOR SHORT-TERM INFLUENCES OF STORMS. INCLUDING THEIR FREQUENCIES AND INTENSITIES. THE EXTREMELY EXPENSIVE ATTEMPTS OF MAN TO INHIBIT DYNAMIC BEACH PROCESSES ARE EVALUATED. RESULTS OF THESE ATTEMPTS ARE OFTEN FOUND TO BE UNPREDICTABLE AND EITHER INEFFECTIVE OR DETRIMENTAL. LARGE AREAS OF THE SHORE ZONE ARE FOUND TO BE SUBJECT TO INFREQUENT TIDAL FLOODING. THESE AREAS ARE MAPPED AND THE NUMBERS OF STRUCTURES LOCATED IN THIS FLOOD PLAIN ARE ENUMERATED. A DETAILED CASE HISTORY IS PRESENTED OF THE GEOLOGICAL PROCESSES INFLUENCING THE CRANE NECK REGION NORTH OF STONY BROOK VILLAGE. THE FEATURES OF REACHES AND THE HISTORICAL RATES OF EROSION OR ACCRETION AT 158 LOCATIONS ARE SUMMARIZED IN A BEACH UTILITY INDEX DESIGNED TO GUIDE THE MOST RATIONAL USE OF SPECIFIC SHORELINE BEACHES. IN ADDITION TO ESTIMATES OF EROSION AND ACCRETION RATES, THIS UTILITY INDEX SUMMARIZES AT SPECIFIC LOCATIONS THE NATURAL BARRIERS TO EROSION, BEACH WIDTH, SEDIMENT GRAIN SIZE OF THE FOREBEACH AND BACKBEACH, AND ACCESSIBLITY TO THE BEACH. A NUMBER OF RECOMMENDATIONS ARE MADE TO REDUCE THE LIKELIHOOD OF FATALITIES AND PROPERTY DAMAGE IN THE SHORE ZONE BY RESTRICTING DEVELOPMENT IN HAZARDOUS AREAS. THE RECOMMENDATION IS ALSO MADE THAT FUTURE ENGINEERING STRUCTURES DESIGNED TO STABILIZE PORTIONS OF THE BEACH SHOULD NOT BE CONSTRUCTED WITHOUT DETAILED KNOWLEDGE OF THEIR INFLUENCES UPON ADJACENT PROPERTY.

0403 DAVIES, D.S.

CZM AND SHORE EROSION--THE LONG ISLAND RESPONSE [1979]

SHORE BEACH 47(1):16-22

THE ADDPTED STRATEGIES FOR EROSION CONTROL AND THE STRUCTURAL AND NONSTRUCTURAL LAND USE RECOMMENDATIONS REFLECTING THE STRATEGIES ARE DISCUSSED. GUIDELINES FOR COASTAL EROSION CONTROL ARE PRESENTED AND INCLUDE THE FOLLOWING: DEVELOP COASTAL EROSION PLANS ON THE BASIS OF SHORELINE TYPE, USE, AND EXTENT OF CULTURAL DEVELOPMENT; EMPHASIZE NONSTRUCTURAL SOLUTIONS TO EROSION CONTROL PROBLEMS; DISCOURAGE PROJECTS THAT BLOCK THE TRANSPORT OF SAND ALONG THE COAST OR THE EXCHANGE OF SAND AMONG STORAGE ELEMENTS; OBTAIN SAND FOR REPLENISHING ERODED BEACHES ONLY FROM OFFSHORE DEPOSITS OR FROM AREAS OF ACTIVE ACCRETION; STABILIZE OCEAN INLETS AND IMPLEMENT SAND BY-PASSING PROGRAMS; RESTORE AND STABILIZE SAND DUNES BY UTILIZING METHODS SUCH AS

PLANTING BEACH GRASS; PROHIBIT DEVELOPMENT ON PRIMARY DUNE LINES AND BEACH AREAS; RESTRICT VEHICLE AND FOOT TRAFFIC OVER FRONTAL DUNE SYSTEMS; REGULATE DEVELOPMENT IN FLOOD PRONE AREAS TO REDUCE POTENTIAL DAMAGES TO LIFE AND PROPERTY; SHORE HARDENING STRUCTURES LIKE BULKHEADS, REVETMENTS AND SEAWALLS SHOULD BE AN ACCEPTABLE METHOD FOR EROSION CONTROL IN AREAS HAVING UNSTABLE SHORELINES WHERE NONSTRUCTURAL METHODS OR VEGETATION PLANTING ARE NOT PRACTICAL; AND THE POTENTIAL IMPACTS OF GROINS, JETTIES, AND BREAKWATERS ON ADJACENT SHORES SHOULD BE ADEQUATELY CONSIDERED DURING THE PERMIT PROCESS COVERING SUCH STRUCTURES. LONG ISLAND SHORELINE PROTECTION STRATEGIES, STRUCTURAL RECOMMENDATIONS, NONSTRUCTURAL RECOMMENDATIONS, AND IMPLEMENTATION OF THE RECOMMENDATIONS ARE DISCUSSED.

0404 DAVIS, J.D.

DREDGE SPOIL DISPOSAL IN LONG ISLAND SOUND: A COORDINATED APPROACH TO A POWER PROJECT [1973]

PAGES 167-174 IN PROC. 19TH ANN TECH MEET, ANAHEIM CA 1973, INST OF ENVIRON SCI. MT. PROSPECT, IL

THE HIGHLY URBANIZED AND INDUSTRIALIZED ATLANTIC COASTAL AREA HAS BEEN AN ESPECIALLY SERIOUS FOCUS OF THE ENVIRONMENTAL PROTECTION PROBLEM AND THE LONG ISLAND SOUND, SPECIFICALLY, HAS BEEN A MAJOR CENTER OF CONTINUING CONTROVERSY REGARDING THE EFFECTS OF DREDGING AND DREDGE SPOIL DISPOSAL, INTEREST HAS CENTERED ON (A) THE EFFECTS OF SEDIMENTS RE-INTRODUCED INTO THE WATER COLUMN AT THE DREDGING SITE, (B) THE EFFECTS OF SIMILARLY SUSPENDED SEDIMENTS AT THE DISPOSAL SITE, (C) THE EFFECTS OF SPOIL DISPOSAL IN THE BENTHIC BIOTA AT ANY OCEAN DUMPING SITE, AND (D) THE OVERALL EFFECTS OF DISPERSAL OF CONTAMINANTS CONTAINED IN DREDGED SPOILS WHICH ARE RELEASED INTO THE WATER DURING DREDGING AND DUMPING AND ULTIMATELY ACCUMULATED IN MARINE FOOD CHAINS. THIS PAPER IS A DISCUSSION OF PROCEDURES, STUDIES CONDUCTED OR UNDER WAY, PLANS DEVELOPED, ETC. THE AIM OF THIS DISCUSSION IS TO PROVIDE OR SUGGEST NEW IDEAS, APPROACHES, ETC., WHICH MAY PROVE INTERESTING AND HELPFUL TO THOSE CONFRONTED WITH SIMILAR PROBLEMS.

0405 DAVIS, T.H.

THE BIRDS OF JAMAICA BAY WILDLIFE REFUGE [1976]

KINGBIRD 26(1):11-22

THIS LIST OF THE BIRD SPECIES FOUND IN THE JAMAICA BAY WILDLIFE REFUGE INCLUDES RELATIVE ABUNDANCE BY SEASON AND BREEDING STATUS.

0406 DAWSON, M.A.

HEMATOLOGICAL EFFECTS OF LONG-TERM MERCURY EXPOSURE AND SUBSEQUENT PERIODS OF RECOVERY ON THE WINTER FLOUNDER, PSEUDOPLEURONECTES AMERICANUS [1979]

PAGES 171-182 IN F.P. THURBERG, A. CALABRESE, F.J. VERNBERG, EDS. MARINE POLLUTION: FUNTIONAL RESPONSES. ACADEMIC PRESS, NEW YORK, NY

WINTER FLOUNDER WERE EXPOSED TO 10 AND 20 PPB MERCURY AS THE CHLORIDE FOR 60 DAYS AND SUBSEQUENTLY ALLOWED TO RECOVER FOR 15 OR 60 DAYS IN CLEAN SEAWATER IN ORDER TO DETERMINE MERCURY EFFECTS AND THE RATE AND EXTENT OF RECOVERY AS MEASURED BY A VARIETY OF HEMATOLOGICAL TESTS. THE 15-DAY RECOVERY PERIOD BROUGHT ABOUT VIRTUALLY NO RECOVERY OF THE RED-CELL COMPONENT OF THE BLOOD. AFTER THE 60-DAY RECOVERY PERIOD, ANIMALS EXPOSED TO 20 PPB MERCURY RETURNED TO THE CONTROL LEVELS IN HEMOGLOBIN AND RBC; MCV REMAINED AT ITS PREVIOUS ELEVATED LEVEL. FISH EXPOSED TO 10 PPB MERCURY RETURNED TO CONTROL LEVELS IN ALL THESE VARIABLES. PLASMA OSMOLALITY INCREASED IN BOTH EXPOSURE GROUPS. FISH EXPOSED TO 10 PPB MERCURY RECOVERED IN 15 DAYS AND THOSE EXPOSED TO 20 PPB MERCURY RECOVERED WITHIN 60 DAYS. PLASMA SODIUM CONCENTRATION ROSE IN BOTH EXPOSURE GROUPS FOLLOWING THE 15-DAY RECOVERY PERIOD. AFTER THE 60 DAY RECOVERY, THE VALUES WERE HIGHLY VARIABLE AND NOT SIGNIFICANTLY DIFFERENT FROM CONTROLS. PLASMA CALCIUM CONCENTRATIONS DROPPED IN EXPOSED FISH, RETURNING TO CONTROL VALUES AFTER 15 DAYS OF RECOVERY. THERE WAS NO SIGNIFICANT

DIFFERENCE BETWEEN CONTROLS AND EXPOSED ANIMALS IN PLASMA POTASSIUM CONCENTRATION ON ANY TEST DATE. PLASMA PROTEIN CONCENTRATIONS IN EXPOSED ANIMALS WERE NOT SIGNIFICANTLY DIFFERENT FROM CONTROLS FOLLOWING THE EXPOSURE PERIOD OR THE 15-DAY RECOVERY PERIOD. AT THE END OF THE 60 DAY RECOVERY PERIOD THE EXPOSED ANIMALS HAD A SIGNIFICANTLY HIGHER PLASMA PROTEIN CONCENTRATION. REFLECTING A DROP IN THE CONTROL VALUES.

0407 DAYAL, R.; S.A. OAKLEY; I.W. DUEDALL

SEDIMENT GEOCHEMICAL STUDIES OF THE 2300 M ATLANTIC NUCLEAR WASTE DISPOSAL SITE [1978]

MSRC, SUNY, STONY BROOK, NY 98 PP

SEDIMENT GEOCHEMICAL INVESTIGATION OF THE ABANDONED 2800 M ATLANTIC NUCLEAR WASTE DISPOSAL SITE REVEALS THAT THE SURROUNDING SEDIMENTS CAN SERVE AS AN EFFECTIVE GEOCHEMICAL BARRIER TO LATERAL OR VERTICAL MIGRATION OF RELEASED RADIOACTIVITY FROM THE WASTE CONTAINERS. THE PRESENCE, CONCENTRATION LEVELS AND DISTRIBUTION PATTERNS OF BOTH CS-137 AND CS-134 IN SEDIMENTS IN THE IMMEDIATE VICINITY OF A WASTE CONTAINER INDICATE SEDIMENT CONTAMINATION BY RELEASED RADIOACTIVITY. CS-137 DISTRIBUTION PROFILE IN A SEDIMENT CORE COLLECTED IN THE VICINITY OF A WASTE CONTAINER SUGGESTS BIOTURBATION AS AN EFFECTIVE MECHANISM FOR REDISTRIBUTING VERTICALLY THE RELEASED RADIOACTIVITY. IN COMPARISON WITH BIOTURBATION, MIGRATION OF RADIONUCLIDE VIA MOLECULAR DIFFUSION THROUGH PORE WATERS IS OF MINOR SIGNIFICANCE. CONSIDERING BIOTURBATION AS AN EDDY DIFFUSIONAL PROCESS, A SEDIMENT MIXING RATE OF 350 CM2/KYR IS CALCULATED. CALCULATIONS BASED ON DEPTH DISTRIBUTION OF CS-134 AND CS-137 IN THE SEDIMENT CORE FLUX OF CS-137 ACROSS THE SEDIMENT/WATER INTERFACE IS LESS THAT 1% OF THE TOTAL RADIONUCLIDE ACTIVITY RELEASED AT THE SOURCE DURING THE LAST FIFTEEN YEARS.

0408 DAYAL, R.; A. OKUBO; I.W. DUEDALL; A. RAMAMOORTHY

RADIONUCLIDE REDISTRIBUTION MECHANISMS AT THE 2800 M ATLANTIC NUCLEAR WASTE DISPOSAL SITE [1979]

DEEP-SEA RES 26(12A):1329-1345

AS PART OF AN INVESTIGATION OF THE ABANDONED SITE LOCATED OFF THE COAST OF NJ, SEVERAL BOX CORES WERE TAKEN IN AUG 1976. THE D/R/V ALVIN WAS USED TO LOCATE AND EXAMINE WASTE CANISTERS AND TO SAMPLE SURROUNDING SEDIMENT. BOTH CS-137 AND CS-134 WERE PRESENT IN SIGNIFICANT CONCENTRATIONS IN SEDIMENT SAMPLED CLOSE TO A WASTE CANISTER. THE OBSERVED CS-137 CONCENTRATIONS ARE ORDERS OF MAGNITUDE HIGHER THAN FALLOUT BACKGROUND CONCENTRATION LEVELS IN THE AREA. THE PRESENCE, CONCENTRATION LEVELS, AND DISTRIBUTION PATTERNS OF THE CS ISOTOPES INDICATE THAT THE WASTE CANISTER IS THE SOURCE OF THE OBSERVED RADIONUCLIDES AND THAT THESE ELEVATED RADIONUCLIDE CONCENTRATION LEVELS ARE HIGHLY LOCALIZED AROUND THE CANISTER. CONSIDERING THE FINE-FRACTION MINERALOGY AND EXCHANGE CAPACITY OF SEDIMENT AND THE ADSORPTION CHARACTERISTICS OF THE CS ION, SEDIMENT AT THE STUDY SITE APPARENTLY SERVES AS A BARRIER TO RADIONUCLIDE MIGRATION BECAUSE OF THE SEDIMENT PROFILE OF CS-137 IN A SUBMERSIBLE-COLLECTED SEDIMENT CORE IN THE IMMEDIATE VICINITY OF A CANISTER, BIOTURBATION MAY BE THE DOMINANT MECHANISM BY WHICH CS IS REDISTRIBUTED. INTERACTION OF ADSORPTION AND BIOTURBATION MAY ACCELERATE INTERSTITIAL MIGRATION OF CS. A SEDIMENT MIXING RATE OF 1.140 CM2/YR IS CALCULATED MIXING A MATHEMATICAL MODEL DEVELOPED QUANTITATIVELY TO DESCRIBE THE OBSERVED CS-137 PROFILE. THE SAME MODEL AND THE CALCULATED MIXING COEFFICIENT WAS APPLIED TO ACCOUNT FOR THE CS-134 DEPTH PROFILE. THE TOTAL CS-137 ACTIVITY RELEASED INTO THE CALCULATED MIXING COEFFICIENT WAS APPLIED TO ACCOUNT FOR THE CS-134 DEPTH PROFILE. THE TOTAL CS-137 RECTIVITY RELEASED INTO THE COVERLYING WATER COLUMN AS A RESULT OF BIOTURBATION IS A SMALL FRACTION (0.3%) OF THE CS-137 RELEASED FROM THE CANISTER.

0409 DAYAL, R.; M.G. HEATON; M. FUHRMANN; I.W. DUEDALL

A GEOCHEMICAL AND SEDIMENTOLOGICAL STUDY OF THE DREDGED SPOIL DEPOSIT IN THE NEW YORK BIGHT [1979]

MSRC, SUNY, STONY BROOK, NY 265 PP

GEOCHEMICAL AND SEDIMENTOLOGICAL INVESTIGATIONS OF THE DREDGED SPOIL DEPOSIT REVEAL THAT THE METAL CONCENTRATIONS IN DREDGED

SPOIL SEDIMENTS ARE HIGHLY VARIABLE AND CONSIDERABLY ELEVATED OVER CONCENTRATIONS OBSERVED IN SEDIMENT OUTSIDE THE DEPOSIT AND IN UNDERLYING NATURAL SEDIMENT. COMPARED TO METAL ENRICHMENTS REPORTED FOR OTHER COASTAL DEPOSITS, THE ENRICHMENT OBSERVED IN DREDGED SPOIL SEDIMENTS ARE ORDERS OF MAGNITUDE GREATER. BASED ON THE SEDIMENTARY RECORD, THE FLUXES OF SEDIMENT AND ASSOCIATED METALS TO THE DUMPSITE HAVE BEEN ESTIMATED FOR THE DUMPING PERIODS 1936-73 AND 1973-78. THE CALCULATED RATES AND MAGNITUDES OF SEDIMENT AND METAL FLUXES TO THE NEW YORK BIGHT, VIA DREDGED MATERIAL DUMPING, ARE FOUND TO BE ORDERS OF MAGNITUDE HIGHER THAN THOSE REPORTED FOR OTHER COASTAL DEPOSITS.

0410 DEALTERIS, J.T.; R.T. KEEGAN

ADVECTIVE TRANSPORT PROCESSES RELATED TO THE DESIGN OF WASTEWATER OUTFALLS FOR THE NEW JERSEY COAST [1976]

MAR SCI 7:63-89

THE RESULTS OF SELECTED PORTIONS OF AN OCEANOGRAPHIC STUDY ARE PRESENTED TO ELUCIDATE THE ADVECTIVE TRANSPORT PROCESS RELATED TO THE SITE SELECTION AND DESIGN OF THREE OCEAN OUTFALLS PROPOSED FOR THE SOUTHERN NJ COAST. COASTAL CURRENTS WHICH WOULD TRANSPORT A DISPERSING EFFLUENT PLUME, WERE MEASURED USING CURRENT METERS, DROGUES, AND DRIFTERS. USING A VARIETY OF ANALYSIS TECHNIQUES, BOTH SPATIAL AND TEMPORAL VARIATIONS IN THE COASTAL CURRENT REGIME WERE INVESTIGATED. DIFFERENCES IN THE LOCAL RATES OF ADVECTIVE SEDIMENT TRANSPORT RESULT IN EROSION OR ACCRETION OF THE BEACH AND SEA FLOOR. THE LONG-TERM TOPOGRAPHIC STABILITY WAS INVESTIGATED USING HISTORICAL BEACH AND OFFSHORE PROFILE DATA. THE SHORT-TERM STABILITY WAS STUDIED USING THE RESULTS OF MONTHLY BEACH PROFILES, STAKE ELEVATION MEASUREMENTS, AND SEDIMENT SAMPLE ANALYSIS.

0411 DEAN. D.

RARITAN BAY MACROBENTHOS SURVEY, 1957-1960 [1975]

NMFS DATA REP 99. US DEPT OF COMMERCE. SEATTLE. WA 51 PP

THIS PAPER DESCRIBES A QUANTITATIVE AND QUALITATIVE CENSUS OF BENTHIC MACROFAUNA FROM RARITAN BAY AND LOWER BAY DURING THE SUMMERS OF 1957 TO 1960, PRIOR TO AND FOLLOWING THE OPERATION OF A SEWER OUTFALL AT THE HEAD OF RARITAN BAY. A TOTAL OF 193 STATIONS WERE SAMPLED YIELDING 127 TAXA THAT WERE IDENTIFIED TO GENUS OR SPECIES. POLYCHAETES, MOLLUSCS, AND CRUSTACEANS ACCOUNTED FOR 86% OF THE TAXA. MOST PREVALENT SPECIES WERE THE SOFT-SHELL CLAM, MYA ARENARIA, THE POLYCHAETES, NEREIS SUCCINEA AND POLYDORA LIGNI, THE AMPHIPOD, AMPELISCA SP., AND THE GASTROPOD, NASSARIUS OBSOLETUS. THREE TYPES OF SPECIES DISTRIBUTION WERE FOUND, VIZ., THOSE FOUND ONLY IN RARITAN BAY, THOSE ONLY IN LOWER BAY, AND THOSE COMMON TO BOTH BAYS. OF THE 10 STATIONS SAMPLED IN RARITAN BAY FOR 4 CONSECUTIVE YEARS, BY THE SUMMER OF 1960 ONE HAD THE SAME NUMBER OF SPECIES IN QUANTITATIVE SAMPLES AS IN 1957, FOUR STATIONS AVERAGED A 30% DECREASE, AND SIX STATIONS AVERAGED AT 96% INCREASE.

0412 DEANGELIS, D.L.; L.J. SVOBODA; S.W. CHRISTENSEN; D.S. VAUGHAN

STABILITY AND RETURN TIMES OF LESLIE MATRICES WITH DENSITY-DEPENDENT SURVIVAL: APPLICATIONS TO FISH POPULATIONS [1980]

ECOL MODEL 8:149-163

A LESLIE MATRIX POPULATION MODEL IS USED TO PREDICT THE STABILITY AND TIMES OF RETURN TO EQUILIBRIUM OF FISH POPULATIONS FOLLOWING PERTURBATIONS. THE MODEL IS COMPENSATORY, HAVING DENSITY DEPENDENCE IN THE YOUNG-OF-THE-YEAR (Y-O-Y) SURVIVAL TERM. THE AUTHORS FIRST PRESENT CONDITIONS UNDER WHICH A UNIQUE EQUILIBRIUM POINT EXISTS FOR A POPULATION. THEN, THROUGH STABILITY ANALYSIS, THEY DERIVE CONDITIONS THAT THE Y-O-Y SURVIVAL FUNCTION MUST SATISFY FOR STABILITY TO BE ASSURED. IT IS DEMONSTRATED THAT THE DOMINANT EIGEN VALUE OF THE LINEARIZED LESLIE MATRIX CAN BE USED TO CALCULATE, TO GOOD APPROXIMATION, THE TIME OF RETURN TO EQUILIBRIUM OF THE POPULATION FOLLOWING A PERTURBATION. THE RETURN TIMES OF 5 MODEL FISH POPULATIONS ARE COMPARED OVER A RANGE OF ASSUMED STRENGTH OF THE COMPENSATORY MECHANISM. THE MODEL OF THE HUDSON RIVER STRIPED BASS POPULATION, IN WHICH THE PEAK EGG CONTRIBUTION OCCURS IN AGE CLASS 7, HAS A SLOWER RETURN TIME THAN THAT OF AN ALLANTIC MENHADEN POPULATION. WHERE

THE PEAK EGG CONTRIBUTION IS IN AGE CLASS 2.

0413 DECK, 9.L.

NUTRIENT-ELEMENT DISTRIBUTIONS IN THE HUDSON ESTUARY [1981]

PH.D. THESIS. COLUMBIA UNIV, NEW YORK, NY 396 PP

SAMPLES-OF SEDIMENT POR'E WATERS WERE OBTAINED WITH AN IN SITU EQUILIBRATION DEVICE FOR A STUDY OF THE PROCESSES WHICH CONTROL THE CONCENTRATIONS OF PHOSPHATE, AMMONIA, SILICATE, AND SOME TRACE METALS IN THE SEDIMENT INTERSTITIAL WATERS. MODELS OF SILICATE AND AMMONIA CONCENTRATIONS CAN BE PROPOSED WHICH APPEAR TO FIT THE OBSERVED DATA VALUES FAIRLY WELL. COMPARISON OF COMPUTED FLUXES OF SEVERAL CHEMICAL SPECIES FROM THE SEDIMENTS TO THE WATER COLUMN, TO INPUTS OF THESE SPECIES FROM OTHER SOURCES IN THE ESTUARY SHOWS THAT, WITH THE EXCEPTION OF OXYGEN CONSUMPTION AND METHANE PRODUCTION, THE SEDIMENTS DO NOT SIGNIFICANTLY ALTER THE AMBIENT WATER COLUMN CONCENTRATIONS IN THE HUDSON. THE OBSERVED NUTRIENT DISTRIBUTIONS IN THE HUDSON CAN BE REPRODUCED REASONABLY WELL WITH SIMPLE ONE-DIMENSIONAL NUMERICAL MODELS USING INPUT PARAMETERS DERIVED FROM THE FRESH WATER DISCHARGE RATE AND THE OBSERVED SALINITY DISTRIBUTION. BOTH PHOSPHATE AND AMMONIA USUALLY SHOW QUASI-CONSERVATIVE BEHAVIOR IN THE ESTUARY. OBSERVED AMMONIA DISTRIBUTIONS IN THE LATE SUMMER AND FALL INDICATE CONSUMPTION OF AMMONIA IN THE WATER COLUMN ESPECIALLY IN THE LOW SALINITY REACH OF THE ESTUARY. NITRITE AND N2O PRODUCTION APPEAR TO BE DIRECTLY RELATED TO CONSUMPTION OF AMMONIA IN THE WATER COLUMN AND CAN BE MODELED USING REALISTIC PARAMETERS. OXYGEN CONSUMPTION IN THE LOWER HUDSON, AS COMPUTE FROM WATER COLUMN BIOLOGICAL OXYGEN DEMAND, IS IN AGREEMENT WITH THE OBSERVED OXYGEN CONCENTRATIONS WHEN SEDIMENT OXYGEN DEMAND OF THE UPPER ESTUARY SEDIMENTS IS INCLUDED.

0414 DECKER, D.J.

GUIDE TO FRESHWATER FISHES OF NEW YORK [1980]

NYSG, CORNELL UNIV, ITHACA, NY 140 PP

APPEALING TO BEGINNING AND EXPERIENCED ANGLERS, THIS GUIDE DESCRIBES AND ILLUSTRATES MORE THAN 100 FISH SPECIES FOUND IN NEW YORK'S AND IN MOST OF THE NORTHEAST'S FRESH WATERWAYS. REFERENCES ARE TO BOTH COMMON AND SCIENTIFIC NAMES.

0415 DEHLINGER, P.; W.f. FITZGERALD; S.Y. FENG; D.F. PASKAUSKY; R.H. GARVINE

DETERMINATION OF BUDGETS OF HEAVY METAL WASTES IN LONG ISLAND SOUND, ANNUAL REPORT, PART I [1973]

MARINE SCI INST, UNIV OF CT, GROTON, CT 103 PP NTIS-COM-73-11735

THIS STUDY CONSISTED OF FIVE INTEGRATED RESEARCH PROJECTS WITH THE OBJECTIVE OF DETERMINING BUDGETS OF HEAVY METAL WASTE IN LONG ISLAND SOUND. THE PROJECTS CONCERN: (1) THE FATES AND CONCENTRATIONS OF HEAVY METALS IN THE WATER COLUMN; (2) THE CONCENTRATIONS AND EFFECTS OF THESE METALS IN DYSTERS; (3) THE WATER CIRCULATION PATTERNS WHICH CONTROL WATER RENEWAL TIMES AND FLUSHING RATES; (4) THE STRUCTURE AND MOTION OF THE OUTFLOW OF THE CONNECTICUT RIVER INTO LONG ISLAND SOUND; AND (5) THE TRANSPORT OF SUSPENDED MATERIALS IN THE SOUND. THE STUDY WAS PRESENTED IN TWO PARTS. THIS VOLUME CONTAINS THE FIRST THREE PROJECTS.

0416 DEHLINGER, P.; W.F. FITZGERALD; S.Y. FENG; D.F. PASKAUSKY; R.W. GARVINE

DETERMINATION OF BUDGETS OF HEAVY METAL WASTES IN LONG ISLAND SOUND. ANNUAL REPORT. PART II [1973]

MARINE SCI INST. UNIV OF CT. GROTON. CT 79 PP NT1S-COM-73-11736

THIS STUDY CONSISTED OF FIVE INTEGRATED RESEARCH PROJECTS WITH THE OBJECTIVE OF DETERMINING BUDGETS OF HEAVY METAL WASTES IN LONG ISLAND SOUND. THE 'PROJECTS CONCERN: (1) THE FATES AND CONCENTRATIONS OF HEAVY METALS IN THE WATER COLUMN; (2) THE CONCENTRATIONS AND EFFECTS OF THESE METALS IN OYSTERS; (3) THE WATER CIRCULATION PATTERNS WHICH CONTROL WATER RENEWAL TIMES AND FLUSHING RATES; (4) THE STRUCTURE AND MOTION OF THE OUTFLOW OF THE CONNECTICUT RIVER INTO LONG ISLAND SOUND; AND 5) THE TRANSPORT OF SUSPENDED MATERIALS IN THE SOUND. EMPHASIS IN THE FIRST YEAR WAS ON THE EASTERN AREA OF THE SOUND. THE STUDY WAS PRESENTED IN TWO PARTS. THIS VOLUME CONTAINS REPORTS ON PROJECTS 4 AND 5.

0417 DEHLINGER, P.: W.F. FITZGERALD; D.F. PASKAUSKY; R.W. GARVINE; W.F. BOHLEN

INVESTIGATIONS ON CONCENTRATIONS, DISTRIBUTIONS, AND FATES OF HEAVY METAL WASTES IN PARTS OF LONG ISLAND SOUND [1974]

FINAL REP. MARINE SCI INST. UNIV OF CI. GROTON, CT 161 PP

A 2 YEAR INVESTIGATION WAS CONDUCTED ON HEAVY METAL WASTE IN LONG ISLAND SOUND, WITH EMPHASIS ON THE EASTERN SOUND AND THE CT COAST. THE PROGRAM CONSISTED OF 5 INTEGRATED PROJECTS WITH THE ULTIMATE OBJECTIVE BEING TO DETERMINE A PRELIMINARY BUDGET OF THESE WASTES. THE PROJECTS WERE CONCERNED WITH THE CONCENTRATIONS, DISTRIBUTIONS, AND FATES OF HEAVY METALS IN THE WATER COLUMN, WATER CIRCULATION PATTERNS AND WATER RENEWAL TIMES IN THE SOUND, THE STRUCTURE AND OUTFLOW OF THE CONNECTICUT RIVER INTO THE SOUND, THE TRANSPORT OF SUSPENDED MATERIALS IN THE SOUND, AND THE UPTAKE OF METALS IN OYSTERS AT VARIOUS LOCATIONS ALONG THE CT COAST. THE NAMES OF THE PROJECTS ARE AS FOLLOWS: HEAVY METAL WASTE IN EASTERN LONG ISLAND SOUND--TRACE METAL SPECIATION; CIRCUATION AND RENEWAL OF WATERS IN EASTERN LIS; CONNECTICUT RIVER DISCHARGE IN LIS; SUSPENDED MATERIAL TRANSPORT IN EASTERN LIS: AND DETERMINATIONS OF HEAVY METALS IN SHELLFISH IN LIS.

0418 DELISI. D.P.; G.R. STEGEN

RECENT EXPERIENCE WITH THE DRXBT [1975]

PAGES 33-91 IN PROC, 3RD STD CONF AND WORKSHOP, PREP, PAP AND DISCUSS, SAN DIEGO, CA FEB 1975. PLESSEY ENVIRON SYST, SAN DIEGO, CA

A PORTABLE, DIGITAL RECORDING EXPENDABLE BATHYTHERMOGRAPH (DRXBT) SYSTEM HAS RECENTLY BEEN DEVELOPED AS A REPLACEMENT FOR THE CLASSICAL ANALOG SYSTEM. THIS DEVICE DIGITIZES THE XBT RESISTANCE VALUES AND RECORDS THEM DIRECTLY ON MAGNETIC TAPE IN A COMPUTER COMPATIBLE FORMAT. MEASUREMENTS OF THE TEMPERATURE IN THE NEW YORK BIGHT SHOW THE RAPID SPACE AND JIME VARIATIONS WHICH CAN BE MEASURED WITH THE DRXBT. RAPID TRAVERSES ACROSS THE FLORIDA CURRENT HAVE DEMONSTRATED ITS USEFULNESS IN MEASURING SYNOPTIC TEMPERATURE CROSS-SECTIONS IN FRONTAL ZONES.

0419 DELUCA, D.R.

COMMUNITY RESPONSE TO ENVIRONMENTAL PROBLEMS AND RELATED SOCIAL ISSUES [1976]

PH.D. THESIS. CORNELL UNIV. ITHACA. NY 358 PP

THIS RESEARCH SETS OUT TO IDENTIFY COMMUNITY SOCIAL, DEMOGRAPHIC, ECONOMIC, AND POLITICAL CHARACTERISTICS WHICH HAVE IMPORTANT EFFECTS ON COMMUNITY LEVEL ENVIRONMENTAL PROBLEMS, RESPONSES TO THOSE PROBLEMS, AND THE SIZE OF SOCIAL ISSUES ASSOCIATED WITH THEM. THE OBJECTIVE IS TO DEVELOP A CAUSAL MODEL TO EXPLAIN VARIATION IN THE ENVIRONMENTAL PROBLEMS OF LAND USE AND WATER POLLUTION. TO ACCOMPLISH THIS, A BASIC EXPLORATORY MODEL IS FORMULATED WHICH PROVIDES A SOCIAL STRUCTURAL FRAMEWORK FOR ANALYZING THE PROPOSED RELATIONSHIPS. ENVIRONMENTAL PROBLEMS, COMMUNITIES "RESPONSES TO THEM, AND THE SIZE OF SOCIAL ISSUES RELATED TO SUCH PROBLEMS ARE POSTULATED TO BE POSITIVELY RELATED TO THE SOCIAL STRUCTURAL COMPLEXITY AND THE LEVEL OF AGGREGATE RESOURCES OF COMMUNITIES. SPECIFICALLY, IT IS HYPOTHESIZED THAT HIGHLY DIFFERENTIATED, WELL LINKED, POLITICALLY FLUID COMMUNITIES THAT ARE LARGER, RICHER, AND CONTAIN RESIDENTS WITH HIGHER LEVELS OF SOCIO—ECONOMIC STATUS WILL HAVE THE FOLLOWING: INCREASED LAND USE AND WATER POLLUTION PROBLEMS, INCREASED CAPACITIES TO RESPOND TO THESE PROBLEMS, AND LARGER SOCIAL ISSUES

SURROUNDING THESE ENVIRONMENTAL PROBLEMS. THE UPSTATE NEW YORK PORTION OF THE HUDSON RIVER REGION IS THE SETTING FOR THE RESEARCH. IN ORDER TO ALLOW CONTRASTS AND COMPARISONS BETWEEN LARGE URBAN AREAS AND SMALL TOWNS, 132 COMMUNITIES WERE SAMPLED CONSISTING OF 25 CITIES AND 107 TOWNS. BOTH PRIMARY AND SECONDARY DATA WERE GATHERED. OPERATIONALIZED MEASURES OF EACH CONCEPT SPECIFIED BY THE BASIC EXPLORATORY MODEL ARE CONSTRUCTED FROM THESE DATA.

0420 DENKOWSKI. J.

THE FEDERAL REGULATION OF TOXIC SUBSTANCES IN THE ENVIRONMENT--AN ANNOTATED BIBLIOGRAPHY {1977]

US EPA, EDISON, NJ 25 PP

THIS COMPILATION IS INTENDED TO PROVIDE A LISTING OF SELECT MATERIALS RELATING TO THE FEDERAL REGULATION OF TOXIC SUBSTANCES IN THE ENVIRONMENT. SPECIAL EMPHASIS IS PLACED ON THE RECENTLY ENACTED TOXIC SUBSTANCES CONTROL ACT AND ON TOXIC CHEMICAL SUBSTANCES IN GENERAL; MATERIALS DEALING WITH PESTICIDES AND HAZARDOUS WASTES ARE ALSO INCLUDED, BUT TO A LIMITED EXTENT. THIS BIBLIOGRAPHY DOES NOT COVER RADIOACTIVE MATERIALS. FOOD AND DRUG ADDITIVES. OR COSMETICS.

0421 DETTE, J.T.; L.E. STAHL; J.A. FISCHER

SITE INVESTIGATIONS FOR AN OFFSHORE NUCLEAR POWER PLANT [1973]

PAGES 15-18 IN ENGINEERING BULLETIN. DAMES AND MOORE, LOS ANGELES, CA

THE DATA REQUIRED FOR THE GEOLOGIC AND ENGINEERING EVALUATION OF AN OFFSHORE NUCLEAR SITE ARE SIMILAR TO THAT NECESSARY FOR AN ONSHORE SITE; HOWEVER, THE APPROACH TO GATHERING THIS DATA VARIES CONSIDERABLY. THE FIELD WORK MUST BE PRECEDED BY A DETAILED LITERATURE RESEARCH AND INTERVIEWS WITH KNOWLEDGEABLE PERSONS. SUCH RELATIVELY SIMPLE TASKS AS TRANSPORTATION AND SURVEYING BECOME COMPLEX IN THE MARINE ENVIRONMENT. STANDARD TEST BORINGS MAY BE USED FOR OBTAINING SUBSURFACE SOIL SAMPLES AND SITE ENGINEERING MEASUREMENT. THESE BORINGS REQUIRE SPECIAL HANDLING AND SUPPORT EQUIPMENT. ADDITIONAL TOOLS GENERALLY UNIQUE TO MARINE ENGINEERING STUDIES ARE AVAILABLE FOR USE AT OFFSHORE SITES. THESE INCLUDE SHALLOW SOIL SAMPLING, OCEANOGRAPHIC CORING DEVICES AND CONTINUOUS SUBSURFACE PROFILING WITH SEISMIC REFLECTION EQUIPMENT. THE DATA REQUIRE EXTENSIVE AND EXHAUSTIVE STUDY TO PREPARE IT FOR USE IN ENGINEERING ANALYSES.

0422 DEWALL, A.E.

BEACH CHANGES AT WESTHAMPTON BEACH. NEW YORK 1962-73 [1979]

MISCELL REP. US CERC, FT BELVOIR, VA NP

REPETITIVE SURVEYS OF THE ABOVE MEAN SEA LEVEL (MSL) BEACH WERE MADE ALONG 20 PROFILE LINES AT WESTHAMPTON BEACH FROM 1962 TO 1973. A LARGE GROIN FIELD (15 GROINS) WITH ASSOCIATED BEACH FILL WAS CONSTRUCTED IN THE MIDDLE OF THE AREA SURVEYED. SHORELINE EROSION OF 2-3 M/YR WITHIN AND UPDRIFT OF THE GROIN FIELD WAS REVERSED AFTER GROIN CONSTRUCTION; SHORELINE EROSION DOWNDRIFT (HEST) OF THE GROIN FIELD ACCRETED AT A RATE OF 1.10 M/YR AS MEASURED AT THE MSL SHORELINE AND SHOWED AN INCREASE OF 3.68 M3/M/YR IN SAND STORED ON THE BEACH ABOVE MSL. THE SHORELINE WITHIN THE GROIN FIELD ACCRETED AT A RATE OF 3.45 M/YR. AND THE BEACH UNIT VOLUME INCREASED AT A RATE OF 11.92 M3/M/YR INCLUDING BEACH FILL. DOWNDRIFT OF THE GROIN FIELD THE PROFILES SHOWED AN AVERAGE MSL SHORELINE GAIN OF 0.66 M/YR AND A AVERAGE UNIT VOLUME LOSS OF 0.12 M3/M/YR. THE LARGEST CHANGES MEASURED RESULTED FROM THE STORM OF MAR 22, 1973, WHICH ERODED THE SHORELINE AN AVERAGE OF 20 M AND REMOVED AN AVERAGE OF 29 M3/M OF BEACH FRONT ABOVE THE MSL ELEVATION. BEACH CHANGES WERE SEASONAL, WITH THE LEAST AMOUNT OF SAND ABOVE MSL FROM JAN TO MAY. NO INFORMATION ON PROFILE CHANGES BELOW MSL, EITHER NATURAL CHANGES OR CHANGES CAUSED BY THE GROIN FIELD WERE PROVIDED BY THE DATA. HOWEVER, BATHYMETRIC SURVEY DATA COLLECTED WITHIN THE GROIN FIELD BY THE US ARMY ENGINEER DISTRICT, NEW YORK, SHOW THAT UNDERWATER CHANGES ARE LARGER THAN CHANGES ON THE BEACH AND OCCASIONALLY ARE OPPOSITE IN SIGN.

0423 DEWLING, R.T.

OIL SPILLS, HAZARDOUS MATERIALS SPILLS, VESSEL PROTECTION, AND OCEAN DUMPING [1973]

PAGES 99-106, IN AMERICAN ORDINANCE ASSOCIATION PROC OF 3RD MEETING ON ENVIRONMENTAL POLLUT, MAY 17-18, 1972, FORT MCNAIR, WASHINGTON, DC

THE PROGRAM CONDUCTED BY THE EDISON WATER QUALITY LABORATORY OF THE EPA IN CONNECTION WITH OIL SPILLS, HAZARDOUS MATERIAL SPILLS, AND EFFLUENT FROM SMALL RECREATIONAL WATERCRAFT IN INLAND WATERS AND ESTUARIES IS DESCRIBED. THE TECHNIQUES FOR IDENTIFYING OIL, CONTAINMENT, REMOVAL, AND BEACH RESTORATION ARE BEING EVALUATED. RESEARCH PROGRAMS ARE CONDUCTED TO DEVELOP GREATER AWARENESS OF THE EFFECTS OF ASSIDUOUS DISPOSAL OF CRANKCASE OIL, THE MAJOR POLLUTION SOURCE, AND TECHNIQUES FOR RESTORING THE WASTE PRODUCT FOR REUSE, AND THE EFFECTS OF VARIOUS OIL PRODUCTS ON AQUATIC LIFE. THE HAZARDOUS MATERIALS (MOST OF WHICH ARE WATER SOLUBLE) PROGRAM IS CONCERNED WITH PREVENTION, MONITORING AND CLEANUP. THE VARIABILITY OF TOXIC EFFECTS OF MANY CHEMICAL COMPOUNDS, THEIR EFFECT ON BIOLOGICAL LIFE, SPILL REPORTING AND DEVELOPMENT OF DETECTION TECHNIQUES, ARE MORE CRITICAL THAN THEY ARE FOR OIL, ESPECIALLY FROM THE PUBLIC SAFETY STANDPOINT. THE PROBLEMS OF COUNTER-MEASURES IN HAZARDOUS MATERIALS SPILLS AND DETOXIFICATION ARE DISCUSSED. THE LABORATORY'S AIMS ARE ALSO IN DEVELOPING TECHNOLOGY FOR MEETING WATER QUALITY STANDARDS FOR SMALL RECREATIONAL WATERCRAFT EFFLUENT, THE PROBLEMS OF DISCHARGES FROM HOLDING TANKS IN RURAL AREAS AND SMALL MARINAS, AND TREATMENT SYSTEMS. THE PROGNOSIS FOR ELIMINATING OIL DISCHARGES FROM OUTBOARD MOTORS IS GOOD.

0424 DEWLING, R.T.; P.W. ANDERSON

NEW YORK BIGHT I. OCEAN DUMPING POLICIES [1976]

OCEANUS 19(4):2-10

80% OF ALL OCEAN DUMPING IS TAKING PLACE OFF NY AND NJ COASTS. THIS PAPER EXA THE DISPOSAL OF MUNICIPAL SLUDGES, INDUSTRIAL WASTES, AND ACID WASTES. IT ALSO DISCUSSES THE OBTAINING OF DUMPING PERMITS, ENVIRONMENTAL IMPACTS AND LOOKS AT POSSIBLE ALTERNATIVES.

0425 DEWLING, R.T.; R.D. SPEAR; P.W. ANDERSON; R.J. BRAUN

EPA'S POSITION ON OCEAN DISPOSAL IN THE NEW YORK BIGHT [1976]

PAGES 283-330 IN RESEARCH SYMP ON PREIREATMENT AND ULTIMATE DISPOSAL OF WASTEWATER SOLIDS, MAY 1975, RUTGERS UNIV, NEW BRUNSWICK. NJ

MORE THAN 70% OF ALL MUNICIPAL SLUDGE AND 60% OF ALL INDUSTRIAL SLUDGE IS DUMPED IN THE AREA OF THE NEW YORK BIGHT. THE US EPA BECAME RESPONSIBLE FOR THIS AREA AFTER THE PASSAGE OF THE MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT IN APR 1972, AND SINCE THEN SIGNIFICANT CHANGES HAVE OCCURRED. 8 INDUSTRIAL DUMPING APPLICATIONS/PERMITS HAVE BEEN DENIED; 47 DUMPERS WERE PHÁSED OUT AND 12 ADDITIONAL WERE TO BE PHASED OUT BY 1975; INDUSTRIAL WASTE AND DIGESTOR CLEANOUT MUST BE DUMPED 106 MILES DEFISORE INSTEAD OF 12 MILES AS BEFORE; AND NO NEW INDUSTRIAL OR MUNICIPAL DUMPERS HAVE BEEN APPROVED SINCE THE ACT WAS PASSED. A CHEMICAL AND BIOLOGICAL ANALYSIS OF THE WASTES MUST BE MADE BY THE DUMPERS AND REPORTED TO THE EPA; A VIGOROUS ENFORCEMENT PROGRAM HAS BEEN INITIATED WITH THE HELP OF THE US COASI GUARD; AND MUNICIPALITIES HAVE BEEN NOTIFIED OF THE LONG RANGE GOAL TO COMPLETELY PHASE OUT OCEAN DUMPING BY 1981.

0426 DEWLING, R.T.; P.W. ANDERSON

SLUDGE DUMPING: MEETING THE 1981 DEADLINE [1979]

PAGES 34-39 IN OCEAN ENERGY, PROC OF 15th MAR TECHNOL SOC ANNU CONF OCT 1979, WASHINGTON, DC

THE MARINE PROTECTION, RESEARCH AND SANTUARIES ACT OF 1972 MANDATES THAT EPA "PREVENT OR STRICTLY REGULATE" THE DUMPING OF WASTE MATERIALS INTO THE OCEAN. THE ACT WAS AMENDED IN NOVEMBER 1977 TO PROHIBIT THE DUMPING OF HARMFUL SEWAGE SLUDGE IN THE OCEAN AFTER DEC 31, 1981. SCEINTIFIC INVESTIGATIONS, MAINLY BY NOAA, HAVE DOCUMENTED SEVERAL ADVERSE ENVIRONMENTAL IMPACTS AT THE SLUDGE AND DREDGED MATERIAL SITES. THESE IMPACTS INCLUDE ELEVATED CONCENTRATION OF HEAVY METALS, ORGANIC MATTER, AND BACTERIA IN THE WATER AND BOTTOM SEDIMENTS WITH ATTENDANT THREAT OF BIOACCUMULATION IN THE FOOD CHAIN; REDUCED CATCHES OF BONY FISH IN HIGH-CARBON SEDIMENT AREAS; FDA CLOSURE OF EXTENSIVE AREAS TO SHELLFISHING; ENRICHMENT RESULTING IN INCREASED PHYTOPLANKTON PRODUCTIVITY, THE OCCURENCE OF FINRUT, EXOSKELETON EROSION, AND GILL CLOGGING IN CERTAIN MARINE LIFE; AND SEDIMENTS IN THE VICINITY OF THE DUMP SITES DEVOID OF NORMAL BENTHIC BIOLOGICAL COMMUNITIES. THE CONGRESSIONAL MANDATE HAS SPURRED SEWAGE SLUDGE GENERATORS TO DEVELOP AND IMPLEMENT ALTERNATE DISPOSAL METHODS. ALL OPTIONS AVAILABLE HAVE ASSOCIATED ENVIRONMENTAL RISKS SINCE METROPOLITAN AREA SLUDGES CONTAIN PATHOGENS, TOXIC METALS, AND PERSISTENT SYNTHETIC ORGANIC MATTER WHAT METHOD IS CHOSEN - LANDFILL, INCINERATION, PYROLYSIS, COMPOSTING OR RECYCLING, SOME ENVIRONMENTAL IMPACT WILL RESULT.

0427 DEYOUNG, B.; K. DEYOUNG

CASUALTY LOSS TAX INFORMATION FOR COASTAL PROPERTY OWNERS [1979]

NYSG, CORNELL UNIV, ITHACA, NY 4 PP

STORMS, FLOODS, HURRICANES AND OTHER CASUALTIES CAN SOMETIMES CAUSE EXTENSIVE DAMAGE FOR WHICH INSURANCE IS INADEQUATE. THIS FACT SHEET EXPLAINS HOW TO FILL OUT THE PROPER TAX FORM FOR CASUALTY LOSSES. TOPICS COVERED ARE DEDUCTIBLE AND NON-DEDUCTIBLE LOSSES, TIMING, DOCUMENTING LOSSES AND SPECIAL CIRCUMSTANCES SUCH AS DISASTERS DECLARED BY PRESIDENTIAL ACTION. NAMES AND ADDRESSES OF RESOURCE ORGANIZATIONS IN NEW YORK ARE GIVEN.

0428 DIAZ. H.F.

METEOROLOGICAL CONDITIONS IN THE NEW YORK BIGHT DURING 1976 [1977]

PAGES 14-1 TO 14-11 IN PROC. NOAA CLIMATE DIAGNOSTICS WORKSHOP. 1976. NOAA. WASHINGTON. DE

THE METEOROLOGICAL CONDITIONS IN THE REGION OF THE NEW YORK BIGHT DURING 1976, PARTICULARLY THE PERIOD OF FEB THROUGH MARCH, WAS CHARACTERIZED BY SUBSTANTIAL DEPARTURES FROM THE MEAN, AS INDICATED IN ANOMALOUS PRESSURE AND CIRCULATION PATTERNS AND LARGE POSITIVE DEPARTURES OF SEA SURFACE TEMPERATURES. THE MEAN SURFACE WIND PATTERNS DURING THIS PERIOD WERE MORE TYPICAL OF SPRING PATTERNS. THE ANOMALY OF MONTHLY SEA SURFACE TEMPERATURES FOR THE MONTHS OF FEB THROUGH APR FOR THE PERIOD 1949-1973 SHOWED AN UPWARD TREND IN THE LAST SEVERAL YEARS. ALSO, A RELATIVE DEARTH OF STORM ACTIVITY THROUGH THIS AREA IS EVIDENT.

0429 DIBBLE, J.T.; R. BARTHA

EFFECT OF IRON ON THE BIODEGRADATION OF PETROLEUM IN SEAMATER [1976]

APPL ENVIRON MICROBIOL 31(4):544-550

THE BIODEGRADATION OF SOUTH LOUISIANA (SL) CRUDE DIL AND THE EFFECTS OF N.P., AND FE SUPPLEMENTS ON THIS PROCESS WERE COMPARED IN A POLLUTED (10,900 DIL DEGRADERS/L) AND IN A RELATIVELY CLEAN (750 DIL DEGRADERS/L) SEAWATER SAMPLE FROM THE NEW JERSEY COAST. WITHOUT SUPPLEMENTS, THE BIODEGRADATION OF SL CRUDE DIL WAS NEGLIGIBLE IN BOTH SAMPLES. THE ADDITION OF N AND P CAUSED RAPID BIODEGRADATION (72% IN 3 D) IN POLLUTED SEAWATER. THE FE IN THIS SAMPLE WAS HIGH (5.2 MICROMOLAR), AND THE ADDITION OF FE DID NOT INCREASE THE BIODEGRADATION RATE FURTHER. IN THE LESS POLLUTED AND LESS FE-RICH (1.2 MICROMOLAR) SEAWATER, BIODEGRADATION WAS SLOWER (21% IN 3 D), AND THE ADDITION OF CHELATED FE HAD A STIMULATING EFFECT. FERRIC OCTOATE, IN COMBINATION WITH PARAFFINIZED UREA AND OCTYLPHOSPHATE, IS SUITABLE FOR THE TREATMENT OF DIL SLICKS. SPILLS OF SL CRUDE AND SIMILAR OILS CAN BE CLEANED UP RAPIDLY IF THE WATER TEMPERATURES ARE FAVORABLE.

0430 DIBNER, P.C.

RESPONSE OF A SALT MARSH TO OIL SPILL AND CLEANUP: BIOTIC AND EROSIONAL EFFECTS IN THE HACKENSACK MEADOWLANDS, NEW JERSEY [1978]

INDUSTRIAL ENVIRON RES LAB, CINCINNATI, OH 62 PP

THIS STUDY ADDRESSES. THE BIOLOGICAL AND EROSIONAL RESPONSE OF PORTIONS OF THE HACKENSACK MEADOWLANDS ESTUARINE MARSH TO THE WELLEN OIL COMPANY NUMBER 6 CRUDE OIL SPILL OF LATE MAY 1976, AND THE SUBSEQUENT CLEANUP OPERATIONS. CLEANUP INCLUDED CUTTING AND REMOVAL OF OILED GRASSES OF THE SPECIES SPARTINA ALTERNIFLORA FROM THE BANK OF THE HACKENSACK RIVER. DATA WERE GATHERED FROM SEVERAL LOCATIONS ALONG THE RIVER BANK AND IN THE INNER MARSH DURING FOUR SAMPLING SESSIONS AT APPROXIMATELY 4 MONTH INTERVALS THROUGHOUT THE YEAR FOLLOWING THE SPILL. THE PRODUCTIVITY OF THE MARSH PLANTS, THE COMPOSITION OF MARSH SOIL INVERTEBRATE COMMUNITIES, THE PRESENCE OF OIL IN THE SUBSTRATE, AND EROSIONAL TRENDS WERE MONITORED. RESULTS SUGGEST THAT CUTTING HEAVILY OILED SPARTINA SOON AFTER CONTAMINATION SAVED THE PLANTS FROM DYING BY ROOT SUFFOCATION. HOWEVER, THE FOOT TRAFFIC ASSOCIATED WITH CUTTING IS IMPLICATED AS HAVING MADE THE RIVER BANK SUSCEPTIBLE TO SEVERE EROSION BY BOAT WAKES AND OTHER SOURCES OF EROSIVE ENERGY. IT IS CONCLUDED THAT CUTTING IS ONLY DESIRABLE IN A LIMITED FARGE OF CIRCUMSTANCES, DETERMINED BY THE CHARACTERISTICS OF THE CONTAMINATING OIL, THE BIOLOGY OF AFFECTED PLANTS, AND THE TIME OF YEAR.

0431 DICKERSON, M.H.; J.J. WALTON; D.R. TUERPE

APPLICATION OF PRINCIPAL COMPONENTS ANALYSIS (PCA) FOR LONG-TERM ASSESSMENT OF OPERATING RELEASES FROM THE NUCLEAR POWER INDUSTRY [1978]

LAWRENCE LIVERMORE LAB. UNIV OF CALIF. LIVERMORE. CA 16 PP

THE APPLICATION OF THE PRINCIPAL COMPONENTS ANALYSIS (PCA) METHODOLOGY TO THE LONG-TERM ASSESSMENT OF OPERATING RELEASES FROM THE NUCLEAR POWER INDUSTRY WAS INVESTIGATED. GAUSSIAN CALCULATIONS HAD BEEN PREVIOUSLY COMPARED WITH MATHEM/ADPIC CALCULATIONS FOR A SIMULATED 24-HR RELEASE IN THE HUDSON RIVER VALLEY AND AN AREA IN THE SOUTHEAST. CONSIDERABLE DIFFERENCES WERE NOTED IN THE COMPARISONS, WHICH WERE ATTRIBUTED TO THE MORE REALISTIC SIMULATION OF THE TIME AND SPACE VARYING WIND FIELDS BY THE MATHEW/ADPIC COMPUTER CODES.

0432 DICKSON, K.L.; J. CAIRNS, JR.; R.J. LIVINGSTON (EDITORS)

BIOLOGICAL DATA IN WATER POLLUTION ASSESSMENT: QUANTITATIVE AND STATISTICAL ANALYSES. 1977 [1978]

SPEC TECH PUBL 652. AM SOC TEST METER, PHILADELPHIA, PA 184 PP

12 PAPERS WERE PRESENTED AT THIS SYMPOSIUM AND ARE CONTAINED IN THIS VOLUME. THESE PAPERS CONCERN: OPTIMAL ENVIRONMENTAL IMPACT STUDY DESIGN AND ANALYSIS; ESTIMATING THE TOTAL NUMBER OF SPECIES IN A BIOLOGICAL COMMUNITY; USE OF RANKING METHODS TO ASSESS ENVIRONMENTAL DATA; MAXIMUM WEEKLY AVERAGE TEMPERATURE FOR 316 (A) DEMONSTRATION; A STATISTICAL TECHNIQUE FOR ANALYZING TIME-RESPONSE CURVES; USE OF RARE FACTION AND RELATED METHODS IN ECOLOGY; AND SAMPLING DESIGN FOR SOME TRACE ELEMENTAL DISTRIBUTIONS IN NEW YORK BIGHT SEDIMENTS. ALL PAPERS WERE INDEXED SEPARATELY.

0433 DIETRICH. L.

GEOLOGY AND SEDIMENT DYNAMICS OF A RIDGE AND SWALE, FIRE ISLAND, NY [1977]

M.S. THESIS. ADELPHI UNIV. GARDEN CITY. NY 114 PP

THE CONTINENTAL SHELF SOUTH OF THE LONG ISLAND BARRIER BEACH CONSISTS OF A GENTLY UNDULATING ROLLING TOPOGRAPHY. THIS

TOPOGRAPHY IS THE RESULT OF NUMEROUS SHOALS, OR ELEVATIONS OF THE SEA BOTTOM, AND SHALLOW DEPRESSIONS WHICH TOGETHER ARE CALLED RIDGE AND SWALE TOPOGRAPHY. SEDIMENT DISTRIBUTION AND RIDGE FORMATION ARE THE RESULT OF THE INTERACTION OF SHOALING WAVES AND COAST PARALLEL CURRENTS WHICH ARE GENERATED BY INTENSE SOUTHEASTERLY STORMS. DEPTH RECORDS OBTAINED BY WIRE AND FATHOMETER USING RAYPIST NAVIGATION INDICATES THAT THE RIDGES HAVE REMAINED STATIONARY SINCE THE LAST HYDROGRAPHIC SURVEY (1936). CORE AND SEISMIC DATA, INDICATE THAT THE RIDGE AND SWALE AREA HAS A THREE FOLD STRUCTURE. THE RIDGES ARE COMPOSED OF A THIN VENEER OF UNCONSOLIDATED HOLOCENE AND LYING DISCONFORMABLY ON A LATE PLEISTOCENE MIDDLE UNIT. GRAIN SIZE DATA WAS ENTERED INTO A Q-MODE FACTOR ANALYSIS PROGRAM IN ORDER TO COMPARE THIS METHOD OF DATA REDUCTION TO THAT OF FOLK PARAMETERS. FOUR FACTORS ARE SUFFICIENT TO REPRESENT ALL SEDIMENTS FOUND IN THE AREA, AND THE FACTOR ANALYSIS INTERPRETATION IS FOUND TO BE COMPARABLE TO THE MODEL DERIVED BY USE OF FOLK PARAMETERS.

D434 DILL, C.E.

FINAL REPORT BATHYMETRY OF BEACH HAVEN AND LITTLE EGG INLETS, NJ AND OFFSHORE [1974]

ALPINE GEOPHYSICAL ASSOCIATES INC, NORWOOD, NJ NP

THIS IS A REPORT ON THE ATLANTIC GENERATING STATION SITE BATHYMETRY PROJECT THAT WAS COMPLETED BY ALPINE GEOPHYSICAL IN MAR AND APR. 1974. THIS REPORT ACCOMPANIES INO BATHYMETRIC CHARTS OF PORTIONS OF THE NJ COASTLINE NEAR BEACH HAVEN AND LITTLE EGG INLETS.

0435 DITSWORTH, G.R.; A.M. TEETER; R.J. CALLAWAY

NEW YORK BIGHT SUSPENDED MATTER AND OCEANOGRAPHIC DATA 1973-1974. TOTAL SUSPENDED MATTER; TRAVERSE STATIONS, JUNE, 1974 AND PRIOR CRUISES; TOTAL SUSPENDED MATTER, DECEMBER, 1974 CRUISE [1978]

MAR AND FRESHWATER ECOL BRANCH, CORVALLIS ERL, CORVALLIS, DR 66 PP NTIS-PB-281 188

THE CONCENTRATION AND SIZE OF PARTICULATE MATTER SUSPENDED IN THE WATER COLUMN WERE DETERMINED AS PART OF AN OVERALL STUDY OF SEWAGE SLUDGE DISPERSION IN NEW YORK BIGHT. DATA OBTAINED FROM SURVEYS IN 1973 AND 1774 ARE GIVEN IN THIS REPORT, ALONG WITH OTHER OCEANOGRAPHIC DATA OBTAINED DURING A JUNE 27-JULY 1, 1974 CRUISE.

0436 DIVIETRO. P.V.

ENVIRONMENTAL PROBLEMS AND PRODUCTS [1979]

CIVIL ENG 49(9):94-98

THIS PAPER PROVIDES A NUMBER OF CASE HISTORIES ON SOLVING ENVIRONMENTALLY-RELATED PROBLEMS WITH CERTAIN PRODUCTS. INCLUDED IS THE CASE HISTORY ON CONVERTING A LANDFILL TO A PUBLIC PARK ON THE HUDSON RIVER IN THE TOWN OF BEACON. NY.

0437 DODD, F.J.

AN ENERGY POLICY WHITE PAPER CONTAINING POSITIONS ON: OUTER CONTINENTAL SHELF DRILLING FOR OIL AND NATURAL GAS; DEEPWATER PORT CONSTRUCTION; AND THE GOVERNMENTAL PLACEMENT OF THE STATE ENERGY OFFICE [1975]

NTIS, SPRINGFIELD, VA 54 PP NTIS-PB-269 043

THIS REPORT DISCUSSES THE FORMULATION AND ADOPTION OF A COMPREHENSIVE ENERGY POLICY FOR NEW JERSEY BY DEVELOPING A COHERENT

POSITION ON THREE OF THE MOST ESSENTIAL COMPONENTS OF THAT POLICY.

0438 DOLAN. R.: B.P. HAYDEN: J. HEYWOOD .

ANALYSIS OF COASTAL ERDSION AND STORM SURGE HAZARDS [1978]

COASTAL ENG 2:41-53

THE PREDICTION OF SHORELINE EROSION AND STORM-SURGE PENETRATION IS ESSENTIAL FOR COASTAL PLANNING AND MANAGEMENT IN THE US. HISTORICAL AERIAL PHOTOGRAPHY PROVIDES THE BEST DATA BASE FOR INFORMATION TO BE USED IN ESTABLISHING HAZARD ZONES ALONG AND ACROSS THE COAST. THE AUTHORS SUMMARIZE A NEW METHODOLOGY FOR DERIVING RISK PROBABILITIES. THE METHOD WAS TESTED AND APPLIED ALONG A HIGHLY DEVELOPED (90 KM) SECTION OF THE NJ COAST.

0439 DOLAN, R.; B.P. HAYDEN; J. HEYWOOD

NEW PHOTOGRAMMETRIC METHOD FOR DETERMINING SHORELINE EROSION #1978]

COAST ENG 2(1):21-39

IN ORDER TO SYSTEMATICALLY MEASURE SHORELINE EROSION AND STORM SURGE PENETRATION ALONG EXTENSIVE REACHES OF THE US ATLANTIC COAST. A COMMON-SCALE MAPPING METHOD WAS DEVELOPED USING HISTORICAL AERIAL PHOTOGRAPHY AS THE DATA BASE. AERIAL PHOTOGRAPHY OF THE SOUTHERN NJ COAST COVERING FOUR DECADES IS USED TO DEMONSTRATE THE METHODOLOGY AND TO PROVIDE LONG-TERM BASELINE INFORMATION ON SHORELINE DYNAMICS. THE DATA SETS INCLUDE MEAN EROSION RATES AND VARIANCE AT 100-M INTERVALS ALONG THE COAST. SHORELINE RECESSION RATES ALONG THE NJ COAST ARE GENERALLY LESS THAN 1 M/YR BUT FOR SEVERAL LOCATIONS RATES EXCEED 5 M/YR AND THEY VARY CONSIDERABLY BOTH WITHIN AND BETWEEN THE ISLAND SEGMENTS OF THE NJ COAST.

0440 DONN, W.L.; N.K. BALACHANDRAN

COUPLING BETWEEN A MOVING AIR-PRESSURE DISTRUBANCE AND THE SEA SURFACE [1969]

TELLUS 21(5):700-706

ON 23 NOV 1953 AN ATMOSPHERIC PRESSURE DISTURBANCE TRAVELLED EASTWARD ACROSS LONG ISLAND SOUND AT AN AVERAGE SPEED OF 42 FT/SEC. SIMULTANEOUSLY, ABNORMAL WATER LEVEL HEIGHTS WERE RECORDED WITH INCREASING AMPLITUDE IN LONG ISLAND SOUND EASTWARD FROM NYC. THIS IS EXPLAINED AS A DISTURBANCE PRODUCED BY NEAR RESONANT COUPLING BETWEEN THE ATMOSPHERIC PRESSURE DISTURBANCE AND THE FREE WAVE TRAVELING IN THE REGION OF APPROPRIATE DEPTH IN THE SOUND.

0441 DONNELLY. C.W.

MASSED BARGES SET LONG CAISSONS IN SHORT SPACE [1973]

CONSTR METHODS EQUIP 55 (9):97-100

THIS ARTICLE DISCUSSES SEVEN PILE SETTING BARGES CONCENTRATED WITHIN A 1/2 MILE STRETCH OF MANHATTAN WATERFRONT WHICH ARE INSTALLING 2400 FOUNDATION CAISSONS IN THE HUDSON RIVER AS PART OF THE FIRST PHASE OF A SEWAGE TREATMENT PLANT.

0442 DOOLEY, J.K.; B. CHERNOFF

HEAVY METALS IN RELATION TO THE BIOLOGY OF THE MUMMICHOG FUNDULUS HETEROCLITUS [1979]

J FISH BIOL 14(3):309-328

HEAVY METAL LEVELS OF CD, CU, HG, MN, AND ZN WERE STUDIED IN THE MUMMICHOG F. HETEROCLITUS FROM INDUSTRIALIZED AND NONINDUSTRIALIZED ENVIRONMENTS (TIMBER ISLAND, GREAT SOUTH BAY; GARVEY'S POINT, HEMPSTEAD HARBOR; HAMILTON BEACH, JAMAICA BAY, NY), WITH 1 EXCEPTION, THE ENVIRONMENT WITH THE HIGHEST TRACE METAL IN ITS WATERS, HAD THE FISH WITH THE HIGHEST METAL CONCENTRATION. EXCEPT FOR HG, THE CONCENTRATION FACTOR VARIED INVERSELY WITH THE METAL CONCENTRATIONS OF THE FISH AND WATER, INDICATING A POSSIBLE REGULATORY MECHANISM FOR THE METALS IN THE TISSUES OF MUMMICHOGS FROM ENVIRONMENTS WITH HIGH METAL CONCENTRATIONS. THERE WAS AN INVERSE RELATIONSHIP BETWEEN SL AND CONCENTRATIONS OF ZN, MN, CU, AND CD IN WHOLE MALE AND FEMALE FISH. THE VISCERA CONTAINED SIGNIFICANTLY GREATER CONCENTRATIONS OF THESE METALS THAN SOMATIC MUSCLE TISSUE. THERE WERE SIGNIFICANT DIFFERENCES BETWEEN MALES AND FEMALES WITH RESPECT TO WHOLE-BODY ZN AND CU CONCENTRATIONS, BUT NO SEX DIFFERENCES FOR MN AND CD.

0443 DOYLE. B.E.

LATERAL DYNAMIC BALANCE IN THE SANDY HOOK TO ROCKAWAY POINT TRANSECT [1976]

M.S. THESIS. SUNY, STONY BROOK, NY 19 PP

CURRENTS ASSOCIATED WITH THE RESIDUAL NONTIDAL FLOW THROUGH THE SANDY HOOK TO ROCKAWAY POINT TRANSECT EXHIBIT CONSIDERABLE VERTICAL AND LATERAL STRUCTURE INCLUDING A TWO-LAYER ESTUARINE FLOW PATTERN OVER MUCH OF THE TRANSECT AND INFLOW TO NEW YORK HARBOR AT ALL DEPTHS NEAR ROCKAWAY POINT. TO DETERMINE THE RELATIVE IMPORTANCE OF DIFFERENT DYNAMIC PROCESSES IN MAINTAINING THIS STRUCTURE, THE NONTIDAL LATERAL MOMENTUM BALANCE IN THE TRANSECT HAS BEEN EXAMINED USING CURRENT METER AND HYDROGRAPHIC DATA FROM THE 1952 AND 1958-1959 US COAST AND GEODETIC SURVEY FIELD STUDIES IN NEW YORK HARBOR. RESULTS SUGGEST THAT OVER THE ENTIRE TRANSECT THE LATERAL PRESSURE GRADIENT FORCE BALANCES THE SUM OF THE CENTRIFUGAL FORCE ASSOCIATED WITH THE OSCILLATING TIDAL FLOW AND THE CORTOLIS FORCE DUE TO THE NONTIDAL FLOW NORMAL TO THE TRANSECT. THIS BALANCE IS BETWEEN THE LATERAL PRESSURE GRADIENT FORCE AND THE CENTRIGUAL FORCE.

0444 DOYLE, B.E.; R.E. WILSON

LATERAL DYNAMIC BALANCE IN THE SANDY HOOK TO ROCKAWAY POINT TRANSECT {1978]

ESTUARINE COASTAL MAR SCI 6(2):165-174

CURRENTS ASSOCIATED WITH THE RESIDUAL NONTIDAL FLOW THROUGH THE SANDY HOOK TO ROCKAWAY POINT TRANSECT EXHIBIT CONSIDERABLE VERTICAL AND LATERAL STRUCTURE, INCLUDING A TWO-LAYER ESTUARINE FLOW PATTERN OVER MUCH OF THE TRANSECT AND INFLOW TO NEW YORK HARBOR AT ALL DEPTHS NEAR ROCKAWAY POINT. TO DETERMINE THE RELATIVE IMPORTANCE OF DIFFERENT DYNAMIC PROCESSES IN MAINTAINING THIS STRUCTURE, THE NONTIDAL LATERAL MOMENTUM BALANCE IN THE TRANSECT WAS EXAMINED USING CURRENT METER AND HYDROGRAPHIC DATA FROM THE 1952 AND 1958-1959 COAST AND GEODETIC SURVEY FIELD STUDIES IN NEW YORK HARBOR. RESULTS SUGGESTED THAT OVER THE ENTIRE TRANSECT THE LATERAL PRESSURE GRADIENT FORCE BALANCES THE SUM OF THE CENTRIFUGAL FORCE ASSOCIATED WITH THE OSCILLATING TIDAL FLOW AND THE CORIOLIS FORCE DUE TO THE NON-TIDAL FLOW NORMAL TO THE TRANSECT. THIS BALANCE IS MAINTAINED WITHOUT SIGNIFICANT CONTRIBUTION FROM TURBULENT SHEAR STRESSES. OVER MUCH OF THE TRANSECT, THE PRIMARY BALANCE IS BETWEEN THE LATERAL PRESSURE GRADIENT FORCE AND THE CENTRIGUAL FORCE.

0445 DOYLE. B.E.

GUIDELINES FOR SELECTING A MARINE CONTRACTOR [1980]

NYSG, CORNELL UNIV, ITHACA, NY 4 PP

THIS PAMPHLET EXPLAINS WHAT MARINE CONSTRUCTION IS AND WHAT A MARINE CONTRACTOR DOES. IT PROVIDES INFORMATION ON WHAT TO CONSIDER WHEN HIRING A MARINE CONTRACTOR, INCLUDING IDEAS FOR JUDGING EXPERIENCE, CAPABLILITY AND PERFORMANCE.

0446 DRAKE, D.E.; P.G. HATCHER

DISPERSAL OF WASTE SOLIDS IN NEW YORK BIGHT [1974]

GEOL SOC AM ABSTR PROG 6(7):715

THE DISTRIBUTION AND COMPOSITION OF PARTICULATE SUSPENDED MATTER IN THE NEW YORK BIGHT INDICATE THAT MUCH OF THE SOLID WASTES DISPOSED OF IN THE BIGHT APEX ARE INITIALLY TRANSPORTED NORTHWARD AND PARTIALLY DEPOSITED IN THE CHRISTIANSEN BASIN (THE HEADWARD PORTION OF THE SHELF CHANNEL). SUSPENDED SEDIMENT DISTRIBUTIONS AND CURRENT METER MEASUREMENTS INDICATE A GENERAL NORTHWARD DRIFT OF SUBSURFACE WATER. THIS ADVECTIVE CURRENT FORMS THE WESTERN LIMB OF A CLOCKWISE GYRE IN THE BIGHT APEX. THE GYRE APPEARS TO BE STRONGLY INFLUENCED BY SURFACE WINDS AND ESTUARINE FLOW. THE CARBOHYDRATE/TOC RATIO (A POSSIBLE INDICATOR OF WASTE MATERIALS) AND THE SUSPENDED SEDIMENT DATA SHOW THAT A PORTION OF THE WASTE MATERIALS TRANSPORTED INTO THE BASIN ARE MOVED NORTHWARD TOWARD THE SHORELINE, THEN EASTWARD (SEAWARD) BY THE GYRE. DEPOSITION OF SOME OF THIS SEDIMENT OCCURS BENEATH THE SOUTHWARD-MOVING LIMB OF THE GYRE ON THE EASTERN FLANK OF CHOLERA BANK. ADDITIONALLY, SOME OF THE WASTE MATERIALS APPEAR TO COMPLETE THE CIRCUIT AND ARE DEPOSITED IN THE HUDSON SHELF CHANNEL 15-20 KM SOUTH OF THE DISPOSAL SITES. BASED ON SUSPENDED SEDIMENT CONCENTRATIONS ABOVE THE DREADE SPOIL AND SEWAGE SLUDGE SITES AND CURRENT METER DATA, WE ESTIMATE THAT AT LEAST 10-20% OF THE DUMPED SOLIDS LEAVE THE DUMPSITES EACH YEAR. IN THE CASE OF THE SEMAGE SLUDGE SITE, NO SLUDGE AT ALL IS FOUND IN BOTTOM SEDIMENTS BECAUSE OF CURRENTS AND THE RELATIVE TOPOGRAPHIC HIGH AT THE SITE.

0447 DRAKE, D.E.

SUSPENDED PARTICULATE MATTER IN THE NEW YORK BIGHT APEX: SEPTEMBER THRU NOVEMBER 1973 [1974]

TR-ERL-318 MESA-1. NOAA, BOULDER, CO 53 PP NTIS-COM-75-10913

THE DISTRIBUTION OF SUSPENDED PARTICULATE MATTER IN THE NEW YORK BIGHT APEX WAS STUDIED DURING THE FALL OF 1973. FIVE SURVEYS FROM SEP THROUGH NOV REVEALED CONSISTENT SUSPENDED MATTER DISTRIBUTIONS THAT REFLECT THE BIGHT APEX WATER CIRCULATION. THO MAJOR CURRENTS DOMINATE DURING THE FALL SEASON OF LIMITED RIVER FLOW AND GRADUALLY WEAKENING WATER COLUMN STRATIFICATION: (1) RELATIVELY FRESH SURFACE WATER, CONTAINING BETWEEN 1 AND 4 MG/L OF SUSPENDED PARTICLES, FLOWS FROM HUDSON ESTUARY AND DOWN THE NJ COAST WITHIN 5 TO 10 KM FROM SHORE; AND (2) NORTHWARD FLOW ALONG HUDSON SHELF CHANNEL OCCURRED DURING ALL SURVEYS. TOTAL SUSPENDED MATTER DISTRIBUTIONS AND DISPERSION PATTERNS OF IRON PARTICLES DUMPED AT THE ACID—WASTE DUMPSITE SUPPORT THE EXISTENCE OF A CLOCKWISE GYRE IN THE CENTRAL PORTION OF THE AREA DURING THE FALL SEASON, THE SHELF—CHANNEL CURRENT FORMS THE WESTERN LIMB OF THIS GYRE. CONTAMINATED SEDIMENTS ARE WIDELY DISPERSED IN THE BIGHT APEX WATER COLUMN. HOWEVER, MAJOR DISPERSION APPEARS TO BE CENTERED ON THE HUDSON SHELF CHANNEL WITH GOOD EVIDENCE THAT MATERIAL DUMPED AT THE VALLEY HEAD IS TRANSPORTED BOTH UP AND DOWN THE CHANNEL IN SUBSTANTIAL QUANTITIES.

0448 DRAKE, D.E.

SUSPENDED PARTICULATE MATTER IN THE NEW YORK BIGHT APEX, FALL 1973 [1977]

J SEDIMENT PETROL 47(1):209-228

FOUR SURVEYS OF SUSPENDED PARTICULATE MATTER IN THE NEW YORK BIGHT APEX FROM SEPT THROUGH NOV 1973 REVEALED CONSISTENT DISTRIBUTIONS THAT REFLECT THE WATER CIRCULATION. TWO MAJOR CURRENTS WERE DOMINANT DURING THE FALL SEASON OF LIMITED RIVER FLOW AND GRADUALLY WEAKENING STRATIFICATION OF THE WATER COLUMN: (1) LOW-SALINITY (29 TO 21 PPT) SURFACE WATER. CONTAINING BETWEEN 1

TO 4 MG/L OF SUSPENDED PARTICLES, FLOWS FROM HUDSON ESTUARY SOUTHWARD ALONG THE NJ COAST WITHIN 5 TO 10 KM FROM SHORE; AND (2) NORTHWARD FLOW ALONG HUDSON SHELF CHANNEL OCCURRED DURING ALL SURVEYS. LOW CONCENTRATIONS OF TOTAL SUSPENDED MATTER AND ASH FRACTIONS DOMINATED BY DIATOMS INDICATE A CENTRAL SHELF ORIGIN FOR THE SHELF-CHANNEL CURRENT. THE DISTRIBUTION OF TOTAL SUSPENDED MATTER AND THE DISPERSION PATTERNS OF IRON PARTICLES RELEASED AT THE ACID-WASTE DUMPSITE SUPPORT THE EXISTENCE OF A CLOCKWISE GYRE IN THE CENTRAL PART OF THE AREA DURING AUTUMN; THE SHELF-CHANNEL CURRENT FORMS THE WESTERN LIMB OF THIS GYRE. DREDGE SPOIL AND SEWAGE SLUDGE DUMPED NEAR THE HEAD OF THE SHELF CHANNEL SETTLE INTO THIS DEPRESSION TO FORM MUD LENSES RICH IN ORGANIC MATTER. SOME OF THIS MATERIAL IS ENTRAINED INTO A TURBID BOTTOM LAYER BY THE NORTHWARD CURRENT AND TRANSPORTED FROM THE DEPRESSION TO THE NORTHEAST OVER CHOLERA BANK. THE BANK CREST DOES NOT ACCUMULATE FINE SEDIMENT OWING TO RELATIVELY VIGOROUS WAVE SURGE. AS THE TURBID CURRENT TURNS SOUTH ALONG THE EAST SIDE OF CHOLERA BANK, FINE-GRAINED, MINERAL AND ORGANIC MATERIAL BEGINS TO SETTLE, FORMING TWO DISCONNECTED LENSES OF MUD ON EITHER SIDE OF THE SAND BANK. CONTAMINATED SEDIMENTS ARE WIDELY DISPERSED THROUGHOUT THE WATER COLUMN IN THE BIGHT APEX. MAJOR DISPERSION APPEARS TO BE CENTERED ON THE HUDSON SHELF CHANNEL, AND THERE IS GOOD EVIDENCE THAT MATERIAL DUMPED NEAR THE CHANNEL HEAD IS TRANSPORTED UP AND DOWN THE CHANNEL IN SUBSTANTIAL QUANTITIES.

0449 DRAKE, D.E.; P.G. HATCHER; G.H. KELLER

SUSPENDED PARTICULATE MATTER AND MUD DEPOSITION IN UPPER HUDSON SUBMARINE CANYON [1978]

PAGES 33-41 IN STANLEY AND KELLING, EDS. SEDIMENTATION IN SUBMARINE CANYONS, FANS, AND TRENCHES. DOWDEN, HUTCHINSON, AND ROSS, INC., STROUDSBERG, PA

CONCENTRATIONS OF SUSPENDED MATTER OF 2,210 TO 3,440 MICROG/L WERE PRESENT NEAR THE BOTTOM AT DEPTHS OF 200 M TO 450 M IN HUDSON CANYON DURING MAR 1974. THE SUSPENDED MATTER WAS MOSTLY INORGANIC MINERAL GRAINS AND TWO SAMPLES CONTAINED SIGNIFICANT AMOUNTS OF COARSE SILT (10-20%) AND VERY FINE SAND (5-10%). SUSPENDED MATTER CONCENTRATIONS NEAR THE SEA FLOOR DECLINED BOTH SHOREWARD AND SEAWARD FROM THE HEAD OF THE CANYON; CONCENTRATIONS OF ABOUT 600 MICROG/L WERE MEASURED AT 893 M IN THE CANYON AND VALUES OF 400-600 MICROG/L WERE PRESENT OVER THE SURROUNDING SHELF. CURRENT MEASUREMENTS AT 3 M ABOVE BOTTOM IN THE CANYON HEAD (?23 M) REVEALED REVERSING FLOWS OF TIDAL PERIOD WITH PEAK SPEEDS OF 25-35 CM/SEC AND A STRONG NET DOWN CANYON COMPONENT WHICH AVERAGED ABOUT 8 CM/SEC OVER A SIX-DAY PERIOD. THE COMBINED SUSPENDED MATTER AND CURRENT VELOCITY DATA INDICATE IMPORTANT RESUSPENSION OF THE FINE-GRAINED COMPONENTS OF THE CANYON HEAD SEDIMENTS FOLLOWED BY TRANSPORT TO DEEPER WATER ALONG THE AXIS OF THE CANYON. A 5 M PISTON CORE RECOVERED IN THE CANYON AXIS AT 430 M CONTAINED AN APPARENTLY CONTINUOUS RECORD OF SILT AND CLAY ACCUMULATION. RADIOCARBON DATES AT THREE LEVELS IN THE CORE SUGGEST A MEAN SEDIMENTATION RATE OF ABOUT 80 CM/10EXP3 YR OVER THE PAST 6,300 YR. IF THIS SINGLE CORE IS REPRESENTATIVE OF THE SEDIMENTATION REGIME IN THIS PART OF HUDSON CANYON, THE IMPLICATION IS THAT MUCH OF THE SEDIMENT RESUSPENDED IN THE HEAD OF THE CANYON (<300 M DEPTHS) IS DEPOSITED BEFORE MOVING FAR DOWNCAYON. FURTHERMORE, THE TEXTURAL CHARACTER OF THE CORE SEDIMENTS IMPLIES THAT VIGOROUS BOTTOM SCOUR HAS BEEN INFREQUENT OVER THE PAST SEVERAL THOUSAND YEARS EXCEPT IN THE SHALLOWEST PORTIONS OF THE CANYON. SEDIMENT TRANSPORT BY TURBIDITY CURRENTS OF HIGH VELOCITY APPEARS TO BE UNIMPORTANT IN THIS SANYON AT THE PRESENT TIME.

0450 DRAXLER, A.F.J.

TRANSIENT EFFECTS OF OCEAN WASTEWATER SLUDGE DUMPING [1979]

J WATER POLLUT CONTROL FED 51(4):741-748

WASTEWATER SLUDGE FROM THE NEW YORK METROPOLITAN AREA IS BARGED TO A SITE APPROXIMATELY 22 KM EQUIDISTANT BETWEEN LONG ISLAND, NY AND SANDY HOOK, NJ WHERE IT IS DUMPED IN WATER 29 M DEEP. THE SLUDGE CONTAINS APPROXIMATELY 5% SOLIDS, WHICH ARE 55% ORGANIC MATERIAL AND HAS A LARGE NUTRIENT AND HEAVY METAL CONTENT. THE PURPOSE OF THESE EXPERIMENTS WAS TO INVESTIGATE THE DYNAMIC PROCESSES THAT FOLLOW A SINGLE SLUDGE DUMP: THE SETTLING OF PARTICULATES, THE DILUTION OF NUTRIENTS, AND THE CHANGES IN OXYGEN CONCENTRATION OF THE RECEIVING WATER.

0451 DRESNACK, R.; E. GOLUB; R. KHERA

ENVIRONMENTAL ASSESSEMENT OF THE RARITAN CONFLUENCE FORCE MAIN [1978]

PAGES 213-215 IN 1978 PROC. INST OF ENVIRON SCI. MT. PROSPECT. IL

AN ASSESSMENT PROCEDURE FOLLOWING NEPA GUIDELINES IS DESCRIBED. PRELIMINARY INVESTIGATIONS WERE CONDUCTED BY A GROUP OF SPECIALISTS (BIOLOGISTS, ENGINEERS, AND ARCHAEOLOGIST, A GEOLOGIST, A LAND USE PLANNER, A LANDSCAPE ARCHITECT, AND A HYDROLOGIST), WHO WALKED 6 PROSPECTIVE PIPELINE ROUTES. EACH SPECIALIST COMPILED A LIST OF DATA REQUIREMENTS WHICH WOULD BE NEEDED TO ESTIMATE IMPACTS FROM HIS OAN PERSPECTIVE. FROM THESE FINDINGS, A DETAILED PRELIMINARY ENVIRONMENTAL SCREENING OF THE GROUTES REDUCED THE CHOICES TO 3. A PUBLIC HEARING WAS THEN HELD TO GATHER FIRST-HAND INFORMATION FROM LOCAL RESIDENTS AS TO THEIR REACTIONS. BASED ON FINDINGS OBTAINED IN THE PRELIMINARY ENVIRONMENTAL SCREENINGS AND THE PUBLIC HEARING, VARIATIONS TO THE SUGGESTED ROUTES WERE SOUGHT, AND CHANGES WERE MADE WHICH IMPROVED THE ROUTES IN TERMS OF ENVIRONMENTAL IMPACT. TO PRIORITIZE THE 3 ROUTES, EACH SPECIALIST THEN DEVELOPED AN ENVIRONMENTAL INVENTORY FOR EACH ROUTE AND ITS ALTERNATIVE. CONSTRUCTION AND COST CONSIDERATIONS WERE STUDIED, AND INDICATED A MINIMAL DIFFERENCE IN COST OF WATER SUPPLIED FOR THE 3 CHOICES WHEN EXAMINED OVER THE LIFE OF THE PROJECT. UPON PREPARATION OF AN ECONOMIC COMPARISON CHART, IT WAS ESTABLISHED THAT 2 OF THE ROUTES FROM AN ENVIRONMENTAL PERSPECTIVE, AND THE COMPLETED REPORT WAS FORWARDED TO THE AFFECTED TOWNSHIPS AND INTERESTED ENVIRONMENTAL GROUPS IN THE PROJECT AREA. LATER, PUBLIC HEARINGS WERE HELD TO REPORT THE FINDINGS AND CONSIDER COMMENTS BY THE GENERAL PUBLIC. REPRESENTATIVES OF THE NJ DEP SERVED AS HEARING OFFICERS. AS YET, THE STATE HAS NOT RENDERED A DECISION.

0452 DROR . Y.

STORM WATER POLLUTION [1973]

M.S. THESIS. CITY COLLEGE, NEW YORK, NY NP

THE VARIOUS ASPECTS OF POLLUTION STEMMING FROM SEMER OVERFLOWS AND STORM RUNOFF, HAVE BEEN STUDIED AND SUMMARIZED, BASED ON THE LATEST LITERATURE. IN URBAN CENTERS THE POLLUTION LOADS ON THE RECEIVING WATERS ORIGINATE BOTH FROM SEMAGE TREATMENT PLANT EFFLUENTS AND FROM COMBINED SEWER OVERFLOWS. SUCH POLLUTION LOADS TEND TO DISQUALIFY THE RECEIVING WATERS FOR MANY RECREATIONAL APPLICATIONS. ANY DESIGN OF SOLUTION-ALTERNATIVES SHOULD BE BASED ON THE EVALUATION OF ALL THE POLLUTING FLOWS AND THE BENEFICIAL CONTROL OF ONE OR THE OTHER OR BOTH, IN ORDER TO GET THE DESIRED QUALITY WITH THE LEAST COST. AN ATTEMPT IS MADE TO APPLY THE EVALUATED DATA TO THE MARGINAL POLLUTION CONTROL PROJECT IN JAMAICA BAY. NY.

0453 DRUCKER, B.S.

DISTRIBUTION AND ECONOMIC ANALYSIS OF SELECTED HEAVY MINERALS IN THE INNER NEW YORK BIGHT [1978]

M.S. THESIS. LONG ISLAND UNIV. BROOKVILLE. NY NP

94 SAND SAMPLES FROM THE INNER NEW YORK BIGHT HAVE BEEN COLLECTED AND ANALYZED WITH RESPECT TO THE HEAVY MINERAL CONCENTRATION OF SELECTED ECONOMIC MINERAL SPECIES. THREE GENERAL REGIONS HAVE BEEN DIFFERENTIATED ACCORDING TO TOTAL HEAVY MINERAL WEIGHT PERCENTAGES. THE REGIONAL VARIATIONS INCLUDE: A GREATER CONCENTRATION OF KYANITE, SILLIMANITE, ZIRCON AND MONAZITE IN THE NORTHERN AREA WITH DIMINISHING CONCENTRATIONS TOWARD THE SOUTH. STAUROLITE IS COMMON THROUGHOUT THE SAMPLING AREA AND RUTILE IS RELATIVELY RARE. ILLMENITE AND LEUCOXENE ARE CONCENTRATED IN THE SOUTHERN AREA. THESE VARIATIONS SUGGEST THAT THE SEDIMENTS OF THE INNER NEW YORK BIGHT HAVE SEVERAL SOURCES, AND THAT THIS MATERIAL HAS UNDERGONE SELECTIVE SORTING AND DISPERSAL BY SEVERAL DIFFERENT CONTINENTAL AND OCEANOGRAPHIC PROCESSES. THE DISTRIBUTION OF THE INDIVIDUAL MINERALS ARE SECONDARILY AFFECTED BY DIFFERENCES IN PARTICLE SIZE, SPECIFIC GRAVITY AND MORPHOLOGY. SEVERAL SAMPLE SITES FROM TWO MAJOR AREAS OF HEAVY MINERAL CONCENTRATION HAVE BEEN ANALYZED WITH RESPECT TO ECONOMIC VALUE. THE DATA ARE PRELIMINARY AND IN NO WAY INDICATE EXPECTED RECOVERABLE RESERVES, BUT THEY DO SHOW THAT VAST TONNAGES OF "HEAVIES" EXIST, AND THAT THESE DEPOSITS COULD BE TERMED "POTENTIAL FUTURE RESOURCES" UNTIL MORE DETAILED VERTICAL AND LATERAL SAMPLE SELECTIONS ARE COMPLETED.

0454 DRYFOOS, R.L.; R.P. CHEEK; R.L. KROGER

PRELIMINARY ANALYSES OF ATLANTIC MENHADEN, BREVOORTIA TYRANNUS, MIGRATIONS, POPULATION STRUCTURE, SURVIVAL AND EXPLOITATION RATES, AND AVAILABILITY AS INDICATED FROM TAG RETURNS [1973]

FISH BULL 71(3):719-734

OVER 1 MILLION ADULT ATLANTIC MENHADEN, BREVOORTIA TYRANNUS, WERE TAGGED FROM LONG ISLAND SOUND TO FLORIDA BETWEEN 1966 AND 1969. TAG RECOVERIES INDICATE THESE FISH MIGRATED NORTHWARD IN SPRING AND EARLY SUMMER AND SOUTHWARD IN FALL. AS THE FISH GREW OLDER AND LARGER, THEY ALSO MIGRATED FARTHER NORTHWARD EACH SPRING. CALCULATION OF RATES OF INTERCHANGE BETWEEN FISHING AREAS INDICATED THAT 21% OF THE RECOVERIES FROM FISH RELEASED IN CHESAPEAKE BAY IN 1967 AND 1968 ACCOUNTED FOR 72% OF THE CATCH OF TAGGED FISH 1 YR LATER IN NY AND NJ. PRELIMINARY ESTIMATES OF POPULATION PARAMETERS WERE MADE FROM TAG RECOVERY AND CATCH DATA. SURVIVAL RATES DETERMINED YEARLY FROM RATIO OF RECOVERIES, HOWEVER, VARIED DUE TO FLUCTUATIONS IN AVAILABILITY. ANNUAL SURVIVAL RATES AVERAGING 0.23 WERE CALCULATED WITH ROBSON-CHAPMAN CATCH CURVE ANALYSIS AND AGE COMPOSITON OF CATCH METHODS. FROM TAG RECOVERIES, EXPLOITATION RATE WAS ESTIMATED TO BE 50%, INSTATANEOUS FISHING MORTALITY (M) WAS 0.52. TAG RETURNS ALSO INDICATED THAT SIGNIFICANT FLUCTUATIONS IN AVAILABILITY OF ATLANTIC MENHADEN OCCURRED IN CHESAPEAKE BAY.

0455 DRYLA, W.J.

NEW JERSEY'S COASTAL ZONE MANAGEMENT [1974]

BUREAU OF MARINE LANDS MANAGEMENT, TRENTON, NJ 24 PP

THREE SETS OF BASIC LEGISLATION GOVERN COASTAL ZONES: 1) STATE RIPARIAN LAW WHICH STATES THAT THE STATE OWNS ALL LANDS FLOWED 'BY TIDES AND BEFORE THESE LANDS ARE SOLD THE APPLICANT MUST DEMONSTRATE THAT HIS PROJECT WILL SERVE THE PUBLIC AND CAUSE A MINIMUM HARMFUL AFFECT TO THE ENVIRONMENT; 2) COASTAL AREA FACILITY REVIEW ACT REGULATES PROPOSED FACILITIES AND GRANTS PERMITS; 3) WETLANDS ACT ADMINISTERS TO THE DELAWARE RIVER TIDAL LANDS.

0456 DUANE . D.B.

SAND INVENTORY PROGRAM. A STUDY OF NEW JERSEY AND NORTHERN NEW ENGLAND COASTAL WATERS [1969]

SHORE BEACH OCT. 1969, 5 PP NTIS-AD-703 583

CERC CONTINUES TO SEEK AND DELINEATE OFFSHORE DEPOSITS OF SAND FOR BEACH RESTORATION AND STABILIZATION. THIS SAND INVENTORY PROGRAM, IN ITS EXPLORATION PHASE, USES SEISMIC REFLECTION PROFILES OF THE BOTTOM AND SUBBOTTOM AND ALSO CORING OF THE BOTTOM. LABORATORY ANALYSES OF THE FIELD DATA DEFINE THE LOCATION, CHARACTERISTICS, EXTENT, AND QUANTITY OF THE SAND DEPOSITS THAT CAN BE USED FOR SHORE PROTECTION. CERC HAS CONDUCTED DETAILED EXPLORATION SURVEYS OFF NJ. EAST FLORIDA, NEW ENGLAND, LONG ISLAND, AND NORFOLK, VA. THIS WORK COVERS 7,300 MI OF GEOPHYSICAL SURVEYS AND INCLUDES 1,037 CORES AND MORE THAN 5,000 SAND-SAMPLE ANALYSES. WITHIN SEVERAL MILES OF THE SHORE AND IN WATER SHOALER THAN 100 FT. THE SURVEYS REVEALED MORE THAN 4 MILLION YDS3 OF SAND SUITABLE FOR BEACH NOURISHMENT. IN 1966, OFF NJ. THE CORPS OF ENGINEERS PROVED THE PRACTICABLITY OF RECOVERING BEACHES AT A COMPETITITVE COST. THE WORK WAS ACCOMPLISHED BY A LARGE HOPPER DREDGE WITH A PUMP-OUT CAPABILITY. MORE RECENTLY, A FEDERAL BEACH NEAR LOS ANGELES WAS ARTIFICALLY REPLENISHED BY RECOVERING AN OFFSHORE DEPOSIT WITH A PIPELINE DREDGE.

0457 DUCE, R.A.; G.T. WALLACE, JR.; B.J. RAY

ATMOSPHERIC TRACE METALS OVER NEW YORK BIGHT [1976]

TR-ERL-361-MESA-4. NOAA, BOULDER, CO 16 PP

IRON, ALUMINUM, ZINC, CADMIUM, LEAD, AND SODIUM WERE DETERMINED IN A SERIES OF NEAR-SURFACE ATMOSPHERIC PARTICULATE SAMPLES COLLECTED BY THE R/V WESTWARD FROM SEVERAL AREAS OF THE NEW YORK BIGHT. THE ATMOSPHERIC CONCENTRATIONS WERE GENERALLY ABOUT 10 TO 20% OF THE MEAN CONCENTRATIONS OBSERVED OVER A 2 YR PERIOD AT SEVERAL LOCATIONS IN NEW YORK CITY. THIS WAS NOT THE CASE FOR ATMOSPHERIC SODIUM WHOSE PRIMARY SOURCE IS THE SEA. ATMOSPHERIC CONCENTRATIONS OF THE OTHER ELEMENTS OVER THE BIGHT SHOWED A DEPENDENCE UPON DISTANCE FROM THE COAST AND SURFACE WIND DIRECTION. ROUGH ESTIMATES OF ATMOSPHERIC INPUT TO THE SURFACE WATERS OF A 13EXP4/KM2. AREA OF THE BIGHT SUGGEST THAT, OF THE TOTAL INPUT OF POLLUTANT MATERIAL FROM BARGE DUMPING, RUNOFF, SEMAGE, RIVERS, AND ATMOSPHERIC DEPOSITION, UP TO 13% OF THE LEAD, 8% OF THE ZINC, 5% OF THE IRON, AND 1 TO 2% OF THE CADMIUM MAY ENTER BY WAY OF THE ATMOSPHERE.

0458 DUDLEY, S.; J.A. BABINCHAK; J.T. GRAIKOSKI

ENUMERATION AND DISTRIBUTION OF BACTERIAL POPULATIONS OF LONG ISLAND SOUND [1977]

MAR POLLUT BULL 8 (12):285-287

LONG ISLAND SOUND WAS DIVIDED WITH A TOTAL OF 25 NORTH-SOUTH TRANSECTS. 96 STATIONS WERE ESTABLISHED ALONG THESE TRANSECTS AF WHICH SEDIMENT AND/OR WATER AND PLANKION SAMPLES WERE COLLECTED. TOTAL FECAL COLIFORMS AND TOTAL VIABLE BACTERIA WERE ENUMERATED FROM SEDIMENTS FROM 53 STATIONS. THE PRESENCE OF VIRBRIOS WAS DETERMINED IN SEDIMENT, WATER AND PLANKTON SAMPLES FROM 136 ENRICHMENTS. COUNTS OBTAINED ALONG THE CONNECTICUT SHORE WERE SIMILAR TO THOSE ALONG THE LONG ISLAND SHORE. NO CORRELATION WAS NOTED BETWEEN THE PREVALENCE OF FECAL COLIFORMS AND TOTAL VIABLE BACTERIA IN SEDIMENT FROM THE SAME STATION. DILUTE SEAWATER MEDIUM WAS SUPERIOR TO MARINE AGAR (DIFCO) FOR THE ENUMERATION OF BACTERIA FROM 34 OF THE 53 STATIONS TESTED. PRESUMPTIVE VIBRIOS WERE PRESENT IN 95% OF THE SEDIMENT SAMPLES AND 51% OF THE WATER SAMPLES AND 100% OF THE PLANKTON SAMPLES. NO CORRELATION WAS ORSERVED BETWEEN THE DISTRIBUTION OF VIBRIOS AND FECAL COLIFORMS.

0459 DUEDALL, I.W.; H.B. O'CONNORS, JR.; J.H. PARKER; W. MILOSKI; G. HULSE

ON THE TIDAL VARIATIONS OF PHYSICAL AND CHEMICAL PROPERTIES MEASURED ON TRANSECTS BETWEEN SANDY HOOK, NEW JERSEY, AND ROCKAWAY POINT (LONG ISLAND), NEW YORK [1974]

DRAFT REPORT. MSRC, SUNY, STONY BROOK, NY 28 PP

ON NOV 5 AND 8, 1973, TWO PRELIMINARY SURVEYS WERE CARRIED OUT TO EXAMINE THE DISTRIBUTION AND TIDAL VARIATION IN PHYSICAL AND CHEMICAL PROPERTIES ALONG TWO TRANSECTS BETWEEN SANDY HOOK, NJ AND ROCKAWAY POINT, NY. THE PROPERTIES MEASURED WERE: SALINITY, TEMPERATURE, DISSOLVED OXYGEN, CHLOROPHYLL FLUORESCENCE, TURBIDITY, DISSOLVED PHOSPHATE, AMMONIA, NITRITE, AND NITRATE. WE FOUND THAT THE LARGEST TIDAL VARIATION IN PROPERTIES OCCURRED ON THE SANDY HOOK SIDE OF THE TRANSECTS, WHERE THE WATER CONTAINS A GREATER PROPORTION OF RIVER WATER. THE OPTIMUM TIME BETWEEN RESAMPLING ANY GIVEN STATION IS SOMEWHERE BETWEEN 3D AND 9D MIN. FOR FUTURE TRANSPORT MEASUREMENTS WE SUGGEST THE USE OF SIX STRINGS OF CURRENT METERS TO BE MOORED WITHIN THE TRANSECT REGION; EACH STRING SHOULD CONTAIN AT LEAST THREE CURRENT METERS.

0460 DUEDALL, I.W.; H.B. O'CONNORS, JR.; M.J. BOWMAN; J.H. PARKER

STATUS REPORT ON THE SANDY HOOK/ROCKAWAY TRANSECT STUDY [1974]

MSRC, SUNY, STONY BROOK, NY 6 PP

THE VARIABLES MEASURED WERE: SALINITY, TEMPERATURE, IN SITU TURBIDITY, AND THE CONCENTRATIONS OF DISSOLVED OXYGEN, SUSPENDED SOLIDS, AMMOÑIA, NITRATE, NITRITE, PHOSPHATE, AND CHLOROPHYLL. IN ADDITION, SAMPLES FOR SILICATE AND UREA HAVE BEEN COLLECTED AND ARE FROZEN AND WILL BE ANALYZED AT A LATER DATE. THE DATA FOR THE JAN AND MAR CRUISE HAVE BEEN REDUCED AND PLOTTED, AND ARE AVAILABLE TO MESA. ONE OF THE MOST INTERESTING FEATURES DISCOVERED IN OUR DATA SO FAR IS THE VERY HIGH STANDING STOCK OF PHYTOPLANKTON BIOMASS (AS CHLOROPHYLL A CONCENTRATION) OBSERVED ON THE SANDY HOOK SIDE OF THE TRANSECT.

0461 DUEDALL, I.W.; M.J. BOWMAN; H.B. O'CONNORS, JR.

SEWAGE SLUDGE AND AMMONIUM CONCENTRATIONS IN THE NEW YORK BIGHT APEX [1975]

ESTUARINE COASTAL MAR SCI 3:457-463

WATER COLUMN AMMONIUM CONCENTRATIONS WERE DETERMINED AT SEVERAL STATIONS AT OR NEAR THE SEWAGE SLUDGE DUMP SITE IN THE NEW YORK BIGHT APEX ON 30 AND 31 JULY, 1973 AND ALSO AT SEVERAL STATIONS LOCATED ON A PERIMETER SURROUNDING THE DUMP AREA. PARACHUTE DROGUES WERE USED TO TRACE THE MOVEMENT OF WATER OVER A 31-HR PERIOD. WITHIN THE DUMP SITE. AMMONIUM CONCENTRATIONS WERE PATCHY AND USUALLY INCREASED FROM SURFACE TO BOTTOM WITH CONCENTRATIONS IN THE RANGES OF LESS THAN 1 MICROMOLAR AND 1-9 MICROMOLAR, RESPECTIVELY. HOWEVER, AT ONE STATION THAT HAD RECENTLY RECEIVED SLUDGE INPUT, THE SURFACE AMMONIUM CONCENTRATION WAS OVER 500 MICROMOLAR AND THE BOTTOM CONCENTRATION WAS ABOUT 200 MICROMOLAR. ALL EXCEPT TWO BACKGROUND STATIONS SHOWED NO SIGNIFICANT VERTICAL VARIATION IN AMMONIUM. THE OBSERVATIONS SUGGEST THAT SLUDGE DUMPING INCREASES AMMONIUM CONTENT OF THE WATER COLUMN. BUT THAT HIGH LEVELS PROBABLY DO NOT PERSIST FOR LONG PERIODS.

0462 DUEDALL, I.W.; H.B. O'CONNORS, JR.; B. IRWIN

FATE OF WASTEWATER SLUDGE IN THE NEW YORK BIGHT APEX [1975]

J WATER POLLUT CONTROL FED 47(11):2702-2706

THE IMPACT OF DUMPED SLUDGE IN THE NEW YORK BIGHT APEX IS BEING INVESTIGATED. THE PRESENT STUDY REPORTS SOME VALUES FOR THE TOTAL ORGANIC CARBON (TOC), ORGANIC NITROGEN, TOTAL CARBOHYDRATE, AND CALORIC CONTENT OF DRIED SLUDGE. IT ALSO EXAMINED THE FATE OF OCEAN-DUMPED SLUDGES ON THE BASIS OF SLUDGE ANALYSES, SOME PRELIMINARY CARBON AND NITROGEN ANALYSES OF SEDIMENT FROM THE APEX, AND RECENTLY REPORTED IN SITU OXYGEN UTILIZATION OBSERVATIONS IN SEDIMENTS UNDERLYING A SLUDGE DISPOSAL AREA. IN-PLANT WASTE WATER SLUDGES WERE CENTRIFUGED TO REMOVE THE WATER. THE CENTRIFUGATES WERE FREEZE-DRIED TO OBTAIN DRY, UNCRUSTED SAMPLES. THE FINAL SAMPLE TREATMENT CONSISTED OF HOMOGENIZING THE FREEZE-DRIED SAMPLES IN A BLENDER. THE ANALYSIS OF OF DRIED WASTE WATER SLUDGE IS PRESENTED IN A IABLE. WHEN STUDYING THE FATE OF DUMPED SLUDGE, IT IS IMPORTANT TO NOTE THE DIFFUSION OF SLUDGE IMMEDIATELY AFTER IT HAS BEEN DUMPED, THE RATE OF DECOMPOSITION BY PELAGIC AND BENTHIC MICROORGANISMS. THE RATE OF SEDIMENTATION, AND THE SUBSEQUENT SEDIMENT ACCUMULATION. RESULTS INDICATED THAT THE MAJORITY OF PARTICULATE ORGANIC MATTER IN WASTE WATER SLUDGE SETTLES NEAR THE DUMP SITE AND QUICKLY PECOMPOSES. THIS EXPLAINS WHY UNUSUALLY HIGH TOC CONCENTRATIONS WERE NOT FOUND IN THE SEDIMENTS AT OR NEAR THE DUMP SITE. CUTIN, A MAJOR SLUDGE COMPONENT, AS WELL AS OTHER ORGANIC COMPONENTS, CAN BE METABOLIZED BY DECOMPOSER MICROORGANISMS. THE CARBON TO NITROGEN RATIOS OF SEDIMENTS IN THE DUMP WATER AREA WERE LOW; THIS INDICATED THAT NITROGEN WAS NOT LIMITING.

0463 DUEDALL: I.W.; R. DAYAL; A. OKUBO; K.W. JONES; H.W. HOBART; R.E. SHROY

SHORT-TERM VARIABILITY IN THE COMPOSITION AND DISTRIBUTION OF SEWAGE SLUDGE IN THE OCEAN AFTER DUMPING [1975]

EOS: TRANS AM GEOPHYS UNION 59(4):244-245

SEVERAL CONTROLLED DUMPING EXPERIMENTS WERE CONDUCTED IN THE NEW YORK BIGHT APEX DURING 12-16 JULY 1976. THE AIM WAS TO STUDY THE RATE OF DISPERSION OF SLUDGES BY RAPID SAMPLING (SAMPLE/15 SEC) PATCHES OF SLUDGE USING A TOWED PUMP AND TO EXAMINE PARTICULATE TRANSFORMATIONS AS THE SOLID COMPONENTS OF THE SLUDGE INTERACTED WITH SEAWATER AND SANK TO THE BOTTOM. SOME MAJOR DISSOLVED COMPONENTS (NH4 AND PO4) SHJWED A 1-2 MINUTE PERIODICITY IN THEIR CONCENTRATIONS ALONG TRANSECTS IN AND OUT OF SLUDGE PATCHES. THIS CURIOUS FEATURE MAY HAVE BEEN CAUSED BY AN INTERNAL WAVE CREATED BY THE DUMPING EVENT. THE PARTICULATE MATTER SAMPLED WAS EXTEMELY VARIABLE IN ITS MORPHOLOGY AND ELEMENTAL COMPOSITION AS REVEALED BY SEM AND X-RAY FLUORESCENCE. PHYTOPLANKTON CELLS WERE DAMAGED BY THE DUMPING EVENT.

0464 DUEDALL, I.W.; H.B. O'CONNORS, JR.; S.A. OAKLEY

SEWAGE SLUDGE DISPOSAL AND WATER COLUMN PROPERTIES IN THE NEW YORK BIGHT APEX [1976]

MSRC. SUNY. STONY BROOK. NY 10 PP

AN OCEANOGRAPHIC STUDY IN THE NY BIGHT APEX WAS DESIGNED TO MONITOR WATER PROPERTIES AFTER A CONTROLLED DUMPING OF SLUDGE. THE DISCHARGE OF SEWAGE SLUDGE IN THE OCEAN PRODUCES LARGE ABUNDANCES OF NH4+, PO4 AND SUSPENDED SOLIDS. SOME SLUDGE COMPONENTS WERE OBSERVED TO REACH THE BOTTOM (21.1) IN LESS THAN 40 MIN. AFTER ABOUT 200 MINUTES SURFACE AND INTERMEDIATE DEPTH CONCENTRATIONS OF DISSOLVED AND PARTICULATE PHASES ARE BACK TO BASELINE CONDITIONS. BOTTOM CONCENTRATIONS OF BOTH DISSOLVED AND PARTICULATE PHASES, HOWEVER, REMAINED ELEVATED FOR THE DURATION OF OUR EXPERIMENT. IT IS NOT KNOWN FOR HOW LONG THE CONCENTRATIONS REMAINED HIGH.

0465 DUEDALL, I.W.; H.B. O'CONNORS, JR.

THE ABUNDANCES, DISTRIBUTION, AND FLUX OF NUTRIENTS AND CHLOROPHYLL A IN THE NEW YORK BIGHT APEX . SANDY HOOK/ROCKAWAY POINT TRANSECT STUDY--DATA REPORT OF CRUISES FROM NOVEMBER 1973 TO JUNE 1974 (PART I AND PART II) [1976]

DR-ERL-MESA-20. NOAA, BOULDER, CO 461 PP

PART I. FIVE CRUISES WERE MADE BETWEEN NOV 1973 AND JUNE 1974 TO MEASURE TIDAL SPATIAL, AND SEASONAL CHANGES IN SALINITY, TEMPERATURE, AND THE CONCENTRATIONS OF AMMONIUM, NITRITE, NITRATE, PHOSPHATE, SILICIC ACID, CHLOROPHYLL A AND SUSPENDED MATTER IN THE WATERS BETWEEN SANDY HOOK, NJ AND ROCKAWAY POINT, NY. CONCENTRATIONS OF NUTRIENTS AND CHLOROPHYLL A WERE MUCH GREATER THAN THOSE IN ADJACENT COASTAL WATERS. SEWAGE EFFLUENT IS THE MAIN SOURCE OF CHEMICALS IN THE WATERS NEAR THE METROPOLITAN REGION, AND EFFECTS FROM THE HUDSON RIVER ARE ALSO NOTED. PART II. THIS REPORT PRESENTS TABLES OF DATA ALONG WITH SURFACE CURRENT, WEATHER AND SEA CONDITIONS DURING THE CRUISES MADE IN THE NY BIGHT AREA. COMPUTED VALUES OF SIGMA-T AND DEGREE OF DISSOLVED OXYGEN SATURATION ARE ALSO INCLUDED.

0466 DUEDALL, 1.W.; H.B. O'CONNORS, JR.; J.H. PARKER; R.E. WILSON; A.S. ROBBINS

THE ABUNDANCE, DISTRIBUTION AND FLUX OF NUTRIENTS AND CHLOROPHYLL A IN THE NEW YORK BIGHT APEX [1977]

ESTUARINE COASTAL MAR SCI 5(1):81-105

TIDAL, SPATIAL, AND SEASONAL CHANGES IN SALINITY; TEMPERATURE; AND THE CONCENTRATIONS OF AMMONIUM, NITRITE, NITRATE, PHOSPHATE, SILICIC ACID, CHLOROPHYLL A AND SUSPENDED MATTER IN THE WATERS BETWEEN SANDY HOOK, NJ. AND ROCKAWAY POINT, NY, WERE MEASURED DURING FIVE CRUISES WHICH TOOK PLACE BETWEEN NOV 1973 AND JUNF 1974. OVER THIS PERIOD, CONCENTRATIONS OF NUTRIENTS AND CHLOROPHYLL A WERE MUCH GREATER THAN THOSE FOUND IN THE ADJACENT COASTAL WATERS. THE MAIN SOURCE OF THE AMMONIUM, NITRITE, AND PHOSPHATE IS SEWAGE EFFLUENT WHICH IS DISCHARGED INTO THE WATERS SURROUNDING THE NY METROPOLITAN REGION, NITRATE COMES MAINLY FROM THE HUDSON RIVER, AND SILICIC ACID IS DISCHARGED IN LARGE AMOUNTS FROM RIVER AND SEWAGE SOURCES. THE LARGEST TIDAL VARIATION IN SALINITY AND NUTRIENT AND CHLOROPHYLL A CONCENTRATIONS OCCURS NEAR SANDY HOOK WHERE THE HUDSON RIVER DISCHARGE HAS THE GREATEST INFLUENCE. NEAR ROCKAWAY POINT, NUTRIENT AND CHLOROPHYLL A CONCENTRATIONS ARE GENERALLY LOWER AND SALINITIES ARE HIGHER THAN THOSE OBSERVED NEAR SANDY HOOK BECAUSE OF THE INFLOW OF BIGHT WATER BY NON-TIDAL CURRENTS. DURING THE SPRING, FRESHET NUTRIENT CONCENTRATIONS, ESPECIALLY AMMONIUM, ARE LOW ALONG THE TRANSECT DUE TO (1) DILUTION BY THE SPRING FRESHET. AND AND CHLOROPHYLL A ARE BEING TRANSPORTED FROM THE LOWER HUDSON ESTUARY INTO THE NEW YORK BIGHT APEX.

0467 DUEDALL, I.W.; H.B. O'CONNORS, JR.; S.A. OAKLEY; H.M. STANFORD

SHORT-TERM WATER COLUMN PERTURBATIONS CAUSED BY WASTEWATER SLUDGE DUMPING IN THE NEW YORK BIGHT APEX [1977]

J WATER POLLUT CONTROL FED 49(10):2074-2080

WATER COLUMN PROPERTIES IN THE NEW YORK BIGHT APEX WERE MONITORED BEFORE AND AFTER A CONTROLLED SPOT DUMP OF WASTEWATER SLUDGE, AMMONIUM, PHOSPHATE, AND SUSPENDED SOLIDS IN THE DISCHARGED WASTEWATER SLUDGE DISPERSION PLUME CAUSED THE GREATEST WATER COLUMN PERTURBATIONS. TEMPERATURE, SALINITY, PH, AND THE CONCENTRATIONS OF DISSOLVED OXYGEN AND CHLOROPHYLL A IN THE WATER COLUMN WERE NOT SIGNIFICANTLY AFFECTED BY THE WASTEWATER SLUDGE DUMPING, THUS SUGGESTING, FOR THE HYDROGRAPHIC AND DISCHARGE CONDITIONS OF THE EXPERIMENT, A RELATIVELY RAPID DESCENT RATE FOR THE PARTICULAR WASTEWATER SLUDGE. BY 110 MIN AFTER DUMPING, THE WATER COLUMN ABOVE THE THERMOCLINE (17 M) HAD NEARLY RETURNED TO ITS BACKGROUND CONDITION WITH RESPECT TO THE VARIABLE MEASURED. BELOW THE THERMOCLINE, HOWEVER, CONCENTRATION OF AMMONIUM, PHOSPHATE, AND SUSPENDED SOLIDS REMAINED HIGH FOR A PERIOD GREATER THAN 2.5 HR.

0468 DUEDALL, I.W.; R. DAYAL; J.H. PARKER; H.W. KRANER; K.W. JONES; R.E. SHROY

DISTRIBUTION, COMPOSITION, AND MORPHOLOGY OF SUSPENDED SOLIDS IN THE NEW YORK BIGHT APEX [1978]

PAGES 533-564 IN M.L. WILEY, ED. ESTUARINE INTERACTIONS, ACADEMIC PRESS, INC., NEW YORK, NY

TIDAL AND SPATIAL CHANGES IN THE MORPHOLOGY AND CONCENTRATIONS OF SUSPENDED SOLIDS, PARTICULATE CARBON AND NITROGEN. THE PARTICULATE METALS FE, MN, CU, AND ZN, AND CHLOROPHYLL A WERE DETERMINED OVER A TIDAL CYCLE AT SEVEN STATIONS DURING 3 JUNE 1975 ON A TRANSECT BETWEEN SANDY HOOK, NJ AND ROCKAWAY POINT, NY (THE ENTRANCE TO NEW YORK HARBOR). MOST OF THE PARTICULATE MATTER IN THE SUSPENDED SOLIDS CONSISTED OF DIATOM FRUSTULES WHICH WERE PRESENT IN RELATIVELY LARGE ABUNDANCES NEAR SANDY HOOK. NEAR ROCKAWAY POINT, BOTH DIATOMS AND DINOFLAGELLATES WERE FOUND IN THE SUSPENDED MATTER. OTHER PARTICULATES INCLUDED ORGANIC AGGREGATES, MINERAL GRAINS AND SOME OPAQUE PARTICLES WHICH WERE ASSUMED TO BE ANTHROPOGENIC IN ORIGIN. THE ORGANIC AGGREGATES APPEARED AS A LARGE AMORPHOUS MATRIX CONTAINING A WIDE SIZE RANGE OF MINERAL GRAINS INCLUDING SOME SPHERICAL AND IRREGULAR OPAQUE PARTICLES. SOME OF THE OPAQUE PARTICLES WERE REDDISH-BROWN IN COLOR AND WERE THEREFORE PROBABLY IRON HYDROUS OXIDES. THERE 4AS A STRONG CORRELATION AMONG THE CONCENTRATIONS OF FE, MN, CU, AND ZN, SUGGESTING THAT THESE METALS WERE ASSOCIATED WITH EACH OTHER. FINE MINERAL GRAINS WERE FOUND ATTACHED TO THE SURFACES AND EDGES OF PHYTOPLANKTON CELLS.

0469 DUEDALL, I.W.; H.B. O'CONNORS, JR.; R.E. WILSON; J.H. PARKER

THE LOVER BAY COMPLEX [1979]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 2). NYSG, ALBANY, NY 47 PP

THE LOJER BAY COMPLEX IS THE SEAWARD PART OF NEW YORK HARBOR AND INCLUDES RARITAN, SANDY HOOK, AND LOWER BAYS. IT CONNECTS WITH UPPER BAY THROUGH A MARROW CONSTRICTION BETWEEN STATEN ISLAND AND BROOKLYN. THE BAY COMPLEX IS RELATIVELY SHALLOW (5-20 M) BUT HAS AN IRREGULAR TOPOGRAPHY DUE MAINLY TO THE NUMEROUS SHIP CHANNELS IN LOWER AND RARITAN BAYS. THE WEATHER IN THE BAY COMPLEX IS TYPICAL OF A MIDLATITUDE COASTAL REGION, WITH THE ADJACENT ATLANTIC OCEAN ACTING AS A BUFFER. A DYNAMIC AND COMPLEX ESTUARINE SYSTEM, THE BAY COMPLEX RECEIVES A LARGE, SEASONALLY VARIABLE INFLOW OF FRESH WATER ORIGINATING MAINLY FROM THE HUDSON RIVER WITH LESSER AMOUNTS FROM THE RARITAN AND PASSAIC RIVERS. SEWAGE EFFLUENT IS ALSO A SIGNIFICANT SOURCE OF FRESH WATER. BECAUSE OF THE VARIABLE INFLOW OF FRESH WATER, THE DISTRIBUTION OF WATER PROPERTIES (SALINITY, NUTRIENTS, CHLOROPHYLL A) ALSO VARIES SEASONALLY. TIDES AND TIDAL CURRENTS IN THE BAY COMPLEX ARE SEMIDIURNAL. TIDAL VARIATIONS IN WATER PROPERTIES ARE LARGE AND CAN BE PERTURBED SIGNIFICANTLY BY STORMS. SEWAGE EFFLUENT FROM THE NEW YORK METROPOLITAN AREA IS THE PRINCIPAL SOURCE FOR THE HIGH CONCENTRATIONS OF NUTRIENTS OBSERVED IN THE BAY COMPLEX. THERE IS A NET TRANSPORT OF NUTRIENTS AND CHLOROPHYLL A TO THE APEX OF NEW YORK BIGHT.

0470 DUNN, B.; G.C. GRAVLEE, JR.

DYE-DISPERSION STUDY AT PROPOSED PUMPED-STORAGE PROJECT ON HUDSON RIVER AT CORNWALL-ON-THE-HUDSON, NEW YORK [1978]

OPEN FILE REP 78-589. USGS, ALBANY, NY 40 PP

DATA WERE COLLECTED DURING A DYE-DISPERSION STUDY ON A 6-MI, TIDE-AFFECTED REACH OF THE HUDSON RIVER NEAR THE PROPOSED CORNWALL PUMPED STORAGE PROJECT ON SEP 21-22, 1977. THE RESULTS INDICATED THAT COMPLETE MIXING DID NOT OCCUR DURING THE FIRST TIDAL CYCLE BUT WAS COMPLETE AFTER TWO OR MORE CYCLES. THE FLUOROMETRIC DYE-TRACING PROCEDURE WAS USED TO DETERMINE THE DISPERSION CHARACTERISTICS OF THE WATER MASS. RHODAMINE WIT DYE, 20% SOLUTION, WAS CONTINUOUSLY INJECTED ON THE WEST SIDE OF THE RIVER THROUGHOUT AN EBB TIDE, AND ITS MOVEMENT WAS MONITORED DURING A 30-HOUR PERIOD. SAMPLES WERE COLLECTED BOTH INDIVIDUALLY AND CONTINUOUSLY. AUTOMATIC DYE SAMPLERS WERE USED AT SELECTED CROSS SECTIONS NEAR EACH BANK. BATHYMETRIC MEASUREMENTS WERE MADE AT EIGHT CROSS SECTIONS BETWEEN NEWBURGH AND WEST POINT TO DETERMINE THE DEPTH.

0471 DUTTWEILER, M.

CONTROLLING AQUATIC WEEDS [1975]

MARINE TRADES FLYER DEC (7) 3 PP NTIS-PB-257 370

THE ARTICLE DISCUSSES THE INCREASING PROBLEM OF AQUATIC WEED GROWTH ALONG THE NEW YORK COASTAL WATERS. AT PRESENT SOME ALTERNATIVE SOLUTIONS HAVE BEEN UNDERTAKEN. EACH CONTROL TREATMENT METHOD IS DISCUSSED BRIEFLY BUT AS OF YET NO DEFINITE COURSE OF ACTION HAS RECEIVED PREFERENCE.

0472 DUTTWEILER. M.: J. PEVERLY

CATTALES [1977]

NYSG, CORNELL UNIV, ITHACA, NY NP

THIS PERIODICAL NEWSLETTER IS ISSUED 2-4 TIMES YEARLY. THE PRIMARY AUDIENCES ARE COOPERATIVE EXTENSION EMPLOYEES AND PERSONS DIRECTLY INVOLVED WITH COMMUNITY EFFORTS TO MANAGE AQUATIC PLANT PROBLEMS. CURRENT RESEARCH FINDINGS, REFERENCES, RULES AND REGULATIONS AND PLANT MANAGEMENT ACTIVITIES IN NEW YORK STATE ARE FEATURED.

0473 DUTTWEILER. M.

SOURCES OF FISH CONTAMINANTS [1978]

NYSG. CORNELL UNIV. ITHACA NY 4 PP

THIS SECOND IN A SERIES ON FISH CONTAMINANTS IDENTIFIES THE TYPES OF CONTAMINANTS COMMONLY FOUND IN FISH, THEIR INTERACTION AND ACCUMULATIVE BUILD-UP IN THE FLESH OF FISH. THE ORIGIN OF THESE POLLUTANTS AND CORRECTIVE MEASURES ARE ALSO DISCUSSED. THE AUTHOR RECOMMENDS PREVENTION AS THE BEST POSSIBLE METHOD OF AVOIDING CONTAMINANT PROBLEMS IN THE FUTURE.

0474 DUVERNOY, E.; D. MACKAY

A REVIEW OF THE CORPS OF ENGINEERS' DRAFT ENVIRONMENTAL IMPACT ON THE FIRE ISLAND INLET TO MONTAUK POINT, NEW YORK, BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT [1977]

CENTER FOR ENVIRON RES, CORNELL UNIV, ITHACA, NY 73 PP NTIS-PB-280 363

THE EIS, PREPARED BY THE NY DISTRICT, ARMY CORPS OF ENGINEERS, ON THE FIRE ISLAND INLET TO MONTAUK POINT, NY, BEACH EROSION AND HURRICANE PROJECTION PROJECT (BEHUR), IS REVIEWED; FACTS AND JUDGEMENTS ARE EXAMINED, AND AN EVALUATION IS MADE. CORPS REGULATIONS DEFINE A PLANNING PROCESS FOR CIVIL WORKS PROJECTS INCLUDING ENVIRONMENTAL IMPACT STATEMENTS AND INTERACTION BETWEEN ENGINEERING STUDIES. HOWEVER, BASIC INFORMATION AND ENGINEERING ANALYSES NEEDED TO PREPARE A COMPLETE EIS WERE EITHER

UNAVAILABLE OR OUTDATED DURING PREPARATION, THE RESULT IS AN INCOMPLETE ANALYSIS OF THE PROPOSED PROJECT AND ITS REASONABLE ALTERNATIVES. SOME INFORMATION INCLUDED IN THE EIS IS INAPPLICABLE, MISLEADING, OR MISSING. CONCLUSIONS INDICATE THAT PUBLIC INTEREST GROUPS SHOULD REQUEST ADDITIONAL ENGINEERING AND ENVIRONMENTAL ANALYSIS OF THE BEHUR PROJECT BEFORE THE CORPS MAKES A FINAL DECISION ON IT AND PRIOR TO ANY ADDITIONAL PROJECT CONSTRUCTION.

0475 DWORSKY, L.B.

A STUDY OF POTENTIAL INSTITUTIONAL ARRANGEMENTS FOR WATER QUALITY AND WATER RESOURCES (QUANTITY) PLANNING AND MANAGEMENT [1974]

WATER RESOURCES AND MARINE SCI CENTER, CORNELL UNIV, ITHACA, NY 533 PP NTIS-PB-231 557

POTENTIAL ARRANAGEMENTS FOR WATER QUALITY-QUANTITY MANAGEMENT INSTITUTIONS TO MEET FUTURE NEEDS ARE EXAMINED. PART 1 DESCRIBES SPECIFICATIONS FOR WATER QUALITY AND INTEGRATING WATER QUALITY-QUANTITY PLANNING. PART 2 PROPOSES FACTORS (25) FOR EVALUATING WATER MANAGEMENT INSTITUTIONS; TRACES THE HISTORY AND DESCRIBES 9 TYPES OF INSTITUTIONS; EXAMINES 8 CASE STUDIES (MISSOURI AND COLUMBIA INTERAGENCY COMMITTEES, NEW ENGLAND RIVER BASIN COMMISSION, HUDSON RIVER VALLEY COMMISSION, NEW CONCEPTS FOR RIVER BASIN ORGANIZATION, WATER QUALITY MANAGEMENT STRATEGIES FOR THE HOLSTON RIVER BASIN AND THE GREAT LAKES, AND MULTISTATE REGIONALISM). CONCLUSIONS SHOW THAT INSTITUTIONAL DEVELOPMENT HAS GROWN SLOWLY OUT OF THE NATION'S EXPERIENCE; AND SUGGEST THE BEGINNING OF A FOCUS ON SELECTED INSTITUTIONS. PART 3 DESCRIBES THE HUDSON RIVER BASIN, EXAMINES ATTEMPTS, MANAGEMENT INSTITUTION DESIGNS, PRESENTS PAPERS CLARIFYING HUDSON BASIN PROBLEMS, AND CONCLUDES WITH NO SPECIFIC ORGANIZATIONAL PLAN BUT RATHER IDEAS TO HELP REACH A USEFUL DECISION. PART 4 PROPOSES SYNOPTIC AND INCREMENTAL WATER RESOURCES PLANNING PROCESSES AS THE METHODS OF CHOICE, REVIEWS THE IDEAS USED TO STRENGTHEN THE CORPS OF ENGINEERS ROLE IN WATER QUALITY PLANNING, AND ASSESSES THE VALUE OF IDEAS DEVELOPED BY THIS RESEARCH PROJECT IN RELATION TO PL 92-500, THE FEDERAL WATER POLLUTION CONTROL ACT.

0476 DZURIK, A.A.

THE COASTAL ZONE AS AN INTEGRAL ELEMENT OF WATER-RESOURCE SYSTEMS [1973]

WATER RESOUR BULL 9(4):735-745

THE COASTAL ZONE IS SUBJECT TO MORE SEVERE PROBLEMS AND COMPLEX ISSUES THAN MORE NARROWLY-DEFINED LAND AND WATER RESOURCES. IT MUST BE VIEWED AS AN IMPORTANT COMPONENT OF WATER-RESOURCE SYSTEMS. GENERALLY DEFINED, THE COASTAL ZONE IS THE AREAS OF TRANSITION FROM LAND TO SEA, AND FROM FRESH WATER TO SALT WATER. ESTUARIES ARE THE KEY ELEMENT OF THIS ZONE AND ARE NOTED AS THE WORLD'S MOST BIOLOGICALLY PRODUCTIVE UNIT. FRESH-WATER FLOW HAS IMPACT UPON THE CHARACTERISTICS AND QUALITY OF ESTUARINE WATERS, AND UPON SEDIMENTARY DEPOSITS ALONG THE COAST. MAN HAS AND WILL CONTINUE TO CONCENTRATE HIS ACTIVITIES AND CITIES ALONG THE COASTS. ASSOCIATED WITH MAN'S ACTIVITIES ARE HIS USES AND ABUSES OF COASTAL RESOURCES. THE USES ARE VARIED AND OFTEN CONFLICTING, AND THUS COASTAL-ZONE PLANNING AND MANGEMENT IS NECESSARY TO EVOLVE A RATIONAL STRATEGY FOR THE MULTIPLE USE OF COASTAL RESOURCES. RATIONAL DETERMINATION OF PUBLIC POLICY FOR THE COASTAL ZONE MUST RECOGNIZE FACTORS RELATING TO (A) PHYSICAL, CHEMICAL AND BIOLOGICAL CHARACTERISTICS, (B) URBANIZATION AND DEVELOPMENT, AND (C) GOVERNMENTAL CAPACITY FOR ADEQUATE POLICIES AND PROGRAMS. INHERENT IS THE REALIZATION THAT NEITHER COMPLETE EXPLOITATION NOR PRESERVATION IS APPROPRIATE OR PRACTICABLE. A BALANCE MUST BE MAINTAINED TO MAXIMIZE LONG-TERM AS WELL AS IMMEDIATE BENEFITS THROUGH APPROPRIATE MANAGEMENT OF COASTAL RESOURCES WITHIN THE FRAMEWORK OF WATER-RESOURCE SYSTEMS.

0477 EBBIN. S.

JAMAICA BAY/ KENNEDY AIRPORT: ANATOMY OF A TECHNOLOGICAL ASSESSMENT [1972]

PAGES 134-136 IN L.B. DWORSKY, D.J. ALLEE, S.C. CSALLANY, EDS. SOCIAL AND ECON ASPECTS OF WATER RESOURCE DEVELOP. AM WATER RES

JAMAICA BAY, LIKE MOST OTHER ENVIRONMENTAL RESOURCES, PARTICULARLY THOSE WHICH LIE WITHIN URBAN CENTERS, IS A COVETED SITE FOR

A VARIETY OF HUMAN USES. AS SUCH, IT IS THE OBJECT OF CONSIDERABLE COMPETITION FOR ITS USE. THOUGH IT WAS DESIGNATED A NEW YORK CITY PARK IN 1948, ALMOST NOTHING HAS BEEN DONE TO MAKE IT MEASURE UP TO ITS DESIGNATION AND PROMISE AS A SITE FOR RECREATION. FOR SEVERAL DECADES, THE MAIN USE TO WHICH JAMAICA BAY AND ITS PERIPHERAL MARSHES HAS BEEN PUT IS AS A SINK FOR THE DIPOSAL OF RAW SENAGE AND SOLID WASTES. AS FAR BACK AS 1931, NYC BECAME CONCERNED WITH THE POLLUTION IN THE BAY AS A PUBLIC HEALTH HAZARD. ONLY SINCE THE 1960'S HAS AN IMAGINATIVE—AND EXPENSIVE—PROGRAM TO UPGRADE THE BAY BEEN ACTUALLY UNDERTAKEN AND CONSIDERABLE PROGRESS TO MEET A GCAL OF SWIMMING QUALITY WATER BY 1978 BEEN MADE. POSITIVE CONCERN FOR THE BAY ITSELF AS AN ECOLOGICALLY PROMISING AREA IS REALLY MUCH MORE RECENT. FOR MANY YEARS MAN HAS SUPPORTED ONE SCHEME OR ANOTHER—A PLANNED MAJOR SEAPORT IN THE 1920'S, AN AIRPORT FROM 1938 TO THE PRESENT, A NATIONAL PARK FROM 1964 TO THE PRESENT, AND A SINK FOR WASTES FROM TIME IMMEMORIAL. AMONG THE MANY USES JB HAS SERVED, AND STILL DOES, ARE A NATURAL TERTIARY WASTE—TREATMENT FACILITY, A HILDLIFE HABITAT, A SINK FOR AIRCRAFT NOISE, TWO AIRPORT SITES, HOUSING, RECREATION, A SOURCE OF BUILDING MATERIAL (FILL), TRANSPORTATION, COMMERCE, FISHING (COMMERCIAL AND SPORT, SHELLFISH AND FINFISH), SOLID—WASTE DISPOSAL AND, PERHAPS AS IMPORTANT AS ANY OF THE ABOVE. A POLITICAL FOOTBALL.

0478 ECKER, J.G.

A GEOMETRIC PROGRAMMING MODEL FOR OPTIMAL ALLOCATION OF STREAM DISSOLVED OXYGEN [1975]

MANAG SCI 21(6):658-668

A NONLINEAR MODEL IS DEVELOPED FOR ALLOCATING TREATMENT REQUIREMENTS ALONG A STREAM SO AS TO MEET STREAM DISSOLVED OXYGEN STANDARDS AT EACH POINT IN THE STREAM WHILE MINIMIZING THE TOTAL ANNUAL COST OF ALL DISCHARGING ACTIVITIES. AN APPLICATION OF THE MODEL TO SEVERAL REACHES OF THE UPPER HUDSON RIVER IS CONSIDERED, AND SOME ALTERNATIVE POLLUTION ABATEMENT POLICIES ARE ANALYZED. THE CRUCIAL VARIABLES IN THE MODEL ARE THE REMOVAL RATES OF THE INDIVIDUAL PROCESSES WHICH ACT IN SERIES TO FORM THE TREATMENT PLANT. THE ACTUAL DESIGN OF THE TREATMENT PLANTS AS WELL AS THE TOTAL REMOVAL RATE DETERMINED BY THE INDIVIDUAL PROCESS REMOVAL RATES ARE CONSIDERED. INSIGHT IS GIVEN INTO THE FIXED CHARGE ASPECT OF THE PROBLEM IN THAT SOLUTIONS TO THE MODEL WILL BE USEFUL IN DETERMINING WHETHER OR NOT CERTAIN PROCESSES SHOULD BE INCLUDED IN THE TREATMENT PLANT DESIGN. HOWEVER, THE BASIC USE OF THE MODEL WILL BE TO DETERMINE THE OPTIMAL OPERATING LEVELS FOR INDIVIDUAL TREATMENT PROCESSES IN A FIXED SYSTEM DESIGN. ALSO, THE MODEL IS PARTICULARLY USEFUL FOR SENSITIVITY ANALYSES INVOLVING CHANGES IN THE CHARACTERISTICS OF THE STREAM AND CHANGES IN THE STREAM STANDARDS.

0479 EDA. H.

VESSEL MANEUVERING SIMULATION [1976]

D-86-76. USCG. GROTON, CT 53 PP NTIS-AD-AD29 392

SHIP MANEUVERING MOTION EQUATIONS WERE FORMULATED TO EVALUATE MANEUVERING PERFORMANCE IN STANDARD MANEUVERS, STOPPING MANEUVERS, AND HARBOR ENTERING MANEUVERS WITH INCLUSION OF VARIOUS FORCING FUNCTIONS SUCH AS THOSE DUE TO RUDDERS, PROPELLERS, WATER DEPTH, AND CONTROL (I.E. AUTOPILOT OR HELMSMAN). UTILIZING AVAILABLE HYDRODYNAMIC DATA AND THEORIES, THE HYDRODYNAMIC COFFICENTS IN MOTION EQUATIONS WERE EVALUATED FOR A TYPICAL MEDIUM-SIZE TANKER. SUBSEQUENTLY, SIMULATION EXPERIMENTS WERE CARRIED OUT FOR STANDARD MANEUVERS AND COMPARED WITH AVAILABLE FULL-SCALE TRIALS OF A SIMILAR TYPE TANKER. ENCOURAGING CORRELATIONS WERE INDICATED BETWEEN PREDICTIONS AND FULL-SCALE TRIALS OF A SIMILAR TYPE TANKER. ENCOURAGING CORRELATIONS WERE INDICATED BETWEEN PREDICTIONS AND FULL-SCALE TEST RESULTS. FURTHERMORE, HARBOR-ENTERING MANEUVERS WERE CARRIED OUT ON A DIGITAL COMPUTER FOR THE CASE OF NEW YORK HARBOR ENTERING INTO KILL VAN KULL FOR NEW YORK BAY. RESULTS DEMONSTRATE THAT THIS COMPUTATIONAL PROCEDURE IS A USEFUL TOOL TO PROMOTE HARBOR TRAFFIC SAFETY, ALTHOUGH FURTHER REFINEMENT SHOULD BE MADE TO ACHIEVE REALISTIC MODELING OF THE SHIP-WATERWAY SYSTEMS.

0480 EDGAR, D.

TROUBLED WATERS: THE NEW YORK BIGHT [1980]

NYSG, CORNELL UNIV, ITHACA, NY 4 PP

THE BIGHT--THE 15,000 SQ MI OF WATER BOUND BY LONG ISLAND, NEW JERSEY, AND THE CONTINENTAL SHELF ABOUT 80-120 MILES OFFSHORE--SERVES SOME 20 MILLION PEOPLE AS A SOURCE OF RECREATION, TRANSPORTATION, COMMERCIAL FISHING AND A DEPOSITORY FOR RAW SEWAGE, DREDGE SPOILS, ACID AND TOXIC CHEMICALS, AND CONSTRUCTION DEBRIS. IN THIS FOUR-PAGE FACT SHEET, THE SOURCES OF CONTAMINATION AND THEIR NATURAL BUILD-UP IN MARINE PLANTS, FISH AND PEOPLE THROUGH THE FOOD CHAIN ARE DESCRIBED. THE "FISH KILL OF "76" WHICH CAUSED AN ESTIMATED \$7.9 MILLION LOSS TO NEW YORK"S FISHING INDUSTRY IS EXPLAINED. ALTERNATIVES TO POLLUTION ARE BRIEFLY OUTLINED.

0481 EDWARDS, P.

AN INVESTIGATION OF THE ZONATION OF NEW JERSEY BENTHIC ALGAE WITH A TIDE-SIMULATING MACHINE [1975]

BR PHYCOL J 10(3):311

THE SINUSOIDAL TIDE-SIMULATING MACHINE CONSISTS OF A PLEXIGLAS FRAME WHICH IS CONNECTED BY A NYLON THREAD TO A ROTATING WHEEL AND POWERED BY AN ELECTRIC MOTOR GEARED TO MAKE 1 REVOLUTION/12 HR. INOCULA OF SETTLED SPORES OR SWARMERS ON GLASS COVERSLIPS WERE PLACED AT 6 LEVELS ON THE FRAME AND ALTERNATELY RAISED OUT OF AND LOWERED INTO SEAWATER EVERY 6 HR. WITH CONSEQUENT SUBJECTION TO 0%, 21%, 42%, 63%, 82% OR 100% EXPOSURE TO AIR. RELATIVE HUMIDITY (RH) OF THE AIR WAS CONTROLLED BY USE OF VARIOUS SOLUTIONS IN A 2ND TANK. TOLERANCES OF 3 SPECIES OF CHLOROPHYTA AND 7 SPECIES OF PHODOPHYTA FROM VARIOUS SHORE LEVELS WERE STUDIED BY COUNTING THE AVERAGE CELL NUMBER OF 25-30 GERMLINGS AFTER 4 D IN THE TIDAL REGIMES. INTERTIDAL SPECIES SHOWED GOOD GROWTH AT 100% RH IN ALL REGIMES EXCEPT 100% EXPOSURE. GROWTH OF SUBLITTORAL SPECIES WAS SIGNIFICANTLY DEPRESSED IN ALL REGIMES RELATIVE TO 0% EXPOSURE. THE SUBLITTORAL GRINNELLIA AMERICANA RESPONDED LIKE AN INTERTIDAL SPECIES, SUGGESTING THAT DESICCATION PROBABLY IS NOT RESPONSIBLE FOR ITS SUBLITTORAL HABITAT. THE UPPER EULITTORAL BLIDINGIA MINIMA GREW BEST AT 0% EXPOSURE TO AIR.

0482 EDWARDS, R.L.

MIDDLE ATLANTIC FISHERIES: RECENT CHANGES IN POPULATIONS AND OUTLOOK [1976]

PAGES 302-311 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975.
SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG. ALLEN PRESS INC. LAWRENCE, KS

GROUNDFISH SURVEY DATA FROM 1963-1965 SHOWED THAT ABOUT 22% OF THE AVAILABLE FINFISH FISHERY RESOURCES WERE BEING HARVESTED. IN 1964-67, STANDING CROPS DECREASED ABOUT 40%, INDICATING THAT HARVESTING WAS AT OR NEAR THE MAXIMUM RATE. ALL FISHERY RESOURCES WERE NEARLY DEPLETED BY 1975. BRINGING BACK CERTAIN SPECIES TO TRADITIONAL LEVELS OF ABUNDANCE WOULD REQUIRE REDUCING CATCHES OF OTHER SPECIES SO LOW AS TO CREATE MORE SERIOUS PROBLEMS. THE ICNAF "SECOND TIER QUOTA," OR BIOMASS APPROACH, EVOLVED FROM THE NEED TO DEAL EFFECTIVELY WITH THESE PROBLEMS. IT IS ESSENTIAL THAT THE FACTORS INFLUENCING RECRUITMENT BE DETERMINED; THESE FACTORS MAY BE MORE DENSITY INDEPENDENT THAN MANY SUPPOSE. THE CONCEPT OF MAXIMUM SUSTAINABLE YIELD IGNORES THESE FACTORS.

0483 EDWARDS, S.J.; J.B. HUTCHISON, JR.

EFFECTIVENESS OF A BARRIER NET IN REDUCING WHITE PERCH (MORONE AMERICANA) AND STRIPED BASS (MORONE SAXATILIS) IMPINGEMENT [1980]

ENVIRON SCI TECHNOL 14(2):210-213

A NET WAS DEPLOYED AS A BARRIER IN FRONT OF A WATER INTAKE LOCATED ON AN EMBAYMENT OF THE HUDSON RIVER DURING PERIODS OF INCREASING YOUNG-OF-THE-YEAR AND YEARLING (5 TO 10 CM TOTAL LENGTH) M. AMERICANA AND M. SAXATILIS IMPINGEMENT. MULTIFILAMENT NYLON NETS OF TWO MESH SIZES (1.27 AND 0.95 CM) WERE INVESTIGATED WITH NO APPRECIABLE DIFFERENCE NOTED IN CLOGGING OR DEBRIS

ACCUMULATION. SEVERAL METHODS WERE USED TO MEASURE THE EFFECTIVENESS OF THE BARRIER NET, INCLUDING COMPARISONS OF IMPINGEMENT RECORDS AND RELEASE AND RECAPTURE OF TAGGED FISH. BASED ON TAG RECOVERIES, THE 0.95 CM MESH NET WAS ESTIMATED TO HAVE REDUCED IMPINGEMENT BY AS MUCH AS 90%. THE BARRIER NET PROVED TO BE AN EASILY DEPLOYED DEVICE, EFFECTIVE IN REDUCING IMPINGEMENT.

D484 EGAN, V.G.; J.M. CASSIN; M.E. HAIR

INTERDISCIPLINARY MONITORING OF THE NEW YORK BIGHT [1972]

ENVIRON LETT 2(4):205-215 NTIS-AD-737 506

MEASUREMENTS WERE MADE IN THE NEW YORK BIGHT DURING 1969-1970 USING IN SETU INSTRUMENTATION TOGETHER WITH MONITORING DEVICES FOR PERFORMANCE VERIFICATION. FEASIBILITY STUDIES INDICATED THAT IN SITU INSTRUMENTATION CAN MEASURE CHLOROPHYLL. BIOLUMINESCENCE, GELLBSTOFF, HYDROGEN ION CONCENTRATION, DISSOLVED OXYGEN. SALINITY AND THE LOCATION OF THE THERMOCLINE. IT IS MAINTAINED THAT IN SITU INSTRUMENTATION MAY BE ADAPTED TO CONTINUOUS SYNOPTIC MONITORING OF THE ESTUARINE AND OCEANOGRAPHIC PARAMETERS NECESSARY FOR MATHEMATICAL MODELING.

0485 EGAN, W.G.; J.M. CASSIN

CORRELATION OF IN SITU FLUORESCENCE AND BIOLUMINESCENCE WITH DIOTA IN THE NEW YORK BIGHT [1973]

BIOL BULL 144(2):262-275

A SERIES OF EXPERIMENTS IS DESCRIBED WHICH EMPHASIZES THE IN SITU ASPECTS OF BIOLUMINESCENCE AND FLUORESCENCE PHDTOMETRIC OBSERVATIONS. THE FUNDAMENTAL QUESTION OF ISOLATING A PARTICULAR ORGANISM AND DETERMINING WHETHER IT FLUORESCES OR BIOLUMINESCES WAS NOT ANSWERED, BUT A PHENOMENON WAS OBSERVED AND THE PROBABLE CAUSATIVE ORGANISMS DEDUCED. THE CAUSATIVE ORGANISMS MAY BE INFERRED BY A COMPARISON OF THE IN SITU BIOLUMINESCENCE, SHORT WAVELENGTH UV-PRODUCED FLUORESCENCE AND LONG WAVELENGTH UV-PRODUCED FLUORESCENCE WITH LABORATORY DETERMINED BIOTA DISTRIBUTION. STRONG BIOLUMINESCENCE OCCURS ABOVE THE THERMO/HALOCLINE AND APPEARS TO BE CAUSED MAINLY BY PERIDINIACEAE AND GYMNODINIACEAE. THE LONG WAVELENGTH UV FLUORESCENCE IS CORRELATED WITH THE TOTAL CHLOROPHYLL AND CONSEQUENTLY WITH THE TOTAL BIOMASS.

0486 EISEL, M.T. '

A SHORELINE SURVEY: GREAT PECONIC, LITTLE PECONIC, BARDINERS AND NAPEAGUE BAYS [1977]

SPEC REP SR-5. NOAA, ROCKVILLE, MD 44 PP NTIS-PB-276 015

THE BEACHES AND BLUFFS ALONG GREAT PECONIC, LITTLE PECONIC, GARDINERS AND NAPEAGUE BAYS HAVE ATTAINED THEIR PRESENT FORM THROUGH A LONG EROSIONAL HISTORY. CHANGES IN SHORELINE CONFIGURATION HAVE BEEN DETERMINED BY COMPARING NAUTICAL CHARTS FROM THE MID-1800'S WITH THOSE OF TODAY. THIS COMPARISON HAS SHOWN SIGNIFICANT LAND LOSS ESPECIALLY FOR THOSE AREAS EAST OF SHELTER ISLAND. THESE AREAS, UNPROTECTED BY A LAND MASS IN THE PATH OF WIND AND WAVES, RECEIVE THE FULL IMPACT OF THESE EROSIONAL FORCES. A FIELD SURVEY OF THE SHORE AREA WITHIN THE EASTERN FORKS OF LONG ISLAND WAS COMPLETED IN THE FALL OF 1973. PARTICULAR ATTENTION WAS GIVEN TO THE NATURAL EARTH PROCESSES (SLIDES, SUBSIDENCE AND RAIN RUNOFF) AND THEIR EFFECT ON SHORELINE CHARACTERISTICS AS WELL AS THE INFLUENCE OF STORMS, WIND AND WAVES. INFORMATION PERTAINING TO STORMS, OWNERSHIP AND POPULATION STATISTICS HAVE BEEN UPDATED THROUGH 1976.

0487 EISEN. P.A.; A. SADLER. JR.; M.E. SCHEFFLER

DATA ADMINSITRATION FOR MARINE ECOSYSTEMS ANALYSIS [1978]

TM-ERL-MESA-36. NOAA, BOULDER, CO 79 PP NTIS-PB-293 911

THE DATA ADMINISTRATION SYSTEM FOR STORING AND RETRIEVING DCEANOGRAPHIC DATA USED BY MESA NEW YORK BIGHT PROJECT IS PRESENTED. THE MAIN OBJECTIVE OF THE SYSTEM IS TO MAKE PROJECT DATA AND RESULTS READILY AVAILABLE TO USERS. IN THIS REGARD, THREE COMMONLY USED STRATEGIES FOR ORGANIZING DATA, TWO UTILIZING DATA FILES, AND ONE A DATA-BASE, ARE DESCRIBED. THIS LEADS TO THE INTRODUCTION OF THE PROJECT'S METHOD FOR HANDLING DATA WHICH MEETS OBJECTIVES THROUGH USE OF A TOTAL ORGANIZATION OF THE DATA SYSTEM, A FLEXIBLE FILE FORMATING SCHEME AND DATA CATALOGUE REPORT GENERATION. THE TOTAL ORGANIZATION OF THE DATA SYSTEM IS AN AMALGAN OF THO COMMONLY USED STRATEGIES (TRADITIONAL/FLEXIBLE AND DATA-BASE/KEY-TASK). THE FLEXIBLE FILE FORMATTING SCHEME IS BASED ON A NETWORK STRUCTURE. A SPECIFIC EXAMPLE, DEMONSTRATING STD DATA RETRIEVAL SHOWS THE EASE WITH WHICH DATA MAY BE RETRIEVED USING AN INTERFACE SYSTEM FOR SPECIFIC APPLICATIONS. THE DATA CATALOGUE IS A TOOL TO INVENTORY, TRACK, AND REPORT THE STATUS OF PROJECT DATA FILES.

0488 EISEN, P.A.; J.S. O'CONNOR

MESA CONTRIBUTIONS TO SAMPLING IN MARINE ENVIRONMENTS [1979]

PAGES 545-567 IN G.P. PATIL AND M.L. GOSENZWEIG, EDS. CONTEMPORARY QUANTITATIVE AND RELATED ECOMETRICS. INTERNATIONAL COOPERATIVE PUBLISHING HOUSE, FAIRLAND, MD

FOUR MESA-SPONSORED STUDIES ARE DESCRIBED THAT USE STATISTICAL METHODS TO ADDRESS IMPROVED SAMPLING IN THE NEW YORK BIGHT. THE FIRST STUDY FINDS THAT METALS IN SEDIMENTS CAN BE SAMPLED MORE EFFICIENTLY IF THEIR OBSERVED LOG NORMAL SPATIAL DISTIBUTION IS CONSIDERED. THE PROPOSED STRATEGY CONCENTRATES SAMPLING IN REGIONS OF HIGHEST, NON-UNIFORM CONTAMINATION. THE SECOND CONTRIBUTION OUTLINES A METHOD TO MONITOR THE INFLUENCE OF WASTE DISPOSAL ON BENTHIC FAUNAL ASSEMBLAGES. IF SEDIMENT STRATA ARE FIRST IDENTIFIED BY PHYSICAL/ CHEMICAL FACTORS (ASSOCIATED WITH WASTE INPUTS), STATISTICALLY SIGNIFICANT DIFFERENCES IN BENTHIC SPECIES ABUNDANCES AMONG STRATA THEN CAN BE USED TO MONITOR WASTE IMPACTS. THE THIRD STUDY COMPARES STANDARD AND ALTERNATE METHODS FOR ESTIMATING TIDAL DATUM PLANES AT LOCATIONS WHERE ONLY A SHORT SERIES OF OBSERVATIONS IS AVAILABLE. A T-TEST IS USED TO DETERMINE IF THE ESTIMATED DATUM CALCULATED BY EACH METHOD IS ACCEPTABLE. ALTHOUGH THE STANDARD METHOD OF CALCULATING DATUMS IS GENERALLY ACCEPTABLE, THE ALTERNATIVE METHOD CAN BE USED TO ADVANTAGE ON THE WEST COAST OF THE US. FINALLY, WEATHER DATA FROM THE EAST COAST HAVE BEEN SUBJECTED TO CROSS-CORRELATION ANALYSES TO STUDY THE FEASIBILITY OF INTERPOLATING AND HINDCASTING METEOROLOGICAL FORCING IN DATA-SPARSE MARINE AREAS. SUFFICIENT CORRELATION IS SHOWN TO EXIST IN SPACE AND TIME TO PROCEED WITH EXPERIMENTS IN HINDCASTING.

0489 EISSLER, B.B.; T.J. ZEMBRZUSKI, JR.

SUMMARY AND EVALUATION OF CREST-STAGE-GAGE DATA IN NEW YORK [1974]

US DEPT OF THE INTERIOR, ALBANY, NY NP

ANNUAL PEAK STAGES AND DISCHARGES ARE REPORTED FOR 106 CREST-STAGE-GAGING STATIONS. THIS IS THE FIRST PUBLICATION FOR SOME OF THE DATA. A CONSIDERABLE AMOUNT OF DATA FOR CONTINUING FLOOD-FREQUENCY STUDIES ARE AVAILABLE FOR STATIONS HAVING LARGE DRAINAGE AREAS. ONLY 17 STATIONS REPRESENT SMALL DRAINAGE AREAS (APPROXIMATELY 10 MIZ OR 26 KMZ OR LESS), AND FIVE OF THOSE STATIONS ARE IN ROCKLAND COUNTY. PROVIDING FLOOD DATA FOR PLANNING AND DESIGN RELATED TO SMALL STREAMS WILL REQUIRE ADDITIONAL CREST-STAGE-GAGING STATIONS.

0490 EISSLER, B.B.

LOW-FLOW DATA AND FREQUENCY ANALYSIS OF STREAMS IN NEW YORK EXCLUDING NEW YORK CITY AND LONG ISLAND [1978]

NY DEC, STONY BROOK, NY NP

MINIMUM AVERAGE 7-DAY, 2-YR AND 10-YR DISCHARGES OF 926 STREAM SITES IN NY EXCLUDING NEW YORK CITY AND LONG ISLAND ARE LISTED. ALSO INCLUDED ARE BASE-FLOW MEASUREMENTS AT SITES FOR WHICH NO STATISTICS WERE COMPUTED. THIS REPORT EVALUATES DATA COLLECTED BEFORE OCT 1975. DATA ARE PROVIDED FOR GAGING STATIONS ON 154 UNREGULATED AND 124 REGULATED STREAMS, 648 LOW-FLOW PARTIAL-RECORD STATIONS, AND 2,384 MISCELLANEOUS SITES. ALL MEASUREMENT-SITE LOCATIONS ARE SHOWN ON MAPS. A SHORT TEXT EXPLAINS THE PROCEDURES USED AND THE METHODS OF CALCULATION.

0491 ELDER, J.A.; ET.AL.

CONCEPTUAL MODEL OF THE NEW YORK BIGHT [1974]

WATER RESOURCES ENGINEERS, WALNUT CREEK, CA NP

THE CHANGES THAT MAY OCCUR IN THE PHYSICAL, CHEMICAL AND BIOLOGICAL CHARACTERISTICS OF THE BIGHT, AS RESULTS OF MAN'S ACTIVITIES IN THE YEARS TO COME, ARE DIFFICULT TO PREDICT. YET, IT IS ESSENTIAL THAT WE SEEK TO MANAGE THESE CHANGES--TO PRESERVE, TO PROTECT, EVEN TO ENHANCE, THE INTRINSIC VALUES IDENTIFIED WITH THIS VAST NATURAL WATER RESOURCE. MANAGEMENT OF SUCH A RESOURCE DEMANDS THE CAPABILITY TO ASSESS IN QUANTITATIVE TERMS THE POSSIBLE CONSEQUENCES OF ALTERNATIVE STRATEGIES OR PHYSICAL WORKS FOR REGULATING OR MODIFYING THE BIGHT'S ENVIRONMENT. ONE ATTRACTIVE APPROACH TO PROVIDING SUCH A CAPABILITY THE THROUGH THE DESIGN OF A "MODEL" THAT CAN SIMULATE THE BEHAVIOR OF THE BIGHT UNDER IMPOSED STRSSES. SUCH A MODEL. IF IT CAN BE DEVISED TO REPRESENT REASONABLY AND ECONOMICALLY THE COMPLEX BEHAVIOR OF THIS PIECE OF THE OCEANIC ENVIRONMENT, COULD BE OF ENORMOUS VALUE TO DECISION MAKERS, ALLOWING THEM TO TEST ALTERNATIVE STRATEGIES BEFORE THE FACT, TO OBSERVE PROBABLE CHANGES, AND TO MAKE ADJUSTMENTS AS MAY BE REQUIRED TO COMPLY WITH STIPULATED OBJECTIVES. NOAA HAS COMMISSIONED WATER RESOURCES ENGINEERS OF WALNUT CREEK, CA; SPRINGFIELD, VA; AND AUSTIN, TX; TO DEVELOP A COMPREHENSIVE CONCEPTUAL ECOLOGIC MODEL OF NEW YORK BIGHT. THIS REPORT CONSTITUTES THE COMPLETION DOCUMENT FOR THE MODEL'S CONCEPTUAL DEVELOPMENT UNDER PHASE I OF CONTRACT NO. 3-35423 BETWEEN NOAA AND WRE, DATED JUNE 29, 1973.

0492 ELDRIDGE, R.G.

MONITORING THE OFFSHORE ENVIRONMENT [1974]

POWER 118(1):76-8

THE PRIMARY OBJECTIVE OF EG&G'S RESEARCH PROGRAM ON THE OFFSHORE NUCLEAR POWER PROJECT IS TO CONTINUOUSLY MONITOR, RECORD AND ANALYZE DATA ON PHYSICAL ASPECTS OF THE OCEAN SITE AND THE SURROUNDING AREA. IT INCLUDES AUTOMATIC ACQUISITION OF TIDAL, WAVE. CURRENT, WIND, TEMPERATURE AND OTHER PERTINENT DATA FROM INSTRUMENTS IN MORE THAN 40 LOCATIONS BOTH OVER AND UNDER THE OCEAN SURFACE AND ON SHORE. ALSO REQUIRED ARE PLANNED INVESTIGATIONS—SUCH AS THE PHYSICAL TRACING OF OCEAN CURRENTS WITH DROGUES AND DYE, COASTAL WATER EXAMINATIONS IN BAY AREAS, AND LARGE-VOLUME SALINITY SAMPLING. THE MAIN PURPOSES OF THE EG&G STUDY ARE: 1) TO PERMIT SCIENTISTS TO DETERMINE THE POTENTIAL EFFECTS OF PLANT DESIGN AND CONSTRUCTION ON THE ENVIRONMENT. RESULTS OF THESE STUDIES WILL HELP ENGINEERS BUILD A FACILITY WITHOUT PHYSICALLY DEGRADING THE SURROUNDING WATERS. 2) TO DETERMINE AND ANALYZE THE EXTENT OF THE THERMAL PLUME THAT WILL EMERGE FROM THE PLANT DURING OPERATION. NOTE THAT DETAILED ANALYSES OF THE NATURAL WATER CURRENTS, TEMPERATURES AND SALINITY THROUGHOUT THE AREA ARE NEEDED TO CALCULATE THE MAGNITUDE AND EXTENT OF THE PLUME. THESE STUDIES, IN CONJUNCTION WITH THOSE BEING CONDUCTED BY MARINE BIOLOGISTS, WILL ALLOW AN APPRAISAL OF THE THERMAL PLUME'S EFFECTS ON MARINE LIFE NEAR THE PROPOSED GENERATING STATION.

0493 ELKINGTON, J.B.

THE IMPACT OF DEVELOPMENT PROJECTS ON ESTUARINE AND OTHER WETLAND ECOSYSTEMS [1977]

ENVIRON CONSERV 4(2):135-144

DESPITE VARIOUS CAMPAIGNS TO PUBLICIZE THE VALUE AND PLIGHT OF WETLANDS. PRESSURES FOR DEVELOPMENT AND ECONOMIC GROWTH ARE

OFTEN SUCH THAT ECOLOGICAL ISSUES ARE OBSCURED. THE BIOLOGY OF THE ESTUARINE ENVIRONMENT IS DISCUSSED AS A FIRST STEP TO EVALUATING THE IMPACT OF POLLUTION AND LAND USE POLICIES. THE IMPACTS OF URBAN, AGRICULTURAL AND RECREATIONAL USE OF WETLAND AREAS ARE REVIEWED WITH PARTICULAR REFERENCE TO WETLAND ECOSYSTEMS OF THIRD WORLD COUNTRIES. THE IMPORTANCE OF EXPERIMENT IN EVALUATING ALTERNATIVE LAND USE OPTIONS (SUCH AS INTENSIVE FISH FARMING) IS STRESSED, AND A SIMPLE MODEL FOR ECOLOGICALLY SOUND DEVELOPMENT IS PROPOSED WHICH COULD APPLY TO LAKE MANZALA IN THE ARAB REPUBLIC OF EGYPT'S NORTHERN WETLANDS.

0494 ELLIS, R.H.; H.L. GOODWIN; J.C. LESSE; K.A. MANGER

MARINE EDUCATION IN NEW JERSEY--A PRELIMINARY ASSESSMENT OF NEEDS [1978]

PROC OF THE CONF ON MARINE EDUCATION IN NJ. MARINE SCIENCES CONSORTIUM, HIGHLANDS, NJ NP

THE CONFERENCE ON MARINE EDUCATION IN NJ WAS DESIGNED SPECIFICALLY TO ELICIT IDEAS, COMMENTS, AND SUGGESTIONS FROM PARTICIPANTS. FOLLOWING THE OPENING PRESENTATIONS AND KEYNOTE SPEECH, FOUR SESSIONS WERE HELD SIMULTANEOUSLY, EACH WITH A PROMINENT SPECIALIST TO SET THE TONE AND SUBJECT, AND A MODERATOR TO ENCOURAGE AUDIENCE PARTICIPATION. THE FOUR SESSIONS WERE REPEATED IN THE AFTERNOON, AFFORDING EACH PARTICIPANT AN OPPORTUNITY TO JOIN IN THE GESSIONS OF MOST INTEREST. ALL SESSIONS WERE TAPED. IN ADDITION, THE MODERATORS AND STAFF TOOK NOTES, FULLOWING UP LATER IN SOME INSTANCES WITH PERSONAL CONTACTS FOR CLARIFICATION OR ADDITIONAL INFORMATION. FROM A COMBINATION OF TAPE TRANSCRIPTS AND NOTES, THE PRINCIPAL CONCLUSIONS WERE EXTRACTED AND SUMMARIZED FOR THIS REPORT.

0495 EMBREE, W.N.; D.A. WILTSHIRE

ESTUARINE RESEARCH: AN ANNOTATED BIBLIOGRAPHY OF SELECTED LITERATURE, WITH EMPHASIS ON THE HUDSON RIVER ESTUARY, NEW YORK AND NEW JERSEY [1978]

OPEN FILE REP 78-782. WATER RESOURCES DIV, USGS, ALBANY, NY 58 PP

ABSTRACTS OF 177 SELECTED PUBLICATIONS ON WATER MOVEMENT IN ESTUARIES, PARTICULARLY THE HUDSON RIVER ESTUARY, ARE COMPILED FOR REFERENCE IN HUDSON RIVER STUDIES. SUBJECTS REPRESENTED ARE THE HYDRAULIC, CHEMICAL, AND PHYSICAL CHARACTERISTICS OF ESTUARINE WATERS, ESTUARINE MODELING TECHNIQUES, AND METHODS OF WATER-DATA COLLECTION AND ANALYSIS. SUMMARIES ARE PRESENTED IN FIVE CATEGORIES: HUDSON RIVER ESTUARY STUDIES; HYDRODYNAMIC MODEL STUDIES; WATER QUALITY MODEL STUDIES; REPORTS ON DATA COLLECTION EQUIPMENT AND METHODS; AND BIBLIOGRAPHIES, LITERATURE REVIEWS, CONFERENCE PROCEEDINGS, AND TEXTBOOKS. AN AUTHOR INDEX IS INCLUDED. OMITTED ARE MOST WORKS PUBLISHED BEFORE 1976, ENVIRONMENTAL-IMPACT STATEMENTS, THESES AND DISSERTATIONS, POLICY OR PLANNING REPORTS, REGIONAL OR ECONOMIC REPORTS, OCEAN STUDIES, STUDIES BASED ON PHYSICAL MODELS, AND FOREIGN STUDIES.

0496 ENGLEBRIGHT. S.

JAMAICA BAY: A CASE STUDY OF GEO-ENVIRONMENTAL STRESS [1975]

PAGES 279-297 IN P. WOLFF, ED. NYS GEOL ASSOC GUIDE BOOK, 47TH ANNUAL MEETING, 1975. HOFSTRA UNIV, HEMPSTEAD, NY

THE PURPOSE OF THIS PAPER IS TO EXAMINE THE HISTORIC RELATIONSHIP BETWEEN THE NATURAL GEOLOGICAL ENVIRONMENT AND HUMAN ACTIVITIES.

0497 ENGLERT, T.L.; J.P. LAWLER: F.N. AYDIN: G.J. VACHTSEVANOS

MODEL STUDY OF STRIPED BASS POPULATION DYNAMICS [1976]

PAGES 137-150 IN M. WILEY, ED. ESTUARINE PROCESSES. VOL I: USES, STRESSES, AND ADAPTATION TO THE ESTUARY. ACADEMIC PRESS, NEW

YORK, NY

PRESENT AND PLANNED OPERATION OF ELECTRIC POWER GENERATING STATIONS ALONG THE HUDSON RIVER MAY HAVE AN IMPACT ON THE ATLANTIC STRIPED BASS POPULATION DUE TO THE USE OF RIVER WATER IN ONCE-THROUGH COOLING SYSTEMS AT THE PLANTS. WITHDRAWAL OF RIVER WATER FOR COOLING PURPOSES CAN HAVE TWO PRINCIPAL EFFECTS ON THE YOUNG-OF-THE-YEAR STRIPED BASS SPAWNED IN THE HUDSON: EGGS, LARVAE AND EARLY JUVENILE FISH MAY BE ENTRAINED IN THE WATER WHICH IS CIRCULATED THROUGH THE PLANT'S COOLING SYSTEM AND RETURNED TO THE RIVER; LATER JUVENILE FISH MAY BE IMPINED ON THE DEBRIS SCREENS AT THE PLANT INTAKES. POPULATION MODELS OF THE HUDSON RIVER STRIPED BASS ARE USEFUL IN MAKING PREDICTIONS OF THE IMPACT OF ENTRAINMENT AND IMPINGEMENT AT THE POWER PLANTS. IN THE MODEL STUDY PRESENTED HERE, RESULTS FROM A DETAILED SIMULATION OF THE YOUNG-OF-THE-YEAR POPULATION ARE INPUT TO MODEL OF THE ADULT BASS POPULATION IN ORDER TO PREDICT SHORT-AND-LONG-RANGE IMPACTS ON THE POPULATION. THE YOUNG-OF-THE-YEAR MODEL TRACES DEVELOPMENT OF THE EARLY LIFE STAGES OF THE BASS FROM EGGS THROUGH THE LARVAE AND JUVENILE STAGES. EGG PRODUCTION RATES CALCULATED FROM FIELD DATA ARE USED TO INITIALIZE THE POPULATION MODEL. THE TEMPORAL, SPATIAL AND AGE DISTRIBUTIONS OF THE EARLY LIFE STAGES ARE SIMULATED TO EQUATIONS WHICH INCLUDE THE EFFECTS OF HATCHING PERIOD, NATURAL MORTALITY, PLANT WITHDRAWAL RATES AND THE CONVECTIVE AND DISPERSIVE EFFECTS OF THE HUDSON'S HYDRODYNAMICS. THE HYDRODYNAMIC SIMULATION IS INTRA-TIDAL OR REAL-TIME. THE SPATIAL DISTRIBUTION OF THE ORGANISMS IS CALCULATED AT TWENTY-NINE LONGITUDINAL GRID POINTS IN BOTH THE UPPER AND LOWER LAYERS OF THE RIVER. COMPARISONS OF MODEL RESULTS AND FIELD DATA PROVIDE A MEASURE OF THE VERIFICATION OF THE MODEL.

0498 ERASLAN, A.H.; W. VAN WINKLE, JR.; R.D. SHARP; S.W. CHRISTENSEN; C.P. GOODYEAR; R.M. RUSH; W. FULKERSON

COMPUTER SIMULATION MODEL FOR THE STRIPED BASS YOUNG-OF-THE-YEAR POPULATION IN THE HUDSON RIVER [1975]

ORNL/NUREG-8. ORNL. OAK RIDGE. TN 208 PP

THIS REPORT PRESENTS A DAILY TRANSIENT (TIDAL-AVERAGED), LONGITUDINALLY ONE-DIMENSIONAL (CROSS-SECTION-AVERAGED) COMPUTER SIMULATION MODEL FOR THE ASSESSMENT OF THE ENTRAINMENT AND IMPINGEMENT IMPACTS OF POWER PLANT OPERATIONS ON YOUNG-OF-THE-YEAR POPULATIONS OF THE STRIPED BASS, MORONE SAXATILIS, IN THE HUDSON RIVER.

0499 ERASLAN. A.H.

UNIFIED TRANSPORT APPROACH MODELS FOR POWER PLANT IMPACT IN ESTUARIES [1976]

IN AMERICAN NUCLEAR SOCIETY 1976 ANNUAL MEETING, 13 JUNE 1976 TORONTO, CANADA, 10 PP

THE ASSESSMENT OF THE ENVIRONMENT IMPACT OF POWER PLANT OPERATIONS IN AN ESTUARY REQUIRES THE MODELLING OF BOTH PHYSICAL AND BIOLOGICAL PHENOMENA. IN ADDITION TO THE DIRECT ENTRAINMENT AND IMPINGEMENT OF THE AQUATIC ORGANISMS AT THE INTAKES, POWER PLANTS ALSO INDIRECTLY AFFECT THE BIOTA BY ALTERING THE AMBIENT HYDRODYNAMIC, THERMAL, AND WATER QUALITY CONDITIONS IN AN ESTUARY. THE MODELLING OF BOTH THE PHYSICAL AND THE BIOLOGICAL PHENOMENA CAN BE ACCOMPLISHED BY A UNIFIED TRANSPORT APPROACH WHICH EMPLOYS CONSISTENT BALANCE (MORE GENERAL THAN CONSERVATION) PRINCIPLES, DISCRETE-ELEMENT FORMULATION, INPUT DATA, AND COMPUTATIONAL ALGORITHMS FOR THE SOLUTION OF ALL THE REQUIRED PHYSICAL AND BIOLOGICAL VARIABLES. ONE-DIMENSIONAL MODELS WERE DEVELOPED BY ORNL AND UT STAFF FOR BOTH TIDAL-TRANSIENT AND TIDAL-AVERAGED SIMULATIONS OF THE PHYSICAL CONDITIONS AND THE BEHAVOIOR OF THE AQUATIC POPULATIONS IN ESTUARIES.

0500 ERASLAN, A.H.; K.H. KIM; J.L. HARRIS

THERMAL IMPACT ASSESSMENT OF MULTI POJER PLANT OPERATIONS ON ESTUARIES [1977]

PROC. ANS WINTER MEETING, SAN FRANCISCO, CA, 27 NOV 1977. ANS, HINSDALE, IL 7 PP

THE ASSESSMENT OF THE THERMAL IMPACT OF MULTI-POWER PLANT OPERATIONS ON LARGE ESTUARIES REQUIRES CAREFUL CONSIDERATION OF THE PROBLEMS ASSOCIATED WITH: RE-ENTRAINMENT, RE-CIRCULATION, THERMAL INTERACTION, DELAY IN THE ATTAINMENT OF THERMAL EQUILIBRIUM

STATE, AND UNCERTAINTY IN SPECIFYING OPEN BOUNDARIES AND OPEN BOUNDARY CONDITIONS OF THE REGIONS, WHICH ARE CRITICALLY IMPORTANT IN THE ANALYSIS OF THE THERMAL CONDITIONS IN RECEIVING WATER BODIES WITH TIDAL DOMINATED, PERIODICALLY REVERSING FLOW CONDITIONS. THE RESULTS OF AN EXTENSIVE STUDY IN THE HUDSON RIVER AT INDIAN POINT, 42 MI UPSTREAM OF THE OCEAN END AT THE BATTERY, CONCLUDED THAT THE TIDAL-TRANSIENT, MULTI-DIMENSIONAL DISCRETE-ELEMENT (UTA) THERMAL TRANSPORT MODELS (ESTONE, FLOTWO, TMPTWO COMPUTER CODES) AND THE NEAR-FIELD, FAR-FIELD ZONE-MATCHING METHODOLOGY CAN BE EMPLOYED WITH A HIGH DEGREE OF RELIABILITY IN THE ASSESSMENT OF THE THERMAL IMPACT OF MULTI-POWER PLANT OPERATIONS ON TIDAL DOMINATED ESTUARIES.

0501 ERLICHMAN, F.

DISTRIBUTION OF GROUND-WATER WITHDRAWALS ON LONG ISLAND, NEW YORK IN 1973 BY AREA, AQUIFER, AND USE [1979]

LI WATER RESEARCH BULL 10. SUFFOLK COUNTY WATER AUTH. HAUPPAUGE. NY 16 PP

USE OF GROUNDWATER ON LONG ISLAND HAS INCREASED DRAMATICALLY WITH CONTINUED EASTWARD URBANIZATION AND POPULATION GROWTH. ANNUAL TOTAL GROUNDWATER WITHDRAWALS FOR ALL USES HAVE INCREASED STEADILY SINCE THE 1880°S TO 496 MILLION GALLONS PER DAY (MGAL/D) IN 1973. PUBLIC-SUPPLY WITHDRAWALS IN 1973 ACCOUNTED FOR 75% OF THIS TOTAL; COMMERCIAL—INDUSTRIAL WITHDRAWALS ACCOUNTED FOR 23%, AND AGRICULTURAL WITHDRAWALS IN 1973, FROM LONG ISLAND MORE THAN DOUBLED BETWEEN 1940 AND 1973, FROM ABOUT 220 TO 496 MGAL/D. FROM 1952 TO 1973, PUBLIC-SUPPLY WITHDRAWALS INCREASED BY MORE THAN 50%, FROM 144 TO 374 MGAL/D; MOST OF THIS INCREASE WAS FROM THE MAGOTHY AQUIFER. PUMPING DENSITY DECREASES EASTWARD, IN DIRECT PROPORTION TO POPULATION DENSITY. THE GREATEST PUMPING DENSITY IS IN URBAN QUEENS COUNTY; THE SMALLEST IS IN EASTERN SUFFOLK COUNTY. THE GREATEST RATE OF INCREASE IN GROUNDWATER WITHDRAWALS TODAY ON LONG ISLAND IS IN WESTERN AND CENTRAL SUFFOLK COUNTY, WHERE DEVELOPMENT AND URBANIZATION ARE ALSO TAKING PLACE AT THE FASTEST RATE. WITHDRAWALS DURING 1973 ARE REPORTED BY USE, COUNTY, AND SOURCE AQUIFER. MAPS SHOWING AREAL DISTRIBUTION OF PUBLIC-SUPPLY WITHDRAWALS BY SOURCE AQUIFER IN 1973 AND 1952 ARE INCLUDED FOR COMPARISON.

0502 ERNST, E.J.

THE DISTRIBUTION, ECOLOGY, ENVIRONMENTAL BEHAVIOR AND POSSIBLE HYBRIDIZATION OF THE SEA STARS ASTERIUS FORBESI (PESOR) AND ASTERIUS VULGARIS VERILL IN THE SUBTIDAL ZONE OF LONG ISLAND [1967]

PH.D. THESIS. NEW YORK UNIV. NEW YORK, NY 84 PP

A DETAILED ECOLOGICAL STUDY OF THE ABUNDANCE, DISTRIBUTION AND BEHAVIOR OF THE TWO RELATED STARFISH SPECIES A. FORBESI AND A. VULGARIS OF LONG ISLAND.

0503 ERTEL. M.O.

THE ROLE OF CITIZEN ADVISORY GROUPS IN WATER RESOURCES PLANNING [1979]

WATER RESOUR BULL 15 (6):1515-1523

THE OPERATION OF CITIZEN ADVISORY GROUPS IN THE FIELD OF WATER RESOURCES PLANNING IS DISCUSSED. THREE GROUPS ARE EXAMINED: THE LONG ISLAND SOUND STUDY, THE SOUTHEASTERN NEW ENGLAND STUDY, AND THE FLOOD MANAGEMENT STUDY OF THE CONNECTICUT RIVER BASIN PROGRAM. THE CRITERIA AND PROCEDURES USED FOR MEMBER SELECTION ARE SURVEYED. FUNCTIONS OF THE GROUPS INCLUDE REVIEWS OF FINAL PLANS AND DEVELOPMENT OF A BASIS FOR PUBLIC SUPPORT FOR PLAN IMPLEMENTATION.

0504 ERWIN, R.M.; C.E. KORSCHGEN

COASTAL WATERBIRD COLONIES; MAINE TO VIRGINIA, 1977. AN ATLAS SHOWING COLONY LOCATIONS AND SPECIES COMPOSITION [1979]

FHS/OBS-79/08. BIOL SERVICES PROG. US FWS. WASHINGTON, DC NP

FROM MAR TO JUL 1976 AND 1977, BIOLOGISTS FROM THE MAINE AND MASSACHUSETTS COOPERATIVE WILDLIFE RESEARCH UNITS CONDUCTED COASTAL SURVEYS OF ALL SEABIRD AND WADING BIRD NESTING COLONIES FROM THE ME-CANADA BORDER TO THE SOUTHERN BOUNDARY OF VA. IN 10 STATES, 844 COLONY SITES CONTAINING FROM 1 TO 16 SPECIES WERE LOCATED. A TOTAL OF 327,496 NESTING PAIRS OF WATERBIRDS WAS FOUND IN HABITATS RANGING FROM WOODLAND SWAMPS TO SANDY BARRIER ISLANDS. ALL COLONY SITES ARE NUMBERED AND LOCATED ON 7.5 MINUTE QUADRANGLE MAPS. IN A TABLE FOLLOWING EACH MAP, THE COLONY SITES ARE DESCRIBED IN TERMS OF LOCATION, ISLAND AND COLONY SIZE, NEST SUBSTRATE, OWNERSHIP, NESTING SPECIES. INVENTORY DATE, THE ESTIMATED NUMBER OF BREEDING PAIRS AND THE INVENTORY METHOD FOR EACH SPECIES.

0505 ERWIN. R.M.

COASTAL WATERBIRD COLONIES: CAPE ELIZABETH, MAINE TO VIRGINIA [1979]

OFF OF BIOL SERVICES, US DEPT OF INTERIOR, WASHINGTON, DC 212 PP

IN 1976 AND 1977, SEABIRD AND WADING BIRD NESTING COLONIES WERE INVENTORIED ALONG THE NORTHEAST US COAST FROM CAPE ELIZABETH, ME TO THE VA-NC BORDER. A PARALLEL STUDY WAS CONDUCTED FOR THE ROCKY, ISLAND BOUND COASTAL REGION OF ME, NORTH OF CAPE ELIZABETH. COLONIES WERE SURVEYED AND CENSUSED FROM MAR TO JUL BY TEAMS OF BIOLOGISTS USING AERIAL AND GROUND-BASED METHODS. APPROXIMATELY 240,982 PAIRS OF WATERBIRDS (28 SPECIES) NESTED AT 522 COLONIES IN 1977. THE MOST ABUNDANT SPECIES, IN ORDER, WERE HERRING GULLS, LAUGHING GULLS, COMMON TERNS, GREAT BLACK-BACKED GULLS, SNOWY EGRETS, AND BLACK-CROWNED NIGHT HERONS. VA AND NJ HAD THE GREATEST AREA OF COASTAL WETLANDS AND HARBORED THE LARGEST POPULATIONS OF WATERBIRDS. WADING BIRDS USUALLY BEGIN NESTING AS EARLY AS LATE FEB AND MAR; MOST SEABIRDS ARRIVE IN APP OR MAY. MOST WATERBIRD YOUNG HAVE FLEDGED BY AUG. THIS REPORT IS ONE OF SEVERAL RECOUNTING THE RESULTS OF 1976-1977 SURVEYS OF NESTING COLONIES OF EGRETS, HERONS, GULLS, TERNS, AND THEIR ALLIES IN COASTAL AREAS ALONG PORTIONS OF THE US ATLANTIC, THE GREAT LAKES, AND THE NORTHERN GULF OF MEXICO.

0506 ESKIN. R.

THE COMMUNITY STRUCTURE OF INTERTIDAL NEMATODES IN AREAS OF VARIABLE CHRONIC LOW LEVEL OIL POLLUTION [1980]

M.S. THESIS. HOFSTRA UNIV. HEMPSTEAD, NY NP

THE INTERTIDAL NEMATORE POPULATION WAS SAMPLED AT THREE STATIONS INCREASINGLY DISTANT FROM AN OIL TERMINAL LOCATED AT THE END OF MOTTS BASIN, JAMAICA BAY, NY. THE TERMINAL WAS FOUND TO BE THE PRINCIPAL SOURCE OF LOW LEVEL CHRONIC OIL POLLUTION IN THE BASIN. THE FIRST SAMPLING STATION WAS IMMEDIATELY ADJACENT TO THE TERMINAL. THE SECOND STATION WAS APPROXIMATELY 300 M DISTANT FROM THE FIRST STATION AND THE THIRD STATION WAS IN AN ADJACENT BAY. THE SEDIMENT AT THE FIRST STATION WAS FOUND TO CONTAIN 3.4 MG H-C/G SEDIMENT. THE SECOND AND THIRD STATIONS EACH CONTAINED 0.5 MG H-C/G SEDIMENT OR LESS. TRELLIS DIAGRAM ANALYSIS REVEALED THE PRESENCE OF TWO COMMUNITIES. THE COMMUNITY AT STATION 1 CONSISTED PRIMARILY OF DICHROMADORA GEOPHYLA. STATIONS 2 AND 3 CONTAINED A SINGLE COMMUNITY DOMINATED BY ANTICOMA LITORIS AND METACHROMADORA OBESA WITH ALMOST NO OTHER CHROMADORIDS. SEDIMENT PARTICLE SIZE ANALYSIS AND MEASUREMENTS OF DISSOLVED OXYGEN AND PH REVEALED THE SITES TO BE SIMILAR PHYSICALLY EXCEPT FOR THE PRESENCE OF PETROLEUM CONTAMINATION. IT IS SUGGESTED THAT THE FORMATION OF TWO DISTINCT COMMUNITIES WITH FEW SPECIES IN COMMON IS A RESULT OF THE PRESENCE OF PETROLEUM PRODUCTS IN THE SEDIMENT.

0507 EVERTS, C.H.

BEACH PROFILE CHANGES ON WESTERN LONG ISLAND [1973]

PAGES 279-301 IN D.R. COATES, ED. COASTAL GEOMORPHOLOGY. SUNY, BINGHAMTON, NY

THIS PAPER DISCUSSES BEACH PROFILE CHANGES ACROSS A NINE MILE SECTION OF STRAIGHT COAST ON WESTERN LONG ISLAND IN RELATION TO

THE REVERSING TRANSPORT DIRECTION DURING MAJOR STORMS.

0508 EVERTS, C.H.; M.T. CZERNIAK

SPATIAL AND TEMPORAL CHANGES IN NEW JERSEY BEACHES [1978]

PAGES 444-459 IN COASTAL SEDIMENTS "77: 5TH SYMP OF THE WATERWAY, PORT COASTAL AND OCEAN DIVISION OF ASCE, CHARLESTON, SC, 2 NOV 1977. ASCE, NEW YORK, NY

SAND VOLUME CHANGES ABOVE MEAN SEA LEVEL (MSL) AND SHORELINE POSITION CHANGES OF MSL WERE OBTAINED FROM 4400 BEACH PROFILES ACQUIRED OVER A 10 YR PERIOD ALONG THREE NJ BARRIER ISLANDS. THE RESULTS PROVIDE INSIGHT INTO THE BEHAVIORAL CHARACTERISTICS OF SANDY OCEAN BEACHES. STORM CHANGES WERE HIGHLY VARIABLE BETWEEN ISLANDS, AND BETWEEN PROFILE LINES ON THE SAME ISLAND. OFTEN CHANGES ON PROFILE LINES LESS THAN 0.3 KM APART WERE OPPOSITE IN SIGN, SUGGESTING A CLOSER PROFILE LINE SPACING IS REQUIRED TO OBTAIN AN ACCURATE PICTURE OF STORM CHANGES. ON THO ISLANDS A DEFINITE SEASONAL CHANGE WAS FOUND WHEN 10 YR DATA WERE AVERAGED. THE MAXIMUM SAND VOLUME AND MOST SEAWARD SHORELINE POSITION OCCURRED IN AUG AND THE LEAST IN THE JAN-APR PERIOD. A YEAR-TO-YEAR COMPARISON OF SURVEYS WOULD BE BEST USING DATA COLLECTED FROM JAN THROUGH APR BECAUSE CHANGES FROM MONTH TO MONTH WERE LEAST THEN. LARGE VARIATIONS IN BEACH CHANGES WERE MEASURED FROM ONE YEAR TO THE NEXT, AND ON ONE OF THE THREE ISLANDS 10 YEAR DATA DID NOT APPEAR SUFFICIENT TO ESTABLISH A LONG TERM TREND IN BEACH BEHAVIOR.

0509 FAHAY, M.P.

OCCURRENCE OF SILVER HAKE, MERLUCCIUS BILINEARIS, EGGS AND LARVAE ALONG THE MIDDLE ATLANTIC CONTINENTAL SHELF DURING 1966

FISH BULL 72(3):813-834

DURING AN ICHTHYOPLANKTON SURVEY OVER THE CONTINENTAL SHELF BETWEEN MARTHA'S VINEYARD, MA AND CAPE LOOKOUT, NC, FROM DEC 1965 TO DEC 1966, 3,241 EGGS AND 11,032 LARVAE OF THE SILVER HAKE, MERLUCCIUS BILINEARIS, WERE COLLECTED. EGGS WERE COLLECTED FROM MAY UNTIL NOV, WITH A PEAK IN JUNE. MOST OF THE EGGS (77%) WERE COLLECTED SOUTH OF MARTHA'S VINEYARD, MA. THE SOUTHERNMOST OCCURRENCE OF EGGS WAS OFF NC IN NOV. LARVAE WERE COLLECTED FROM MAY UNTIL DEC, WITH A PEAK IN SEPT. LARVAE WERE MOST ABUNDANT ON THE SHELF BETWEEN HUDSON CANYON AND MARTHA'S VINEYARD. THE EVIDENCE SUGGESTS THAT MOST OF THE EGGS AND LARVAE COLLECTED ON THE SURVEY HAD BEEN SPAWNED NEAR THE NORTHEASTERN EDGE OF THE SURVEY AREA AND DRIFTED SOUTHWESTERLY. THERE IS ALSO EVIDENCE OF A SIZE-RELATED, DIEL, VERTICAL MIGRATION BY THE POSTLARVAE.

0510 FAHAY. M.P.; C.L. OBENCHAIN

LEPTOCEPHELI OF THE OPHICHTHID GENERA AHLIA, MYROPHIS, OPHICHTHUS, PISODONOPHIS, CELLECHELYS, LETHERCHUS, AND APTERICHTUS ON THE ATLANTIC CONTINENTAL SHELF OF THE UNITED STATES [1978]

BULL MAR SCI 28(3):442-486

THELVE LEPTOCEPHALI OF THE FAMILY OPHICHTHIDAE ARE DESCRIBED AND ILLUSTRATED. ELEVEN TYPES ARE SPECIFICALLY IDENTIFIED. AHLIA EGMONTIS, MYROPHIS PUNCTATUS, M. PLATYRHYNCHUS, OPHICHTHUS OPHIS, D. MELANOPORUS, O. OCELLATUS, O. GOMESI, PISODONOPHIS CRUENTIFER, LETHARCHUS VELIFER, APTERICHTUS ANSP, AND A. KENDALLI. ONE TYPE IS ASSIGNED TO THE GENUS CALLECHELYS. DISTRIBUTION MAPS SHOWING CAPTURE LOCTIONS ON THE ATLANTIC CONTINENTAL SHELF ARE INCLUDED FOR EACH TYPE. MONTHLY LENGTH-FREQUENCIES ARE PROVIDED FOR 10 OF THE MORE ABUNDANT TYPES. MORPHOMETRIC TABLES SHOWING CHANGES IN BODILY PROPORTIONS WITH GROWTH ARE INCLUDED FOR NINE TYPES. THE LARVAL EVIDENCE SUPPORTS MCCOSKER'S (1977) REMOVING ECHELUS FROM THE SUBFAMILY MYROPHINAE AND REASSIGNING IT TO THE OPHICHTHINAE. WE DISCUSS THE GENERIC IDENTIFICATION OF NOMINAL PISODONOPHIS CRUENTIFER, ACKNOWLEDGE THE DISSIMILARITY OF THAT SPECIES TO EASTERN ATLANTIC AND PACIFIC PISODONOPHIS, BUT QUESTION ASSIGNING P. CRUENTIFER TO OPHICHTHUS (MCCOSKER, 1977). WESTERN ATLANTIC P. CRUENTIFER LARVAE ARE SHOWN TO BE SIGNIFICANTLY DIFFERENT FROM OPHICHTHUS LARVAE. THE DEGREE OF GUT

LOOPING IN OPHICHTHID LEPTOCEPHALI IS RELATED TO THE AMOUNT AND NATURE OF PIGMENTATION, AND BOTH LARVAL CHARACTERS ARE RELATED TO BODY ELONGATION AND FIN REDUCTION IN ADULTS. THE LEPTOCEPHALI OF AHLIA HAVE WEAKLY SWOLLEN GUTS AND SCATTERED PIGMENT PATIERNS AND THE ADULTS ARE RELATIVELY THICK-BODIED AND RETAIN A WIDE-BASED PECTORAL FIN AND HIGH MEDIAN FINS. THE LEPTOCEPHALI OF APTERICHTUS HAVE STRONGLY LOOPED GUTS AND CONSOLIDATED PIGMENT PATTERNS AND THE ADULTS ARE RELATIVELY ELONGATE AND LACK ALL FINS. GENERA BETWEEN THESE EXTREMES DISPLAY A PROGRESSION OF BOTH LARVAL AND ADULT CHARACTERS.

DS11 FAHAY, M.P.

BIOLOGICAL AND FISHERIES DATA ON AMERICAN EEL, ANGUILLA ROSTRATA (LE SUEUR) [1978]

TECH SER REP 17. NOAA, HIGHLANDS, NJ 78 PP

THIS REPORT BRIEFLY DESCRIBES THE AMERICAN EEL, INCLUDING TAXONOMY, DISTRIBUTION, REPRODUCTION AND DEVELOPMENT, NUTRITION, POPULATION DYNAMICS, EXPLOITATION, MANAGEMENT, FISH CULTURE AND UTILIZATION AS FOOD. THERE ARE NO PRESENT LIMITATIONS ON THE EEL. THE REPORT INCLUDES SEVERAL RECIPIES USING EEL.

0512 FAIRBANKS, R.G.; P.H. WIEBE

FORAMINIFERA AND CHLOROPHYLL MAXIMUM: VERTICAL DISTRIBUTION, SEASONAL SUCCESSION, AND PELEOCEANOGRAPHIC SIGNIFICANCE [1980]

SCIENCE 209:1524-1526

MANY PLANKTONIC FORAMINIFERAL SPECIES DEPOSIT THEIR SHELLS AT THE CHLOROPHYLL MAXIMUM ZONE, AND IT IS THE TEMPERATURE RANGE HERE THAT IS RELEVANT TO OCEANOGRAPHIC MODELS WHICH USE RATIOS OF OXYGEN-18 TO OXYGEN-16 IN FOSSIL FORAMINIFERA AND FORAMINIFERAL FOSSIL ASSEMBLAGES TO ASCERTAIN PAST CLIMATES. DURING PERIODS OF STRATIFICATION OF THE UPPER WATER COLUMN, THE TEMPERATURE AT THE CHLOROPHYLL MAXIMUM MAY DIFFER FROM THE SEA SURFACE TEMPERATURE BY 10 C IN THE WESTERN NORTH ATLANTIC.

0513 FALES, R.R.

THE INFLUENCE OF TEMPERATURE AND SALINITY ON THE TOXICITY OF HEXAVALENT CHROMIUM TO THE GRASS SHRIMP PALAEMONETES PUGIO (HOLTHUIS) [1978]

BULL ENVIRONM CONTAM TOXICOL 20(4):447-450

THE INFLUENCE OF TEMPERATURE AND SALINITY ON THE CAPACITY OF HEXAVALENT CR TO CAUSE PHYSIOLOGICAL DAMAGE TO THE GRASS SHRIMP P-PUGIO AS EVIDENCED BY STATIC 48-HR ACUTE TOXICITY BIOASSAYS PERFORMED IN 8 DIFFERENT THERMOSALINE COMBINATIONS (10 C, 15 C, 20 C, 25 C WITH 10 AND 20 0/00) ARE PRESENTED. THE SHRIMP WERE COLLECTED BY SEIGNING THE ULVA BEDS AT THE MOUTH OF THE SHREWSBURY RIVER IN SANDY HOOK PAY, SANDY HOOK, J. ALL MATERIALS AND METHODS ARE DISCUSSED. FOR ACUTE EXPOSURE, THE CAPACITY OF HEXAVALENT CR TO CAUSE PHYSIOLOGICAL DAMAGE TO P. PUGIO IS ENHANCED BY INCREASED TEMPERATURE OR DECREASED SALINITY AS EVIDENCED BY THE SMALLER MTL (MEDIAN TOLERANCE LIMIT) VALUES. THE SUSCEPTIBILITY OF THE SHRIMP WAS GREATEST AT 25 C AND 10 0/00 AND LEAST AT 10 C AND 20 0/00. SALINITY WAS MORE CONSISTENT IN ALTERING TOXICITY. P. PUGIO IS MOST LIKELY TO BE ADVERSELY AFFECTED BY HEXAVALENT CR WHEN THE HABITAT IS HARM AND DILUTE. SINGLE-VALUE CR EXPOSURE STANDARDS FOR ESTUARINE ORGANISMS ARE INSUFFICIENT UNLESS THEY ARE DERIVED FROM THE MOST DELETERIOUS COMBINATION OF VARIABLES THAT THE ORGANISMS ARE LIKELY TO ENCOUNTER. CHRONIC EXPOSURE TO LOWER CONCENTRATIONS THEN THOSE USED IN THE STUDY COULD CAUSE SUBLETHAL DISTURBANCE, I.E., DECREASED REPRODUCTIVE POTENTIAL OR INCREASED SUSCEPTIBILITY TO PREDATION OR ENVIRONMENTAL EXTREMES.

0514 FALKOWSKI, P.G.; S.O. HOWE

PRELIMINARY REPORT TO IDOE ON THE POSSIBLE EFFECTS OF THE CERATIUM TRIPOS BLOOM. IN THE NEW YORK BIGHT, MARCH-JULY 1976 [1976]

IN EFFECTS OF DINOFLAGELLATE RESPIRATION ON RATE OF OXYGEN DEPLETION OCEAN 76 SYMP, 13 SEPT 1976, WASHINGTON, DC. 9 PP

FROM MAR TO JUL 1976, THE OCCURRENCE OF A SUBSURFACE CHLOROPHYLL A MAXIMUM AT A DEPTH OF APPROX. 30M, OVER A LARGE AREA OF THE NEW YORK BIGHT, EXTENDING FROM THE EASTERN END OF LONG ISLAND, NY TO SOUTHERN NJ, WAS ATTRIBUTED, IN LARGE PART, TO THE PREDOMINANCE OF THE DINOFLAGELLATE, CERATIUM TRIPOS. DIRECT EVIDENCE FROM FIELD OBSERVATIONS INDICATES THE ORGANISM IS CAPABLE OF REDUCING INORGANIC CARBON, IN THE PRESENCE OF LIGHT, AND HAS LIGHT-INDEPENDENT NITRATE REDUCTASE ACTIVITY. HOWEVER, THE MAXIMUM ABUNDANCE OF C. TRIPOS WAS OBSERVED BELOW THE 0.3 % LIGHT DEPTH, WHICH IS COINCIDENT WITH THE BASE OF THE THERMOCLINE. WHILE IT IS PROBABLE THAT THE CELLS IN THE OVERLYING MIXED LAYER ARE AUTOTROPHIC, THE MAJORITY OF THE POPULATION, BELOW THE COMPENSATION DEPTH, AND THERMOCLINE IS SUGGESTED TO BE CAPABLE OF PHAGOTROPHY. OBSERVATIONS OF PARTICLE INGESTION BY CERATIA HAVE BEEN PUBLISHED. THE SULCAL OPENING IN C. TRIROS IS APPROX. 20 MICRONS WIDE (FALKOWSKI, UNPUBLISHED DATA) AND SIMILAR TO THE OPENING OF C. LUNULA, A SPECIES KNOWN TO BE PHAGOTROPHIC. IF THE MYXOTROPHIC HYPOTHESES ARE TRUE, THE ORGANISMS BELOW THE THERMOCLINE DID NOT CONTRIBUTE TO THE NET PRODUCTIVITY OF THE WATER COLUMN DIRECTLY. CONSEQUENTLY, NET COMMUNITY RESPIRATION BELOW THE THERMOCLINE WOULD REPUTE THE OXYGEN CONTENT OF THE BOTTOM WATER. IF THE RESPIRATION RATE OF THE CERATIA EXCEEDED THE RENEWAL OF OXYGENATED WATER, THE NET LOSS OF OXYGEN COULD CONTRIBUTE TO LOCAL POCKETS OF LOW 02. THESE REGIONS WOULD APPEAR THE EBENTHIC RESPIRATION WAS HIGH, AND/OR THERE WAS LITTLE PHYSICAL MIXING. A COMPUTER SIMULATION MODEL WAS BUILT TO EXPLORE THE COMBINED EFFECTS OF BENTHIC RESPIRATION AND CERATIUM RESPIRATION ON THE RATE OF OXYGEN DEPLETION BELOW THE THERMOCLINE.

0515 FARLOP, N.P.

CAPE MAY TO MONTAUK [1973]

VIKING PRESS, NEW YORK, NY 127 PP

THIS PAPER DESCRIBES THE NATURAL HISTORY AND FLORA AND FAUNA OF THE COAST FROM CAPE MAY, NJ TO MONTAUK POINT, LONG ISLAND. IT ALSO DESCRIBES MAN'S INTERACTION WITH THE ENVIRONMENT IN THIS AREA.

0516 FARRINGTON, J.W.

PROBLEMS ASSOCIATED WITH THE COLLECTION OF MARINE SAMPLES AND ANALYSIS OF HYDROCARBONS [1974]

PAGES 269-278 IN R.E. SMITH ED. PROC OF MARINE ENVIRON IMPLICATIONS OF OFFSHORE DRILLING IN THE EASTERN GULF OF MEXICO. FLORIDA STATE UNIV, TALLAHASSEE, FL

THE COLLECTION OF MARINE SAMPLES FOR THE PURPOSE OF HYDROCARBON ANALYSIS MUST BE UNDERTAKEN WITH EXTREME CARE TO AVOID CONTAMINATION DURING THE SAMPLING OPERATION. SIMILARLY, APPROPRIATE CONTROLS SHOULD BE CARRIED THROUGH THE EXTRACTION AND ANALYSIS PROCEDURES TO INSURE THAT HYDROCARBONS ARE NOT INTRODUCED INTO THE SAMPLES FROM THE SHIP'S ATMOSPHERE, THE LABORATORY ATMOSPHERE, OR FROM SOLVENTS AND REAGENTS. INTERCALIBRATION PROCEDURES ARE ESSENTIAL. DETECTION OF PETROLEUM HYDROCARBONS IN THE PRESENCE OF RECENTLY BIOSYNTHESIZED HYDROCARBONS IS DISCUSSED. THE NEED FOR CLOSELY SPACED SAMPLING STATIONS IN SOME AREAS TO PROVIDE BASELINE DATA IS ILLUSTRATED BY RESULTS OF ANALYSES OF SATURATED HYDROCARBONS IN SURFACE SEDIMENTS FROM THE NEW YORK BIGHT AREA AND THE CONTINENTAL SHELF TO THE EAST.

0517 FARRINGTON, J.W.; B.W. TRIPP

HYDROCARBONS IN WESTERN NORTH ATLANTIC SURFACE SEDIMENTS [1977]

GEOCHIM COSMOCHIM ACTA 41:1627-1641 NTIS-PB-278 423

HIGH CONCENTRATIONS OF HYDROCARBONS TOGETHER WITH A COMPLEX AND WIDE MOLECULAR WEIGHT RANGE OF COMPOSITION, AND LOW C-14 ACTIVITY STRONGLY INDICATE THAT FOSSIL FUEL HYDROCARBONS MAKE UP THE BULK OF HYDROCARBONS IN AND NEAR THE NEW YORK BIGHT DUMP SITE AREAS. THE COMPOSITION AND CONCENTRATIONS OF HYDROCARBONS IN HUDSON CHANNEL SEDIMENTS SUGGEST SOME TRANSPORT OF DUMP SITE

HYDROCARBONS TO AREAS IN THE CHANNEL MIDWAY TO THE EDGE OF THE CONTINENTAL SHELF. SEDIMENTS AT 16 STATIONS IN OTHER AREAS OF THE CONTINENTAL SHELF, CONTINENTAL SLOPE, AND ABYSSAL PLAIN HAVE HYDROCARBON CONCENTRATIONS AND COMPOSITIONS INDICATING THAT NO MORE THAT 1 MICROGRAM/G DRY WEIGHT OF FOSSIL FUEL HYDROCARBONS ARE PRESENT. N-ALKANES FROM LAND SOURCES WERE AMONG THE MOST PREDOMINANT HYDROCARBONS IN ALL SAMPLES EXCEPT THOSE IN THE NEW YORK BIGHT REGION. THEIR PRESENCE IN ABYSSAL PLAIN SURFACE SEDIMENTS DOCUMENTS TRANSPORT OF SOME LAND DERIVED ORGANIC MATTER TO THESE DEEP OCEAN AREAS. TWO 25-CARBON CYCLOALKENES ARE AMONG THE MORE PREDOMINANT HYDROCARBONS IN CONTINENTAL SHELF SURFACE SEDIMENTS EXCEPT FOR THE DUMP SITE AREAS.

0518 FARRINGTON, J.W.

THE BIOGEOCHEMISTRY OF OIL IN THE OCEAN [1978]

OCEANUS 20(4):5-14

PETROLEUM SPILLS CONTINUE TO CONTAMINATE BOTTOM SEDIMENTS LONG AFTER THE OIL HAS DISAPPEARED FROM THE WATER SURFACE. PETROLEUM HYDROCARBON CONCENTRATIONS ALONG THE US ATLANTIC COAST CONTINENTAL MARGIN ARE 1-10 LG/G SEDIMENT. IN THE NEW YORK BIGHT AREA CONCENTRATIONS INCREASE TO 50-2,000 LG/G. CARBON-14 MEASUREMENTS INDICATE THAT 10%-20% OF THE HYDROCARBONS AT THE BIGHT DUMP SITE ARE RECENTLY BIOSYNTHESIZED NONPETROLEIUM HYDROCARBONS. THE MAJOR HYDROCARBON SOURCES IN THE DUMP SITE AREA ARE CONTAMINATED DREDGE SPOIL AND SEWAGE SLUDGE. DUMPING IN THE BIGHT CONTRIBUTES ABOUT 3.6 X 10 EXP3 TPY OF HYDROCARBONS TO CONTINENTAL SHELF SEDIMENTS. SEDIMENTS IN THE BUZZARDS BAY STUDY. AREA CONTAIN A HISTORICAL RECORD OF THE FALLOUT OF URBAN AIR HYDROCARBONS. IT IS NOT KNOWN WHETHER THE CONCENTRATIONS OF PAH FROM URBAN AIR FALLOUT IN THE SURFACE SEDIMENTS ARE CAUSING ECOSYSTEM STRESS.

0519 FARRINGTON, J.W.

AN OVERVIEW OF THE BIOGEOCHEMISTRY OF FOSSIL FUEL HYDROCARBONS IN THE MARINE ENVIRONMENT (1980)

PAGES 1-22 IN 176TH MEETING OF THE ACS, MIAMI BEACH, FL, SEP 13-14, 1978. ACS, WASHINGTON, DC

THE DEMAND FOR DETAILED ANALYSES OF FOSSIL FUEL HYDROCARBONS IN SAMPLES OF THE CONTEMPORARY ENVIRONMENT HAS INCREASED DRAMATICALLY SINCE 1970 DUE TO AN INCREASED NEED TO UNDERSTAND SOURCES, FATES, AND EFFECTS OF FOSSIL FUEL HYDROCARBONS IN THE ENVIRONMENT. A BRIEF REVIEW OF PROGRESS DURING THIS PERIOD OF TIME IS PRESENTED WITHIN THE CONTEXT OF THE NEEDS OF ANALYTICAL CHEMISTRY IN FATE AND EFFECTS STUDIES. A BRIEF REPORT ON THE STATUS OF INTERCALIBRATION SUCCESSES AND FAILURES IS PRESENTED. GUIDELINES FOR INTERPRETATION OF ANALYSES, FOSSIL FUEL HYDROCARBONS, AND PROBLEMS AND LIMITATIONS IN DATA INTERPRETATIONS ARE SET FORTH USING EXAMPLES FROM RECENT STUDIES OF THE CONTEMPORARY MARINE ENVIRONMENT: FUEL OIL SPILLS, OCEAN DUMPING OF SEMAGE SLUDGE AND DREDGE SPOIL, LOW LEVEL CHRONIC CONTAMINATION FROM URBAN AIR FOSSIL FUEL COMPOUNDS, ANALYSES OF MUSSELS FROM THE EAST COAST OF THE US. PRESENT AND FUTURE NEEDS FOR ANALYSES FOR FATE, EFFECTS, AND MONITORING ARE DISCUSSED AND A PROGNOSIS IS PRESENTED.

0520 FEE, J.J.; W. LASCELLE; D. NIERI

CONCEPT DEVELOPMENT AND SIMULATION TEST PLAN FOR AN ADVANCED CAPABILITIES VESSEL TRAFFIC SYSTEM [1980]

NMRC, GALVESTON, TX 77 PP NTIS-PB80-212 210

THE PREVENTION OF MARINE ACCIDENTS, PARTICULARLY THOSE INVOLVING ECOLOGICALLY HAZARDOUS MATERIALS HAS BECOME A VITAL NATIONAL CONCERN IN THE PAST DECADE. THE ESTABLISHMENT OF VESSEL TRAFFIC SERVICES (VTS) BY THE FEDERAL GOVERNMENT WAS UNDERTAKEN TO IMPROVE THE SAFETY OF MARITIME TRANSPORTATION IN MAJOR US HARBORS. THE EXISTING VTS WERE DEVELOPED USING STATE-OF-THE-ART TECHNOLOGY AND DO NOT REQUIRE SPECIAL EQUIPMENT FOR THE PARTICIPATING SHIP WHICH MUST, HOWEVER, BE CAPABLE OF COMMUNICATING ON THE VHF RADIO CHANNELS DESIGNATED FOR THIS PURPOSE. THIS REPORT DISCUSSES DEFICIENCIES OF CURRENT VTS TECHNOLOGY AND PARTICIPATES IN THE CONTEXT OF PILOT NAVIGATIONAL NEEDS AND DEVELOPS THE CONCEPT FOR THE INTRODUCTION OF AN ADVANCED VESSEL

TRAFFIC SERVICE (ACVTS) WHICH WOULD UTILIZE A DIGITAL LINK TO OBTAIN SHIP IDENTITY AND POSITION AND PROVIDE A COMMON DIGITAL DATA BROADCAST TO ALL PARTICIPANTS WHICH WOULD GIVE EACH PILOT A SHIP-CENTERED DISPLAY OF TRAFFIC IN HIS VICINITY. THE CONCEPT IS BASED UPON THE INTERNATIONALLY ADOPTED DIGITAL SELECTIVE SIGNALING SYSTEM FOR MARITIME COMMUNICATIONS AND WOULD UTILIZE ADVANCED STATE-OF-THE-ART PORTABLE DISPLAYS FOR THE PILOTS INVOLVED. THE TECHNICAL FEASIBILITY OF THIS CONCEPT IS ILLUSTRATED AND THE MAJOR TECHNICAL TRADE-OFFS ARE DEVELOPED.

0521 FEELY, H.W.; G.W. KIPPHUT; R.M. TRIER; C. KENT; E.P. HARDY, JR.

APPARENT DISTRIBUTION OF RA-228 AND TH-228 BETWEEN SOLUTION AND PARTICLES IN THE WATERS OF THE MIDDLE ATLANTIC BIGHT [1979]

ENVIRON QUART 1979(2):125-146

THE MEAN RESIDENCE TIME OF THORIUM IS SHORTER IN THE WATERS ABOVE THE INNER CONTINENTAL SHELF OF THE MIDDLE ATLANTIC BIGHT THAN IT IS IN THE NEAR SURFACE WATERS ABOVE THE CONTINENTAL SLOPE. IT IS THEREFORE EXPECTED THAT A LARGER FRACTION OF THE THORIUM IS ATTACHED TO SUSPENDED PARTICULATES IN SHELF WATERS THAN IN THE NEAR SURFACE WATERS OF THE OPEN OCEAN. IN APPARENT CONFIRMATION OF THIS, IT WAS FOUND THAT FILTRATION OF SAMPLES OF SURFACE WATER THROUGH GLASS FIBER FILTERS REMOVES ABOUT 20% OF THE TH-228 FROM SLOPE WATER AND OUTER SHELF WATER. AND ABOUT 45% OF THE TH-228 FROM MID-SHELF AND INNER-SHELF WATER. DOCUMENT CONTAINS NUMERIC DATA.

Q522 FEELY, H.W.; G.W. KIPPHUT; R.M. TRIER; C. KENT

RA-228 AND TH-228 IN COASTAL WATERS [1980]

ESTUARINE COASTAL MAR SCI 11:179-205

TYPICALLY, THE WATERS ABOVE THE CONTINENTAL SHELF CONTAIN HIGH CONCENTRATIONS OF RA-228 BUT LOWER CONCENTRATIONS OF TH-228 THAN DO THE SURFACE WATERS OF THE OPEN OCEAN. THE VERTICAL PROFILES OF RA-228 CONCENTRATION IN THE SHELF WATERS OF THE MIDDLE ATLANTIC BIGHT SUGGEST THAT THE SHELF SEDIMENTS ARE THE CHIEF SOURCE OF RA-228, BUT THAT THE SEDIMENTS OF BAYS AND ESTUARIES ARE A SIGNIFICANT SECONDARY SOURCE. IN THE MID-SHELF AND OUTER SHELF WATERS OF THE BIGHT, THE RA-228 CONCENTRATION INCREASES AND THE TH-228/RA-228 ACTIVITY RATIO DECREASES FROM THE REGION BORDERING NOVA SCOTIA TO THE REGION JUST NORTH OF CAPE HATTERAS. THE MEAN RESIDENCE TIME OF THORIUM IN THE SURFACE WATERS OF THE BIGHT, CALCULATED FROM THE TH-228/RA-228 ACTIVITY RATIOS, RANGES FROM 4 MO IN THE SLOPE WATERS AND OUTER SHELF WATERS AND 1.5 MO IN THE INNER SHELF WATERS OF THE REGION BORDERING NOVA SCOTIA TO 1.5 MO IN THE SLOPE WATERS, 20 D IN THE OUTER SHELF WATERS AND 10 D IN THE INNER SHELF WATERS OF THE REGION JUST NORTH OF CAPE HATTERAS. THE VERTICAL PROFILES OF TH-228 CONCENTRATION IN THE SURFACE MIXED LAYER AND THERMOCLINE OF THE OPEN OCEAN QUALITATIVELY RESEMBLE THE PROFILES OF CONCENTRATIONS OF NUTRIENTS, SUCH AS PHOSPHATE. THE PROCESS MOST LIKELY TO PRODUCE THE OBSERVED RAPID TRANSPORT OF THORIUM OUT OF THE SURFACE WATERS PROBABLY INVOLVES UPTAKE OF THORIUM BY PHYTOPLANKTON, INCRESTION OF THE PHYTOPLANKTON BY ZOOPLANKTON, AND INCLUSION OF THE THORIUM IN RAPIDLY SETTLING FECAL PELLETS.

0523 FELDHAUSEN. P.H.; S.A. ALI

SEDIMENTARY ENVIRONMENTAL ANALYSIS OF LONG ISLAND SOUND, USA WITH MULTIVARIATE STATISTICS. [1976]

PAGES 73-97 IN D.R. MERRIAM, ED. QUANTITATIVE TECHNIQUES FOR THE ANALYSIS OF SEDIMENTS: AN INTERNATIONAL SYMPOSIUM. PERGAMON PRESS, OXFORD, UK

A MULTIVARIATE STATISTICAL STRATEGY, WHICH REDUCES THE SAMPLE-VARIABLE MATRIX TO A SET OF INTERPRETABLE GRAPHICAL RELATIONSHIPS, WAS USED TO MAXIMIZE THE ENVIRONMENTAL INFORMATION EXTRACTED FROM BOTTOM SEDIMENT, GRAIN-SIZE DATA FOR LONG ISLAND SOUND. USA. THE WEIGHT PERCENT WHOLE PHI VARIABLES WERE TESTED FOR REDUNDANCY USING R-MODE CLUSTER ANALYSIS. Q-MODE CLUSTER ANALYSIS PARTITIONED 57 TRAVERSE SAMPLES INTO FIVE FACIES. THIS CLASSIFICATION WAS EXTENDED TO THE OTHER 171 SAMPLES THROUGH DISCRIMINANT ANALYSIS. URDINATION WAS EMPLOYED TO DEPICT THE GRADATIONAL RELATIONSHIPS AMONG THE SAMPLES AND FACIES.

AND TO OBSERVE SIGNIFICANT ENVIRONMENTAL AND TEXTURAL PARAMETER GRADIENTS WITHIN THE SAMPLE SPACE. INTERPRETATIONS OBTAINED WITH THE ORDINATION AND WITH OTHER STANDARD TECHNIQUES WERE TESTED BY COMPARING THE FACIES MAP WITH THE DISTRIBUTION OF KNOWN ENVIRONMENTAL PHENOMENA. FIVE ENVIRONMENTALLY SIGNIFICANT FACIES WERE DETERMINED FOR LONG ISLAND SOUND WITH THE DESCRIBED STRATEGY. THESE FACIES ARE: (1) CLAYEY SILT. (2) SANDY-CLAYEY SILT. (3) SILTY-CLAYEY SAND. (4) SILTY SAND, AND (5) SANDS, WHICH CONTAIN INDIVIDUALLY SOMEWHAT DISSIMILAR SAMPLES. THE SAND AND SILTY-SAND FACIES ARE RESTRICTED TO SHOAL AREAS AND THE MARGINS OF THE SOUND. MOST OF LONG ISLAND SOUND, HOWEVER, IS BLANKETED BY SEDIMENTS WHICH CONTAIN A HIGH PORTION OF SILT-SIZED PARTICLES. A SCARCITY OF SEDIMENT SOURCES IS SUGGESTED BY THE FINE NATURE OF THE SEDIMENT.

0524 FELDMAN, J.; P. MATHEWS-MUSUMECI

REGION II 1978-79 ERAMS SUMMARY, DATA REPORT [1984]

US EPA, NEW YORK, NY 45 PP

THIS REPORT CONTAINS DATA OBTAINED FROM THE REGION II ERAMS STATIONS DURING 1978 AND 1979. METHODS AND PROCEDURES OF COLLECTION AND ANALYSIS ARE DESCRIBED. DATA ARE SUMMARIZED IN TABLE FORM AND ANALYZED TO DETERMINE ANY CHANGES IN THE RADIOLOGICAL QUALITY OF THE ENVIRONMENT. ANALYSIS OF THE DATA SHOWS THAT LEVELS OF RADIONUCLIDES WERE WELL WITHIN FEDERAL LIMITS FOR AIR, WATER, AND MILK. LEVELS WERE RELATIVELY CONSISTENT DURING THE TWO-YEAR PERIOD. THERE WERE NO MEASUREABLE INCREASES IN THE LEVELS OF RADIONUCLIDES ATTRIBUTABLE TO THE THREE MILE ISLAND INCIDENT.

0525 FELL. P.E.

VARIATION IN THE TIME OF ANNUAL DEGENERATION OF THE ESTUARINE SPONGE, HALICLONA LOOSANOFFI [1978]

ESTUARIES 1(4):261-264

HALICLONA LOOSANOFFI OCCURS IN AN ACTIVE FORM IN THE MYSTIC ESTUARY, CT, DURING A PERIOD WHICH MAY BE AS SHORT AS 2 MO OR AS LONG AS 5 MO, D'EPENDING UPON THE YEAR. VARIATION IN THE TIME OF DEGENERATION OF THE SPONGE IS NOT CLEARLY RELATED TO DIFFERENCES IN ESTUARINE WATER TEMPERATURE OR SALINITY. EARLY DEGENERATION DOES NOT APPEAR TO AFFECT SEXUAL REPREDUCTION, BUT IT MAY SEVERELY LIMIT GEMMULE PRODUCTION.

0526 FELLEMAN, J.P.

COASTAL LANDFORMS AND SCENIC ANALYSIS: A REVIEW OF THE LITERATURE, WITH A PRELIMINARY EXAMINATION OF NEW YORK'S SHORELINE

PAP NO 76071303. NOAA AND NYSG, ALBANY, NY 55 PP NTIS-PB-258 455

THE REPORT IS AN EXTENSION OF THE COASTAL ZONE MANAGEMENT PROGRAM OF NEW YORK. IT DISCUSSES THE SHORELINE AREAS FROM MORE OF AN AESTHETIC OR ARCHITECTURAL POINT OF VIEW RATHER THAN, FOR EXAMPLE, FROM AN ECONOMIC OR SCIENTIFIC VIEWPOINT. THE REPORT ASSESSES THE LANDFORM FEATURES AND GIVES SCENIC ANALYSES.

0527 FENG, S.Y.; G.M. RUDDY

CONCENTRATIONS OF ZINC, COPPER, CADMIUM, MANGANESE AND MERCURY IN OYSTERS (CRASSOSTREA VIRGINICA) ALONG THE CONNECTICUT COAST

PAGES 109-130 IN 3RD INTERNAT'L OCEAN DEVELOPMENT CONFERENCE, TOKYO, JAPAN, 5 AUG 1975. VOL 4

C. VIRGINICA MAINTAINED AT 6 STATIONS: NORWALK HARBOR, BRIDGEPORT, HOUSATONIC RIVER, NEW HAVEN HARBOR, NEW LONDON HARBOR AND NOANK ALONG TH NORTH SHORE OF LONG ISLAND SOUND WERE MONITORED FOR CONCENTRATIONS OF ZN. CU. CD. MN AND HG FROM JUNE 1972 TO MARCH 1974 ON A MONTHLY BASIS. THE CONCENTRATION OF METALS IN FREEZE-DRIED TISSUES WAS DETERMINED BY THE ESTABLISHED ATOMIC ABSORPTION SPECTROPHOTOMETRY. ALONG THE CT COAST, BRIDGEPORT AND HOUSATONIC RIVER WERE IDENTIFIED AS THE FOCI OF HIGHEST METAL CONCENTRATIONS, WHERE THE COMBINED CONCENTRATION OF ZN AND CU ACCOUNTED FOR APPROX 1% OF THE FREEZE-DRIED TISSUE WEIGHT, WHILE NORWALK HARBOR AS WELL AS NEW HAVEN HARBOR. NEW LONDON HARBOR AND NOANK COULD BE CLASSIFIED AS MEDIUM AND LOW METAL BURDEN AREAS RESPECTIVELY. SUCH A PATTERN OF DISTRIBUTION APPEARS TO BE ASSOCIATED WITH THE CENTERS OF INDUSTRIAL DEVELOPMENT ALONG THE COAST REGION OF CT. HOWEVER. OYSTERS FROM NOANK WHICH IS REMOTE FROM INDUSTRIAL CENTERS WERE FOUND TO HAVE HG CONTENT (0.5-0.7 PPM) HIGHER THAN THOSE FROM ANY OTHER STATION (0.1-0.5 PPM). THE ENRICHMENT FACTORS FOR VARIOUS ELEMENTS IN THE OYSTER WERE ESTIMATED AS FOLLOWS: ZN. 305,800 CU. 33,000 CD. 10,200 MN. 4,000 AND HG. 1,100, WHICH CLOSELY PARALLEL THE KNOWN RANK ORDER OF DIVALENT ION-LIGAND COMPLEXES. IN SITU EXPERIMENT CONDUCTED AT NOANK INDICATED THAT ACCUMULATION OF HG AND ELIMINATION OF IN. CU. CD AND MN OCCUR SIMULTANEIOUSLY IN OYSTERS IMPORTED FROM BRIDGEPORT SUCH PROCESSES WERE PROBABLY GOVERNED LARGELY BY GEOCHEMICAL COMPOSITON OF THE OVERLYING WATER MASS RATHER THAN DICTATED BY BIOLOGICAL NEEDS. DIFFERENTIAL RATES OF ATTRITION OBSERVED IN IN, CU AND CD, AS WELL AS MN OF BRIDGEPORT TRANSPLANTS SUGGEST THE PRESENCE OF DIFFERENT BINDING MECHANISMS AND THE DEGREE OF LABILITY OF BONDS FORMED WITH ORGANIC LIGANDS. THE PRESENCE OF HIGHLY SIGNAFICANT INTERELEMENT CORRELATIONS DETECTED AMONG CU. IN AND CD FURTHER STRENGTHENED THIS VIEW.

0528 FENNIKOH, K.B.; H.I. HIRSHFIELD; T.J. KNEIP

CADMIUM TOXICITY IN PLANKTONIC ORGANISMS OF A FRESHWATER FOOD WEB [1978]

ENVIRON RES 15(3):357-367

THE EFFECTS OF CADMIUM CHLORIDE ON POPULATION GROWTH OF TWO SPECIES OF GREEN ALGAE WERE DETERMINED IN 168-HOUR BIOASSAYS, AND SIX ADDITIONAL FRESHWATER SPECIES WERE STUDIED USING 96-HOUR LC(50) MEASUREMENTS. INTERCOMPARISONS OF THESE TWO TEST SERIES SHOW THAT LIMITS GENERATED BY A 100-FOLD REDUCTION OF THE 96-HOUR LC(50) VALUES WOULD PROTECT PLANKTONIC SPECIES FROM THE OBSERVABLE EFFECTS ON LIFE SPAN, GROWTH, OR REPRODUCTION. THE LIMITS GENERATED BY THESE LABORATORY STUDIES ARE IN THE RANGE OF CONCENTRATIONS OBSERVED IN A FIELD STUDY OF A CONTAMINATED ESTUARINE COVE. HOWEVER, FIELD EXPOSURES VARY WITH THE TIDE, AND THE HARDNESS OF THE LABORATORY WATER IS CONSIDERABLY LOWER THAN THAT OF THE WATER IN THE COVE. THESE FACTORS PROBABLY ACCOUNT FOR THE ABSENCE OF OBSERVABLE EFFECTS ON PLANKTONIC POPULATION IN THE AFFECTED COVE.

0529 FERGUSON. R.L.: A.V. PALUMBO

DISTRIBUTION OF SUSPENDED BACTERIA IN NERITIC WATERS SOUTH OF LONG ISLAND DURING STRATIFIED CONDITIONS [1979]

LIMNOL OCEANOGR 24(4):697-705

BACTERIA (DIRECT COUNTS) AVERAGED 1.85 MILLION CELLS/ML IN HIGHLY STRATIFIED WATERS SOUTH OF LONG ISLAND DURING SEP 1976. THE VERTICAL DISTRIBUTION OF BACTERIA WAS RELATED TO THE LOCATION OF THE THERMOCLINE AND THE BOTTOM, THE HORIZONTAL DISTRIBUTION TO DISTANCE FROM SHORE INDICATING LONGSHORE CONTINUITY. THE AVERAGE NUMBERS OF BACTERIA (MILLION CELLS/ML) IN NERITIC WATER WERE 2.14 NEARSHORE, 1.96 MIDSHELF, AND 0.57 NEAR THE SHELF BREAK. OVERALL, THE NUMBER OF BACTERIA WAS POSITIVELY CORRELATED WITH CHLOROPHYLL AND AMMONIUM CONCENTRATIONS BUT NOT WITH MEASUREMENTS OF HETEROTROPHIC ACTIVITY. THE LOCATION OF A LARGE, RELATIVELY INACTIVE POPULATION OF BACTERIAL CELLS NEAR THE SURFACE OF THE HIGHLY STRATIFIED MIDSHELF WATER CORRESPONDED TO THE APPROXIMATE LOCATION OF UNUSUALLY PERSISTENT PHYTOPLANKTON BLOOMS OBSERVED DURING MARCH-JUNE 1976.

0530 FESTA, P.J.

ANALYSIS OF MARKET SIZE COMPOSITION DATA FOR THE NEW JERSEY SUMMER FLOUNDER COMMERCIAL FISHERY--1967 THROUGH 1972 [1974]

MISCEL REP 12M. DIV FISH, GAME AND SHELLFISH, NJ DEP, TRENTON, NJ 25 PP

A BACKLOG OF COMMERCIAL DOCK RECEIPTS FOR THE YEARS OF 1967 THRU 1972 WERE ANALYZED TO OBTAIN SIZE COMPOSITION DATA FOR THE NEW JERSEY COMMERCIAL LANDINGS OF SUMMER FLOUNDER. THESE RECORDS BREAK DOWN LANDINGS INTO FOUR MARKET SIZE CATEGORIES. BECAUSE OF YEAR TO YEAR VARIATIONS IN THE AVAILABILITY AND QUALITY OF THE RECORDS, YEARLY POUNDAGE DATA WERE CONVERTED TO PERCENTAGE FIGURES. THE CONTRIBUTION BY WEIGHT OF SMALL FISH TO THE SAMPLED LANDINGS VARIED FROM 2% TO 13% OF THE TOTAL YEARLY FISH CATCHES. THE DATA OBTAINED DOES NOT SUPPORT THE USE OF PERCENT WEIGHT COMPOSITION FIGURES IN MONITORING STOCK RECRUITMENT RATES FOR THE SPECIES. A COMPARISON OF CATCH SIZE COMPOSITIONS IN THE ESTUARINE SPORT FISHERY AND THE NEARSHORE COMMERCIAL FISHERY LANDINGS IN NJ FROM 1939 TILL 1972.

0531 FESTA, P.J.

A STUDY OF THE DISTRIBUTION OF YOUNG AND LARVAL SUMMER FLOUNDER IN NEW JERSEY ESTUARINE WATERS [1974]

MISCELL REP 11M. DIV FISH, GAME AND SHELLFISH, NJ DEP, TRENTON, NJ 31 PP

IN 1962 A SEARCH OF NJ ESTUARINE AND OFFSHORE AREAS WAS INITIATED AS A FIRST STEP IN A STUDY TO DETERMINE THE DISTRIBUTION OF SUMMER FLOUNDER EGG, LARVAE, AND YOUNG WITHIN AND ADJACENT TO STATE WATERS. A VARIETY OF SAMPLING GEARS AND PROCEDURES WERE EMPLOYED TO LOCATE CONCENTRATIONS AND DETERMINE TEMPORAL AND SPATIAL OCCURRENCE OF THESE DEVELOPMENTAL STAGES. OFFSHORE PLANKTON SAMPLING REVEALED THAT EGGS WERE WIDELY DISTRIBUTED OVER THE CONTINENTAL SHELF WITH MOST FREQUENT OCCURRENCE IN THE 20-40 FATHOM ZONE. FINDINGS SERVE TO FURTHER DOCUMENT AN OCT AND NOV SPAWNING PERIOD OFF NJ. LARVAE AND YOUNG WERE COLLECTED FROM A NUMBER OF ESTUARIES DEMONSTRATING THAT NJ WATERS DO ACT AS NURSERY AREAS FOR THE SPECIES. THE NUMBER OF LARVAE COLLECTED IN ESTUARINE SAMPLING WAS GENERALLY LOW THROUGHOUT THE STUDY AND THEIR OCCURRENCE SPORATIC. BECAUSE OF THIS LOW OCCURRENCE, WORK WAS ESSENTIALLY LIMITED TO RECONNAISANCE ACTIVITIES. LARVAE WERE COLLECTED FROM INLET AREAS FROM EARLY OCT UNTIL MAR. YOUNG FLOUNDER WERE COLLECTED FROM 6 ESTUARINE SYSTEMS.

0532 FETTER, C.W., JR.

HYDROGEOLOGY OF THE SOUTH FORK OF LONG ISLAND, NEW YORK [1976]

GEO SOC AM BULL 87(3):401-406

THE SOUTH FORK OF LONG ISLAND, NY, IS UNDERLAIN BY UNCONSOLIDATED PLEISTOCENE AND CRETACEOUS SEDIMENTS RESTING ON CRYSTALLINE BEDROCK. A TWO-LAYERED AQUIFER SYSTEM CONTAINS FRESH GROUNDWATER WITH SALINE GROUNDWATER IN THE DEEPER STRATA. THE AVERAGE HORIZONTAL HYDRAULIC CONDUCTIVITY OF THE UPPER AQUIFER 4S 49 M/DAY AND OF THE LOWER AQUIFER IS 25 M/DAY. THE AVERAGE ANNUAL PRECIPITATION OF 1.14 M IS THE ONLY NATURAL SOURCE OF FRESH WATER. AFTER CONSUMPTIVE LOSSES THE PRECIPITATION PROVIDES ABOUT 1.85 X 10 EXP8 CU M/YR TO RECHARGE THE WATER TABLE. DISCHARGE OF FRESH GROUNDWATER OCCURS PRIMARILY AS UNDERSEA OUTFLOW TO THE OCEAN AT THE PERIMETER OF THE AREA. THE SAFE YIELD OF THE AREA IS ESTIMATED TO BE 91,500 CU M/DAY.

0533 FEUERSTEIN, D.L.; W.O. MADDAUS

WASTEWATER MANAGEMENT PROGRAM, JAMAICA BAY, NEW YORK VOLUME I. SUMMARY REPORT [1976]

EPA/600/2-76/222. MUNI ENVIRON RES LAB, US EPA, CINCINNATI, OH 199 PP NTIS-PB-260 887

THE JAMAICA BAY ECOSYSTEM AND WASTEWATER DISCHARGES TO THE BAY WERE CHARACTERIZED DURING A COMPREHENSIVE 3-YEAR STUDY. THE PRIMARY OBJECTIVE OF THE PROJECT WAS THE DEVELOPMENT OF MANAGEMENT CRITERIA AND PROCEDURES FOR THE BAY ECOSYSTEM, WITH MAJOR EMPHASIS ON COMBINED SEWER OVERFLOW MANAGEMENT TO PROVIDE FOR WATER CONTACT RECREATION IN THE BAY. ANALYSIS OF THE SAMPLING RESULTS AND THE OUTPUT OF THE HYDROLOGIC MODELS DEVELOPED DURING THE PROJECT DEMONSTRATED THAT: (1) THE FOUR MUNICIPAL SEWAGE TREATMENT FACILITY EFFLUENTS ARE THE MAJOR SOURCES OF ORGANIC AND NUTRIENT MATERIALS DISCHARGED TO THE BAY; (2) COMBINED SEWER OVERFLOWS REPRESENT SIGNIFICANT SOURCES OF SOLIDS AND COLIFORMS TO THE BAY; (3) THE SPRING CREEK COMBINED SEWER OVERFLOW

TREATMENT FACILITY WILL PROVIDE SUBSTANTIAL BENEFIT IN REDUCING OVERALL POLLUTION FROM COMBINED SEWER OVER FLOWS IN THE JAMAICA BAY DRAINAGE BASIN; AND (4) TREATMENT OF COMBINED SEWER OVERFLOWS FROM THE PAERDEGAT BASIN WILL PROVIDE THE NEXT GREATEST BENEFIT TO THE QUALITY OF THE BAY. RECOMMENDATIONS ARE PRESENTED ON THE MOST COST-EFFECTIVE DEVELOPMENT OF A WASTEWATER MANAGEMENT PROGRAM FOR THE JAMAICA BAY DRAINAGE BASIN.

0534 FEUERSTEIN, D.L.; W.O. MADDAUS

WASTEWATER MANAGEMENT PROGRAM, JAMAICA BAY, NEW YORK, VOLUME 11, SUPPLEMENTAL DATA [1976]

EPA/600/2-76/222B. MUNI ENVIRON RES LAB. US EPA, CINCINNATI, OH 121 PP NTIS-PB-258 308

THE VOLUME CONTAINS SUPPLEMENTAL DATA ON THE WATER QUALITY AND SEDIMENT QUALITY OF JAMAICA BAY NOT CONTAINED IN VOLUME I, SUMMARY REPORT.

0535 FIELD, J.: R.C. JOHNSTON

CONSTRUCTION OVER WATER: USE PILES? FILL? [1974]

CIVIL ENG 44(8):54-58

TWO LARGE PROJECTS ARE BUILT OVER THE HUDSON RIVER: THE NORTH RIVER POLLUTION CONTROL PLANT AND BATTERY CITY PARK. THE FORMER IS BUILT ON CONCRETE-FILLED STEEL CAISSONS THAT JOIN A COMPOSITE CONSTRUCTION DECK. BATTERY CITY PARK IS BEING FORMED ON FILL (WITH A PILE-DECK PERIMETER BULKHEAD). THE REASONS FOR EACH CHOICE ARE DISCUSSED; COST IS A MAJOR CONSIDERATION AND THE GREATER AREAS OF THE BATTERY CITY PARK MAKE FILL A BETTER SOLUTION THERE.

0536 FIELDS, D.E.; D.M. HETRICK

HOTSED: A DISCRETE ELEMENT MODEL FOR SIMULATING HYDRODYNAMIC CONDITIONS AND ADSORBED AND DISSOLVED RADIOISOTOPE CONCENTRATIONS IN ESTUARIES [1978]

ORNL. OAK RIDGE. TN 260 PP

A MODEL HAS BEEN DEVELOPED TO STUDY THE FEASIBILITY OF SIMULATING ONE-DIMENSIONAL TRANSPORT OF RADIOISOTOPE-TAGGED SEDIMENT IN TIDAL-DOMINATED ESTUARIES. A PRELIMINARY ONE-DIMENSIONAL MODEL FOR SIMULATING HYDRODYNAMIC, THEMAL, AND DISSOLVED RADIONUCLIDE CONCENTRATIONS IN TIDAL ESTUARIES WAS MERGED WITH AN IMPROVED VERSION OF THE SEDTRN MODEL, A MULTI-SEDIMENT-SIZE CLASS MODEL OF BEDLOAD AND SUSPENDED SEDIMENT TRANSPORT. THE IMPROVED SEDTRN MODEL, WHICH EMPLOYS A VELOCITY-BASED RATHER THAN AN ENERGY-BASED SEDIMENT TRANSPORT RATE CALCULATION AND ACCOUNTS FOR NONZERO CHANNEL BED SLOPE, IS GIVEN CREDENCE BY COMPARING ITS RESULTS IN STAND-ALONE FORM TO THOSE OBTAINED USING THE PARENT MODEL. RESULTS OF THE LATTER MODEL HAVE BEEN SHOWN TO COMPARE FAVORABLY TO FIELD MEASUREMENTS. THE COMBINED PRELIMINARY MODEL IS CALLED LOTSED. DETAILS OF MODEL MODIFICATIONS, THE ADDITION OF PRINTER PLOT OUTPUT CAPABILITY, AND A DISCUSSION OF INPUT AND OUTPUT STRUCTURES ARE INCLUDED. THE HOTSED MODEL IS APPLIED TO THE HUDSON RIVER UNDER TIDAL-TRANSIENT CONDITIONS AND THE TRANSPORT "TAGGED" OR RADIOISOTOPE-BEARING SEDIMENT IS SIMULATED. THE CODE IS DESIGNED SPECIFICALLY FOR APPLICATIONS WITH DOMINANT TIDAL CYCLING. IT REQUIRES, FOR A 76-ELEMENT CHANNEL SYSTEM, 270 THOUSAND BYTES OF STORAGE AND, FOR A SIMULATION OF 25 HOURS, HAS AN EXECUTION TIME OF APPROXIMATELY FIVE MINUTES ON THE IBM SYSTEM 360/91 COMPUTER.

0537 FINE, J.C.

THE SEARCH FOR VALUABLE SHIPWRECKS IN NEW YORK HARBOR [1979]

SEA FRONT 25(1):31-38

THIS ARTICLE CHRONICLES ATTEMPTS TO IDENTIFY AND SALVAGE EARLY AMERICAN SHIPWRECKS IN NEW YORK HARBOR, INTEREST IN WHICH HAS BEEN STIMULATED BY A RECENT US ARMY CORPS OF ENGINEERS SURVEY

0538 FINLAY, D.J. F.H. SIFF; V.J. DECARLO

REVIEW OF PCB LEVELS IN THE ENVIRONMENT [1976]

REP 560-7-76-001. OFF TOXIC SUBSTANCES. US EPA. WASHINGTON. DC. 137 PP NTIS-PB-253 736

THIS IS A REVIEW OF THE CURRENT PCB DATA BASE TO ASSESS THE PCB LEVELS IN THE ENVIRONMENT ON A NATIONAL LEVEL; THE FULL SPECTURM OF PCB LEVELS REPORTED IN MAN AND THE ENVIRONMENT WERE OF INTEREST. DATA WERE OBTAINED FROM A NUMBER OF NATIONAL MONITORING PROGRAMS. THE LITERATURE AND MANY UNPUBLISHED REPORTS UP TO DECEMBER 1, 1975.

0539 FINSTEIN, M.S.; V.A. MATULEWICH

DISTRIBUTION OF AUTOTROPHIC NITRIFYING BACTEIA IN A POLLUTED STREAM [1974]

RUTGERS UNIV. NEW BRUNSWICK. NJ 51 PP

THE NITROGENOUS OXYGEN DEMAND EXERTED BY SEWAGE AND SECONDARILY TREATED EFFLUENT MAY SERIOUSLY LOWER THE WATER QUALITY OF RECEIVING STREAMS. COMPREHENSIVE STREAM MANAGEMENT REQUIRES THE ABILITY TO PREDICT WHERE THIS COMPONENT OF THE OXYGEN DEMAND WILL BE EXERTED, AND AT WHAT RATE. EFFORTS TO INCLUDE NITRIFICATION IN STREAM MODELS ARE UNLIKELY TO BE HIGHLY SUCCESSFUL WITHOUT SOME UNDERSTANDING OF THE ECOLOGY OF THE RESPONSIBLE ORGANISMS. THE PRESENT INVESTIGATION WAS UNDERTAKEN TO PROVIDE SUCH INFORMATION. THE DISTRIBUTION OF NITRIFYING BACTERIA IN BULK WATERS, ON SURFACES, AND IN MUDS AT 11 PASSAIC RIVER SITES WAS STUDIED USING MOST-PROBABLE-NUMBER PROCEDURES. IN MUD SAMPLES TAKEN FROM THE MUD-WATER INTERFACE, NITRIFIERS WERE FROM 21 TO 140,000 (AVERAGE 515) TIMES MORE ABUNDANT (VOLUMETRICALLY) THAN IN THE OVERLYING WATERS. NITRIFIERS WERE FOUND THROUGHOUT A 21 CM PROFILE OF MUD, THE HIGHEST DEVSITIES OCCURRING IN THE TOPMOST LEVELS. LARGE NUMBERS OF THESE BACTERIA WERE ASSOCIATED WITH AQUATIC PLANTS, ALGAE, AND SLIMES ON ROCKS. THERE WAS NO CORRELATION BETWEEN NITRIFIER DENSITY AND RIVER FLOW. AMMONIUM-OXIDIZERS OUTNUMBERED NITRIFIE-OXIDIZERS IN ALL BUT ONE OF THE 112 SAMPLES EXAMINED BY A FACTOR FROM 1.7 TO 5310 (AVERAGE 20.9). THESE DATA SUGGEST THAT HIGH RIVER VELOCITIES MAY BEING INTO SUSPENSION SUBSTANTIAL NUMBERS OF NITRIFIERS. THE RELATIVE SCARCITY OF NITRIFICATION IN RIVERS.

0540 FINSTEIN, M.S.; J. CIRELLO; P.F. STROM; M.L. MORRIS; R.A. RAPAPORT

EVALUATION OF NITRIFICATION IN THE WATER COLUMN OF THE PASSAIC RIVER [1977]

OWRT, WASHINGTON, DC 47 PP NTIS-PB-263 859

IN CONNECTION WITH WASTE LOAD ALLOCATION, IT IS OFTEN CONTROVERSIAL WHETHER THE NITROGENOUS OXYGEN DEMAND MEASURED IN THE EFFLUENT IS EXERTED IN THE RECEIVING STREAM. THE BASIS OF THIS CONTROVERSY IS OUTLINED THROUGH THE USE OF HISTORIC DATA FROM THE PASSAIC RIVER, AND A CONSIDERATION OF THE NITROGEN CYCLE. THE EXPERIMENTATION CONSISTED OF FOLLOWING THE COURSE OF NITRIFICATION IN PASSAIC RIVER WATER SAMPLES THROUGH THE DETERMINATION OF NITROGEN SPECIES, AND OF ENUMERATIONS OF NITRIFYING BACTERIA. BASED ON THE COURSE OF NITRIFICATION, SUBSTRATE AMMONIUM APPEARS TO HAVE BEEN PRESENT IN NON-GROWTH LIMITING CONCENTRATION OVER MOST OF THE PASSAIC MAIN STEM. OTHER NUTRIENTS WERE ADEQUATE FOR NITRIFICATION, AND THERE WAS NO EVIDENCE OF INHIBITIVE EFFECTS.

0541 FINSTEIN: M.S.; V.A. MATULEWICH

DISTRIBUTION OF AUTOTROPHIC NITRIFYING BACTERIA IN A POLLUTED RIVER (THE PASSAIC) [1978]

APPL ENVIRON MICROBIOL 35(1):67-71

THE ABUNDANCE OF NITRIFYING BACTERIA, DETERMINED BY MPN PROCEDURES WITHIN HABITATS OF THE PASSAIC RIVER WAS AS FOLLOWS: ROOTED AQUATIC PLANTS, ALGAE, ROCKS, SEDIMENTS AND WATER. ON THE AVERAGE, AMMONIUM OXIDIZERS WERE 440-FOLD MORE ABUNDANT IN THE TOPMOST 1 CM OF SEDIMENT THAN IN THE WATER, AND NITRITE OXIDIZERS WERE 250-FOLD MORE ABUNDANT. THE POPULATION DENSITIES IN THIS SURFACE SEDIMENT AT TWO NEARBY STATIONS, ONE WITH A PREDOMINANTLY MINERAL STREAM BED AND THE OTHER AN ORGANIC OOZE, DID NOT DIFFER SIGNIFICANTLY. LARGE NUMBERS OF NITRIFIERS WERE PRESENT TO A DEPTH OF ABOUT 5 CM IN A MINERAL SEDIMENT CORE. IN THE ASSESSMENT OF NITRIFICATION THE STREAM BED AS WELL AS THE WATER COLUMN MUST BE TAKEN INTO ACCOUNT.

0542 FINSTEIN. M.S.; M.L. MORRIS

FATE OF COLIFORM BACTERIA IN THE UPPER NEW YORK BAY [1980]

WATER RESOURCES RES INST. RUTGERS UNIV. NEW BRUNSWICK. NJ 40 PP

THE PASSAIC VALLEY SEWERAGE COMMISSIONERS TREATMENT PLANT, THE LARGEST IN NJ, DISCHARGES A PRIMARY TREATED EFFLUENT TO NEW YORK BAY. THE STANDARD COLIFORM COUNT, DETERMINED THROUGH THE MEMBRANE PROCEDURE, WAS 1 X 10EXP5 TO 5 X 10EXP6/ML. REPRESENTATIVE "TYPICAL" COLONIES WERE IDENTIFIED TAXONOMICALLY THROUGH THE API 20E SYSTEM. THE MAJOR CONTRIBUTORS TO THE COLIFORM COUNT, IN ORDER OF ABUNDANCE, WERE THE FOLLOWING: KLEBSIELLA PNEUMONIAE, ENTEROBACTER CLOACAE, CITROBACTER FREUNDII, AND ESCHERICHIA COLI. MINOR CONTRIBUTORS WERE: KLEBSIELLA OZAENAE, ENTEROBACTER AEROGENES, AND A FEW OTHER SPECIES THAT CONFORM TO THE COLIFORM DEFINITIONS. NON-COLIFORM "IMPOSTORS," BY VIRTUE OF PRODUCING A "TYPICAL" COLONY, WERE FEW. IN THE RECEIVING WATER, IN THE VICINITY OF THE DISCHARGE FIELD, THE COLIFORM COUNT RANGED FROM 210 TO 740/ML AND WAS COMPRISED MAINLY OF E. CLOACAE, K. PNEUMONIAE, C. FREUNDII, E. COLI, AND AEROMONAS HYDROPHILA. THE LATTER IS A NON-COLIFORM "IMPOSTOR." MINOR CONTRIBUTORS WERE THE FOLLOWING: ENTEROBACTER AGGLOMERANS AND E. AEROGENES. IN LABORATORY STUDIES, PURE CULTURES OF E. CLOACAE, K. PNEUMONIAE. AND E. COLI DISAPPEARED RAPIDLY FROM BAY WATER, BUT THE DISAPPEARANCE WAS SLOWED BY ADMIXTURE OF 1% AND 5% EFFLUENT.

0543 FISCHER, H.B.

SOME REMARKS ON COMPUTER MODELING OF COASTAL FLOWS [1976]

ASCE J WATERWAY DIV 102 (WW4): 395-406

LIMITATIONS ON ABILITY OF NUMERICAL MODELS TO MODEL FLOW AND DISPERSION OF POLLUTANTS IN COASTAL AREAS DUE TO FUNDAMENTAL LIMITATIONS IN KNOWLEDGE OF EXCHANGE COEFFICIENTS ARE COVERED. SPECIFIC LIMITATIONS RESULT FROM EFFECTS OF STRATIFICATION ON CONTROL OF FLOW AND MIXING RATES, AND FROM LACK OF UNDERSTANDING OF THE TRANSVERSE EXCHANGE PROCESS. EXAMPLES OF SPECIFIC COMPUTER MODELS ARE GIVEN, WITH EMPHASIS ON WHY SOME MODELS GIVE RELIABLE RESULTS DESPITE THE LIMITATIONS PREVIOUSLY MENTIONED.

0544 FISCHER, J.A.; I. WATSON; L.A. SALOMONE

CONSIDERATIONS OF THE GEOTECHNICAL ENGINEER IN PLANNING TRANSMISSION LINES TO OFFSHORE NUCLEAR POWER PLANTS (1973)

PAGES 19-28 IN ENGINEERING BULLETIN. DAMES AND MOORE, LOS ANGELES, CA

AN ATTEMPT HAS BEEN MADE TO SHOW THAT IN HIS STUDY OF OFFSHORE TRANSMISSION CABLES, THE GEOTECHNICAL ENGINEER MUST TAILOR HIS INVESTIGATIVE METHODS TO THE OCEAN ENVIRONMENT. IF THE READER IS NOT NOW AWARE THAT ENVIRONMENTAL ASPECTS OF SUCH A STUDY ARE AS RELEVANT AS TECHNICAL CONSIDERATIONS, THE AUTHORS HAVE FAILED IN THEIR TASK. A PRACTICAL MEANS OF EVALUATING THERMAL VALUES

OF OFFSHORE SEDIMENTS WAS OUTLINED, INCLUDING WORKING RECOMMENDATIONS FOR APPLYING A LOGICAL SEQUENCE OF EXISTING TECHNIQUES TO COLLECT AND PROCESS MEANINGFUL DATA. THE NEED FOR ACQUIRING DETAILED QUALITATIVE GEOLOGICAL INFORMATION WAS EMPHASIZED, AND THE NECESSITY FOR QUANTIFYING THESE DATA WAS EXPLAINED. A TRIDIRECTIONAL APPROACH WAS EMPLOYED TO ASSIGN THERMAL VALUES TO DELINEATED GEOTECHNICAL SOIL UNITS, UTILIZING AN ENGINEERING SOIL MODELING PROGRAM TO MONITOR ONGOING LABORATORY PROCEDURES. WITH THE PREDOMINANT SOURCE OF DATA PROVIDED BY A SERIES OF LABORATORY THERMAL PROBE TESTS. IN REFINING THE SOIL MODEL, MAXIMUM USE WAS MADE OF DATA EXISTING IN THE LITERATURE.

D545 FISCHER, J.A.; H. SINGH; J.G. MCWHORTER

REGIONAL CONSIDERATIONS FOR THE DESIGN OF AN OFFSHORE NUCLEAR POWER PLANT [1973]

PAGES 7-14 IN ENGINEERING BULLETIN. DAMES AND MOORE. LOS ANGELES, CA

THE VARIOUS REGIONAL FACTORS INFLUENCING THE DESIGN AND CONSTRUCTION OF THE PROPOSED ATLANTIC GENERATING STATION HAVE BEEN PRESENTED HERE IN GENERAL TERMS. REACTIONAL ANALYSES WERE USED IN EVALUATING EACH FACTOR. VARIOUS ALTERNATIVES IN DESIGN TECHNIQUES WERE ALSO PRESENTED. RESULTS OF THIS CASE STUDY SUGGEST THAT THE OFFSHORE NUCLEAR POWER PLANT IS A VIABLE CONCEPT AND REPRESENTS A WAY TO PROVIDE NJ WITH ADDITIONAL AMOUNTS OF ELECTRIC POWER.

0546 FISCHER, J.A.; F.L. FOX

SITING CONSTRAINTS FOR AN OFFSHORE NUCLEAR POWER PLANT [1973]

PAGES 3-6 IN ENGINEERING BULLETIN. DAMES AND MOORE, LOS ANGELES, CA

ALTHOUGH SITING CONSTRAINTS ARE NUMEROUS AND TECHNOLOGY INCOMPLETE, WE HAVE ARRIVED AT A POINT WHERE AN OFFSHORE PLANT IS A REALISTIC ALTERNATIVE FOR NUCLEAR POWER GENERATION. THE THREE MAJOR CATEGORIES OF CONSTRAINTS—ECONOMIC, ENVIRONMENTAL AND ERGONOMIC—MUST (AND CAN) BE SATISFIED. THE ECONOMIC AND ERGONOMIC PROBLEMS ARE, OR CAN BE, SOLUBLE. IN SPITE OF NOT HAVING ALL OF THE ENVIRONMENTAL ANSWERS AT THIS TIME, THERE HAS BEEN SUFFICIENT EXPERIENCE WITH TERRESTRIAL FACILITIES TO MAKE OUR APPROACH TO THE MARINE ENVIRONMENTAL ARATIONAL AND THOROUGH ONE. ENVIRONMENTAL CONSTRAINTS ARE CRITICAL AT THIS PERIOD OF MAN'S DEVELOPMENT. NOWHERE IS A SYSTEMS APPROACH MORE CRITICAL. THE SUBJECT IS IMPERFECTLY UNDERSTOOD, AND CAN ONLY BE APPROACHED WITH A SOUND KNOWLEDGE OF ALL THE EARTH AND LIFE SCIENCES. ONLY WITH THIS UNDERSTANDING AND AN APPRECIATION OF THE INTERACTION OF OCEAN WITH FACILITY CAN THE ENVIRONMENTAL CONSTRAINTS FOR AN OFFSHORE POWER PLANT BE SATISFIED.

0547 FITZGERALD, W.F.; W.B. LYONS

ORGANIC MERCURY COMPOUNDS IN COASTAL MATERS [1973]

NATURE 242(5398):452-453

DETERMINATIONS OF TOTAL AND INORGANIC MERCURY WERE MADE ON COASTAL AND RIVER WATERS NEAR LONG ISLAND SOUND. TWO DIFFERENT 100-ML SETS OF SAMPLES WERE COLLECTED IN GLASS BOTTLES AND ACIDIFIED TO PH 1.0 WITH REDISTILLED CONCENTRATED NITRIC ACID. ONE SET WAS ANALYZED IMMEDIATELY FOR INORGANIC HG; THE OTHER WAS PHOTOOXIDIZED FOR 24 HR AND ALIQUOTS WERE ANALYZED FOR TOTAL HG. FLAMELESS ATOMIC ABSORPTION SPECTROPHOTOMETRY WAS USED IN BOTH GASES. THE TOTAL HG CONCENTRATIONS WERE 0.045-0.078 PPB AND THOSE OF INORGANIC HG WERE 0.021-0.033 PPB. IT IS SIGNIFICANT THAT AS MUCH AS 50-60% OF THE MERCURY PRESENT IN THOSE WATERS MAY EXIST EITHER AS ORGANIC COMPOUNDS OR IN ASSOCIATION WITH ORGANIC MATTER.

0548 FITZGERALD, W.F.

MERCURY STUDIES OF SEAWATER AND RAIN: GEOCHEMICAL FLUX IMPLICATIONS [1976]

PAGES 121-134 IN HOLO WINDOM AND ROAD DUCE, EDSO MARINE POLLUTANT TRANSFER. LEXINGTON BOOKS, LEXINGTON, MA

ALTHOUGH THE NATURAL GEOCHEMICAL CYCLE OF HG AND MAN'S AUGMENTATION OF NATURAL HG FLUXES IN THE ENVIRONMENT HAVE RECEIVED INCREASING ATTENTION, ONLY LIMITED INFORMATION IS AVAILABLE FOR CERTAIN IMPORTANT ASPECTS OF THE GLOBAL HG CYCLE. FOR EXAMPLE, VOLATILE EMISSIONS OF HG FROM NATURAL SOURCES SUCH AS VOLCANOES AND SEAFLOOR TECTONIC ACTIVITY SHOULD BE MORE PRECISELY QUANTIFIED. ATMOSPHERIC FLUXES OF HG VIA RAINFALL, DRY FALLOUT, AND SEA SURFACE EXCHANGE IN THE COASTAL ZONE AND IN THE OPEN OCEAN REQUIRED FURTHER STUDY. OCEANIC REGIONS SUCH AS THE NORTH ATLANTIC AND SOUTH POLAR MATERS WITH ANOMALOUS HG CONCENTRATIONS SHOULD BE REINVESTIGATED. FINALLY, ONE WONDERS ABOUT THE GEOCHEMICAL ROLE AND BIOLOGICAL INTERACTIONS OF ORGANOTHG SPECIES IN THE ATMOSPHERE AND IN COASTAL WATERS.

0549 FITZPATRICK, G.; D.J. SUTHERLAND

EFFECTS OF THE ORGANOPHOSPHOROUS INSECTICIDES TEMEPHOS (ABATEREG) CHLORPYRIFOS (DURSBANREG) ON POPULATIONS OF THE SALT-MARSH SNAIL MELAMPUS BIDENTATUS [1978]

MAR BICL 45(1):23-28

THE EFFECTS OF TEMEPHOS (ABATEREG) AND CHLORPYRIFOS (DURSBANREG) ON POPULATIONS OF M. BIDENTATUS WERE INVESTIGATED IN A SERIES OF FIELD EXPERIMENTS. THESE TOXICANTS WERE AERIALLY APPLIED TO MOSQUITO BREEDING AREAS IN NEW JERSEY SALT MARSHES IN THE MANNER NORMALLY USED IN BITING-FLY CONTROL OPERATIONS. NO SIGNIFICANT CHANGE IN THE POPULATION DENSITY OF M. BIDENTATUS WAS OBSERVED IN RESPONSE TO MULTIPLE TREATMENTS OF GRANULAR FORMULATIONS OF EITHER TEMEPHOS OR CHAORPYRIFOS. HOWEVER, THERE WAS A HIGHLY SIGNIFICANT (P<0.01) DEPRESSION IN POPULATION DENSITY OBSERVED IN THE PLOT EXPOSED TO MULTIPLE TREATMENTS OF A TEMEPHOS EMULSION. THIS DEPRESSION WAS FOLLOWED BY A RESURGENCE IN DENSITY LEVELS, BEGINNING 3 WK AFTER THE LAST TREATMENT. THE SPECIFIC MECHANISM FOR THIS PERTURBATION IS NOT KNOWN. HOWEVER, IT IS HYPOTHESIZED THAT IT MIGHT INVOLVE SOME COMBINATION OF INDIRECT INSECTICIDE EFFECTS COUPLED WITH AGE-SPECIFIC EFFECTS. TESTS OF AGE STRUCTURE OF THE AFFECTED POPULATION USING THE CHI-SQUARE DISTRIBUTION SUPPORTED THIS HYPOTHESIS.

0550 FLAHERTY. T.K.

THREE-MEDIA FILTRATION PLANT TREATS A PROBLEM WATER [1976]

PUBLIC WORKS 107(4):67

DROUGHTS WHICH INCREASED THE HARDNESS AND IRON CONTENT OF THE WELL WATER SUPPLY OF QUEENSBURY, NY, AS WELL AS DECREASING WELL OUTPUT, FORCED THE CITY TO TAP THE HUDSON RIVER AS A SOURCE OF MUNICIPAL WATER. ALTHOUGH THE RIVER IS POLLUTED FROM MUNICIPAL AND INDUSTRIAL SOURCES WITH A COLOR CONTENT THAT MAY EXCEED 20 UNITS, IT IS READILY AMENABLE TO TREATMENT. THE MAIN FEATURE OF THE 3 MGD TREATMENT PLANT IS TWO AUTOMATIC BACKWASH FILTERS CONTAINING THREE MEDIA TYPES. ONE OF THE FILTER CONTAINING A 16 INCH HED OF GRANULAR ACTIVATED CARBON WITH AN 8 X 30 MESH, WHILE THE OTHER FILTER IS A DUAL MEDIA FILTER CONTAINING SAND AND ANTHRAFILT. RAW WATER TAKEN FROM THE HUDSON IS PASSED THROUGH SCREENS WHICH ARE CLEANED BY REVERSING THE FLOW. THE INFLOW IS SPLIT BETWEEN TWO LINES WHICH FEED IDENTICAL PARALLEL TREATMENT PROCESSES, WHICH CAN OPERATE SEPERATELY OR SIMULTANEOUSLY. IN EACH TREATMENT SEQUENCE, THE WATER FLOWS INTO A RAPID MIXING BASIN WHERE ALUM, CAUSTIC SODA AND CHLORINE ARE ADDED FOR COAGULATION, PH ADJUSTMENT, AND DISINFECTION, RESPECTIVELY. WATER THEN FLOWS THROUGH FLOCCULATION BASINS WHERE ACTIVATED CARBON, POTASSIUM PERMANGANATE AND A POLYMER MAY BE ADDED. THE WATER IS THEN RETAINED FOR THREE HOURS IN RECTANGULAR ELECTRIFIERS. CLARIFIED WATER IS FED IO THE DUAL MEDIA FILTER AND THEN TO THE CARBON BED FILTER. BACKWASHING IS INITIATED BY LOSS OF HEAD, AUTOMATICALLY, OR AT SPECIFIED TIME INTERVALS. THE FILTERED WATER IS CHLORINATED, NEUTRALIZED, AND STORED BEFORE BEING RELEASED TO THE DISTRIBUTION SYSTEM.

0551 FLEMINGER, A.; K. HULSEMANN

GEOGRAPHICAL RANGE AND TAXONOMIC DIVERGENCE IN NORTH ATLANTIC CALANUS (C. HELGOLANDICUS, C. FINMARCHICUS AND C. GLACIALIS)

[1977]

MAR BIOL 40(3):233-248

THE KNOWN DISTRIBUTION OF C. HELGOLANDICUS IN THE NORTH ATLANTIC DRIFT IS HARD TO EXPLAIN IN THE ABSENCE OF A REPRODUCTIVELY ACTIVE POPULATION INHABITING CONTINENTAL WATERS OFF EASTERN NORTH AMERICA. NEW EVIDENCE INDICATES THAT THIS POPULATION. OVERLOOKED IN THE PAST, DOES EXIST. THE SPECIES WAS FOUND IN A STUDY OF ZOOPLANKTON SAMPLES FROM A NUMBER OF MARMAP (MARINE RESOURCE MONITORING, ASSESSMENT, AND PREDICTION PROGRAM) CRUISES SURVEYING ICHTHYOPLANKTON BETWEEN CAPE HATTERAS AND THE NEW YORK BIGHT. SEXUAL ACTIVITY IN THESE STOCKS OF C. HELGOLANDICUS WAS INDICATED BY THE RIPENESS OF OVARIES, THE FREQUENCY OF MALES, THE PRESENCE OF SPERM IN THE FEMALES' SEMINAL RECEPTACLES, AND THE APPEARANCE OF A FEMALE BEARING A CALANUS SPERMATOPHORE. THE NEW RECORDS PROVIDE A LIKELY ORIGIN FOR THE PRESENCE OF THE SPECIES IN THE VICINITY OF THE LABRADOR GRAND BANKS AS WELL AS FARTHER E IN THE NORTH ATLANTIC DRIFT. C. FINMARCHICUS, SIMILARLY SEXUALLY ACTIVE, WAS SYMPATRIC WITH C. HELGOLANDICUS IN THE MARMAP COLLECTIONS WHICH WAS CONTIGUOUS WITH THE SOUTHERNMOST KNOWN DISTRIBUTION OF C. GLACIALIS. THE DISTRIBUTION OF INTEGUMENTAL ORGANS (I.E., PORE SIGNATURE PATTERNS) WAS EXAMINED IN THE 3 SPECIES TO DETERMINE WHETHER THEY WOULD BE TAXONOMICALLY USEFUL. STRIKINGLY DIFFERENT PATTERNS WERE FOUND ON THE FEMALE UROSOME. PORE SIGNATURE DIFFERENCES BETWEEN THE POLAR SPECIES C. GLACIALIS AND THE TEMPERATE C. HELGOLANDICUS WERE AS PRONO BETWEEN THE BOREAL C. FIYMARCHICUS AND ITS 2 YEIGHBORING SPECIES. THE SUCCESSIVELY OVERLAPPING RANGES AND THE DISTINCTIVE DIFFERENCES IN PORE SIGNATURE PATTERNS SUGGEST THAT DIVERGENCE FROM THE GENERIC PATTERN OF INTEGUMENTAL ORGAN DISTRIBUTION HAS BEEN A PRODUCT OF SELECTION AGAINST HYBRIDIZING AMONG THE 3 SPECIES. IF THIS IS SO. THE REPRODUCTIVE RANGE OF C. HELGOLANDICUS HAS OVERLAPPED WITH THOSE OF C. FINMARCHICUS AND C. GLACIALIS FOR APPRECIABLE PERIODS IN THE HISTORY OF THE 3 SPECIES.

0552 FLESSA, K.W.; M.K. CUSHMAN

SALT MARSH SEDIMENTATION RATES AND COASTAL INLET DYNAMICS: EVIDENCE FROM HISTORICAL RECORDS AND MAPS [1976]

GEOL SOC AM ABSTR PROG 8(2):174

FLAX POND IS A SMALL ESTUARINE MARSH LOCATED ON THE NORTH SHORE OF LONG ISLAND, NY. HISTORICAL RECORDS INDICATE THAT THE POND CONTAINED FRESH WATER IN THE 18TH CENTURY AND WAS USED FOR THE WETTING OF FLAX. RECORDS OF LAND PURCHASES IMPLY THAT FLAX POND WAS OPENED TO MARINE WATERS IN 1801. THE OPENING IS RECORDED IN THE STRATIGRAPHY OF THE MARSH SEDIMENTS BY A SHARP TRANSITION FROM SEDGE (BRACKISH OR FRESH WATER) PEAT TO SPARTINA (SALT MARSH) PEAT. THIS DATA HORIZON WAS USED TO CALCULATE AN AVERAGE NET RATE OF VERTICAL PEAT ACCRETION OF 2.4 MM/YR AND A MAXIMUM NET RATE OF 4.6MM/YR. LATERAL EXPANSION OF THE PEAT PROCEEDED AT AN AVERAGE RATE OF 158 M2/ YR. A SERIES OF MAPS, CHARTS AND PHOTOGRAPHS WAS USED TO ENUMERATE CHANGES IN THE CONFIGURATRION OF THE FLAX POND INLET. A 1797 MAP SHOWS THE POND ISOLATED FROM LONG ISLAND SOUND. BETWEEN 1852 AND 1947 LONGSHORE DRIFT PROCEEDED IN A WESTERLY DIRECTION. IN THE LATE 1923°S OR EARLY 1930°S A STORM BREACHED THE BARRIER BEACH AND CREATED A SECOND INLET. BY 1938 THE ORIGINAL INLET CLOSED DUE TO LONGSHORE DRIFT. FOLLOWING THE DREDGING OF AN INLET AND THE CONSTRUCTION OF ROCK JETTIES IN 1947 THE DIRECTION OF LONGSHORE DRIFT SHIFTED TO ITS PRESENT EASTERLY FLOW.

0553 FLESSA, K.W.; K.J. CONSTANTINE; M.K. CUSHMAN

SEDIMENTATION RATES IN A COASTAL MARSH DETERMINED FROM HISTORICAL RECORDS [1977]

CHES APEAKE SCI 18(2):172-176

HISTORICAL RECORDS INDICATE THAT FLAX POND, A SMALL SPARTINA ALTERNIFLORA MARSH LOCATED ON THE NORTH SHORE OF LONG ISLAND, NY, WAS OPENED TO MARINE WATERS IN 1803. THIS OPENING IS RECORDED IN THE SEDIMENTS BY A SHARP TRANSITION FROM SEDGE (BRACKISH OR FRESH WATER) PEAT TO SPARTINA (SALT MARSH) PEAT. THIS DATA HORIZON WAS USED TO CALCULATE AN AVERAGE NET RATE OF VERTICAL ACCRETION OF 2.5 MM/YR AND A MAXIMUM NET RATE OF 4.7 MM/YR. THESE ESTIMATES MAY SERVE TO PREDICT THE RATE AT WHICH SPARTINA MARSHES ARE ABLE TO RECOVER FROM PHYSICAL DISTURBANCE.

0554 FOREMAN, K.M.

FIELD TESTING OF PROTOTYPE ACOUSTIC EXISSION SEWER FLOWMETER [1979]

INDUSTRIAL ENVIRON RESEARCH LAB. CINCINNATI. OH 80 PP NTIS-PB80-1215-44

THIS INVESTIGATION CONCERNS VERIFYING THE OPERATING PRINCIPLES OF THE ACOUSTIC EMISSION FLOWMETER (US PATENT 3,958,458) IN THE NATURAL ENVIRONMENT OF THREE DIFFERENT STORM SEWER FIELD SITES IN NASSAU COUNTY, NY. THE FLOWMETER IS A NOVEL, PASSIVE, NONINTRUSIVE METHOD THAT USES THE LOCAL SOUND RESULTING FROM THE PARTIAL TRANSFORMATION OF THE FLOW ENERGY AT A CHANNEL OR CONDUIT DISCONTINUITY. ANY CHANGE OF SEWER CROSS SECTION OR FLOW DIRECTION QUALIFIES AS A DISCONTINUITY. THE RESULT SHOW THAT THE FLOWMETER PRINCIPLES HOLD TRUE IN LARGE STORM SEWERS OF 60 INCH (1.5 M) DIAMETER AND FOR FLOW RATES UP TO ABOUT 7500 GPM. A MANHOLE APPEARS TO BE SUITABLE FOR SENSOR INSTALLATION. THE RELATION OF SOUND SIGNAL INTENSITY TO FLOW RATE AT FULL SCALE SITES APPEARS AMENABLE TO SMALL SCALE LABORATORY MODEL SIMULATION ACCORDING TO SCALING LAWS.

0555 FORREST. J.

ATMOSPHERIC SULFUR DIOXIDE AND PARTICULATE SULFATE IN THE NEW YORK BIGHT AREA [1975]

UNPUBL REP. NOAA, MESA, STONY BROOK, NY 6 PP

THIS STUDY WAS AN ATTEMPT TO DELINEATE THE INTERRELATIONSHIP BETWEEN SULFUR DIOXIDE AND PARTICULATE SULFATES. MEASUREMENTS OF S-34/S-32 ISOTOPE RATIOS OF SOZ AND SULFATES WERE TAKEN TO GAIN INFORMATION ON ORIGIN AND RELATIONSHIP OF THE TWO. THE STUDY CONFIRMS APPARENT ANOMALY BETWEEN TWO SULFUR SPECIES.

0556 FOX. A.; N.L. BILLS

HISTORICAL AND PROJECTED AGRICULTURAL PRODUCTION FOR RIVER BASINS IN EASTERN NEW YORK [1974]

TECH REP 93. WATER RESOURCES AND MAR SCI CENTER. CORNELL UNIV. ITHACA. NY 25 PP

THIS REPORT DEALS WITH TRENDS IN AND PROJECTIONS PERTAINING TO THE AGRICULTURAL ECONOMY OF SEVEN RIVER BASINS IN EASTERN NY.
THESE TREND AND PROJECTION ANALYSES ARE INPUTS INTO DETAILED ASSESSMENTS OF WATER AND RELATED LAND RESOURCES PROBLEMS AND NEEDS
IN EACH BASIN, HISTORICAL DATA WERE DRAWN FROM THE CENSUS OF AGRICULTURE AND ALLOCATED TO INDIVIDUAL RIVER BASINS BY
INCORPORATING INFORMATION AVAILABLE FROM THE NY LAND USE AND NATURAL RESOURCES INVENTORY (LUNR). PROJECTIONS FOR 1985 WERE
BASED UPON THE RESULTS OBTAINED FROM AN AGRICULTURAL LAND USE MODEL DEVELOPED FOR NY.

0557 FOX, R.E.

PRIMARY PRODUCTIVITY AND BASIC FOOD CHAIN RELATIONSHIPS IN TWO LONG ISLAND BAYS [1977]

REP 3.182-R. NMFS. NOAA. WASHINGTON, DC 25 PP NTIS-PB-269 433

A THREE YEAR STUDY WAS UNDERTAKEN TO DETERMINE PRIMARY PRODUCTIVITY AND BASIC FOOD CHAIN RELATIONSHIPS IN TWO LONG ISLAND EMBAYMENTS. THE AREAS CHOSEN WERE MORICHES BAY AND SHINNECOCK BAY, LOCATED ON THE SOUTHERN SHORE OF LONG ISLAND. MORICHES BAY RECEIVES WASTE LOADINGS FROM TREATED MASTES AND SLUDGE DEPOSITS ORIGINATING FROM PAST AND PRESENT DUCK FARMS LOCATED ON TRIBUTARIES TO THE BAY. SHINNECOCK BAY IS CONNECTED VIA A COASTAL CANAL (QUANTUCK CANAL) TO MORICHES BUT DOES NOT HAVE ANY MAJOR SOURCES OF POLLUTION LOCATED ALONG ITS SHORELINE. THE STUDY WAS DESIGNED TO DETERMINE WATER QUALITY IN THE TWO BAYS, SEDIMENT DISTRIBUTION, THE EFFECTS OF PRECIPITATION ON WATER QUALITY AND PHYTOPLANKTON POPULATIONS.

0558 FOX. R.E.

INVESTIGATION OF THE HARD CLAM RESOURCE OF GREAT SOUTH BAY, NEW YORK [1980]

NY DIV MAR RESOURCES, NEW YORK, NY 50 PP

A CREEL CENSUS TYPE SURVEY OF GREAT SOUTH BAY'S RECREATIONAL HARD CLAM (MERCENARIA MERCENARIA) FISHERY WAS CONDUCTED TO DETERMINE IF THE FISHERY WAS EXTENSIVE ENOUGH TO BE CONSIDERED FROM A RESOURCE MANAGEMENT STANDPOINT. THE ESTIMATE OF RECREATIONAL HARVEST WAS BASED ON THE EXTENT OF EFFORT AS DETERMINED FROM RANDOMLY SCHEDULED FIELD OBSERVATIONS AND THE CATCH PER EFFORT AS DERIVED FROM FIELD INTERVIEWS WITH PARTICIPANTS. TEMPORAL DISTRIBUTION OF ACTIVITY STUDIES WERE CONDUCTED IN ORDER TO EXPAND POINT TO TIME OBSERVATIONS INTO ESTIMATES OF TOTAL ACTIVITY OVER A FULL DAY. THE ESTIMATED RECREATIONAL HARVEST FOR THE SEASON AMOUNTED TO 4806 BUSHELS. THE RECREATIONAL HARVEST WAS 1.43% OF THE REPORTED COMMERCIAL HARVEST FOR SUMMER MONTHS AND 0.73% OF THE REPORTED ANNUAL COMMERCIAL LANDINGS. THE RECREATIONAL HARVEST APPEARS TO BE OF LITTLE SIGNIFICANCE RELATIVE TO CONSERVATION OF THE RESOURCE.

0559 FRAME, A.B.

TWO NEW SPECIES OF SAND BURROWING AMPHIPOD CRUSTACEANS FROM LONG ISLAND SOUND AND THE NEW YORK BIGHT (AMPHIPODA: HAUSTORIIDAE)

ESTUARIES 3(2):75-83

ACANTHOHAUSTORIUS BOUSFIELDI N. SP. AND A. SIMILIS N. SP. (AMPHIPODA: HAUSTORIIDAE) ARE DESCRIBED FROM THE OFFSHORE BOTTOM SANDS OF THE NEW YORK BIGHT AND LONG ISLAND SOUND REGIONS.

0560 FRAME, D.W.; S.A. PEARCE

A SURVEY OF THE SEA BASS FISHERY [1973]

MAR FISH REV 35(1-2):19-26

THE AUTHORS PRESENT THE RESULTS OF INTERVIEWS WITH SEA BASS FISHERMEN ALONG THE ATLANTIC COAST OF THE US (MA-SC) DURING 1971. TWO SEA BASS SPECIES ARE REPORTED IN THE CATCH STATISTICS: CENTROPRISTIS STRIATA AND CENTROPRISTIS PHILADELPHICA. BOTH ARE CAPTURED BY TRAWLS AND TRAPS. TRAWLS ACCOUNT FOR 64% OF THE TOTAL CATCH; TRAPS FOR 35%. THE CATCH PER UNIT OF EFFORT FOR TRAP FISHERMEN RANGES FROM 0.72 TO 176.47 LBS/TRAP-DAY.

0561 FRANK, W.M.; G.M. FRIEDMAN

CONTINENTAL SHELF SEDIMENTS OFF NEW JERSEY [1973]

J SEDIMENT PETROL 43(1):224-237

A STUDY OF 150 SURFACE SEDIMENT SAMPLES FROM A STUDY AREA 20 MI WIDE ACROSS THE NJ CONTINENTAL SHELF NORTH OF ATLANTIC CITY HAS BEEN MADE TO CLARIFY THE NATURE AND HISTORY OF THIS SURFACE SEDIMENT, HERETOFORE KNOWN MAINLY AS "RELICT" SANDS AND GRAVELS. THE SEDIMENT CONSISTS MOSTLY OF MODERATELY WELL-SORTED, MEDIUM-GRAINED SAND WITH A REMARKABLE ABSENCE OF PARTICLES FINER THAN 125 MICRONS IN SIZE. THIS ABSENCE OF FINE PARTICLES IS RELATED TO THE REWORKING RESULTING FROM THE HOLOCENE TRANSGRESSION. MAPPING OF STATISTICAL PARAMETERS SUGGESTS THAT DURING THE HOLOCENE SUBMERGENCE STILLSTANDS OCCURRED AT ABOUT 40 AND 20 FATHOMS. EMPIRICAL CRITERIA FOR THESE INFERRED FORMER STILLSTANDS INCLUDE THE CHARACTERISTICS OF THE PRESENT-DAY SHORE AND RECENT NEARSHORE SEDIMENTS. MORPHOLOGIC TERRACES AT ABOUT 80 AND 68 FATHOMS HAVE BEEN DISTINGUISHED FROM A STUDY OF ECHOGRAM CHARTS. THE FORMER TERRACE CORRESPONDS TO THE SO-CALLED "NICHOLLS SHORELINE." THE ABUNDANCE OF HORNBLENDE AND GARNET AND THE

PRESENCE OF MAGNETITE IN THE SHELF SAMPLES CONTRASTS WITH THE ABSENCE OF THESE MINERALS IN CRETACEOUS. MICCENE OR QUATERNARY AGE ROCKS ON THE ADJACENT COASTAL PLAIN. IT IS SUGGESTED THAT THE CONTINENTAL SHELF SEDIMENTS MAY HAVE BEEN DERIVED FROM AN ANCESTRAL HUDSON RIVER.

0562 FRANZ, D.R.

DISTRIBUTION AND ABUNDANCE OF INSHORE POPULATIONS OF THE SURF CLAM SPISULA SOLIDISSIMA [1976]

PAGES 404-413 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL'Z. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

THE DISTRIBUTION AND ABUNDANCE OF JUVENILE AND ADULT SURF CLAMS WERE DETERMINED INSHORE OF THE 3-MI CONTOUR IN JULY 1974 AT 141 SITES OFF LONG ISLAND, NY. TRANSECTS WERE LOCATED EVERY 2 MI FROM MONTAUK TO ROCKAWAY POINT, AND SAMPLES WERE TAKEN AT 0.5, AND 2.5 MI OFFSHORE. SELECTED STATIONS WERE REVISITED IN JULY 1975. EAST OF SHINNECOCK INLET ADULT CLAMS OCCURRED AT DENSITIES BETWEEN 0.5 AND 3.0 BUSHELS/DREDGE HAUL. WEST OF SHINNECOCK ADULTS DECLINED GRADUALLY, REACHING A MINIMUM MEST OF JONES INLET TO EAST ROCKAWAY INLET. ABUNDANCES INCREASED PRECIPITOUSLY OFF ROCKAWAY BEACH. HIGHEST DENSITIES OF JUVENILES OCCURRED AT 0.5 MI AND DECREASED RAPIDLY FARTHER OFFSHORE. JUVENILES WERE MORE ABUNDANT AT THE WEST END OF LONG ISLAND, PARTICULARLY INSHORE AT 0.5 MI. HIGHER DENSITIES OF JUVENILES HERE MAY RESULT FROM ACCUMULATION OF LARVAE PRODUCED FARTHER EAST AND TRANSPORTED WESTWARD VIA LONGSHORE CURRENTS. THE CONVERGENCE OF TIDAL AND LONGSHORE CURRENTS MAY EFFECTIVELY "TRAP" LARVAE OFF WESTERN LONG ISLAND. CLAM STOCKS OFF THE ROCKAWAYS APPEAR YOUNGER. THE COMMERCIAL FISHERY IS APPARENTLY DEPENDENT ON MASSIVE SETTLEMENTS OF LARVAE OCCURRING IRREGULARLY AND INFREQUENTLY.

0563 FRANZ. D.R.

SIZE AND AGE-SPECIFIC PREDATION BY LUNATIA HEROS (SAY, 1822) ON THE SURF CLAM SPISULA SOLIDISSIMA (DILLWYN, 1817) DFF WESTERN LONG ISLAND, NEW YORK [1977]

VELIGER 20(2):144-150

A COMPARISON OF THE SIZE DISTRIBUTION OF SPISULA VALVES WITH HORE HOLES OF L. HEROS WITH UNBORED VALVES INDICATED THAT LUNATIA PREDATION IS LARGELY LIMITED TO CLAMS >80 MM. AN ANALYSIS OF GROWTH RIDGES ON PAIRED, BEACH-COLLECTED ROCKAWAY CLAM VALVES INDICATED AN ESTIMATED GROWTH RATE SIGNIFICANTLY LOWER THAN VALUES PREDICTED FROM OTHER PROPOSED CURVES AVAILABLE IN THE LITERATURE. APPLICATION OF THE GROWTH INFORMATION TO THE COLLECTIONS OF BORED SPISULA VALVES SHOWED THAT LUNATIA TENDS TO SELECT CLAMS >5 YR OLD. ALTHOUGH THE ADJACENT SUBTIDAL POPULATIONS OF SPISULA ARE SUSCEPTIBLE TO LUNATIA PREDATION, POPULATIONS OF PREDOMINANTLY LARGER CLAMS (>100 MM) OCCURRING FURTHER E ON LONG ISLAND ARE APPARENTLY SUBSTANTIALLY IMMUNE TO LUNATIA ATTACK. SIZE-SPECIFIC PREDATION BY LUNATIA MAY OPERATE TO MAINTAIN THE SMALLER SIZE STRUCTURE OF WESTERN LONG ISLAND POPULATIONS OF SPISULA.

0564 FREEDMAN, A.K.; J.C. COHEN

ENVIRONMENTAL IMPACT OF SUPPLYING POWER TO THE CON EDISON SERVICE TERRITORY: 1975-1990 [1975]

CITIZENS FOR CLEAN AIR INC., NEW YORK, NY 155 PP

THE ENVIRONMENTAL IMPACTS OF ELECTRIC POWER GENERATION AND TRANSMISSION IN THE CONSOLIDATED EDISON TERRITORY (NYC AND MOST OF WESTCHESTER COUNTY) ARE ASSESSED. CURRENT CAPACITY AND PLANS FOR GENERATION AND TRANSMISSION ADDITIONS ARE DESCRIBED. IN STUDYING THE ENVIRONMENTAL EFFECTS OF INDIAN POINT NUCLEAR COMPLEX, IT IS CONCLUDED THAT "THE RAMIFICATIONS OF NUCLEAR POWER ARE BEYOND THE SCOPE OF THE COMPLEX TECHNOLOGY FROM WHICH NUCLEAR POWER WAS BORN." ACCORDING TO THIS REPORT, PROBLEMS IN HANDLING AND TRANSPORT OF NUCLEAR MATERIALS AND IN DISPOSAL OF RADIOACTIVE WASTES DEMAND CONSIDERATION. ALTERNATIVES TO

ONCE-THROUGH COOLING ARE DESCRIBED. SELECTION OF COOLING SYSTEMS SHOULD TAKE INTO ACCOUNT PROTECTION OF AQUATIC LIFE AS WELL AS THE EFFICIENT OPERATION OF THE POWER PLANT. A MAJOR ISSUE IN CONSIDERING AIR POLLUTION IS THE EFFECT OF A POSSIBLE NUCLEAR MORATORIUM IN NY, WHICH WOULD CAUSE A SHIFT TO COAL-FIRED PLANTS AND MORE SOZ EMISSIONS. FURTHER CONCLUSIONS EXPRESS THE NEEDS FOR: 1) A SOUND METHODOLOGY TO IDENTIFY POTENTIAL POWER PLANT SITES; AND 2) AN ASSESSMENT OF THE ENVIRONMENTAL IMPACT OF HIGH VOLTAGE 765 KV TRANSMISSION LINES.

0565 FREELAND, G.L.; D.J.P. SWIFT

NEW YORK ALTERNATIVE DUMPSITE ASSESSMENT--RECONNAISSANCE STUDY OF SURFICIAL SEDIMENTS [1975]

PAGES 505-511 IN 7TH ANN OFFSHORE TECHNOLOGY CONF, 5-8 MAY 1975, HOUSTON, TX. PREPRINTS, VOL III, NO. OTC 2385. MESA, NOAA, STONY BROOK. NY

PRELIMINARY EVALUATION OF THE POTENTIAL FOR DEPOSITION OF DUMPED MATERIALS, PRIMARILY SEWAGE SLUDGE, WERE MADE AT TWO SITES 60 NM FROM NEW YORK HARPOR IN 20 TO 30 FM WATER DEPTHS. SINCE SLUDGE PARTICLE DENSITY IS BARELY OVER 1.0, GEOLOGICAL DATA WERE ANALYZED FOR POTENTIAL DEPOSITION AND TRANSPORT OF FINES IN PARTICULAR IN ADDITION TO THE SAND-SIZED FRACTION. RESULTS SUGGEST A NET SOUTHWESTWARD BOTTOM SEDIMENT TRANSPORT, INTENSIFYING DURING WINTER STORMS. BOTH DUMPSITES ARE FLOORED BY SAND, PREDOMINATELY MEDIUM-GRAINED (0.25 TO 0.5 MM). AT THE NORTHERN DUMPSITE, MODERATE SEDIMENT TRANSPORT IS INDICATED TO THE SOUTH AND WEST OVER A GENTLY SLOPING BOTTOM INCISED BY BROAD, LOW-GRADIENT, PRE-EXISTING VALLEYS. EVIDENCE OF MORE ACTIVE SEDIMENT TRANSPORT TO THE SOUTHWEST IS INDICATED AT THE SOUTHERN DUMPSITE.

0566 FREELAND, G.L.; G.F. MERRILL

DEPOSITION AND EROSION IN THE DREDGE SPOIL AND OTHER NEW YORK BIGHT DUMPING AREAS [1976]

PAGES 736-946 IN PROC OF THE SPEC CONF ON DREDGING AND ITS ENVIRON EFFECTS, MOBILE, AL, JAN 26-28, 1976. ASCE, NEW YORK, NY

THE DISPOSAL OF SOLID WASTES FROM THE NYC METROPOLITAN AREA IS THE CAUSE OF CONSIDERABLE ENVIRONMENTAL CONCERN, AS MOST OF THESE WASTES ARE DUMPED IN MARINE WATERS OUTSIDE OF THE HARBOR MOUTH. DREDGE SPOIL AND SEWAGE SLUDGE CONSTITUTE OVER 94% OF THE VOLUME OF MATERIAL DUMPED CONTAINING SOLIDS. IN 1973 RESEARCH WAS STARTED TO DETERMINE THE EFFECT OF DUMPING IN THE NEW YORK BIGHT. A NEW HYDROGRAPHIC SURVEY OF THE BIGHT APEX WAS IMMEDIATELY STARTED TO DETERMINE WHAT CHANGES HAD OCCURRED IN BOTTOM TOPOGRAPHY SINCE THE LAST PREVIOUS SURVEY IN 1936. SOME RESULTS FROM THIS SURVEY ARE PRESENTED.

0567 FREELAND, G.L.; G.F. MERRILL

SEDIMENTOLOGICAL ASPECTS OF BATHYMETRIC CHANGES OVER A 37-YEAR PERIOD IN THE NEW YORK BIGHT APEX [1976]

GEO SOC AM ABSTR PROG 8(2):177-178

COMPARISON OF DATA FROM A DETAILED 1973 BATHYMETRIC SURVEY IN THE NY BIGHT APEX, DONE AS PART OF NOAA'S MESA PROGRAM IN THE NY BIGHT, WITH RESULTS OF THE PREVIOUS SURVEY IN 1936 REVEAL NET CHANGES OF SIGNIFICANCE TO SEDIMENTOLOGISTS STUDYING SEDIMENT TRANSPORT AND TO ENVIRONMENTAL MANAGERS ATTEMPTING TO DETERMINE ACCUMULATION OR DISPERSAL OF DUMPED MATERIALS. A CONTOURED NET CHANGE MAP PERMITS MEASUREMENTS OF AREAS OF NET EROSION AND DEPOSITION AND CALCULATION OF VOLUMES FOR EACH. ASSUMING A PRELIMINARY ESTIMATE OF 0.09 M OF SEA LEVEL RISE IN THE INTERVENING 37 YEARS, THE TOTAL AREA OF 715 KM2 HAS UNDERGONE SEDIMENT EROSION OF 258 X 10EXP6 M3 AND DEPOSITION OF 214 X 10EXP6 M3 FOR A NET REMOVAL OF 44 X 10EXP6 M3, EQUAL TO A LAYER 0.06 M THICK OVER THE ENTIRE AREA. HOWEVER, 75 X 10EXP6 M3 OF DREDGE MATERIALS AND 5.3 X 10EXP6 M3 OF CELLAR DIRT (CONSTRUCTION DEBRIS) HAVE BEEN DUMPED BY MAN FROM SOURCES OUTSIDE THE APEX. THE DREDGE SPOIL DUMPING ALONE HAS CAUSED OVER 10 M OF SHOALING. SUBTRACTING THE ANTHROPOGENIC SEDIMENT RESULTS IN A NET REMOVAL OF 143 X 10EXP6 M3 OF SEDIMENT, OR 0.24 M OVER THE AREA OUTSIDE OF DUMPSITES AND DREDGED CHANNELS. EXAMINATION OF THE CHRISTIANSEN BASIN, THE NATURAL AMPITHEATER AT THE HEAD OF THE HUDSON SHELF VALLEY AND A NATURAL SINK FOR FINE SEDIMENT, INCLUDING SEWAGE SLUDGE DUMPED NEARBY, REVEALS THAT 75% OF THE AREA HAS UNDERGONE

EROSION, MOSTLY IN THE CENTER OF THE BASIN, WHILE DEPOSITION OF UP TO 2/3 M HAS OCCURRED ON THE NORTHWEST SIDE OF THE BASINOTHESE DATA, COMBINED WITH SURFICIAL SEDIMENT AND SIDE-SCAN SONAR DATA, POINT TO ACTIVE SEDIMENT TRANSPORT IN THE AREA, EVEN TO THE EXTENT OF SCOURING FINE SEDIMENT FROM TOPOGRAPHIC LOWS.

0568 FREELAND, G.L.: D.J.P. SWIFT; W.L. STUBBLEFIELD; A.E. COK

SURFICIAL SEDIMENTS OF THE NOAA-MESA STUDY AREAS IN THE NEW YORK BIGHT [1976]

PAGES 70-101 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL DECANOG. ALLEN PRESS, LAWRENCE, KS

IN THE NEW YORK BIGHT APEX, EXTENSIVE SEDIMENTOLOGICAL STUDIES AND A 1973 BATHYMETRIC SURVEY REVEAL THAT THE ONLY SIGNIFICANT CHANGE IN BOTTOM TOPOGRAPHY SINCE 1936 OCCURRED AT THE DREDGE SPOIL DUMPSITE WHERE THE DUMPING OF DREDGED MATERIAL HAS CAUSED UP TO 10 M SHOALING. THE CENTER OF THE CHRISTIAENSEN BASIN, A NATURAL COLLECTING AREA FOR FINE-GRAINED SEDIMENT, IS NO DOUBT CONTAMINATED WITH SLUDGE BUT SHOWS NO APPARENT SEDIMENT BUILDUP DURING THE INTERVENING 37 YEARS. THE APEX OUTSIDE OF THE CHRISTIANSEN BASIN IS FLOORED PRIMARILY BY SAND RANGING FROM SILTY FINE TO COARSE, WITH SMALL AREAS OF SANDY GRAVEL, ARTIFACT (ANTHROPOGENIC) GRAVEL, AND MUD. NEARSHORE MUD PATCHES APPEAR TO BE COVERED AT TIMES WITH SAND AND OCCASIONALLY SCOURED OUT, SIDESCAN SONAR RECORDS SHOW LINEAR BEDFORMS, INDIGATIVE OF SAND MOVEMENT, OVER MOST OF THE APEX AREA. TWO MIDSHELF AREAS HAVE BEEN PROPOSED AS INTERIM ALTERNATIVE DUMPING AREAS. THE NORTHERN AREA IS IN A TRIBUTARY VALLEY OF THE ANCESTRAL LONG ISLAND RIVER SYSTEM. FINE SANDS COVER THE NORTHEAST PART AND MEDIUM SANDS PREDOMINATE TO THE WEST AND SOUTH. BOTTOM PHOTOGRAPHS SHOW A SMOOTH, SLIGHTLY UNDULATORY, MOUNDED OR RIPPLED SEA FLOOR. IN THE SOUTHERN ALTERNATIVE DUMPING AREA COARSE SAND AND GRAVEL DEPOSITS LIE ON THE CREST AND EAST FLANK OF THE HUDSON DIVIDE, WHILE MEDIUM AND FINE SAND OCCURS IN THE RIDGE AND SWALE TOPOGRAPHY TO THE WEST. THESE DISTRIBUTIONS SUGGEST FINE SEDIMENT IS WINNOWED FROM THE CREST AND EAST FLANK OF THE DIVIDE AND DEPOSITED TO THE WEST. VEATCH AND SMITH TROUGH CONTAINS A VENEER OF SHELLY, PEBBLE SAND WITH LARGE, ANGULAR CLAY PEBBLES AND OCCASIONAL OYSTER SHELLS DERIVED FROM EXPOSED EARLY HOLOCENE LAGOONAL CLAY. THESE STUDIES SUGGEST THAT IF SEWAGE SLUDGE WERE DUMPED, WIDESPREAD DISPERSION, MOSTLY TO THE SOUTHWEST, COULD BE EXPECTED, WITH WINTER RESUSPENSION AND TRANSPORT OF FINE MATERIAL ON THE BOTTOM. POSSIBLE PERMANENT BUILDUP ON THE BOTTOM COULD BE EXPECTED IF DREDGED MATERIAL WERE DUMPED.

0569 FREELAND, G.L.; G.F. MERRILL

THE 1973 BATHYMETRIC SURVEY IN THE NEW YORK BIGHT APEX: MAPS AND GEOLOGICAL IMPLICATIONS [1977]

TM-ERL-MESA-19. NOAA, MIAMI, FL 22 PP NTIS-PB-278 926

A HYDROGRAPHIC SURVEY OF THE NEW YORK BIGHT APEX WAS UNDERTAKEN BY THE NEW YORK DISTRICT OF THE CORPS OF ENGINEERS UNDER CONTRACT TO NOAM AS PART OF THE MESA PROGRAM. A BATHYMETRIC MAP WAS PREPARED AND A COMPARISON WAS MADE BETWEEN THE 1973 DATA AND HYDROGRAPHIC DATA FROM THE MOST RECENT PREVIOUS SURVEY OF THE AREA, H-610, DONE IN 1936 BY THE US CGS. A RESULTING CONTOURED NET BATHYMETRIC CHANGE MAP SHOWS THAT THE MOST SIGNIFICANT CHANGE HAS OCCURRED IN THE DREDGE SPOIL DUMPSITE, WHERE THAS BEEN UP TO 10 M OF SHOALING. CALCULATIONS OF VOLUMES OF ERODED AND DEPOSITED SEDIMENT INDICATE THAT THE AREA HAS GENERALLY ERODED AND THAT, EXCEPT AT THE DREDGE SPOIL DUMPSITE AND THE NOW ABANDONED DUMPSITES NEAR AMBROSE AND SANDY HOOK CHANNELS, DUMPING IS NOT CAUSING SIGNIFICANT CHANGES IN WATER DEPTHS.

0570 FREELAND, G.L.; D.J.P. SWIFT

SURFICIAL SEDIMENTS [1978]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 10. NYSG, ALBANY, NY 93 PP NTIS-PB-298 263

THE SURFICIAL SEDIMENT COVER OF THE CONTINENTAL SHELF IN NEW YORK BIGHT CONSISTS OF A SHEET OF SAND UP TO 10 M THICK WITH SMALL AREAS OF GRAVEL AND MUDDY SAND. OFF THE SHELF EDGE, MUD INCREASES TO BECOME THE DOMINANT SEDIMENT. MOST SEDIMENT WAS FIRST

DEPOSITED DURING OR SOON AFTER THE LAST GLACIAL MAXIMA WHEN THE PRESENT SHELF WAS LAND AND HAS BEEN REWORKED BY THE ADVANCING SHORELINE. MOST SHELF MORPHOLOGIC FEATURES ALSO REFLECT THESE CONDITIONS. MODIFICATION OF THE NATURAL PATTERN OF SEDIMENTATION HAS OCCURRED IN THE BIGHT APEX WHERE MAN HAS DUMPED HIS WASTES FOR OVER 60 YEARS. DREDGE SPOIL DUMPING HAS CREATED SEVERAL KNOLLS ON THE BOTTOM, AND WITH OUTFALLS, THE DUMPING OF SEWAGE SLUDGE, ACID WASTES, CONSTRUCTION, AND OTHER RUBBLE, HAS MADE THE APEX A "WORST CASE" EXAMPLE OF OCEAN POLLUTION.

0571 FREELAND, G.L.; D.J.P. SWIFT; R.A. YOUNG

MUD DEPOSITS NEAR THE NEW YORK BIGHT DUMPSITES: ORIGIN AND BEHAVIOR [1979]

PAGES 73-95 IN H.D. PALMER AND M.G. GROSS, EDS. OCEAN DUMPING AND MARINE POLLUTION--GEOLOGICAL ASPECTS OF WASTE DISPOSAL. DOWDEN, HUTCHINSON AND ROSS, INC., STROUDSBURG, PA

A DETAILED INVESTIGATION OF THE FLOOR OF THE NY BIGHT APEX REVEALS THAT MUDDY SEDIMENT OCCURS IN THE CHRISTIANSEN BASIN, IN THE FRINGING LAGOONS AND MARSHES NEAR THE MOUTHS OF TIDAL INLETS, AND IN EPHEMERAL PATCHES ON THE LONG ISLAND SHOREFACE, WHERE MUD SETTLES INTO THE TROUGHS OF SANDWAVE-LIKE BEDFORMS. THE APPEARANCE AND DISAPPEARANCE OF THESE NEARSHORE MUD PATCHES HAS LED TO AN ERRONEOUS CONCEPT OF A SEWAGE SLUDGE "FRONT" ADVANCING TOWARD THE LONG ISLAND BEACHES FROM THE SEWAGE SLUDGE DUMPSITE. WHILE BIGHT APEX MUD DEPOSITS DO CONTAIN SEMAGE SLUDGE, THIS CONTAMINATION IS USUALLY NOT APPARENT IN GROSS PHYSICAL PROPERTIES OR COMPOSITION; SOPHISTICATED CHEMICAL TECHNIQUES ARE REQUIRED TO DETECT THE CONTAMINATION. FINE GRAINED DEPOSITS NEAR THE NY BIGHT SEWAGE SLUDGE DUMPSITE ARE PRIMARILY OF NATURAL ORIGIN AND SHOULD, THEREFORE, BE CALLED MUD, NOT SLUDGE. FINE-GRAINED SEDIMENT AT THE DREDGE SPOIL DUMPSITE IS ALSO MOSTLY NATURAL SEDIMENT, BUT IT IS ANTHROPOGENIC IN THAT IT IS DREDGED HARBOR AND ESTUARY SEDIMENT. THE IMPACT OF SEWAGE SLUDGE DUMPING IN THE NY BIGHT APEX DEPENDS TO A LARGE EXTENT ON THE PATHWAYS AND RATES OF NATURAL SEDIMENT TRANSPORT SYSTEM. SUCH LIMITED INFORMATION AS IS AVAILABLE SUGGESTS THAT THE RATE OF SEWAGE SLUDGE DISPERSAL IS HIGH RELATIVE TO THE RATE OF INPUT. THE MODEL LEADS TO THE INFERENCE THAT SEWAGE SLUDGE IS RAPIDLY DILUTED IN THE BIGHT APEX BY NATURAL SEDIMENT, AND THE MORE STABLE SEWAGE SLUDGE COMPONENTS ARE WIDELY DISPERSED THROUGH THE NATURAL MUD DEPOSITS OF THE NY BIGHT SYSTEM.

0572 FREELAND, G.L.; D.J. STANLEY; D.J.P. SWIFT; D.N. LANBERT

HUDSON SHELF VALLEY, NORTH AMERICAN ATLANTIC SHELF: ITS ROLE IN MODERN SHELF SEDIMENT TRANSPORT [1980]

NOAA, GOULDER, CO 36 PP

THE HUDSON VALLEY WAS DEEPLY INCISED INTO THE GLACIAL "FOREBULGE." OR ZONE OF PERIGLACIAL CRUSTAL UPLIFT, DURING PLEISTOCENE LOWSTANDS OF THE SEA. DURING THE HOLOCENE TRANSGRESSION, FLUVIAL, ESTUARY AND ESTUARY MOUTH DEPOSITIONAL ENVIRONMENTS WERE DISPLACED LANDWARD UP THE SHELF VALLEY, AND SEDIMENTATION IN THESE ENVIRONMENTS PARTIALLY FILLED THE VALLEY. SEDIMENT THICKNESS IN THE SEAWARD HALF OF THE VALLEY IS ABOUT THE SAME AS ON THE SHELF ON EITHER SIDE. BUT IN THE LANDWARD HALF OF THE VALLEY. 22 M OF SEDIMENT IS PRESENT VERSUS 5 TO 10 M ON THE ADJACENT SHELF. SEDIMENT VOLUME CALCULATIONS IN THE UPPER SHELF VALLEY SHOW THAT THERE IS ABOUT THREE TIMES THE INFILL VOLUME EAST OF THE THALWEG AS COMPARED TO THE INFILL TO THE WEST. THIS CONFIGURATION INDICATES THAT THE VALLEY HAS SERVED AS A SEDIMENT TRAP AND RECORDS THE WESTWARD MIGRATION OF THE THALWEG DURING THE HOLOCENE. MOST OF THE ASYMMETRICAL INFILL WAS THE RESULT OF LITTORAL DRIFT AS THE MOVING COAST LINE SWEPT SAND OFF THE LONG ISLAND SHELF INTO THE SHELF VALLEY. HOWEVER, MODERN SEDIMENT TRANSPORT, AS CALCULATED FROM CURRENT METER OBSERVATIONS AND INFERRED FROM BEDFORM OBSERVATIONS IS MAINLY SOUTHWESTWARD, ALONG THE REGIONAL TREND OF THE CONTOURS AND ACROSS THE SHELF VALLEY. INFILL ON THE EASTERN SIDE OF THE SHELF VALLEY IS CONTINUING AT PRESENT. OBSERVATIONS OF THE REGIONAL DISTRIBUTION OF SEDIMENT TYPES INDICATE THAT THE ASYMMETRICAL VALLEY FILL IS PART OF AN EROSIVE REGIONAL PATTERN OF BOTTOM RESPONSE TO FLOW. THE FORMER DRAINAGE DIVIDES ON BOTH SIDES OF THE SHELF VALLEY ARE SURFACED BY COARSE LAG DEPOSITS ON SLOPES FACING NORTHEAST. INTO THE DIRECTION FROM WHICH THE MAJOR STORM FLOWS COME, WHILE THE DOWN-CURRENT SIDES ARE MANTLED WITH FINE SAND. CURRENT METER OBSERVATIONS INDICATE THAT IN ORDER TO CONSERVE VORTICITY, BOITOM STORM FLOWS MOVING SOUTHWESTWARD OR NORTHEASTWARD ALONG-SHELF CONTOURS SWING TO FOLLOW THE TREND OF THE VALLEY AXIS ONCE THEY ARE WITHIN THE SHELF VALLEY. SUCH FLOWS ARE PREDDMINANTLY UP-VALLEY, FORCED BY THE DOMINANT WESTERLY WINTER WINDS, BUT NORTHEASTER STORMS OCCASIONALLY CREATE VERY STRONG DOWN-VALLEY FLOWS. TRACE METAL STUDIES SHOW THAT CONTAMINANTS ARE IN FACT MOVING DOWN-VALLEY FROM THE VALLEY-HEAD DUMPSITES. PERHAPS BY

THIS MECHANISM.

0573 FREELAND, G.L.; J.W. LAVELLE; D.J.P. SWIFT; ET.AL.

NOAA'S WASTE DISPOSAL STUDIES IN NEW YORK BIGHT [1977]

AM ASSOC PET GEOL-SOC ECON PALEON MINERAL JOINT SESSION, WASHINGTON, DC, JUN 1977. NOAA, MIAMI, FL 83 PP

IN THE BIGHT APEX, NATURAL SEDIMENTATION, AFFECTING 82% OF THE AREA, HAS RESULTED IN NET EROSION OF 58 X 10exp6 M3 of sediment from 1936 to 1973. DUMPING OVER THE SAME PERIOD HAS RESULTED IN A NET DEPOSITION OF 81 X 10exp6 M3 at dredge spoil and cellar dirt (construction rubble) dumpsites. Sewage sludge, constituting only 3.3% of dumped solids, is nearly neutrally buoyant, highly mobile, and does not form a deposit at the sewage sludge dumpsite, but mixes into nearby deposits of natural mud, tho mid-shelf areas, n and s of the hudson shelf valley, were found to be pristine and not recommended for use. Material dumped would have a net southwestward movement as a result of storm conditions, thus potentially contaminating a much larger area than is affected at present. The inner shelf sediment transport experiment (instep) will examine the temporal and spatial variance of sediment flux on the bottom and through the water column. It will assess the pattern of sediment transport on a straight shoreface, in an inner shelf ridge topography, and in an area of nearshore mud patches. Near-bottom sediment fluxes will be measured by electromagnetic em current sensors coupled to forward-scattering nephelometers plus additional vertical arrays of em meters coupled with an acoustic meter which incrementally measures the suspended sediment concentration in the first meter above the bottom. Bottom sediments will be mapped and monitored quarterly for a year. Completion of the program is expected in 1980.

0574 FREEMAN. B.L.; S.C. TURNER

BIOLOGICAL AND FISHERIES DATA ON TILEFISH, LOPHOLATILUS CHAMAELEONTICEPS GOODE AND BEAN [1977]

TECH REP 5. SANDY HOOK LAB. NOAA. HIGHLANDS. NJ 41 PP

THIS REPORT INCLUDES DESCRIPTIVE INFORMATION ON TILEFISH, BRIEFLY DESCRIBING TAXONOMY, DISTRIBUTION, REPRODUCTION, AND DEVELOPMENT, POPULATION DYNAMICS, EXPLOITATION (FISHING), AND MANAGEMENT. IT CONCLUDES THAT ANY NEED FOR MANAGEMENT HAS NOT YET BEEN DETERMINED.

0575 FREIBERGER. A.

PRETREATMENT AND ULTIMATE DISPOSAL OF WASTEWATER SOLIDS. [1974]

US EPA, ANNAPOLIS, MD 470 PP NTIS-PB-239 868

THE FOLLOWING TOPICS ARE COVERED IN THIS COLLECTION: OVERVIEW OF SLUDGE HANDLING AND DISPOSAL; ELEMENTAL ANALYSIS OF WASTEWATER SLUDGES FROM 33 WASTEWATER TREATMENT PLANTS IN THE US; STABILIZATION OF MUNICIPAL SEWAGE SLUDGE BY HIGH LIME DOSE; THERMAL DEGRADATION OF SLUDGES; THICKENING CHARACTERISTICS OF ALUMINUM AND IRON PRIMARY SEWAGE SLUDGES; DEWATERING OF PHYSICAL-CHEMICAL SEWAGE SLUDGES; SLUDGE INCINERATORS IN USE TODAY THAT MEET THE REQUIREMENTS OF STATE AND FEDERAL REGULATIONS; ECONOMIC CONSIDERATIONS FOR PLANNING SEWAGE SLUDGE DISPOSAL SYSTEMS; FUTURE PROBLEMS IN SLUDGE PRODUCTION AND HANDLING SYSTEMS; EPA'S POSITION ON OCEAN DISPOSAL IN THE NEW YORK BIGHT; DISPOSAL OF SEWAGE SLUDGE TO SEA: UNITED KINGDOM EXPERIENCE AND PRACTICE; PRELIMINARY SUMMARY OF SLUDGE DEGRADATION STUDIES IN A MARINE BENTHIC ENVIRONMENT.

0576 FREY, H.R.

NORTHEASTWARD DRIFT IN THE NORTHERN MID-ATLANTIC BIGHT DURING LATE SPRING AND SUMMER 1976 [1978]

J GEOPHYS RES 83(c1):503-504

DUE TO CONCERN OVER POSSIBLE LEAKAGE FROM A TANKER SUNK IN 1942 ABOUT 28 NMI DUE MAGNETIC SOUTH OF SHINNECOCK INLET, LONG ISLAND, 10 AIR DROPS OF 25 SERIALIZED DRIFTERS EACH WERE MADE AT THE LOCATION OF THE SUNKEN SHIP BETWEEN DEC 1975 AND SEPT 1976. RECOVERIES RESULTED ONLY FROM DROPS ON APR 13, MAY 25, AND JULY 1 (NO DROP WAS MADE DURING JUNE). MARTHA'S VINEYARD WAS REACHED BY 1 DRIFTER FROM THE APRIL AND MAY DROPS AND 2 FROM THE JULY DROP. CAPE COD AND ADJACENT ISLANDS WERE REACHED BY 13 OF THE 25 DRIFTERS FROM MAY AND 1 FROM JULY. NANTUCKET WAS REACHED BY 2 OF THE JULY DRIFTERS. THE MINIMUM TRAVEL TIME OF 30 D, 1 HR IMPLIES A MINIMUM AVERAGE SPEED OF 7.5 CM/SEC. IT WAS ANTICIPATED THAT DRIFTERS RELEASED DURING THE LATE SPRING AND SUMMER WOULD ARRIVE ON THE BEACHES OF WESTERN LONG ISLAND FOLLOWING A WESTERLY DRIFT. BUT THE ABNORMALLY PERSISTENT SOUTHERLY WINDS DURING THE PERIOD IN QUESTION MAY HAVE CAUSED A REVERSAL IN THE SURFACE CURRENTS FROM THEIR USUAL SOUTHWESTWARD COURSE. THE DISPERSION.

0577 FREY. J.R.

SPECIES COMPOSITION AND DIVERSITY OF POLYCHAETES IN THE NEW YORK BIGHT [1973]

PACIFIC NORTHWEST ENVIRONMENTAL RESEARCH LAB. NEWPORT. OR 17 PP NTIS-PB-241 191

THIS STUDY IS PART OF A LARGER INVESTIGATION OF THE BIOLOGICAL CONSEQUENCES OF WASTE DISPOSAL IN THE NEW YORK BIGHT.

POLYCHAETES FROM THE SAMPLES OF THREE CRUISES (DEC 1972; FEB AND MAY 1973) IN THE BIGHT WERE IDENTIFIED. "BAMBOO WORMS"

(FAMILIES MALDANIDAE AND OWENIIDAE) WERE THE MOST ABUNDANT AND UBIQUITOUS POLYCHAETES AND WOULD THEREFORE BE THE BEST INDICATOR SPECIES TO MONITOR POLLUTION IN THE AREA. NO TEMPORAL CHANGES IN THE DENSITIES OF POLYCHAETE POPULATIONS WERE EVIDENT, BUT SUMMER AND FALL COLLECTIONS MUST BE ANALYZED TO COMPLETE THE SEASONAL DISTRIBUTION. IT IS SUGGESTED THAT THERE IS AN OPTIMAL SEDIMENT SIZE FOR POLYCHAETES, ABOVE AND BELOW WHICH THE POPULATIONS DECREASE. FAUNAL HOMOGENEITY INDICES FOR ALL PAIRS OF SAMPLES WERE COMPUTED AND PLOTTED, GIVING A BIMODAL DISTRIBUTION. IT IS LIKELY THAT THE LEFT PEAK OF THIS GRAPH IS DUE TO TWO ABERRANT SAMPLES, WITHOUT WHICH THE DATA MOULD BE NORMALLY DISTRIBUTED. A NORMAL DISTRIBUTION INDICATES AN INTERGRADING OF POLYCHAETE SPECIES RATHER THAN THE DISTINCT COMMUNITIES INDICATED BY A BIMODAL DISTRIBUTION.

0578 FREY. J.R.; R.C. SWARTZ; W.A. DEBEN; D.T. MARTIN; D.J. BAUMGARTNER

POLYCHAETES OF THE NEW YORK BIGHT: A KEY AND A DISCUSSION OF THE ECOLOGY OF THE DOMINANT SPECIES [1974]

NTIS, SPRINGFIELD, VA 41 PP NTIS-PB-241 173

THE MAJOR PORTION OF THIS REPORT IS AN IDENTIFICATION KEY TO THE POLYCHAETES OF NEW YORK BIGHT. THE KEY COVERS POLYCHAETES COLLECTED ON 6 SURVEYS AT A SITE 12 MI SOUTH OF FIRE ISLAND. AN INTRODUCTION TO THE KEY DEFINES TERMS WHICH MAY BE UNFAMILIAR. A DISCUSSION OF THE DATA AND A SUMMARY OF THE LIFE HISTORIES OF THE FIVE MOST COMMON POLYCHAETES IN THE SAMPLES FOLLOWS THE KEY. POSSIBLE RELATIONSHIPS BETWEEN LIFE HISTORIES AND ABUNDANCE ARE SUGGESTED.

0579 FRIEDMAN, M.S.

A STUDY OF THE EFFECTS OF TREATED SEWAGE EFFLUENT ON PRIMARY PRODUCTIVITY IN OYSTER BAY AND HEMPSTEAD HARBOR, NEW YORK [1973]

M.S. THESIS. C.W. POST CAMPUS, LONG ISLAND UNIV, BRENTWOOD, NY NP

THIS THESIS DESCRIBES A STUDY OF THE EFFECTS OF TREATED SEWAGE EFFLUENT ON PRIMARY PRODUCTIVITY IN THE VICINITY OF SEWAGE OUTFALLS IN CYSTER BAY AND HEMPSTEAD MARBOR. DATA WILL BE PRESENTED TO SHOW THAT NATURAL LEVELS OF PRODUCTIVITY ARE NOT CONSIDERABLY ALTERED EXCEPT DURING PERIODS OF EXCESSIVE CHLORINATION.

0580 FUHRMANN M.

SEDIMENTOLOGY OF THE NEW YORK BIGHT DREDGED MATERIAL DUMPSITE DEPOSIT [1979]

M.S. THESIS. ADELPHI UNIV. NEW YORK, NY 56 PP

THE NEW YORK BIGHT DREDGE SPOIL DUMPSITE, LOCATED OUTSIDE OF THE NEW YORK HARBOR, IS NOW A MAJOR GEOLOGICAL FEATURE OF THE BIGHT. 10 VIBRACORES, RANGING IN LENGIH FROM 3.1 TO 8.4 M, WERE TAKEN ALONG TWO TRANSECTS ACROSS THE STUDY AREA. EACH OF THE CORES IS DESCRIBED AND THE SEDIMENT TYPES OBSERVED ARE DISCUSSED. VOLUME AND MASS ESTIMATES AS WELL AS BATHYMETRIC COMPARISONS ARE MADE FOR THE THREE SURVEY YEARS: 1936, 1973 AND 1978. FROM THE DUMPING A DEPOSIT HAS EVOLVED FOR WHICH STRATIGRAPHIC CORRELATIONS WERE MADE; SOME OF WHICH CAN BE DATED. THE DEPOSIT ITSELF IS DYNAMIC. SAND, DISCRETE BEDDING AND LAMINATED SEDIMENTS ARE PREDOMINANT AT THE CENTER OF THE DEPOSIT WHILE MASSIVE BEDDING AND FINE GRAINED MATERIAL ARE COMMON ON THE DOWNSLOPE FRINGES. STATISTICAL ANALYSIS CONFIRMS THAT THE CORES, AT THE PERIPHERY OF THE DEPOSIT, CONTAIN SIGNIFICANTLY MORE MUD THAN DO THE CORES NEAR THE CENTER OF DUMPING ACTIVITY. GRAIN SIZE, BEDDING FEATURES AND STRATIGRAPHY ALL STRONGLY INDICATE THAT THERE IS SELECTIVE MOVEMENT AND DEPOSITION OF FINE GRAINED SEDIMENTS TO THE SIDES OF THE DEPOSIT THAT ARE BELOW MAVE BASE. INCURSION OF NATURAL, FINE GRAINED, GLAUCONITIC SANDS FROM EROSION WINDOWS NEAR THE SITE WAS SEEN IN THE CORES AS FLASER-LIKE AND LENTICULAR BEDS OF OFTEN LAMINATED, SANDS. THESE WERE FOUND PRIMARILY ON THE FLANKS OF THE SITE AND COMPRISE APPROXIMATELY 7% OF THE TOTAL VOLUME OF THE DEPOSIT. ANTHROPOGENIC MATERIALS FOUND WITHIN THE DUMPED SEDIMENT INCLUDE: COAL, CINDERS, METAL/RUST FLAKES, WOOD, CONCRETE, GLASS, A NAIL AND A SWATCH OF CLOTH.

0581 FUNGE, W.J.; S.L. MAISEL

MAINTAINING ENVIRONMENT FOR WATER TRANSPORTATION [1978]

PAGES 591-613 IN PROC, 2ND INTERNAT'L WATERBORNE TRANSPORT CONF, ASCE URBAN TRANSPORT DIV SPEC CONF, OCT 1977. ASCE, NEW YORK, NY

THE US ARMY CORPS OF ENGINEERS HAS BEEN CHARGED WITH THE DUTY OF THE COLLECTION AND REMOVAL OF DRIFT MATERIAL FROM NEW YORK HARBOR SINCE 1915. THIS JOB OF MAINTAINING THE ENVIRONMENT FOR WATERBORNE TRANSPORTATION HAS BECOME INCREASINGLY DIFFICULT AS ABANDONED VESSELS DETERIORATED OVER THE YEARS AND WOUND UP AS FLOATING HAZARDS TO SHIPPING AND THE SMALL CRAFT USING THE HARBOR. IN ORDER TO CURTAIL THIS TREND, IT WAS DECIDED THAT THE CORPS SHOULD ELIMINATE. AS MUCH AS POSSIBLE, THE SOURCES OF DRIFT; AND IN MARCH OF 1974 CONGRESS AUTHORIZED FUNDS FOR THE WATERFRONT CLEANUP. THE FIRST STEP WAS TAKEN IN MAR 1974 IN CONJUNCTION WITH THE PHASE I DEVELOPMENT OF LIBERTY STATE PARK IN JERSEY CITY. THE PROJECT, WHICH WILL PROBABLY REQUIRE AT LEAST 10 YRS TO COMPLETE, WILL HAVE MANY BENEFITS FOR WATERBORNE TRANSPORTATION AS WELL AS THE COMMUNITY IN GENERAL. THESE ARE DISCUSSED IN DETAIL IN THIS PAPER.

0582 FURR, A.K.; A.W. LAWRENCE; S.S.C. TONG; M.C. GRANDOLFO; R.A. HOFSTADOR; C.A. BACHE; W.H. GUTENMANN; D.J. LISK

MULTIELEMENT AND CHLORINATED HYDROCARBON ANALYSIS OF MUNICIPAL SEWAGE SLUDGES OF AMERICAN CITIES [1976]

ENVIRON SCI TECHNOL 10(7):683-687

AN ANALYTICAL SURVEY OF 68 ELEMENTS, DIELDRIN AND PCBS WAS CONDUCTED IN SEWAGE SLUDGES OF 16 AMERICAN CITIES DURING 1972-73. UNUSUALLY ELEVATED CONCENTRATIONS OF CERTAIN ELEMENTS WERE FOUND IN SPECIFIC AREAS. HIGH PCB LEVELS WERE IN SLUDGE FROM SCHNECTADAY, POSSIBLY FROM THE PREDOMINANT MANUFACTURE OF ELECTRICAL EQUIPMENT THERE.

US83 GADD, P.E.; J.W. LAVELLE; D.J.P. SWIFT

ESTIMATES OF SAND TRANSPORT ON THE NEW YORK SHELF USING NEAR-BOTTOM CURRENT METER OBSERVATIONS [1978]

J SEDIMENT PETROL 48(1):239-252

CALCULATIONS OF COHESIONLESS BOTTOM SEDIMENT MOVEMENT WITHIN THE NEW NEW YORK BIGHT WERE MADE BY APPLYING TRANSPORT FORMULAE TO NEAR-BOTTOM CURRENT METER AND SURFICIAL SAND SIZE OBSERVATIONS. CURRENT DATA WERE DRAWN FROM THE RECORDS OF 18 LONG-TERM SAVONIUS ROTOR CURRENT METER DEPLOYMENTS AT VARIOUS LOCATIONS WITHIN THE BIGHT DURING FALL OF 1973 AND SPRING OF 1974. THE ASSUMPTIONS UNDERLYING THE CALCULATIONS ARE THAT WAVE ACTIVITY WAS MINIMAL AT RECORDING SITES, THAT A DRAG COEFFICENT OF 3 X 10 EXP-3 REFLECTING SMALL SCALE ROUGHNESS AND LARGE BOUNDARY LAYER REYNOLDS NUMBER IS SUITABLE TO CONVERT MEASURED CURRENTS TO FRICTION VELOCITIES, AND THAT LABORATORY THRESHOLD VELOCITIES APPLY IN THE MARINE ENVIRONMENT. OCEANIC BOTTOM SEDIMENT MOVEMENT REACHES MAXIMUM INTENSITY DURING FALL AND WINTER DUE TO THE ADDED ENERGY INPUT FROM STRONG METEOROLOGICAL EVENTS. CALCULATED TRANSPORT QUANTITIES ON THE INNER SHELF DECREASE AS DEPTH AND DISTANCE FROM SHORE INCREASE. DURING THE FALL OF 1973, THE DEEP WATERS NEAR THE HEAD OF THE HUDSON SHELF VALLEY EXHIBITED CURRENT FLOWS DIRECTED TO THE NORTH AT 40 CM/SEC. THESE UP-CHANNEL FLOW EVENTS ARE IN RESPONSE TO STRONG, SUSTAINED WESTERLY WINDS. THE MAXIMUM SEDIMENT TRANSPORT RATE CAUSED BY THESE CURRENT VELOCITIES IS 2 ORDERS OF MAGNITUDE GREATER THAN THAT OCCURRING AT MUCH SHALLOWER DEPTHS ALONG THE NJ COAST DURING THE SAME MEASUREMENT PERIOD. THE SPRING 1974 CURRENT VELOCITY FIELD YIELDS TRANSPORT RATES OF LESSER MAGNITUDES RELATIVE TO THE PREVIOUS FALL, WITH A NET DOWN-CHANNEL SEDIMENT FLUX AT THE HEAD OF THE HUDSON SHELF VALLEY.

0584 GAERTNER, M.P.

SEASONAL MIGRATION OF FISHES OF IMPORTANCE TO NEW YORK STATE [1976]

M.S. THESIS. SUNY, STONY BROOK, NY 58 PP

IT HAS LONG BEEN KNOWN THAT MANY SPECIES OF MARINE FISHES UNDERTAKE EXTENSIVE SEASONAL MIGRATIONS, ESPECIALLY ALONG COASTS WITH A NORTH-SOUTH ORIENTATION. THESE MIGRATIONS ARE NORTHERLY AND INSHORE DURING SPRING AND SUMMER, AND SOUTHERLY AND OFFSHORE DURING FALL AND WINTER. THESE SEASONAL MOVEMENTS HAVE BEEN VEHIFIED BY TAGGING AND TAG RECOVERY STUDIES AND BY EXPLORATORY FISHING. STATISTICS OF COMMERCIAL LANDINGS FOR THE STATES FROM MAINE TO NORTH CAROLINA ARE PUBLISHED MONTHLY BY THE NMFS IN COOPERATION WITH THE INDIVIDUAL STATES. THESE STATISTICS SUPPORT THE RESULTS OF THE TAGGING AND FISHING STUDIES MENTIONED ABOVE. THEREFORE, IT APPEARS THAT THESE DATA FOR COMMERCIAL MONTHLY LANDINGS OF FISHES ALONG THE EASTERN COAST OF THE US REPRESENT A USEFUL METHOD FOR CONFIRMING SEASONAL MOVEMENTS OF THESE FISHES.

0585 GAINES, J.L.

EVALUATION OF THE PRESENT SHELLFISH HARVESTING CLOSURE LINES IN THE NEW YORK BIGHT [4976]

NORTHEAST TECH SERV UNIT, DAVISVILLE, RI 10 PP

THIS PAPER IS A STUDY OF THE VALIDITY OF PRESENT CLOSURE LINES AND A TEST OF W QUALITY OF AREAS NOW HARVESTING SHELLFISH.
BACTERIOLOGICAL ANALYSIS OF WATER AND SEDIMENTS SHOW THAT THE INSHORE AREA OFF LONG BEACH DUES NOT MEET CURRENT STANDARDS FOR
APPROVED HARVESTING AND SHOULD BE CLOSED. SOUTHERN CLOSURE LINE IS VALID AND NJ WATER QUALITY IS ACCEPTABLE.

0586 GAITHER, W.S.; V. KLFMAS

RESEARCH IN THE COASTAL AND OCEANIC ENVIRONMENT [1973]

GOVERNMENT REP ANNOUNC 73(2):132 ABS ONLY NTIS-AD-752 503

PROGRESS DURING THE THIRD YEAR OF A MULTI-DISCIPLINARY STUDY OF A SECTION OF THE ATLANTIC SEACOAST (DE AND ADJACENT AREAS OF NJ AND MD) IS SUMMARIZED. MODELS OF COASTAL PROCESSES HAVE BEEN DEVELOPED TO AID IN THE ANALYSIS OF COASTAL ENVIRONMENTS AND FOR USE IN MAKING PRECISE SHORT-TERM PREDICTION OF COASTAL CHANGE BY MEANS OF INTENSIVE ANALYSIS OF THE NEAR PAST HISTORIC RECORDS AND SEQUENCE OF GEOLOGIC EVENTS. CONTINUED THEORETICAL INVESTIGATIONS OF WAVE ACTION, MODEL STUDIES OF SEDIMENTARY PROCESSES.

AND THE RESULTS OF ADDITIONAL OBSERVATIONS OF VEGETATIVE GROWTH AND OF SURFACE ENERGY EXCHANGES ARE REPORTED. A
TWO-DIMENSIONAL, OPTICAL SPECTRAL ANALYSIS OF SHALLOW WATER WAVES IS DISCUSSED AND OTHER REMOTE SENSING RESULTS ARE SUMMARIZED,
WITH EMPHASIS ON FRONTAL SYSTEMS. SUSPENDED SEDIMENT AND FLOW PATTERNS IN AND OUTSIDE DELAWARE BAY.

0587 GAKSTATTER, J.H.; M.O. ALLUM; S.E. DOMINGUEZ; ET.AL.

A SURVEY OF PHOSPHORUS AND NITROGEN LEVELS IN TREATED MUNICIPAL WASTEWATER [1977]

J WATER POLLUT CONTROL FED 50(4):718-722

A NATIONWIDE SURVEY OF THE NUTRIENT CONTENT OF MUNICIPAL WASTEWATER TREATMENT PLANT EFFLUENTS WAS CONDUCTED BY EPA AS PART OF THE NATIONAL EUTROPHICATION SURVEY. FIVE TO FOURTEEN EFFLUENT SAMPLES FROM 801 FACILITIES WERE ANALYZED FOR P AND N CONTENT. A P DETERGENT BAN WAS OPERATIVE IN INDIANA DURING THE ENTIRE SAMPLING PERIOD AND IN NEW YORK DURING PART OF THE SAMPLING PERIOD. THE MEDIAN TOTAL P AND TOTAL N CONCENTRATIONS FOR ALL TREATMENT TYPES WITHOUT P REMOVAL AND NOT INFLUENCED BY A PHOSPHATE DETERGENT BAN WERE 6.1 MG/L AND 15.0 MG/L, RESPECTIVELY. THE BAN IN INDIANA RESULTED IN EFFLUENT MEDIAN TOTAL P CONCENTRATIONS ABOUT 50% LESS THAN IN THE EFFLUENTS IN STATES WITHOUT A BAN. SIGNIFICANT DIFFERENCES IN EFFLUENT P AND N CONCENTRATIONS WERE OBSERVED FOR DIFFERENT TREATMENT TYPES.

0588 GARLO, E.V.

OPISTHOBRANCHS FOUND OFF LITTLE EGG INLET, NEW JERSEY, WITH NOTES ON THREE SPECIES NEW TO THE STATE [1977]

NAUTILUS 91(1):23-28

AN INTENSIVE ECOLOGICAL SURVEY IN THE VICINITY OF LITTLE EGG INLET, NJ FOUND 3 SPECIES OF OPISTHOBRANCHS WHICH ARE NEW TO NJ (PLEUROBRANCHAEA TARDA, ONCHIDORIS BILAMELLATA, AND FACELINA BOSTONIENSIS) AND SOUTHERN RANGE EXTENSIONS FOR DENDRONOTUS FRONDOSUS AND TERGIPES TERGIPES. THE OCCURRENCE OF COLD WATER OPISTHOBRANCHS IN NJ IS EXPLAINED IN PART BY OCEAN WATER TEMPERATURES WHICH RARELY EXCEED 25 C, BY THE NUMEROUS SUBMERGED ARTIFICIAL STRUCTURES, AND BY THE PREDOMINANT SOUTHWEST FLOW OF COASTAL WATER WHICH MAY TRANSPORT EGGS AND YOUNG FROM BREEDING POPULATIONS LOCATED TO THE NORTH.

0589 GARLO, E.V.; C.B. MILSTEIN; A.E. JAHN

IMPACT OF HYPOXIC CONDITIONS IN THE VICINITY OF LITTLE EGG INLET, NEW JERSEY IN SUMMER 1976 [1979]

ESTUARINE COASTAL MAR SCI 8(5):421-432

A MAJOR KILL OF MARINE ANIMALS IN THE NEW YORK BIGHT FROM JUL THROUGH SEP 1976 WAS CAUSED BY HYPOXIC CONDITIONS. ITS INSHORE EFFECTS WERE STUDIED IN THE VICINITY OF LITTLE EGG INLET, NJ. THE MACROBENTHIC COMMUNITY WAS MOST SEVERELY AFFECTED. ECHINODERMS SUFFERED THE GREATEST MORTALITIES, FOLLOWED BY CRUSTACEANS AND BIVALVES. SEVEN % OF THE SPISULA SOLIDISSIMA POPULATION WAS KILLED. POLYCHAETES APPARENTLY HAD VERY LOW MORTALITIES. MOST MOTILE INVERTEBRATES AND, TO A GREATER EXTENT, FISHES WERE ABLE TO AVOID THE HYPOXIA.

0590 GARSIDE. C.; T.C. MALONE; O.A. ROELS; B.A. SHARFSTEIN

AN EVALUATION OF SEWAGE-DERIVED NUTRIENTS AND THEIR INFLUENCE ON THE HUDSON ESTUARY AND NEW YORK BIGHT [1976]

ESTUARINE COASTAL MAR SCI 4(3):281-287

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MATTER MAY BE FORMED. THIS PAPER PRESENTS AN EVALUATION OF THE TOTAL DISCHARGE OF NUTRIENTS INTO THE LOWER HUDSON ESTUARY AND ESTIMATES THE QUANTITIES TAKEN UP BY PHOTOSYNTHETIC ORGANISMS UNDER SUMMER AND WINTER CONDITIONS. PRIMARY PRODUCTION IS SHOWN NOT TO BE NUTRIENT-LIMITED AT ANY TIME IN THE LOWER ESTUARY AND IN A SEASONALLY VARIABLE AREA OF THE APEX OF THE NEW YORK BIGHT. PRIMARY PRODUCTION CONTRIBUTES A SIGNIFICANT PART OF THE OXIDIZABLE ORGANIC MATTER TO THE LOWER ESTUARY. THE GENERAL APPROACH REQUIRES FEW INPUT DATA AND CAN BE OF VALUE IN ASSESSING THE IMPACT OF SEWAGE WASTES ON RECEIVING WATERS.

0591 GARSIDE. C.; D.C. BOARDMAN

THE SEASONAL DISTRIBUTION OF SELECTED HYDROGRAPHIC, CHEMICAL AND BIOLOGICAL PROPERTIES IN THE APEX OF THE NEW YORK BIGHT [1977]

MESA. YOAA. SUNY, STONY BROOK, NY NP

THE MAPS PRESENTED REPRESENT DATA COLLECTED AS PART OF THE MESA NY BIGHT STUDIES BETWEEN SEPT 1973 AND AUG 1974. THEIR PURPOSE IS TO PROVIDE A BASELINE OF SEASONAL DISTRIBUTIONS OF VARIOUS HYDROGRRAPHIC CHEMICAL AND BIOLOGICAL PROPERTIES WITHIN THE APEX OF THE NEW YORK BIGHT. AS FAR AS IS KNOWN NO UNUSUAL BIOLOGICAL EVENTS OCCURRED DURING THIS PERIOD, THE SEASONAL DISTRIBUTION OF RUNGIFF WAS NORMAL, AND STORM EVENTS OCCURRED WITH THEIR USUAL FREQUENCY. THE DATA ARE PROBABLY TYPICAL OF RECENT (10) YEARS. SUCH RELATIVELY COMPLETE DATA PROVIDE A USEFUL BACKGROUND AGAINST WHICH TO EVALUATE MORE SPARSE DATA RELATING TO YEARS IN WHICH UNUSUAL EVENTS, SUCH AS THE EXTENSIVE ANOXIC CONDITIONS AND FISH KILL OF 1976 OCCURRED.

0592 GARSIDE, C.; T.C. MALONE

DETERMINATION OF SUBMICROMOLAR CONCENTRATIONS OF AMMONIA IN NATURAL WATERS BY A STANDARD ADDITION METHOD USING A GAS-SENSING ELECTRODE [1978]

LIMNOL OCEANOGR 23(5):1073-1076

A STANDARD ADDITION TECHNIQUE USING A GAS-SENSING ELECTRODE WITH A MODIFIED ELECTRODE FILLING SOLUTION PROVIDES A RAPID AND CONVENIENT METHOD SUITABLE FOR BOTH FIELD AND LABORATORY MEASUREMENT OF AMMONIA. THE METHOD HAS A DETECTION LIMIT OF 0.2 MICROMOLE OF NH3, A PRECISION OF +/- 3.1 MICROMOLE OF NH3, AND NO MEASURABLE SALT ERROR. CALIBRATION 16 STABLE FOR A PERIOD OF DAYS AND ANALYTICAL PATES OF 15 SAMPLES/HR ARE POSSIBLE.

0593 GARSIDE. C.: T.C. MALONE

MONTHLY OXYGEN AND CARBON BUDGETS OF THE NEW YORK BIGHT APEX [1978]

ESTUARINE COASTAL MAR SCI 6(1):93-104

A RELATIONSHIP BETWEEN SURFACE 02 FLUX AND PARTICULATE ORGANIC C AS A MEANS OF ESTIMATING MEAN BENTHIC RESPIRATION IS PROPOSED AND EXAMINED USING DATA FROM THE APEX OF THE NEW YORK BIGHT FOR 1973-74. A MEAN WATER COLUMN MASS BALANCE FOR 02 INVOLVING MEAN SURFACE 92 FLUX, MEAN BENTHIC AND WATER COLUMN RESPIRATION, AND PHOTOSYNTHETIC 02 PRODUCTION IS USED TO GIVE A FIRST APPROXIMATION OF THE C AND 92 BUDGETS OF THE APEX ANNUALLY. THE C BUDGET IS COMPARED WITH KNOWN ORGANIC C INPUTS TO THE APEX AND FOUND TO BE BALANCED. THE MAJOR SOURCE OF PARTICULATE ORGANIC C IS DEMONSTRATED TO BE IN SITU PRIMARY PRODUCTION, WITH NO OTHER SINGLE SOURCE OF POC PROVIDING >10% OF THE ANNUAL TOTAL. HIGH PRODUCTION OF POC BY PRIMARY PRODUCTION IS ALWAYS ACCOMPANIED BY HIGH EVASIVE SURFACE 92 FLUX AND GENERALLY BY HIGHER LEVELS OF WATER COLUMN RESPIRATION. BENTHIC RESPIRATION IS CONTROLLED PRIMARYLY BY TEMPERATURE BUT AT TIMES BY RAPID SUPPLY OF NEW SUBSTRATE ONE SUCH SOURCE OF SUPPLY MAY BE RESUSPENDED ESTUARINE SEDIMENT AS A RESULT OF HIGH RUNOFF. MAJOR ORGANIC LOADING EVENTS AS A RESULT OF HIGH RIVER RUNOFF COULD GENERATE SMALL ANOXIC REGIONS NEAR THE ESTUARY.

0594 GARVINE, R.W.; J.D. MONK

FRONTAL STRUCTURE OF A RIVER PLUME [1)74]

J GEOPHYS RES. 79(15):2251-2259 NTIS-PB-256 148

FIELD OBSERVATIONS ARE REPORTED OF THE FRONTAL STRUCTURE FOUND ALONG THE BOUNDARY OF THE CONNECTICUT RIVER PLUME IN LONG ISLAND SOUND. THE HYDROGRAPHY AND THE HORIZONTAL CURRENT FIELD WERE DETERMINED IN THE VICINITY OF THE FRONT. THE FRONT SEPARATES AMBIENT SALTWATER ON THE SURFACE FROM THE LIGHT BRACKISH WATER OF THE PLUME. BENEATH THE SURFACE AN INCLINED FRONTAL LAYER IS FOUND WHERE STATIC STABILITY IS A MAXIMUM. ISOPYCNALS FORMING THE FRONTAL LAYER SLOPE UPWARD FROM A TYPICAL DEPTH OF 1 M AND INTERSECT THE SEA SURFACE ON A HORIZONTAL SCALE OF 50 M. A SHARP TRANSITION IN SURFACE COLOR APPEARS IN THE FRONTAL ZONE. THE PRIMARY MOTION RELATIVE TO THE FRONT IS MANIFESTED BY A VIGOROUS SURFACE CONVERGENCE FROM BOTH SIDES. SINKING MOTION AT THE FRONT IS LOCALLY INTERSE. SALTWATER APPROACHING THE FRONT IS PRESSED DOWNWARD BENEATH THE POOL OF BRACKISH WATER. THE MOTION PARALLEL TO THE FRONT IS MUCH WEAKER AND INDEPENDENT OF DENSITY STRUCTURE. THE STRUCTURE OF A SECTION OF THE FRONT IS DESTROYED BY MIXING OVER A PERIOD OF SEVERAL HOURS.

0595 GARVINE, R.W.

OBSERVATIONS OF THE MOTION FIELD OF THE CONNECTICUT RIVER PLUME [1977]

J GEOPHYS RES 82(3):441-454

OBSERVATIONS OF THE MOTION FIELD ASSOCIATED WITH THE PLUME FORMED BY THE OUTFLOW OF THE CONNECTICUT RIVER INTO THE COASTAL SEAWATER OF LONG ISLAND SOUND WERE PRESENTED. APPROXIMATELY 35 DROGUES AND DRIFTERS WERE TRACKED FOR EACH OF THREE EXPERIMENTS USING AN AIRBORNE CAMERA. THE TRAJECTORIES AND THE EULERIAN VELOCITY FIELD DEDUCED FROM THEM WAS PRESENTED. THE OFFSHORE BOUNDARY OF THE PLUME AS FORMED BY A FRONT WHERE THERE WAS A STRONG DISCONTINUITY AT THE SURFACE IN BOTH THE VELOCITY AND DENSITY FIELDS. IN ADDITION TO A VIGOROUS OUTFLOW OF PLUME SURFACE WATER AWAY FROM THE RIVER MOUTH AND PARALLEL TO THE PLUME AXIS, THE OBSERVATIONS SHOWED A PRONOUNCED SURFACE FLOW TOWARD THE FRONT AND NORMAL TO THE AXIS, WHICH WAS CONSISTENT WITH FRONTAL CONVERGENCE. THE SPEED OF PLUME WAS FOUND TO BE HIGHLY SUPERCRITICAL. THE MOTION OF NEARBY AMBIENT SEAWATER APPEARED TO BE LITTLE AFFECTED BY THE PLUME.

0596 GAZZANAPRIAROGGIA, P.; J.H. PISCIONERI; S.W. MARGOLIN

LONG ISLAND SOUND SUPMARINE CABLE INTERCONNECTION [1971]

IEEE TRANS POWER APPARATUS & SYSTEMS PAS-90(4):1863-1873

THIS PAPER DISCUSSES THE DESIGN AND INSTALLATION OF A 300 MVA, 12 MI, 138 KV, H-P OIL-FILLED SUBMARINE CABLE. THE USE OF SELF-CONTAINED, OIL-FILLED CABLE FOR THIS CROSSING REPRESENTS A MAJOR CONTRIBUTION IN THE FIELD OF CABLE TECHNOLOGY. THIS LONG-DESIRED INTERTIE BECAME A REALITY WITH THE DEVELOPMENT OF NEW LOW-VISCOSITY IMPREGNANTS CAPABLE OF COPING WITH SEVERE HYDRAULIC TRANSIENTS AS WELL AS IMPROVED DESIGN, MANUFACTURE AND INSTALLATION TECHNIQUES. ALSO DISCUSSED ARE THE ASSOCIATED TERMINAL FACILITIES AND SYSTEM CONSIDERATIONS.

0597 GEHR. 4.

SOLID WASTE MANAGEMENT--A SELECTED AND ANNOTATED BIBLIOGRAPHY [1977]

COUNCIL OF PLANNING LIBRARIANS, MONTICELLO, IL 68 PP

THIS BIBLIOGRAPHY IS CLASSIFIED ACCORDING TO BASIC INFORMATION (CONFERENCES, F FEDERAL, BIBLIOGRAPHIES), TECHNICAL INFORMATION (AUTOMOBILES, WASTES, ORGANICS, PLASTICS, RECYCLING) AND PROJECT PLANS AND OPERATING PROGRAMS.

0598 GERSHO4ITZ, R.

NATIONAL DAM SAFETY PROGRAM. WHITE'S POND DAM (NJJ0233), PASSAIC RIVER BASIN, HOHOKUS BROOK, BERGEN COUNTY, NJ. PHASE I INSPECTION REPORT [1978]

HARRIS ECI ASSOC, WOODBRIDGE, NJ 91 PP NTIS-AD-A058 151

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0599 GERSHOWITZ. R.

NATIONAL DAM SAFETY PROGRAM. WOODCLIFF LAKE DAM (NJ00247), HACKENSACK RIVER BASIN, PASCACK BROOK, BERGEN COUNTY, NJ. PHASE I INSPECTION REPORT [1978]

HARRIS ECI ASSOC, WOODBRIDGE, NJ 123 PP NTIS-AD-A358 153

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0600 GERSHOWITZ, R.

NATIONAL DAM SAFETY PROGRAM. FARRINGTON DAM (NJ 00383), RARITAN RIVER BASIN, LAWRENCE BROOK, MIDDLESEX COUNTY, NJ. PHASE I INSPECTION REPORT [1978]

HARRIS ECI ASSOC. WOODBRIDGE. NJ 119 PP NTIS-AD-AJ58 880

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0601 GERSHOWITZ. R.

NATIONAL DAM SAFETY PROGRAM. LAKE LEFFERTS DAM (NJ)0089), RARITAN RIVER BASIN, MATAWAN CREEK, MONMOUTH COUNTY, NJ. PHASE I INSPECTION REPORT [1978]

HARRIS ECI ASSOC, WOODBRIDGE, NJ 111 PP NTIS-AD-A358 878

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0602 GERSHOWITZ, R.

NATIONAL DAM SAFETY PROGRAM. MATAWAN LAKE DAM (NJ00086), RARITAN RIVER BASIN, MATAWAN CREEK, MONMOUTH COUNTY, NJ. PHÂSE I INSPECTION PROGRAM [1978]

HARRIS ECI ASSOC, WOODBRIDGE, NJ 107 PP NTIS-AD-AJ58 850

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITIONS INCLUDED IN THE REPORT.

D603 GIBBS, R.J. (EDITOR)

TRANSPORT PROCESSES IN LAKES AND OCEANS. PROC OF SYMP ON TRANSPORT PROCESSES IN THE OCEANS, ATLANTIC CITY, NJ, 29 AUG 1976

PLENUM PRESS, NEW YORK, NY 290 PP

THIS BOOK IS A COLLÉCTION OF 12 PAPERS PRESENTED AT THE SYMPOSIUM ON TRANSPORT PROCESSES IN LAKES AND OCEANS, PRESENTED IN NJ. SOME OF THE PAPERS WHICH DEAL WITH OCEANIC TOPICS ARE: TRANSPORT PROCESSES IN LAKES AND OCEANS, R.J. GIBBS; SOLID-SOLUTION INTERFACE: ITS ROLE IN REGULATING THE CHEMICAL COMPOSITION OF NATURAL WATERS, C.P. HUANG; ADVECTIVE TRANSPORT PROCESSES RELATED TO THE DESIGN OF WASTEWATER OUTFALLS FOR THE NJ COAST, J.T. DEALTERIS AND R.T. KEEGAN; OXYGEN TRANSFER AT THE AIR-WATER INTERFACE E.R. HOLLEY; DISSIPATIVE PHYSICO-CHEMICAL TRANSPORT IN THE PYCNOCLINE REGION OF THE OCEAN, J. GRIBIK AND F. OSTERLE; A HYDRODYNAMIC MODEL FOR THE TRANSPORT OF A CONSERVATIVE POLLUTANT, T.S. MURTY; RELATIONSHIP OF VERTICAL TRANSPORT ACROSS THE THERMOCLINE TO OXYGEN AND PHOSPHORUS REGIMES: LAKE ONTARIO AS A PROTOTYPE, W.J. SNODGRASS; SURFACE HEAT EXCHANGE AND HYDROTHERMAL ANALYSIS, J.E. EDINGER AND BUCHAK; DISPERSION OF POLLUTANTS IN OPEN-CHANNEL LAMINAR FLOW, H.P. HSIEH, GI YONG LEE, AND W.N. GILL; MOMENTUM TRANSFER AT THE AIR-WATER INTERFACE, O.H. SHEMDIN.

0604 GIBSON, C.I.; L.L. CIACCIO; B.H. KETCHUM; A.D. MICHAEL

PETROLEUM HYDROCARBONS SUBPANEL REPORT [1979]

PAGES 20-32 IN J.S. O'CONNER AND H.M. STANFORD, EDS. CHEMICAL POLLUTANTS OF THE NEW YORK BIGHT: PRIORITIES FOR RESEARCH. NOAA, BOULDER, CO

THE POTENTIAL IMPACT OF OIL POLLUTION IN THE NEW YORK BIGHT CAN BE GROUPED INTO THREE KINDS OF EFFECTS: (1) A DECREASE IN MARINE RESOURCE ABUNDANCE BY ACUTE OR CHRONIC TOXICITY, PHYSICAL DISRUPTION OF HABITAT, OR TAINTING OF FOOD ORGANISMS; (2) INCREASED HUMAN HEALTH HAZARDS THROUGH EATING CONTAMINANTED SEAFOOD; AND (3) A DECREASE OF AESTHETIC VALUES DUE TO OIL SLICKS AND FOULED BEACHES. IN THIS REPORT, THE FIRST TWO EFFECTS ARE CONSIDERED. THE AESTHETIC IMPACT IS NOT DISCUSSED. THE TOTAL EXISTING AND POTENTIAL QUANTITIES OF PHC AVAILABLE TO THE NEW YORK BIGHT ECOSYSTEM PROVIDE JUSTIFICATION FOR THE DEVELOPMENT OF AN UNDERSTANDING OF THE FATE AND EFFECTS OF PHCS IN THE BIGHT. THE CURRENT STATE OF KNOWLEDGE DOES NOT PROVIDE SUFFICIENT DATA TO DETERMINE THE EXTENT TO WHICH EXISTITING LEVELS OF THE HYDROCARBONS IN BIGHT IMPACT THE ECOSYSTEM. IN ADDITION, THERE ARE FEW DATA ON THE LONG-TERM FATE AND EFFECTS OF SEDIMENT-BOUND PHCS. THE POTENTIAL EXISTS FOR HUMAN HEALTH TO BE AFFECTED BY INGESTION OF FOOD ORGANISMS CONTAINING POLYNUCLEAR AROMATICS, BUT EVIDENCE WAS NOT FOUND THAT THE PRESENCE IN THE SEA OF CARCINGGENS FOUND IN OIL, OR THE PRESENCE IN SEAFOOD OF CARCINGGENS FROM OIL, CAUSE CANCER IN HUMANS.

0605 GILCREAS, F.W.

LABORATORY PROCEDURES FOR WASTEWATER TREATMENT PLANT OPERATORS [1973]

NY DEC, ALBANY, NY 141 PP

THE RESULTS OF LABORATORY ANALYSES, MADE ON PERTINENT SAMPLES OF SEWAGE OR TREATED EFFLUENTS, PROVIDE ESSENTIAL TOOLS TO AID IN THE CONTROL OF SEWAGE TREATMENT OPERATIONS. WITHOUT THE USE OF SUCH TOOLS SATISFACTORY AND EFFICIENT OPERATION OF TREATMENT PROCEDURES IS DIFFICULT IF NOT IMPOSSIBLE. IT IS THE INTENT OF THIS MANUAL TO DESCRIBE THOSE LABORATORY TECHNIQUES ADAPTED TO GOVERNING OPERATIONAL ACTIVITIES. LIMITED DISCUSSION IS INCLUDED OF THE BASIC PRINCIPLES AND REACTIONS UNDERLYING THE VARIOUS CHEMICAL ANALYSES. THE ACTION OF SUBSTANCES OFTEN PRESENT IN SEWAGE THAT TEND TO INTERFERE WITH THE PRESCRIBED TECHNIQUES AND TO VITIATE THE RESULTS IS INDICATED. A MAJOR PURPOSE OF THIS MANUAL IS TO DEVELOP A CLEAR UNDERSTANDING AND APPRECIATION OF THE VALUE OF THESE DETERMINATIONS AND THE INTERPRETATION AND USE OF THE RESULTS BY THE TREATMENT PLANT OPERATOR. THE APPLICATION OF EACH OF THE TESTS RECOMMENDED FOR THE ANALYSIS OF SEWAGE AND EFFLUENTS, ITS BEST USAGE AND VALUE ARE DISCUSSED. SPECIAL SAMPLING PRECAUTIONS NECESSARY TO ENSURE ACCURACY IN THE LABORATORY WORK ARE EMPHASIZED. PERTINENT MODIFICATIONS AND DETAILS OF EACH OF THE TECHNIQUES, THE REASONS FOR THEIR USE AND THE DIFFICULTIES THAT MAY BE ENCOUNTERED IF EVEN MINOR VARIATIONS IN PROCEDURE ARE EMPLOYED, ARE EXPLAINED AND OCCUPY A MAJOR PART OF THE DISCUSSION OF EACH METHOD. DETAILED INSTRUCTIONS FOR PERFORMING EACH OF THE TESTS FOLLOW THE DISCUSSIONS.

0606 GINN, T.C.; W.T. WALLER; G.J. LAUER

EFFECTS OF POWER PLANT CONDENSER COOLING WATER ENTRAINMENT ON THE AMPHIPOD: GAMMARUS SP [1974]

WATER RES 8(11):937-945

THE ABUNDANT HUDSON RIVER AMPHIPOD GAMMARUS SP. WAS EXAMINED FOR VIABILITY BEFORE AND DURING ENTRAINMENT IN THE ENDIAN POINT COOLING WATER SYSTEM. THE MEAN PERCENT SURVIVAL OF GAMMARUS SP. SAMPLED DURING TEMPERATURE CHANGES OF 7.1-8.3 C AND AMBIENT TEMPERATURES OF 24.9-26.0 WAS 98.5 AND 97.4% FOR THE TWO INTAKE STATIONS AND 90.1 AND 96.8% FOR THE DISCHARGE CANAL STATIONS D-1 AND D-2 RESPECTIVELY.

0607 GINN, T.C.

ECOLOGICAL INVESTIGATION OF HUDSON RIVER MACROZOOPLANKTON IN THE VICINITY OF A NUCLEAR POWER PLANT [1977]

PH.D. THESIS. NEW YORK UNIV, NEW YORK, NY NP

STUDIES WERE CONDUCTED ON SELECTED HUDSON RIVER MACROZOOPLANKTON SPECIES TO DETERMINE TEMPORAL AND SPATIAL DISTRIBUTIONS AND RESPONSES TO POWER PLANT OPERATION. DISTINGUISHING MORPHOLOGICAL AND HABITAT CHARACTERISTICS WERE DETERMINED FOR THE THREE GAMMARID AMPHIPODS (GAMMARUS DAIBERI, G. TIGRINUS, AND G. FASCIATUS) OCCURRING IN THE HUDSON RIVER. THE OEDICEROTID AMPHIPOD MONOCULODES EDWARDSI AND THE MYSID NEOMYSIS AMERICANA, IN ADDITION TO THE GAMMARID AMPHIPODS, DISPLAYED CHARACTERISTIC DIEL AND SEASONAL ABUNDANCES WHICH AFFECT THEIR POTENTIAL AVAILABILITY FOR POWER PLANT ENTRAINMENT. THE SELECTED MACROZOOPLANKTON SPECIES WERE UTILIZED IN TEMPERATURE AND CHLORINE BIOASSAYS IN ORDER TO PREDICT RESPONSES TO COOLING WATER ENTRAINMENT. ALTHOUGH AMPHIPODS (GAMMARUS SPP. AND M. EDWARDSI) SURVIVED TYPICAL INDIAN POINT COOLING WATER TEMPERATURES, N. AMERICANA HAD HIGH MORTALITIES DURING A 30-MIN, 8.3 C CHANGE IN TEMPERATURE AT 25 C AMBIENT TEMPERATURE. THE BIOASSAY RESULTS WERE SUBSTANTIATED BY GENERALLY HIGH SURVIVALS OF ENTRAINED AMPHIPODS AT THE INDIAN POINT PLANT. NEOMYSIS AMERICANA WERE MORE HEAT SENSITIVE, AS INDICATED IN BIOASSAYS, WITH AVERAGE ENTRAINMENT MORTALITIES RANGING FROM 30 TO 60% DURING THE SUMMER. ALL SPECIES EXAMINED HAD HIGHER IMMEDIATE AND LATENT MORTALITIES DURING PLANT CONDENSER CHLORINATION. THE ABILITY OF GAMMARUS TO SURVIVE CONDENSER PASSAGE AND EXPOSURE TO THE INDIAN POINT THERMAL DISCHARGE PLUME INDICATES THAT POWER PLANT OPERATION ON THE LOWER HUDSON RIVER ESTUARY HAS NO ADVERSE IMPACT ON LOCAL GAMMARID AMPHIPOD POPULATIONS. ENTRAINED N. AMERICANA EXPERIENCE CONSIDERABLE MORTALITIES; HOWEVER, THE IMPACT ON LOCAL GAMMARID AMPHIPOD POPULATIONS. ENTRAINED N. AMERICANA EXPERIENCE CONSIDERABLE MORTALITIES; HOWEVER, THE IMPACT ON LOCAL GAMMARID AMPHIPODS IS MINIMIZED BY THE LIMITED EXPOSURE OF THE POPULATION FRINGE TO THE INDIAN POINT POWER PLANT.

0608 GINN, T.C.: J.M. O'CONNOR

RESPONSE OF THE ESTUARINE AMPHIPOD GAMMARUS DAIBERT TO CHLORINATED POWER PLANT EFFLUENT [1978]

ESTUARINE COASTAL MAR SCI 6(5):459-469

EVIDENCE INDICATES THAT G. DAIBERI CAN TOLERATE LABORATORY EXPOSURE TO CHLORINATED INDIAN POINT EFFLUENT FOR 1 HR WITHOUT ADVERSE EFFECTS ON SURVIVAL. TOTAL RESIDUAL CHLORINE CONCENTRATIONS GENERALLY DO NOT EXCEED 0.1-0.5 MG/L IN POWER PLANT EFFLUENTS. THE HIGHEST CHLORINE RESIDUAL OBSERVED IN THIS INVESTIGATION WAS 0.18 MG/L. BASED ON BIOASSAYS, TEST ORGANISMS APPEAR TO TOLERATE SHORT-TERM EXPOSURES TO CHLORINE CONCENTRATIONS UP TO 0.5 MG/L WITHOUT ADVERSE EFFECTS. AT AMBIENT TEMPERATURES OF APPOXIMATELY 26 C., G. DAIBERI DISPLAYED ACTIVE AVOIDANCE OF UNCHLORINATED EFFLUENT AT TEMPERATURES ABOVE 30 C. AT LOWER AMBIENT TEMPERATURES (15 C), G. DAIBERI DID NOT AVOID UNCHLORINATED FULL-STRENGTH EFFLUENT AS OBSERVED AT THE HIGHER AMBIENT TEMPERATURE.

0609 GINTER, J.J.C.

A CATALOG OF MARINE FISHERIES LEGISLATION IN NEW YORK STATE [1974]

SUPPL. M.S. THESIS. SUNY, STONY BROOK, NY 64 PP

A REVIEW OF NYS LAW AND ADMINISTRATIVE ARRANGEMENTS FOR THE CONSERVATION OF MARINE FISHERY RESOURCES SHOWS THAT, FOR PRACTICAL PURPOSES, THE STATE HAS NO COHESIVE FISHERY MANAGEMENT POLICY WHICH PRESENTS LONG-RANGE OBJECTIVES. INSTEAD, MARINE FISHERY REGULATIONS HAVE BEEN ESTABLISHED PIECEMEAL. INTRODUCED LEGISLATION IS USUALLY BASED ON POPULAR SOLUTIONS AND IS WITHOUT BENEFIT OF SUFFICIENT SCIENTIFIC BACKGROUND INFORMATION. INCREASING POPULARITY IN THE RECREATIONAL FISHERIES HAS RESULTED IN INCREASED EFFORTS TO RESTRICT THE COMMERCIAL FISHERIES. MOREOVER, RATIONAL DECISION-MAKING HAS BEEN HINDERED BY A LACK OF FUNDAMENTAL INFORMATION ON THE TOTAL AMOUNT OF COMMERCIAL AND RECREATIONAL FISHING CATCH AND EFFORT, AND ON THE ABUNDANCE AND DISTRIBUTION OF THE RESOURCES. NY CANNOT MANAGE ITS LIVING MARINE RESOURCES WITHOUT A MANAGEMENT PLAN, ADEQUATE INFORMATION ON ALL FISHING ACTIVITIES, AND ADEQUATE COOPERATION FROM OTHER STATES IN MANAGING MIGRATORY SPECIES.

0610 GINTER, J.J.C.

A CATALOG OF MARINE FISHERIES LEGISLATION IN NEW YORK STATE [1974]

SSGP-RS-74-013. NYSG, ALBANY, NY 109 PP

THIS IS A CURRENT COLLECTION OF ALL STATUTES IN THE NEW YORK STATE FISH AND WILDLIFE LAW WHICH HAVE DIRECT BEARING ON THE MANAGEMENT OF LIVING MARINE RESOURCES IN NY. THE VARIOUS SECTIONS AND SUBDIVISIONS ARE TAKEN VERBATIM FROM TITLE 3, MARINE FISHERIES, OF ARTICLE 13, MARINE AND COASTAL RESOURCES, OF THE ENVIRONMENTAL CONSERVATION LAW. THE SECTIONS ARE CATEGORIZED HERE IN 5 PARTS ACCORDING TO THE 5 MANAGEMENT METHODS DISCUSSED IN THE TEXT INCLUDING: REGULATIONS ON SPECIES AND SIZE OF SPECIES, REGULATIONS ON AMOUNT OF CATCH; REGULATIONS ON FISHING GEAR; REGULATIONS ON TIME, SEASON AND AREA; AND REGULATIONS ON ENTRY.

0611 GINTER. J.J.C.

MARINE FISHERIES CONSERVATION IN NEW YORK STATE: POLICY AND PRACTICE OF MARINE FISHERIES MANAGEMENT [1974]

NYSG, ALBANY, NY 63 PP

REVIEW OF NEW YORK STATE LAW AND ADMINISTRATIVE ARRANGEMENTS FOR THE CONSERVATION OF MARINE FISHERY RESOURCES SHOWS THAT, FOR PRACTICAL PURPOSES, THE STATE HAS NO COHESIVE FISHERY MANAGEMENT POLICY WHICH PRESENTS LONG-RANGE OBJECTIVES. INSTEAD, MARINE FISHERY REGULATIONS HAVE BEEN ESTABLISHED PIECEMEAL. INTRODUCED LEGISLATION IS USUALLY BASED ON POPULAR SOLUTIONS AND IS WITHOUT BENEFIT OF SUFFICIENT SCIENTIFIC BACKGROUND INFORMATION. INCREASING POPULARITY IN THE RECREATIONAL FISHERIES HAS RESULTED IN INCREASED EFFORTS TO RESTRICT THE COMMERCIAL FISHERIES. MOREOVER, RATIONAL DECISION-MAKING HAS BEEN HINDERED BY A LACK OF FUNDAMENTAL INFORMATION ON THE TOTAL AMOUNT OF COMMERCIAL AND RECREATIONAL FISHING CATCH AND EFFORT, AND ON THE

ABUNDANCE AND DISTRIBUTION OF THE RESOURCES. NEW YORK STATE CANNOT MANAGE ITS LIVING MARINE RESOURCES WITHOUT A MANAGEMENT PLAN. ADEQUATE INFORMATION ON ALL FISHING ACTIVITIES, AND ADEQUATE COOPERATION FROM OTHER STATES IN MANAGING MIGRATORY SPECIES.

0612 GITTLESON. S.M.

BACTERIA IN THE HACKENSACK RIVER ESTUARY [1978]

UNDERWATER NAT 11(1):16-18

ANALYSIS OF THE TOTAL COLIFORM, FAECAL COLIFORM AND FAECAL STREPTOCCI IN THE UPPER HACKENSACK RIVER ESTUARY, CARRIED OUT DURING 1975-1976 AS PART OF A FEASIBILITY STUDY FOR THE CONSTRUCTION OF AN ARTIFICIAL LAKE FOR RECREATIONAL USE, REVEALED A HIGH LEVEL OF COLIFORMS AT MOST SAMPLING STATIONS. THIS SUGGESTS THAT SEWAGE OUTFALLS RUN FROM COMMUNITIES UPSTREAM OF THE PROPOSED DAM. SHOULD THE PRESENT COLIFORM LEVELS (>200/100 ML) BE MAINTAINED, RECREATION WOULD BE PROHIBITED BY LAW. TREATMENT WITH CHLORINE WOULD REDUCE COLIFORMS BUT CHRONICALLY AFFECT FISH POPULATIONS. THE REMAINING ALTERNATIVE IS TO PREVENT THE RIVER BEING USED AS A DRAINAGE DITCH.

D613 GLAESER. D.: P.C. SMITH

ASSESSMENT OF THE GEOLOGIC INFORMATION OF NEW YORK STATE'S COASTAL ZONE AND CONTINENTAL SHELF AND ITS SIGNIFICANCE TO PETROLEUM EXPLORATION AND DEVELOPMENT. VOLUME I [1977]

NYS SCIENCE SERVICE. ALBANY. NY 436 PP. NJIS-PB-285 259

THIS REPORT INCLUDES A COMPREHENSIVE CONVERAGE OF THE AVAILABLE INFORMATION, RESEARCH, AND PRACTICAL EXPERIENCE WHICH EXISTS FOR THE NY CONTINENTAL MARGIN. THAT REGION EXTENDS SEAWARD FROM THE BEACHES, TIDAL WETLANDS AND RIVER MOUTHS TO THE RELATIVELY DEEP MARINE SEABED WHERE IT IS PRESENTLY FEASIBLE TO APPLY THE TECHNOLOGY OF OFFSHORE DRILLING IN SEARCH OF PETROLEUM RESERVOIRS. TWO PRINCIPAL TOPICS ARE ENCOMPASSED IN THIS REPORT: (1) THE GEOLOGY OF THE CONTINENTAL MARGIN WHICH EXTENDS FROM THE UNCONSOLIDATED SURFICIAL SEDIMENTS ON THE SEAFLOOR DOWNWARD THROUGH THE SEDIMENTARY LAYERS WHICH HAVE FORMED SINCE THE EARLIEST STAGES OF DEVELOPMENT OF THE EASTERN NORTH AMERICAN CONTINENTAL MARGIN; (2) THE CIRCULATION OF WATERS WHICH COVER THE CONTINENTAL MARGIN, THIS LATTER TOPIC, THEREFORE, INCLUDES SURFACE AND DEEP WATER CURRENTS A WELL AS TIDES AND WAVES.

0614 GOCHFELD, M.

WATERBIRD COLONIES OF LONG ISLAND, NEW YORK I. INTRODUCTION [1974]

KINGBIRD 24(1):3-7

THIS IS AN INTRODUCTION TO A SERIES OF REPORTS WHICH DOCUMENT THE PRESENT STATUS AND RECENT HISTORY OF WATERBIRD COLONIES ON LONG ISLAND. DISCUSSION INCLUDES EFFECTS OF POLLUTANTS, HUMAN RECREATION, AND DEVELOPMENT ON THESE COLONIES.

0615 GOCHFELD, M.

WATERBIRD COLONIES OF LONG ISLAND, NEW YORK II. WANTAGH PARKWAY COLONY [1974]

KINGBIRD 24(2):47-50

A TERN COLONY WAS FOUND IN 1971 EXISTING ON LONG ISLAND'S SOUTH SHORE, NEAR THE WANTAGH PARKWAY IN NASSAU COUNTY. THIS COLONY WAS FOUND TO BE NESTING ON AN ARTIFICIAL SPOIL BANK, MATERIAL ORIGINALLY DREDGED FROM A BOAT CHANNEL. FROM 1971-1973, THIS COLONY WAS OBSERVED AND RECORD KEPT OF SPECIES OF BREEDING PAIR NUMBERS. MOST PREVALENT WAS THE COMMON TERN AND THE BLACK

SKIMMEQ. BY 1973, ONLY 10% OF THE ORIGINAL COLONY COULD BE FOUND AT THE SITE. THIS PAPER DISCUSSES POSSIBLE REASONS FOR THE FAILURE OF THE TERNERY.

0616 GOCHFELD, M.

WATERBIRD COLONIES OF LONG ISLAND, NEW YORK III. CEDAR BEACH TERNERY (1976)

KINGBIRD 26(2):62-80

THIS REPORT DETAILS OBSERVATIONS OF POPULATIONS IN THE TERN COLONY OF CE BEACH, NY. HABITAT DESCRIPTIONS--INCLUDING PLANT LIFE, SEWAGE TREATMENT EFFECTS, POPULATION DYNAMICS, AND NESTING BEHAVIOR ARE DESCRIBED. EFFECTS OF FLOODING, PREDATION, HUMAN DISTURBANCES, AND INSECTS ARE ALSO DISCUSSED.

0617 GOCHFELD, M.

OBSERVATIONS ON FEEDING ECOLOGY AND BEHAVIOR OF COMMON TERNS [1978]

KINGBIRD 28(2):84-90

THIS PAPER PRESENTS OBSERVATIONS OF COMMON TERNS INHABITING LONG ISLAND RELEVANT TO THE FOLLOWING SUBJECTS: SOCIAL ENHANCEMENT OF FEEDING, PARTICULARLY THE INFORMATION A TERN LEAVING THE COLONY MIGHT OBTAIN BY OBSERVING THE DIRECTION FROM WHICH OTHERS ARRIVE CARRYING FISH; FEEDING SUCCESS STUDIES, INVOLVING THE ABILITY OF THE OBSERVER TO DETERMINE WHETHER A TERN'S DIVE WAS UNSUCCESSFUL OR WHETHER A FISH WAS CAPTURED BUT SWALLOWED IMMEDIATELY; CAPTURE OF MORE THAN ONE FISH; AND TRANSPORT OF FISH TO THE COLONY, CONCERNING ORIENTATION OF CAPTURED FISH IN THE BILLS OF TERNS RETURNING TO THE COLONY.

D618 GOCHFELD. M.

PREVALANCE OF DILED PLUMAGE OF TERNS AND SKIMMERS ON WESTERN LONG ISLAND, NEW YORK: BASELINE DATA PRIOR TO PETROLEUM EXPLORATION [1979]

ENVIRON POLLUT 20(2):123-130

OBSERVATIONS AT LONG ISLAND SEABIRD COLONIES DURING 1969-78 REVEALED A MORE OR LESS CONSTANT PREVALENCE OF OILING OF <1% FOR ADULT COMMON TERNS (STERNA HIRUNDO) AND NEARLY 2% FOR ADULT BLACK SKIMMERS (RYNCHOPS NIGER). OILING WAS USUALLY LIGHT (1-2 ON A SCALE OF 5) AND VERY FEW HEAVILY OILED BIRDS WERE SEEN AT THE COLONIES OR ELSEWHERE ON LONG ISLAND'S BEACHES. OILING OF SEABIRDS ON THE ATLANTIC COAST OF NORTH AMERICA IS CURRENTLY NOT A WIDESPREAD OR SERIOUS PROBLEM COMPARED WITH ITS PREVALENCE ON PARTS OF THE PACIFIC AND GULF COASTS OF NORTH AMERICA AND IN ÉUROPE. A BASELINE FOR COMPARISON WITH FUTURE YEARS IS PROVIDED BY THE DATA, SINCE OIL EXPLORATION BEGAN OFF LONG ISLAND IN 1978 AND LARGE-SCALE EXPLOITATION IS PLANNED.

0619 GOEPPNER. J.

AMMONIA STOPS SLUDGE ODORS [1974]

WATER WASTES ENG 11(11):36

AMMONIA GAS IS REPORTED TO BE THE NOVEL METHOD OF CONTROLLING ODORS FROM A SLUDGE TRANSFER FACILITY AND A SLUDGE TRANSPORT VESSEL OPERATING OFF THE NEW JERSEY COAST. THE SYSTEM INCLUDES A BULK AMMONIA STORAGE CONTAINER AND A 3/4-IN DIAM CAST IRON PIPE SYSTEM WHICH WOULD BE CONNECTED DIRECTLY WITH THE AMMONIA STORAGE CONTAINER. THES PIPE SYSTEM WOULD LEAD TO OTHER PIPE SPARGER SEGMENTS WHICH WOULD BE INSERTED DOWNWARD THROUGH THE DOMES OF EACH OF THE TWO SLUDGE STORAGE TANKS.

D620 GOLD, K.; E.A. MORALES

SEASONAL CHANGES IN LORICA SIZES AND THE SPECIES OF TINTINNIDA IN THE NEW YORK BIGHT [1975]

J PROTOZOOL 22(4):520-528

TINTINNIDA OF THE NEW YORK BIGHT WERE IDENTIFIED DURING THE 1-YEAR PÉRIOD AUG 1973 TO AUG 1974. RECURRING GENERA INCLUDED STENOSEMELLA AND TINTINNOPSIS; SEASONAL GENERA WERE MAINLY THE HYALINE FAVELLA, METACYLIS, AND HELICOSTOMELLA; EXOTIC OR UNUSUAL GENERA INCLUDED PARAFAVELLA AND PTYCHOCYLIS. LARGE SIZE DIFFERENCES IN LORICAE WERE FOUND SEASONALLY, RELATED APPARENTLY. TO WATER TEMPERATURE.

0621 GOLD. K.; E.A. MORALES

TINTINNIDA OF THE NEW YORK BIGHT: LORICAE OF PARAFAVELLA GIGANTEA, P. PARUMDENTATA AND PTYCHOCYLIS OBTUSA [1975]

TRANS AM MICROSC SOC 94 (1):142-145

LORICAE OF 3 UNUSUAL SPECIES OF TINTINNIDA, NOT HERETOFORE REPORTED FROM NY WATERS, WERE RECOVERED FROM NERITIC PLANKTON SAMPLES. LENGTH VARIABILITY OF THE PARAFAVELLA WAS CONSIDERABLE AND RESULTED FROM DIFFERENCES IN BOTH THE BOWL AND THE ABORAL HORN. THE WIDTH OF EACH OF THE 3 SPECIES VARIED ONLY SLIGHTLY IN THESE POPULATIONS. THE BULK OF THE LORICAE OF P. GIGANTEA IS ORGANIC. THE VIEW THAT SUCH LORICAE ARE COMPOSED OF PSEUDOCHITIN WAS CONFIRMED BY MICROHISTOCHEMICAL TESTS AND ANALYSES FOR MINERALS.

0622 GOLDHABER, M.B.; R.C. ALLER; J.K. COCHRAN; J.K. ROSENFELD; C.S. MARTENS; R.A. BERNER

SULFATE REDUCTION AND BIOTURBATION IN LONG ISLAND SOUND SEDIMENTS: REPORT OF THE FOAM GROUP [1977]

AM J SCI 277:193-237

SEDIMENT GRAVITY AND BOX CORES WERE TAKEN OVER THE COURSE OF A 10-MONTH PERIOD AT A SINGLE STATION IN LONG ISLAND SOUND. A RANGE OF PORE WATER AND SOLID PHASE CONSTITUENTS WERE MEASURED. SUMMER PORE WATER PROFILES EXHIBIT AN UPPER ZONE FROM 1 TO 8 CM IN WHICH CONCENTRATIONS OF CONSTITUENTS, SUCH AS SULFATE AND ALKALINITY, DO NOT CHANGE MARKEDLY WITH DEPTH. THE ACTUAL CONCENTRATION LEVELS, HOWEVER, ARE SIGNIFICANTLY ALTERED FROM BOTTOM WATER VALUES WITH THE TRANSITION BETWEEN BOTTOM WATER AND PORE WATER OCCURRING WITHIN THE TOP 1 TO 2 CM. THE UPPER 8 CM ZONE IS UNDERLAIN BY A MUCH THICKER ONE IN WHICH PORE WATER PROFILES SHOW TRENDS INDICATIVE OF PROGRESSIVE DIAGENESIS INVOLVING BACTERIAL SULFATE REDUCTION (FOR EXAMPLE, SULFATE DECREASE). WINTER PORE WATER PROFILES DO NOT SHOW AN UPPER ZONE OF CONSTANT PORE WATER CONCENTRATION. AS AN AID TO INTERPRETING THE PORE WATER DATA, DIRECT MEASUREMENTS WERE MADE OF SULFATE REDUCTION RATES BY INCUBATING SEDIMENT ALIQUOTS UNDER ANAEROBIC CONDITIONS AND FOLLOWING SULFATE DEPLETION WITH TIME. THESE RATES FALL IN THE RANGE 2 TO 77 MILLIMOLE SULFATE/L PORE WATER/YR AND SHOW A STRIKING DECREASE WITH DEPTH IN THE SEDIMENT COLUMN. IT IS ARGUED THAT THE DEPTH INDEPENDENT PORE WATER PROFILES IN THE UPPER 8 CM OF SUMMER SEDIMENT ARISE FROM IRRIGATION OR PARTICLE MIXING OF SEDIMENT BY MACRO INFAUNAL ORGANISMS (THAT IS. BIOTURBATION) RATHER THAN BY LACK OF SULFATE REDUCTION. THIS CONCLUSION IS BASED ON HIGH MEASURED RATES OF SULFATE REDUCTION IN THE UPPER 8 CM. FREQUENT RECOVERY DURING CORING OF THE DEPOSIT-FEEDING POLYCHAETE WORM NEPHTYS INCISA AND PRESENCE OF ABUNDANT IRON-SULFIDE MINERALS IN THE UPPER 8 CM ALSO SUPPORT THIS CONCLUSION. THE VERTICAL TRANSPORT OF PORE WATER CONSTITUENTS ARISING FROM BIOTURBATION DURING THE SUMMER IS AT LEAST FIVE TIMES MORE RAPID THAN BY IONIC DIFFUSION. SUCH TRANSPORT DOES NOT SWAMP OUT ALL EFFECTS OF BACTERIAL METABOLISM, AS THE LATTER PROCESS IS SO RAPID IN THE UPPER 1 CM AS TO MODIFY THE CHEMISTRY OF SOLUTIONS PASSING THROUGH THIS INTERVAL. DURING WINTER THE BIOTURBATING ACTIVITY OF INFAUNA DECREASES: HENCE PORE WATER PROFILES ARE DIFFUSION CONTROLLED. BELOW THE ZONE OF BIOTURBATION (0-8 CM), MASS TRANSPORT OF SULFATE IS DOMINATED BY IONIC DIFFUSION AND BURIAL. RATES OF SULFATE REDUCTION OVER THE DEPTH INTERVAL 10 TO 80 CM WERE ESTIMATED FROM THE SULFATE PROFILES BY MATHEMATICAL MODELING USING A DIFFUSION COEFFICIENT (4.0x10exp-6 cm2/sec) MEASURED ON CORES IN THE STUDY AREA AND A SEDIMENTATION RATE (0.3 CM/YR) ESTIMATED BY THREE INDEPENDENT TECHNIQUES. RATES SO CALCULATED FALL IN THE RANGE D TO 2 MILLIMOLE/L/YR AND ARE IN GOOD AGREEMENT WITH VALUES MEASURED IN THE LABORATORY.

0623 GOLDMAN, A.D.

EFFECTIVE METEOROLOGICAL INSTRUMENT SITING IN VALLEY TERRAIN [1979]

PROC. APCA 72ND ANNUAL MEETING, CINCINNATI, OH, APCA, PITTSBURGH, PA 16 PP

A STUDY WAS PERFORMED TO DETERMINE WHICH OF TWO SURFACE BASED WIND MEASUREMENTS WOULD BE MOST REPRESENTATIVE OF ATMOSPHERIC CONDITIONS GOVERNING PLUME TRANSPORT AND DIFFUSION AT FINAL EFFECTIVE PLUME HEIGHT IN A VALLEY SITUATION. ACCURATE REPRESENTATION OF ACTUAL METEOROLOGICAL CONDITIONS IS ESSENTIAL IN AN AIR QUALITY DISPERSION MODEL OF A PLUME FROM AN ELEVATED STACK. DATA ARE FROM AN INSTRUMENTED METEOROLOGICAL TOWER LOCATED IN THE HUDSON RIVER VALLEY (BASE ELEVATION 68 M MSL), WITH WIND SENSORS AT 10 M, 61 M, AND 100 M AGL, AND TEMPERATURE DIFFERENCES FROM 100 M TO 10 M.

0624 GOLET, F.C.; J.S. LARSON

CLASSIFICATION OF FRESHWATER WETLANDS IN THE GLACIATED NORTHEAST [1974]

OWRT, WASHINGTON, DC 58 PP NTIS-PB-243 852

A WETLAND CLASSIFICATION SYSTEM BASED ON LIFE FORMS AND SUB-FORMS OF VEGETATION IS OFFERED FOR GLACIATED NEW ENGLAND, NY, PA
AND NJ. IT IS COMPATIBLE WITH CURRENTLY USED NATIONAL AND REGIONAL SYSTEMS, BUT EMPHASIZES MAXIMUM WETLAND WILDLIFE PRODUCTION
AND DIVERSITY RATHER THAN WATERFOWL ALONE. AN EXAMPLE OF THE APPLICATION OF THE SYSTEM EMPLOYING AERIAL PHOTOGRAPHY IS PROVIDED
AS ARE 27 PHOTOGRAPHIC PLATES OF THE SEVERAL CLASSES AND SUB-CLASSES.

0625 GOODRICH, J.C.

HACKENSACK MEADOWLANDS AIR POLLUTION STUDY: EMISSION PROJECTION METHODOLOGY FOR LAND USE PLANNING TLSP: FINAL REPORT [1973]

NJ DEP, TRENTON, NJ NP

INCREASING RECOGNITION IS PLACED ON THE IMPORTANCE OF LAND USE PLANNING AS A MEANS OF IMPROVING FUTURE AIR QUALITY. A STUDY WAS MADE TO DEVELOP METHODS TO ASSESS THE AIR POLLUTION IMPACT OF LAND USE PLANS, AND TO APPLY THESE METHODS TO ALTERNATIVE LAND USE PLANS FOR THE NJ HACKENSACK MEADOWLANDS AS A CASE STUDY. ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC. DESIGNED A COMPUTER-ORIENTED TOOL, WHICH IS INTENDED FOR USE BY PLANNERS TO INCORPORATE AIR POLLUTION CONSIDERATIONS MORE DIRECTLY INTO THE PLANNING PROCESS. ONE SPECIFIC STUDY OBJECTIVE WAS PROJECTING TO THE YEAR 1990 THE TOTAL AIR POLLUTANT EMISSIONS FROM AN URBANIZED AREA.

D626 GOPALAN, V.H.; J.S. YOUNG

INCIDENCE OF SHELL DISEASE IN SHRIMP IN THE NEW YORK BIGHT [1975]

MAR POLLUT BULL 6(10):149-153

INCIDENCE OF SHELL DISEASE IN SHRIMP IS AS HIGH AS 30% IN CERTAIN LOCALITIES IN THE NEW YORK BIGHT. GROSS EXAMINATION AND HISTOPATHOLOGICAL PREPARATIONS REVEALED CRACKING AND PITTING OF THE EXOSKELETON, COMMON CHARACTERISTICS OF CRUSTACEAN SHELL DISEASE, FOLLOWED BY NECROSIS OF UNDERLYING TISSUE. AQUARIUM STUDIES, INCLUDING TESTS OF THE EFFECTS OF AN ANTIBIOTIC, INDICATED A POSSIBLE INFECTIOUS ETIOLOGY. THE DISEASE MAY BE RELATED TO POLLUTION OF THE HABITAT BY ORGANIC WASTES INCLUDING CELLULOSE.

0627 GORDON, A.L.

SOME COMMENTS ON THE FACTORS INFLUENCING THE SPREAD OF POLLUTANTS IN SHELF WATERS [1970]

PAGES 13-22 IN WATER POLLUTION IN THE GREATER NEW YORK AREA--SYMP. GORDON AND BREACH, NEW YORK, NY

THE INTRODUCTION OF POLLUTANTS INTO THE HUDSON RIVER ESTUARY AND NEW YORK BIGHT IS DEGENERATING THE QUALITY OF THE ENVIRONMENT TO AN EXTENT WHICH CAN NO LONGER BE TOLERATED. TO CONTROL THE SPREAD OF POLLUTANTS IN SHELF WATERS, A REALISTIC ADVECTION—DIFFUSION MODEL IS SUGGESTED. THIS MODEL SHOULD REFLECT SUCH NON-STEADY COMPONENTS OF THE CIRCULATION PATTERN AS: VARYING RIVER DISCHARGE, TIDAL CURRENTS, SHIFTING PATTERNS AND SEASONAL CHANGES IN WATER STRUCTURE. THIS CAN BE ACCOMPLISHED THROUGH DATA COLLECTION, USE OF KNOWN DATA, AND BY DISTRIBUTION OF A FINE GRIDWORK OF MONITORING SENSORS. KNOWLEDGE OF THE DISTRIBUTION OF THE NATURAL TRACERS (CONSERVATIVE AND NON-CONSERVATIVE) IS NECESSARY FOR OUR UNDERSTANDING OF THE SPECTRA OF TURBULENCE. THIS AREA IS INFLUENCED BY THE SURFACE RUNOFF OF THE LARGE RIVER SYSTEMS OF THE HUDSON AND CONNECTICUT RIVERS AND NUMEROUS SMALLER SYSTEMS AND NO DOUBT LARGE SUPPLIES OF GROUNDWATER ALSO DIRECTLY ENTER THE SHELF WATER. AVERAGE ANNUAL DISCHARGE OF FRESH WATER IS 1285 CU M/SEC, ENOUGH TO REPLACE ALL THE SHELF WATER OF THE NEW YORK BIGHT IN APPROXIMATELY 64 YRS. HOWEVER, THE SALINITY OF THE NEW YORK BIGHT WATER IS MAINTAINED FOR THE MOST PART BETWEEN 30 TO 33 PPT, INDICATING AN INFLUX OF SALITIER OCEANIC WATER WHICH MIXES WITH THE RIVER WATER. RIVER WATER MUST ON AN AVERAGE BE DILUTED BY TEN PARTS OF OCEAN WATER TO PRODUCE TYPICAL SHELF WATER.

0628 GORDON, A.L.; R.D. GERARD

WIND DRIFT SURFACE CURRENTS AND SPREAD OF CONTAMINANTS IN SHELF WATERS [1973]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 58 PP NTIS-AD-786 610

THE VELOCITY FIELD IN THE UPPER FEW METERS OF THE WATER COLUMN AND ITS DEPENDENCE ON LOCAL ENVIRONMENTAL FACTORS WERE INVESTIGATED. THE EXPERIMENTS CONSISTED OF AERIAL PHOTOGRAPHY OF A PATTERN OF DYED WATER, FREE DRIFTERS, DYE PLUMES FROM ANCHORED GENERATORS, DROGUES SET AT 1, 3, AND 5 M, AND FLOATING COMPUTER CARDS. ALSO PHOTOGRAPHED WERE THE ACID—IRON DISCOLORED WATER PATTERNS FARTHER OFF THE COAST WHICH ENABLED A LARGE—SCALE STUDY TO BE MADE. THE BASIC AIM WAS TO BETTER UNDERSTAND THE FATE AND BEHAVIOR OF DIL CONTAMINATION. THE RESULTS INPICATED THE PRESENCE OF STRONG VERTICAL AND LATERAL SHEAR WITHIN THE UPPER FEW METERS OF THE WATER. THE UPPER FEW CENTIMETERS, THE LAYER WHICH WOULD CONTAIN THE DIL CONTAMINATION, OFTEN MOVE AT VELOCITIES QUITE DIFFERENT FROM AVERAGE "SURFACE DRIFT." THE CONVERGENT ZONES DETECTED BY THE DYE ALSO ACCUMULATE THE DIL AND MOVE IT WINDWARD AT ACCELERATED RATES. THE OIL AND DYE WERE FREQUENTLY TRANSFERRED TO LONG DISCONTINUITY LINES IN THE VELOCITY FIELD, OFTEN RUNNING NORTH—SOUTH IN THE NEW YORK BIGHT. OIL SPILLED ON THE OCEAN DOES NOT SPREAD LATERALLY IN A UNIFORM WAY, BUT RESPONDS TO THE BASIC VELOCITY FIELD OF THE UPPER FEW METERS AND MAY, IN TURN, INFLUENCE THE VELOCITY FIELD DIRECTLY.

0629 GORDON, A.L.; A.F. AMOS; R.D. GERARD

NEW YORK BIGHT WATER STRATIFICATION: OCTOBER 1974 [1975]

PAGES 45-57 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

THERMOHALINE STRATIFICATION OF NEW YORK BIGHT CONTINENTAL SHELF WATER DURING OCTOBER 1974 IS BASICALLY OF THE SUMMER REGIME. SALINITY INCREASES MARKEDLY WITH INCREASED DISTANCE FROM THE COAST, YET A BASIC VERTICAL STRUCTURE IS MAINTAINED: AN UPPER ISOHALINE LAYER; A SALINITY MAXIMUM AT THE TOP OF THE THERMOCLINE; A SALINITY MINIMUM AT THE BASE OF THE THERMOCLINE; A DEEP ISOHALINE LAYER ASSOCIATED WITH THE CULD NEAR-BOTTOM WINTER RESIDUAL STRATUM; AND (OVER THE OUTER SHELF) A BOTTOM INTRUSION OF RELATIVELY SALINE AND WARM SLOPE WATER. INVERSIONS IN TEMPERATURE AND SALINITY ARE COMMON WITHIN THE THERMOCLINE. THE PYCNOCLINE IS CONTINUOUS OVER THE SHELF AND SLOPE, THOUGH SOME WEAKENING AND DEEPENING OCCURS OVER THE SHELF BREAK. OVER THE SHELF IT IS MAINLY, SUPPORTED BY THE THERMOCLINE AND OVER THE SLOPE BY THE HALOCLINE. THE PYCNOCLINE MAY NOT BE AN EFFECTIVE BARRIER TO ISOPYCNAL INTERCHANGE OF SURFACE AND DEEP LAYERS IN VIEW OF THE RELATIVE SLOPE OF ISOPYCNALS TO PYCNOCLINE. IN OCTOBER 1974 OXYGEN DISTRIBUTION OF THE CONTINENTAL SHELF WAS PRIMARILY TWO-LAYERED, WITH A SHARP DIVISION AT THE PYCNOCLINE. THE LOJER COLD LAYER HAS AN OXYGEN CONCENTRATION OF NEAR 60% OF FULL SATURATION, WITH VALUES NEAR 3.6 ML/LITER. THIS IS LOW; IF

THE DEEPER LAYER IS PRINCIPALLY A RESIDUE OF THE WINTER HOMOGENEOUS CONDITION WITH INITIAL SATURATED OXYGEN VALUES, IT WOULD REPRESENT OXYGEN CONSUMPTION AT A RATE OF 2.6 ML/LITER DURING THE SIX SUMMER MONTHS AFTER ACCOUNTING FOR THE LOW OXYGEN INFLUX OF SLOPE WATER.

0630 GORDON, A.L.; F. AIKMAN

SALINITY MAXIMUM IN THE PYCNOCLINE OF THE MIDDLE ATLANTIC BIGHT [1981]

LIMNOL OCEANOGR 26(1):123-130

A PERSISTENT SALINITY MAXIMUM IS OBSERVED IN THE UPPER PART OF THE PYCNOCLINE IN A SUMMER-AUTUMN OVER THE OUTER SHELF OF THE NEW YORK BIGHT, INDUCED BY A NEARLY ISOPYCHAL TRANSFER OF SLOPE WATER TO THE OUTER SHELF. THE TRANSFER IS POSSIBLE ONLY IN THE STRATIFIED SEASONS WHEN ISOPYCHALS ARE CONTINUOUS ACROSS THE SHELF-SLOPE FRONT. ESTIMATES OF THE SLOPE-SHELF SALT FLUX REQUIRED TO PRODUCE THE PYCNOCLINE S-MAX SUGGEST THAT IT MAY PROVIDE ABOUT HALF OF THE SALT REQUIRED ANNUALLY IN THE SHELF REGION TO BALANCE INPUT OF RIVER WATER.

0631 GORDON, R.B.; M.L. SPAULDING

A BIBLIOGRAPHY OF NUMERICAL MODELS FOR TIDAL RIVERS, ESTUARIES, AND COASTAL WATERS [1974]

MARINE TECH REP 32. UNIV OF RI. KINGSTON, RI 55 PP

A BIBLIOGRAPHY OF AVAILABLE LITERATURE ON NUMERICAL MODELING FOR TIDAL RIVERS, ESTUARIES, AND COASTAL WATERS. MODEL STUDIES CITED ARE EITHER DETERMINISTIC OR STATISTICAL. THE DETERMINISTIC MODELS USE TIDAL HEIGHT, WIND STRESS, DENSITY GRADIENTS, ETC., IN DETERMINING THE VELOCITY FIELD. A DOCUMENT LISTING, A REVIEW OF SELECTED ARTICLES, AND FOUR INDICES ARE GIVEN.

0632 GORDON. R.B.; C.C. PILBEAM

CIRCULATION IN CENTRAL LONG ISLAND SOUND [1975]

J GEOPHYS RES 80(3):414-422

CURRENT METER RECORDS FROM 28 STATIONS WERE USED TO DEFINE THE FLOW OF WATER NEAR THE BOTTOM OF CENTRAL LONG ISLAND SOUND. RECORDS WERE MADE AT TWO OF THE STATIONS FOR OVER 1 YEAR AND FOR 10 DAYS OR MORE AT MOST OF THE OTHERS. TIDAL AND NONTIDAL FLOW COMPONENTS WERE SEPARATED. RANDOM FLUCTUATIONS OF UP TO 10 DAY DURATION OCCUR IN THE NON-TIDAL FLOW; THEY ARE NOT DIRECTLY INFLUENCED BY WIND, RAINFALL, RIVER RUNOFF, OR VARIATIONS IN SEA LEVEL ALONG THE SHORE. SALINITY OBSERVATIONS SHOWED THE PRESENCE OF WELL-DEFINED SURFACE AND BOTTOM WATER LAYERS. MIXING BETWEEN THESE IS CONFINED TO SHORE SIDE ZONES WHERE THE WATER IS LESS THAN 10 M DEEP AND TO SHOALS WHERE STONG TURBULENCE IS GENERATED. THE CURRENT METER DATA SHOWED THE BOTTOM WATER AT DEPTHS GREATER THAN 20 M TO BE FLOWING UPSTREAM AT A RATE THAT DECREASES TOWARD THE HEAD OF THE ESTUARY. AT DEPTHS LESS THAN 20 M THERE IS A SHOREWARD FLOW OF BOTTOM WATER TOWARD THE MIXING ZONE. THE SALINITY AND CURRENT DATA WERE USED TO CONSTRUCT A CIRCULATION MODEL FOR THE SOUND. THE LARGE-SCALE FLOW IS APPARENTLY DUE TO GRAVITATIONAL CONVECTION ASSOCIATED WITH SALINITY DIFFERNCES. HOWEVER, RESPONSE TO CHANGES IN THE FRESHWATER INFLOW IS DELAYED BY ABOUT 2 MONTHS BECAUSE OF THE LARGE VOLUME OF SURFACE WATER RELATIVE TO THE FRESHWATER SUPPLY.

D633 GORDON, R.B.

DENUDATION RATE OF CENTRAL NEW ENGLAND DETERMINED FROM ESTUARINE SEDIMENTATION [1979]

AM J SCI 279(6):632-642

SEDIMENT TRANSPORTED BY THE RIVERS OF CENTRAL NEW ENGLAND IS DELIVERED TO LONG ISLAND SOUND, WHICH IS A LARGE ESTUARY. COMPARISON OF THE SEDIMENT YIELD OF THE RIVERS AND THE PRESENT SEDIMENT ACCUMULATION RATE IN THE ESTUARY SHOWS THE TRAPPING EFFICIENCY OF THE SOUND TO BE 100%. THE PRINCIPAL SEDIMENT SOURCE IS COLLAPSE OF RIVER BANKS CUT INTO GLACIAL LAKE DEPOSITS. THIS BANK EROSION IS INSENSITIVE TO LAND USE PRACTICES AND IS RESPONSIBLE FOR THE CONTINUOUS, NEARLY CONSTANT SEDIMENT YIELD OF THE BASIN FOR THE PAST 8000 YRS.

0634 GOULD R.H.

GROWING DATA DISPUTES ALGAE TREATMENT STANDARDS [1978]

WATER JASTES ENG 15(5):78-83

THE GOVERNMENT STANDARDS FOR WATER QUALITY AND THEIR UNIFORM APPLICATION TO MUNICIPAL SEWAGE WITH RESPECT TO ALGAL GROWTH AND NUTRIENTS ARE QUESTIONED. PREVIOUS LITERATURE SUGGESTED THAT THE INCREASED FERTILIZATION OF WATERWAYS WITH STIMULATED AQUATIC GROWTH ARE A NUISANCE TO FISHERMEN AND PRODUCE TOXIC ACCUMULATION AND OXYGEN DEPLETION DUE TO ALGAL DECOMPOSITION. IT IS SUGGESTED. HOWEVER. THAT WATERWAYS, EVEN WITHOUT SEWAGE ADDITIONS, CONTAIN ENOUGH NITROGEN AND PHOSPHORUS TO SUPPORT ALGAL BLOOMS AND THE PHOTOSYNTHETIC "LITTLE NANNOCHLORIS" (THE PREDOMINANT PHYTOPLANKTON IN NEW YORK HARBOR) HAS A BENIGN EFFECT ON POLLUTION CONTROL. IT IS STATED THAT ADVANCES IN SEWAGE TREATMENT IN NY AND NJ ONLY GAVE AN 11% REDUCTION IN THE SATURATION DEFICIT OF DISSOLVED OXYGEN AFTER A REDUCTION OF 23% CARBONACEOUS MATERIAL; SIMILAR ANOMALIES OCCUR IN JAMAICA BAY. THIS IS DUE TO PHOTOSYNTHETIC ACTIVITY RELATED TO THE AMOUNT OF ORGANIC CARBON ADDED. WHICH TENDS TO STABILIZE DISSOLVED OXYGEN LEVELS. EXTENSIVE SCIENTIFIC STUDIES AT JONES BEACH AND HEMPSTEAD BAY, NASSAU COUNTY RECORDING THE LEVELS OF ALGAL GROWTH ARE DESCRIBED. RESULTS FROM THIS AND A SURVEY OF THE HUDSON RIVER AND NEW YORK BAY CONFIRM NO APPARENT RELATIONSHIP BETWEEN ALGAL PRODUCTION AND THE PRESENCE OF NITROSEN AND PHOSPHORUS. ALSO LITTLE EVIDENCE CAN BE FOUND FOR THE BELIEF THAT THE OXIDATION OF AMMONIA NITROGEN CAUSES AN OXYGEN DEMAND WHICH MUST BE CONSIDERED IN ESTABLISHING THE DEGREE OF SEWAGE TREATMENT REQUIRED. IT IS STATED THAT IN THE HUDSON RIVER AND JAMAICA BAY ALGAE UTILIZE NITROGEN IN ITS UNOXIDIZED AMMONIA FORM. IN PREFERENCE TO NITRATES. IT IS CONCLUDED THAT THE RATE OF DETERIORATION IN DISSOLVED OXYGEN LEVELS WHEN POLLUTION IS INCREASING IS THE SAME AS ITS RECOVERY ON THE TREATMENT OF SEWAGE WHEN BOTH ARE BASED ON CARBONACEOUS OXYGEN DEMANDS. TREATMENT PROCESSES USED REMOVED LITTLE OF THE NITROGEN CONTENT OF SEWAGE AND IT IS HARD TO FIND EVIDENCE THAT NITROGEN IN SEWAGE CREATES AN OXYGEN DEMAND IN RECEIVING WATERWAYS. CORRECTION OF CONDITIONS IN A PARTICULAR AREA MAY REQUIRE A MORE FLEXIBLE APPROACH AND STANDARD DICTATED AT FEDERAL AND STATE LEVELS ARE OFTEN INAPPROPRIATE.

0635 GRABE, S.A.; J. ALBER

THE OCCURRENCE OF CHIRIDOTEA ABMYRA BOUMAN. 1955 (ISOPODA VALVIFERA) IN THE LIMNETIC SECTOR OF THE LOWER HUDSON RIVER [1977]

CRUSTACEANA 33(1):103-104

C. ABMYRA IS RECORDED FROM A TRUE LIMIETIC ENVIRONMENT, THE LOWER HUDSON RIVER ESTUARY IN THE VICINITY OF ALBANY, NY (MILEPOINT 142), THUS CONFIRMING BOWMAN'S HYPOTHESIS (1955) THAT THIS SPECIES MIGHT BE CAPABLE OF A FRESHWATER EXISTENCE. THE CHLORINITY NEAR THE COLLECTING SITE (ABOUT MILEPOINT 143) ON 16 SEP AND 15 OCT 1975 VARIED BETWEEN 8-12 MG/L. FAUNAL ASSOCIATES OF C. ABMYRA AT ALBANY ARE PRIMARILY LIMIETIC: MANAYUNKIA SPECIOSA, HYDRACARINA, LEPTODORA KINDTII, ASELLUS SP. GAMMARUS FASCIATUS, AND THE OLIGOHALINE G. DAIBERI, CHAOBORUS SP. AND UNIDENTIFIED CHIRONOMID LARVAE WERE COLLECTED IN MACROPLANKTON TOWS WITH C. ABMYRA.

0636 GRABE, S.A.

FOOD AND FEEDING HABITS OF JUVENILE AILANTIC TOMCOD, MICROGADUS TOMCOD, FROM HAVERSTRAW BAY HUDSON RIVER [1978]

FISH BULL 76(1):89-94

JUVENILE ATLANTIC TOMCOD FROM HAVERSTRAW BAY (HUDSON RIVER, NY) WERE FOUND TO HAVE A MAY-JUN DIET OF COPEPODS AND A JUL-DEC DIET OF AMPHIPODS, NEOMYSIS AMERICANA, AND ISOPODS. THIS DIETARY SHIFT OCCURRED WHEN MEAN LENGTH REACHED 90 MM DURING JUL. GROWTH PARALLELED FEEDING INTENSITY: ELEVATED DURING JUN, OCT, AND NOV, AND DEPRESSED JUL THROUGH SEP. FEEDING INTENSITY DECREASED PRIOR TO SPAWNING (DEC). FEEDING AND GROWTH WERE INHIBITED AT TEMPERATURES 24 C AND DISSOLVED OXYGEN 7 MG/1.

0637 GRANT, W.D.; O.S. MADSEN

BOTTOM FRICTION UNDER WAVES IN THE PRESENCE OF A WEAK CURRENT [1978]

TM-ERL-MESA-29. NOAA, WASHINGTON, DC 138 PP NTIS-PB-287 426

A THEORETICAL APPROACH IS ADOPTED TO STUDY THE COMBINED MOTION OF WAVES AND CURRENTS IN THE PRESENCE OF A ROUGH BOTTOM. BY USING A TIME-INVARIANT, TURBULENT EDDY VISCOSITY THAT INCREASES LINEARLY WITH HEIGHT ABOVE THE SEA BED, THE LINEARIZED GOVERNING EQUATIONS ARE SOLVED FOR BOTH THE WAVE MOTION AND THE CURRENT MOTION INSIDE AND OUTSIDE THE WAVE BOUNDARY LAYER. INSIDE THE WAVE BOUNDARY LAYER, THE CURRENT EXHIBITS THE EXPECTED LOGARITHMIC PROFILE DEPENDING ON THE PHYSICAL BOTTOM ROUGHNESS. THE CURRENT VELOCITY PROFILE ABOVE THE WAVE BOUNDARY LAYER IS WRITTEN IN A LOGARITHMIC FORM BY INTRODUCING THE CONCEPT OF AN APPARENT BOTTOM ROUGHNESS, WHICH DEPENDS ON THE PHYSICAL BOTTOM ROUGHNESS AS WELL AS ON THE WAVE CHARACTERISTICS. THIS APPARENT ROUGHESS IS ALWAYS GREATER THAN OR EQUAL TO THE PHYSICAL BOTTOM ROUGHNESS. THUS, THE CURRENT FEELS A GREATER BOUNDARY RESISTANCE DUE TO THE PRESENCE OF THE WAVE. THE DYNAMICS OF THE WAVE-CURRENT INTERACTION WITH THE ROUGH BOTTOM ARE SOLVED USING THE CONCEPT OF A WAVE-CURRENT FRICTION FACTOR. THIS FACTOR IS FOUND AS A FUNCTION OF THE VELOCITY OF THE CURRENT RELATIVE TO THE WAVE ORBITAL VELOCITY, THE RELATIVE BOTTOM ROUGHNESS, AND THE ANGLE BETWEEN THE CURRENT AND THE WAVES. GRAPHS ARE PRESENTED TO FACILITATE THE DETERMINATION OF THE WAVE-CURRENT FRICTION FACTOR. IN THE LIMITING CASE OF A PURE WAVE MOTION, THE PREDICTIONS OF THE VELOCITY PROFILE AND THE WAVE FRICTION FACTOR FROM THE PRESENT THEORY SHOW EXCELLENT AGREEMENT WITH THE VALUES OBTAINED FROM PREVIOUS STUDIES. THE IMPLICATIONS OF THE ABOVE RESULTS ON HYDRODYNAMIC MODELS OF SHELF CIRCULATION ARE DISCUSSED.

0638 GRAVLEE, G.C., JR.; P. DUNN

DYE USED TO STUDY MIXING OF WATERS OF THE HUDSON RIVER ESTUARY [1978]

PAGE 98 IN USGS PROF PAP 1100. US DEPT OF INTERIOR, WASHINGTON, DC ABS ONLY

THE AUTHORS SUPERVISED A MAJOR DYE-DISPERSION STUDY ON 9/21/77. FLUORESCENT DYE (RHODAMINI-WT) WAS CONTINUOUSLY INJECTED INTO THE HUDSON RIVER NEAR CORNWALL, NY, DURING A 7 HR PERIOD. RESULTING DYE CLOUD WAS MONITORED BY FIXED AND MOBILE SAMPLING EQUIPMENT OVER 30-HR PERIOD. CLOSE TRACKING OF THE DYE CLOUD PROVIDED THE FEDERAL POWER COMMISSION WI DATA NEEDED TO DESIGN PROPOSED CORNWALL PUMPED-STORAGE PLANT ON THE HUDSON.

0639 GREENE, G.T.; D.S. BECKER

WINTERKILL OF HARD CLAMS IN GREAT SOUTH BAY, NY 1976-77 [1977]

NOAA, ROCKVILLE, MD 23 PP NTIS-PB-273 037

TO ESTIMATE MORTALITY OF THE COMMERCIALLY IMPORTANT HARD CLAM (MERCENARIA) RESOURCES OF GREAT SOUTH BAY, NY, DURING THE SEVERE WINTER OF 1976-77, CLAMS WERE SAMPLED AT 31 STATIONS IN THE BAY. MORTALITY WAS QUITE VARIABLE AND RANGED FROM D TO 27.2%. MORTALITY SHOWED NO STRONG RELATION TO ANY OF THE VARIABLES MEASURED AT EACH STATION; DEPTH, SALINITY, SUBSTRATE PARTICLE SIZE, SUBSTRATE ORGANIC CONTENT, AND CLAM DENSITY. HIGH MORTALITY WAS CONFINED TO ONE SMALL AREA OF THE BAY AND WAS APPARENTLY NOT DUE TO WINTER STRESS ALONE, BUT TO A COMBINATION OF FACTORS, PERHAPS INCLUDING DISEASE. WITH THE EXCEPTION OF THE ONE AREA, MORTALITY OF THE HARD CLAM OVER THE WINTER WAS NOT EXTREME AND AVERAGES 1.6%.

0640 GREENE, G.T.

POPULATION STRUCTURE, GROWTH AND MORTALITY OF HARD CLAMS AT SELECTED LOCATIONS IN GREAT SOUTH BAY. NEW YORK [1978]

M.S. THESIS. SUNY, STONY BROOK, NY 199 PP

POPULATION AGE STRUCTURE, GROWTH RATES AND MORTALITY RATES OF ADULT CLAMS (OVER 1 YR OLD) WERE STUDIED AT A VARIETY OF STATIONS IN GREAT SOUTH BAY. GROWTH AND SURVIVAL OF A TRANSPLANTED SAMPLE OF MARKED CLAMS WERE MONITORED FOR APPROXIMATELY 1 YR. ANALYSES OF POPULATION SIZE FREQUENCY DISTRIBUTIONS AND OF INDIVIDUAL CLAM INCREMENTAL SHELL GROWTH PATTERNS WERE PERFORMED TO DETERMINE AGE STRUCTURE AND GROWTH RATES OF CLAMS SAMPLED FROM NATURAL STOCKS. DATA ON PREDATION RATES OF MAJOR CLAM PREDATORS DETERMINED BY AQUARIUM EXPERIMENTS WERE COMBINED WITH INFORMATION ON ABUNDANCES OF PREDATORS IN THE FIELD TO ASSESS THE POTENTIAL IMPACT OF FREDATORS ON NATURAL POPULATIONS OF ADULT CLAMS.

U641 GREENE, G.T.; A.C.F. MIRCHEL; W.J. BEHRENS; D.S. BECKER

SURFICIAL SEDIMENT AND SEAGRASSES OF EASTERN GREAT SOUTH BAY. NEW YORK [1978]

NOAA. ROCKVILLE. MD. 30 PP NTIS-PB-299 869

DURING THE SPRING OF 1977 A STUDY WAS CONDUCTED OF THE SEDIMENTS IN EASTERN GREAT SOUTH BAY FROM HOMANS CREEK EAST TO SMITH POINT. A TOTAL OF 186 STATIONS WERE SAMPLED IN THE OPEN BAY AND IN CHANNELS, CREEKS AND RIVERS. SEDIMENTS WERE CHARACTERIZED ACCORDING TO TWO VARIABLES—PARTICLE SIZE AND ORGANIC CONTENT. DURING THE SUMMER OF 1977 A SURVEY WAS MADE OF THE DISTRIBUTION AND DENSITY OF SEAGRASSES PRESENT IN THE STUDY AREA. APPROXIMATELY 1/3 OF THE BAY SEDIMENTS WERE COVERED WITH RODTED SEAGRASSES, ALMOST EXCLUSIVELY JOSTERA MARINA. ESTIMATION OF THE TOTAL BIOMASS OF SEAGRASSES IN THE STUDY AREA SUGGESTED THEY MAY PLAY AN IMPORTANT ROLE IN THE NUTRIENT BALANCE OF THE BAY. THE CHARACTER OF SEDIMENTS IN THE BAY PROBABLY HAS A LARGE EFFECT ON GROWTH, SURVIVAL AND ABUNDANCE OF THE COMMERCIALLY IMPORTANT HARD CLAM, MERCENARIA MERCENARIA, AND THESE RELATIONSHIPS ARE DISCUSSED.

D642 GREENE. M.H.

STUDY OF PHYSICAL, SETTLING, AND THICKENING CHARACTERISTICS OF A SLUDGE [1974]

NTIS, SPRINGFIELD, VA 34 PP NTIS-PB-241 231

TESTS WERE CONDUCTED TO OBTAIN THE PHYSICAL CHARACTERISTICS OF SLUDGE OBTAINED FROM NASSAU COUNTY'S BAY PARK SEWAGE TREATMENT PLANT, LONG ISLAND. THE SETTLING CHARACTERISTICS OF THE SLUDGE IN SEAWATER WERE DETERMINED BY MODIFIED PIPETTE ANALYSIS AS A FUNCTION OF SUSPENDED SOLIDS CONCENTRATION, SALINITY, AND DEPTH OF SETTLING. THE SLUDGE WAS SUBJECTED TO TESTS TO DETERMINE ITS THICKENING CAPABILITY. THE BULK SPECIFIC GRAVITY OF THE SLUDGE WAS DETERMINED. THE SPECIFIC GRAVITY OF THE LIQUID PHASE WAS CONSTANT AT 1.000 G/CC. FOR DIFFERENT SAMPLES THE PERCENTAGE SOLIDS BY WEIGHT VARIED FROM .8 TO 2.2%. THE SPECIFIC GRAVITY OF THE SOLIDS VARIED FROM 1.53 TO 1.62 G/CC WITH CORRESPONDING VOLATILE SOLIDS FROM 70.3 TO 61.4%. THE MAXIMUM SOLIDS CONCENTRATION OBTAINABLE IN LABORATORY TESTS WAS 5.5%.

0643 GREENWOOD, D.R.; G.L. KINGSBURY; J.G. CLELAND

A HANDBOOK OF KEY FEDERAL REGULATIONS AND CRITERIA FOR MULTIMEDIA ENVIRONMENTAL CONTROL [1979]

US EPA, RESEARCH TRIANGLE PARK, NC 288 PP

THE HANDBOOK SUMMARIZES MAJOR FEDERAL ENVIRONMENTAL REGULATIONS AND RECOMMENDATIONS AND THE LEGISLATIVE ACTS THAT AUTHORIZE THEM. IT SUMMARIZES AND TABULATES QUANTITATIVE CONTROL LIMITS SPECIFIED BY FEDERAL AGENCIES. IT COMPARES THE VARIOUS

REGULATIONS, STANDARDS, AND CRITERIA. IT INCLUDES A SELECTED BIBLIOGRAPHY ADDRESSING FEDERAL ENVIRONMENTAL CONTROL ACTIVITIES.

0644 GREIG, R.A.; D.R. WENZLOFF; B. NELSON; A. ADAMS; J.T. GRAIKOSKI

DISTRIBUTION OF FIVE METALS IN SEDIMENTS FROM THE NEW YORK BIGHT [1974]

INFORMAL REP 36. NMFS, MILFORD, CT 34 PP

SEDIMENT SAMPLES FROM 107 STATIONS LOCATED IN THE DUMPING AREAS OF THE NEW YORK BIGHT WERE ANALYZED FOR THE METALS CU, CR, PB, ZN AND NI. SAMPLING AT MOST OF THE STATIONS WAS ALSO DONE ON A QUARTERLY INTERVAL FOR POSSIBLE VARIATIONS OF METAL CONCENTRATIONS WITH TIME. THE RANGE OF CONCENTRATIONS OF THE METALS FOUND IN THE AREA SAMPLED (EXPRESSED AS PPM ON DRY WEIGHT OF THE SEDIMENT) WAS AS FOLLOWS: CU, 215-0.8; CR, 300-1.6; PB, 266-0.9; ZN, 520-1.3; NI, 38-0.8. THE HIGHEST CONCENTRATIONS OF METALS WERE FOUND IN SEDIMENTS AT STATIONS LOCATED IN THE DUMPING AREAS. WITH A FEW NOTABLE EXCEPTIONS, THE CONCENTRATIONS OF THE METALS DID NOT VARY GREATLY OVER THE QUARTERLY YEAR SAMPLING PERIOD.

0645 GREIG, R.A.; J. JONES

NONDESTRUCTIVE NEUTRON ACTIVATION ANALYSIS OF MARINE ORGANISMS COLLECTED FROM OCEAN DUMP SITES OF THE MIDDLE EASTERN UNITED STATES [1976]

ARCH ENVIRON CONTAM TOXICOL 4(4):420-434 .

THE CONCENTRATIONS OF 8 METALS WERE DETERMINED BY A NONDESTRUCTIVE NEUTRON ACTIVATION TECHNIQUE FOR 11 SPECIES OF FISH AND SHELLFISH. THE MARINE ORGANISMS WERE COLLECTED FROM OCEAN DUMP SITES OFF NYC, OFF NEW HAVEN, CT, AND OFF DELAWARE BAY. ANTIMONY WAS NOT DETECTED IN MOST OF THE ORGANISMS EXAMINED IN THIS STUDY; THE DETECTION LIMIT WAS ABOUT 0.02 TO 0.05 PPM. ANTIMONY LEVELS RANGED FROM 0.01 TO 0.129 PPM IN FISH THAT HAD DETECTABLE LEVELS. COBALT LEVELS WERE LOW IN ALL SAMPLES WITH MOST LEVELS IN THE RANGE OF 0.1 TO 0.3 PPM. CHROMIUM CONCENTRATIONS AT 0.3 TO 1.0 PPM WERE ONLY ROUGHLY QUANTITATED BY THE PROCEDURE EMPLOYED. MOST MARINE ORGANISMS EXAMINED HAD CHROMIUM LEVELS AT OR BELOW THESE VALUES. NICKEL WAS NOT DETECTED IN ANY OF THE ORGANISMS EXAMINED; THE DETECTION LIMIT WAS IN THE 3 TO 7 PPM RANGE. RUBBIDIUM CONCENTRATIONS WERE 0.6 TO 1.5 PPM FOR MOST ORGANISMS; ONLY ROUGH QUANTITATIVE MEASUREMENT WAS POSSIBLE AT THESE LEVELS. SELENIUM LEVELS RANGED FROM ABOUT 0.3 TO 3.8 PPM IN ALL SAMPLES. SILVER CONCENTRATIONS WERE BELOW 0.3 PPM IN MOST ORGANISMS. SILVER CONCENTRATIONS AS HIGH AS 10 TO 30 PPM, HOWEVER, WERE FOUND IN THE DIGESTIVE GLAND OF ROCK CRAB. ZINC LEVELS IN WINDOWPANE FLOUNDER LIVER WERE ABOUT 6 TO 9 TIMES GREATER THAN THE 4 TO 10 PPM LEVELS FOUND IN MUSCLE. ZINC CONCENTRATIONS IN ROCK CRAB MUSCLE, ON THE OTHER HAND, WERE ONLY SLIGHTLY HIGHER THAN THE 15 TO 32 PPM CONCENTRATION FOUND IN THE DIGESTIVE GLAND. FISH OTHER THAN WINDOWPANE FLOUNDER HAD ZINC LEVELS THAT RANGED FROM 4 TO 9 PPM IN THE MUSCLE AND 14 TO 42 PPM IN THE LIVER. SHELLFISH OTHER THAN ROCK CRAB HAD ZINC LEVELS OF 15 TO 30 PPM IN MUSCLE AND 17 TO 40 PPM IN THE DIGESTIVE GLAND.

0646 GREIG, R.A.; D.R. WENZLOFF; J.B. PEARCE

DISTRIBUTION AND ABUNDANCE OF HEAVY METALS IN FINFISH, INVERTEBRATES AND SEDIMENTS COLLECTED AT A DEEP WATER DISPOSAL SITE [1976]

MAR POLLUT BULL 7(10):185-187

ANALYSES OF DEEP WATER FINFISH TO SEVERAL HEAVY METALS INDICATE THAT DEEP WATER FISH HAVE LESS METAL IN MUSCLE TISSUE THAN DOFISH TAKEN FROM THE CONTINENTAL SHELF. LIVER TISSUE FROM DEEP WATER FISH ALSO, GENERALLY, CONTAIN LESS METALS, SEDIMENTS AND A SINGLE INVERTEBRATE COLLECTED AT DEEP WATER STATIONS HAVE ALSO BEEN ANALYZED FOR HEAVY METALS.

0647 GREIG. R.A.; D.R. WENZLOFF; A. ADAMS; B. NELSON; C. SHELPUK

TRACE METALS IN ORGANISMS FROM OCEAN DISPOSAL SITES OF THE MIDDLE EASTERN UNITED STATES [1977]

ARCH ENVIRON CONTAM TOXICOL 6(4):395-409

CONCENTRATIONS OF AG, AS, CD, CR, HG, MN, PB, AND ZN WERE DETERMINED FOR SELECTED MARINE FISH AND SHELLFISH COLLECTED AT OR NEAR 3 OCEAN DISPOSAL SITES, A CONTROL SITE AND 3 INSHORE AREAS OF THE MIDDLE EASTERN US. THE DISPOSAL SITES WERE OFF NEW HAVEN, CT, NYC, AND DELAWARE BAY. THE CONTROL SITE WAS AT CHINCOTEAGUE INLET, VA, AND OTHER AREAS WERE IN LONG ISLAND SOUND (NEAR THE NEW HAVEN DISPOSAL SITE), BARNEGAT BAY, NJ, AND A SECOND AREA OFF NYC NEAR THE BIGHT APEX DISPOSAL SITE. WITH THE FOLLOWING EXCEPTIONS, THE AMOUNTS OF TRACE METALS IN BIOLOGICAL SAMPLES DID NOT VARY SUBSTANTIALLY AMONG THE GEOGRAPHIC AREAS. AG IN ROCK CRAB FLESH AVERAGED 0.79 PPM FOR THE NEW YORK BIGHT DISPOSAL SITE COMPARED WITH 0.24 TO 0.38 PPM FOR 4 OTHER AREAS. CD, MN, AND ZN CONCENTRATIONS WERE GREATEST IN ROCK CRAB FLESH COLLECTED FROM LONG ISLAND SOUND AREA 2 (NOT A KNOWN DISPOSAL SITE) COMPARED TO 3 OTHER AREAS MEAN LEVELS WERE 1 VS 0.1 PPM, 29 VS 0.8 TO 1 PPM, AND 64 VS 32 TO 36 PPM. THE MN CONTENT IN GILLS OF ROCK CRABS FROM THE SAME AREA IN THE SOUND WAS 22 PPM COMPARED WITH 6 PPM FROM CHINCOTEAGUE INLET. DIGESTIVE GLANDS OF CHANNELED WHELK COLLECTED FROM A DISPOSAL SITE IN LONG ISLAND SOUND CONTAINED THE GREATEST AMOUNT OF AG, CD, AND ZN COMPARED TO THE CONTROL AREA. CHINCOTEAGUE INLET, AND A SITE OUTSIDE THE DISPOSAL AREA IN THE SOUND. LEVELS WERE 20 VS 6 TO 7 PPM OF AG, 24 VS 16 AND 17 PPM OF CD, AND 2650 VS 1,025 AND 405 PPM OF ZN, RESPECTIVELY. IN ADDITION, WHELK DIGESTIVE GLAND FROM THE 2 AREAS IN THE SOUND CONTAINED ABOUT 1,100 PPM OF CU COMPARED TO ONLY 32 PPM FOR CHINCOTEAGUE INLET. TRACE METAL CONCENTRATIONS IN THE ORGANISMS USED DURING THIS STUDY WERE OF THE SAME ORDER OF MAGNITUDE AS THOSE REPORTED BY VARIOUS INVESTIGATIONS FOR A VARIETY OF ORGANISMS COLLECTED FROM WATERS IN THE US ATLANTIC AND PACIFIC AS WELL AS BRITISH WATERS OF THE ATLANTIC.

0648 GREIG, R.A.; D.R. WENZLOFF

FINAL REPORT ON HEAVY METALS IN SMALL PELAGIC FINFISH, EUPHAUSID CRUSTACEANS AND APEX PREDATORS, INCLUDING SHARKS, AS WELL AS ON HEAVY METALS AND HYDROCARBONS (C15+) IN SEDIMENTS COLLECTED AT STATIONS IN AND NEAR DWD 106 [1977]

PAGES 547-564 IN NOAA DUMPSITE EVALUATION REP 77-1, BASELINE REP OF ENVIRON CONDITIONS IN DWD 106, VOL 3, CONTAMINANT INPUTS AND CHEMICAL CHARACTERISTICS. NOAA, WASHINGTON, DC

DURING A CRUISE (18 FEB-3 MAR, 1976) OF THE FRV OREGON 11 TO THE DEEPWATER INDUSTRIAL WASTE SITE DESIGNATED AS DWD 106, TRAWL AND BONGO NET SAMPLES WERE COLLECTED TO OBTAIN SMALL PELAGIC FINFISH AND EUPHAUSID CRUSTACEANS. THE RESULTING HEAVY METAL DATA ARE PROVIDED IN THIS REPORT AND ARE COMPARED WITH SIMILAR DATA WHICH RESULTED FROM EARLIER COLLECTIONS MADE IN AND NEAR THE DWD 106 AND ON THE CONTINENTAL SHELF OF THE NEW YORK BIGHT. HEAVY METAL VALUES IN DEEPWATER SEDIMENTS COLLECTED IN 1976 WERE GENERALLY SIMILAR TO THOSE REPORTED FOR COLLECTIONS MADE IN 1974. CONCENTRATIONS OF METALS IN SEDIMENT FROM STATIONS ON THE SHELF IN LESS THAN 200 M OF WATER WERE SIMILAR TO THOSE COLLECTED FROM SHELF STATIONS IN 1974. THE AMOUNTS OF C15+ HYDROCARBONS IN SEDIMENTS FROM DWD 106 ARE MUCH LESS THAN THOSE FOUND IN SEDIMENTS AT OTHER DUMPSTES LOCATED IN RELATIVELY SHALLOW COASTAL WATERS.

0649 GREIG, R.A.; R.A. MCGRATH

TRACE METALS IN SEDIMENTS OF RARITAN BAY [1977]

MAR POLLUT BULL 8 (8):188-192

MARINE SEDIMENTS ARE THE ULTIMATE RECIPIENT OF NEARLY ALL TRACE METALS INTRODUCED BY MAN INTO AQUATIC ECOSYSTEMS. THIS STUDY EXAMINED THE AMOUNTS AND DISTRIBUTION OF SIX TRACE METALS (CD, CR, CU, NI, PB, ZN) IN SEDIMENTS OF RARITAN BAY, A POLLUTED ESTUARY. THE HIGHEST LEVELS OF THESE METALS FOUND IN RARITAN BAY WERE: CD-15, CR-260, CU-1230, NI-50, PB-985, ZN-815. THREE METAL REGIMES MITHIN RARITAN BAY ARE READILY APPARENT. AN AREA OF HIGH VALUES EXTENDS ACROSS THE BAY FROM THE MOUTH OF THE RARITAN RIVER AND ARTHUR KILL INTO SANDY HOOK BAY. THIS IS BOUNDED ON THE SOUTH AND NORTHEAST BY AREAS OF SOMEWHAT LOWER CONCENTRATIONS. AN AREA OF RELATIVELY LOW CONCENTRATIONS, NEAR BACKGROUND VALUES, OCCUPIES THE REGION AT THE MOUTH OF THE BAY BETWEEN SANDY HOOK PENINSULA AND CONEY ISLAND, NY. METALS VALUES FROM RARITAN BAY ARE COMPARED WITH OTHER AREAS AND WITH A FEW EXCEPTIONS, THE RARITAN BAY MAXIMUM LEVELS WERE SIMILAR IN MAGNITUDE TO THOSE OF AREAS IN CORPUS CHRISTI HARBOUR (USA), SEVERN

ESTUARY (UK), DEEP SEA AND FLORIDA LAKES, RIVER BLYTH (UK), DUMP SITES OFF NYC, VARIOUS BASINS OFF SOUTH CA, AND IN LONG ISLAND SOUND.

0650 GREIG, R.A.; R.N. REID; D.R. WENZLOFF

TRACE METAL CONCENTRATIONS IN SEDIMENTS FROM LONG ISLAND SOUND [1977]

MAR POLLUT BULL 8(8):183-188

TRACE METAL CONCENTRATIONS IN MARINE SEDIMENTS FROM LONG ISLAND SOUND WERE MEASURED BY COMPARISON WITH SEDIMENTS FROM SEVEN OTHER AREAS IN THE US AND THE UNITED KINGDOM. ALTHOUGH BASELINE DATA WAS OBTAINED ON THE OCCURRENCE AND DISTRIBUTION OF BENTHIC ORGANISMS, PATHOGENIC AND POLLUTION INDICATOR MICROORGANISMS, NUTRIENT LEVELS IN WATER, AND TRACE METAL CONCENTRATIONS IN SEDIMENTS. THE REPORT DISCUSSES ONLY DATA ON TRACE METALS IN THE SOUND SEDIMENTS. TWO CHEMICAL ANALYSIS PROCEDURES WERE USED. ONE PROCEDURE WAS USED FOR NEUTRON ACTIVATION ANALYSIS. GREAT VARIATION IN METAL CONCENTRATIONS WERE FOUND FOR VARIOUS SOUND LOCATIONS. FAIRLY SIMILAR DISTRIBUTION PATTERNS WERE FOUND FOR COPPER, CHROMIUM, NICKEL, LEAD AND ZINC. FOR SILVER, CADMIUM AND MERCURY, THE HIGHEST CONCENTRATIONS WERE IN THE FAR WESTERN SOUND. FOR THE REST OF THE SOUND, NO DISTRIBUTION PATTERN FOR THESE THE METALS COULD BE FOUND. COBALT, ANTIMONY, SELENIUM AND SCANDIUM WERE FAIRLY UNIFORMLY DISTRIBUTED; DISTRIBUTION OF MANGANESE WAS DIFFERENT FROM THAT OF ALL OTHER METALS DISCUSSED. THE COMPARISON WITH OTHER LOCATIONS MEASURED ONLY CHROMIUM, COPPER, NICKEL, LEAD AND ZINC.

0651 GREIG, R.A.; A. ADAMS; D.R. WENZLOFF

TRACE METAL CONTENT OF PLANKTON AND ZOOPLANKTON COLLECTED FROM THE NEW YORK BIGHT AND LONG ISLAND SOUND [1977]

BULL ENVIRONM CONTAM TOXICOL 18(1):3-3

THIS STUDY PROVIDES BASELINE DATA ON TRACE METALS IN ZOOPLANKTON COLLECTED FROM LONG ISLAND SOUND AND NEW YORK BIGHT AND COMPARES ANY DIFFERENCES IN GEOGRAPHICAL LOCATIONS. THE LEVELS OF AG, CD, AND NI DID NOT MARKEDLY DIFFER IN VARIOUS LOCATIONS WITH RANGES FROM 0.5 TO 4.6 PPM FOR ALL SAMPLES. CR VARIED CONSIDERABLY FOR DIFFERENT SAMPLES BECAUSE OF DIFFERENT SAMPLE SIZES WITH THE RANGE BEING 7 PPM TO 35.2 PPM. CU, PB AND ZN LEVELS VARIED GREATLY IN THE NEW YORK BIGHT AS A FUNCTION OF SPECIES OR GEOGRAPHIC LOCATION. INTERSPECIFIC DIFFERENCES COULD NOT BE STUDIED SINCE DIFFERENT PLANKTON SPECIES WERE COLLECTED AT DIFFERENT STATIONS, BUT INDIVIDUALS OF THE SAME SPECIES COLLECTED AT DIFFERENT STATIONS, BUT INDIVIDUALS OF THE SAME SPECIES COLLECTED AT DIFFERENT STATIONS HAD LARGE VARIATIONS IN THE THREE METALS. THE SPECIES IN LONG ISLAND SOUND WERE NOT IDENTIFIED BECAUSE OF THEIR POOR CONDITION AFTER FREEZING. CU LEVELS RANGE FROM 2-14 PPM, PB BEING UNIFORM AT 11-23 PPM. ZN VARYING GREATLY AT 7-120 PPM.

0652 GREIG, R.A.; D.R. WENZLOFF

TRACE METALS IN FINFISH FROM THE NEW YORK BIGHT AND LONG ISLAND SOUND [1977]

MAR POLLUT BULL 8(9):198-200

CONCENTRATIONS OF AG, CD, CR, CU, HG, MN, NI, PB, AND ZN WERE MEASURED IN 5 SPECIES OF FINFISH COLLECTED FROM THE NEW YORK BIGHT AND 2 FROM LONG ISLAND SOUND. WITH FEW EXCEPTIONS THE TRACE ELEMENT CONTENTS WERE SIMILAR FOR THE VARIOUS SPECIES EXAMINED AND ALSO FOR A SINGLE SPECIES WHEN COMPARING CATCH LOCATIONS. METAL LEVELS ALSO WERE SIMILAR TO CONCENTRATIONS REPORTED BY TWO OTHER INVESTIGATORS WHO STUDIED FISH FROM THE NORTH ATLANTIC.

0653 GREIG, R.A.; J.T. LEPARON

RETRIEVAL OF DATA ON TRACE METALS IN FISH AND SHELLFISH FROM THE NEW YORK BIGHT. I. DATA SELECTED FROM THE SANDY HOOK COMPUTER

DATA BANK, FEBRUARY, 1977 [1977]

NE FISHERIES CENTER, NMFS, MILFORD, CT NP

THE NEW YORK BIGHT IS A COMPLEX AND DYNAMIC REGION WHICH EXTENDS OVER 15,000 MI2 FROM LONG ISLAND AND NEW JERSEY TO THE EDGE OF THE CONTINENTAL SHELF. CHEMICAL POLLUTANTS OF MANY VARIETIES SUCH AS METALS, PESTICIDES, PETROLEUM PRODUCTS AND OTHERS ARE DISCHARGED INTO THE BIGHT BY MANY ROUTES: OCEAN DUMPING, AIR POLLUTION, RIVER RUNOFF, SEWER OUTFALLS, AND OTHERS. METALS HAVE RECENTLY BECOME IMPORTANT IN MARINE ECOSYSTEM STUDIES WITH THE DISCOVERY THAT CERTAIN FISH EXCEED THE 0.5 PPM ACTION LEVEL SET FOR MERCURY IN FISH PRODUCTS BY THE US FDA. SINCE 1971, THE ENVIRONMENTAL CHEMISTRY TASK LOCATED AT MILFORD, CT BUT WORKING THROUGH PERSONNEL AT SANDY HOOK, NJ HAVE BEEN DETERMINING THE LEVELS OF CERTAIN METALS IN FISH, SHELLFISH, PLANKTON AND SEDIMENTS COLLECTED FROM THE NEW YORK BIGHT AND OTHER SELECTED AREAS OF THE MIDDLE ATLANTIC COAST. THE PRIMARY GOAL OF THESE STUDIES HAS BEEN TO OBTAIN BASELINE DATA ON KEY ORGANISMS OF THE MIDDLE ATLANTIC AREA AND ALSO DETERMINE WHETHER OR NOT DIFFERENCES IN METAL CONCENTRATIONS IN ORGANISMS COULD BE ATTRIBUTED TO GEOGRAPHIC AREA OF CATCH. THIS REPORT PRESENTS THE RESULTS OF METAL ANALYSES ON FISH, SHELLFISH, AND PLANKTON FOR THE NEW YORK BIGHT AND FOR COMPARATIVE PURPOSE THOSE AREAS OF THE OCEAN ADJACENT TO THE BIGHT.

0654 GREIG, R.A.; D.R. WENZLOFF; C.L. MACKENZIE, JR.; A.S. MERRILL; V.S. ZDENOWICZ

TRACE METALS IN SEA SCALLOPS, PLACOPECTEN MAGELLANICUS, FROM EASTERN UNITED STATES [1978]

BULL ENVIRONM CONTAM TOXICOL 19: 326-334

MOST METAL CONCENTRATIONS, EXCEPT IN, IN MUSCLE TISSUE OF SCALLOPS WERE BELOW DETECTION LIMITS OF THE METHODOLOGY EMPLOYED. IN LEVELS RANGED FROM ABOUT 2-8 PPM, BUT GEOGRAPHIC DIFFERENCES IN THESE CONCENTRATIONS WERE NOT EVIDENT. COMPARISONS OF THE PRESENT DATA WITH THOSE OBTAINED ON SCALLOP MUSCLE FROM THE UNITED KINGDOM AND NEW ZEALAND ARE SHOWN. ZN LEVELS IN THE PRESENT STUDY ARE SUBSTANTIALLY LOWER THAN THE 14-22 PPM FOUND BY THE THREE OTHER INVESTIGATORS. DIFFERENCES IN SPECIES COULD ACCOUNT FOR THIS DUSERVATION; HOWEVER, DIFFERENCES IN ANALYTICAL RESULTS FOR ZN, AS WELL AS ALL OTHER METALS, COULD BE IMPORTANT. HG WAS NOT DETERMINED BY ANY OF THE OTHER INVESTIGATORS; IT WAS BELOW A MEAN OF .D18 PPM IN SCALLOPS FROM THE US, WHICH IS WELL BELOW THE "ACTION LIMIT" OF 0.5 PPM ESTABLISHED FOR FISHERY PRODUCTS BY THE US FOOD AND DRUG ADMINISTRATION. IN CONTRAST TO MUSCLE, AG, CD, CU, AND IN WERE PRESENT IN DETECTABLE CONCENTRATIONS IN GONADS OF SCALLOPS. LEVELS OF CR. HG. NI. AND PB WERE BELOW DETECTION LIMITS IN MOST GONAD SAMPLES MALE AND FEMALE GONADS WERE EXAMINED AND DIFFERENCES IN CU AND ZN LEVELS RELATED TO SEX WERE OBSERVED. CONCENTRATIONS OF THESE METALS GENERALLY WERE GREATER IN THE FEMALE GONAD; HOWEVER, IN SEVERAL INSTANCES LEVELS IN MALE GONAD EXCEEDED THOSE IN THE FEMALE. CU AND ZN HAVE IMPORTANT BIOCHEMICAL FUNCTIONS. IN PARTICULAR, AS ENZYME ACTIVATORS; THUS, IT PROBABLY IS NOT SURPRISING TO FIND GREATER CONCENTRATIONS OF THESE METALS IN THE FEMALE GONAD SINCE A PORTION PROBABLY HAS TO BE TRANSMITTED TO THE PROGENY. EVEN THOUGH THESE SCALLOPS WERE COLLECTED OVER A VERY WIDE GEOGRAPHIC AREA, THERE IS NO EVIDENCE THAT METAL CONCENTRATIONS IN GONADS DIFFER AS A FUNCTION OF GEOGRAPHIC LOCATION. DATA BY OTHER INVESTIGATORS ARE AVAILABLE FROM THE UNITED KINGDOM AND NEW ZEALAND. DIFFERENCES IN METAL CONCENTRATIONS AMONG INVESTIGATORS ARE EVIDENT BUT, AS STATED EARLIER THEY CANNOT BE ATTRIBUTED TO ANY ONE PARAMETER, SUCH AS SPECIES OR ANALYTICAL DIFFERENCES.

0655 GREW. G.W.

REMOTE DETECTION OF WATER POLLUTION WITH MOCS: AN IMAGING MULTI- SPECTRAL SCANNER [1973]

PAGES 17-39 IN PROC OF 2ND CONFERENCE ON ENVIRONMENTAL QUALITY SENSORS, NERC, LAS VEGAS, NV, 10-11 OCT 1973. NASA, LANGLEY STATION, VA

MULTICHANNEL OCEAN COLOR SENSOR (MOCS), A MULTISPECTRAL SCANNER, IS BEING USED BY THE NASA LANGLEY RESEARCH CENTER IN DEVELOPING A SYSTEM FOR REMOTE SENSING OF POLLUTANT DISTRIBUTION IN OCEANS AND INLAND WATERS. SPACECRAFT AND AIRCRAFT WILL BE USED TO PRODUCE PERIODIC MAPS OF SUCH POLLUTANTS AS ALGAE AND SEDIMENT. COLOR SPECTRAL SIGNATURES EMITTED FROM A WATER MASS CAN VARY CONTINUOUSLY, AS WITH SEDIMENT. SOMETIMES, HOWEVER, INDICATIVE PATTERNS CAN BE ESTABLISHED READILY WHEN ONE POLLUTANT IS PRESENT. AN ALGAL BLOOM, FOR INSTANCE, CAN BE EASILY IDENTIFIED AS IT IS HIGHLY CONCENTRATED AT THE WATER SURFACE AND HAS A

UNIQUE SPECTRAL SIGNATURE. WHEN MIXTURES OF POLLUTANTS OCCUR, IDENTIFICATION IS MORE DIFFICULT. THE MOCS, WEIGHING ONLY 23 LBS, IS A VISIBLE-IMAGING SPECTRORADIOMETER WHICH SCANS ELECTRONICALLY. IT MEASURES THE INTENSITY IN 20 SPECTRAL BANDS AT EACH OF 150 SPATIAL SITES OF THE OCEAN ACROSS THE FIELD OF VIEW. OUTPUT OF MOCS IS FED TO AN A/D CONVERTER AND STORED ON MAGNETIC TAPE. AN ALGAL BLOOM IN CLEAR LAKE, CA, WAS MAPPED FROM DATA GATHERED ON A FLIGHT AT 37,400 FT (28 JUNE 1972). NOT ONLY WAS THE DISTRIBUTION OF THE ALGAE MAPPED, BUT THE TYPE (APHANIZOMENON) COULD BE IDENTIFIED USING THE REMOTE SENSOR. FLIGHTS OVER NEW YORK BIGHT AND OFF CAPE HATTERAS PROVIDED DATA ON THE SPECTRAL SIGNATURES OF ACID WASTES AND THE TRANSITION BETWEEN TWO WATER MASSES.

0656 GRICE, G.D.; P.H. WIEBE; E. HOAGLAND

ACID-IRON WASTE AS A FACTOR AFFECTING THE DISTRIBUTION AND ABUNDANCE OF ZOOPLANKTON IN THE NEW YORK BIGHT: 1. LABORATORY STUDIES ON THE EFFECTS OF ACID WASTE ON COPEPODS [1973]

ESTUARINE COASTAL MAR SCI 1(1):45-50

INDIVIDUALS OF CALANUS FINMARCHICUS. TEMORA LONGICORNIS AND PSEUDOCALANUS SP. WERE MAINTAINED IN BOTTLES CONTAINING VARYING DILUTIONS OF ACID WASTES IN SEA WATER OR CONTROL SEA WATER SOLUTIONS FOR 24 TO 48 HR TO EXAMINE SURVIVAL OF ADULTS EXPOSED TO HIGH CONCENTRATIONS OF WASTE. THEY WERE ALSO MAINTAINED FOR TIME PERIODS UP TO 18 DAYS TO ASCERTAIN EFFECTS ON REPRODUCTION AND SURVIVAL OF YOUNG. INDIVIDUALS OF C. FINMARCHICUS WERE TRANSFERRED THROUGH A SERIES OF INCREASING DILUTIONS OF ACID WASTES AND INTO FILTERED SEA WATER TO SIMULATE THE SHORT-TERM EFFECTS OF ACID WASTE CONCENTRATIONS IN THE WAKE OF A DISCHARGING BARGE. SUBSTANTIAL MORTALITY OF ADULTS OF THE ABOVE 3 COPEPODS OCCURRED AT CONCENTRATIONS OF ACID WASTE PRODUCING PH OF APPROXIMATELY 6.5 AND LOWER. THIS IS NOT INDICATIVE OF MORTALITY IN THE FIELD AS THESE CONCENTRATIONS AND PH VALUES EXIST FOR ONLY A SHORT TIME (LESS THAN 3 MIN) DUE TO RAPID MIXING OF THE ACID WASTE WITH SEA WATER. INDIVIDUALS MAINTAINED IN BUFFERED ACID WASTES OF COMPARABLE DILUTIONS SHOWED NO MORTALITY. WHILE INDIVIDUALS MAINTAINED IN TEST MEDIA USING SULFURIC ACID IN PLACE OF ACID WASTE SHOWED HIGH MORTALITIES AT PH OF 5.5 OR LESS. ACIDITY OF TEST SOLUTIONS MAY BE A PRINCIPAL CAUSE OF COPEPOD MORTALITY RATHER THAN SOME TOXIC COMPONENT OF THE WASTE MATERIAL. INHIBITION OF REPRODUCTION AND DELETERIOUS EFFECTS ON SURVIVAL OF YOUNG WERE OBSERVED IN EXPERIMENTS OF 13 DAYS DURATION AT CONCENTRATIONS OF ACID WASTES WHICH DO NOT IN FACT PERSIST FOR SUCH PERIODS ON THE ACID GROUNDS. NO MORTALITY WAS OBSERVED WHEN C. FINMARCHICUS WAS TRANSFERRED THROUGH ACID WASTE DILUTIONS WHICH WITH PH VALUES AND TIME PERIODS COMPARABLE TO THOSE THEY WOULD ENCOUNTER ON THE ACID GROUNDS DURING DISCHARGE OF ACID WASTES. ACID WASTE DISCHARGES WERE NOT RESPONSIBLE FOR THE LARGE VARIATIONS IN ZOOPLANKTON BIOMAS& PREVIOUSLY OBSERVED IN THE SURVEY AREA SINCE MORTALITY OF SPECIES DUE TO SHORT TERM EXPOSURE TO HIGH CONCENTRATIONS OF WASTE APPEARS SMALL AND LITTLE EFFECT ON ADULTS OR LARVAL FORMS AT GREAT DILUTIONS COULD BE DEMONSTRATED.

0657 GRIFFEN, P.M.; C.M. MCFARLAND

RESEARCH ON REMOVAL OR TREATMENT OF PCB IN LIQUID OR SEDIMENTS DREDGED FROM THE HUDSON RIVER: PROPOSED STUDY [1977]

GENERAL ELECTRIC, SCHENECTADY, NY, 8 PP

THIS REPORT DESCRIBES WORK PROPOSED TO BE DONE BY GENERAL ELECTRIC AS PART OF THE SETTLEMENT AGREEMENT BETWEEN NY DEC AND GENERAL ELECTRIC. THE FOLLOWING TASKS ARE PROPOSED: 1) DEVELOP NEW OR OPTIMIZE EXISTING ANALYTICAL TECHNIQUES FOR RAPID CHARACTERIZATION OF PCB CONCENTRATIONS IN EXTRACTED RIVER SEDIMENTS; 2) INVESTIGATE THE FEASIBILITY OF ENHANCING THE NATURAL MICROBIAL DECOMPOSITION OF PCBS; 3) STUDY THE TECHNICAL FEASIBILITY OF PCB DESTRUCTION BY ENGINEERING APPROACHES SUCH AS CONVENTIAL INCINERATION, PYROLYSIS AND STEAM DISTILLATION; AND 4) INVESTIGATE THE USE OF CHEMICAL EXTRACTION, REPLACEMENT OR DEGRADATION APPROACHES FOR PCB REMOVAL.

D658 GRIMES, C.B.; K.W. ABLE; S.C. TURNER

A PRELIMINARY ANALYSIS OF THE TILEFISH LOPHOLATILUS CHAMAELEONTICEPS FISHERY IN THE MID-ATLANTIC BIGHT [1980]

MAR FISH REV 42(11):13-18

THE PURPOSE OF THIS PAPER IS TO DESCRIBE THE COMMERCIAL LONGLINE FISHERY IN THE MID-ATLANTIC BIGHT AND REPORT PRELIMINARY RESULTS OF CATCH AND FISHING EFFORT STUDIES.

0659 GROSS, M.G.

PRELIMINARY ANALYSES OF URBAN WASTES, NEW YORK METROPOLITAN REGION [1970]

MSRC, SUNY, STONY BROOK, NY 32 PP NTIS-AD-746 959

PRELIMINARY ANALYSES WERE MADE OF 17 SEWAGE SLUDGE SAMPLES FROM SEWAGE TREATMENT PLANTS SERVING 11.9 MILLION PERSONS IN THE NY METROPOLITAN REGION. THE SLUDGES CONSIST OF ABOUT 55% ORGANIC MATTER, WHICH, IN TURN, ACCOUNTS FOR ABOUT 55% OF THE TOTAL OXYGEN DEMAND OF THE SLUDGES. ABOUT 45% OF THE SLUDGE CONSISTED OF ALUMINOSILICATE MATERIAL, CHEMICALLY SIMILAR TO SHALE. THE SAMPLES ARE ENRICHED, COMPARED TO SEDIMENTARY ROCKS AND SOILS, IN THE FOLLOWING ELEMENTS: SILVER (15DX), CHROMIUM (10X), COPPER (50X), TIN (30X), AND ZINC (30X). ALL OF THESE ELEMENTS ARE COMMON INDUSTRIAL MATERIALS, AND ARE KNOWN TO BE HIGHLY TOXIC TO MARINE ORGANISMS; SOME ARE CARCINOGENIC. FURTHER STUDIES ARE REQUIRED TO DETERMINE THE CHEMICAL FORM IN WHICH THEY OCCUR IN THE SLUDGES AND WHETHER THEY ARE RELEASED TO ORGANISMS OR TO SEAWATER AFTER DUMPING OR DEPOSITION OF THE SLUDGES. THESE PRELIMINARY ANALYSES INDICATE THE SEMI-QUANTITATIVE SPECTROCHEMICAL ANALYSES MAY BE USEFUL FOR DETERMINING ORDER-OF-MAGNITUDE CONCENTRATIONS OF AT LEAST 24 ELEMENTS COMMONLY OCCURRING IN SEWAGE SLUDGES. OTHER TECHNIQUES ARE REQUIRED TO DETECT OTHER POSSIBLE POLLUTANTS, WITH USABLE PRECISION. LOSS ON IGNITION IS A USEFUL TECHNIQUE TO USE IN ANALYSIS OF ORGANIC MATTER (VOLATILE MATTER) IN SEWAGE SLUDGES NOT CONTAINING LARGE AMOUNTS OF HYDROUS ALUMINOSILICATES.

0660 GROSS, M.G.; J.A. BLACK; R.J. KALIN; J.R. SCHRAMEL; R.N. SMITH

SURVEY OF MARINE WASTE DEPOSITS, NEW YORK METROPOLITAN REGION [1971]

MSRC, SUNY, STONY BROOK, NY 72 PP NTIS-AD-723 431

SURVEYS WERE MADE ON 122 SQ MI TO DETERMINE DISTRIBUTION OF WASTE DEPOSITS IN NEW YORK BIGHT, AND THE TOTAL CARBON CONTENTS AND LOSS-ON-IGNITION (VOLATILE MATTER). SAMPLE CONCENTRATIONS OF CHROMIUM, COPPER, LEAD AND SILVER WERE COMPARED TO THE DISTRIBUTION OF CARBON RICH DEPOSITS ON THE CONTINENTAL SHELF. ATOMIC ABSORPTION SPECTROMETRIC ANALYSIS WAS USED ON ACID-EXTRACTABLE MINOR ELEMENTS IN WASTE DEPOSITS. FEW GROUPS OF POLLUTION TOLERANT ORGANISMS WERE ABUNDANT IN SEDIMENTS FROM THE INNER PORTIONS OF THE NEW YORK HARBOR. NO LIVING FORMINIFERA WERE FOUND IN SEDIMENT FROM THE EAST RIVER. A FEW SPECIES WERE FOUND IN WESTERN LONG ISLAND SDUND. OSTRACODS WERE RARE.

0661 GROSS, M.G.

DISTRIBUTION OF WASTE DEPOSITS IN NEW YORK HARBOR AND ADJACENT WATERS BASED ON CARBON CONTENTS AND LOSS-ON-IGNITION (VOLATILE MATTER) [1971]

PAGES 7-22 IN SURVEY OF MARINE WASTE DEPOSITS. NY METROPOLITAN REGION. TECH REP 8. MSRC. SUNY. STONY BROOK. NY

DISTRIBUTION OF WASTES ON THE CONTINENTAL SHELF AND IN THE NEW YORK HARBOR WAS MAPPED ON THE BASIS OF THE CHEMICAL CHARACTERISTICS OF THE WASTES. AN INDEX WHICH PROVIDED A MEASURE OF THE ABUNDANCE OF ORGANIC MATTER IN THE WASTE DEPOSITS WAS MEASURED ON THE BASIS OF LOSS ON IGNITION AND TOTAL CARBON CONTENT. THE ADVANTAGES AND DISADVANTAGES OF THESE TWO KINDS OF MEASUREMENT ARE DISCUSSED. ANALYSES OF THE MAPPING INDICATED THAT THE WASTES ON THE OFFSHORE DISPOSAL SITES WERE GENERALLY CLOSE TO THE DESIGNATED DISPOSAL AREAG. THE CARBON-RICH DEPOSITS WERE DISPLACED ABOUT 1 KM FROM THE DESIGNATED DISPOSAL SITE. THE RESULTS OF THE SURVEY DO NOT PROVIDE ANY COMPELLING EVIDENCE OF MOVEMENT OF CARBON-RICH WASTES EITHER TOWARD THE LONG ISLAND OR NEW JERSEY COAST.

0662 GROSS, M.G.; J.A. BLACK; R.J. KALIN; J.R. SCHRAMEL; R.N. SMITH

SURVEY OF MARINE WASTE DEPOSITS. NEW YORK METROPOLITAN REGION--ABSTRACT [1971]

GOVERNMENT REP ANNOUNC 71(13): 68 ABS ONLY NTIS-AD-723 431

THE REPORT DISCUSSED 122 SQ MI SURVEYED TO DETERMINE DISTRIBUTION OF WASTE DEPOSITS IN NEW YORK BIGHT, AND THE TOTAL CARBON CONTENTS AND LOSS-ON-IGNITION (VOLATILE MATTER). SAMPLE CONCENTRATIONS OF CR, CU, PB, AND AG WERE COMPARED TO THE DISTRIBUTION OF CARBON-RICH DEPOSITS ON THE CONTINENTAL SHELF. ATOMIC ABSORPTION SPECTROMETRIC ANALYSES WAS USED ON ACID-EXTRACTABLE MINOR ELEMENTS IN WASTE DEPOSITS. FEW GROUPS OF POLLUTION-TOLERANT GRGANISMS WERE ABUNDANT IN SEDIMENTS FROM THE INNER PORTIONS OF THE NEW YORK HARBOR. NO LIVING FORAMINIFERA WERE FOUND IN SEDIMENT FROM THE EAST RIVER. A FEW SPECIES WERE FOUND IN WESTERN LONG ISLAND SOUND. OSTRACODS WERE RARE.

0663 GROSS, M.G.; D.F. BUMPUS

RESIDUAL DRIFT OF NEAR-BOTTOM WATERS IN LONG ISLAND SOUND, 1969 [1972]

LIMNOL OCEANOGR 17(4):636-638

SEABED DRIFTERS WERE USED TO STUDY MOVEMENTS OF NEAR-BOTTOM WATERS IN LONG ISLAND SOUND. IN THE EASTERN SOUND, THE RESIDUAL DRIFT OR NEAR-BOTTOM WATERS WAS DOMINANTLY WESTWARD WITH A NORTHERLY COMPONENT TOWARD THE CONNECTICUT COAST, THE LOCATION OF MAJOR FRESHWATER SOURCES. IN THE WESTERN SOUND, THE DRIFTERS ALSO MOVED WEST PROBABLY DUE TO THE INFLUENCE OF THE ESTUARINE CIRCULATION IN THAT AREA, DRIVEN BY THE FLOW OF LOW SALINITY SURFACE WATER COMING FROM NEW YORK HARBOR THROUGH THE EAST RIVER. THE LOWER RECOVERY OF SEABED DRIFTERS IN WESTERN LONG ISLAND SOUND IS ATTRIBUTED TO WEAKER NEAR-BOTTOM CURRENTS. WASTE SOLIDS DEPOSITED THERE PROBABLY ARE LESS LIKELY TO BE MOVED AND POSSIBLY BE RETURNED TO THE SHORELINE BY NEAR-BOTTOM CURRENTS.

0664 GROSS. M.G.

GEOLOGIC ASPECTS OF WASTE SOLIDS AND MARINE WASTE DEPOSITS, NEW YORK METROPOLITAN REGION [1972]

GEOL SOC AM BULL 83(11):3163-3176

WASTE SOLIDS FROM THE NY METROPOLITAN REGION WERE A MAJOR SOURCE OF SEDIMENT TO ADJACENT OCEAN AREAS FROM 1964-1968. THE ANNUAL DISCHARGE OF SOLIDS (EXCLUDING REFUSE AND FLOATABLE DEBRIS) TO THE NEW YORK BIGHT AVERAGED 4.6 MILLION METRIC TONS/YR: 76% FROM DREDGED WASTES, 12% FROM CONSTRUCTION AND DEMOLITION RUBBLE, 7.6% FROM SOLIDS IN WASTE CHEMICALS AND 4.3% FROM SEWAGE SLUDGES. WASTE CONTAINING DEPOSITS COVERED 160 KM2 OF NEW YORK HARBOR AND MORE THAN 50 KM2 OF CONTINENTAL SHELF IN NEW YORK BIGHT. THE CONTINENTAL SHELF AREA USED FOR WASTE DISPOSAL RECEIVED NO OTHER SEDIMENT IN QUANTITIES SUFFICIENT TO BURY THE WASTE DEPOSITS. WASTE DISPOSAL OPERATIONS WERE THE LARGEST SEDIMENT TRANSPORT AND DEPOSITIONAL PROCESS ACTIVE IN THE MID-ATLANTIC REGION. PRODUCTION OF WASTE SOLIDS IN THE METROLPOLITAN REGION EXCEEDED SEDIMENT YIELDS PER UNIT AREA OF ANY OTHER MAJOR DRAINAGE BASIN IN THE NEW ENGLAND-MIDDLE ATLANTIC AREA.

0665 GROSS, M.G.

MARINE WASTE DEPOSITS NEAR NEW YORK [1972]

MAR POLLUT BULL 3(4):61-63

THE EFFECTS OF EFFLUENT DISCHARGES AND SLUDGE DUMPING IN NEW YORK HARBOR AND NEW YORK BIGHT ARE DESCRIBED FROM SURVEYS MADE IN 1970. ABOUT 45 SQ KM OF COASTAL WATERS AROUND THE NEW YORK METROPOLITAN AREA CONTAIN DEPOSITS WITH MORE THAN 2% TOTAL CARBON OR 5% VOLATILE MATTER, AND ABOUT 100 SQ KM CONTAIN MORE THAN 1% TOTAL CARBON. IN NEW YORK HARBOR ABOUT 160 SQ KM, OR 41% OF THE

HARBOR. IS COVERED BY FINE GRAINED WASTES CONTAINING MORE THAN 2% TOTAL CARBON, LARGELY FROM SEWAGE SOLIDS. ASSUMING THAT CARBON-RICH DEPOSITS INDICATE WASTE ACCUMULATION ON THE CONTINENTAL SHELF, PB AND CU PROVE TO BE THE MOST USEFUL ELEMENTS FOR MAPPING THE DISTRIBUTION OF WASTES. TOTAL PB CONCENTRATIONS IN WASTE DEPOSITS WERE MORE THAN 10 TIMES AVERAGE PB CONCENTRATION IN MARINE ORGANISMS OR SHALE. MAPS SHOW VALUES FOUND FOR TOTAL CARBON AND TOTAL PB CONCENTRATIONS AND THE DISTRIBUTION OF CARBON-RICH SEDIMENTS IN THE HARBOR AND ON THE CONTINENTAL SHELF NEARBY.

0666 GROSS, M.G.

SEDIMENT AND WASTE DEPOSITION IN NEW YORK HARBOR £19743

NY ACAD SCI ANN 250:112-128

THE PHYSICAL ALTERATIONS OF THE HUDSON RIVER ESTUARY ARE DISCUSSED WITH PARTICULAR ATTENTION BEING PAID TO THE SEDIMENTS AND WASTE DEPOSITS THAT COVERED MUCH OF THE HARBOR BOTTOM AND LARGE AREAS OF NY BIGHT IN 1972. THE FOLLOWING TOPICS ARE MENTIONED: RECENT GEOLOGIC HISTORY, DREDGING OF THE HUDSON ESTUARY, WATER MOVEMENTS, SEDIMENT SOURCES, SAND AND GRAVEL PRODUCTION IN NEW YORK HARBOR, SEDIMENT AND WASTE DEPOSITS, AND FUTURE CHANGES TO THE ESTUARY.

0667 GROSS. M.G.

DISPOSAL OF WATER-BORNE AND BARGED WASTE-SOLIDS AND ENVIRONMENTAL EFFECTS IN THE NEW YORK BIGHT [1974]

CBI, JOHN HOPKINS UNIV. BALTIMORE. MD UNPUB MANS

DISCHARGES OF WASTE SOLIDS TO NY BIGHT (1963-1968) WERE: DREDGED WASTES-73.5 MMT OF DRY SOLIDS; RUBBLE--.59 MMT OF DRY SOLIDS; SEWAGE SLUDGES--.2 MMT OF DRY SOLIDS; INDUSTRIAL SLUDGES--.35 MMT OF DRY SOLIDS. WASTES CAN BE DETECTED BY THEIR BLACK COLOR, ODOR, HUMAN ARTIFACTS, HIGH CARBON CONTENTS AND ANOMALOUS METAL CONTENTS (HIGH AG, CU, CR, PB) WASTE DEPOSITS IN HUDSON CHANNEL LOCALLY EXCEED 12 M IN THICKNESS AND COVER 150 KM2. PHYSICAL ALTERATION OF THE BOTTOM, AND ASSOCIATED BIOLOGICAL EFFECTS, HAVE BEEN DOCUMENTED. LOW DISSOLVED OXYGEN CONCENTRATIONS CAN OCCUR IN THE DISPOSAL AREAS DURING LATE SUMMER.

0668 GROSS. M.G.

TRENDS IN WASTE DISPOSAL IN US COASTAL WATERS. 1968-1974 [1975]

PAGES 394-404 IN T.M. CHURCH, ED. MARINE CHEMISTRY IN THE COASTAL ENVIRONMENT. ACS, WASHINGTON, DC

ESTUARIES AND COASTAL OCEANS RECEIVE LARGE VOLUMES OF WASTE SOLIDS DREDGED FROM HARBORS OR REMOVED FROM SEWAGE TREATMENT PLANTS OR INDUSTRIAL PLANTS AND PLACED ON THE ADJACENT CONTINENTAL SHELF, WHICH OFTEN RECEIVES LITTLE SEDIMENT DERIVED FROM OTHER SOURCES. LEGISLATION, IMPLEMENTED IN 1973, HAS CAUSED A SIGNIFICANT REDUCTION IN THE NUMBER OF SITES USED; FROM 140+ IN THE LATE 1760'S TO 110 IN 1973. DREDGED SPOIL DISPOSAL APPARENTLY DECREASED; FROM 56 MILLION TONS IN 1968 TO 37 MILLION TONS IN 1973. DUMPING OF INDUSTRIAL WASTES, SEWAGE SLUDGES AND CONSTRUCTION DEBRIS HAS INCREASED AT ANNUAL RATES OF +2.9%, +3.9%, AND +14.2%. THE PRESENT TREND IS TO OPERAIE FEWER DISPOSAL SITES LOCATED FARTHER FROM SHORE.

0669 GROSS, M.G.

NEW YORK BIGHT II: PPOBLEMS OF RESEARCH [1976]

OCEANUS 19(4):11-18

THIS WORK SUMMARIZES THE RESEARCH ON THE EFFECTS OF WASTE DISPOSAL IN THE NEW BIGHT. IT DISCUSSES THE EFFECTS OF POLLUTANTS ON

BOTTOM SEDIMENTS, BENTHIC BIOLOGICAL PROCESSES, WATER COLUMN, FINFISH AND FISHERIES AND PUBLIC HEALTH.

0670 GROSS, M.G.

ESTUARINE CLEANUP: CAN IT WORK [1976]

PAGES 3-14 IN M. WILEY, ED. ESTUARINE PROCESSES. VOL 1: USES, STRESSES, AND ADAPTATION TO THE ESTUARY. ACADEMIC PRESS, NEW YORK, NY

AVAILABLE DATA SHOW NO EVIDENCE OF MAJOR IMPROVEMENT IN ESTUARINE WATER QUALITY IN THE US IN RECENT YEARS. DISSOLVED OXYGEN (DO) CONCENTRATIONS IN NEW YORK HARBOR HAVE IMPROVED ONLY SLIGHTLY DESPITE DECADES OF BUILDING NEW TREATMENT FACILITIES AND UPGRADING OLDER PLANTS. NO IMPROVEMENT IN DO LEVELS HAS YET BEEN DOCUMENTED FOR THE UPPER DELAWARE ESTUARY. BUT INCREASED DO VALUES IN THE THAMES ESTUARY FOLLOWING CONSTRUCTION AND ENLARGEMENT OF MAJOR SEWAGE TREATMENT FACILITIES INDICATES THAT ESTUARINE WATER QUALITY CAN BE IMPROVED. AREAS IN THE THAMES PREVIOUSLY DEVOID OF DO IN SUMMER HAVE DO VALUES AVERAGING ABOUT 30 % OF SATURATION. ODOR PROBLEMS HAVE BEEN ALLEVIATED AND FISH NOW ARE CAUGHT IN THE ESTUARY. SUCCESSFUL CLEANUP OF THE THAMES ESTUARY REQUIRED WELL DEFINED OBJECTIVES AND A REGIONAL PLAN BASED ON A COMPREHENSIVE SCIENTIFIC STUDY. CAPITAL EXPENDITURES EXCEEDED \$500 MILLION (1974), ABOUT HALF OF THAT SINCE 1950. AT LEAST 15 YEARS WERE REQUIRED TO ACHIEVE THE CLEANUP OBJECTIVES; INCLUDING DELAYS CAUSED BY WORLD WAR II, PLANNING AND IMPLEMENTATION REQUIRED SEVERAL DECADES.

0671 GROSS, M.G.; R.L. SWANSON; H.M. STANFORD

MAN'S IMPACT ON THE MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT--SYMPOSIUM SUMMARY [1976]

PAGES 1-13 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

HUMAN ACTIVITIES IN COASTAL OCEAN AREAS ARE CAUSING EVER-INCREASING CONCERN, ESPECIALLY NEAR URBAN REGIONS. SERIOUS QUESTIONS HAVE BEEN RAISED ABOUT THE IMPACT ON THIS COASTAL ECOSYSTEM OF RELEASING WASTES AND CONTAMINANTS, SITING POWER PLANTS, AND DRILLING FOR OIL ON THE CONTINENTAL SHELF. THE SYMPOSIUM CONSIDERED THE ENVIRONMENTAL QUALITY OF THE MIDDLE ATLATNIC CONTINENTAL SHELF AND NEW YORK BIGHT AND ASSESSED MAN'S IMPACT ON THIS CONTINENTAL SHELF ECOSYSTEM. PARTICULAR ATTENTION WAS GIVEN TO APPLICATIONS OF RESEARCH RESULTS TO QUESTIONS OF PUBLIC POLICY AND RESOURCE ALLOCATION IN ADDRESSING MAN-RELATED ENVIRONMENTAL CHANGES. THESE RESULTS ARE SUMMARIZED AND AN ATTEMPT IS MADE TO PLACE THEM IN A REGIONAL AND NATIONAL PERSPECTIVE.

0672 GROSS, M.G.

SOURCES OF URBAN WASTES [1976]

PAGES 150-161 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEM PRESS, LAWRENCE, KS

THE COASTAL OCEAN HAS LONG BEEN USED BY CITIES ALONG THE MIDDLE ATLANTIC BIGHT--PARTICULARLY IN THE NY-NJ METROPOLITAN REGION--TO DISPOSE OF MUNICIPAL, INDUSTRIAL, AND DREDGED WASTES; THE VOLUMES INCREASED BY MORE THAN 5% PER YEAR IN THE EARLY 1970S. SEDIMENT ERODED FROM AGRICULTURAL LAND AND FROM CONSTRUCTION SITES MUST BE DREDGED FROM NAVIGATION CHANNELS AFTER DEPOSITION BY RIVERS. SOLIDS FROM SEWAGE (TREATED AND UNTREATED) MIX WITH THE RIVERBORNE SEDIMENTS SO THAT LARGE VOLUMES OF DREDGED MATERIALS MUST BE HANDLED AS WASTES. RIVERBORNE SEDIMENI LOAD AND LITTORAL DRIFT MUST BE DREDGED FROM NAVIGATION CHANNELS; THAT MATERIAL IS NOW DUMPED AT SEA. INDUSTRIAL WASTES, SUCH AS FROM TITANIUM DIOXIDE PRODUCTION AND COAL ASH, HAVE BEEN DUMPED AT SEA. OTHERS, SUCH AS STEEL-MAKING SLAG, HAVE BEEN USED FOR LANDFILL. CONSTRUCTION AND DEMOLITION DEBRIS HAVE BEEN DUMPED AT SEA WHEN NO LANDFILL SITES WERE AVAILABLE. REFUSE, GARBAGE, AND INCINERATOR ASH ARE COMMONLY DISPOSED OF IN COASTAL WETLANDS. ALTERNATIVE DISPOSAL STRATEGIES AND SITES WILL BE NEEDED TO SUPPLEMENT PRESENT REGULATIONS TO REDUCE THE

URBAN WASTES NOW DUMPED AT SEA.

0673 GROSS. M.G.

WASTE DISPOSAL [1976]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 26. NYSG. ALBANY, NY. 32 PP NTIS-PB-264 264

WASTE SOLIDS (DREDGE SPOIL, RUBBLE, SEWAGE SLUDGE, AND INDUSTRIAL SLUDGE) ARE DUMPED AT SIX MAJOR DISPOSAL SITES IN NEW YORK BIGHT. AMOUNTS OF WASTE SOLIDS DISCHARGED INCREASED BETWEEN 1968 AND 1975 ALTHOUGH THE NUMBER OF INDIVIDUAL DISPOSAL OPERATIONS DECLINED. AT THE VARIOUS DISPOSAL SITES, WASTES CAN BE DETECTED BY THEIR BLACK COLOR, HUMAN ARTIFACTS, HIGH CARBON CONTENT (GREATER THAN 2% CARBON), AND METAL CONTENT (HIGH IN AG, CU, CR, AND PB). IN THE AXIS OF HUDSON CHANNEL, WASTE DEPOSITS LOCALLY ARE OVER 15 M (5D FT) THICK AND COVER MORE THAN 150 SQ KM. THE HEAD OF HUDSON CHANNEL HAS BEEN FILLED BY WASTE DEPOSITS. THIS PHYSICAL ALTERATION OF THE BOTTOM HAS CAUSED OBVIOUS CHANGES IN ABUNDANCE AND DISTRIBUTION OF BOTTOM-DWELLING ORGANISMS. ACCUMULATIONS OF SEWAGE SLUDGES ON THE OCEAN BOTTOM ARE ASSOCIATED WITH DISEASES IN CRUSTACEA AND FIN EROSION IN CERTAIN BOTTOM-DWELLING FISHES. LOW DISSOLVED OXYGEN CONCENTRATIONS OCCUR IN THE DISPOSAL AREAS DURING LATE SUMMER.

0674 GROSS. M.G.

EFFECTS OF WASTE DISPOSAL OPERATIONS IN ESTUARIES AND THE COASTAL OCEAN £1978]

EARTH PLANET SCI ANN REV 6:127-143

THE DIFFERENT TYPES OF WASTES DEPOSITED IN ESTUARIES AND THE COASTAL OCEAN ARE CLASSIFIED. EFFECTS OF EACH CLASS AND COMBINED EFFECTS ARE SUMMARIZED.

0675 GROSS, M.G. (EDITOR)

A SPECIAL SYMPOSIUM ON THE MIDDLE ATLANTIC CONTINENTAL SHELF AND NEW YORK BIGHT HELD AT THE AMERICAN MUSEUM OF NATURAL HISTORY IN NEW YORK CITY ON 3-5 NOV 1975: ABSTRACTS [1975]

REP 76112414. NOAA. BOULDER. CO 81 PP ABS ONLY NTIS-PB-262 456

THIS REPORT IS A COLLECTION OF ABSTRACTS OF 42 PAPERS PRESENTED AT A SPECIAL SYMPOSIUM ON THE MIDDLE ATLANTIC CONTINENTAL SHELF AND NEW YORK BIGHT. THE SUBJECTS ENCOMPASS ALL ASPECTS OF THE MARINE SCIENCES AND FISHERIES, CONTAMINATION OR POLLUTION AND ITS EFFECTS ON THE ENVIRONMENT AND AQUATIC COMMUNITIES. INTERACTIONS BETWEEN THE OCEAN AND ATMOSPHERE ARE DEALT WITH ALONG WITH VARIOUS PERTINENT ASPECTS OF MARINE METEOROLOGY.

0676 GROSSLEIN, M.D.

SOME RESULTS OF FISH SURVEYS IN THE MID-ATLANTIC IMPORTANT FOR ASSESSING ENVIRONMENTAL IMPACTS [1978]

PAGES 312-328 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

KNOWLEDGE OF THE DISTRIBUTION, BIOMASS, AND COMPOSITION OF THE MAJOR BIOLOGICAL COMMUNITIES IS ESSENTIAL TO THE DATA BASE REQUIRED FOR ASSESSING THE IMPACT OF ENVIRONMENTAL CHANGE ON THE MARINE ECOSYSTEM. SINCE 1967 NMFS HAS CONDUCTED REGULAR TRAWL SURVEYS IN THE MID-ATLANTIC, PROVIDING QUANTITATIVE MEASURES OF DENSITY DISTRIBUTIONS OF DEMERSAL FISH POPULATIONS. THE SURVEYS SHOW THAT EACH SPECIES OCCUPIES WIDE AREAS OF THE SHELF AND THAT THERE IS A HIGH DEGREE OF SPECIES MIXTURE, PARTICULARLY IN THE

NEW YORK BIGHT. SIGNIFICANT NUMBERS OF ADULT STAGES. PLANKTONIC EGGS, AND LARVAE CAN BE FOUND OVER THE WHOLE MID-ATLANTIC SHELF ALL YEAR. THUS THERE ARE NO SHELF AREAS FREE OF RISK FROM POTENTIAL DAMAGE FROM WASTE DISPOSAL ACTIVITIES. IMPACTS OF ANY CHANGE MUST CONSIDER A MULTISPECIES COMMUNITY AND INCLUDE ALL LIFE STAGES. PRECISION OF LARGE-SCALE SURVEYS IS RELATIVELY LOW. MAKING IT DIFFICULT TO DETECT ANY BUT MAJOR CHANGES. BROAD-SCALE SURVEYS MUST BE AUGMENTED WITH DETAILED LABORATORY AND FIELD EXPERIMENTS ON PHYSIOLOGY AND BEHAVIOR (ESPECIALLY FOOD CHAINS) OF SELECTED ORGANISMS AND COMMUNITIES TO GET INSIGHT INTO PROBABLE EFFECTS OF SUBLETHAL FACTORS. THE COMPLEXITY AND SCOPE OF MARINE ECOSYSTEMS REQUIRE LONG TERM BUT WELL COORDINATED RESEARCH PROGRAMS TO ENSURE PROPER INTEGRATIONS OF SMALL-V. LARGE-SCALE STUDIES AND FIELD V. LABORATORY EXPERIMENTS.

0677 GROSSMAN, R.H.; R.S. LIEBLING; H.S. SCHERP

CHLORITE AND ITS RELATIONSHIP TO PYRITIZATION IN ANOXIC MARINE ENVIRONMENTS [1979]

J SEDIMENT PETROL 49(2):611-613

PYRITIFEROUS BASAL MARINE SHALES OF THE EARLY MID-DEVONIAN HAMILTON GROUP OF NY DISPLAY AN INVERSE RELATIONSHIP BETWEEN PYRITE ABUNDANCE, AS A PROPORTION OF THE CHLORITE PRESENT, AND THE FE CONTENT OF THE CHLORITE. THIS RELATIONSHIP INDICATES THAT CHLORITE WAS A SIGNIFICANT SOURCE OF FE DURING PYRITIZATION. CHLORITE MAY HAVE BEEN BROADLY SEGREGATED INTO AN FE-RICH FRACTION, OCCURRING NEARER THE SOURCE. AND ONE OF LOWER FE CONTENT, FOUND FARTHER WEST.

0678 GROVE, T.L.; T.J. BERGGREN; D.A. POWERS

USE OF INNATE TAGS TO SEGREGATE SPAWNING STOCKS OF STRIPED BASS (MORONE SAXATILIS) [1976]

PAGES 166-176 IN M. WILEY, ED. ESTUARINE PROCESSES. VOL 1: USES, STRESSES, AND ADAPTATION TO THE ESTUARY. ACADEMIC PRESS, NEW YORK, NY

THE STRIPED BASS (MORONE SAXATILIS) IS AN ANADROMOUS FISH THAT MAKES EXTENSIVE MIGRATIONS ALONG THE ATLANTIC COAST AND UTILIZES THE ATLANTIC COASTAL ESTUARIES AS SPAINING AND NURSERY AREAS. INDUSTRIAL USAGE OF THE ESTUARIES, COMMERCIAL FISHING PRESSURE AND INCREASED RECREATIONAL USE OF THE FISHERY HAVE STIMULATED INTEREST IN THE RELATIVE CONTRIBUTION OF STRIPED BASS SPAWNING STOCKS FROM VARIOUS ESTUARIES. STUDIES HAVE BEEN PERFORMED TO ASSESS THE FEASIBILITY OF USING MERISTIC, MORPHOMETRIC AND BIOCHEYLCAL CHARACTERS AS INNATE TAGS TO SEGREGATE STRIPED BASS FROM VARIOUS SPAWNING POPULATIONS. REPRESENTATIVE SAMPLES OF THE SPAWNING POPULATIONS OF THE ROANOKE RIVER, FOUR TRIBUTARIES OF CHESAPEAKE BAY (POTOMAC, RAPPAHANNOCK, CHOPTANK AND ELK RIVERS), AND THE HUDSON RIVER WERE COLLECTED. DATA WERE COLLECTED FROM EACH FISH ON UP TO 42 MERISTIC AND MORPHOMETRIC CHARACTERS AND 28 ENZYME SYSTEMS INVOLVING 52 GENETIC LOCI. LINEAR AND QUADRATIC DISCRIMINANT FUNCTION ANALYSES WERE EMPLOYED TO EVALUATE THE DISCRIMINATIVE POWER OF THE MERISTIC AND MORPHOMETRIC CHARACTERS. BIOCHEMICAL CHARACTERS WERE EVALUATED USING UNIVARIATE TECHNIQUES.

0679 GROW, J.; R.E. SHERIDAN; J.C. BEHRENDT; R.F. MATTICK

A COMPARISON OF MULTICHANNEL VELOCITY DATA WITH EARLIER REFRACTION VELOCITIES ON ATLANTIC MARGIN BETWEEN CAPE HATTERAS AND GEORGES BANK [1975]

EOS: TRANS AM GEOPHS UNION 56(6):451 ABS ONLY

THE INTERVAL VELOCITIES DERIVED FROM 3 USGS MULTICHANNEL SEISMIC REFLECTION PROFILES (12-FOLD) ACROSS THE CONTINENTAL MARGIN OFF MARYLAND, NEW JERSEY, AND GEORGES BANK HAVE BEEN COMPARED WITH EARLIER SEISMIC REFRACTION DATA. ON ALL THREE LINES OVER THE SHELF, BOTH TECHNIQUES IDENTIFY A THIN (0.5-1.5 KM) UPPER SEQUENCE HAVING VELOCITIES BETWEEN 1.6-2.0 KM/SEC WHICH IS PROBABLY EOCENE TO RECENT IN AGE. EARLIER SHELF REFRACTION LINES SHOW AN INTERMEDIATE LAYER WHICH HAVE VELOCITIES BETWEEN 2.9-3.6 KM/SEC AND IS 1-4 KM THICK OVER A HIGH VELOCITY (5 KM/SEC) "BASEMENT." THE NEW DATA SHOW THAT VELOCITY GRADATIONS HIGH THE "CONSOLIDATED SEDIMENT" LAYER RANGE FROM 2.0-5.0 KM/SEC; THEIR THICKNESS RANGES FROM 1-5 KM AND THESE OVERLIE SEDIMENTARY ROCKS

HAVING VELOCITIES BETWEEN 5-6 KM/SEC. OFF MD, THE STRATA THICKEN FROM 4 KM NEAR THE COAST TO 12 KM NEAR THE SHELF EDGE WITH NO EVIDENCE OF A BASEMENT RIDGE. ON THE NJ LINE, THE STRATA THICKEN FROM 2 KM NEAR THE COAST TO 10-12 KM IN MID SHELF. ON THIS LINE A DOME EXISTS IN THE MIDDLE SHELF WHICH HAS AN EROSIONAL UNCONFORMITY AT A DEPTH OF ABOUT 2 1/2 KM. NEAR THE SHELF EDGE ON THE NJ LINE, A 30 KM WIDE FLAT PLATFORM AT A DEPTH OF 6 KM FORMS A HIGH-IMPEDENCE TERMINAL REFLECTOR WHICH APPEARS TO BE A CARBONATE HORIZON (REEF?) THAT CONTINUES OUT UNDER THE UPPER SLOPE; THIS LAYER APPEARS TO BE THE "BASEMENT" RIDGE DBSERVED IN EARLIER REFRACTION STUDIES. ON GEORGES BANK, THE SEDIMENTARY STRATA THICKEN FROM 2 TO 8 KM AND ARE INTERRUPTED BY AN IRREGULAR, NEAKLY DEFINED RIDGE WHICH RISES TO LESS THAN 3 KM BELOW SEA LEVEL. THIS RIDGE ALSO CORRELATES WITH A HIGH VELOCITY REFRACTOR NEAR THE SHELF EDGE IN EARLIER STUDIES. OUR DATA ARE INCONCLUSIVE AS TO WHETHER THIS RIDGE IS EITHER VOLCANIC OR SEDIMENTARY.

U680 GRUNSEICH, G.S.

THE DECOMPOSITION OF SEWAGE SLUDGE IN SEAWATER [1977]

M.S. THESIS. SUNY, STONY BROOK, NY 30 PP

LABORATORY EXPERIMENTS WERE CONDUCTED OVER A 12 WEEK PERIOD TO FOLLOW THE DECOMPOSITION OF SEWAGE SLUDGE IN SEAWATER AND IN SEDIMENT-SEAWATER MIXTURES UNDER AEROBIC AND ANAEROBIC CONDITIONS AT 4 AND 21 C. RESULTS SHOWED THAT THE SEWAGE SLUDGE DECOMPOSED MORE RAPIDLY IN THE PRESENCE OF OXYGEN. DISSOLVED ORGANIC CARBON, A MAJOR CARBON SOURCE IN SEWAGE SLUDGE, ABRUPTLY DECREASED TO VERY LOW CONCENTRATIONS IN 3-4 WEEKS IN AEROBIC SYSTEMS; CONCENTRATIONS OF PARTICULATE CARBON DECREASED ONLY GRADUALLY DURING THE 12 WEEK PERIOD. AEROBIC CONDITIONS AT THE SEWAGE SLUDGE DUMP SITE IN THE NEW YORK BIGHT APEX CAN PROMOTE RAPID DECOMPOSITION OF SEWAGE SLUDGE IF IT IS DISTRIBUTED EVENLY OVER AN AREA OF AT LEAST TWO SQ MI.

0681 GUILD, D.H.

THE ECONOMICS AND USE OF LARGE SCALE ELECTRODIALYSIS PLANTS ON SELECTED TIDAL ESTUARIAL WATERS [1971]

REP 777. SALINE WATER RESEARCH & DEVELOP. WASHINGTON. DC 280 PP

THE ECONOMICS OF PROVIDING POTABLE WATER FROM TREATMENT PLANTS LOCATED ON TIDAL ESTUARIES WAS INVESTIGATED. TREATMENT PLANTS IN THE 25-300 MGD SIZE RANGE WERE ASSUMED TO BE SITED AT SPECIFIC LOCATIONS ON THE ESTUARIES ON THE HUDSON AND DELAWARE RIVERS, FOR WHICH HYDROLOGY DATA WERE AVAILABLE ON SALINITY ENCROACHMENT PROFILES IN MAXIMUM DROUGHT YEARS. A COMPREHENSIVE COMPUTER OPTIMIZATION PROGRAM WAS DEVELOPED TO DETERMINE THE LEAST COST OF POTABLE WATER SUPPLY FROM THESE SPECIFIC PLANTS AND SITES, BALANCING THE DYNAMIC ELEMENTS OF FLOW, TEMPERATURE, SEASONAL SALINITY VARIATION OF THE ESTUARIAL WATER AGAINST THE COST OF WATER TREATMENT, STERILIZATION, DESALINATION AND TRANSPORT. THE COMPUTER PROGRAM MAY BE APPLIED TO OTHER RIVER ESTUARIES FOR WHICH ADEQUATE HYDROLOGIC DATA ON SALINITY CHARACTERISTICS ARE AVAILABLE. THIS METHODOLOGY MAY BE APPLIED TO DETERMINE THE MOST ECONOMIC LOCATION FOR A LARGE-SCALE RIVER WATER TREATMENT PLANT TO AUGMENT THE WATER SUPPLY OF A METROPOLITAN AREA. SUCH LOCATION MAY OR MAY NOT REQUIRE THE INCLUSION OF DESALINATION EQUIPMENT IN THE PLANT COMPLEX. DEPENDING ON THE HYDROLOGY AND COST OF SALINITY HYDRODYNAMICS OF THE RIVER ESTUARY, THE VOLUME OF POTABLE WATER AUGMENTATION REQUIRED AND ITS COST OF DELIVERY TO THE POINT OF DISTRIBUTION.

D682 GUNNERSON, C.G.

OPTIMIZING SAMPLING INTERVALS IN TIDAL ESTUARIES [1966]

ASCE J SANIT ENG DIV 92 (SA2):103-125

SPECTRAL ANALYSES OF DISSOLVED OXYGEN AND CONDUCTIVITY DATA IN A TIDAL ESTUARY WERE PERFORMED TO DETERMINE THE QUANTITY OF DATA NEEDED TO ESTIMATE THE MEAN, AND MAXIMUM AND MINIMUM VALUES. ACTUAL CONTINUOUSLY RECORDED DATA FROM THE POTOMAC ESTUARY AND THE RARITAN BAY WERE USED. IT WAS CONCLUDED THAT: (1) SAMPLING SHOULD BE PERFORMED AT MORE THAN ONE DEPTH; AND (2) COLLECTING DATA AT 6 OR 12 MIN INTERVALS YIELDS THE SAME AMOUNT OF STATISTICAL INFORMATION AS DATA COLLECTED AT 2 HR INTERVALS. COLIFORM DATA

FOR INLAND WATERS WERE ALSO EXAMINED. AS A DOMINANT SOURCE OF POLLUTION WAS APPROACHED, IT WAS CONCLUDED THAT A SHORTER SAMPLING INTERVAL FOR COLIFORM DATA IS REQUIRED. THE ARITHMETIC OF POWER SPECTRUM ANALYSIS WAS REVIEWED IN A SEPARATE APPENDIX.

0683 GUNNERSON. C.G.

HYDROLOGIC DATA COLLECTION IN TIDAL ESTUARIES [1967]

WATER RESOUR RES 3(2):491-540

FOR PREDICTIVE MODELS, THE OPTIMUM SAMPLING INTERVAL AND RECORD LENGTH DEPEND UPON THE FREQUENCIES AT WHICH SIGNIFICANT VARIANCE IS FOUND. ESTIMATES OF SPECTRAL DENSITY, COHERENCE, AND PHASE RELATIONSHIPS OF STAGE, VELOCITY, AND SALINITY PROVIDE A BASIS FOR EVALUATING HYDROLOGIC DATA COLLECTION AND UTILIZATION NEAR THE MOUTH OF THE SACRAMENTO RIVER. HERE IT WAS FOUND THAT A 2-HR SAMPLING INTERVAL PROVIDED THE ESSENTIAL DATA FOR ENGINEERING PURPOSES. THIS INTERVAL IS CONSISTENT WITH THOSE FOUND FOR THE POTOMAC RIVER ESTUARY AND FOR RARITAN BAY.

0684 GUNNERSON. C.G.

OCEAN DUMPING IN THE NEW YORK BIGHT [1975]

GOV REP ANNOUNC 75(25):97 AND TR-ERL-321. NOAA, BOULDER, CO

THE NEW YORK BIGHT EXTENDS SEAWARD OVER 15,000 MI2 FROM LONG ISLAND AND NEW JERSEY TO THE EDGE OF THE CONTINENTAL SHELF, SOME 80-100 NM OFFSHORE. WASTES FROM 20 MILLION PEOPLE ARE DISCHARGED TO THE BIGHT. THESE WASTES ARRIVE BY VARIOUS ROUTES--OCEAN DUMPING, OUTFALL SEWERS, AIR POLLUTION, RIVER DISCHARGE, LAND RUNOFF, THERMAL DISCHARGES, VESSEL WASTES, AND OCCASIONAL SPILLS. ALTHOUGH IMPACTS OF THESE WASTES ON THE MARINE ENVIRONMENT ARE NOT CLEARLY UNDERSTOOD, THERE IS EVIDENCE THAT THE WATERS, BOTTOM SEDIMENTS, AND LIVING RESOURCES ARE UNDER STRESS. AN AVERAGE OF 7,400,000 M3/YR OF DREDGE SPOILS WERE DUMPED BETWEEN 1965 AND 1977, PLUS WASTE ACID AND CONSTRUCTION AND DEMOLITION DEBRIS. THE HAZARDS OF THIS DUMPING ARE NOT KNOWN, BUT ABOVE NORMAL INCIDENCE OF FIN-ROT DISEASE IN FISH IN THE AREA AND IN CLOSING OF THE AREA TO SHELLFISHING INDICATE AN ENDANGERED SITUATION.

0685 GUSTAVSON, T.C.

PALEOTEMPERATURE ANALYSIS OF THE MARINE PLEISTOCENE OF LONG ISLAND, NEW YORK, AND NANTUCKET ISLAND, MASSACHUSETTS [1976]

GEOL SOC AM BULL 87(1):1-8

THIS ARTICLE DISCUSSES ANALYSES OF PLEISTOCENE SEDIMENTS FROM EASTERN LONG ISLAND, NY; NANTUCKET ISLAND, MA AND GARDINERS ISLAND, NY.

0686 GUYETTE, P.; W.A. WALLACE

A COST ANALYSIS OF OFFSHORE MINING AND DUMPING OPERATIONS IN THE GREATER NEW YORK METROPOLITAN AREA [1980]

NYSG . ALBANY . NY NP

IN THIS PAPER, THE AUTHORS ESTIMATE THE COST OF SETTING UP OPERATIONS FOR OFFSHORE MINING OF SAND AND GRAVEL IN THE GREATER NY METROPOLITAN AREA. TO DO THIS, THEY CONSIDER EXISITING TECHNOLOGIES WHICH MIGHT BE USED IN SUCH AN OPERATION, AS WELL AS THE CAPITAL INVESTMENT AND OPERATING COSTS INVOLVED. THEN THEY ANALYZE A PROTOTYPICAL INVESTMENT IN A NEW VENTURE IN DETAIL—WITH AN EYE TO ITS RETURNS. INTEREST IN OFFSHORE MINING OF CONSTRUCTION AGGREGATES HAS INCREASED, AS ONSHORE SOURCES OF THESE

MATERIALS DECREASE. THEIR STORAGE IS PARTICULARLY ACUTE IN URBAN AREAS, WHERE HEAVY DEVELOPMENT HAS EFFECTIVELY BLOCKED FURTHER EXTRACTION OF ONSHORE MINERALS. ALTHOUGH THE TECHNOLOGY OF OFFSHORE MINING IS MORE SIMILAR TO DREDGING THAN ONSHORE MINING, THE DREDGING INDUSTRY HAS VIRTUALLY NO EXPERIENCE IN THE BUSINESS OF SELLING THE MATERIALS. THEREFORE, THE AUTHORS FOUND NO ONE COMPANY ABLE TO ESTIMATE COSTS AND RISKS ACCURATELY. LACKING THIS RESOURCE, THEY BUILT THEIR ESTIMATES BY GATHERING AS MUCH RELEVANT DATA AS THEY COULD FIND. THEY CONCLUDE THAT SUCH VENTURES COULD BE FEASIBLE—AT LEAST ECONOMICALLY—WHILE POINTING OUT THE NEED FOR FURTHER ENVIRONMENTAL STUDIES. IF THESE SHOW NO SERIOUS ADVERSE EFFECTS UPON THE MARINE ENVIRONMENT, IT IS LIKELY THAT AN AGREEMENT CAN BE REACHED THAT WILL PROVIDE BOTH ADEQUATE RATE—OF—RETURN TO THE MINING COMPANY AND A FAIR PRICE TO THE PUBLIC FOR USE OF THESE RESOURCES.

0687 HAAG. F.G.; K.W. BEDFORD

TRANSPORT EQUATION STABILITY AND ESTUARY MODELING [1971]

ASCE J HYDR DIV 97(HY12):2051-2066

A METHOD IS PRESENTED FOR JUDGING THE STABILITY OF DISCRETE APPROXIMATIONS TO THE ESTUARY MIXING EQUATIONS. IT IS APPLICABLE TO UNEQUAL AS WELL AS EQUAL REACH LENGTHS. A MATHEMATICAL MODEL IS DEVELOPED FOR THE HUDSON RIVER ESTUARY AND THE MODEL RESULTS ARE COMPARED TO USGS CHLORIDE MEASUREMENTS. FOR CONSTANT FLOW VELOCITY, AN EXACT SOLUTION IS DEVELOPED AND COMPARED TO THE DISCRETE APPROXIMATION RESULTS.

0688 HABER, G.

FULL AHEAD WITH VESSEL TRAFFIC SERVICES [1976]

SURVEYOR 10(4):2-5

FEDERAL LEGISLATION WAS ENACTED IN 1972 FOR THE DEVELOPMENT OF VESSEL TRAFFIC SERVICE (VTS) SYSTEMS IN US HARBORS. UNDER THE PORTS AND WATERWAYS SAFETY ACT, THE USCG WAS DIRECTED TO ESTABLISH TRAFFIC SERVICES, WHERE IT DEEMED NECESSARY, TO REDUCE THE NUMBER OF PORT COLLISIONS, RAMMINGS, AND GROUNDINGS IN DOMESTIC WATERS WHICH IN FISCAL 1971 TOTALED 1,460. NEW VESSEL TRAFFIC SERVICES ARE OPERATIONAL IN SAN FRANCISCO, CA; PUGET SOUND, WA; AND HOUSTON-GALVESTON, TX. ADDITIONAL TRAFFIC SYSTEMS ARE BEING DEVELOPED FOR THE PORTS OF NEW YORK; NEW ORLEANS-BATON ROUGE, LA; AND PRINCE WILLIAM SOUND, AK. THE OPERATIONAL TRAFFIC SERVICES ARE DESCRIBED.

0689 HARY, 4.

A RETAILER'S GUIDE TO SEAFOOD PROMOTIONAL MATERIAL [1979]

NYSG, CORNELL UNIV LAB, RIVERHEAD, NY 11 PP

FOR LARGE OR SMALL SEAFOOD RETAILERS, THIS GUIDE DESCRIBES PROMOTIONAL MATERIALS (APPLICABLE TO MID-ATLANTIC FISHERY PRODUCTS)
WHICH MAY BE RECEIVED FREE OR FOR A MINIMAL FEE BY WRITING TO A WIDE VARIETY OF ORGANIZATIONS INCLUDING THE NEW YORK DEPARTMENT
OF AGRICULTURE AND MARKETS, THE NATIONAL MARINE FISHERIES SERVICE AND OTHERS.

0690 HAEFNER, P.A., JR.

DISTRIBUTION, REPRODUCTION AND MOULTING OF THE ROCK CRAB. CANCER IRRORATUS SAY, 1917, IN THE MID-ATLANTIC BIGHT [1976]

NOAA, BOULDER, CO 22 PP. NTIS-PB-261 335

DATA ON DISTRIBUTION, RELATIVE ABUNDANCE, REPRODUCTIVE BIOLOGY AND INTERMOULT CYCLE OF ROCK CRABS CAPTURED IN THE MID-ATLANTIC REGION OF EASTERN NORTH AMERICA IS PROVIDED. ROCK CRABS, CANCER IRRORATUS, WERE COLLECTED IN OCTOBER 1971 AND IN APRIL AND JUNE 1973, DURING TRAWL SURVEYS OF THE CONTINENTAL SHELF OF THE MID-ATLANTIC BIGHT. MORE THAN 1700 ROCK CRABS WERE CAPTURED IN 58 TRAWLS. THEY WERE CONTAGIOUSLY DISTRIBUTED WITHIN A DEPTH RANGE OF 18-390 M. MAXIMUM ABUNDANCE OCCURRED WITHIN 40-60 M AND 6-9 C. THE ROCK CRAB WAS SIGNIFICANTLY ASSOCIATED WITH CANCER BOREALIS AND HOMARUS AMERICANUS IN JUNE. POSITIVE ASSOCIATION OF C. TRRORATUS AND C. BOREALIS WAS SHOWN FOR THE OCTOBER CHESAPEAKE BIGHT DATA, WHEREAS NEGATIVE ASSOCIATION WAS INDICATED FOR THE NEW YORK BIGHT AREA.

0691 HAIR, M.E.; S. BUCKNER

ASSESSMENT OF THE WATER QUALITY CHARACTERISTICS OF GREAT SOUTH BAY AND CONTIGUOUS STREAMS [1973]

INST OF MAR SCI. ADELPHI UNIV. GARDEN CITY. NY 59 PP

THIS PAPER DESCRIBES PROCEDURES AND RESULTS OF BI-WEEKLY MEASUREMENTS OF SALINITY, TEMPERATURE, DISSOLVED OXYGEN, DISSOLVED PHOSPHORUS, PARTICULA PHOSPHORUS, NITRATE, NITRITE, AMMONIA, AND CHLOROPHYLL AT 39 STATIONS IN GREAT SOUTH BAY OVER A 7-MONTH PERIOD. COMPARISON WITH PREVIOUSLY AVAILABLE DATA WITH ESTIMATE OF STABILITY OF VARIOUS AREAS OF THE BAY IS PERFORMED.

D692 HAIR, M.E.; C.R. BASSETT

DISSOLVED AND PARTICULATE HUMIC ACIDS IN AN EAST COAST ESTUARY {1973]

ESTUARINE COASTAL MAR SCI 1(1):107-111

SEASONAL VARIATIONS IN DISSOLVED AND PARTICULATE HUMIC ACIDS WERE STUDIED FOR A ONE YEAR PERIOD IN AN EAST COAST ESTUARY.

PARTICULATE HUMIC ACIDS ACCOUNTED FOR THE BULK OF THE TWO FRACTIONS. THE GENERAL SEASONAL TREND OF BOTH FACTIONS SHOWED A SHARP INCREASE IN CONCENTRATIONS IN THE SPRING FOLLOWED BY A DECREASE DURING THE SUMMER AND WINTER MONTHS. CONCENTRATIONS OF HUMIC ACIDS WERE RELATED TO SALINITY LEVELS IN THIS STRATIFIED SYSTEM.

0693 HAIRR, L.M.; M.E. WRENN

ENVIRONMENTAL SAMPLING FOR RIVER SEDIMENTS AROUND A NUCLEAR POWER STATION [1972]

PAGES 32-83 IN TRANS OF THE AM NUCLEAR SOC, 1972 ANN MEET, JUNE 18-22 1972, LAS VEGAS, NV. VOL 15 NO 1

MANY ENVIRONMENTAL RADIATION SURVEILLANCE PROGRAMS AROUND NUCLEAR POWER STATIONS DEPEND ON QUARTERLY COLLECTION OF GRAB SEDIMENT SAMPLES. THE OBJECTIVES OF SEDIMENT SAMPLING PROGRAMS ARE PROBABLY TO ASSESS THE BUILDUP OF ACTIVITY IN SEDIMENTS ORIGINATING FROM A PLANT WITH TIME, TO PROVIDE A MEASURE OF THE CONCENTRATION OF RADIONUCLIDES IN SEDIMENTS FOR DOSE CALCULATIONS AND TO AID IN THE PREDICTION OF ACCUMULATION WHICH MIGHT OCCUR IN BIOTA FROM SEDIMENTS. SEDIMENT SAMPLES CAN BE COLLECTED WITH DREDGES OR BY TAKING CORE SAMPLES. ACCORDINGLY, A FIELD STUDY WAS DESIGNED TO COMPARE THE TWO METHODS OF SAMPLING AND TO EVALUATE THE UTILITY OF THE DATA OBTAINED. BOTH DREDGE AND CORE SAMPLING WERE CONDUCTED IN HUDSON RIVER SEDIMENTS AT FIVE SITES NEAR THE INDIAN POINT NUCLEAR POWER STATION. SAMPLES WERE COLLECTED WITH AN EMORY DREDGE AND BY CORING TECHNIQUES CONCURRENTLY AT EACH SITE.

D694 HAIRR, L.M.

INVESTIGATION OF FACTORS INFLUENCING RADIOCESIUM CYCLING IN ESTUARINE SEDIMENTS OF THE HUDSON RIVER [1974]

PH.D. THESIS. NYU, NEW YORK, NY 198 PP

THE CYCLING OF RADIOCESIUM BETWEEN WATER AND SEDIMENTS IN THE HUDSON RIVER ESTUARY WAS STUDIED BY MEASURING THE RADIOCESIUM DISTRIBUTION IN THE WATER AND SEDIMENTS AND BY DETERMINING THE EFFECTS OF VARYING ESTUARINE WATER CHARACTERISTICS ON CESIUM SORPTION REACTIONS UNDER CONTROLLED LABORATORY CONDITIONS. A SEMIGUANTITATIVE DESCRIPTION OF THE RADIOCESIUM BETWEEN ESTUARINE SEDIMENTS AND WATER IS PROPOSED. LABORATORY EXPERIMENTS AND ANALYSES OF RIVER SAMPLES INDICATED THAT THE DISTRIBUTION OF RADIOCESIUM BETWEEN DISSOLVED AND SUSPENDED PHASES PREDOMINANTLY FAVORS THE SUSPENDED PHASE IN FRESHWATER AND SHIFTS SIGNIFICANTLY TOWARD THE DISSOLVED PHASE IN SALINE WATER. DUCE SORPTION OF RADIOCESIUM HAS OCCURRED, THE COMPETING CATIONS IN SALT WATER INHIBIT FURTHER SORPTION BY RADIOCESIUM BY CLAY-SIZED PARTICLES. MOREOVER, THE COMPETING CATIONS ARE LARGELY INCAPABLE OF EXCHANGING WITH SORBED CESIUM SO THAT ONLY LIMITED DESORPTION OF RADIOCESIUM FROM SUSPENDED SEDIMENT OCCURS IN SALINE WATERS. RADIOCESIUM ACCUMULATIONS IN THE BOTTOM SEDIMENTS OF THE LOWER HUDSON ESTUARY WERE PRIMARILY IN THE TOP 2 TO 4 IN. THE HIGHEST CONCENTRATIONS OF REACTOR-PRODUCED RADIOCESIUM IN THE BOTTOM SEDIMENTS WERE IN THE VICINITY OF THE NUCLEAR POWER STATION AND AT A LOCATION THIRTY MILES DOWNRIVER FROM IT. ESTIMATES OF FALLOUT CESIUM-137 CONCENTRATIONS IN THE SEDIMENTS WERE MADE USING THE ISOTOPIC RATIO OF CESIUM-134 TO CESIUM-137 IN THE CLAY-SIZED FRACTION OF THE BOTTOM SEDIMENTS DECREASED WITH DISTANCE DOWNRIVER AND PROBABLY REFLECTS THE DECREASED SORPTION OF FADIOCESIUM BY SEDIMENTS EXPOSED TO HIGHER WATER SALINITIES.

0695 HAJE, R.L.

THE EFFECTS OF THE NEW YORK STATE TIDAL WETLANDS ACT--MORATORIUM PHASE [1976]

SPEC REP 4. MSRC, SUNY, SIONY BROOK, 17 65 PP

MARINE WETLANDS PLAY A VITAL ROLE IN THE ECOLOGY OF THE ESTUARINE ENVIRONMENT. WETLANDS SUPPORT VARIED POPULATIONS OF SPECIALIZED PLANTS, MOLLUSKS, AND CRUSTACEANS, AS WELL AS OFFERING FOOD AND COVER TO WATERFOOL AND SHOREBIRDS. WETLANDS ALSO ARE IMPORTANT AS SPAWNING AND FEEDING GROUNDS FOR MANY SPECIES OF COMMERICAL, SPORT, AND FORAGE FISH. OTHER VALUES INCLUDE PROTECTION FROM EROSION, ENHANCEMENT OF ESTUARINE PRODUCTIVITY, TREATMENT OF EXCESS NUTRIENTS, AND AS SITES FOR RECREATION. DURING THE MORATORIUM, REQUESTS FOR ALTERATIONS TO TIDAL WATERS OR WETLANDS OR WITHIN 300 FT OF THEM MUST MEET STANDARDS OF HARDSHIP AND COMPATABILITY. A REVIEW OF THE MORATORIUM APPLICATIONS MADE TO THE MY DEC INDICATES THAT NO AUTHORIZED WETLANDS LOSSES OCCURRED IN SOME TOWNSHIPS WHILE MINIMAL LOSSES OCCURRED IN OTHERS. A TOTAL LOSS OF APPROXIMATELY 20 ACRES WAS CALCULATED. AN ADDITIONAL UNDETERMINED AMOUNT WAS LOST THROUGH ILLEGAL ACTIVITIES. WHILE SEVERAL COURT CASES ARE PRESENTLY PENDING, IT IS LIKELY THAT THE ACT WILL BE FOUND TO BE CONSTITUTIONAL AND NOT CONSTITUTE A "TAKING." A TREND TOWARD MORE ENVIRONMENTALLY ACCEPTABLE PROJECTS IS DEVELOPING. A SURVEY OF INDIVIDUALS WITH VARIED INTERESTS IN THE TIDAL WETLANDS ACT INDICATES THAT IT IS HAVING AN ECONOMIC EFFECT UPON BUSINESSES AND LAND VALUES. WHILE MOST RESPONDENTS WERE SATISFIED WITH THE ADMINISTRATION OF THE ACT, THEY WERE UNANIMOUS IN CRITICISM OF DELAYS IN RENDERING DECISIONS AFTER PUBLIC HEARINGS. IT IS CONCLUDED THAT THE TIDAL WETLANDS ACT IS HAVING A BENEFICIAL EFFECT UPON THE PRESERVATION OF WETLANDS.

0696 HALASI-KUN, G.J.; K. WIDMER; G.W. WHETSTONE

PROCEEDINGS OF UNIVERSITY SEMINAR ON POLLUTION AND WATER RESOURCES. VOLUME III:1969-70 [1970]

NJ BUREAU OF GEOLOGY AND TOPOGRAPHY, TRENTON, NJ 160 PP NTIS-PB-293 893

TOPICS OF INTEREST ON NEW JERSEY AND THE NEW YORK BIGHT FROM THIS SEMINAR INCLUDE: WATER RESOURCES RESEARCH IN THE US; SEASONAL SEDIMENT YIELD PATTERNS OF US RIVERS; A STATISTICALLY BASED MATHEMATICAL WATER QUALITY MODEL FOR A NON-ESTUARINE RIVER SYSTEM (UPPER PASSAIC VALLEY IN NJ); SOME REFLECTIONS ON AN ENGINEERING ECONOMIC STUDY OF THE INDUSTRIAL GROWTH POTENTIAL OF THE UPPER PASSAIC RIVER BASIN; THE BASIC PRINCIPLES AND PRACTICAL CONSEQUENCES OF A NEW CONCEPT IN STRENGTH OF MATERIALS; WHAT'S HAPPENING TO LAKE ERIE; URBAN AIR POLLUTION; FINANCING OF WATER SUPPLY AND SEWERAGE PROJECTS IN DEVELOPING COUNTRIES; FEDERAL POLLUTION CONTROL LITIGATION; DETERMINATION OF QUALITY OF SEDIMENT ON THE PUBLIC BEACHES OF LONG ISLAND.

0697 HALASI-KUN. G.J.; K. WIDMER

PROCEEDINGS OF UNIVERSITY SEMINAR ON POLLUTION AND WATER RESOURCES. VOLUME 1:1967-68. [1970]

NJ BUREAU OF GEOLOGY AND TOPOGRAPHY, TRENTON, NJ 93 PP NTIS-PB-293 892

TOPICS OF INTEREST COVERED IN THIS POLLUTION SEMINAR INCLUDE: THE WATER DATA BASE FOR WATER MANAGEMENT DECISION; WEATHER MODIFICATION AND WATER RESOURCES; MANAGING FOREST LANDS FOR WATER PRODUCTION; A COMPREHENSIVE APPROACH TO THE PROBLEMS OF POLLUTION AND WATER RESOURCES; ANALYSIS OF SPIT-BAR DEVELOPMENT AT SANDY HOOK, NJ.

0698 HALASI-KUN, G.J.

PROCEEDINGS OF UNIVERSITY SEMINAR ON POLLUTION AND WATER RESOURCES. VOLUME VI:1972-75 [1975]

NJ BUREAU OF GEOLOGY AND TOPOGRAPHY, TRENTON, NJ 230 PP NTIS-PB- 297 013

THE FOLLOWING TOPICS OF INTEREST TO THE NEW YORK SIGHT AREA ARE COVERED IN THIS COLLECTION: HYDROLOGICAL INVESTIGATION OF THE UNSATURATED ZONE; MODEL ECOSYSTEM STUDIES: MODELS OF WHAT; THE UTILIZATION OF INFORMATION ABOUT CONCOMITANCE OF WATER RESOURCES AND DEMANDS IN WATER RESOURCES DECISION MAKING; A PHYSICAL APPROACH TO HYDROLOGIC PROBLEMS; FACTOR ANALYSIS OF WATER QUALITY DATA IN NEW JERSEY: EVALUATION OF A ALTERNATIVE ROTATIONS; SIMULATION MODELING OF STREAMS FOR WATER QUALITY STUDIES; MICROPOLLUTION IN ORGANISM; EXTREME RUNOFFS IN REGIONS OF VOLCANIC ROCKS IN CENTRAL EUROPE AND IN NORTHEASTERN USA; HACKENSACK RIVER--DETERMINATION OF TERTIARY SEWAGE TREATMENT REQUIREMENTS FOR WASTE WATER DISCHARGE.

0699 HALASI-KUN, G.J.; K. WIDMER

PROCEEDINGS OF UNIVERSITY SEMINAR ON POLLUTION AND WATER RESOURCES. VOLUME VIII: 1974-1975 [1975]

NJ BUREAU OF GEOLOGY AND TOPOGRAPHY, TRENTON, NJ 176 PP NTIS-PB-293 896

THE SEMINAR COVERED THE FOLLOWING TOPICS OF INTEREST ON NEW JERSEY AND THE MID-ATLANTIC BIGHT: UNDERSTANDING THE IMPACT OF OUTER CONTINENTAL SHELF DEVELOPMENT APPROACHES TO DESIGN OF ENVIRONMENTAL STUDIES; THERMAL PLUME FIELD MEASUREMENTS IN THREE DIMENSIONS; RECENT PROGRESS IN WAVE REFRACTION STUDIES AND ITS APPLICATION IN THE MID-ATLANTIC BIGHT; BEACH DYNAMICS AND SEDIMENT MOBILITY ON SANDY HOOK, NJ; PHYTOPLANKTON BIOASSAYS FOR INDUSTRIAL POLLUTANTS IN THE HACKENSACK MEADOWLANDS; SEDIMENTARY DYNAMICS OF A DISTURBED ESTUARY-ENTRANCE SAND SHOAL: THE SHREWSBURY ENTRANCE AREA OF SANDY HOOK BAY, NJ; FUTURE ENERGY RESOURCES INCLUDING OUTER CONTINENTAL SHELF DEVELOPMENT; RECENT DEVELOPMENTS IN THE LAW OF THE SEA.

0700 HALASI-KUN, G.J.; K. WIDMER

PROCEEDINGS OF UNIVERSITY SEMINAR OF POLLUTION AND WATER RESOURCES. VOLUME VII:1972-1973 [1975]

NJ BUREAU OF GEOLOGY AND TOPOGRAPHY, TRENTON, NJ 150 PP NT1S-PB-293 895

THIS SEMINAR COVERED THE FOLLOWING TOPICS OF INTEREST ON THE NEW YORK BIGHT: DISPERSION AND DEPTH OF DISTURBANCE STUDIES ON FORESHORE BEACH SEDIMENT, SANDY HOOK, NJ; DATA ON THE HYDROLOGY OF GREAT SOUTH BAY, LONG ISLAND, NY; SHELLFISH AND PUBLIC HEALTH; NOISF IS POLLUTION; EFFECT OF WATER SALINITY ON THE INCIDENCE OF SYMBIONTS OF THE BLUE CRAB, CALLINECTES SAPIDUS; COASTAL MORPHOLOGY OF BRIGANTINE INLET, NJ: HISTORY AND PREDICTION, 1877-1977; CURRENTS AND SEDIMENT MIGRATION IN BRIGANTINE INLET, NJ; PARAMETERS OF MARINE POLLUTION.

0701 HALL, C.A.S.; N.R. TEMPEL; B.J. PETERSON

A BENTHIC CHAMBER FOR INTENSELY METABOLIC LOTIC SYSTEMS [1979]

ESTUARIES 2(3):178-183

WE HAVE DESIGNED A FLOW-THROUGH BENTHIC CHAMBER THAT HAS THE DESIRABLE CHARACTERISTICS OF: SIMULATION OF TIDAL CURRENTS, CONTINUOUS OPERATION, ABILITY TO MEASURE PHOTOSYNTHESIS, RESPIRATION AND NUTRIENT EXCHANGES, AND MAINTENANCE OF NEAR-AMBIENT OXYGEN CONDITIONS IN A HIGHLY METABOLIC ENVIRONMENT. THE APPARATUS IS BASEED ON A 2.3 M LONG PLEXIGLASS TUNNEL, CLOSED AT BOTH ENDS, AITH BOTH CONSTANT CIRCULATION AND PERIODIC FLUSHING. THE RESULTS OF A 9-MO STUDY AT ONE LOCATION IN FLAX POND, A LONG ISLAND, NY, TIDAL POND, SHOW LARGE SEASONAL VARIATIONS, INFLUENCES OF BOTH SUNLIGHT INTENSITY AND SEASONALITY, AND A P/R RATIO OF LESS THAN ONE.

0702 HALL. G.: C.O. BRANYAN; G.D. MICKLE; R.P. KESTER; H.R. HAAR. JR.

WATERBORNE COMMERCE AND INLAND PORT DEVELOPMENT [1978]

TRB. #4SHINGTON. DC 48 PP NTIS-PB-292 449

THIS PAPER DISCUSSES VARIOUS ASPECTS OF THE INLAND WATERWAYS AND PORTS OF NEW YORK AS WELL AS MARINE PORTS. A DISCUSSION OF MARINE TRANSPORTATION INCLUDES A RISK ANALYSIS. TRANSPORTATION POLICY IS ALSO COVERED.

0703 HALL, J.B., JR.; A.O. PEARSON

RESULTS FROM THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION REMOTE SENSING EXPERIMENTS IN THE NEW YORK BIGHT, 7-17 APRIL 1975 [1977]

TM-X-74032. LANGLEY RESEARCH CENTER, NASA, LANGLEY STATION, VA 186 PP NTIS-N77-23573

A COOPERATIVE OPERATION WAS CONDUCTED IN THE NEW YORK BIGHT TO EVALUATE THE ROLE OF REMOTE SENSING TECHNOLOGY TO MONITOR OCEAN DUMPING. SIX NASA REMOTE SENSING EXPERIMENTS WERE FLOWN ON THE C-54, U-2, AND C-130 NASA AIRCRAFT, WHILE NOAA OBTAINED CONCURRENT SEA TRUTH INFORMATION USING HELICOPTERS AND SURFACE PLATFORMS. THE EXPERIMENTS INCLUDED: (1) A RADIOMETER/SCATTEROMETER (RADSCAT), (2) AN OCEAN COLOR SCANNER (OCS), (3) A MULTICHANNEL OCEAN COLOR SENSOR (MOCS), (4) FOUR HASSELBLAD CAMERAS, (5) AN EBERT SPECTROMETER; AND (6) A RECONAFAX IV INFRARED RED SCANNER AND A PRECISION RADIATION THERMOMETER (PRT-5). THE RESULTS OF THESE EXPERIMENTS RELATIVE TO THE USE OF REMOTE SENSORS TO DETECT, QUANTIFY, AND DETERMINE THE DISPERSION OF POLLUTANTS DUMPED INTO THE NEW YORK BIGHT ARE PRESENTED.

0704 HALL, 9.H.; G.M.A.C. MEABURN

RETRIEVAL AND INTERPRETATION OF DATA ON TRACE ELEMENTS IN FISH AND SHELLFISH FROM THE NEW YORK BIGHT I. DATA SELECTED FROM THE NMFS MICROCONSTITUENTS DATA BANK [1976]

NOAA. BOULDER. CO 376 PP

TRACE ELEMENT LEVELS HAVE BEEN DETERMINED IN 50 SPECIES OF FINFISH AND SHELLFISH TAKEN FROM 20 SITES IN THE NEW YORK BIGHT AND ADJACENT WATERS. DATA ON THE OCCURRENCE OF UP TO 15 ELEMENTS HAVE BEEN ASSEMBLED FROM THE MICROCONSTITUENTS DATA BANK OF NMFS. ELEMENT LEVELS ARE LISTED FOR INDIVIDUAL SAMPLES, BY SPECIES NAME, WITH REFERENCE TO TISSUE ANALYZED, LENGTH AND WEIGHT OF FISH (WHERE APPROPRIATE), AND LOCATION OF CATCH. MEAN ELEMENT LEVELS ARE SUMMARIZED ALSO FOR EACH SPECIES FROM 4 DISTINCT GEOGRAPHICAL REGIONS OF THE COASTAL AREA UNDER STUDY.

0705 HALL, R.H.; ET.AL.

RETRIEVAL AND INTERPRETATION OF DATA ON TRACE METALS IN FISH AND SHELLFISH FROM THE NEW YORK BIGHT III. ANALYSIS AND

INTERPRETATION [1978]

NOAA. BOULDER. CO 52 PP

BIOLOGICAL SAMPLES COLLECTED FOR TWO NMFS LABORATORIES WERE ANALYZED FOR THE PRESENCE OF SELECTED TRACE ELEMENTS IN TISSUES. THE DATA WERE LATER COMBINED IN A SINGLE ADP SYSTEM AND STATISTICALLY ANALYZED TO DETERMINE IF ORGANISMS FROM THE CONTAMINATED PORTIONS OF THE NEW YORK BIGHT AND APEX AREA CONTAIN HIGHER BODY BURDENS OF HEAVY METALS RELATIVE TO RELATIVELY UNPOLLUTED AREAS. OVER THIRTY SPECIES OF FINFISH AND SHELLFISH WERE CONSIDERED IN ANALYSES INVOLVING UP TO 9 DIFFERENT TRACE ELEMENTS. WHILE SPECIES OR SPECIES GROUPINGS VARIED IN THEIR CONTENT OF METALS, SEVERAL CLEAR TRENDS EMERGED, INDICATING THAT FINFISH AND SHELLFISH COLLECTED FROM THE INNER BIGHT AND WESTERN LONG ISLAND SOUND DID CONTAIN GREATER AMOUNTS OF METALS. THERE WAS NO INDICATION THAT THE TISSUE METAL BURDENS CONSTITUTED IMMEDIATE PUBLIC HEALTH PROBLEMS; THE SIGNIFICANCE TO THE MARINE ORGANISMS OF INCREASED TISSUE HEAVY METALS CANNOT PRESENTLY BE ASCERTAINED BUT MAY BE SIGNIFICANT.

0706 HALSEY. S.D.

THE ORIGIN OF LINEAR SHOALS: CENTRAL MID-ATLANTIC COAST AND INNER- CONTINENTAL SHELF [1979]

GEO SOC AM ABSTR PROG 11(7):437

GEOMORPHIC AND SUBSURFACE EVIDENCE FROM THE COASTS OF THE DELMARVA PENINSULA AND NJ SUGGESTS THAT FIELDS OF NE-TRENDING LINEAR SHOALS OCCURRING SEAWARD OF THE LONG CONVEX BARRIER ISLANDS OF THE MID-ATLANTIC BIGHT INITIALLY FORMED AS PORTIONS OF EBB TIDAL DELTAS SEAWARD OF INLETS THROUGH THE TRANSGRESSING HOLOCCHE BARRIERS. SOME OF THE LARGER SCALE LINEAR SHOALS SUCH AS LITTLE GULL AND GREAT GULL HANKS, AND FENWICK AND WINTER QUARTER SHOALS (DE-MD) AND BRIGANTENE SHOAL AND THOSE N OF BEACH HAVEN INLET (NJ) MAY HAVE BEEN SPIT PLATFORM-EBB TIDAL DELTA COMPLEXES THAT WERE LEFT OUT TO SEA BY CONTINUED SHOREFACE DETACHMENT RETREAT. A CORRELATION CAN BE SEEN BETWEEN REMNANT FLOOD TIDAL DELTAS ON THE LAGOON SIDE AND DEFLECTIONS IN THE PRESENT NEARSHORE CONTOUR(S) OPPOSITE THE FLOOD DELTA THAT STRONGLY SUGGESTS THE DEFLECTION IS THE REWORKED REMNANT EBB TIDAL DELTA SAND BODY. ONCE THE EBB DELTA HAD BEEN DEPOSITED, AND THE ASSOCIATED INLET CLOSED, FURTHER MODIFICATION OF THIS SAND DEPOSIT CAN BE MADE BY SHELF PROCESSES FOLLOWING THE SHOAL DETACHMENT SEQUENCE. SUBSURFACE EVIDENCE CONFIRMS THE PRESENCE OF TRANSGRESSIVE HOLOCENE MIGRATING INLETS AS WELL AS DEEPER, NOW INFILLED, LATE MISCONSINAN PALEOCHANNELS, THE LATTER OF WHICH MAY HAVE PREDETERMINED THE INITIAL POSITIONS OF INLETS OF EARLY HOLOCENE TIMES FOLLOWING THE NEXUS MODEL OF BARRIER DEVELOPMENT. THEREFORE, THE LARGER MULTIPLE FIELDS OF LINEAR SHOALS WHICH CAN BE CORRELATED WITH THE FORMER POSITIONS OF PALEOCHANNELS ARE THE OLDER, FURTHER DEVELOPMENT. THEREFORE, FURTHER DEVELOPMENT. THE STOALS HILL WITH SHOALS DEVELOPING PRESENTLY. THUS, WHILE SWIFT AND OTHERS (1972) IDENTIFIED THE LARGER SCALE CAPE—AND INLET—ASSOCIATED SHOALS, THIS STUDY SUGGESTS THAT LINEAR SHOALS MAY WELL HAVE BEEN ASSOCIATED INITIALLY WITH SMALLER SCALE INLET DEVELOPMENT.

0707 HAMMON, A.

PORT FACILITIES AND COMMERCE [1976]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 20. NYSG. ALBANY. NY 41 PP

THIS MONOGRAPH DESCRIBES ACTIVITIES IN AND AROUND THE PORT OF NEW YORK AND NEW JERSEY, THE LEADING COMMERCIAL SEAPORT OF THE US. TOPICS INCLUDE THE CHANNEL SYSTEMS, NAVIGATION SAFETY, MAJOR OCEAN TERMINAL DEVELOPMENT, SHORELINE BLIGHT AND DEVELOPMENT CONTROLS, AND SHIPBOARD POLLUTION CONTROL.

0708 HAMMOND. D.E.

DISSOLVED GASES AND KINETIC PROCESSES IN THE HUDSON RIVER ESTUARY [1975]

PH.D. THESIS. COLUMBIA UNIV, NEW YORK, NY NP

THE DISTRIBUTION OF THE DISSOLVED GASES CH4, RN-222, CO2, AND O2 IN THE HUDSON RIVER ESTUARY ARE DISCUSSED IN TERMS OF KINETIC MODELS FOR EXCHANGE ACROSS THE AIR-WATER INTERFACE, ACROSS THE SEDIMENT-WATER INTERFACE, AND THROUGH THE SALINITY GRADIENT. CH4 IS PRODUCED IN REDUCING SEDIMENTS AND MAY REACH IN SITU SATURATION IN INTERSTITIAL WATERS. THE PRIMARY MECHANISMS FOR CH4 TRANSPORT INTO THE OVERLYING WATER COLUMN IS THE PARTIAL SOLUTION OF BUBBLES WHICH HAVE ESCAPED FROM THESE REDUCING SEDIMENTS. RN-222 IS ALSO PRODUCED IN SEDIMENTS AND MIGRATES INTO THE OVERLYING WATER COLUMN. A SIMPLE MOLECULAR DIFFUSION MODEL CAN ACCOUNT FOR THE MAJORITY OF RADON FLUX, BUT A SECOND MECHANISM MUST ALSO BE EFFECTING TRANSPORT. TWO MODELS ARE DEVELOPED TO EXPLAIN THIS. ONE (BASED ON A TWO-LAYER DIFFUSION MODEL DEVELOPED FOR THE SURFACE OCEAN BY PENG ET AL., 1974) INCORPORATES SPATIALLY UNIFORM STIRRING OF SURFACE SEDIMENTS BY CURRENTS AND BY BURROWING ORGANISMS. THE SECOND MODEL INCORPORATES MOLECULAR DIFFUSION AND SEDIMENT REWORKING BY STOCHASTIC EROSIONAL EVENTS TO >4 CM DEPTH. RADON DATA ALONE CANNOT DISTINGUISH BETWEEN THESE MODELS, BUT BOTH MODELS PREDICT A FASTER EXCHANGE OF DISSOLVED SPECIES ACROSS THE SEDIMENT-WATER INTERFACE THAN MODELS EMPLOYING ONLY MOLECULAR DIFFUSION.

0709 HAMMOND, D.E.; H.J. SIMPSON; G. MATHIEU

METHANE AND RADON-222 AS TRACERS FOR MECHANISMS OF EXCHANGE ACROSS SEDIMENT-WATER INTERFACE IN THE HUDSON RIVER ESTUARY [1975]

PAGES 119-132 IN T. CHURCH, ED. MARINE CHEMISTRY IN THE COASTAL ENVIRONMENT. ACS SYMP SER 18. ACS, WASHINGTON, DC

RADON-222 IS AN INERT, NATURALLY OCCURRING, RADIOACTIVE GAS WITH 4-D HALF LIFE. IN THE HUDSON ESTUARY, ITS MAJOR SOURCE IS DECAY OF RN-226 BOUND TO THE SOLID PHASE OF THE SEDIMENTS. IT MIGRATES FROM INTERSTITIAL WATERS TO THE OVERLYING WATERS, WHERE IT IS LOST BY DECAY OR EVASION TO THE ATMOSPHERE. CONCENTRATION MEASUREMENTS MADE IN INTERSTITIAL WATERS OF SEDIMENTS (MEAN APPROX. 600 DPM/L) AND IN THE WATER COLUMN (SUMMER MEAN-1.3 DPM/L) PERMIT THE CONSTRUCTION OF A BUDGET. MOLECULAR DIFFUSION FROM THE SEDIMENT IS THE MOST IMPORTANT SOURCE MECHANISMS, STREAM AND BUBBLE INPUTS ARE MINOR. CONTRIBUTIONS FROM MECHANISMS, SUCH AS SEDIMENT STIRRING, BIOTURBATION, TIDAL PUMPING AND GROUNDWATER FLOW APPEAR TO BE LESS IMPORTANT. SIMPLE DIFFUSION-REACTION MODELS SHOULD BE ADEQUATE TO CALCULATE THE FLUX OF DISSOLVED SPECIES ACROSS THE SEDIMENT-WATER INTERFACE IN SIMILAR SYSTEMS. METHANE IS PRODUCED IN REDUCING SEDIMENTS AND REACHES THE WATER COLUMN PRIMARILY BY SOLUTION OF BUBBLES RISING FROM THE SEDIMENTS OVER MOST PORTIONS OF THE HUDSON ESTUARY. ESTUARY WATERS RANGE FROM 0.1-2.0 MICRO MOLE/L, AND SEDIMENT WATERS RANGE FROM 1-10EXP4 MICRO MOLE/L IN METHANE CONCENTRATION. NEAR NEW YORK CITY, SEWAGE INPUTS INTRODUCE RELATIVELY LARGE AMOUNTS OF METHANE INTO THE ESTUARY WATERS. THE STOCHASTIC NATURE OF METHANE INPUTS ELIMINATE METHANE AS A QUANTITATIVE TRACER FOR THE EXCHANGE ACROSS THE SEDIMENT-MATERS. THE STOCHASTIC NATURE OF METHANE INPUTS ELIMINATE METHANE AS A QUANTITATIVE TRACER FOR THE EXCHANGE ACROSS THE SEDIMENT-MATERS. THE STOCHASTIC NATURE OF METHANE INPUTS ELIMINATE METHANE AS A QUANTITATIVE TRACER FOR THE EXCHANGE ACROSS THE SEDIMENT-MATERS. THE WATER-ATMOSPHERE INTERFACE.

0710 HAMMOND, D.E.; H.J. SIMPSON; G. MATHIEU

THE USE OF METHANE AND RADON-222 AS TRACERS IN ESTUARINE SYSTEMS [1975]

IN SPECIAL SYMP ON MARINE CHEM IN THE COASTAL ENVIRON, 169TH MEETING OF THE ACS. ACS, WASHINGTON, DC NP ABS ONLY

RADON-222 IS AN INERT, NATURALLY OCCURRING, RADIOACTIVE GAS WITH A 4-DAY HALF LIFE. IN THE HUDSON ESTUARY ITS MAJOR SOURCE IS DECAY OF RA-226 BOUND TO THE SOLID PHASE OF THE SEDIMENTS. IT MIGRATES FROM INTERSTITIAL WATERS TO THE OVERLYING WATERS, WHERE IT IS LOST BY DECAY OR EVASION TO THE ATMOSPHERE. CONCENTRATION MEASUREMENTS MADE IN INTERSTITIAL WATERS OF SEDIMENTS (MEAN APPROX 600 DPM/L) AND IN THE WATER COLUMN (SUMMER MEAN APPROX 1.3 DPM/L) PERMIT THE CONSTRUCTION OF A BUDGET. MOLECULAR DIFFUSION FROM THE SEDIMENT IS THE MOST IMPORTANT SOURCE MECHANISM. STREAM AND BUBBLE INPUT ARE MINOR. CONTRIBUTIONS FROM MECHANISMS SUCH AS SEDIMENT IS THE MOST IMPORTANT, THIS SUGGESTS THAT SIMPLE DIFFUSION-REACTION MODELS SHOULD BE ADEQUATE TO CALCULATE THE FLUX OF DISSOLVED SPECIES ACROSS THE SEDIMENT-WATER INTERFACE IN SIMILAR SYSTEMS. METHANE IS PRODUCED IN REDUCING SEDIMENTS AND REACHES THE WATER COLUMN PRIMARILY BY SOLUTION OF BUBBLES RISING FROM THE SEDIMENTS OVER MOST PORTIONS OF THE HUDSON ESTUARY. ESTUARY WATERS RANGE FROM 0.1-2.0 MICROMOL/L AND SEDIMENT WATERS RANGE FROM 1-10 4 MICROMOL/L IN METHANE CONCENTRATION. NEAR NEW YORK CITY, SEWAGE INPUTS INTRODUCE RELATIVELY LARGE AMOUNTS OF METHANE INTO THE ESTUARY WATERS. THE STOCHASTIC NATURE OF METHANE INPUTS ELIMINATE METHANE AS A QUANTITATIVE TRACER FOR THE EXCHANGE ACROSS THE SEDIMENT-WATER INTERFACE, BUT SINCE IT IS CONSERVATIVE IN THE WATER COLUMN IT OFFERS A MEANS FOR ESTIMATING THE RATE OF TRANSPORT ACROSS THE WATER-ATMOSPHERE INTERFACE.

0711 HAMMOND D'E .; H'J' SIMPSON; G' MATHIEU

DISTRIBUTION OF RADON-222 IN THE DELAJARE AND HUDSON ESTUARIES AS AN INDICATOR OF MIGRATION RATES OF DISSOLVED SPECIES ACROSS THE SEDIMENT-WATER INTERFACE [1976]

EOS: TRANS AM GEOPHYS UNION 57(3):151 ABS ONLY

THE DISTRIBUTION OF RN-222 (4 DAY HALF-LIFE) HAS BEEN SURVEYED IN TWO ESTUARIES. IN WATERS OF THE TAPPEN ZEE REGION OF THE HUDSON (MP20-MP40), RADON IS UNIFORM VERTICALLY AND HORIZONTALLY WITH CW APPROX 1.43 +/- -0.25 DPM/1 (JUN-SEP) AND CW APPROX 1.30 +/- -0.35 DPM/1 (DEC-MAR) IN THE DELAWARE, CW APPROX 1.30 +/- -0.025 DPM/1 (JAN). NEAR THE HEAD OF DELAWARE BAY(APPROX MP48), A RADON MAXIMUM (CW>5DPM/1), WAS OBSERVED IN EACH OF THREE SURVEYS TAKEN DURING JAN AND JUN, 1975. RADON CAN BE USED TO EXAMINE THE MECHANISMS GOVERNING EXCHANGE OF DISSOLVED SPECIES ACROSS THE SEDIMENT-WATER INTERFACE. IN THESE SYSTEMS, RADON IS INTRODUCED BY (1) DECAY OF SUSPENDED OR DISSOLVED RA-226 (APPROX 10%), (2) INFLOW OF RADON-RICH GROUNDWATER OR STREAM WATER (<10%), (3) MIGRATION OF RADON FROM INTERSTITIAL WATERS OF SEDIMENTS BY MOLECULAR DIFFUSION OR SEDIMENT STIRRING (APPROX 80%). RADON IS LOST BY (1) RADIOACTIVE DECAY (50-80%), (2) EVASION TO THE ATMOSPHERE (20-50%), (3) ADVECTION DOWNSTREAM (USUALLY MUCH LESS THAN 20 %). THE FLUX OF RADON ACROSS THE SEDIMENT-WATER INTERFACE REQUIRED TO BALANCE INPUT AND OUTPUT IN BOTH SUMMER AND WINTER IS TWICE THAT PREDICTED IF DISSOLVED SPECIES MIGRATE BY MOLECULAR DIFFUSION ALONE, SUGGESTING THAT STIRRING OF SURFICIAL SEDIMENTS BY CURRENTS IS MORE IMPORTANT THAN BIOTURBATION. A TWO-LAYER MODEL FOR SEDIMENTS, ASSUMING UNIFORM STIRRING TO 2CM, BUT MIGHT BE ATTRIBUTED TO STIRRING TO 8 CM-

0712 HAMMOND, D.E.; H.J. SIMPSON; G. MATHIEU

RADON-222 DISTRIBUTION AND TRANSPORT ACROSS THE SEDIMENT-WATER INTERFACE IN THE HUDSON RIVER ESTUARY [1977]

J GEOPHYS RES 82(27):3913-3920

RN-222 CONCENTRATIONS IN WATERS OF THE HUDSON RIVER ESTUARY SHOW LITTLE CONSISTENT VERTICAL, AXIAL, OR SEASONAL VARIATION. THE MEDIAN OF 106 SUMMER MEASUREMENTS IS 1.43 +/- 0.25 DPM/L, AND THE MEDIAN OF 17 WINTER MEASUREMENTS IS 1.30 +/- 0.35 DPM/L. A BUDGET WAS CONSTRUCTED FOR THE WATER COLUMN WHICH BALANCES THE RATE OF RN INPUT AGAINST THE RATE OF RN LOSS FOR TWO REGIONS, ONE OF WHICH IS BROAD AND SHALLOW AND THE OTHER NARROW AND DEEP, THE PRIMARY SUPPLY OF RN FOR THE TWO REGIONS IS FROM THE SEDIMENTS (75-90%), WITH MINOR INPUTS FROM RA-226 DECAY IN THE WATER COLUMN, STREAM RUNOFF, AND TIDAL PUMPING OF GROUNDWATER. LOSS OF RN OCCURS BY EVASION TO THE ATMOSPHERE AND DECAY IN THE WATER COLUMN IN ROUGHLY EQUAL AMOUNTS. THE ACTIVITY OF MOBILE RN IN SEDIMENTS (PER WET SEDIMENT VOLUME) IS 0.33 +/- 0.10 DPM/CU CM IN THE BROAD, SHALLOW AREA OF THE ESTUARY AND 0.42 +/- 0.11 DPM/CU CM IN THE NARROW, DEEP REACH IMMEDIATELY UPSTREAM. WHEN THESE VALUES ARE USED, THE FLUX SUPPLIED BY MOLECULAR DIFFUSION IS APPROXIMATELY 40% OF THE TOTAL INPUT. CONSTANT PHYSICAL STIRRING OF THE UPPER FEW CENTIMETERS OF SEDIMENTS BY BOTTOM CURRENTS OVER LARGE AREAS AND STOCHASTIC REWORKING TO SOMEWHAT GREATER DEPTH IN LOCALIZED SEDIMENT DEPOSITS APPEAR TO BE PRIMARILY RESPONSIBLE FOR AUGMENTING THE FLUX FROM SEDIMENTS PROVIDED BY MOLECULAR DIFFUSION.

0713 HANSEN, D.V.

CIRCULATION [1977]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 3. NYSG, ALBANY, NY 23 PP NTIS-PB-279 621

RECENT RESULTS INDICATE THAT THE STANDARD DEVIATION OF THE CURRENTS IN NEW YORK BIGHT, AS IN OTHER OCEANIC AREAS IS SEVERAL TIMES GREATER THAN THE MEAN FLOW. THIS TEMPORAL VARIATION IS DUE PRIMARILY TO TIDES AND WIND. BECAUSE THE WIND EFFECTS ARE RANDOM IN TIME, VARIOUS OBSERVATIONS ARE NOT READILY COMBINED TO PROVIDE A COMPOSITE DESCRIPTION. DATA FROM SYSTEMATIC OBSERVATION PROJECTS HAVE REVEALED SOME MAJOR FEATURES OF CIRCULATION IN THE BIGHT, BUT DO NOT YET ALLOW DESCRIPTION OF MANY DETAILS. THE MAJOR FEATURE OF BIGHT CIRCULATION IS A RELATIVELY SLOW FLOW TO THE SOUTHWEST OVER MOST OF THE OUTER CONTINENTAL SHELF WITH SOME INDICATION OF A CLOCKAISE EDDY IN THE INNER BIGHT. THERE IS THE EXPECTED EXCHANGE CIRCULATION, CHARACTERIZED BY

SEAWARD FLOW OF ESTUARINE WATERS NEAR THE SURFACE AND LANDWARD FLOW OF DEEPER WATERS BETWEEN THE HUDSON/RARITAN ESTUARY AND THE OFFSHORE WATERS, AND THERE IS SOME INDICATION THAT THE LANDWARD FLOW MAY EXTEND AS FAR AS 64 KM (40 MI) OFFSHORE IN THE HUDSON SHELF VALLEY.

0714 HARDY, C.D.; P.K. WEYL

DISTRIBUTION OF DISSOLVED OXYGEN IN THE WATERS OF WESTERN LONG ISLAND SOUND [1971]

TECH REP 11. MSRC. SUNY STONY BROOK. NY. 42 PP

DURING THE AUGUST PERIOD OF THIS SURVEY A SERIOUS OXYGEN DEPLETION OF DO VALUES LESS THAN 1.5 PPM OCCURRED IN THE WATER COLUMN OF THE UPPER EAST RIVER AND THE WESTERN LONG ISLAND SOUND BOTTOM WATERS. OXYGEN LEVELS WERE SUSTAINED SIGNIFICANTLY BELOW MINIMUM WATER QUALITY STANDARDS OF FEDERAL AND STATE REGULATORY AGENCIES FOR TIDAL WATERS AND ESTUARIES. A LARGE PORTION OF THE SURFACE WATERS OF WESTERN LONG ISLAND SOUND WERE SUPERSATURATED WITH DISSOLVED OXYGEN TO A 2-3 M DEPTH. THE DO SUPERSATURATION OCCASIONALLY EXCEEDED 200% OF SATURATION. THIS CONDITION WAS CAUSED BY THE PHOTOSYNTHETIC ACTIVITY OF AN INTENSE ALGAL BLOOM. VERTICAL MIXING WAS INHIBITED BY THE FORMATION OF A STRONG THERMAL GRADIENT.

0715 HARDY. C.D.

MOVEMENT AND QUALITY OF LONG ISLAND SOUND WATERS. 1971 [1972]

TECH REP 17. MSRC. SUNY. STONY BROOK. NY 66 PP

THE HYDROGRAPHIC FEATURES OF LOWER NEW YORK BAY, UPPER NEW YORK BAY, THE EAST RIVER, LONG ISLAND SOUND, AND BLOCK ISLAND SOUND ARE DESCRIBED. WINTER-FORMED BOTTOM WATER EXHIBITS A SEASONAL LAG IN WARMING IN THE CENTRAL BASIN OF LONG ISLAND SOUND. THE PERSISTENCE INTO SUMMER OF THIS COLDER AND DENSER BOTTOM LAYER CAUSES LIMITED MIXING. THE STAGNATION OF THIS BOTTOM WATER IS PROMOTED BY THE SEASONAL FORMATION OF A WEAK THERMOCLINE AND THE INHIBITION OF EXCHANGE WITH BLOCK ISLAND SOUND WATER BY THE PRESENCE OF A SUBMARINE RIDGE. A HEAVY BIOLOGICAL OXYGEN DEMAND IS IMPOSED UPON THE BOTTOM WATER BY THE INTRODUCTION OF OXIDIZABLE ORGANIC MATTER FROM THE NEW YORK METROLPOLITAN AREA. THE DEPLETION OF DISSOLVED OXYGEN IS CORRELATED ON AN ANNUAL BASIS IN ACCORD WITH THE FREQUENCY AND STRENGTH OF WINDS. IN SUMMER, PROLONGED PERIODS OF CALM INTENSIFY THE VERTICAL STRATIFICATION, CAUSING SERIOUSLY LOWERED DISSOLVED OXYGEN CONCENTRATIONS IN THE BOTTOM LAYER. MAXIMUM CONCENTRATIONS OF NUTRIENTS (AMMONIA, UREA, ORTHOPHOSPHATE) WERE IN THE UPPER EAST RIVER, REFLECTING THE FACT THAT 43% OF THE SEWAGE FROM THE NY MUNICIPAL SYSTEM DISCHARGES INTO THE UPPER EAST RIVER. A TWO-LAYERED TRANSPORT SYSTEM IS PROPOSED BY WHICH THE NET TRANSPORT OF EAST RIVER WATER INTO LONG ISLAND SOUND MAY BE EXPLAINED.

0716 HARDY, C.D.

NITROGEN IN LONG ISLAND MARINE WATERS [1973]

SUFFOLK COUNTY COMMUNITY COLLEGE, SELDEN, NY 34 PP

THE ANALYSIS OF NITROGEN IN LONG ISLAND WATERS IS DISCUSSED IN THIS PAPER. THE RELATIVE ABUNDANCE OF DIFFERENT SPECIES AND THE EFFECT OF MAN-MADE INPUTS ON THE MARINE ECOSYSTEM INCLUDING THE POSSIBLE EUTROPHICATION OF LONG ISLAND SOUND ARE DISCUSSED.

0717 HARDY, C.D.; E.R. BAYLOR

SURFACE TENSION REDUCTIONS AND URBAN AASTES IN THE NEW YORK BIGHT [1975]

J GEOPHYS RES 80(18):2696-2699

THE DISTRIBUTION OF SURFACE TENSION IN THE NEW YORK BIGHT WAS CALCULATED FROM OIL DROP SPREADING MEASUREMENTS AT SEAPREDUCTIONS IN SURFACE TENSIONS OF GREATER THAN 30% (LESS THAN 50.9 DYN/CM) OF THAT CALCULATED FOR CLEAN SEAWATER WERE ASSOCIATED WITH SEWAGE SLUDGE DUMPING AND URBAN WASTE DISCHARGES. THE POTENTIAL ROLE OF SURFACE FILMS AS AN AGENT IN THE TRANSPORT OF METALLIC AND LIPOPHILIC POLLUTANTS WAS BRIEFLY DISCUSSED.

0718 HARDY. C.D.

THE T-S DIAGRAM AS A DIAGNOSTIC TOOL IN SYNOPTIC COASTAL SURVEY [1975]

PAGES 39-46 IN W.R. DANIELSON, ED. STD CONFERENCE AND WORKSHOP PROC. PLESSEY ENVIRONMENTAL SYSTEMS, SAN DIEGO, CA

A SURVEY TECHNIQUE IS DESCRIBED WHICH IS CAPABLE OF VIRTUALLY SYNOPTIC TEMPERATURE-SALINITY (T-S) PROFILING OF EXTENSIVE AREAS. THE TECHNIQUE PROVIDES A USEFUL GRAPHIC PERSPECTIVE OF THE FORMATION, PHYSICAL MODIFICATIONS, MOVEMENT AND MIXING HISTORY OF THE BAY AND THE COASTAL OCEAN. THE SAMPLING SYSTEM USES A PLESSEY 6600T SALINOGRAPH IN LINE WITH SUBMERSIBLE AND SHIP'S HULLWATER PUMPS. THE T-S PROFILING TECHNIQUE WAS APPLIED TO A SURVEY OF WESTERN GREAT SOUTH BAY AND THE ADJACENT OCEAN OFF LONG ISLAND, NY, (400 KMZ) WITHIN 3.5 D.

0719 HARDY, C.D.; E.R. BAYLOR; P.D. MOSKOWITZ; A.S. ROBBINS

THE PREDICTION OF OIL SPILL MOVEMENT IN THE OCEAN SOUTH OF NASSAU AND SUFFOLK COUNTIES [1975]

TECH REP 21. MSRC. SUNY, STONY BROOK, NY 326 PP

THIS REPORT DESCRIBES THE METHOD USED AND RESULTS OF A DETAILED FIELD INVESTIGATION OF THE SEA SURFACE CIRCULATION IN THE NEW YORK BIGHT OVER A 9 MO PERIOD FROM JAN TO SEPT 1974. THE REPORT PROVIDES USEFUL OBSERVATIONS ON THE THREAT TO LONG ISLAND FROM OIL SPILLED IN THE NY BIGHT, INCLUDING THE OUTER CONTINENTAL SHELF. SPILLS HAVE A HIGHER PROBABILITY OF STRANDING ALONG THE ISLAND'S SHORELINE DURING SUMMER THAN WINTER.

0720 HARDY, C.D.; E.R. BAYLOR; P.D. MOSKOWITZ

SEA SURFACE CIRCULATION IN THE NORTHWEST APEX OF THE NEW YORK BIGHT WITH APPENDIX: BOTTOM DRIFT OVER THE CONTINENTAL SHELF. VOL I AND VOL II, PART 1. DIAGRAMS AND DATA FOR INTERFACE DRIFT CARDS, PART 2. DIAGRAMS AND DATA FOR SEABED DRIFTERS [1976]

TM-ERL-MESA-13. NOAA, BOULDER, CO 132 PP NTIS-PB-269 028

PLASTIC INTERFACE DRIFT CARDS, DESIGNED TO MOVE WITHIN THE UPPERMOST THIN LAYER OF THE SEA SURFACE, WERE RELEASED WITHIN THE NEW YORK BIGHT BETWEEN JAN AND AUG 1974 TO SIMULATE THE MOVEMENT OF SEA SURFACE CONTAMINANTS, PARTICULARLY OIL SLICKS, WITHIN THAT STUDY AREA. IT IS CONCLUDED THAT THE PROBABILITY OF SEA SURFACE CONTAMINANTS REACHING THE COASTS OF NEW YORK AND NEW JERSEY IS MAXIMUAL DURING THE SUMMER, PRIMARILY BECAUSE OF THE INCREASED FREQUENCY OF WINDS BLOWING FROM THE EAST TO SOUTHWEST. THE APPENDIX IS CONCERVED WITH A SEABED DRIFTER STUDY OF SEWAGE SLUDGE DUMPING GROUNDS SOUTH OF LONG ISLAND WHICH SHOWS THAT THESE DUMPING GROUNDS ARE LOCATED WITHIN AREAS OF SUBSTANTIAL INSHORE MOVEMENT. IT IS CONCLUDED THAT SOME FRACTION OF THIS SLUDGE IS TRANSPORTED AWAY FROM THE DUMP SITE AND TOWARDS THE NEW YORK SHORELINE.

0721 HARDY, E.E.; J.E. SKALEY; C.P. DAWSON; G.D. WEINER; E.S. PHILLIPS; R.A. FISHER

EVALUATION OF SKYLAB IMAGERY AS AN INFORMATION SERVICE FOR INVESTIGATING LAND USE AND NATURAL RESOURCES--HUDSON RIVER VALLEY AND LONG ISLAND, NEW YORK [1975]

PAGES 116-144 IN ENHANCEMENT AND EVALUATION OF SKYLAB PHOTOGRAPHY FOR POTENTIAL LAND USE INVENTORIES. DEPT OF NATURAL

RESOURCES, NYS COLLEGE OF AGRICUL AND LIFE SCI, CORNELL UNIV, ITHACA, NY

A SURVEY WAS CONDUCTED TO ACQUAINT USERS OF LAND RELATED INFORMATION WITH SATELLITE IMAGERY AND MULTISPECTRAL ANALYSIS, AND TO DETERMINE THEIR INFORMATION NEEDS CONCERNING SATELLITE ACQUIRED INFORMATION. AS PLANNING ACTIVITIES BECOME MORE LOCALIZED, GREATER LOCATIONAL ACCURACY AND GREATER CATEGORICAL DETAIL ARE REQUIRED FOR LAND RELATED INFORMATION. THIS IS PRIMARILY A FUNCTION OF: 1) THE SMALLER JURISDICTIONAL AREA; 2) THE INCREASED EMPHASIS ON MANAGEMENT FUNCTIONS; 3) THE INCREASED LEVEL OF CITIZEN PARTICIPATION, AND THE CONCOMITANT NEED FOR GREATER CREDIBILITY; AND 4) THE RELATIVE EASE OF OBTAINING MORE DETAILED INFORMATION FOR SMALLER GEOGRAPHIC AREAS. AS THE INTENSIVENCESS OF DEVELOPMENT INCREASES, THE EMPHASIS ON ACTIVITIES AS A FACTOR IN THE CLASSIFICATION OF LAND USE INCHEASES. THE DICHOTOMY BETWEEN LAND USE REQUIREMENTS IN INTENSIVELY AND EXTENSIVELY DEVELOPED AREAS SUGGESTS A MULTIDIMENSIONAL CLASSIFICATION SYSTEM. BY IDENTIFYING SEVERAL DIMENSIONS, A SYSTEMATIC CONNECTION BETWEEN THE INFORMATION NEEDS OF PLANNERS AND THE METHODS OF ACQUIRING LAND RELATED INFORMATION HAS BEEN ESTABLISHED.

0722 HARGRAVES, P.E.; R.R.L. GUILLARD

STRUCTURAL AND PHYSIOLOGICAL OBSERVATIONS ON SOME SMALL MARINE DIATOMS [1974]

PHYCOLOGIA 13(2):163-172

4 NEW SPECIES OF MARINE ULTRAPLANKTONIC DIATOMS ARE DESCRIBED FROM OBSERVATIONS WITH THE LIGHT AND ELECTRON MICROSCOPES. THE REQUIREMENTS FOR VITAMINS AND THE RESPONSES TO SALINITY AND TEMPERATURE WERE STUDIED IN AXENIC CULTURES. BELLEROCHEA POLYMORPHA SP. NOV. IS DESCRIBED FROM FIVE NORTH ATLANTIC CLONES AND MATERIAL FROM A LONG ISLAND MIXOHALINE POND; BELLEROCHEA SPINIFERA SP. NOV. IS DESCRIBED FROM ONE PACIFIC AND ONE ATLANTIC CLONE; FRAGILARIA ROTUNDISSIMA SP. NOV. AND SYNEDRA FRAGILAROIDES SP. NOV. ARE KNOWN FROM ONE CLONAL CULTURE EACH. A NEW CLONE OF THE OFTEN-STUDIED NAVICULA PELLICULOSA AND TWO NEW CLONES OF FRAGILARIA PINNATA HAVE BEEN EXAMINED. EACH SPECIES SHOWS INFRASPECIFIC MORPHOLOGICAL AND PHYSIOLOGICAL VARIABILITY. THE RELATIONSHIP BETWEEN PHYSIOLOGICAL VARIABILITY WITHIN A SPECIES AND THE ENVIRONMENTAL CIRCUMSTANCES CHARACTERIZING THE HABITATS OF DIFFERENT STRAINS IS DISCUSSED. WE NOTE THE NEED FOR A STUDY OF INFRASPECIFIC VARIABILITY ON BOTH LARGE AND SMALL GEOGRAPHIC SCALES.

0723 HARLOW, E.H.

OFFSHORE ISLANDS [1977]

ASCE J WATERWAYS DIV 103(WW1):137-158

FOR TRANSSHIPMENT AND PROCESSING OF MATERIALS, COMPATIBLE GROUPS OF INDUSTRIES MAY BE SITUATED IN JUXTAPOSITION NEAR DEEP WATER, AWAY FROM ESTABLISHED COASTAL RESIDENTIAL AND RECREATIONAL CENTERS. BUILT OF SAND FROM THE SEABED, AND OF SOLID WASTE FROM MAINLAND CITIES, ISLANDS COULD BE AN ECONOMIC ALTERNATIVE TO ENVIRONMENTALLY OBJECTIONABLE INDUSTRIAL EXPANSION ALONG THE COAST. ORIFICES ALONG A PIPE PRODUCE A WATER CURRENT WHICH CAN BE REGARDED E.G., FOR THE PROTECTION OF LIMITED AREAS AGAINST SEA WAVES OR SPREADING OF SOIL. THIS PAPER DEALS WITH THE THEORY OF THE VERTICAL CURRENT ABOVE THE PIPE, INVOLVING THE USE OF THE CONSERVATION EQUATION FOR THE EMITTED AIR. THE PURPOSE IS TO CALCULATE THE VERTICAL CENTER LINE VELOCITY AND THE LATERAL SPREAD. INFROMATION FORM LARGE-SCALE EXPERIMENTS OF KOBUS AND BULSON IS USED TO ESTIMATE THE PARAMETERS IN THIS THEORY.

0724 HARPER. D.P.

ATLAS OF AERIAL PHOTOGRAPHY AND SATELLITE IMAGERY [1977]

NJ DEP, TRENTON, NJ 42 PP

THE ATLAS OF AERIAL PHOTOGRAPHY AND SATELLITE IMAGERY FOR NJ WAS PREPARED IN RESPONSE TO THE NEED FOR A CENTRALIZED LISTING OF REMOTELY SENSED IMAGERY AVAILABLE TO THE PUBLIC. THE ATLAS IS DIVIDED INTO SECTIONS LISTING REGIONAL COVERAGE, COUNTY COVERAGE,

USGS PHOTOGRAPHY, HIGH ALTITUDE PHOTOGRAPHY, MUNICIPALITY COVERAGE, SITE AND CORRIDOR PHOTOGRAPHY AND SPACECRAFT IMAGERY. A PROJECT WILL GENERALLY BE LISTED IN ONLY ONE SECTION, IN ORDER TO FIND ALL COVERAGE OF AN AREA IT IS NECESSARY TO EXAMINE EACH SECTION OF THE ATLAS.

0725 HARRIS, R.B.

AN ASSESSMENT OF OPTIONS TO IMPROVE WATER QUALITY IN REYNOLDS CHANNEL [1978]

M.S. THESIS. SUNY. STONY BROOK, NY 146 PP

A MODEL OF NUTRIENT LOADING IN REYNOLDS CHANNEL IS PREPARED TO IDENTIFY AREAS OF THE CHANNEL MOST SUSCEPTIBLE TO POLLUTION. THE MODEL IS BASED ON THE DAILY FLUX OF NITROGEN AND PHOSPHOROUS ENTERING THE CHANNEL FROM THE CHANNEL DRAINAGE AREA. MAJOR NUTRIENT SOURCES ARE SEWAGE EFFLUENT AND STORMWATER RUNOFF. THE CHANNEL IS ARBITRARILY DIVIDED INTO EIGHT BOXES AND TON OF NITROGEN AND PHOSPHOROUS INPUT/DAY CALCULATED FOR EACH BOX. RESULTS ARE ASSEMBLED INTO A MATRIX TO ASSESS THE POLLUTING EFFECT THAT EACH BOX HAS ON THE OTHERS. FINALLY, OCEAN BACKGROUND NUTRIENT LEVELS ARE ADDED TO DERIVE TOTAL NUTRIENT LOAD/ BOX/DAY. A POLLUTION SUSCEPTIBILITY FORMULA, BASED ON STEADY STATE AND THE DEGREE OF TIDAL FLUSHING, CONVERTS TONS/DAY/CHANNEL BOX TO PPP/BOX PROVIDING A POLLUTION PROFILE OF REYNOLDS CHANNEL. THE PROFILE HAS TWO APPLICATIONS. IN THE "COMPARATIVE MODE," FORECAST NUTRIENT CONCENTRATIONS ARE COMPARED WITH THOSE OBSERVED IN THE CHANNEL TO DETERMINE ACCURACY OF THE MODEL. IN THE "PLANNING MODE," OPTIONS TO IMPROVE WATER QUALITY ARE SUGGESTED BASED ON 1) DIRECTING EFFLUENT AWAY FROM CHANNEL AREAS WHICH ARE HIGHLY SUSCEPTIBLE TO POLLUTION, AND 2) LIMITING EFFLUENT VOLUME.

0726 HARRIS, W.H.

HEAVY METAL RATIOS AS INDICATORS OF DISPERSAL AND ORIGIN OF WASTE SOLIDS IN THE NEW YORK BIGHT [1975]

GECL SIC AM ABSTR PROG 7(1):72

THE DISTRIBUTION AND HEAVY METAL COMPOSITION OF WASTE SEDIMENTS IN THE NEW YORK BIGHT INDICATE THAT SEWAGE SLUDGE DISPOSED OF IN THE BIGHT APEX IS INITIALLY TRANSPORTED NORTHWESTWARD AND PARTIALLY DEPOSITED IN THE CHRISTIANSEN BASIN (THE HEADWARD PORTION OF THE HUDSON SHELF CHANNEL). A PORTION OF THE SEWAGE SLUDGE TRANSPORTED INTO THIS BASIN IS MOVED NORTHWARD TOWARD LONG ISLAND AND THEN EASTWARD IN THE WESTERN AND NORTHERN LIMBS OF THE CLOCKWISE GYRE IN THE BIGHT APEX. RATIOS OF SELECTED HEAVY METALS IN WASTE SEDIMENTS ACCUMULATING IN THE NEARSHORE ZONE, E.G. AG/SN, HG/CD, NI/V, ZN/CR, ZN/CU AND ZN/PB, AND THE GENERAL DIMINUTION OF HEAVY METAL POLLUTANT LEVELS INDEPENDENTLY WITHIN SHELF SANDS AND WASTE SEDIMENTS FROM THE CHRISTIANSEN BASIN TO THE SHORE AREA INDICATE THAT INSHORE SLUDGE PATCHES HAVE BEEN DERIVED BY ADVECTIVE SUBSURFACE CURRENT TRANSPORT FROM THE CHRISTIANSEN BASIN SLUDGE BED. AGE CLASSES OF MUD-BOTTOM SPECIES WITHIN INSHORE SLUDGE PATCHES SUGGEST THAT THEY HAVE FORMED DURING THE PAST THREE YEARS, A PERIOD OF TIME WHEN THE OFFSHORE SLUDGE BED SPREAD 4.5 MI NORTHWARD TO WITHIN THREE NAUTICAL MILES OF THE SHORELINE. SOME OF THE SEA SLUDGE TRANSPORTED IN THE APEX GYRE APPEARS TO COMPLETE THE CIRCUIT AND IS DEPOSITED IN THE SHELF CHANNEL AS FAR AS 15 TO 20 KM SOUTH OF THE DISPOSAL SITES. IN CONTRAST, DREDGE SPOILS ARE LARGELY CONFINED TO THEIR DISPOSAL AREA WHERE THEY HAVE FORMED A RELATIVE TOPOGRAPHIC HIGH IN THE BIGHT APEX.

0727 HARRIS, W.H.

SPATIAL AND TEMPORAL VARIATION IN SEDIMENTARY GRAIN-SIZE FACIES AND SEDIMENT HEAVY METAL RATIOS IN THE NEW YORK BIGHT APEX [1976]

PAGES 102-123 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

IN NORTHWEST NEW YORK BIGHT A PRONOUNCED SPATIAL AND TEMPORAL VARIATION OCCURS IN SEDIMENT GRAIN-SIZE, HEAVY METAL RATIOS, AND CONCENTRATIONS. SUBSTRATE MOBILITY IS MOST PRONOUNCED NEAR LONG ISLAND AND IN NORTHERN CHRISTIAENSEN BASIN. NEAR LONG ISLAND

MUD PAICHES ARE MOST EXTENSIVE DURING LATE SPRING THROUGH SUMMER AND MAY COALESCE ACROSS INTERVENING SAND-WAVE CRESTS
OBLITERATING THE SHORE-ZONE SAND-WAVE TOPOGRAPHY. MUD PATCHES ARE EITHER RESTRICTED TO SAND-WAVE TROUGH AXES OR ARE ABSENT OR
COVERED DURING EARLY FALL THROUGH EARLY SPRING, SUGGESTING THAT MUDDY SEDIMENTS ARE EITHER FLUSHED FROM THE NEARSHORE WIND-WAVE
SYSTEM BY BOTTOM CURRENTS OR UNDERGO IN SITU MICROBIAL DEGRADATION. INDIVIDUAL MUD PATCHES NEAR LONG ISLAND HAVE NOT EXISTED
FOR A LONG TIME. MUD PATCHES OFF ATLANTIC BEACH AND LIDO BEACH. LONG ISLAND, BEGAN TO DEVELOP AS EARLY AS SUMMER OF 1972;
OTHERS DEVELOPED LATER. THE CR:ZN RATIO VARIES IN MUD DEPOSITS AT THE SLUDGE DISPOSAL AREA, NORTHERN CHRISTIAENSEN BASIN,
HEMPSTEAD BAY AND IN MUD PATCHES NEAR LONG ISLAND. MAXIMUM CR:ZN VALUES OCCUR DURING LATE SPRING THROUGH EARLY FALL, MINIMUM
VALUES DURING EARLY WINTER. CR:ZN ANNUAL MAXIMUM MAY BE EXPLAINED BY PREFERENTIAL DESORPTION FROM SLUDGE OR MUD SOLIDS BY
CATION ION EXCHANGE, OR PREFERENTIAL ADSORPTION OF ORGANIC CHROMIUM CHELATES FROM SOLUTION BY ORGANIC MUD SUBSTRATES, OR ZINC
UPTAKE BY PHYTOPLANKTON OR BACTERIA. THE CR:ZN ANNUAL MINIMUM MAY BE EXPLAINED BY DISSOLUTION OF MN AND FE HYDROXIDES RELEASING
ADSORBED ZN AND CR OP OXIDATION OF THE ORGANOSULFUR COMPOUNDS OF THE TWO METALS AT NEARLY EQUAL RATES.

0728 HARRIS, W.H.; S.E. BAUMAN; E.T. WILLIAMS; H.L. FINSTON; A.H. BOND, JR.; P.M.S. LESSER

PIXE ANALYSIS OF METALS IN SLUDGE AND MARINE SEDIMENTS IN THE NEW YORK BIGHT APEX. [1977]

PAGES 492-501 IN J.R. VOGT, ED. INTERNATL CONF ON NUCLEAR METHODS IN ENVIRON AND ENERGY RESEARCH, 10 OCT 1977, COLUMBIA, MO

PIXE ANALYSIS OF ACID EXTRACTS OF MARINE MUDS FROM THE NY BIGHT APEX WAS PERFORMED TO OBTAIN METAL RATIOS FOR DETERMINING WHETHER THE ORIGIN WAS (A) ESTUARINE OUTFLOW (B) DREDGE SPOIL. (C) SEWAGE SLUDGE, OR (D) ACID WASTE. CONSIDERATION OF THE RATIOS: TI/ZN, ZN/MN, AND V/CR, FOR EXAMPLE, LEAD TO CERTAIN CONCLUSIONS WHICH ARE PRESENTED.

0729 HARRIS, W.H.

DISTRIBUTION OF SURFICIAL SEDIMENT, TOTAL ORGANIC CARBON, HEAVY METAL RATIOS IN THE NEW YORK BIGHT APEX AND LINS AREAS [1977]

DEPT OF GEOLOGY, BROOKLYN COLLEGE, CUNY, BROOKLYN, NY 25 PP

SEDIMENT SAMPLES TAKEN ON THREE CRUISES IN THE NEW YORK BIGHT APEX AND LINS AREAS BETWEEN MARCH. 1976 AND JUNE. 1976. WERE ANALYZED FOR TEXTURAL PARAMETERS, TOTAL ORGANIC CARBON, AND THE HEAVY METALS AG, CD, CR, CU, MN, NI, PB, TI, V AND ZN. MOST OF THE AREA OF NEARSHORE LONG ISLAND AND NEW JERSEY, NORTH AND WEST OF THE DISPOSAL SITES IN THE BIGHT APEX IS COVERED BY SAND-SIZED SEDIMENT WITH ISOLATED GRAVEL PATCHES. MUDS TO SANDY MUDS CHARACTERIZE THE TOPOGRAPHICALLY LOW CHRISTIAENSEN BASIN. THE DREDGE SPOIL DISPOSAL BANKS. DEPRESSIONS ON CHOLERA BANKS AND NEARSHORE MUD PATCHES. THREE TYPES OF MUD PATCHES OCCUR IN THE NEARSHORE ZONE SOUTH OF LONG ISLAND: (1) BURIED MUDS, (2) MUDS INTERSTITIALLY TRAPPED IN COARSE SANDS AND GRAVELS. AND (3) EXPOSED AND INTERSTITIAL MUDS OCCUPYING TROUGH POSITIONS BETWEEN IRREGULAR SAND RIBBONS. NEARSHORE MUD PATCHES AND MUDS IN CHOLERA BANK DEPRESSIONS WERE FOUND TO HAVE LESS THAN 1% TOC. % TOC RANGED FROM LESS THAN 1% TO AS HIGH AS 1.4% IN THE CHRISTIAENSEN BASIN AND 3.6% IN DREDGE SPOIL BANKS. THE RANGE OF CONCENTRATIONS OF THE METALS FOUND IN THE AREAS SAMPLED (EXPRESSED AS PPM ON DRY WEIGHT OF THE SEDIMENT) WAS AS FOLLOWS: AG: 9.4-0.3, CD: 3.8-0.14, CR: 231-5.0, CU: 285-0.40, MN: 360-5.5, NI: 45.6-0.90, PB: 271-1.2, II: 651-6.0, V: 132-2.2, ZN: 450-3.4. THE HIGHEST CONCENTRATIONS OF METALS WERE FOUND AT STATIONS LOCATED IN THE CHRISTIAENSEN BASIN INTERIOR DURING THE PERIOD MARCH-APRIL, 1976, BUT WERE FOUND IN SEDIMENT FROM THE DREDGE SPOIL BANKS IN JUNE, 1976. EXCEPTIONS TO THIS GENERAL OBSERVATION WERE SHOWN BY THE ELEMENTS TI. V AND AG. NO CLEAR-CUT DEMARCATION BETWEEN CHRISTIAENSEN BASIN MUDS AND SAND-GRAVELS NORTH TOWARDS LONG BEACH WAS SHOWN BY THE ELEMENTS MN. TI. V AND ZN. NEARSHORE MUD PATCHES WERE FOUND TO BE SITES OF ENRICHMENT FOR THE METALS CU, PB, NI, MN, TI, RELATIVE TO THE NORTHERN CHRISTIAENSEN BASIN. HEAVY METALS LEVELS WERE HIGHER IN THE SURFACE LAYER OF THE SEDIMENT (TOP 1-1/2 IN) THAN IN THE SEDIMENT FROM BENEATH THE SURFACE LAYER AT STATIONS LOCATED ON THE DREDGE SPOIL BANKS. SOUTHERN AND PARTS OF THE NORTHWEST CHRISTIAENSEN BASIN, AND FOR THE ELEMENTS MN, TI, CU, NI, PB AND AG IN SOME OF THE NEARSHORE MUD PATCHES. NEARLY EQUAL VALUES OF METALS IN ROTH THE SURFACE LAYER AND DEEPER SEDIMENTS OCCURRED IN MOST OF THE NEARSHORE MUD PATCHES, SEDIMENTS ALONG THE WESTERN MARGIN OF THE DREDGE SPOIL PANKS, THE SOUTH-NORTH CENTRAL CHRISTIAENSEN BASIN, AND FOR SOME METALS. THE SOUTHWEST AND NORTH-NORTHFAST CHRISTIAENSEN BASIN. HEAVY METALS WERE HIGHER IN SEDIMENT FROM BELOW THE SURFACE LAYER RELATIVE TO THIS SURFACE LAYER THROUGHOUT MOST OF THE CHRISTIAENSEN JASIN.

0730 HARRISON, E.Z.; A.L. BLOOM

THE RESPONSE OF CONNECTICUT SALT MARSHES TO THE RECENT RISE IN SEA LEVEL [1974]

GEOL SOC AM ABSTR PROG 6(1):35-36

THE PERSISTENCE OF SALT MARSHES OVER SEVERAL THOUSAND YEARS INDICATES THAT MARSH SURFACES REMAIN ADJUSTED TO CHANGING ELEVATIONS OF THE SEA. SHORELINE AND VEGETATION MIGRATION ACCUMULATION OF SEDIMENT WERE MEASURED ON 7 TIDAL MARSHES ALONG THE COAST OF CT AND COMPARED WITH BASE-LINE DATA TO DETERMINE THE RESPONSE OF MARSHES TO THE REPORTED SHORT-TERM (1964-1970) EXCEPTIONAL RISE IN LOCAL SEA LEVEL OF 1 CM/YR. VERTICAL SEDIMENT ACCUMULATION IN THE SPARTINA PATENS ZONE WAS FOUND TO BE CORRELATED WITH MEAN TIDAL RANGE (MTR). ANNUAL MARKER HORIZONS ON 5 MARSHES SHOWED ACCUMULATION RATES VARYING FROM 2 MM/YR (.8 M MTR) TO 6.5 MM/YR (1.7 M MTR). THESE MARSH SURFACES WERE UNABLE TO KEEP PACE WITH THIS SHORT-TERM RISE IN SEA LEVEL AND WERE THUS SUBMERGED BY 3.5-8 MM/YR. SHORELINE RETREAT VARYING FROM 0-14 M WAS DETERMINED BY COMPARING PLANE TABLE MAPS FROM 1964 AND 1973. MARKED PROGRADATION AS OBSERVED ONLY AT GUILFORD, WHERE DREDGING UPSTREAM IS POSSIBLY PROVIDING THE NECESSARY SEDIMENT. THE LOCATION OF THE POUNDARY BETWEEN THE HIGH MARSH (S.PATENS) AND LOW MARSH (S.ALTERNIFLORA) GRASSES IS GENERALLY REGARDED AS A FUNCTION OF FREQUENCY OF TIDAL INUNDATION. IF SO, THE RECENT SUBMERGENCY SHOULD BE REFLECTED IN A MEASURABLE LANDWARD MIGRATION OF THIS BOUNDARY. NO PREDICTABLE AND CONSISTENT TREND IN CHANGE OF VEGETATION WAS FOUND, INDICATING THAT OVER A 10 YR PERIOD THIS ECOTONE DOES NOT REFLECT CHANGES IN SEA LEVEL. THE ACCURACY OF USING THE S.ALTERNIFLORA/S.PATENS ECOTONE TO DELINEATE THE PRIVATE/ STATE OWNERSHIP BOUNDARY (LEGALLY DEFINED AS MHW) IS QUESTIONED.

0731 HARRISON, E.Z.; A.L. BLOOM

SEDIMENTATION RATES ON TIDAL SALT MARSHES IN CONNECTICUT [1977]

J SEDIMENT PETROL 47(4):1484-1490

RATES OF SEDIMENT ACCRETION FROM 1963 TO 1973 ON 5 HIGH MARSH SITES (BARN ISLAND IN LITTLE NARRAGANSETT BAY, GREAT ISLAND AT THE MOUTH OF THE CONNECTICUT RIVER, HAMMOCK RIVER MARSH, STONY CREEK MARSH, AND NELL ISLAND) ON THE CT COAST OF LONG ISLAND SOUND RANGED FROM 2.0 MM/YR TO 6.6 MM/YR. THE RATES ARE CORRELATED WITH TIDAL RANGE: THE HIGHEST SEDIMENTATION RATES ARE ON MARSHES WITH THE GREATEST TIDAL RANGE. THE GREATER THE TIDAL RANGE, THE LARGER ARE THE DEVIATIONS OF HIGH-TIDE LEVEL. THUS, GREATER NET FLOODING OCCURS ON HIGH MARSHES WITH GREATER TIDE RANGES AND MAY CAUSE THE OBSERVED HIGH ACCRETION RATES. OVER 10 YR NO MEASUREABLE COMPACTION HAS TAKEN PLACE WITHIN THE NEAR-SURFACE SEDIMENT. YEARS WITH FEWER THAN AVERAGE STORMS SHOW LESS SEDIMENT ACCRETION. A SEDIMENTATION RATE OF 17.1 MM/YR FROM 1963 TO 1973 WAS MEASURED WHERE SPARTINA PATENS SALT MARSH IS GIVING WAY TO PHRAGMITES COMMUNIS.

· 0732 HATCHER, P.G.; L.E. KEISTER

CARBOHYDRATES AND ORGANIC CARBON IN NEW YORK BIGHT SEDIMENTS AS POSSIBLE INDICATORS OF SEWAGE CONTAMINATION [1976]

PAGES 240-243 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

SEDIMENTS OF THE NEW YORK BIGHT WERE ANALYZED FOR TOTAL ORGANIC CARBON (TOC) AND TOTAL CARBOHYDRATES (TCH). THE TCH:TOC RATIO WAS SIGNIFICANTLY MORE ELEVATED THAN COMPARABLE SEDIMENTS FROM OTHER AREAS. HIGH TCH:TOC VALUES MAY BE ATTRIBUTED TO SEWAGE-DERIVED MATERIALS WHICH CONTRIBUTE SIGNIFICANT QUANTITIES OF REFRACTORY ORGANIC MATTER TO THE BIGHT ANNUALLY. NONANTHROPOGENIC SOURCES OF ORGANIC MATTER TO THESE SEDIMENTS HAVE LITTLE OR NO INFLUENCE ON TCH:TOC EXCEPT NEAR THE SHELF BREAK. THE TCH:TOC RATIO MAY BE USEFUL AS A QUALITATIVE AND SEMIQUANTITATIVE INDICATOR OF SEWAGE-DERIVED ORGANIC MATTER IN SEDIMENT DEPOSITS. THE OBSERVED TCH:TOC RATIOS SUGGEST THAT ORGANIC MATERIAL BEING DEPOSITED IN THE CHRISTIAENSEN BASIN AND MUD PATCHES NEAR LONG ISLAND IS PREDOMINANTLY OF SEWAGE ORIGIN, AND THAT SEAWARD OF THE APEX, THE SEDIMENTARY ORGANIC MATTER BECOMES LESS INFLUENCED BY SEWAGE-DERIVED ORGANIC MATTER AND OCEANIC ORGANIC MATTER BECOMES A MORE SIGNIFICANT FRACTION.

0733 HATCHER, P.G.; L.E. KEISTER

SEDIMENTS OF THE NEW YORK BIGHT: THEIR BULK ORGANIC CHEMICAL PROPERTIES [1976]

DR-ERL-MESA-21. NOAA. BOULDER. CO 24 PP NTIS-PB-271 399

SEDIMENT SAMPLES TAKEN ON 4 CRUISES IN THE NEW YORK BIGHT BETWEEN AUG, 1973, AND JUL, 1974, WERE ANALYZED FOR THREE BULK ORGANIC GEOCHEMICAL PROPERTIES: TOTAL ORGANIC CARBON, TOTAL CARBOHYDRATES, AND TOTAL PROTEINS. ALL SAMPLES WERE ANALYZED FOR TOTAL TOTAL CARBOHYDRATES AND TOTAL PROTEINS. THE DATA ARE PRESENTED IN TABULAR FORM AND GROUPED ACCORDING TO INDIVIDUAL CRUISES. THE METHODOLOGIES FOR THE SAMPLING AND ANALYSES ARE ALSO PRESENTED.

0734 HATCHER, P.G.; L.E. KEISTER; P.A. MCGILLIVARY

STEROIDS AS SEWAGE SPECIFIC INDICATORS IN NEW YORK BIGHT SEDIMENTS [1977]

BULL ENVIRONM CONTAM TOXICOL 17(4):491-498

STEROIDS ASSOCIATED WITH HUMAN FECAL MATTER WERE SUGGESTED AS SEWAGE POLLUTION INDICATORS IN MARINE SEDIMENTS. SOME OF THESE, SUCH AS COPROSTANOL, HAVE NOT BEEN DETECTED IN UNPOLLUTED MARINE SEDIMENTS AND WOULD BE USEFUL AS INDICATORS. AN ANALYSIS OF THE NEW YORK BIGHT SEDIMENT WAS CONDUCTED TO EVALUATE THIS THEORY. STEROIDS WERE DETERMINED IN FREEZE-DRIED SEDIMENTS AND IN SEWAGE SLUDGE. THE MAJOR STEROIDS FOUND IN TWO SEDIMENT SAMPLES, ONE TAKEN FROM A NEAR-SHORE SITE AND THE OTHER FROM A SEWAGE SLUDGE DUMPSITE, WERE COPROSTANOL, CHILESTEROL, BETA-SITOSTEROL, AND 24 BETA-ETHYL COPROSTANOL. OF THESE, CHOLESTEROL AND BETA-SITOSTEROL WERE PRESENT IN SIGNIFICANT QUANTITIES. THESE STEROIDS ARE USUALLY DOMINANT IN MARINE SEDIMENTS. COPROSTANOL AND 24 BETA-ETHYL COPROSTANOL IN THE BIGHT SEDIMENT LINKED THE MAJOR ORGANIC COMPONENT OF THE MUDS TO SEWAGE. COPROSTANOL CONCENTRATIONS IN THE TWO SEDIMENTS WERE 4.8 AND 5.2 PPM, WHICH INDICATED A SIMILAR LEVEL OF SEWAGE CONTAMINATION. THUS THE NEAR-SHORE SAMPLE INDICATED AS MUCH CONTAMINATION AS THE SAMPLE FROM A BASIN HEAVILY IMPACTED BY SEWAGE. ANALYSIS OF A NEW YORK CITY TREATMENT PLANT'S SLUDGE REVEALED LARGE AMOUNTS OF COPROSTANOL AND 24 BETA-ETHYL COPROSTANOL. THIS CONFIRMED THE RESULTS OF THE SEDIMENT ANALYSIS. IT WAS CONCLUDED THAT COPROSTANOL OR 24 BETA-ETHYL COPROSTANOL COULD BE USED TO IDENTIFY SEDIMENT SEWAGE CONTAMINATION ON A HORIZONTAL OR VERTICAL SEDIMENTARY PROFILE.

0735 HATCHER, P.G.; P.A. MCGILLIVARY

SEWAGE CONTAMINATION IN THE NEW YORK BIGHT. COPROSTANOL AS AN INDICATOR [1979]

ENVIRON SCI TECHNOL 13(10):1225-1229

SEDIMENTS OF THE NEW YORK BIGHT ARE ANALYZED FOR COPROSTANOL, A FECAL STERIOD, TO DETERMINE THE DEGREE OF SEWAGE CONTAMINATION. COPROSTANOL, WHEN REPORTED AS A PERCENTAGE OF TOTAL STERIODS (% COPROSTANOL), CAN BE QUANTITAIVELY RELATED TO THE AMOUNT OF SEWAGE-DERIVED ORGANIC MATTER. FURTHERMORE, COPROSTANOL IS QUITE PERSISTENT IN ANOXIC SILTS OF THE BIGHT AND THUS CAN BE USED TO DELINEATE HISTORICAL CONTAMINATION IN THESE SILTS. BASED ON THE SEDIMENTS ANALYZED, THE NEW YORK BIGHT IS SHOWN TO BE HIGHLY CONTAMINATED WITH SEWAGE (MOST LIKELY OCEAN-DUMPED SEWAGE SLUDGE), ESPECIALLY IN THE TOPOGRAPHICALLY LOW AREAS NEAR THE DUMP SITE. HERE BLACK SILTS HAVE BEEN KNOWN TO ACCUMULATE.

0736 HATHAWAY, J.C.; C.W. POAG; P.C. VALENTINE; R.E. MILLER; D.M. SCHULTZ; F.T. MANHEIM; F.A. KOHOUT; M.H. BOTHNER; D.A. SANGREY

US GEOLOGICAL SURVEY CORE DRILLING ON THE ATLANTIC SHELF [1979]

SCIENCE 206(4418):515-527

THE 1ST BROAD PROGRAM OF SCIENTIFIC SHALLOW DRILLING ON THE US ATLANTIC CONTINENTAL SHELF HAS DELINEATED ROCKS OF PLEISTOCENE TO LATE CRETACEOUS AGE, INCLUDING PHOSPHORITIC MIOCENE STRATA, WIDESPREAD ECCENE CARBONATE DEPOSITS THAT SERVE AS RELECTIVE SEISMIC MARKERS, AND SEVERAL REGIONAL UNCONFORMITIES. SITES OFF THE MD AND NJ COASTS, SHOWED LIGHT HYDROCARBON GASES HAVING AFFINITY TO MATURE PETROLEUM. PORE FLUID STUDIES SHOWED THAT RELATIVELY FRESH TO BRACKISH WATER OCCURS BENEATH MUCH OF THE ATLANTIC CONTINENTAL SHELF, WHEREAS INCREASES IN SALINITY DFF GA AND BENEATH THE FLORIDA-HATTERAS SLOPE SUGGEST BURIED EVAPORITIC STRATA. THE SEDIMENT CORES SHOWED ENGINEERING PROPERTIES THAT RANGE FROM GOOD FOUNDATION STRENGTH TO A POTENTIAL FOR SEVERE LOSS OF STRENGTH THROUGH INTERACTION BETWEEN SEDIMENTS AND MANMADE STRUCTURES.

0737 HAUSKNECHT. K.A.

RESULTS OF STUDIES ON THE DISTRIBUTION OF SOME TRANSITION AND HEAVY METALS AT DEEPWATER DUMPSITE 106 [1977]

PAGES 499-541 IN NOAA DUMPSITE EVALUATION REP 77-1, BASELINE REP OF ENVIRON CONDITIONS IN DWD 106, VOL 3, CONTAMINANT INPUTS AND CHEM CHARAC. NOAA, BOULDER, CO

THE WASTE MATERIALS DISCHARGED AT DWD 106 CONTAIN TRANSITION AND HEAVY METALS IN CONCENTRATIONS THAT ARE SEVERAL ORDERS OF MAGNITUDE HIGHER THAN AMBIENT LEVELS IN THE WATER COLUMN. SINCE THE INTRODUCTION OF THESE WASTES INTO THE OCEAN MAY RESULT IN POTENTIALLY HARMFUL CHANGES IN THE CONCENTRATIONS OR CHEMICAL SPECIATION OF TOXIC METALS, WATER SAMPLES HAVE BEEN ANALYZED ON 2 OF THE 3 CHARACTERIZATION CRUISES CONDUCTED AT DWD 106 TO PROVIDE DATA ON THE AMBIENT BACKGROUND LEVELS OF SOME OF THESE METALS IN THAT REGION. THIS PAPER REPORTS THE DISTRIBUTION OF ZN, HG, CD, CU, PB, AND MN AT DWD 106 BASED ON DATA COLLECTED BY R/V ALBATROSS IV IN MAY 1974 AND FRS OREGON II IN FEB 1976.

0738 HAYDEN, B.P.; R. DOLAN

BARRIER ISLANDS, LAGOONS, AND MARSHES [1979]

J SEDIMENT PETROL 49(4):1061-1071

THE WIDTH, DEPTH, MARSH COVER, AND MARSH-WATER INTERFACES WERE RECORDED FOR THE LAGOONS ALONG THE 2,000 KM OF COAST BETWEEN LONG ISLAND, NY AND MIAMI, FL. EIGENVECTORS OF THESE VARIABLES FOR 134 SITES WERE DETERMINED AND ANALYZED TO IDENTIFY THE CHARACTERISTIC VARIATIONS OF THESE MORPHOMETRIC ATTRIBUTES. 3 MODES OF VARIATION ACCOUNT FOR 88% OF THE VARIANCE OF THE ORIGINAL DATA: THE DOMINANT MODE CONTRASTS WIDE, COMPLEX LAGOONS AND NARROW, SIMPLE LAGOONS. THE 2ND CONTRASTS WIDE, SIMPLE WITH NARROW, COMPLEX LAGOONS. A 3RD MODE CONTRASTS WIDE, SHALLOW, COMPLEX WITH NARROW, DEEP LAGOONS WITH FEW MARSH-WATER INTERSECTS. THE 1ST MODE IS CORRELATED GEOGRAPHICALLY WITH VARIATIONS IN THE STEEPNESS AND CURVATURE OF THE INNER PORTION OF THE CONTINENTAL SHELF. USING VARIATIONS IN THE MORPHOMETRIC ATTRIBUTES OF THE LAGOON—MARSH SYSTEM AND THE FRONTING ISLANDS ON THE OCEAN SIDE, THE ATLANTIC COAST BARRIER ISLANDS, LAGOONS, AND MARSHES ARE CLASSIFIED INTO 3 REGIONS AND 8 SUBREGIONS. THE CONCEPT OF BARRIER ISLAND "ENSEMBLES" ALONG THE ATLANTIC COAST IS REVIEWED IN TERMS OF THE ISLAND-LAGOON MARSH SYSTEM AND THEIR COVARIATION WITH OFFSHORE BATHYMETRY. THE CONCEPT OF THESE ENSEMBLES IS STRONGLY SUPPORTED.

0739 HAYDEN, B.P.; R. DOLAN; W. FELDER

SPATIAL AND TEMPORAL ANALYSIS OF SHORELINE VARIATIONS [1979]

COAST ENG 2(4):351-361

USING DETAILED DATA FROM HISTORICAL AERIAL PHOTOGRAPHY, HIGH RESOLUTION (100 m) SHORELINE AND STORM SURGE PENETRATION LINE RATES-OF-CHANGE AND VARIANCE WERE CALCULATED FOR 428 km OF COAST BETWEEN NJ AND CAPE LOOKOUT, NORTH CAROLINA. SHORELINE EROSION RATES ALONG THE US MID-ATLANTIC COAST AVERAGE 0.6 M/YR BUT COMMONLY VARY ALONG THE COAST FROM 3.6 M/YR TO 2.4 M/YR AND FROM 6.8 M/YR TO 5.6 M/YR ON A DECADE-TO-DECADE BASIS. SPATIAL AND TEMPORAL VARIANCES IN SHORELINE CHANGE RATES MAKE THE DESIGN OF COASTAL EXPERIMENTS AND SYSTEMATIC MONITORING PROGRAMS DIFFICULT. THE PRECISION OF MEASUREMENTS OF THE RATES OF CHANGE OF THE

SHORELINE AND STORM-SURGE PENETRATION LINE DECREASE AS THE ALONG-THE-COAST SAMPLING INTERVAL INCREASES AND THE DECREASE FOLLOWS A HYPERBOLIC TANGENT FORM OF DECLINE. FOR THE US MID-ATLANTIC COAST A SAMPLE SPACING OF 500 M WILL PROVIDE AN ESTIMATE OF THE MEAN SHORELINE RATE-OF-CHANGE TO WITHIN +/- 0.25 SIGMA OF THE HIGHER RESOLUTION (100 M) ESTIMATE. THE AVERAGE STANDARD DEVIATION OF SHORELINE CHANGE RATES FOR THE US MID-ATLANTIC COAST IS +/- 3.01 M/YR. A 500 M SAMPLING SPACING WILL RESULT IN A PRECISION OF +/- 0.75 M/YR FOR SHORELINE CHANGE. ALONG-THE-COAST PERIODICITIES IN SHORELINE AND STORM-SURGE PENETRATION LINE RATES OF CHANGE OCCUR. UNLESS THE OBJECTIVE OF THE MEASUREMENT PROGRAM IS TO DEFINE THESE PERIODICITIES, A CONSTANT INTERVAL SAMPLING SHOULD BE AVIIDED.

0740 HAYNES, E.D.

RIVER RUNOFF ALONG THE MIDDLE ATLANTIC COAST IN 1976 [1979]

PAGES 281-287 IN J.R. GOULET AND E.D. HAYNES, EDS. OCEAN VARIABILITY IN THE US CONSERVATION ZONE, 1976. NMFS. SEATTLE, WA

THE RIVER RUNOFF (RATE OF VOLUME FLOW) PRESENTED HERE IS CALCULATED FROM THE CONTINUOUSLY RECORDED WATER LEVEL AT GAGING STATIONS LOCATED AT TRENTON, NJ, ON THE DELAWARE RIVER, POUGHKEEPSIE, NY, ON THE HUDSON RIVER, AND ALONG THE SHORES OF CHESAPEAKE BAY. TRENTON AND POUGHKEEPSIE ARE UPSTREAM OF ANY TIDAL INFLUENCE, BUT THE TIDAL FLOW AND CONSEQUENT MIXING NEED TO BE ACCOUNTED FOR IN ORDER TO ESTIMATE CHESAPEAKE BAY RUNOFF. RUNOFF AFFECTS ESTUARINE AND OFFSHORE FISHES AND SHELLFISHES BY VARYING THE SALINITY, TURBIDITY, DISSOLVED OXYGEN, AND STRATIFICATION OF THEIR ENVIRONMENT. EARLY WARMING IN THE SPRING OF 1976 WAS ASSOCIATED WITH HIGH RUNOFF VERY EARLY IN THE YEAR. THIS ACCENTUATED THE EARLY ONSET OF STRATIFICATION IN THE NEAR SHORE WATERS AND SUPPRESSED OXYGENATION TWO MONTHS EARLIER THAN USUAL. THE NORMAL SUMMER BYOLOGICAL DEPLETION OF DISSOLVED OXYGEN LED TO ANOXIC CONDITIONS AND THE SUBSEQUENT FISH KILL IN JULY.

0741 HAYS, H.; R.W. RISEBROUGH

POLLUTANT CONCENTRATIONS IN ABNORMAL YOUNG TERNS FROM LONG ISLAND SOUND [1972]

AUK 89(1):19-35

THIS PAPER REPORTS THE RESULTS OF PRELIMINARY ANALYSES FOR CHLORINATED HYDROCARBONS AND MERCURY IN YOUNG TERNS WITH VISIBLE ABNORMALITIES FOUND IN A COLONY ON GREAT GULL ISLAND, 72 DEG 07' W, 41 DEG 12' N. ANALYSES ARE ALSO REPORTED ON 8 SPECIES OF FISH BROUGHT TO THE COLONY AS FOOD FOR THE YOUNG OR AS PART OF BEHAVIORAL DISPLAYS.

0742 HAYS, H.; G. CORMONS

PLASTIC PARTICLES FOUND IN TERN PELLETS, ON COASTAL BEACHES AND AT FACTORY SITES [1974]

MAR POLLUT BULL 5(3):44-46

SMALL POLYSTYRENE PARTICLES, EVIDENTLY OF INDUSTRIAL ORIGIN, NOW APPEAR AS A CONTAMINANT OF THE SEA IN SEVERAL PARTS OF THE WORLD. THEY HAVE BEEN DISCOVERED IN PELLETS OF INDIGESTIBLE FOOD REGURGITATED BY GULLS AND TERNS, SO ARE CLEARLY ENTERING THE FOOD CHAIN AT SOME POINT. SO FAR AS IS KNOWN AT PRESENT, THEY ARE HARMLESS BUT IT WOULD BE AS WELL TO EXERCISE CAUTION IN RELEASING PLASTIC TO THE ENVIRONMENT.

0743 HAZELWORTH, J.B.; B.L. KOLITZ; R.B. STARR; R.L. CHARNELL; G.A. BERBERIAN

NEW YORK BIGHT PROJECT WATER COLUMN SAMPLING CRUISES NO. 1-5 OF THE NOAA SHIP FERREL, AUGUST-NOVEMBER 1973 [1974]

MESA-74-2. NOAA, BOULDER, CO 196 PP NIIS-COM-75-50160

DURING THE PERIOD AUG-NOV 1973, A SERIES OF 5 OCEANOGRAPHIC CRUISES WERE MADE BY THE NOAA SHIP FERREL IN THE NEW YORK BIGHT. THESE CRUISES ARE THE FIRST IN A SERIES OF MONTHLY CRUISES SCHEDULED TO LAST THROUGH 1975. EMPHASIS WAS GIVEN TO COLLECTING PHYSICAL, CHEMICAL, AND GEOLOGICAL DAIA. THE OBJECTIVE OF THE CRUISES WAS TO SUPPLY DATA TO BASE ANALYSIS OF THE WATER MOVEMENTS ON THE HIGHLY IMPACTED ECOSYSTEM. THE REPORT PRESENTS THE CORRECTED DATA FROM THESE CRUISES AND DESCRIBES THE PARAMETERS MEASURED, THE MEASUREMENT METHODS, AND CORRECTIONS APPLIED TO THE DATA.

0744 HAZELWORTH, J.B.; B.L. KOLITZ; R.B. STARR; R.L. CHARNELL; G.A. BERBERIAN; M.A. WEISELBERG

NEW YORK BIGHT PROJECT WATER COLUMN SAMPLING CRUISES NO. 9-12 OF THE NOAA SHIP FERREL. JULY-NOVEMBER 1974 [1975]

DR-ERL-MESA-3. NOAA. BOULDER. CO 231 PP NTIS-PB-271 340

DURING THE PERIOD JUL-NOV 1974, 4 OCEANOGRAPHIC CRUISES WERE MADE BY THE NOAA SHIP FERREL IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISES WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER MOVEMENTS ON THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED PHYSICAL AND CHEMICAL DATA FROM THESE CRUISES AND DESCRIBES THE PARAMETERS MEASURED. THE MEASUREMENT METHODS, AND THE CORRECTIONS APPLIED TO THE DATA.

0745 HAZELWORTH, J.B.; B.L. KOLITZ; R.B. STARR; R.L. CHARNELL; G.A. BERBERIAN

NEW YORK BIGHT PROJECT WATER COLUMN SAMPLING CRUISES NO. 6-8 OF THE NOAA SHIP FERREL. APRIL-JUNE 1974 [1975]

DR-MESA-1. NOAA, BOULDER, CO 184 PP NTIS-COM-75-10726

DURING THE PERIOD APR-JUN 1974, 3 OCEANOGRAPHIC CRUISES WERE MADE BY THE NOAA SHIP FERREL IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISES WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER MOVEMENTS ON THE HIGHLY IMPACTED ECOSYSTEM. THE REPORT PRESENTS THE CORRECTED PHYSICAL AND CHEMICAL DATA FROM THESE CRUISES AND DESCRIBES THE PARAMETERS MEASURED, THE MEASUREMENT METHODS, AND THE CORRECTIONS APPLIED TO THE DATA.

0746 HAZELWORTH, J.B.: M.E. DARNELL

NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISES (XWCC-2 AND 3) NOAA SHIP RESEARCHER, 22 FEBRUARY-5 MARCH, 9-12 APRIL 1975 [1976]

DR-ERL-MESA-23. NOAA. BOULDER. CO 237 PP NTIS-PB-271 398

DURING SPRING 1975, TWO OCEANOGRAPHIC CRUISES, DENOTED XWCC-2 AND 3 WERE MADE BY THE NOAA SHIP RESEARCHER IN THE NEW YORK BIGHT. CURRENT METER ARRAYS AND BOTTOM-MOUNTED PRESSURE GAUGES WERE DEPLOYED AND RECOVERED ON XWCC-2. GEOLOGICAL OCEANOGRAPHIC DATA WERE COLLECTED ON XWCC-3. IN ADDITION, PHYSICAL AND CHEMICAL OCEANOGRAPHIC DATA WERE COLLECTED ON BOTH CRUISES. THE OBJECTIVE OF THE CRUISES WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER MOVEMENT IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED WATER COLUMN DATA FROM THESE TWO CRUISES AND PRELIMINARY DESCRIPTIVE ANALYSIS.

0747 HAZELWORTH, J.B.; S.R. CUMMINGS; S.M. MINTON; G.A. BERBERIAN

MESA NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 11) NOAA SHIP RESEARCHER, SEPTEMBER 1976 [1977]

DR-ERL-MESA-29. NOAA, BOULDER, CO 193 PP NTIS-P8-277 259

DURING THE PERIOD 8-27 SEP 1976, AN OCEANOGRAPHIC CRUISE WAS MADE BY THE NOAA SHIP RESEARCHER IN THE NEW YORK BIGHT. BOTTOM MOUNTED PRESSURE GAUGES WERE RECOVERED. PHYSICAL, CHEMICAL, AND BIOLOGICAL OCEANOGRAPHIC DATA WERE COLLECTED. THE OBJECTIVE OF

THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER MOVEMENT IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA, AND A PRELIMINARY DESCRIPTIVE ANALYSIS OF THE PHYSICAL DATA.

0748 HAZELWORTH, J.B.; R.B. STARR; S.R. CUMMINGS; G.A. BERBERIAN

MESA NEW YORK BIGHT PROJECT EXPANDED JATER COLUMN CHARACTERIZATION CRUISE (XWCC 9) NOAA SHIP GEORGE B. KELEZ. MAY 1976 [1977]

DR-ERL-MESA-31. NOAA, BOULDER, CO 184 PP NTIS-PB-283 574

DURING THE PERIOD 17-24 MAY 1976, AN OCEANOGRAPHIC CRUISE WAS MADE ON NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0749 HAZELWORTH, J.B.; S.R. CUMMINGS; R.B. STARR; G.A. BERBERIAN

MESA NEW YORK BIGHT PROJECT EXPANDED JATER COLUMN CHARACTERIZATION CRUISE (XWCC 8) NOAA SHIP GEORGE B. KELEZ, APRIL 1976 [1977]

DR-ERL-MESA-27. NOAA, BOULDER, CO 114 PP NTIS-PB-275 195

DURING THE PERIOD 12-16 APR 1976, AN OCEANOGRAPHIC CRUISE WAS MADE BY THE NOAA SHIP KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0750 HAZELWORTH, J.B.; A. HERMAN; T.M. NIEDRAUER; P.G. HANSON

MESA NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 12) NOAA SHIP GEORGE B. KELEZ, APRIL-MAY 1977
[1978]

DR-ERL-MESA-33. NOAA, BOULDER, CO 176 PP NTIS-PB-283 861

DURING THE PERIOD 28 APR-6 MAY 1977, AN OCEANOGRPANIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT.

THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT WHICH IS A CONTINUATION IN THE MARINE ECOSYSTEM (MESA) PROGRAM'S SERIES OF PUBLICATIONS PRESENTING OCEANOGRAPHIC DATA FROM THE NEW YORK BIGHT, GIVES THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE. THE REPORT IS THE 11TH OF A SERIES OF REPORTS DESCRIBING THE PHYSICAL OCEANOGRAPHIC MEASUREMENTS IN THE EXPANDED AREA.

0751 HAZELWORTH, J.B.; T.M. NIEDRAUER; P.G. HANSON

MESA NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 16) NOAA SHIP GEORGE B. KELEZ, OCTOBER 1977 [1978]

DR-ERL-MESA-39. NOAA, BOULDER, CO 122 PP NTIS-PB-286 047

DURING THE PERIOD 11-19 OCT 1977, AN OCEANOGRAPHIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0752 HAZELWORTH, J.B.; T.M. NIEDRAUER; P.G. HANSON

MESA NEW YORK BIGHT PROJECT EXPANDED JATER COLUMN CHARACTERIZATION CRUISE (XWCC 15) NOAA SHIP GEORGE B. KELEZ, AUGUST 1977 [1978]

DR-ERL-MESA-38. NOAA, BOULDER, CO 192 PP NTIS-PB-285 696

DURING THE PERIOD 1-9 AUG 1977, AN OCEANOGRAPHIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0753 HAZELWORTH, J.B.; T.M. NIEDRAUER; P.G. HANSON

MESA NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 14) NOAA SHIP GEORGE B. KELEZ, JUNE-JULY 1977

DR-ERL-MESA-37. NOAA, BOULDER, CO 117 PP NTIS-PB-285 695

DURING THE PERIODS 27 JUN-1 JUL 1977, AN OCEANOGRAPHIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT.

THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0754 HAZELWORTH, J.B.; T.M. NIEDRAUER; P.G. HANSON

MESA NEW YORK BIGHT PROJECT EXPANDED AATER COLUMN CHARACTERIZATION CRUISE (XWCC 13) NOAA SHIP GEORGE B. KELEZ, MAY-JUNE 1977

DR-ERL-MESA-34. NOAA, BOULDER, CO 215 PP NTIS-PB-284 525

DURING THE PERIOD 31 MAY-7 JUN 1977, AN OCEANOGRAPHIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT.

THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE AND IS A CONTINUATION IN THE MARINE ECOSYSTEM ANALYSIS (MESA) PROGRAM'S SERIES OF PUBLICATIONS PRESENTING OCEANOGRAPHIC DATA FROM THE NEW YORK BIGHT.

0755 HAZELWORTH, J.B.; ET.AL.

MESA NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 17) NOAA SHIP GEORGE B. KELEZ, APRIL 1978
[1981]

DATA REP OMPA-3. NOAA, BOULDER, CO 205 PP

DURING THE PERIOD 10-18 APR 1978, AN OCEANOGRPANIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT REPRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0756 HAZELWORTH, J.B.; ET.AL.

NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 24) NOAA SHIP GEORGE B. KELEZ, AUGUST 1979 [1981]

DATA REP OMPA-10. NOAA, BOULDER, CO 238 PP

DURING THE PERIOD 13-23 AUG 1979, AN OCEANOGRAPHIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT REPRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0757 HAZELWORTH. J.B.; ET.AL.

MESA NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 23) NOAA SHIP GEORGE B. KELEZ. JULY 1979 [1981]

DATA REP OMPA-9. NOAA, BOULDER, CO 274 PP

DURING THE PERIOD 16-27 JUL 1979, AN JCEANOGRAPHIC CRUISE WAS MADE ON THE NOÀA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT REPRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0758 HAZELWORTH, J.B.; ET.AL.

MESA NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 22) NOAA SHIP GEORGE B. KELEZ, MAY-JUNE 1979

DATA REP OMPA-8. NOAA, BOULDER, CO 222 PP

DURING THE PERIOD 29 MAY-7 JUN 1979, AN OCEANOGRAPHIC CURISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT.
THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE
HIGHLY IMPACTED ECOSYSTEM. THIS REPORT REPRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0759 HAZELWORTH, J.B.; ET.AL.

MESA NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 21) NOAA SHIP GEORGE 8. KELEZ, APRIL 1979 [1981]

DATA REP OMPA-7. NOAA, BOULDER, CO 224 PP

DURING THE PERIOD 9-18 APR 1979, AN OCEANOGRAPHIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT REPRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0760 HAZELWORTH, J.B.; ET.AL.

MESA NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 20) NOAA SHIP GEORGE B. KELEZ, JULY-AUGUST 1978 [1981]

DATA REP OMPA-6. NOAA, BOULDER, CO 245 PP

DURING THE PERIOD 31 JUL-9 AUG 1978, AN OCEANOGRAPHIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT.
THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE
HIGHLY IMPACTED ECOSYSTEM. THIS REPORT REPRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0761 HAZELWORTH J.B. ET.AL.

MESA NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 19) NOAA SHIP GEORGE B. KELEZ, JULY 1978 [1981]

DATA REP OMPA-5. NOAA. BOULDER. CO 245 PP

DURING THE PERIOD 5-15 JUL 1978, AN OCEANOGRAPHIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT REPRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0762 HAZELWORTH, J.B.; ET.AL.

MESA NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 18) NOAA SHIP GEORGE B. KELEZ. JUNE 1978 [1981]

DATA REP OMPA-4. NOAA. BOULDER. CO 227 PP

DURING THE PERIOD 30 MAY-9 JUN 1978, AN OCEANOGRAPHIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT.

THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT REPRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0763 HEATWOLE, C.A.; N.C. WEST

RACE, INCOME, AND ATTITUDE TOWARD BEACH CLEANLINESS [1980]

PAGES 1684-1696 IN COASTAL ZONE "80, PROC OF SYMP, VOL II

THE RICH GET RICHER SAYS THE AXIOM; APPARENTLY: THEY ALSO GET MORE EXCLUSIVE -- EVEN ON PUBLIC BEACHES. SOME OF NY'S BEACHES ARE USED BY WHITE, MIDDLE TO UPPER INCOME CLIENTELE WHO RESIST PROPOSALS TO MAKE "THEIR" BEACHES ACCESSIBLE TO ALL. THEY ARGUE THAT AN INFLUX OF LOWER INCOME BATHERS WILL MAKE THE BEACHES DIRTY AND BRING DOWN ADJACENT PROPERTY VALUES. JACOB RIIS PARK BEACH AT THE TIP OF ROCKAWAY PENINSULA IN QUEENS IS A CASE IN POINT. THE CLEANEST OF NY'S 10 PUBLIC BEACHES. IT IS ALSO THE MOST UNDERUSED. WHY? BECAUSE PEOPLE CANNOT GET THERE EASILY BY PUBLIC TRANSPORTATION. ONE CAN EASILY GET THERE BY CAR. HOWEVER. SO THE MORE AFFLUENT RESIDENTS WHO LIVE NEARBY HAVE LITTLE TROUBLE AVAILING THEMSELVES OF ITS FACILITIES -- AND THE SEGREGATION THAT RESULTS. PEOPLE OPPOSE PLANS TO IMPROVE MASS TRANSIT CONNECTIONS TO THE BEACH BECAUSE THEY FEAR A DIRTY BEACH WOULD RESULT. HEATWOLE AND WEST CONDUCTED THIS SURVEY TO SEE IF, INDEED, MEMBERS OF DIFFERENT RACIAL AND ECONOMIC GROUPS HAVE DIFFERENT ATTITUDES ABOUT BEACH CLEANLINESS. WHAT THEY FOUND WAS THAT RICH OR POOR, BLACK, WHITE, OR HISPANIC, BEACH USERS OVERWHELMINGLY VALUE CLEANLINESS AS THE MOST IMPORTANT ATTRIBUTE OF BEACHES. AS A CLEAN BEACH SEEMS MOST IMPORTANT TO ALL BEACH-GOERS. REGARDLESS OF RACE AND INCOME LEVEL, THE AUTHORS ARGUE THAT BEACH CLEANLINESS IS A MANAGEMENT PROBLEM. THE MOST CROWDED BEACHES ARE SIMPLY THE HARDEST TO KEEP CLEAN AND THIS IS BECAUSE OF CROWD SIZE. NOT BECAUSE OF THE INCOME OR RACE OF THE PEOPLE MAKING UP THE CROWD. HEATWOLE AND WEST RECOMMEND EFFORTS TO IMPROVE BEACH QUALITY BY SPREADING THE BEACH-GOERS MORE EVENLY OVER EXISTING FACILITIES, PRIMARILY BY IMPROVING MASS TRANSIT TO THE UNDERUSED BEACHES. AT THE SAME TIME THEY STRESS THE NEED FOR INCREASED SERVICES TO HANDLE THE LARGER NUMBERS OF BATHERS. THE PAPER ALSO OUTLINES THE METHODOLOGY OF THEIR SURVEY AND PRESENTS ALL RESULTS IN TABULAR FORM.

0764 HEATWOLE, C.A.; N.C. WEST

APPLIED GEOGRAPHY: MASS TRANSIT AND BEACH ACCESS IN NEW YORK CITY [1980]

RR-80-22. NYSG, ALBANY, NY 11 PP NTIS-PB-212 095

WHILE LOCAL RECREATION PLANNERS ARE SEEKING WAYS TO ALLEVIATE PRESENT AND FUTURE BEACH CROWDING BY THE DEVELOPMENT OF NEW

BEACHES, THEY ALSO ARE SEARCHING FOR JAYS TO IMPROVE ACCESS TO EXISTING BEACHES SO THAT URBAN RESIDENTS, ESPECIALLY THE RELATIVELY POOR URBANITE, MAY ENJOY THE OPPORTUNITIES OFFERED BY WATERSIDE FACILITIES. ALTHOUGH THE MASS TRANSIT SYSTEM OF A CITY IS BOUND TO HAVE A MAJOR ROLE IN THIS PLANNING, LITTLE IS KNOWN ABOUT THE USE OF MASS TRANSIT IN COMPARISON WITH ALTERNATIVE MEANS OF BEACH ACCESS. THIS REPORT FOCUSES ON THESE ACCESS QUESTIONS AND SEEKS TO PROVIDE SOME RECOMMENDATIONS THAT MAY AID PLANNING EFFORTS.

0765 HEATWOLE, C.A.; N.C. WEST

BEACH USE AND USER CONSTRAINTS IN THE NEW YORK CITY COASTAL REGION [1980]

RS-80-01. NYSG. ALBANY, NY 82 PP NTIS-PB-204 076

IMPROVEMENTS IN MASS TRANSPORTATION SYSTEMS, PARTICULARLY BUS SERVICE, COULD EVEN OUT THE CURRENT OVERUSE AND UNDERUSE OF BEACHES IN THE NEW YORK CITY COASTAL REGION. THIS SURVEY OF USERS OF CONEY ISLAND, ORCHARD BEACH, RIIS PARK, GREAT KILLS, AND JONES BEACH SHOWED THAT EASY ACCESS CAN ENCOURAGE PEOPLE TO USE A BEACH THEY HAD CONSIDERED UNDESTRABLE.

0766 HEATWOLE, C.A.; N.C. WEST

BEACH USE AND WATER QUALITY IN NEW YORK CITY [1980]

RS-80-02. NYSG. ALBANY. NY 25 PP NTIS-PB-204 084

NYC'S 16.9 MI OF PUBLIC BEACH ARE HEAVILY USED NOW AND WILL ATTRACT EVEN MORE USERS IN THE YEARS AHEAD. CROWDING OCCURS DESPITE SAFE, BUT GENERALLY UNSATISFACTORY WATER QUALITY. THE MAJOR GOAL OF PROJECT 208 (WASTE TREATMENT MANAGEMENT PLAN) IS TO ELIMINATE THE SOURCES OF POLLUTION AND OPEN NEW BEACH AREAS. THIS PAPER FOCUSES ON THE IMPLICATION PROJECT 208 MIGHT HAVE FOR SWIMMING AND BEACH USE IN THE NYC AREA.

0767 HEEZEN, B.C.; R.S. DYER

MEANDERING CHANNEL ON THE UPPER CONTINENTAL RISE OFF NEW YORK [1977]

EOS: TRANS AM GEOPHYS UNION 58:410

IN AUG 1976 5 DIVES WERE MADE WITH THE DEEP SUBMERSIBLE ALVIN TO AN ABANDONED RADIOACTIVE WASTE DUMPSITE TO EXAMINE, IDENTIFY AND SELECT A WASTE DRUM FOR RECOVERY AND ANALYSIS. A NEAR BOTTOM TRANSPONDER NAVIGATION NET WAS IMPLACED SO THAT SPECIFIC CONTAINERS COULD BE LOCATED AND RECOVERED. THE FIVE 2850 M DIVES WERE CONCENTRATED IN AN AREA ABOUT 2 KM BY 3 KM. BETWEEN DIVES THE SURFACE TENDER LULU RAN A GRID OF SOUNDING LINES AT A SPACING OF APPROXIMATELY 100 M. A MEANDERING CHANNEL 8-10 M DEEP AND 40-80 4 WIDE WAS MAPPED. DIVE TRANSITS REVEALED NO EVIDENCE OF CONTEMPORARY EROSION IN THE CHANNEL OR ON ITS WALLS. SEVERAL LARGE BLOCKS OF STRATIFIED 00ZE 1-10 M IN HEIGHT AND BREADTH WERE OBSERVED ALONG EACH 2-3 KM TRAVERSE. SLIGHT SCOUR MOATS WERE OBSERVED AT THE BASE OF MOST BLOCKS. A CONSISTENT WEAK CURRENT LESS THAN 10 CM/SEC FLOWED FROM THE NORTHEAST. THE MEANDERING CHANNEL APPEARS TO BE EITHER A RELIC OF A PAST ENVIRONMENT OR TO BE THE SITE OF INFREQUENT EROSIONAL EVENTS. THE SKID TRACKS LEFT BY THE SUBMERSIPLE DURING THE AUGUST 1975 DIVES WERE STILL CLEAR.

D768 HEIKOFF, J.M.

MANAGEMENT OF THE OCEAN SHORE OF NEW YORK STATE: ROCKAWAY POINT TO MONTAUK POINT [1978]

NYSG. ALBANY. NY 52 PP

THE NY MARINE COAST FROM ROCKAMAY POINT TO MONTAUK POINT ON THE SOUTH SHORE OF LONG ISLAND CONSISTS OF A SERIES OF WELL-DEFINED SEGMENTS. ALTHOUGH THESE SEGMENTS ARE TOPOGRAPHICALLY AND ECOLOGICALLY DIFFERENT AND VARY GREATLY IN THEIR DEVELOPMENT, IN ONE RESPECT THEY FORM A SINGLE NATURAL SYSTEM—THAT FROM ONE END TO THE OTHER THIS COASTLINE IS FRONTED BY OCEAN BEACHES BACKED BY SAND DUNES (WHERE THEY HAVE NOT BEEN JBLITERATED BY DEVELOPMENT) AND BY HIGH BLUFFS AT MONTAUK POINT. THE ENERGIES RELEASED BY STORMS, TIDES, AND SURF MOLD THE ENTIRE SHORELINE CAUSING SEASONAL CYCLES OF EROSION AND DEPOSITION. IN THIS REPORT THE AUTHOR DISCUSSES MANAGEMENT OF THIS COASTLINE AND THE STATE AND LOCAL AGENCIES EMPOWERED TO DO IT, AND BRIEFLY OUTLINES THE NYS COASTAL MANAGEMENT PROGRAM DEVELOPED AS OF OCTOBER 1978. CHAPTERS ARE INCLUDED ON THE GEOGRAPHY OF THE SHORELINES, HAZARDOUS AREAS, SHELLFISH, WETLANDS AND WATER QUALITY MANAGEMENT, AND RECREATION AND ACCESS TO THE SHORE. THE COASTAL MANAGEMENT PROGRAM AS DEVELOPED AT THAT TIME WAS BASED ON FOUR PRINCIPAL CONCEPTS: (1) A PARTNERSHIP BEIWEEN STATE AND LOCAL GOVERNMENTS; (2) USE OF THE LEGISLATURE FOR DEVELOPING AND IMPLEMENTING POLICIES; (3) FORMULATION OF BROAD RATHER THAN SPECIFIC PERFORMANCE STANDARDS; AND (4) A BALANCE BETWEEN ECONOMIC DEVELOPMENT AND PROTECTION OF COASTAL RESOURCES. ADDITIONALLY, THE PROGRAM ISOLATED 11 ISSUES AS HAVING THE GREATEST IMPORTANCE IN RESOURCE MANAGEMENT: PROTECTION OF AESTHETIC RESOURCES, RECREATION RESOURCES, PUBLIC ACCESS, ECONOMIC DEVELOPMENT, PETROLEUM EXPLORATION ON THE OUTER CONTINENTAL SHELF, INCREASED ENERGY PRODUCTION, PROTECTION OF AGRICULTURAL RESOURCES, COASTAL EROSION AND FLOODING, FISH AND WILDLIFE, WATER QUALITY AND AIR ONLY.

0769 HEIKOFF, J.M.

INFORMATION REQUIREMENTS FOR COASTAL RESOURCES MANAGEMENT [1979]

NYSG, ALBANY, NY 106 PP

THIS VOLUME IS PART OF A 2-YEAR STUDY PROJECT FUNDED BY SEA GRANT TO EXPLORE GENERAL ISSUES OF COASTAL MANAGEMENT IN NY. HERE,
THE AUTHOR CONCLUDES THAT EFFECTIVE COASTAL MANAGEMENT WILL REQUIRE A BASE OF TECHNICAL INFORMATION THAT WILL IDENTIFY PROBLEMS
AFFECTING COASTAL AREAS AND HELP DESIGN PROGRAMS TO HANDLE THEM. HE DISCUSSES SOME OF THE MORE IMPORTANT ISSUES AND THEN
DESCRIBES POSSIPLE APPROACHES FOR ACQUIRING THE INFORMATION NECESSARY TO SOLVE THEM. AMONG THOSE ISSUES HE CONSIDERS ARE:
PRESSURES OF POPULATION AND ECONOMIC GROWTH; COMPETITION FOR LAND; AIR AND WATER POLLUTION; PHYSICAL DESTRUCTION OF COASTAL
HABITATS; SHORE EROSION; AND EXCESSIVE FISH AND SHELLFISH HARVESTING. THE AUTHOR CONCEIVES OF TWO MAJOR DIRECTIONS IN RESOURCE
MANAGEMENT. THE FIRST IS THE ANALYSIS OF THE ENVIRONMENT—OR ENVIRONMENTAL IMPACT ASSESSMENT—TO INVENTORY THE CONDITIONS OF
EXISTING LAND, WATER, AND BIOTIC RESOURCES, THEN USE THIS INFORMATION TO DETERMINE THEIR CARRYING CAPACITY FOR HUMAN POPULATION
AND ECONOMIC DEVELOPMENT. HE VIEWS MANAGEMENT PLANNING, IMPLEMENTATION, AND MANAGEMENT AS THE NEXT STEP IN THIS THO—STEP
PROCESS. HE POINTS OUT THAT SINCE PROJECT DECISIONS ARE OFTEN MADE ON AN INDIVIDUAL BASIS, IT IS ESPECIALLY IMPORTANT TO
DETERMINE THEIR CUMULATIVE IMPACTS. HE DEVOTES AN ENTIRE SECTION OF THE REPORT TO CITIZEN PARTICIPATION, WHICH HE FEELS IS
IMPORTANT IF TRULY REPRESENTATIVE DECISIONS ARE TO BE MADE, AND DISCUSSES SOME OF THE DIFFICULTIES IN ACHIEVING TRUE CITIZEN
INVOLVEMENT. AT THE SAME TIME HE NOTES THAT SUCH PARTICIPATION CAN BE A "MIXED BLESSING." IN THIS SECTION THE AUTHOR ALSO
DESCRIBES CITIZEN PLANNING EFFORTS IN ME, OR, AND MD.

0770 HEIKOFF, J.M.

MARINE AND SHORELAND RESOURCES MANAGEMENT [1980]

NYSG, ALBANY, NY 214 PP

WITH THE COASTAL ZONE MANAGEMENT ACT OF 1972 CONGRESS OPENED AN ERA OF INTENSIFIED INTEREST IN OUR COASTAL RESOURCES. SCIENTISTS AND LAYMEN HAVE APPLIED THEMSELVES FULL-FORCE TO THE MANY ASPECTS OF THIS FIELD, AND HAVE PRODUCED A LARGE AND VARIED LITERATURE. STATE AND LOCAL GOVERNMENTS, HOWEVER, HAVE BEEN STRUGGLING WITH COASTAL MANAGEMENT FOR DECADES. THIS BOOK'S PURPOSE IS TO EXAMINE AND LEARN FROM SOME OF THIS LESSER-KNOWN BUT CRUCIAL EARLIER EXPERIENCE. THE FOCUS OF THIS BOOK IS ON NY, WHICH, WITH ITS RICH LONG ISLAND COASILINE, HAS ENACTED MANY PROGRAMS OVER THE YEARS TO DEAL WITH EROSION AND FLOOD HAZARDS, FISHERIES PRODUCTION, RECREATION, POLLUTION, ENERGY, AND OTHER COASTAL CONCERNS. THE AUTHOR TAKES A CLOSE LOOK AT SOME OF THESE PROGRAMS—THEIR GOALS, SUCCESSES, AND FAILURES. THE AIM IS TO LEARN FROM THE RECORD AND ENRICH OUR PRESENT STOCK OF KNOWLEDGE IN THIS VITAL AREA. THE BOOK IS SUPPLEMENTED WITH ILLUSTRATIONS, CONCISE REFERENCES, AND A USEFUL INDEX.

0771 HEILIGYAN, M.I.

ON THE EXISTENCE OF TWO DISTINCT LOGNORMAL POPULATIONS IN THE SEDIMENT OFFSHORE OF THE NEW JERSEY COAST [1977]

GEOL SOC AM ABSTR PROG 9(3):273

CURVILINEAR REGRESSION ANALYSIS OF SIEVE DATA FROM A PREVIOUS STUDY (FRANK AND FRIEDMAN, 1973) OF THE CONTINENTAL SHELF OFFSHORE FROM NJ SHOWS STRONG STATISTICAL EVIDENCE FAVORING THE PRESENCE OF TWO LOGNORMAL POPULATIONS IN A LARGE PROPORTION OF THE SAMPLES STUDIED. THE FIVE MOMENT TECHNIQUE, AS DEVELOPED BY PEARSON (1894), WAS FOUND TO BE APPLICABLE TO OVER 80% OF THE SAMPLES UNDER CONSIDERATION. THE GOODNESS OF FIT FROM THIS TECHNIQUE WAS COMPARED TO THE GOODNESS OF FIT OBTAINED BY LEAST SQUARES FITTING OF 4 AND 7 DEGREE POLYNOMIALS 4 AND 6 DEGREE EXPONENTIAL POLYNOMIALS, AND THE FIT OBTAINED BY ASSUMING TWO SINGLE LOGNORMAL POPULATION. THE GOODNESS OF FIT FROM ASSUMING TWO LOGNORMAL POPULATIONS WAS CONSISTANTLY MUCH BETTER THAN THAT OBTAINED BY ASSUMING A SINGLE LOGNORMAL POPULATION. THE RATIO OF LEAST SQUARES WERE USED TO DETERMINE THE LEVEL OF SIGNIFICANCE. TWO LOGNORMAL DISTRIBUTIONS ALSO GAVE BETTER FITS THAN ALL THE EMPIRICAL DISTRIBUTIONS TRIED EXCEPT FOR THE SIXTH DEGREE EXPONENTIAL POLYNOMIAL, IN WHICH CASE BOTH FITS WERE VERY GOOD. THE SUM OF TWO LOGNORMAL DISTRIBUTIONS IS FAVORED BECAUSE IT ONLY REQUIRES A TOTAL OF FIVE PARAMETERS, WHILE THE SIXTH DEGREE EXPONENTIAL POLYNOMIAL REQUIRES SEVEN. THE PRESENCE OF TWO LOGNORMAL POPULATIONS STRONGLY SUGGESTS THAT TWO SEPARATE PROCESSES HAVE ACTED ON THE SEDIMENTS.

0772 HEIN, 1.K.; J.D. KOPPEN

EFFECTS OF THERMALLY ELEVATED DISCHARGES ON THE STRUCTURE AND COMPOSITION OF ESTUARINE PERIPHYTON DIATOM ASSEMBLAGES [1979]

ESTUARINE COASTAL MAR SCI 9(4):385-401

PERIPHYTON DIATOM ASSEMBLAGES IN THE SALINE COOLING WATER CANAL SYSTEM OF THE OYSTER CREEK NUCLEAR GENERATING STATION WERE INVESTIGATED FOR A 12 MONTH PERIOD FROM DEC 1975 TO DEC 1976. UNIFORM SUBSTRATE SAMPLERS WERE PLACED IN THE INTAKE CANAL WATER AND THE HEATED DISCHARGE CANAL WATER. THESE REMAINED FOR 30 DAYS BEFORE RECOVERY TO ALLOW REPRESENTATIVE PERIPHYTON ASSEMBLAGES TO DEVELOP. THE STRUCTURE AND COMPOSITION OF THE DIATOM ASSEMBLAGES IN THE TWO CANALS WERE COMPARED. THERMAL RESPONSES OF INDIVIDUAL TAXA WERE DIFFICULT TO IDENTIFY; HOWEVER, WHEN THE STRUCTURE OF THE ASSEMBLAGES IN THE TWO CANALS WERE COMPARED THE EFFECTS OF THE THERMALLY ELEVATED EFFLUENT CAN BE SEEN. IN GENERAL, THE ASSEMBLAGES IN THE HEATED EFFLUENT HAD FEWER SPECIES, LOWER DIVERSITY INDICES, AND GREATER REDUNDANCY. A DEGREE OF DIFFERENCE MEASURE WAS USED TO SHOW THE DIFFERENCES BETWEEN THE ASSEMBLAGES AT THE TWO SITES. ALSO, EVIDENCE IS PRESENTED THAT THERMAL STRESS ABOVE A CRITICAL TEMPERATURE FOR SHORT PERIODS IS DETRIMENTAL TO THE STRUCTURE OF THE ASSEMBLAGES.

0773 HELSINGER, M.H.; G.M. FRIEDMAN

THE EFFECTS OF INDUSTRIALIZATION AND URBANIZATION ON THE UPPER HUDSON RIVER BASIN. NEW YORK [1975]

GEOL SOC AM ABSTR PROG 7(1):73

THE EFFECTS OF INDUSTRIALIZATION AND URBANIZATION ARE CLEARLY DEMONSTRATED STRATED IN THE SEDIMENTS OF THE HUDSON RIVER (KINGSTON TO TROY, NY) AND ITS TRIBUTARIES. SEDIMENTS ARE EXCELLENT INDICATORS OF POLLUTION AND RECORD THE INFLUX OF SOLID AND DISSOLVED POLLUTANTS. FIRST, ASSORTED SOLID PARTICLES ARE DISCHARGED INTO THE RIVER AND DEPOSITED ON THE RIVER BOTTOM TO BE INCORPORATED AS PART OF THE SEDIMENT (FLY ASH, COAL, SLAG, TAR AND HUMAN HAIR). SECONDLY, HIGH TRACE-METAL ACCUMULATIONS IN THE SEDIMENTS (ZN, PB, CR, CD, AND CU) INDICATE THE IMPACT OF MUNICIPAL AND INDUSTRIAL WASTE LOADINGS. TRACE-METAL CONCENTRATION ARE HIGHEST IN THE FINER-GRAINED SILTS AND CLAYS. IN ADDITION, HIGH CONCENTRATIONS OF ORGANIC MATTER BEARS A DIRECT RELATIONSHIP TO THE LEVELS OF POLLUTION. VERTICAL DISTRIBUTIONS IN CORES SHOW INCREASING ENRICHMENT OF TRACE METALS AND ORGANIC MATTER TOWARD SURFICIAL SEDIMENTS. ZN, CD, PB, CR AND CU ACCUMULATED 5X, 15X, 6X, 2X AND 5X RESPECTIVELY IN THE HUDSON RIVER. HOWEVER, NI AND CO SHOWED LITTLE OR NO ACCUMULATION. LOWER TRACE-METAL CONCENTRATIONS OCCUR IN THE MOHAWK RIVER AND OTHER TRIBUTARIES. THE IMPACT OF THE LARGE URBAN-INDUSTRIAL CENTERS OF ALBANY AND TROY ARE DEMONSTRATED BY VERY HIGH TRACE-METAL CONCENTRATIONS. 3 CHEMICAL-FRACTIONS OF THE SEDIMENTS WERE DETERMINED BY ATOMIC ABSORPTION: (1) HYDROGEN PEROXIDE (2) ACETIC

ACID, AND (3) HYDROCHLORIC ACID. THIS PROCEDURE MAKES A DISTINCTION BETWEEN THE ORGANIC, AUTHIGENIC, AND LITHOGENIC FRACTIONS OF THE SEDIMENT.

0774 HENDERSON, C.; A. INGLIS; W.L. JOHNSON

MERCURY RESIDUES IN FISH, 1969-1970--NATIONAL PESTICIDE MONITORING PROGRAM [1972]

PEST MONIT J 6(3):144-159

AS PART OF THE FISH MONITORING PROGRAM CONDUCTED BY THE BUREAU OF SPORT FISHERIES AND WILDLIFE SINCE 1967, COMPOSITE FISH SAMPLES COLLECTED DURING THE FALL OF 1979 AND 1970 WERE ANALYZED FOR MERCURY. FISH WERE COLLECTED USING SEIVES, GILL NETS, TRAPS, HOOK AND LINE, AND ELECTROFISHING. THREE COMPOSITE SAMPLES, EACH OF A DIFFERENT SPECIES AND CONSISTING) F 3-5 ADULT FISH, JERE COLLECTED AT EACH OF 50 MONITORING STATIONS IN 1969; SIMILARLY, THREE COMPOSITE SAMPLES AND IN MOST CASES A REPLICATE SAMPLE OF ONE OF THE SPECIES WERE COLLECTED AT EACH OF 100 STATIONS IN 1970. STATIONS WERE LOCATED ON MAJOR RIVERS AND LAKES THROUGHOUT THE US. SAMPLES WERE COLLECTED AT EACH OF 100 STATIONS IN 1970. STATIONS WERE LOCATED ON MAJOR RIVERS AND LAKES THROUGHOUT THE US. SAMPLES WERE WAPPED IN FOIL, FROZEN, AND SHIPPED TO A LABORATORY FOR ANALYSIS BY ATOMIC ABSORPTION. EACH COMPOSITE WAS THAWED, CUT IN SMALL PIECES, HOMOGENIZED IN A FOOD CHOPPER, DIGESTED, AND ANALYZED BY THE COLD VAPOR TECHNIQUE. TOTAL MERCURY RESIDUES EQUAL TO OR EXCEEDING THE SENSITIVITY LEVEL OF 0.05 PPM WERE FOUND IN 129 OF THE 145 SAMPLES IN 1969 AND 373 OF THE 393 SAMPLES IN 1970. VALUES RANGED FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1969 SAMPLES AND FROM LESS THAN 0.05 TO 1.25 PPM IN 1967 TO 1.25 PPM IN 1967 TO 1.25 PPM IN 1967 TO 1.25 PPM IN 1

0775 HENNEMUTH. R.C.

FISHERIES AND RENEWABLE RESOURCES OF THE NORTHWEST ATLANTIC SHELF [1975]

PAGES 146-166 IN B. MANOWITZ, ED. EFFECTS OF ENERGY-RELATED ACTIVITIES ON THE ATLANTIC CONTINENTAL SHELF, CONF. BROOKHAVEN NATL LAB. NOV 10-12. BNL. UPTON. NY

THE SHELF AND WATERS OFF THE NEW ENGLAND AND MIDDLE ATLANTIC STATES MUST BE CONSIDERED AS A WELL-INTEGRATED ECOSYSTEM. SMALL, SELECTED AREAS CANNOT BE CONSIDERED INDEPENDENTLY IN TERMS OF EVALUATING EFFECTS OF PROPOSED OR ONGOING ACTIVITIES. THE RAPID IMPOSITION ON THIS ECOSYSTEM OF MASSIVE ACTIVITIES AND SUBSTANCES FOREIGN TO THE NATURAL COURSE OF EVENTS WILL PRODUCE PERSISTENT DISEQUILIBRIA. SEVERE AND LONG-LASTING ACTIONS WILL BE REQUIRED FOR A RETURN TO A PREVIOUS STATE. THE EFFECTS CANNOT BE PREDICTED WITH ANY DEGREE OF CERTAINTY. THE POSSIBLE COURSES OF EVENTS ARE ALMOST INFINITE IN RELATION TO OUR ABILITY TO DEFINE AND EVALUATE THEM. ALMOST ANY ACTIVITY OF ANY SCOPE ON THE SHELF WILL CREATE CONFLICTS WITH FISHING ACTIVITIES AND WITH THE OBJECTIVE OF MAXIMIZING CATCH. IT IS ONLY A MATTER OF DEGREE. THE PRESENT INFORMATION CAN DEFINE ONLY WHAT THE CONFLICTS COULD BE, NOT WHAT THEY WILL BE.

0776 HESSLEIN, R.H.

AN IN SITU SAMPLER FOR CLOSE INTERVAL PORE WATER STUDIES [1976]

LIMNOL OCEANOGR 21(6):912-914

A SAMPLER FOR DEFINING COMPOSITIONAL CHANGES OVER DISTANCES ON THE ORDER OF 1 CM IN AQUEOUS SYSTEMS OPERATES BY EQUILIBRATION OF WATER CONTAINED BY A DIALYSIS MEMBRANE WITH THE SURROUNDING WATER. DEPTH PROFILES OF METHANE AND PHOSPHATE IN HUDSON ESTUARY SEDIMENTS WERE PRESENTED AS EXAMPLES.

0777 HETLING, L.J.

AN ANALYSIS OF PAST. PRESENT AND FUTURE HUDSON RIVER WASTEWATER LOADINGS [1974]

NY DEC. ALBANY NY. 35 PP

IN ORDER TO MAKE A RATIONAL ASSESSMENT OF WATER QUALITY IN THE HUDSON RIVER, A STUDY AND INVENTORY WAS MADE OF HISTORICAL, PRESENT, AND FUTURE WASTE LOADINGS TO THE HUDSON RIVER BASIN. THE BASIN WAS DIVIDED INTO FOUR PHYSIOGRAPHIC AREAS IN ORDER TO FACILITATE DATA COLLECTION, PAST AND FUTURE TRENDS IN WASTEWATER LOADINGS WERE CONFINED TO THE LOWER HUDSON AREA DUE TO ITS SIGNIFICANT WATER VOLUME AND THE IMPORTANCE OF ADJACENT LAND USE. BECAUSE HISTORIC DATA FOR THE METROPOLITAN AREA WAS EXTREMELY COMPLEX, THE ANALYSIS WAS LIMITED TO MUNICIPAL WASTEWATER DISCHARGES (WHICH ARE SURPRISINGLY LOW). ABOUT 5% OF THE MUNICIPAL SEWAGE RECEIVES LITTLE OR NO TREATMENT; HOWEVER, MOST OF THE ABOVE DISCHARGE WILL BE BROUGHT TO A SECONDARY TREATMENT LEVEL WITHIN 5 YEARS IF THE PLANNED CONSTRUCTION PROGRAM IS CARRIED OUT. DUE TO GENERAL POPULATION INCREASES, BOTH SEWERED POPULATION AND MUNICIPAL WASTEWATER FLOW INCREASED DRAMATICALLY BETWEEN 3952 AND 1965. IN 1965, THE NEW YORK STATE PURE WATERS PROGRAM PROVIDED SIGNIFICANT STATE FUNDING FOR CONSTRUCTION AND OPEATION OF WASTEWATER TREATMENT FACILITIES. ASSUMING A DIRECT RELATIONSHIP BETWEEN POLLUTIONAL WASTEWATER DISCHARGE AND RIVER QUALITY, SIGNIFICANT IMPROVEMENT IN WATER QUALITY SHOULD HAVE OCCURRED IN THE HUDSON RIVER SINCE 1954. IF PRESENTLY PLANNED FACILITIES ARE CONSTRUCTED, SUCH IMPROVEMENTS SHOULD CONTINUE THROUGH 1980.

0778 HETLING, L.J.; E.G. HORN

HUDSON RIVER PCB STUDY DESCRIPTION AND DETAILED WORK PLAN [1977]

NY DEC. ALBANY, NY 62 PP

THIS BOOKLET PRESENTS A DETAILED DESCRIPTION OF THE NY DEC'S PROGRAM FOR IMPLEMENTING THE 1976 SEITLEMENT BETWEEN GENERAL ELECTRIC AND NYS. EVENTS LEADING UP TO THE SETTLEMENT ARE BRIEFLY SUMMARIZED AND THE STIPULATIONS OF THE AGREEMENT DESCRIBED. A DESCRIPTION AND RATIONALE IS PRESENTED FOR THE STUDY PLAN WHICH IS DIRECTED TO INVESTIGATING THE NEED FOR REMEDIAL ACTION CONCERNING PCBS IN THE HUDSON RIVER. THE COSTS OF THESE STUDIES ARE ALSO PRESENTED. APPENDICES INCLUDE: A) THE SETTLEMENT AGREEMENT; B) ADVISORY COMMITTEE MEMBERSHIP; C) ADVISORY COMMITTEE GOALS AND PROCEDURES; D) DETAILED DESCRIPTIONS OF SUB-STUDIES; E) DEPARTMENT OF ENVIRONMENTAL CONSERVATION PERSONNEL INVOLVED IN THE HUDSON RIVER PCB STUDY.

0779 HETLING, L.J.; E.G. HORN; T.J. TOFFLEMIRE

SUMMARY OF HUDSON RIVER PCB STUDY RESULTS [1978]

TECH PAP 51. NY DEC, ALBANY, NY 96 PP

ON SEPT 8, 1976, THE NY DEC AND THE GENERAL ELECTRIC COMPANY (GE) SIGNED AN AGREEMENT BRINGING TO A CLOSE THE ACTION BROUGHT AGAINST GE RELATING TO DISCHARGES OF POLYCHLORINATED BIPHENYLS INTO THE HUDSON RIVER. AS A RESULT OF THIS SETTLEMENT, DEC INSTITUTED A SERIES OF MAJOR STUDIES OF THE RIVER SYSTEM RELATED TO PCBS AND POTENTIAL ACTIONS FOR MANAGING THE PROBLEM OF EXTENSIVE IN-PLACE SEDIMENT CONTAMINATION. THIS REPORT SUMMARIZES THE STUDY RESULTS ALONG WITH OTHER INFORMATION RELATED TO THE PROBLEM OF PCBS AND THE HUDSON RIVER.

0780 HETLING, L.J.; T.J. TOFFLEMIRE; E.G. HORN; R.F. THOMAS; R.C. MT. PLEASANT

THE HUDSON RIVER PCB PROBLEM: MANAGEMENT ALTERNATIVES [1979]

NY ACAD SCI ANN 320:630-650

THE EXTENT OF EXISTING ENVIRONMENTAL CONTAMINATION OF THE HUDSON RIVER SYSTEM BY PCBS AND SOME INDICATION OF ENVIRONMENTAL TRANSFER RATES HAS BEEN EXPLORED IN THE PREVIOUS PAPERS. A SUMMARY OF THE RESULTS OF SOME OF THIS WORK IS PRESENTED. IT IS

CLEAR THE CONTROL OF THE PCB LOSSES FROM THE REMNANT DEPOSIT AREAS AND THE UPPER HUDSON RIVER BED ARE CRITICAL IF FURTHER SPREAD OF PCBS TO THE RIVER ENVIRONMENT IS TO BE PREVENTED. ON THE BASIS OF THE ABOVE RESULTS, AN INDEPENDENT SCIENTIFIC ADVISORY COMMITTEE HAS RECOMMENDED THAT THE PARTIAL (HOT SPOT) DREDGING MANAGEMENT PROGRAM BY PURSUED. IMPLEMENTATION OF THIS ACTION WILL INVOLVE A COMPLEX PROGRAM OF PUBLIC EDUCATION, LOBBYING FOR FUNDS, DETAILED ENGINEERING, AND CONTINUED MONITORING AND STIDIES. A HIGH DEGREE OF COOPERATION AND ASSISTANCE FROM SCIENTISTS, ENVIRONMENTALIST AND LOCAL, STATE, AND FEDERAL GOVERNMENT WILL BE REQUIRED FOR SUCCESS.

0781 HIBSHMAN. H.J.

AIR CONDITIONING KENNEDY AIRPORT WITH WINTER COLD. THERMAL ENERGY STORAGE IN AQUIFERS WORKSHOP [1978]

PAGES 56-61 IN WORKSHOP ON THERMAL ENERGY STORAGE IN AQUIFERS. BERKELEY, CA, 10 MAY, 1978

A FEASIBILITY STUDY IS PRESENTED FOR A POSSIBLE CONVERSION OF THE AIR CONDITIONING SYSTEM OF THE JFK INTERNATIONAL AIRPORT IN NEW YORK CITY FROM A CONVENTIONAL REFRIGERATION MACHINE SYSTEM TO A SYSTEM USING WINTER COLD STORED AS COLD WATER IN AN AQUIFER UNDER THE AIRPORT. THE STORED WATER WOULD BE CHILLED BY EITHER WINTER AIR OR NEAR FREEZING JAMAICA BAY WATER, AND WOULD BE USED DURING THE FOLLOWING SUMMER TO AIR CONDITION THE AIRLINE TERMINAL BUXLDINGS. TO PUT THE SCALE OF THE AIR CONDITIONING LOAD IN PERSPECTIVE, IT IS ENOUGH TO CENTRALLY AIR CONDITION EVERY HOME IN A CITY OF 25,000 POPULATION.

0782 HICKEY, C.R., JR.; H.M. AUSTIN

PUGHEADEDNESS IN BLUEFISH [1974]

NY FISH GAME J 21(2):188-189

TWO PUGHEADED BLUEFISH CAPTURED IN LONG ISLAND SOUND AT DIFFERENT TIMES DURING 1971 ARE THE FIRST REPORTED CASES OF THIS MALFORMATION FOR THIS SPECIES.

0783 HICKEY, C.R., JR.

FISH BEHAVIOR AS REVEALED THROUGH STOMACH ANALYSIS [1975]

NY FISH GAME J 22(2):148-155

ANALYSIS OF STOMACH CONTENTS OF FISHES NOT ONLY REVEALS WHAT PREY ORGANISMS ARE TAKEN, BUT IT ALSO REVEALS MANY ASPECTS OF THE ECOLOGY AND HABITS OF THE PREDATOR SUCH AS VERTICAL AND HORIZONTAL MOVEMENTS, DAY/NIGHT ACTIVITY, COMPETITION BETWEEN SPECIES AND DEGREE OF ADAPTAPILITY TO CHANGES IN FOOD ABUNDANCE AND TYPES. SUCH STUDIES MAY ALSO BE USEFUL IN DESCRIBING THE BIOTIC ENVIRONMENT IN WHICH THE FISH LIVE, E.G., THE SEASONAL, TEMPORAL AND SPATIAL ABUNDANCE OF PREY ORGANISMS. ENERGY-FLOW THROUGH AN ECOSYSTEM CAN BE VISUALIZED BY UNDERSTANDING THE TYPE OF FEEDERS PRESENT AND THEIR TROPHIC LEVELS. TO ILLUSTRATE THE USE OF FISH STOMACH ANALYSIS IN UNDERSTANDING FISH BEHAVIOR DATA ARE GIVEN FOR THE WINDOWPANE FLOUNDER (SCOPHTHALMUS AQUOSUS) IN LONG ISLAND WATERS.

0784 HICKEY, C.R., JR.; R.A. AMISH

STUNTED GROWTH OF A JAWLESS STRIPED BASS, MORONE SAXATILIS [1975]

TRANS AM FISH SOC 104(2):410-412

DURING A 1 YR MARINE ICHTHYOFAUNAL STUDY OF NORTHPORT, NY, ONLY ONE ABNORMAL FISH WAS TAKEN, A STRIPED BASS, MORDNE SAXATILIS.

THIS 3-YEAR-OLD FISH, LACKING A LOWER JAW AND PART OF THE UPPER, WAS APPARENTLY INJURED BETWEEN ITS SECOND AND THIRD YEAR OF LIFE, AS EVIDENCED BY MUCH REDUCED SCALE FORMATION DURING THAT PERIOD. THE FISH, MEASURING 260 MM STANDARD LENGTH AND WEIGHING 291.1 GRAMS, WAS MUCH SMALLER THAN NORMAL FISH OF COMPARABLE AGE, BEING NEARER THE SIZE OF 2-YEAR-OLD FISH. THIS STUNTED GROWTH WAS PRESUMABLY DUE TO REDUCED FEEDING ABILITY RESULTING FROM THE INJURY.

0785 HICKEY, C.R., JR.; B.H. YOUNG; J.W. LESTER

TARPON FROM MONTAUK, NEW YORK [1976]

NY FISH GAME J 23(2):186-187

THIS NOTE DESCRIBES THO SPECIMENS OF TARPON CAPTURED OFF MONTAUK; EACH OF WHICH WAS LARGER THAN ANY OTHER INDIVIDUAL OF THAT SPECIES REPORTED FOR NY WATERS.

0786 HICKEY, C.R., JR.; B.H. YOUNG; R.D. BISHOP

SKELETAL ABNORMALITIES IN STRIPED BASS [1977]

NY FISH GAME J 24(1):69-85

MANY TYPES OF SKELETAL ANOMALIES HAVE BEEN REPORTED TO EXIST IN FISHES, BUT ONLY ONE TYPE, PUGHEADEDNESS, HAVE BEEN PREVIOUSLY REPORTED FOR WILD STRIPED BASS. THE PRESENT PAPER DESCRIBES 23 ANOMALOUS STRIPED BASS (RANGING IN YEAR CLASS FROM 1964 TO 1973) COLLECTED DURING 1973 FROM LOCALITIES AROUND LONG ISLAND. PUGHEADEDNESS WAS OBSERVED IN 8 ADULT AND 6 YOUNG-OF-THE-YEAR FISH, AND 4 ABNORMAL CONDITIONS HERETOFORE UNREPORTED FOR WILD STRIPED BASS ARE DESCRIBED: CROSS-BITE, LORDOSIS, SCOLIDSIS, AND ABNORMAL FINS. THE OCCURRENCE OF ABNORMAL CONDITIONS AMONG HATCHERY-REARED STRIPED BASS X WHITE BASS HYBRIDS IS ALSO NOTED. ANOMALJUS STRIPED BASS ARE PROBABLY AJRE NUMEROUS THAN PREVIOUS REPORTS TEND TO INDICATE. HOWEVER, ALL THE WILD FISH EXAMINED APPEARED CAPABLE OF SURVIVAL.

0787 HICKEY, C.R., JR.; J.W. LESTER

MARINE FISHES OF SOUTHERN ORIGIN IN NEW YORK WATERS AND THEIR CONTRIBUTION TO THE FISHERY [1980]

NY FISH GAME J 27(1):99-102

OVER A 5-YR PERIOD, SOUTHERN SPECIES COMPRISED 0.78% OF THE TOTAL MARKETED CATCH WEIGHT OF FISH FROM FORT POND BAY, NY. FOR THE MONTHS OF JUN THROUGH NOV, THEIR CONTRIBUTION WAS 1.02%. THE BEST HARVEST WAS IN 1973 WHEN THOSE MARKETED REPRESENTED 48.9% OF THE TOTAL POUNDAGE OF SUCH SPECIES MARKETED DURING THIS STUDY. LITTLE TUNNY AND BLUE RUNNER (EUTHYNNUS ALLETTERATUS, CARANX CRYSOS) COMPRISED 82% OF THOSE TAKEN JITH LESSER PERCENTAGES BEING TAKEN FROM ATLANTIC BONITO (SARDA SARDA), SPANISH MACKEREL (SCOMBEROMORUS MACULATUS), CERO (S. REGALIS), AND SNAPPER (LUTJANUS SP.). THE BLUE RUNNERS ARE MOST OFTEN USED FOR SCRAP OR BAIT.

0788 HICKS, S.D.

DRAFT REPORT ON CHANGES IN THE LEVEL OF THE SEA FOR THE GREATER NEW YORK BIGHT AREA [1974]

UNPUBL REP. NOAA, MESA, STONY BROOK, NY 52 PP

THE SCOPE OF THE PRESENTATION IS LIMITED TO ANALYSES OF MONTHLY MEAN SEA LEVELS SHOWING SEASONAL CYCLES AND VARIABILITY OF THE MONTHLY MEANS FROM YEAR TO YEAR, AND TO YEARLY MEAN SEA LEVEL SHOWING TRENDS OVER DECADES AND YEARLY VARIABILITY. NOTHING

STATED OR IMPLIED IS MEANT TO DIMINISH THE IMPORTANCE OF SURF, WIND SETUP IN BAYS AND LAGOONS, STORM SURGES ACCOMPANYING HURRICANES, OR TIDES. HOWEVER, IT IS STRONGLY FELT THAT IF THIS NATION IS TO INTELLIGENTLY PLAN FOR THE DEVELOPMENT AND CONTROL OF THE COASTAL ZONE, THE SPECTRUM COVERING THE PERIOD FROM ONE MONTH TO JHIRTY YEARS MUST BE CAREFULLY CONSIDERED.

0789 HIGMAN. J.B. (EDITOR)

PROC, 28TH ANN CONF, GULF & CARIBBEAN FISHERIES INSTITUTE, BAL HARBOUR, FL, OCT 1975 [1976]

NOAA, BOULDER, CO 120 PP NTIS-PB-263 046

4 GROUPS OF PAPERS CONSTITUTE THE PROCEEDINGS OF THE 28th annual gulf and caribbean fisheries institute. The fisheries jurisdiction session consisted of papers on: the new ocean regime; the status of extended jurisdiction over our fishery resources; interstate marine compact commissions—role in fisheries management; suggested state legislation for effective management of marine fisheries; florida's position regarding hr 200 (extended jurisdiction); and the western central atlantic fishery commission (wecafc): its implications and impact. The continental shelf session papers were: multiple—use conflicts between fishermen and other users of the ocean with a consideration of a possible expanded federal role; identification and mapping of fishing banks on the outer continental shelf of the gulf of mexico; current studies toward the protection of the environment in the mafla area; and contaminant effects on biota of the new york bight. Papers of the fisheries biology session were: gear and economic efficiency results of a sea grant twin—tranl; abundance and potential for fisheries; aquarium fish hobby; progress toward management of the atlantic bluefin tuna; outline for a southeastern regional recreational fishery progress toward management of fisheries because of the final session was a fisheries workshop.

0790 HILL . D.

COST-EFFECTIVE DESIGN AND OPERATION OF AN OCEANOGRPAHIC RESEARCH PROGRAM FOR OFFSHORE NUCLEAR PLANT SITING [1975]

PAGES 503-612 IN PROC. 7TH ANN OFFSHORE TECHNOL CONF. 1975. VOL 3

EXTENSIVE OCEANOGRAPHIC STUDIES WERE PERFORMED TO CHARACTERIZE REGIONS WITHIN AN 800 MI2 AREA S OF LONG ISLAND FOR THEIR SUITABILITY AS SITES FOR AN OFFSHORE NUCLEAR POWER PLANT. THE SAMPLING PROGRAM WAS DESIGNED TO KEY TO NEW DATA TO EXISTING INFORMATION AND TO FACILITATE GEOGRAPHIC AND TEMPORAL INTERPOLATION. DAY CRUISES WERE PLANNED TO MAXIMIZE THE COST EFFECTIVENESS OF OPERATIONS USING TECHNIQUES SUCH AS TIME-LINE ANALYSIS, BREAK-EVEN COST ANALYSIS, AND DECISION TREES FOR PROBLEMS WITH UNCERTAINTIES. THE SAMPLING PROGRAM INCLUDED BENTHIC AND PLANKTONIC BIOLOGICAL SAMPLING, CHEMICAL AND SEDIMENT SAMPLING AND DATA ON TEMPERATURE, SALINITY, AND CURRENT SPEED AND DIRECTION. PRINCIPAL ENVIRONMENTAL CONSIDERATIONS AFFECTING OFFSHORE SITING INCLUDE THE AVAILABILITY OF COOL WATER, PATTERNS OF ADVECTION AND DISPERSION OF THERMAL DISCHARGES AND POSSIBLE RELEASE OF RADIONUCLIDES; BIOLOGICAL AND CHEMICAL EFFECTS OF THE HUDSON RIVER, ADJACENT OCEAN DUMPING AREAS, BORDERING INLETS TO PROTECTED BAYS, AND THE POWER PLANT ITSELF; AND SEDIMENTATION EFFECTS SUCH AS BOTTOM SCOUR AND POSSIBLE CHANGES IN LITTORAL DRIFT.

0791 HILLMAN, R.E.; N.W. DAVIS; J. WENNEMER

ABUNDANCE, DIVERSITY, AND STABILITY IN SHORE-ZONE FISH COMMUNITIES IN AN AREA OF LONG ISLAND SOUND AFFECTED BY THE THERMAL DISCHARGE OF A NUCLEAR POWER STATION [1977]

ESTUARINE COASTAL MAR SCI 5(3):355-381

SHORE-ZONE FISH COMMUNITIES IN THE AREA OF A NUCLEAR POWER STATION AT MILLSTONE POINT, CT, ON LONG ISLAND SOUND, WERE STUDIED FROM MAY 1969 THROUGH DEC 1975. THREE AREAS AFFECTED BY THE THERMAL PLUME, AND A CONTROL SITE, NOT AFFECTED BY THE PLUME, WERE SAMPLED DURING FEB, MAY, JULY, SEPT AND DEC OF EACH YEAR FROM 1968 THROUGH 1972. IN FEB 1973 AN ADDITIONAL AFFECTED AREA AND

CONTROL SITE WERE ADDED AND SAMPLED ON THE SAME SCHEDULE. IN FEB 1974 THE SAMPLING SCHEDULE WAS CHANGED TO INCLUDE SAMPLES IN JUNE, AUG AND OCT. ALL SAMPLES WERE COLLECTED WITH A 30-FT SEINE OF 1/4-IN MESH. OVER 81 500 FISH, REPRESENTING AT LEAST 35 SPECIES, WERE COLLECTED. SPECIES DIVERSITY, SPECIES RICHNESS, AND SPECIES EVENNESS INDEXES WERE COLLECTED. SPECIES DIVERSITY, SPECIES RICHNESS, AND SPECIES EVENNESS INDEXES WERE CALCULATED FOR EACH SITE AND COLLECTING PERIOD, AS WELL AS FOR EACH YEAR. IN ADDITION, THE DEGREE OF COMMUNITY SIMILARITY AT EACH SITE FROM YEAR TO YEAR WAS ASSESSED. ALTHOUGH THE MOST ABUNDANT SPECIES RICHNESS, AND SPECIES EVENNESS INDEXES WERE CALCULATED FOR EACH SITE AND COLLECTING PERIOD, AS WELL AS FOR EACH YEAR. IN ADDITION, THE DEGREE OF COMMUNITY SIMILARITY AT EACH SITE FROM YEAR TO YEAR WAS ASSESSED. ALTHOUGH THE MOST ABUNDANT SPECIES AT EACH SITE WAS THE ATLANTIC SILVERSIDE, MENIDIA MENIDIA, THE SITES DIFFERED CONSIDERABLY FROM ONE ANOTHER IN THEIR COMMUNITIES, DEPENDING ON SUCH FACTORS AS AMOUNT OF EXPOSURE TO WAVE ACTION, VEGETATION, AND SUBSTRATE COMPOSITION. IN GENERAL, SPECIES DIVERSITY, RICHNESS, AND EVENNESS FLUCTUATED AT EACH SITE SEASONALLY AND FROM YEAR TO YEAR SUCH THAT NO TRENDS COULD BE DETERMINED. THERE WAS A DISTINCT SHIFT IN COMMUNITY SIMILARITY THROUGH 1974 AND 1975 AT MOST SITES. SINCE NO EVIDENCE COULD BE FOUND THAT OPERATION OF THE POWER STATION WAS RESPONSIBLE FOR THE CHANGES, IT WAS CONCLUDED THAT SUCH FLUCTUATIONS WERE NATURAL, AND WOULD BE OBSERVED IN ANY ECOSYSTEM IF IT WERE STUDIED FOR SEVERAL CONSECUTIVE YEARS. IT IS SUGGESTED THAT THE CONCEPT OF COMMUNITY OR ECOSYSTEM STABILITY BE RE-EXAMINED AND POSSIBLY REDEFINED IN LIGHT OF THESE DISTINCT FLUCTUATIONS OVER 6 YRS.

0792 HILTON, M.C.; G. STOTZKY

USE OF COLIPHAGES AS INDICATORS OF WATER POLLUTION [1973]

CAN J MICROBIOL 19(6):747-751

THE FEASIBILITY OF USING COLIPHAGES, OBLIGATE PARASITES OF COLIFORM BACTERIA, AS INDICATORS OF WATER POLLUTION BY SEWAGE WAS INVESTIGATED. NO CONSISTENT RELATIONSHIP WAS FOUND BETWEEN CONCENTRATIONS OF COLIFORM BACTERIA AND COLIPHAGES IN SAMPLES FROM THE HUDSON RIVER ON THE LOWER WEST SIDE OF MANHATTAN, NY. THE RESULTS INDICATED, HOWEVER, THAT A MODIFICATION OF THE ENRICHMENT METHOD FOR THE DETECTION OF PHAGES IN SOILS AND SEWAGE COULD BE USED FOR DETECTING LOW LEVELS OF PHAGES ACTIVE AGAINST SPECIFIC HOST BACTERIA.

0793 HIMCHAK, P.J.

OCEAN SAMPLING RELATED TO THE ALGAE BLOOM AND SUBSEQUENT OFFSHORE FISH KILL DURING THE SUMMER OF 1976-SUMMATION OF DISSOLVED OXYGEN MONITORING [1976]

MAR FISH SECT, NJ DIV OF FISH, GAME AND SHELLFISH, TRENTON, NJ 44 PP

REPORTS OF UNUSUAL MORTALITIES OF FINFISH AND CRUSTACEANS BY SPORT DIVER AND COMMERCIAL FISHERMEN GAVE RISE TO EXTENSIVE OFFSHORE SAMPLING PROGRAMS DURING THE SUMMER OF 1976. IN RESPONSE TO THE NEED FOR INFORMATION REGARDING THE CAUSES AND EXTENT OF THE OFFSHORE FISHKILL, THE MARINE FISHERIES SECTION OF THE NJ DIVISION OF FISH, GAME AND SHELLFISHERIES, OPERATING AT THE NACOTE CREEK RESEARCH STATION EMBARKED ON A WATER QUALITY SAMPLING PROGRAM JUL 7, 1976 WHICH WAS TO CONTINUE TO DCT 29, 1976. IT SOON BECAME EVIDENT THAT THE ONGOING FISHKILL WAS BEING CAUSED BY THE EXISTENCE OF A LAYER OF OXYGEN DEPLETED WATER BELOW THE THERMOCLINE INITIATED IN PART BY A MASSIVE BLOOM AND LATER DECOMPOSITION OF THE DINOFLAGELLATE, CERATIUM TRIPOS. DISSOLVED DXYGEN DATA OBTAINED FROM OFFSHORE TRANSECTS ENABLED THE MAPPING OF THE OXYGEN DEPLETED ZONE AS IT MOVED OR GREW IN A SOUTHERLY DIRECTION.

0794 HINZ, R.K., JR.

THE LOW VISIBILITY REGIME AT THE SITE OF THE PROPOSED NEW YORK OFFSHORE AIRPORT [1974]

M.S. THESIS. SUNY. STONY BROOK, NY 195 PP

THE OCCURRENCE OF VERY LOW VISIBILITIES IS KNOWN TO HAVE A SIGNIFICANT ADVERSE IMPACT UPON AIRPORT OPERATIONS. THE FEDERALLY FUNDED NY OFFSHORE AIRPORT FEASIBILITY STUDY, PREPARED BY SAPHIER, LERNER AND SCHINDLER, ENVIRONETICS INCLUDED A METEOROLOGICAL ANALYSIS OF THE AREA OF THE ATLANTIC OCEAN JUST SOUTH OF LONG BEACH, NY. THIS STUDY REPORTED THAT THERE WAS NO SIGNIFICANT DIFFERENCE IN THE OCCURRENCE OF LOW VISIBILITIES AT THE PROPOSED OFFSHORE AIRPORT SITE AS COMPARED WITH JFK INTERNATIONAL AIRPORT. IN CONTRAST TO THE RESULTS OF THAT STUDY, ANALYSIS OF DATA UNDERTAKEN HERE INDICATES THAT THERE IS A TEN FOLD GREATER OCCURRENCE OF VISIBILITY LESS THAN FIFTY YARDS OFFSHORE AS COMPARED WITH KENNEDY AIRPORT. ADDITIONAL OPERATIONALLY SIGNIFICANT DIFFERENCES ARE REPORTED FOR TOTAL, SEASONAL AND DIURNAL OCCURRENCES OF LOW VISIBILITIES. THE HIGHER INCIDENCE OF FOG OFFSHORE IS SHOWN TO BE THE RESULT OF DISTINCT OCEANIC METEOROLOGICAL MECHANISMS. POLLUTION SOURCES ASSOCIATED WITH THE CONSTRUCTION AND OPERATION OF THE OFFSHORE AIRPORT ARE SHOWN TO HAVE THE POTENTIAL FOR SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACT WHICH INCLUDES THE POSSIBLITY OF INADVERTENT WEATHER MODIFICATION THAT COULD AGGRAVATE THE EXISTING LOW VISIBILITY PROBLEM.

0795 HIRSCH, A.

NOAA'S NEW YORK BIGHT MARINE ECOSYSTEMS ANALYSIS PROJECT: AN INTERDISCIPLINARY STUDY OF THE MARINE ENVIRONMENT [1974]

MAR TECHNOL SOC J 8(9):29-34

NOAA INITIATED A NEW PROGRAM IN 1972, THE MARINE ECOSYSTEMS ANALYSIS PROGRAM (MESA). THE OBJECTIVE OF THE MESA PROGRAM IS TO DEVELOP INFORMATION ON THE BIOLOGICAL, PHYSICAL AND CHEMICAL PROCESSES OF SELECTED COASTAL AREAS, WHICH WILL IMPROVE OUR ABILITY TO ASSESS AND PREDICT THE IMPACT OF MAN-MADE ALTERATIONS OR NATURAL PHENOMENA. THE FIRST AREA SELECTED FOR STUDY IS THE NEW YORK BIGHT, ONE OF THE NATION'S MOST COMPLEX AND HEAVILY USED COASTAL AREAS. THE NEW YORK BIGHT MESA PROJECT INVOLVES A NUMBER OF NOAA ORGANIZATIONAL ELEMENTS, OUTSIDE COOPERATORS AND CONTRACTORS IN AN INTEGRATED STUDY APPROACH.

U796 HIRSCH, A.M.; D. GOVONI

FOOD SUPPLY--LIMITING FACTOR OF FORAMINIFERAL POPULATIONS [1973]

AM ASSOC PET GEOL BULL 57(4):784

THE STANDING CROP OF BENTHONIC FORMINIFERA DECLINES DURING THE FALL AND INCREASES DURING THE EARLY SPRING IN GREAT BAY, NJ. POPULATION SIZES CORRELATE WITH SEASONAL VARIATIONS IN PHYTOPLANKTON AND PARTICULATE ORGANIC CARBON ABUNDANCES, BUT DO NOT CORRELATE WITH CHANGES IN TEMPERATURE OR SALINITY OR WITH DIFFERENCES IN SUBSTRATE TEXTURES. FORMINIFERAL POPULATIONS AT 7 STATIONS WERE REPEATEDLY EXAMINED FROM THE HEAD TO THE MOUTH OF THE BAY. THE SUBSTRATE RANGED FROM A SILTY CLAY TO A SHELLY, GRAVELLY SAND. MAXIMUM SALINITY-TEMPERATURE RANGE WITHIN THE BAY ON ANY SAMPLING DAY NEVER EXCEEDED 8 PPT OR 2 C, ALTHOUGH SALINITIES AND TEMPERATURES VARIED FROM A MAXIMUM OF 31 PPT AND 26 C IN LATE SUMMER TO A MINIMUM OF 10 PPT AND 0 C IN MID-WINTER, RESPECTIVELY. THE FORMINIFERAL FAUNA IS A TYPICAL MIDLATITUDE ESTUARINE ASSEMBLAGE. THE DOMINANT SPECIES DIFFER AMONG STATIONS AND APPEAR TO BE CONTROLLED BY SUBSTRATE TEXTURE AND SALINITY; HOWEVER, THE STANDING CROP AT ALL STATIONS EXHIBITS A CONSISTENT SEASONAL VARIATION. THE LIVE PERCENTAGE OF THE TOTAL FORMINIFERAL POPULATION DECREASES BY MORE THAN 30% IN THE FALL AND WINTER AND INCREASES MORE THAN 10% IN LATE WINTER-EARLY SPRING. THE DECREASE COINCIDES WITH A DECREASE IN CHLOROPHYLL A, BUT NOT WITH ANY MARKED CHANGE IN TEMPERATURE OR SALINITY. IN EARLY MARCH THE INCREASE COINCIDES WITH AN INCREASE IN CHLOROPHYLL A OR PARTICULATE ORGANIC CARBON, ALTHOUGH TEMPERATURES IN THE BAY ARE 5-6 C AND SALINITIES ARE DEPRESSED BY RUNOFF. THE DOMINANT 700PLANKTON, COPEPODS AND NAUPLIUS LARVAE, AS DETERMINED BY OTHERS, EXHIBIT A SIMILAR SEASONAL PATTERN.

0797 HIRSHLEIFER, J.; J.W. MILLIMAN

URBAN WATER SUPPLY: A SECOND LOOK [1967]

AMER ECON REV 57(2):169-178

THERE HAS BEEN CONSISTENT OVERPRICING AND OVERBUILDING IN REGARDS TO URBAN WATER SUPPLIES. REALLOCATION OF EXISTING SUPPLIES BY USE OF FLEXIBLE PRICES IS RARELY CONSIDERED. THIS IS DUE TO POLITICAL AND LEGAL INFLUENCES AND TO FAULTY ECONOMIC REASONING. THERE IS A BELIEF IN CERTAIN INELASTIC NEEDS FOR WATER, RATHER THAN IN ECONOMIC DEMANDS, EVEN THOUGH SENSITIVITY TO PRICE CHANGES HAS REFUTED THIS. FOR NEW YORK IN 1960 IT WAS CONTENDED THAT METERING AND LEAKAGE CONTROL WERE ECONOMIC SUBSTITUTES FOR THE PROPOSED CANNONSVILLE DAM, AND THAT EVEN A DAM ON THE HUDSON WOULD HAVE BEEN CHEAPER. IT IS ALSO BELIEVED THAT THE PROPOSED DAM WOULD HAVE BEEN OF LITTLE ASSISTANCE DURING THE 1965 WATER SHORTAGE. THE IDEA OF CALIFORNIA BUILDING THE FEATHER RIVER PROJECT IN 1960 WAS DEEMED PREMATURE. THERE WERE ALREADY EXCESSIVE SUPPLIES, AND RATE INCREASES AS WELL AS REALLOCATION FROM AGRICULTURE AND WASTES WOULD HAVE BEEN CHEAPER. AS A RESULT THE AREA'S WATER WHOLESALER, THE METROPOLITAN WATER DISTRICT, WAS PRESSURED INTO BUYING THIS ENORMOUS SUPPLY OF HIGH COST WATER FROM THE STATE. AS A RESULT AREA COSTS SHOULD BE \$58 AN ACRE FOOT BY 1975 (AS COMPARED TO \$15 IN 1960). AND \$26 FOR AGRICULTURE (UP FROM \$12 IN 1960).

0798 HIRSHLEIFER, J.; J.C. DEHAVEN; J.W. MILLIMAN

WATER SUPPLY, ECONOMICS, TECHNOLOGY AND POLICY [1969]

UNIV OF CHICAGO PRESS, CHICAGO, IL 386 PP

THIS BOOK PROVIDES AN INTRODUCTION TO THE APPLICATION OF ECONOMIC AND TECHNOLOGICAL KNOWLEDGE TO THE SOLUTION OF PRACTICAL PROBLEMS IN THE AREA OF WATER SUPPLY. THE WATER PROBLEM AS IT PERTAINS TO THE FUTURE AVAILABILITY, PRICE, AND QUALITY OF WATER IS DISCUSSED FOLLOWED BY AN EXPLANATION OF THE PRESENT STATE OF WATER RESOURCES DEVELOPMENT. THE AUTHORS APPLY ECONOMIC ANALYSIS TO THE PROBLEM OF UTILIZING EXISTING WATER SUPPLY AND EXPLAIN AND CRITICIZE THE USUAL ALLOCATION PROCESS. THEORETICAL PRINCIPLES OF CORRECT PRICING ARE APPLIED IN THE PRACTICAL CONTEXT OF MUNICIPAL WATER UTILITIES AND PRESENT INDUSTRY PRICING PRACTICES ARE CRITICIZED. THE AUTHORS INVESTIGATE THE THEORETICAL CRITERIA FOR DETERMINING WHEN EXPANSIONS OF WATER SUPPLIES SHOULD TAKE PLACE AND WHICH OF THE MANY TECHNOLOGICALLY POSSIBLE PROJECTS SHOULD BE ADOPTED. THE PROTIONS OF THE HYDROLOGIC CYCLE FROM WHICH SUPPLIES OF WATER MAY BE OBTAINED ARE DISCUSSED AS WELL AS THE TECHNOLOGICAL PROPSPECTS AND THE COSTS OF PROCURING, TREATING AND DISTRIBUTING WATER IN A VARIETY OF WAYS. FOLLOWING AN EXPLANATION OF THE RELEVANT WATER LAW, THERE ARE TWO CASE STUDIES OF AREAS WHICH EXPERIENCE A WATER SHORTAGE.

0799 HITCHCOCK, L.B. (EDITOR)

THE FRESH WATER OF NEW YORK STATE: ITS CONSERVATION AND USE [:967]

WILLIAM C. BROWN BOOK CO. DUBUQUE. 1A 255 PP

THE BOOK IS COMPOSED OF PAPERS BY NATIONALLY DISTINGUISHED AUTHORITIES IN THE FIELD OF WATER RESOURCES AND OTHERS WHO PARTICIPATED IN A SYMPOSIUM DIRECTED PRIMARILY AT THE CHALLENGES CONFRONTING NEW YORK STATE, BUT APPLICABLE IN MANY CASES, TO WATER PROBLEMS EXISTING NATIONALLY AND ABROAD. A SUMMATION WAS PRESENTED OF WHERE WE STAND TODAY, WHICH COULD HELP RESOLVE SOME UNCERTAINTIES, CRYSTALLIZE PUBLIC OPINION, AND ALERT THOSE IN GOVERNMENT AND COMMUNITY LIFE WHO MAY STILL VIEW THESE WATER PROBLEMS WITH A DEGREE OF APATHY. THE SYMPOSIUM BROUGHT TOGETHER REPRESENTATIVES OF VIRTUALLY ALL FIELDS CONCERNED WITH OUR WATER RESOURCES. THESE INCLUDED POLLUTION CAUSES AND CONTROL, WATER RESOURCES MANAGEMENT, LIMNOLOGY, HYDROLOGY, ECONOMICS, URBAN PLANNING, AND GOVERNMENT. EMERGING FROM THIS SYMPOSIUM IS THE INESCAPABLE INFERENCE THAT NOT MUCH WILL BE ACCOMPLISHED UNTIL THE FEDERAL GOVERNMENT FINANCES A MUCH LARGER PORTION OF THE MULTI-BILLIONS REQUIRED TO CONSTRUCT MUNICIPAL AND INDUSTRIAL TREATMENT WORKS, PARALLELING THE COUNTRY'S EXPERIENCE IN ITS EXPANDED PROGRAM OF HIGHWAYS.

0800 HITRON. J.W.

SERUM TRANSFERRING PHENOTYPES IN STRIPED BASS, MORONE SAXATILIS, FROM THE HUDSON RIVER [1974]

CHES APEAKE SCI 15(4):246-247

THREE TRANSFERRING PHENOTYPES OBSERVED IN THE SERUM OF STRIPED BASS MORONE SAXATILIS, ARE DESCRIBED GENETICALLY AS REPRESENTING TWO ALLELES AT A SINGLE LOCUS. THE DISTRIBUTION OF THE PHENOTYPES OF A, THE BAND THE ABOUT NOT DIFFER SIGNIFICANTLY AMONG SAMPLES COLLECTED FROM THE HUDSON RIVER, SUGGESTING THAT ALL FISH SAMPLED WERE OF ONE HOMOGENEOUS POPULATION.

0801 HOBBS, J.J.; G. MEDINA; A. DILLON

COMPARING THE QUALITY OF OUR WATERS [1973]

POLLUT ENGINEER 5(10):42-43

MANY EXTENSIVE STUDIES ARE NOW BEING CONDUCTED THROUGHOUT THE WORLD ON THE QUALITY OF WATER IN RIVERS, LAKES AND STREAMS.

ANALYSES OF GRAB SAMPLES COLLECTED FROM A NUMBER OF MAJOR BODIES OF WATER ARE PRESENTED IN TABULAR FORM. IT IS IMPORTANT TO

NOTE THAT GRAB SAMPLE RESULTS ARE OF VALUE ONLY WHEN RELATED 10 A NUMBER OF COLLECTION FACTORS. THE ANALYSIS OF THESE SAMPLES
IS FOR THE PURPOSE OF GENERAL INFORMATION ONLY.

0802 HOBSON. R.D.

SEDIMENT HANDLING AND BEACH FILL DESIGN [1978]

CERC. FORT BELVOIR. VA. 15 PP

OFFSHORE SAND AND GRAVEL DESPOSITS CONSTITUTE AN EXTENSIVE MINERAL RESOURCE WHOSE IMPORTANCE AND ECONOMIC VALUE INCREASE STEADILY AS ONSHORE AND LAGOONAL SOURCES BECOME UNAVAILABLE. ONE MAJOR USE OF THESE MARINE DEPOSITS IS FOR BEACH NOURISHMENT WHERE THE AMOUNT OF INITIAL FILL MATERIAL NEEDED AND THE EXPECTED PERIODIC RENOURISHMENT REQUIREMENTS ARE USUALLY ESTIMATED USING FILL FACTOR AND RENOURISHMENT BEACH FILL MODELS, RESPECTIVELY. TEXTURAL PROPERTIES OF BORROW SITE AND NATIVE BEACH SEDIMENTS ARE USED AS THE BASIC INPUT FOR BEACH FILL MODEL CALCULATIONS. ALTERATIONS TO BORROW SEDIMENT TEXTURE PROPERTIES OF DREDGING AND HANDLING TECHNIQUES CAN SIGNIFICANTLY AFFECT BOTH THE PREDICTED RESPONSE OF THE SEDIMENTS AFTER PLACEMENT IN THE BEACH ENVIRONMENT AND ECONOMIC ASPECTS OF THE PROJECT.

0803 HOBSON, R.D.; W.R. JAMES

IMPORTANCE OF HANDLING LOSSES TO BEACH FILL DESIGN [1979]

PROC OF SYMPOSIUM, HAMBURG, GERMANY, 27 AUG-3 SEP 1978. ASCE. NEW YORK. NY 2 PP

BEACH YOURISHMENT MODELS COMMONLY EMPLOYED BY THE US ARMY CORPS OF ENGINEERS COMPARE TEXTURAL PROPERTIES OF NATIVE BEACH AND DISSIMILAR BORROW SEDIMENTS TO DETERMINE OVERFILL AND RENOURISHMENT REQUIREMENTS FOR BEACH FILL PROJECTS. IT IS ASSUMED FOR THESE COMPARISONS THAT THE TEXTURE OF BORROW SEDIMENTS IS UNCHANGED BY DREDGING AND HANDLING OPERATIONS BUT INVESTIGATIONS HAVE SHOWN THAT SIGNIFICANT HANDLING LOSSES DO, IN FACT, OCCUR. THIS PAPER PRESENTS RESULTS FROM FOUR FIELD STUDIES THAT DOCUMENT TEXTURAL CHANGES CAUSED BY DREDGING AND SEDIMENT HANDLING AT ROCKAWAY BEACH, NY, AND AT NEW RIVER INLET, NC. ERRORS ASSOCIATED WITH CALCULATING VOLUMES OF SEDIMENT DREDGED AND LOST USING STANDARD SURVEYING AND PRODUCTION METHODS ARE DISCUSSED AND AN ALTERNATIVE METHOD IS PRESENTED AS A HANDLING-LOSS MODEL THAT COMPARES BOTTOM AND DREDGED SEDIMENT TEXTURE TO DETERMINE VOLUMES LOST.

0804 HOFFMAN, G.L.

TRACE METAL ENRICHMENT IN THE SEA-SURFACE MICROLAYER [1972]

J GEOPHYS RES 77(27):5243-5254

SEA-SURFACE MICROLAYER SAMPLES HAVE BEEN ANALYZED FOR THE TRACE METALS ALUMINUM, COPPER, IRON, MANGANESE, NICKEL: LEAD, AND VANADIUM BY ATOMIC ABSORPTION AND NEUTRON ACTIVATION. SAMPLES WERE COLLECTED WITH POLYETHYLENE SCREENS IN THE ESTUARINE MATERS OF NARRAGANSETI BAY, RI, THE COASTAL MATERS OF THE NEW YORK BIGHT, AND OPEN OCEAN REGIONS BETWEEN ICELAND AND NOVA SCOTIA. METAL ENRICHMENT IN THE "PARTICULATE" AND "CHLOROFORM-EXTRACTABLE" FRACTION OF THE SURFACE MICROLAYER COMPARED TO WATER 20 CM BELOW THE SURFACE WIRD FROM VIRTUALLY NONE UP TO APPROXIMATELY 50 FOR CU, FE, AND NI AND UP TO 20 FOR PB IN THE NARRAGANSETT BAY SAMPLES. THERE WAS NO ENRICHMENT IN THE SOLUBLE, "INORGANIC" FRACTION OF THE SURFACE MICROLAYER FOR THOSE METALS IN NARRANGANSETT BAY. THE DEGREE OF SURFACE ENRICHMENT WAS CORRELATED WITH THE PRESENCE OF OBSERVABLE SLICKS ON THE WATER SURFACE. NONE OF THE NEW YORK BIGHT OR OPEN OCEAN SAMPLES WERE COLLECTED WHILE OBSERVABLE SLICKS WERE PRESENT. SIGNIFICANT ENRICHMENTS IN PARTICULATE AND CHLOROFORM-EXTRACTABLE PHASES IN THE SURFACE MICROLAYER STILL OCCURRED IN THE MAJORITY OF CASES IN BOTH AREAS. THE VARIABLITY OF ITS OCCURRECE AND MAGNITUDE MAY BE DUE TO SEVERAL FACTORS, INCLUDING THE PRESENCE OF COHERENT SLICKS, BIOLOGICAL ACTIVITY, AND LOCAL POLLUTION SOURCES, BOTH ATMOSPHERIC AND WATER. ON THE OPEN OCEAN, ATMOSPHERIC INPUT OF SOME TRACE METALS TO THE SURFACE MICROLAYER MAY BE QUITE SIGNIFICANT. WHERE SURFACE MICROLAYER ENRICHMENT OF TRACE METALS DOES OCCUR. ENRICHMENT OF THESE METALS ON SEA-SALT AEROSOLS FORMED AT THE SEA SURFACE MAY ALSO OCCUR.

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0805 HOGAN, T.M.; B.S. WILLIAMS

OCCURRENCE OF THE GILL PARASITE ERGASILUS RABRACIS ON STRIRED BASS, WHITE PERCH, AND TOMCOD IN THE HUDSON RIVER [1976]

NY FISH GAME J 23(1):97

THIS ARTICLE REPORTS THE OCCURRENCE OF ERGASILUS LABRACUS IN THE GILLS OF STRIPED BASS, WHITE PERCH, AND TOMCOD COLLECTED FROM THE HUDSON RIVER BETWEEN OSSINING AND PEEKSKILL, NY.

0806 HOLDRIDGE, R.H.; E.J. KEARNEY; H.W. MCGEE; J.H. BELL; M.P. WANIELISTA

AERIAL SURVEYS, GEOMETRICS, SURFACE DRAINAGE, ECOLOGICAL IMPACTS, AND SAFETY APPURTENANCES [1979]

TRB, WASHINGTON, DC 65 PP NTIS-PB80-1622 33

ONE OF THE PAPERS IN THIS COLLECTION ON HIGHWAY DESIGN AND CONSTRUCTION PROJECTS DISCUSSES THE ECOLOGICAL EFFECTS OF HIGHWAY FILLS ON WETLANDS. ACTUAL CASE STUDIES ARE USED FOR EXAMPLES.

0807 HOLLIDAY, B.W.; B.H. JOHNSON; W.A. THOMAS

PREDICTING AND MONITORING DREDGED MATERIAL MOVEMENT [1978]

US ARMY CORPS ENG WES, VICKSBURG, MS 49 PP NTIS-AD-AD63 878

A SUMMARY OF THE RESULTS FROM THREE WORK UNITS OF THE DREDGED MATERIAL RESEARCH PROGRAM, CONCERNED WITH PREDICTING AND MONITORING DREDGED MATERIAL MOVEMENT, IS PRESENTED. TWO WORK UNITS WERE CONCERNED WITH THE PREDICTION OF THE SHORT-TERM FATE OF DREDGED MATERIAL DISCHARGED IN OPEN WATER. ONE OF THESE WAS AN EVALUATION AND CALIBRATION OF THE TETRA TECH DISPOSAL MODELS USING FIELD DATA COLLECTED AT SEVERAL DISPOSAL SITES, INCLUDING THE DUWAMISH, NEW YORK BIGHT, AND LAKE ONTARIO SITES. THE COLLECTION OF THESE FIELD DATA WAS PERFORMED BY YALE UNIVERSITY. THE THIRD UNIT INVOLVED AN EVALUATION OF TWO TWO-DIMENSIONAL FINITE ELEMENT MODELS FOR THE LONG-TERM PREDICTION OF SEDIMENT TRANSPORT IN ESTUARIES.

0808 HOLLMAN, R.

THE PHYSICAL OCEANOGRAPHY OF THE NEW YORK BIGHT [1970]

PAGES 3-12 IN WATER POLLUTION IN THE GREATER NEW YORK AREAT SYMP. GORDON AND BREACH. NEW YORK. NY

THE GENERAL CIRCULATION IN THE NEW YORK BIGHT IS CHARACTERIZED BY A RESIDUAL DRIFT TO THE SOUTHWEST. INSHORE OF THE 30 FATHOM CURVE, THERE IS A RESIDUAL DRIFT OF THE BOTTOM WATERS TOWARD THE HARBOR ENTRANCES. THE TEMPERATURE DISTRIBUTION IS GOVERNED LARGELY BY SEASONAL VARIATIONS. MAXIMUM SURFACE TEMPERATURES OCCUR IN AUG, WITH MINIMUM VALUES OCCURING IN FEB. THE VERTICAL DISTRIBUTION IN WINTER IS ALMOST ISOTHERMAL. IN SUMMER, HOWEVER, UNUSUALLY LARGE TEMPERATURE GRADIENTS ARE ENCOUNTERED DUE TO THE COLD BOTTOM WATERS IN THE AREA. THESE ARE THE CAUSE OF THE ANOMALOUSLY COLD SURFACE WATERS OCCASIONALLY ENCOUNTERED CLOSE TO THE SHORES. THE OCCURRENCE OF THESE COLD SURFACE WATERS ALONG THE BEACHES CAN BE CORRELATED WITH THE LOCAL WIND SYSTEMS.

0809 HOLLMAN, R.

A DESCRIPTION OF THE CIRCULATION OF HEMPSTEAD HARBOR [1973]

TECH REP 0026. NYOSL, MONTAUK, NY NP

THE AIM OF THIS STUDY WAS TO PROVIDE THE NASSAU COUNTY ENVIRONMENTAL MANAGEMENT COUNCIL WITH A GENERAL PICTURE OF THE CIRCULATION OF THE WATERS WITHIN HEMPSTEAD HARBOR. THE STUDY 1S. OF NECESSITY, QUALITATIVE, DUE TO IMPOSED LIMITATIONS ON TIME AND MONIES. IT INCLUDES LAGRANGIAN (DROGUES AND DRIFTERS) AND EULARIAN (CURRENT METERS) SYSTEMS. THE EXPERIMENTS WERE CONDUCTED BY PERSONNEL FROM NASSAU COUNTY AND THE TOWNS OF OYSTER BAY AND NORTH HEMPSTEAD.

0810 HOLSAPPLE, J.G.; L.E. FOSTER

REPRODUCTION OF WHITE PERCH IN THE LOWER HUDSON RIVER [1975]

NY FISH GAME J 22(2):122-127

BASELINE INFORMATION IS PRESENTED ON THE REPRODUCTIVE POTENTIAL OF THE WHITE PERCH POPULATION OF THE HUDSON RIVER ESTUARY, AS DERIVED FROM DATA COLLECTED BETWEEN RIVER MILES 40 AND 60 IN 1972. THE ESTIMATED AVERAGE NUMBER OF EGGS SPAWNED BY 3-YEAR-OLD FISH WAS 20,676 AND FOR 9-YEAR-OLD FISH WAS 135,389. FIELD OBSERVATION INDICATED THAT THE PEAK OF WHITE PERCH SPAWNING OCCURRED IN JUNE WHEN WATER TEMPERATURES WERE 18 C TO 20 C AND SALINITY REMAINED BELOW 1.0 PPT.

0811 HONGKAY, G.

ON THE THERMODYNAMIC EQUILIBRIUM OF NITROGEN CYCLE IN THE SEA [1976]

STUD MAR SINICA (11):1-6

THE THERMODYNAMIC EQUILIBRIUM OF NITROGEN CYCLE IN THE SEA IS DISCUSSED. MOST OF THE NH4+, NO2 AND NO3 MUST BE CONVERTED TO NO3, AT THERMODYNAMIC EQUILIBRIUM STATE. THE SEASONAL VARIATIONS OF NITROGEN COMPOUNDS IN ENGLISH CHANNEL, LONG ISLAND SOUND, THE YELLOW SEA AND THE EAST CHINA SEA SUGGEST THAT THE NH4+ AND NO2 ARE NOT CONVERTED SUFFICIENTLY TO NO3. THE SYSTEM OF NH4+, NO2 AND NO3 ARE NOT IN THE THERMODYNAMIC EQUILIBRIUM STATE MAINLY DUE TO THE ACTIVITY OF PHYTOPLANKTON. THERE IS A DIFFERENCE IN THE DEGREE OF CONVERSION WHICH IS RELATED TO THE PERIOD OF GROWTH OF PHYTOPLANKTON. THE DEGREE OF CONVERSION IS LOW IN THE YELLOW SEA AND THE EAST CHINA SEA. THE NH4+ IS CONVERTED TO NO3 MORE SUFFICIENTLY IN THE STATE OF LONG PERIOD, AS IN THE ENGLISH CHANNEL AND LONG ISLAND SOUND. THE CONVERSION IS NOT SUFFICIENTLY IN THE STATE OF SHORT PERIOD, AS IN THE YELLOW SEA AND THE EAST CHINA SEA.

0812 HOOK, S.M.

CONTROL OF WATER CHESTNUT IN NEW YORK STATE [1978]

PAGES 55-59 IN MISCELL PAP A-77-3, AUG 1977. PROC, RES PLANNING CONF ON THE AQUATIC PLANT CONTROL PROG, 19-22 OCT 1976. ATLANTIC BEACH, FL. US ARMY CORPS ENG. NEW YORK, NY

MEASURES FOR CONTROL OF WATER CHESTNUT (TRAPA NATANS) IN THE US ARMY CORPS ENGINEER NY DISTRICT EMPHASIZE WORK IN THE HUDSON AND MOHAWK RIVERS AND PORTIONS OF LAKE CHAMPLAIN. INTRODUCED INTO THE US IN 1884 AT COLLINS LAKE, NY TO ENHANCE ASETHETIC AND FISHERY RESOURCES, THE PLANT HAD SPREAD TO THE MOHAWK RIVER BY 1920, AND TO THE HUDSON RIVER, LAKE CHAMPLAIN, AND THE FINGER LAKES BY 1944. WATER CHESTNUT VIRTUALLY CLOSES OFF BAYS WITH IMPENETRABLE MATS, HINDERS RECREATION, DISPLACES DESTRABLE WILDFOWL FOOD PLANTS, REDUCES NEAR-SHORE HABITAT FOR GAME FISH, PROVIDES INSECT BREEDING GROUNDS, IMPEDES FLOW IN WATER SUPPLY INTAKES, AND PRODUCES A DANGEROUS SHARP-SPINED SEED. LARGE-SCALE CONTROL EFFORTS WERE BEGUN IN 1946, AND INCLUDED: (1) HAND PULLING, (2) UNDERWATER MOWING AND SELF-PROPELLED BARGES, AND (3) HERBICIDAL SPRAYING OF THE ISOPROPYL ESTER OF 2,4-D IN FUEL OIL. AFTER 1948 AERIAL SPRAYING WAS REPLACED BY SPRAYING FROM BOATS. IN 1965 A SYSTEMATIC ERADICATION PROGRAM WAS INITIATED, UNDER COMBINATIONS OF FEDERAL AND STATE FUNDS. A STEADY DECLINE IN INFESTATIONS HAS RESULTED, DECREASING FROM 2826 ACRES IN 1966 TO 1340 ACRES IN 1976. TOTAL CONTRACT SPRAYING COSTS IN 1974 WERE \$31.60/ACRE, INCLUDING LABOR COSTS OF \$18.52/ACRE. HAND PULLING COSTS ARE ABOUT \$69.27/ACRE. AN APPLICATION RATE OF 8 LBS ACID EQUIVALENT 2,4-D/ACRE HAS PROVEN EFFECTIVE, SPRAYED DIRECTLY ON LEAF SURFACES.

D813 HOOK, S.M.

DRIFT REMOVAL IN NY HARBOR: IMPACT AND OPPORTUNITY. [1978]

PAGES 1128-1144 IN COASTAL ZONE '78, PROC OF SYMPOSIUM ON TECHNICAL, ENVIRON, SOCIOECONOMIC AND REGULATORY ASPECTS OF COASTAL ZONE MANAG, SAN FRANCISCO, CA, 14-16 MAR 1978. ASCE, NEW YORK, NY

THE PROCEDURES UTILIZED IN BOTH THE REMOVAL AND THE DISPOSAL OF THE DRIFT SOURCES ARE DESCRIBED AND THE SOCIOECONOMIC AND ENVIRONMENTAL IMPACTS ASSOCIATED WITH THESE PROCEDURES ARE OUTLINED, INCLUDING THE EFFECTS ON FISH, WILDLIFE, CULTURAL RESOURCES AND LAND USE. A SPECIFIC CASE STUDY REFLECTING THE PRODUCTIVE USE OF LAND ADJACENT TO AN AREA CLEARED BY THE CORPS OF ENGINEERS IN NEW JERSEY IS ALSO DISCUSSED.

D814 HOPE. J.

A RIVER FOR THE LIVING: THE HUDSON AND ITS PEOPLE [1975]

BARRE PUBLISHING, BARRE, MA 224 PP

A NON-TECHNICAL, PICTORAL ACCOUNT OF THE HUDSON RIVER DESCRIBES THE RIVER SOURCES, WHITE WATER RACING, THE RIVER'S EFFLUENT, FISHING, TUG BOATS, AND THE PEOPLE INVOLVED WITH THE RIVER IN NUMEROUS WAYS.

0815 HORD, R.M.; R.T. MACOMBER

DIGITAL LANDSAT PROCESSING TO ASSESS NEW YORK BIGHT ACID DUMP [1979]

PAGES 638-661 IN PROC, AM SOC PHOTOGR ANNUAL MEETING, WASHINGTON, DC, MARCH 1979, VOL 2. AM SOC PHOTOGR, FALLS CHURCH, VA

TO SHOW THE BENEFITS OF REMOTE SENSING DATA ACQUISITION APPLIED TO STUDIES OF THE COASTAL MARINE ECOSYSTEM IN THE NEW YORK BIGHT AREA, AND THE PENEFITS OF REMOTE SENSING-BASED INFORMATION PRODUCTS WHICH CAN BE PROVIDED TO AREA USERS, A DEMONSTRATION OF USING REMOTE SENSOR RECORDS FOR THE STUDY OF CIRCULATION, DISPERSION, AND RELATED ENVIRONMENTAL CHARACTERISTICS IS UNDERTAKEN. A MAJOR OBJECTIVE WAS TO DETERMINE THE DYE IMPLANT SPECIFICATIONS NECESSARY TO CREATE A STREAMER LARGE ENOUGH AND BRIGHT ENOUGH TO BE IMAGED BY LANDSAT. THE COMBINATION OF VARIOUS DATA SOURCES CONTRIBUTED TO A BASIC UNDERSTANDING OF THE INTERACTIONS OF THE MAJOR NEW YORK BIGHT CURRENT COMPONENTS INCLUDING THE HUDSON AND RARITAN RIVER DISCHARGES, FLOOD AND EBB TIDAL CURRENTS, WIND-DRIVEN CURRENTS, AND THE DRIFT AND DISPERSION RATES OF THE ACID DUMPS. THE DIGITAL PROCESSING OF THE

LANDSAT DATA SUCCEEDED IN DETECTING THE DYE IMPLANT LOCATIONS.

0816 HORDON, R.M.

AN EVALUATION OF WATER QUALITY INFORMATION: A CASE STUDY OF STREAMS IN METROPOLITAN NEW JERSEY [1973]

TRANS ILL STATE ACAD SCI 66(3/4):105-114

SOME OF THE BEST WATER QUALITY DATA SETS AVAILABLE IN NJ ARE ROUTINELY COLLECTED BY LARGE PUBLIC POTABLE WATER SUPPLY AGENCIES. ONE SET CONSISTED OF 11 VARIABLE (TEMPEATURE, DISSOLVED OXYGEN, TURBIDITY, COLOR, DISCHARGE, PERCENT SATURATION, HARDNESS, ALKALIVITY, BIOLOGICAL OXYGEN DEMAND (BOD), PH AND BACTERIA) COLLECTED EVERY WEEK AT 3 SITES IN THE RARITAN RIVER BASIN. FACTOR ANALYSIS USING THE VARIMAX ROTATION RESULTED IN 3 FACTORS: AN OXYGEN-REALTED FACTOR (HIGH INVERSE LOADINGS ON DISSOLVED OXYGEN AND TEMPERATURE), AN APPEARANCE FACTOR (TURBIDITY, COLOR AND DISCHARGE), AND A 3RD VARIABLE FACTOR OCCASIONALLY LOADING ON PERCENT SATURATION. THE CUMULATIVE PERCENTAGE EXPLAINED BY THE ROTATED FACTORS DECLINED DURING THE DECADE, SUGGESTING AN INCREASE IN INDEPENDENCE DEVELOPING AMONG THE VARIABLE. IT IS HYPOTHESIZED THAT URBANIZATION WITH ITS COMMENSURATE CHANGES IN LAND USE AND RUNOFF PATTERNS MIGHT BE INTERVENING IN THE NATURAL ECOLOGY OF THE STREAM. THE EFFECTS OF URBANIZATION WOULD FROM SITE TO SITE BY A COMPUTER PROGRAM CALLED RELATE.

0817 HORDON, R.M.

A FACTOR ANALYSIS OF SELECTED WATER QUALITY VARIABLES IN CENTRAL NEW JERSEY DURING 1960-1969 [1973]

PAP H-58 PRESENTED AT 53RD MEETING, AMERICAN GEOPHYSICAL UNION, APR 1972, RUTGERS UNIV, NEW BRUNSWICK, NJ

SPATIO-TEMPORAL CHANGES IN WATER QUALITY IN CENTRAL NJ DURING 1960-69 WERE STUDIED BY A FACTOR ANALYTIC METHODOLOGY. THE PERIOD INCLUDED SUBURBANIZATION WITH ITS RESULTANT IMPACT ON WATERSHED QUALITY AND PERIODIC EVENTS SUCH AS THE RECORD DROUGHT OF 1962-66. 11 VARIABLES WERE AVAILABLE AT EACH OF THREE STATIONS: TEMPERATURE PH, DO, TURBIDITY, BOD, COLOR, ALKALINITY, HARDNESS, BACTERIA, DISCHARGE, AND PERCENT SATURATION. THE FACTOR STRUCTURES GENERALLY REVEAL THE FOLLOWING CHARACTERISTIC PATTERN: (1) AN OXYGEN-STATUS FACTOR, REPRESENTED BY HIGH LOADINGS ON TEMPERATURE, DO, AND BOD; (2) AN APPEARANCE FACTOR BASED ON TURGIDITY, COLOR, AND DISCHARGE; AND (3) A THIRD VARIABLE FACTOR, LOADING OCCASIONALLY ON PERCENT SATURATION. THE OXYGEN-STATUS FACTOR TENDS TO BE THE COMPONENT OF GREATEST STATISTICAL IMPORTANCE. BACTERIA, HARDNESS. PH. AND ALKALINITY GENERALLY EXHIBIT THE LOWEST LOADINGS OF ANY OF THE 11 VARIABLES. INDEED, BACTERIA IS THE LEAST RELATED TO ANY OF THE OTHER VARIABLES IN THE DATA SET. THE CUMULATIVE DEGREE OF EXPLANATION OF THE ROTATED FACTORS DECLINED DURING THE PECADE, SUGGESTING AN INCREASE IN INDEPENDENCE DEVELOPING AMONG THE VARIABLES. IT IS HYPOTHESIZED THAT URBANIZATION WITH ITS ASSOCIATED CHANGES IN LAND USE AND RUNOFF PATTERNS MIGHT BE INTERVENING IN THE NATURAL ECOLOGY OF THE STREAM. THE EFFECTS OF URBANIZATION, THEN, WOULD BE TO INTERFERE WITH IN-STREAM INTERACTIONS AMONG THE VARIABLES. THE 30 FACTOR STRUCTURES WERE QUANTITATIVELY COMPARED BY USING A COMPUTER PROGRAM CALLED RELATE. THE PROCEDURE WAS TO COMPARE STRUCTURES BASED ON IDENTICAL SETS OF VARIABLES FROM YEAR TO YEAR FOR THE SAME STATION AND FROM BASIN TO BASIN FOR THE SAME YEAR. THE RESULTS FOR THE RARITAN RIVER WATERSHED INDICATE THAT INTRABASIN AND INTERBASIN SIMILARITIES OUTWEIGH THE DIFFERENCES AND THAT THE FACTOR STRUCTURES EVIDENCE A HIGH DEGREE OF STABILITY DURING THE DECADE OF THE 1960'S.

D818 HORDON, R.M.

APPLICATION OF FACTOR ANALYSIS TO WATER QUALITY DATA: THE PASSAIC RIVER BASIN [1975]

PAGES 245-251 IN PROC. URBAN AND WATER QUALITY CONTROL CONF. RUIGERS UNIV. JUNE 1975. AM WATER RESOURCE ASSOC. MINNEAPOLIS. MN

THE PAPER EXAMINES THE SPATIO-TEMPORAL CHANGES IN WATER QUALITY IN THE PASSAIC RIVER BASIN IN NJ. THE FACTOR ANALYSES DISCUSSED WERE CALCULATED WITH A NUMBER OF CONSERVATIVE ASSUMPTIONS REGARDING THE DEGREE OF INFORMATION COVARIANCE. FIRST, THE

COMMUNALITY WAS ESTIMATED BY USING THE SQUARE OF THE MULTIPLE CORRELATION COEFFICIENT BETWEEN EACH VARIABLE AND ALL OTHER VARIABLES IN THE DATA SET. THE BMDO8M PROGRAM WAS USED TO EXTRACT SETS OF FACTORS. THE RESULTING FACTOR MATRIX IS THEN ROTATED IN ORDER TO INCREASE THE INTERPRETABILITY OF THE FACTOR LOADING PATTERNS. THE ROTATION USED WAS THE VARIMAX SOLUTION, WHICH INVOLVES A SERIES OF ORTHOGONAL TRANSFORMATIONS OF PAIRS.

0819 HORN, E.G.

ANNOTATED BIBLIOGRAPHY OF REPORTS AND PUBLICATIONS RELATED TO PCB'S IN THE HUDSON RIVER [1978]

NY DEC, ALBANY, NY 27 PP

THE CITATIONS OF THIS ANNOTATED BIBLIOGRAPHY ON PCBS IN THE HUDSON RIVER HAS BEEN INCORPORATED INTO THIS HREP BIBLIOGRAPHY.

0820 HORN, E.G.; L.J. HETLING

HUDSON RIVER--PCB STUDY DESCRIPTION AND DETAILED WORK PLAN [1978]

PAGES 183-198 IN MANAGEMENT OF BOTTOM SEDIMENTS CONTAINING TOXIC SUBSTANCES, PROC OF 3RD US-JAPAN EXPERTS' MEETING, NOV 1977, EASTON, MD. NY DEC. ALBANY, NY

IN 1976 THE MY DEC AND THE GENERAL ELECTRIC COMPANY SIGNED AN AGREEMENT BRINGING TO A CLOSE AN ACTION BROUGHT AGAINST GENERAL ELECTRIC RELATING TO THE DISCHARGE OF PCBS INTO THE HUDSON RIVER. PART OF THE SETTLEMENT INVOLVED SETTING UP PROGRAMS FOR MONITORING AND RECLAMATION OF THE RIVER. THE PROGRAM INCLUDES MONITORING OF FISH, MACRO-INVERTEBRATES, SEDIMENT, HYDROLOGY, WASTEWATER TREATMENT PLANT INPUT, WATER AND AIR. EXTENSIVE STUDY OF THE DATA ACQUIRED WILL BE USED TO DETERMINE THE FEASIBILITY OF RECLAMATION.

0821 HORN, E.G.; L.J. HETLING; T.J. TOFFLEMIRE

THE PROBLEM OF PCBS IN THE HUDSON RIVER SYSTEM [1979]

NY ACAD SCI ANN 320:591-609

THIS SUMMARY OF DATA COLLECTED SINCE 1974 INCLUDES PCB DATA ON SEDIMENT SAMPLES, INFORMATION ON RIVER BIOTA, TERRESTRIAL ENVIRONMENT (PCBS IN LANDFILLS AND VEGETATION), PCB MOVEMENT TOWARDS THE ESTUARY AND CONTROL TECHNOLOGY.

0822 HORNE, R.A.; A.J. MAHLER; R.C. ROSSELLO

THE MARINE DISPOSAL OF SEWAGE SLUDGE AND DREDGE SPOIL IN THE WATERS OF THE NEW YORK BIGHT [1971]

REP FOR CERC, WHOI, WOODS HOLE, MA 147 PP NTIS-AD-722 791

THE DUMPING OF SEWER SLUDGE AND DREDGE SPOIL IN THE WATERS OF THE NEW YORK BIGHT AND THE EFFECT OF THIS WASTE DISPOSAL PRACTICE ON THE MARINE ENVIRONMENT IS REVIEWED. THE QUANTITIES AND COMPOSITION OF THESE WASTES ARE DESCRIBED, TOGETHER WITH THEIR PHYSICAL, CHEMICAL AND BIOLOGICAL EFFECTS ON THE ENVIRONMENT. AT THE CENTER OF THE SLUDGE DUMP, THE BEARING CAPACITY OF THE WATERS HAS BEEN EXCEEDED, AND AN ANOXIC BOTTOM AREA DEVOID OF LIFE FORMED. BOTH SPOIL AND SLUDGE CONTAIN LARGE QUANTITIES OF TOXIC HEAVY METALS, AND THE SPOIL ALSO CONTAINS LARGE QUANTITIES OF PETROCHEMICALS AND PESTICIDES.

0823 HORNE, R.A.; A.J. MAKLER; R.C. ROSSELLO

THE MARINE DISPOSAL OF SEWAGE SLUDGE AND DREDGE SPOIL IN THE WATERS OF THE NEW YORK BIGHT -- ABSTRACT [1971]

GOVERNMENT REP ANNOUNC 71(12):143-144 ABS ONLY NTIS-AD-722 791

THE DUMPING OF SEWER SLUDGE AND DREDGE SPOIL IN THE WATERS OF THE NEW YORK BIGHT AND THE EFFECT OF THIS WASTE DISPOSAL PRACTICE ON THE MARINE ENVIRONMENT IS REVIEWED. THE QUANTITITES AND COMPOSITION OF THESE WASTES ARE DESCRIBED, TOGETHER WITH THEIR PHYSICAL, CHEMICAL AND BIOLOGICAL EFFECTS ON THE ENVIRONMENT. AT THE CENTER OF THE SLUDGE DUMP, THE BEARING CAPACITY OF THE WATERS HAS BEEN EXCEEDED, AND AN ANOXIC BOTTOM AREA DEVOID OF LIFE FORMED. BOTH SPOIL AND SLUDGE CONTAIN LARGE QUANTITIES OF TOXIC HEAVY METALS, AND THE SPOIL ALSO CONTAINS LARGE QUANTITIES OF PETROCHEMICALS AND PESTICIDES.

0824 HORNSTEIN, B.

THE VISIBILITY OF OIL-WATER DISCHARGES [1973]

PAGES 71-99 IN PREVENTION AND CONTROL OF OIL SPILLS. PROC OF JOINT CONF. WASHINGTON. DC MARCH 13-15. 1973. NERC. EDISON. NJ

CONTROLLED OIL FILMS FROM 15 THROUGH 3000 NANOMETERS (3 MICRONS) THICK SHOW REFLECTANCE AND INTERFERENCE COLOR EFFECTS THAT VARY IN AN ORDERLY WAY WITH FILM THICKNESS. VISIBILITY OF A GIVEN FILM IS VARIABLE AND IS AFFECTED BY AMBIENT FACTORS THAT INCLUDE SKY CONDITIONS, WATER SURFACE STATE, AND THE DEPTH AND COLOR OF THE WATER. CONTROLLED STREAMS OF 25 TO 100 GPM, CONTAINING 5 TO 2450 PPM OF OIL, WERE DISCHARGED INTO RARITAN BAY FROM A 765-FOOT VESSEL. DISCHARGE POINTS WERE ABOVE THE SURFACE OR 2 TO 4 FT BELOW THE SURFACE, WITH THE VESSEL AT ANCHOR IN TIDAL CURRENTS, SIMULATING A FIXED SOURCE IN A LOW CURRENT. ABOVE-SURFACE DISCHARGES WERE ALSO MADE WITH THE VESSEL UNDERWAY AT 6 TO 15 KTS. THE VISIBILITY AND APPEARANCE OF FILMS RESULTING FROM THE DISCHARGES WERE RECORDED FROM THE VESSEL AND FROM A HELICOPTER. THE VISIBILITY OF ABOVE-SURFACE DISCHARGES FOR ALL COMBINATIONS OF WATER RATE, OIL CONTENT, AND VESSEL SPEED, IS CORRELATED BY A SPECIFIC OIL RATE (SOR) PARAMETER. RESULTS OF DISCHARGES REPORTED BY THE COAST GUARD FOR WESSEL SPEEDS OF 10-17 KT AND BY THE BRITISH FOR 8-16 KT CORRELATED WITH OURS VIA THE SOR PARAMETER. THESE OBSERVATIONS WERE ALSO FROM AIRCRAFT. SUBSURFACE DISCHARGES APPEARED SUBSTANTIALLY LESS VISIBLE THAN CORRESPONDING ABOVE SURFACE DISCHARGES. REPLICATION, HOWEVER, WAS INSUFFICIENT TO ALLOW DEVELOPMENT OF A CORRELATION.

0825 HORSTMAN, K.H.

EVALUATE OF NON-DREDGING ALTERNATIVES TO THE REMOVAL OF PCB CONTAMINATION IN THE HUDSON RIVER [1977]

M.S. THESIS. UNION COLLEGE, SCHENECTADY, NY 51 PP

THIS REPORT SUMMARIZES TEN DIFFERENT TECHNIQUES FOR INACTIVATING OR REMOVING PCBS IN THE HUDSON RIVER WITHOUT DREDGING. THE STATUS OF EACH IS PRESENTED ALONG WITH ESTIMATED TREATMENT COSTS. POTENTIAL CONSTRAINTS AND POSSIBLE ENVIRONMENTAL PROBLEMS ARE ALSO DISCUSSED. ALL BUT TWO OF THE METHODS SUGGESTED ARE IN THE CONCEPTUAL OR LABORATORY STAGE OF DEVELOPMENT.

0826 HOVIS, W.A., JR.

REMOTE SENSING OF WATER POLLUTION [1977]

PAGES 361-362 IN PROC, 11TH INTERNAT'L SYMP ON REMOTE SENSING OF THE ENVIRON, VOLS 1 AND 2. ENVIRON RESEARCH INST OF MICHIGAN, ANN HARBOR, MI

REMOTE SENSING OF WATER POLLUTION IS OF INTEREST TO DETERMINE SOURCES OF POLLUTION, MOVEMENT OF POLLUTANTS AFTER THEIR INTRODUCTION INTO WATER, AND THE IDENTITY AND QUANTITY OF THE POLLUTANT. REMOTE SENSORS ON AIRCRAFT OR SPACECRAFT CAN COVER LARGE AREAS IN SHORT PERIODS OF TIME. PROBLEMS INCLUDE BACKSCATTERED LIGHT AND SUN GLINT. A REMOTE SENSING EXPEDITION CALLED MESA (MARINE ECOSYSTEMS ANALYSIS) USED SURFACE SHIPS AND AIRCRAFT TO MONITOR THE NEW YORK BIGHT. AT LOW ALTITUDES, SPECTRAL

MEASUREMENTS SHOWED SIGNIFICANT DIFFERENCES IN SPECTRAL SHAPE BETWEEN A STRONGLY COLORED POLLUTANT-THE ACID WASTE DUMP OFF SANDY HOOK-AND SUCH THINGS AS SEWAGE SLUDGE AND THE HUDSON PLUME. ALL OF THE POLLUTANTS SCATTERED MORE SUNLIGHT THAN CLEAR OCEAN WATER AT ALL WAVELENGTHS IN THE LOW-ALTITUDE MEASUREMENTS. HIGH-ALTITUDE (19.8 KM) SPECTRA WERE BADLY DILUTED BY ATMOSPHERIC BACKSCATTER, BUT THE IMAGERY PROVIDED MORPHOLOGICAL INFORMATION UNAVAILABLE FROM LOW-ALTITUDE DATA. DUMPS COULD BE IDENTIFIED BY POSITION AND SHAPE, SUPPLEMENTING SPECTRAL INFORMATION, AND THE MOVEMENT OF MATERIAL FROM OLDER DUMPS COULD BE TRACED. THE MEAN RADIANCE FROM ALL PARTS OF THE SCANNER IMAGE SENSING WATER WAS CALCULATED FOR EACH SPECTRAL BAND. DEVIATIONS FROM THE MEAN WERE USED TO GENERATE CHARACTERISTIC SIGNATURES. COMPARED TO THE SURFACE TRUTH, THERE WAS GOOD AGREEMENT WITH TSP MEASUREMENTS, BUT A WIDE SCATTER AGAINST CHLOROPHYLL IN THE HUDSON PLUME.

0827 HOWE. M.A.: R.B. CLAPP: J.S. WESKE

MARINE AND COASTAL BIRDS [1978]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 31. NYSG. ALBANY, NY 87 PP

AN OVERVIEW OF THE BIRD INHABITANTS OF THE NEW YORK BIGHT REGION IS PRESENTED WITH AN EMPHASIS ON WATERBIRDS THAT CHARACTERISTICALLY BREED IN THE AREA. HISTORICAL POPULATION CHANGES ARE GENERALLY SUMMARIZED AND RELATED TO THE ACTIVITIES OF MAN WHICH HAVE MOST AFFECTED THE AVIFAUNA. GENERAL INFORMATION IS ALSO GIVEN ON HABITAT UTILIZATION AND SEASONAL VARIATION IN PATFERNS OF OCCURRENCE. EFFECTS OF MAN ON BIRDS AND BIRDS ON MAN ARE DISCUSSED, ALTHOUGH THEY ARE NOT ALL TREATED IN DETAIL. THE MAIN FOCUS IS ON THOSE WHICH HISTORICALLY HAVE HAD THE GREATEST IMPACT AND THOSE WHICH MAY BE OF CONSEQUENCE IN THE FUTURE. THE EFFECTS OF HABITAT CHANGE; OF HUNTING AND FEATHER-GATHERING; OF COLLISIONS BY BIRDS WITH AIRPLANES AND OTHER OBJECTS; OF ENVIRONMENTAL POLLUTION BY OIL, HEAVY METAL, AND PESTICIDES; AND THE ROLE OF BIRDS AS TRANSMITTERS AND RESERVOIRS OF DISEASE ARE AMONG THE TOPICS BRIEFLY COVERED.

0828 HOWELLS. G.P.; T.J. KNEIP; M. EISENBUD

WATER QUALITY IN INDUSTRIAL AREAS: PROFILE OF A RIVER [1970]

ENVIRON SCI TECHNOL 4(1):26-35

THE ECOLOGY AND WATER QUALITY OF THE LOWER HUDSON RIVER WERE STUDIED TO LEARN THE EFFECTS OF VARIABLE FRESH WATER FLOW, TIDES, AND INDUSTRIAL DEVELOPMENT ON THE DISTRIBUTION OF INORGANIC POLLUTANTS, NUTRIENTS, PESTICIDES, AND HEAT IN THE ESTUARY. CHANGES THAT MIGHT BE EXPECTED FROM INCREASED USE ARE: AN INCREASING NUTRIENT LOAD FROM DOMESTIC SEWAGE AND SOME INDUSTRIAL PROCESSES, AND INCREASING HEAT LOAD, AND AN INCREASED DEMAND FOR INDUSTRIAL AND DOMESTIC WATER. POTENTIAL EUTROPHIC NUISANCE SPECIES OF ALGAE ARE PRESENT IN THE RIVER AND THE SHORES ARE POPULATED BY ANIMALS INDICATIVE OF SEWAGE POLLUTION. YET, SERIOUS FOULING AND DEOXYGENATION HAVE SO FAR BEEN AVOIDED FOR MOST OF THE RIVER. HEAT ADDITIONS TO THE AQUATIC ENVIRONMENT ARE A MAJOR CONCERN. IN THE HUDSON, THE VOLUME OF TIDAL FLOW CAN BE UTILIZED TO DISPERSE SUCH HEAT; AT THE SAME TIME, IT IS CLEAR THAT THE CAPACITY OF THE RIVER AS A HEAT SINK IS SEVERELY LIMITED DURING THE PEAK SUMMER DEMAND BY A LOW NET FLOW AND HIGH AMBIENT AIR TEMPERATURES. THE EFFECTS OF WATER EXTRACTION FOR ANY PURPOSE ON THE PRESENT HYDROLOGICAL PATTERN IN THE RIVER REMAIN LARGELY UNKNOWN. IT SEEMS PROBABLY THAT THE EXTENT AND DURATION OF SALT WATER INTRUSION UP THE RIVER WILL INCREASE.

0829 HOWLETT, B.; H. SCHNEIDER

THE USE OF COMPUTER GRAPHICS IN THE HUDSON RIVER VALLEY [1970]

SOCIO-ECON PLAN SCI 4:119-122

A NEW COMPUTERIZED METHOD IS DESCRIBED FOR COMPILING, ANALYZING, AND DISPLAYING GEOGRAPHIC DATA BEING USED NOW BY THE PLANNING STAFF OF THE HUDSON RIVER VALLEY COMMISSION. INPUT DATA DERIVED FROM AERIAL PHOTOGRAPHIC INTERPRETATION AND FROM OTHER SOURCES ARE SELECTED, WEIGHTED, AND COMBINED TO PRODUCE MAPS CONTAINING COMBINATIONS OF DIFFERENT LAND USE AND ENVIRONMENTAL QUALITY

FACTORS. A GEOGRAPHIC SYSTEM BASED UPON 1/4 OF A SQ KM SUBDIVISIONS OF THE UTM GRID SYSTEM IS USED TO REFERENCE ALL DATA. DATA ARE COLLECTED AND DIGITIZED ON AN INCREMENTAL RECORDER; OUTPUT IS DISPLAYED IN 10 DARK-THROUGH-LIGHT SHADINGS ACHIEVED BY OVERPRINTING ON STANDARD LINE PRINTERS.

0830 HOWLETT, B.

THE HUDSON VALLEY COMMISSION--AN EXPERIMENT IN ENVIRONMENTAL PLANNING [1972]

PAGES 214-215 IN PROC OF THE SYMP ON SOCIAL AND ECONOMIC ASPECTS OF WATER RESOURCES DEVEL, CORNELL UNIV, ITHACA, NY, JUNE 21-23, 1971. AM WATER RESOURCES ASSOC, URBANA, IL

THE HUDSON RIVER VALLEY COMMISSION WAS FORMED FROM A RECOMMENDATION OF A PREVIOUS COMMISSION (1965) WHICH PROPOSED THE ESTABLISHMENT OF AN INTERSTATE COMPACT. IT WOULD BE CONCERNED WITH SCENIC, HISTORIC, RECREATIONAL AND NATURAL VALUES OF THE RIVER, AND NOT APPLY DIRECTLY TO WATER. THE COMMISSION HAD THE NEW AND INNOVATIVE POWER OF REVIEWING PROPOSED PROJECTS, AND THIS WAS COUPLED WITH A UNIQUE JURISDICTIONAL BOUNDARY. THE JURISDICTION OF THE COMMISSION WITHIN WHICH PROJECT REVIEW WAS TO BE APPLIED WAS AN UNDULATING BOUNDARY INCLUDING ALL LANDS WITHIN ONE MILE OF THE HUDSON'S SHORES PLUS ANY ADDITIONAL LANDS THAT COULD BE SEEN FROM THE WATER—BUT NOT BEYOND 2 MI. THO TASKS WERE IMMEDIATELY FACED: TO CREATE A DRAFT SET OF PROJECT REVIEW RULES AND REGULATIONS TO BE PRESENTED AT PUBLIC HEARINGS WHICH WERE REQUIRED BEFORE REVIEWS COULD COMMENCE, AND TO MAKE AN INVENTORY OF SIGNIFICANT RESOURCES FOR THE ENTIRE JURISDICTION. WHILE THE RESOURCE INVENTORY PROVED A USEFUL TOOL, METHODS FOR SCIENTIFICALLY EVALUATING THE FULL IMPACT OF ANY TYPE OF PROJECT ON THESE RESOURCES PROVED ELUSIVE. THE PROJECT REVIEW PROCEDURE PROVED TO BE GENERALLY SUCCESSFUL. THROUGHOUT, THERE WAS A STRONG PROGRAM TO RELATE THE COMMISSION GOALS AND ACTIVITIES TO LOCAL PEOPLE, IN GOVERNMENT AND OUTSIDE. OTHER TASKS WERE LESS SUCCESSFUL, PARTICULARLY THE COMPLETION OF THE COMPREHENSIVE PLAN. THE COMPLETION OF THE COMPREHENSIVE PLAN. REEDED TO BE REVAMPED. TRADITIONAL BROAD LAND USE DESIGNATIONS WILL NOT SUCCEED WITHOUT ENFORCEMENT POWER, NOR DOES THE APPROACH FIT PARTICULARLY WELL IN A STRONG ENVIRONMENTAL CONTEXT.

0831 HSUEH. S.F.; R.C. AHLERT

MIXING IN A SHALLOW COASTAL SEA: CASE STUDY [1978]

ASCE J ENVIRON ENG DIV 104 (EE6):1293-1304

TWO DYE TRACER STUDIES WERE USED TO CHARACTERIZE THE MIXING AND TIDAL EXCHANGE IN THE SHREWSBURY ESTUARY, OFF NJ. SEVERAL DREDGED CHANNELS AND COMPLEX FLOW PATTERNS DUE TO ISLANDS AND EMBAYMENTS CAUSE THE SYSTEM TO EXCHANGE SLOWLY AND TO MIX RELATIVELY WELL INTERNALLY. TRACER OUTPUT AT THE MOUTH DISPLAYED MULTIPLE PEAKS, A LONG DELAY, AND DETECTABLE CONCENTRATION FOR SEVERAL DAYS. A LUMPED-PARAMETER MATHEMATICAL MODEL, USING SIMPLE INPUT-OUTPUT IN A REACTOR NETWORK FORMAT, WAS NOT ADEQUATE FOR THE DATA ANALYSIS. ONE DATA SET WAS SIMULATED WELL, WHEREAS THE 2ND SET WAS NOT. THE OUTPUT WAS ALSO INSENSITIVE TO INPUT. FOR WATER QUALITY PLANNING AND MANAGEMENT, STEADY-STATE MASS-BALANCE MODELING IS RECOMMENDED.

0832 HSUEH. Y.

THEORY OF DEEP FLOW IN THE HUDSON SHELF VALLEY [1980]

J GEOPHYS RES 85(C9):4913-4918

THE TIME AVERAGED NEAR-BOTTOM CURRENT IN THE NEW YORK BIGHT FOR A SELECTED 3-DAY PER&OD IS IDEALIZED AS A STEADY STATE RESPONSE TO THE MEAN WIND AT THE JFK INTERNATIONAL AIRPORT AND THE MEAN INFLOW CONDITION ACROSS THE LONG ISLAND SHELF. THE IDEALIZATION INVOKES POTENTIAL VORTICITY CONSERVATION IN A HOMOGENEOUS OCEAN SUBJECT TO A LINEAR BOTTOM FRICTION AND RESULTS IN SHELF CURRENTS WHOSE LONGSHORE COMPONENTS ARE IN GENERAL AGREEMENT WITH THE AVERAGES OF THE OBSERVED. IN THE HUDSON SHELF VALLEY, QUALITATIVE AGREEMENT WITH THE OBSERVATION IS ACHIEVED IN THE ONSHORE COMPONENT WHICH IS DIRECTED NEARLY ALONG THE VALLEY AXIS.

NEARSHORE, WITHIN 40 KM OR SO OF THE COAST, THE RESPONSE IS, TO A SUBSTANTIAL DEGREE, WIND DRIVEN. NEARSHORE UPVALLEY MEAN FLOW IS DUE PARTLY TO SHORE-PARALLEL WIND STRESSES THAT ARE DIRECTED AWAY FROM THE VALLEY AND IS DUE PARTLY TO TOPOGRAPHIC DEFLECTION OF AN ALONGSHORE CURRENT THAT IS DRIVEN IN PART BY THE INFLOW CONDITION AND IN PART BY THE ALONGSHORE COMPONENT OF THE MEAN WIND STRESS. BECAUSE OF THE IMPORTANT ROLE OF BOTTOM FRICTION, AN ALONGSHORE CURRENT DRIVEN BY LONGSHORE WINDS UNDERGOES SHARPER (AND MORE REALISTIC) DEFLECTION ACROSS THE VALLEY THAN DOES AN ALONGSHORE CURRENT DRIVEN BY THE INFLOW CONDITION.

0833 HUFFNER, J.R. .

PILOTAGE IN THE PORT OF NEW YORK [1978]

REP D-31-78. USCG. GROTON, CT NP NTIS-AD-A071 052

THE REPORT PRESENTS THE RESULTS OF A STUDY OF PILOTAGE IN THE PORT OF NY. A MAJOR GOAL WAS TO IDENTIFY PILOTAGE INFORMATION, ITS SOURCE, THE WAY IT IS USED, AND HOW IT RELATES TO THE PILOTS" COMMAND ORDERS. 17 TRANSITS IN 6 AREAS OF THE HARBOR WERE RECORDED ON VIDEO TAPE. IN EDITED FORM THEY PROVIDE MORE THAN 24 HRS OF DETAILED DESCRIPTIONS OF PILOTING EVENTS. DISCUSSIONS ARE PRESENTED OF THE NAVIGATION PROBLEMS IN THE MAJOR HARBOR AREAS AND THE TYPES OF INFORMATION THE PILOTS USE FOR THEIR MANEUVERING DECISIONS. IT WAS CONCLUDED THAT THREE INTERACTING SOURCES OF INFORMATION FORM THE BASIS FOR THE DECISION PROCESS: LOCAL KNOWLEDGE, TRANSIT SPECIFIC INFORMATION, AND KNOWLEDGE OF SHIPHANDLING. HIS LOCAL KNOWLEDGE PERMITS THE PILOT TO MAINTAIN ORIENTATION, FIX POSITION, AND ANTICIPATE DYNAMIC CHARACTERISTICS OF THE ENVIRONMENT. TRANSIT SPECIFIC INFORMATION BUILDS BEFORE AND DURING THE TRANSIT AND IS A SOURCE OF INFORMATION ABOUT THE DYNAMICS OF THE ENVIRONMENT, THE SHIP, AND THEIR INTERACTIONS. SHIPHANDLING KNOWLEDGE SERVES AS A BACKGROUND FOR MOST ORDER DECISIONS. IT WAS CONCLUDED THAT THERE ARE FIVE BASIC CONNING POSITIONS THAT HAVE IMPORTANT IMPLICATIONS FOR NAVIGATION AND BRIDGE DESIGN AND LAYOUT. IT WAS CONCLUDED THAT TECHNICAL ADVANCES IN PROPULSION CONTROL ARE NOT BEING FULLY UTILIZED TO MEET THE NAVIGATION REQUIREMENTS IN PILOTAGE.

0834 HULLAR, T., R.C. MT. PLEASANT; S. PAGANO; J.J. SPAGNOLI; W. STASIUK

PCB DATA IN HUDSON RIVER FISH, SEDIMENTS, WATER AND WASTEWATER [1976]

NY DEC, ALBANY, NY 26 PP

THIS REPORT SUMMARIZES THE PERTINENT FINDINGS PRESENTED IN DETAIL IN TWO DEPARTMENTAL REPORTS "MONITORING OF PCBS IN FISH TAKEN FROM THE HUDSON RIVER, OCTOBER 1975," (DIVISION OF FISH AND WILDLIFE) AND "PCB MONITORING IN THE UPPER HUDSON RIVER BASIN, OCTOBER 1975," (DIVISION OF PURE WATERS).

0835 HUSZAGH. D.W.: S. FINK

OPERATIONS, ENGINEERING, AND MODIFICATION REWORK OF THE MIT (SMILE) BUOY [1976]

BNL. UPTON. NY 18 PP

THE MIT/NAVY BUOY WAS LOANED BY WOODS HOLE OCEANOGRAPHIC INSTITUTE TO BNL LATE IN 1975 FOR THE IMPLEMENTATION OF METEOROLOGICAL STUDIES OFF THE SOUTH COAST OF LI. IT WAS DESTRUCTIVELY DISMEMBERED AT WOODS HOLE AND TRANSPORTED OVERLAND TO BNL IN DEC, 1975. EXTENSIVE REPAIRS AND MODIFICATIONS TO THE BUOY STRUCTURE WERE UNDERTAKEN TO SIMPLIFY TRANSPORT, IMPROVE TRIM CONTROL, AND ENHANCE INSTRUMENT ACCESS AND SECURITY. MINOR MODIFICATIONS LEADING TO GREATER PERSONNEL SAFETY WERE ALSO MADE. THE REFURBISHED BUOY WAS CARRIED IN SECTIONS TO THE SHINNECOCK INLET AREA BY MOTOR TRUCK. FOLLOWING DOCKSIDE ASSEMBLY, THE BUOY WAS LAUNCHED ON MAY 21, 1976, WHEREUPON IT WAS TOWED THROUGH THE INLET AND MOORED IN 85 FT OF WATER OFF TIAMA BEACH, NY.

0836 ICHIYE, T.

EXPERIMENTS AND HYDROGRAPHIC SURVEYS OFF SANDY HOOK, NEW JERSEY (1963) [1965]

GENERAL ELECTRIC, SCHENECTADY, NY 22 PP NTIS-AD-470 134

DYE DIFFUSION EXPERIMENTS MADE NEAR SANDY HOOK, NJ IN AUG AND OCT OF 1963 ARE DESCRIBED. HYDROGRAPHIC DATA OF SANDY HOOK BAY OBTAINED DURING THE AUGUST SURVEY INDICATES THAT THE CHANGE OF TEMPERATURE AND SALINITY WITH TIME IS MOSTLY CAUSED BY ADVECTIVE EFFECTS OF TIDAL CURRENTS. DYE DIFFUSION EXPERIMENTS MADE DURING TWO DAYS OF OCT SHOWED THAT DYE WAS SPREAD APPROXIMATELY ONLY BETWEEN 2 AND 7 M DEEP IN THE AREA DEEPER THAN 25 M, PROBABLY DUE TO CALM WEATHER AND WEAK CURRENTS. THE DYE PATCHES OF THESE EXPERIMENTS INDICATED STRIATIONS AND ELONGATION NOTWITHSTANDING CALM WEATHER. A THEORETICAL DISCUSSION ON ORIGINS OF STRIATIONS FROM SPECTRAL ASPECT OF PASSIVE DIFFUSANT IS PRESENTED.

0837 INGLIS. A.; C. HENDERSON; W.L. JOHNSON

EXPANDED PROGRAM FOR PESTICIDE MONITORING OF FISH [1971]

PEST MONIT J 5(1):47-49

BEGINNING IN THE FALL OF 1970, 50 NEW STATIONS WERE ADDED TO THE ORIGINAL 50 STATIONS SAMPLED ANNUALLY BY THE BUREAU OF SPORT FISHERIES AND WILDLIFE FOR MONITORING PESTICIDE RESIDUES IN FISH. THE ORIGINAL 50 STATIONS, SAMPLED SINCE THE SPRING 1967, WILL BE RETAINED IN THE EXPANDED PROGRAM. 3 COMPOSITE SAMPLES, EACH CONTAINING 3-5 ADULT FISH OF A SINGLE SPECIES, WILL BE COLLECTED. ALL COMPOSITE SAMPLES WILL BE REPLICATED FOR A TOTAL OF 600 SAMPLES ANALYZED ANNUALLY. RESIDUE ANALYSES WILL BE PERFORMED FOR THE IDENTIFICATION AND QUANTITATION OF DDT, DDE, TDE, DIELDRIN, ALDRIN, ENDRIN, BHC, HEPTACHLOR, HEPTACHLOR EPOXIDE, CHLORDANE, TOXAPHENE, MERCURY, ARSENIC, AND LEAD. SAMPLES WILL BE SCREENED FOR THE PRESENCE OF INTERFERING POLYCHLORINATED BIPHENYL COMPOUNDS (PCBS). FISH WILL BE COLLECTED AND HANDLED IN SUCH A MANNER AS TO PREVENT CONTAMINATION OF THE SAMPLE WITH EXTRANEOUS CHEMICALS.

0838 INGRAM, R.J.

SELECTED PHYTOPLANKTON NUTRIENTS IN THE LOWER NEW YORK ESTUARY [1979]

PH.D. THESIS. FORDHAM UNIV. NEW YORK, NY 131 PP

SEASONAL CHANGES OF PHYTOPLANKTON NUTRIENTS (NO3, NO2, NH3, PO4, TOTAL PHOSPHOROUS) AND PHYSICAL PARAMETERS (TEMPERATURE, SALINITY, DISSOLVED OXYGEN) ARE ANALYZED IN THE LOWER HUDSON ESTUARY. TEMPORAL AND SPATIAL GRADIENTS OF THESE PARAMETERS ARE STUDIED ON TRANSECTS IN THE ESTUARY. THE HIGHEST CONCENTRATIONS OF NITROGEN AND PHOSPHORUS WERE FOUND IN THE UPPER BAY AREA. ALL NUTRIENT CONCENTRATIONS, EXCEPT NITRATE, REACHED PEAK LEVELS IN LATE SUMMER, AS A RESULT OF A LOW FLUSHING RATE OF THE ESTUARY. IN THE UPPER BAY AREA TOTAL DISSOLVED INORGANIC NITROGEN CONCENTRATIONS RANGED FROM 43-105 MICROG-AT/L N AND TOTAL PHOSPHOROUS RANGED FROM 4-51 MICROG/L P. THE EFFECTS OF SEWAGE EFFLUENTS ON THE ESTUARY ARE TO MAINTAIN NITROGEN AND PHOSPHORUS CONCENTRATIONS WELL ABOVE LEVELS CONSIDERED LIMITING TO PHYTOPLANKTON AND TO CREATE A CONSTANT DRAIN ON THE OXYGEN SUPPLIES OF THE ESTUARY FROM EFFLUENT BOD LOADS. N:P RATIOS RANGE FROM 2-9.3:1, WITH HIGHER VALUES IN LATE SUMMER. THE BEHAVIOR OF NUTRIENTS IN THE ESTUARY IS DISCUSSED, WITH THE LOCATION OF SOURCES AND SINKS DETERMINED. DISSOLVED OXYGEN CONCENTRATIONS WERE HIGHEST IN WINTER AT 14.6 PPM AND DECREASED TO 1.7 PPM IN SUMMER IN THE UPPER BAY. FRESH WATER FLOW OF THE HUDSON RIVER IS THE DOMINANT FACTOR CONTROLLING FLUSHING RATE AND NUTRIENT DISTRIBUTIONS THROUGHOUT THE ESTUARY. CIRCULATION IS DRIVEN PRIMARILY BY SALINITY, AND THE SURFACE TO BOTTOM GRADIENT IS ALWAYS POSITIVE, BUT STRONGEST IN WINTER. THE ACTIVITY OF NITRIFYING ORGANISMS, FROM THE DATA PRESENTED IS CONSIDERED TO BE VERY LOW IN THE ESTUARY. NO SIGNIFICANT TRANSFORMATIONS OR INORGANIC NITROGEN FORMS WERE OBSERVED. DENTIFICATION MAY ACT AS A SINK OF NITRATE AND AS AN AMMONIA SOURCE IN SUMMER.

0839 INHOFFER, W.R.; P.W. DOE

DESIGN OF WASH-WATER AND ALUM-SLUDGE DISPOSAL FACILITIES [1973]

J AM WATER WORKS ASSOC 65(6):404-409

THIS PAPER DESCRIBES THE FACILITIES DESIGNED TO PROVIDE AN ON-SITE PILOT PLANT TO IMPROVE THE QUALITY OF WATER IN THE PASSAIC RIVER. ALUM SLUDGE WAS TESTED BY THE PRESS-FILTRATION METHOD TO DETERMINE REASONABLE DESIGN PARAMETERS. THE APPARENT SUCCESS DEMONSTRATED BY THE PILOT FILTER PRESS WHICH WAS IN OPERATION DURING PERIODS OF WIDE VARIATIONS IN RIVER FLOW, PROVIDED SUFFICIENT DATA AND ASSURANCE THAT A FILTER-PRESS SYSTEM COULD BE DESIGNED TO MEET THE REQUIREMENTS.

0840 INTORRE, B.; P. DERIENZO

THE ESTUARY AND INDUSTRIAL WASTES: POWER PLANTS [1974]

NY ACAD SCI ANN 250:169-177

POWER PLANTS LOCATED NEAR ESTUARIES NEGATIVELY AFFECT THESE ENVIRONMENTS. THE GENERATION OF ELECTRICAL POWER REQUIRES THE CONSUMPTION OF FUELS AND THE HANDLING OF LARGE QUANTITIES OF WATER, BOTH OF WHICH RESULT IN THE GENERATION OF CHEMICAL WASTES. THESE DILUTE WASTES ARE CURRENTLY DISCHARGED INTO ESTUARIES BECAUSE THERE ARE NO ECONOMICAL MEANS OF EXTRACTING OR RECOVERING THESE CHEMICALS. VARIOUS PROCESSES OF POWER PLANTS, LOCATED ON THE HUDSON RIVER, ARE DISCUSSED AND THEIR EFFECTS ON THIS SYSTEM ARE ASSESSED.

0841 IRLAND, L.C.

FEDERAL RIVER BASIN PLANNING IN THE COASTAL ZONE: THE LONG ISLAND SOUND STUDY [1976]

COASTAL ZONE MANAG J 2(3):247-72

COASTAL ZONE PLANNING HAS BEEN ATTEMPTED THROUGH A VARIETY OF INSTITUTIONAL SYSTEMS. THE LONG ISLAND SOUND STUDY(LISS) IS AN IMPORTANT CASE STUDY IN FEDERAL WATER PLANNING IN COASTAL ZONES BECAUSE IT ILLUSTRATES THE LIMITATIONS IMPOSED ON PLANNING BY THE TRADITIONAL MULTIAGENCY COMMITTEE FORMAT, AS WELL AS THE WEAKNESSES IN TRADITIONAL PLANNING CONCEPTS. THE LISS WAS SUCCESSFUL TO THE EXTENT THAT IT WENT BEYOND THE TRADITIONAL WATER PLANNING PROCESS IN AREAS SUCH AS LOCAL INVOLVEMENT AND PUBLIC PARTICIPATION, BUT BECAUSE OF THE FRAMEWORK OF ESTABLISHED PATTERN OF RIVER BASIN PLANNING, IT WAS UNABLE TO GO FAR ENOUGH. THE EXISTING RIVER BASIN PLANNING APPROACH NEEDS TO BE ADJUSTED TO ADAPT TO ADMINISTRATIVE AND POLITICAL REALITIES IN THE COASTAL ZONE. PLANNING EFFORTS FOR COASTAL ZONE MANAGEMENT SHOULD EMPHASIZE STATE LEADERSHIP, SINCE IMPLEMENTATION IS LARGELY STATE RESPONSIBILITY. IN ADDITION, CURRENT APPROACHES OF BASING PLANS ON PROJECTED DEMANDS MUST BE ABANDONED IN FAVOR OF A SYSTEM BASED ON DESCRIPTION AND ANALYSIS OF ALTERNATIVES.

0842 ISAACSON, P.A.; N.J. MORRISSON, III

OCCULT HEMOGLOBIN AS AN INDICATOR OF IMPINGEMENT STRESS IN FISHES [1980]

PROG FISH CULT 42(1):9

FISH COLLECTED FROM TRAVELING SCREENS AT AN OPERATING POWER PLANT ON THE UPPER HUDSON RIVER WERE TESTED FOR STRESS ACCORDING TO THE METHODS DESCRIBED BY SMITH AND RAMOS (1976). THEY REPORTED THAT STRESS CAUSED THE RELEASE OF HEMOGLOBIN INTO THE DERMAL MUCUS OF TELEOSTS WHICH CAN BE DETECTED IN THE FIELD BY THE COLOR CHANGE OF A COMMERCIALLY AVAILABLE TEST STRIP. THE DEGREE OF COLOR CHANGE WAS PROPORTIONAL TO THE AMOUNT OF STRESS THE FISH RECEIVED. TEST STRIPS APPLIED TO RECENTLY DEAD STRIPED BASS (MORONE SAXATILIS), WHITE PERCH (M. AMERICANA), GOLDEN SHINER (NOTOMIGONUS CRYSOLEUCAS), AND ALEWIFE (ALOSA PSEUDOHARENGUS) GIVE THE MAXIMUM COLOR REACTION. TEST STRIPS APPLIED TO LIVE, RECENTLY IMPINGED STRIPED BASS AND WHITE PERCH GAVE INTERMEDIATE REACTIONS. WHEN THESE SAME FISH WERE RETESTED AFTER BEING HELD OUT OF WATER FOR AN ADDITIONAL 2-4 MIN, A MAXIMUM COLOR REACTION. WAS OBSERVED. TEST STRIPS IMMERSED IN RIVER WATER, APPLIED TO PLANT MATERIAL AND ASSORTED TRASH, GAVE NO COLOR REACTION. TEST STRIPS APPLIED TO FRESHLY CAUGHT AQUARIUM—HELD NOTOPIS SP. GAVE NO COLOR REACTION. WHEN RETESTED, 2 TO 4 MIN AFTER BEING

CAPTURED, THE AQUARIUM FISH EXHIBITED MAXIMUM COLOR REACTIONS. THE OCCULT HEMOGLOBIN TEST IS A RAPID, EASILY APPLIED TECHNIQUE FOR FIELD DETERMINATION OF STRESS IN IMPINGED FISHES. IT IS POSSIBLE, HOWEVER, THAT THE TEST STRIPS ARE TOO SENSITIVE IN THAT ANY STRESS RELEASES SUFFICIENT OCCULT HEMOGLOBIN TO GIVE A MAXIMUM COLOR REACTION.

0843 ITALIANO, M.L.

MARINE WASTE DISPOSAL IN THE NEW YORK BIGHT--PUBLIC POLICY. ENVIRONMENTAL IMPACTS AND ALTERNATIVE FUTURES [1976]

M.S. THESIS. SUNY, SYRACUSE, NY 288 PP NTIS-PB-255 222

THE FOLLOWING 10 CONCLUSIONS PROVIDE A BRIEF SUMMARY OF THIS PAPER: (1) LITTLE BASELINE SCIENTIFIC INFORMATION ON WASTE DISPOSAL EFFECTS EXISTS BEFORE 1970; (2) NO CONSTRUCTIVE PUBLIC POLICY TO CONTROL WASTE DISPOSAL EXISTED BEFORE THE 1972 MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT; (3) CONSIDERABLE SCIENTIFIC DISAGREEMENT EXISTS CONCERNING DISPOSAL EFFECTS; (4) SCIENTIFIC KNOWLEDGE ON WASTE IMPACT IS PRELIMINARY AND INCOMPLETE; (5) THE APEX RECEIVES A MULTITUDE OF POLLUTANTS, MANY IN LARGE VOLUMES SUCH AS POLLUTED DREDGE SPOIL AND SEWAGE SLUDGE; (6) THE SLUDGE AND DREDGE SPOILS EXHIBIT A HIGH WASTE STRENGTH AND ARE THE MAJOR POLLUTANTS ENTERING THE APEX; (7) THE TREND OF SUBMARINE SLUDGE AND DREDGE SPOIL MOVEMENTS IS CORRELATED WITH CURRENTS, AND HEAVY METAL ORGANIC MATTER, AND COLIFORM BACTERIA DISTRIBUTION; (8) FINFISH MAY BE ADVERSELY IMPACTED BY BARGE WASTE DISPOSAL; (9) DISPOSAL HAS CHANGED THE CHARACTERISTICS OF THE SLUDGE AND DREDGE SPOIL SITES; AND (10) ALTERNATIVE METHODS OF DISPOSAL ARE AVAILABLE, BUT WILL TAKE TIME. PROPER COORDINATION, AND LARGE SUMS OF MONEY TO IMPLEMENT.

0844 ITZKOWITZ, N.; J.R. SCHUBEL; P.M.J. WOODHEAD

RESPONSES OF SUMMER FLOUNDER, PARALICHTHYS DENTATUS, EMBRYOS TO THERMAL SHOCK [1983]

ENV BIOL FISH 8(2):125-135

SUMMER FLOUNDER EGGS, FERTILIZED ARTIFICIALLY, WERE EXPOSED TO TIME SERIES OF ABRUPT THERMAL SHOCKS AND EXAMINED FOR LETHAL AND SUBLETHAL EFFECTS. THE TEMPERATURE INCREMENTS (DELTA T) RANGED FROM 8 C TO 20 C ABOVE THE HOLDING TEMPERATURE, THE PERIODS OF EXPOSURE TO THE DELTA T WERE FOR 2,4,3, AND 16 MIN. EGGS WERE EXPOSED AT EARLY EMBRYO AND LATE EMBRYO STAGES OF DEVELOPMENT. THE EGGS WERE FOUND HIGHLY RESISTANT TO THERMAL SHOCK, EARLY EMBRYO STAGE EGGS SURVIVED THE HIGHEST TEMPERATURE—TIME EXPOSURE USED, AT DELTA T 20 C FOR 16 MIN; LATE EMBRYO STAGE EGGS SHOWED SIGNIFICANTLY INCREASED MORTALITIES IN THE REGION OF DELTA T 16 C FOR 16 MIN AND DELTA T 18 FOR 2 MIN AND AT ALL HIGHER TEMPERATURE EXPOSURES. LARVAE HATCHING FROM THE LATE EMBRYO STAGE EGGS AFTER THERMAL SHOCK WERE EXAMINED FOR ANOMALOUS ANATOMICAL DEVELOPMENT. A PATTERN OF INCREASING INCIDENCE OF DEVELOPMENTAL ANOMALIES APPEARED AT DELTA T 14 C AFTER EXPOSURES OF BETWEEN 4 AND 8 MIN. SUCH SUBLETHAL EFFECTS PROBABLY LEAD QUICKLY TO LARVAL DEATH FROM STARVATION, PREDATION, ETC., AND MUST BE TAKEN INTO CONSIDERATION IN ASSESSING EFFECTS OF THERMAL SHOCK.

0845 JYER, K.M.

STOCHASTIC MODELING OF THE PASSAIC RIVER FLOW [1972]

OWRT, JASHINGTON, DC 102 PP NTIS-PB-240 293

TIME-SERIES MODELS OF THE MOVING-AVERAGE AND AUTOREGRESSIVE TYPE, PROPOSED BY BOX AND JENKINS, HAVE BEEN APPLIED TO DAILY FLOW RATES OF THE PASSAIC RIVER. THIS TECHNIQUE IS EFFECTIVE, EVEN AT SMALL DISCHARGES, CORRESPONDING TO THE UPPER REACHES OF THAT RIVER. THE METHOD APPLIED WORKED SUCCESSFULLY WHEN IT INCLUDED THE SUBTRACTION OF THE FIRST FOURIER HARMONIC, NATURAL LOGARITHMIC TRANSFORMATION AND ONE-DAY DIFFERENCING. AUTOREGRESSIVE MODELS ARE OF COMPARABLE APEQUACY TO MOVING-AVERAGE MODELS, BUT ARE SUBTANTIALLY MORE ECONOMICAL IN COMPUTER TIME REQUIRED. BOTH CHI-SQUARE STATISTICS AND SKEWNESS TESTS WERE APPLIED TO RESIDUALS.

U846 JACKSON, S.; H. REESE

PLEASE GO NEAR THE WATER: A MARINE FIELD TRIP MANUAL [1980]

RE-80-18. NYSG. ALBANY. NY 154 PP NTIS-PB-211 840

THIS MANUAL HAS BEEN PREPARED TO ASSIST TEACHERS IN UTILIZING THE WATERFRONT AS A CLASSROOM. IT RELATES SPECIFICALLY TO NEW YORK CITY, BUT IT COULD EASILY BE ADAPTED TO STUDY MOST URBAN WATERFRONTS. IT HAS BEEN DESIGNED TO BE USED IN CONJUNCTION WITH THE INTERDISCIPLINARY CURRICULUM GUIDE. NYC WATERFRONT. AND ITS ACCOMPANYING AUDIO-VISUAL PACKAGE.

0847 JAEGER, R.

MARINE AND AQUATIC FIELD TRIP GUIDE TO NEW YORK STATE [1980]

RE-80-15. NYSG. ALBANY, NY 145 PP NTIS-PB-197 171

THE MARINE AND AQUATIC FIELD TRIP GUIDE TO NEW YORK STATE INCORPORATES MARINE AND AQUATIC EDUCATION INTO EXISTING ELEMENTARY, INTERMEDIATE, AND SECONDARY CURRICULA. IT IS A GUIDE WRITTEN BY EDUCATORS THROUGHOUT THE STATE WHO HAVE FOUND A PARTICULAR FIELD SITE SUITABLE TO THEIR NEEDS. WITH EACH TRIP THE AUTHOR-EQUCATOR ATJEMPTS TO EXTEND THE CLASS.ROOM, TO BROADEN THE SCOPE AND IMPACT OF THE LESSON, AND TO DEVELOP AN AWARENESS OF THE ENVIRONMENT THAT ONLY "BEING THERE" CAN ESTABLISH. THE SITES ARE LISTED BY COUNTY, STARTING FROM MONTAUK PT. AND MOVING UPSTATE.

D848 JAKATT, S.E.

RIPPLE FIELD ANALYSIS ON THE RIDGE AND SWALE TOPOGRAPHY SOUTH OF TOBAY BEACH, NY [1977]

M.S. THESIS. ADELPHI UNIV. GARDEN CITY. NY 77 PP

BASELIVE STUDIES OF A PROPOSED DIFFUSER PIPE FOR THE SUFFOLK COUNTY MARINE OUTFALL, LOCATED 45 KM EAST OF NYC AND 8 KM SOUTH OF THE JONES BEACH BARRIER ISLAND, WERE UNDERTAKEN TO DETERMINE THE HYDRAULIC FLOW EFFECTING THE AREA AND THE PROPOSED DIFFUSER END. INNER SHELF SAND RIDGES AND AN EXTENSIVELY RIPPLED SUBSTRATE OCCUR THROUGHOUT THE AREA OF THE PROPOSED PIPE CONSTRUCTION. PREDICTION OF THE PROBABLE BEHAVIOR OF THESE BOTTOM FEATURES THROUGH THE DESIGN LIFE OF THE MAN-MADE STRUCTURE IS ESSENTIAL FOR EFFICIENT OPERATION OF THE OUTFALL AND MAINTENANCE OF THE ECOLOGY. GRAB SAMPLING OF THE SUBSTRATE WAS DONE ON 25 STATIONS.

SUBSTRATE SAMPLING, AS WELL AS, DIVER EXAMINATION OF THE RIPPLE FIELDS WERE PERFORMED ON AN ADDITIONAL 43 STATIONS. PHYSICAL PROPERTIES OF THE SUBSTRATE WERE DETERMINED THROUGH GRANULOMETRIC ANALYSIS FOR ALL 63 SAMPLES. CURRENT METERS DEPLOYED BY NOAA PROVIDED ADDITIONAL CURRENT INFORMATION. A HAND-HELD CURRENT METER TAKEN ALONG WITH THE DIVERS ON 35 STATIONS PROVIDED THE BULK OF THE CURRENT DATA. SAND SIZE OF THE SUBSTRATE RANGED FROM VERY FINE SANDS TO COARSE SANDS. THESE SANDS EXPERIENCE FLOWS RECORDED UP TO 40 CM/SEC DURING A DECEMBER STORM. RESULTS OF THE ANALYSIS FOR THE PHYSICAL PROPERTIES OF THE SEDIMENTS, COUPLED WITH THE CURRENT AND WAVE DATA TAKEN, SHOW THAT THE RIDGE AND SWALE IS CHARACTERIZED BY A HIGHLY MOBILE, AND THEREFORE, TRANSIENT SUBSTRATE. RIPPLE ANALYSIS INDICATES THE GENERAL FLOW FROM SOUTH AND SOUTHEAST IS ROTATED TO AN ALMOST WESTERLY FLOW BY DRAG ON THE SHALLOW SECTIONS OF THE WESTERN RIDGES. THIS ROTATION OF FLOW INFLUENCES BOTH THE WATER COLUMN AND THE HIGHLY MOBILE SUBSTRATE. DUMPING OR PIPING OF WASTES INTO THIS REGION WOULD RESULT IN THE WASTES TRAVELING IN A NORTHWESTERLY DIRECTION INTO PUBLIC RECREATION AREAS.

0849 JAY, D.A.

THE HYDROGRAPHY AND CIRCULATION OF NEW YORK HARBOR AND WESTERN LONG ISLAND SOUND: IMPLICATIONS FOR WATER QUALITY [1974]

M.S. THESIS. SUNY, STONY BROOK, NY 71 PP

THE LITERATURE ON THE TIDES, CURRENTS, HYDROGRAPHY AND HYDROLOGY OF NEW YORK HARBOR FROM 1848 TO DATA IS REVIEWED. PARTICULAR EMPHASIS IS PLACED ON THE RELATIONSHIP BETWEEN WATER, SALT AND POLLUTANT TRANSPORT MECHANISMS IN THE EAST RIVER, THE HARBOR AND WESTERN LONG ISLAND SOUND. THE EAST AND HARLEM RIVERS ARE BOTH HYDRAULIC TIDAL STRAITS IN WHICH THE TIDES AND CURRENTS ARE GOVERNED TO A FIRST APPROXIMATION BY THE TIDAL ELEVATION AT EACH END. AN ESTUARINE CIRCULATION IN THE UPPER EAST RIVER MODIFIES THE HYDRAULIC REGIME AND TRANSPORTS UPPER EAST RIVER SURFACE WATER TOWARD LONG ISLAND SOUND. ALL AVAILABLE MEASUREMENTS OF WATER AND SALT TRANSPORT TAKEN OVER THE LAST 105 YRS IN THE EAST AND HARLEM RIVERS ARE COMPILED. THE VARIABILITIES ARE HIGH AND THE DATA INSUFFICIENT TO DIRECTLY DETERMINE SEASONAL AND YEARLY MEANS OF NON-TIDAL TRANSPORTS. THEORETICAL CALCULATIONS BASED ON A DETAILED ANALY OF THE NON-TIDAL HYDRAULIC HEAD ALONG THE RIVER GIVE AN EXPECTED MEAN EAST RIVER NON-TIDAL TRANSPORT OF APPROXIMATELY 10 TO 15 x 10EXP6 M3/TIDE TOWARDS NEW YORK HARBOR. HOWEVER, THE CRITICAL ASSUMPTION OF WHETHER TIDAL FRICTION IS THE SAME FOR BOTH EBB AND FLOOD FLOWS HAS NOT BEEN VERIFIED. THE OBSERVED DISTRIBUTIONS OF NUTRIENTS AND SEWAGE EFFLUENTS SUGGEST THAT THE ESTUARINE AND DISPERSIVE MECHANISMS IN THE EAST RIVER TRANSPORT A CONSIDERABLE FRACTION OF THE APPROXIMATELY 35 M3/SEC OF SEWAGE EMPTIED INTO THE EAST RIVER TO THE SOUND, WHILE THE ADVECTIVE COMPONENT IS EXPECTED, ON THE AVERAGE, TO TRANSPORT EFFLUENTS INTO NEW YORK HARBOR. TRANSPORT OF SEWAGE EMPTIED INTO THE EAST RIVER TO THE SOUND, WHILE THE ADVECTIVE COMPONENT IS EXPECTED, ON THE AVERAGE, TO TRANSPORT EFFLUENTS INTO NEW YORK HARBOR. TRANSPORT OF SEWAGE EMPTIED INTO THE AVERAGE, TO TRANSPORT OF SEWAGE EMPTIED INTO THE EAST RIVER IS PROBABLY A MAJOR FACTOR CAUSING THE OBSERVED VIOLATIONS OF STATE AND FEDERAL WATER QUALITY STANDARDS IN WESTERN LONG ISLAND SOUND. IT IS CONCLUDED THAT THE EAST RIVER, PARTICULARLY THE UPPER SECTION, IS A VERY POOR LOCATION TO RELEAS

0850 JAY, D.A.; M.J. BOWMAN

THE PHYSICAL OCEANOGRAPHY AND WATER QUALITY OF NEW YORK HARBOR AND WESTERN LONG ISLAND SOUND [1975]

TECH REP 23. MSRC, SUNY, STONY BROOK, NY 23 71 PP NTIS-PB-259 632

THE LITERATURE ON THE TIDES, CURRENTS, HYDROGRAPHY AND HYDROLOGY OF NEW YORK HARBOR FROM 1848 TO DATE IS REVIEWED. PARTICULAR EMPHASIS IS PLACED ON THE RELATIONSHIP BETWEEN WATER, SALT AND POLLUTANT TRANSPORT MECHANISMS IN THE EAST RIVER, THE HARBOR AND WESTERN LONG ISLAND SOUND. AN ESTUARINE CIRCULATION IN THE UPPER EAST RIVER MODIFIES THE HYDRAULIC REGIME AND TRANSPORTS UPPER EAST RIVER SURFACE WATER TOWARD LONG ISLAND SOUND. THE OBSERVED DISTRIBUTIONS OF NUTRIENTS AND SEWAGE EFFLUENTS SUGGEST THAT THE ESTUARINE AND DISPERSIVE MECHANISMS IN THE EAST RIVER TRANSPORT A CONSIDERABLE FRACTION OF SEWAGE EMPTIED INTO THE EAST RIVER TO THE SOUND, WHILE THE ADVECTIVE COMPONENT IS EXPECTED TO TRANSPORT EFFLUENTS INTO NEW YORK HARBOR. TRANSPORT OF SEWAGE POLLUTANTS FROM THE EAST RIVER IS PROBABLY A MAJOR FACTOR CAUSING THE OBSERVED VIOLATIONS OF STATE AND FEDERAL WATER QUALITY STANDARDS IN WESTERN LONG ISLAND SOUND.

0851 JEFFRIES, H.P.

THE ATYPICAL PHOSPHATE CYCLE OF ESTUARIES IN RELATION TO BENTHIC METABOLISM [1962]

PAGE 53-68 IN NARRAGANSETT MARINE LAB CONTRIB NO 44. UNIV OF RI. KINSTON. RI

THIS REPORT DESCRIBES THE PHOSPHATE AND NITRATE CYCLES OF RARITAN BAY, NJ WHICH DUE TO A COMBINATION OF NATURAL AND MAN-MADE INFLUENCES, DEMONSTRATES ASPECTS OF ESTUARINE NUTRIENT DYNAMICS WITH THE CLARITY OF A LABORATORY EXPERIMENT. THE CHARACTERISTIC SUMMER INCREASE IN PHOSPHATE CONTENT OF NEW ENGLAND AND MIDDLE ATLANTIC ESTUARIES, COINCIDENT WITH A SHARP DROP IN THE NO3:PO4 RATIO, CAN BE QUALITATIVELY EXPLAINED WITH EXISTING INFORMATION. THE PHENOMENON, OBVIOUSLY OF EXTREME IMPORTANCE IN UNDERSTANDING ESTUARINE PRODUCTIVITY, IS A MANIFESTATION OF SEASONAL CHANGES IN SEVERAL RATES, BOTH PHYSICAL AND BIOLOGICAL. THE PROCESSES ARE NOT PECULIAR TO ESTUARINE SYSTEMS, BUT THEY APPEAR TO EXERT A GREATER EFFECT, ARISING FROM THE FUNDAMENTAL PROPERTIES OF THE ENVIRONMENT, THAN IN THE OPEN OCEAN. DATA ARE NOT AVAILABLE TO ASSESS THESE RATES QUANTITATIVELY; ONLY THEIR RELATIVE IMPORTANCE CAN BE INFERRED.

0852 JEFFRIES, H.P.; W.C. JOHNSON, II

PETROLEUM, TEMPERATURE, AND TOXICANTS, EXAMPLES OF SUSPECTED RESPONSES BY PLANKTON AND BENTHOS ON THE CONTINENTAL SHELF [1976]

PAGES 96-108 IN B. MANOWITZ, ED. PROC OF CONFERENCE, EFFECTS OF ENERGY-RELATED ACTIVITIES ON THE ATLANTIC CONTINENTAL SHELF. BROOKHAVEN NAT'L LAB, 10-12 NOV 1975. BNL, UPTON, NY

GROSS POPULATION CHANGES CAREFULLY ENUMERATED OVER TIME IN NATURAL COMMUNITIES OF THE NEW YORK BIGHT AND NEARBY AREAS ARE EXAMINED. FROM SUCH COMPARISONS A BASIC APPRECIATION OF SENSITIVITY WITHIN NATURAL SYSTEMS CAN BE OBTAINED. ALTHOUGH FEWER ENERGY-RELATED STUDIES HAVE BEEN MADE ON HOLOPLANKTONIC COPEPODS THAN ON OTHER COMPONENTS IN THE PLANKTON, PRESENT KNOWLEDGE ALLOWS A GENERAL ASSESSMENT OF EFFECT. RESPONSES AMONG THE COPEPODS TO MAN'S ACTIVITIES RANGE FROM UNIMPORTANT TO SIGNIFICANT. IN NO CASE, HOWEVER, IS THERE SUFFICIENT EVIDENCE TO SHOW ALTERED STRUCTURE OR ABNORMAL FUNCTION OF THE COPEPOD FAUNA BEYOND SPATIALLY LIMITED AREAS. DIVERSITY AND ABUNDANCE ARE, THEREFORE, STILL CONTROLLED NATURALLY, EVEN IN SUCH HEAVILY USED AREAS AS THE NEW YORK BIGHT.

0853 JENIFER, F.G.

STUDIES ON THE NATURAL RELATIONSHIPS OF CYANOPHAGES AND THEIR HOSTS AND THE NATURE OF RESISTANCE [1977]

COMPLETION REP. WATER RESOURCES RES INST. NEW BRUNSWICK. NJ 24 PP NTIS-PB-270 781

THE CYANOPHAGES LPP-1 AND/OR LPP-2 WERE ISOLATED FROM 19 NATURAL WATER BODIES OF THE RARITAN RIVER DRAINAGE BASIN IN NJ. THE SEASONAL FLUCTUATIONS OF LPP-1 AND LPP-2, AND PLECTONEMA AND 13 OTHER GENERA OF BLUE-GREEN ALGAE WERE MONITORED FOR THE FIRST TIME IN THE SAME WATER SYSTEM. THERE IS A DIRECT RELATIONSHIP BETWEEN THE OCCURRENCE OF THE LPP CYANOPHAGE GROUP AND PLECTONEMA BORYANUM. THIS FINDING SUGGESTS THAT THE LPP CYANOPHAGES MAY PLAY A ROLE IN THE NATURAL CONTROL OF PLECTONEMA BORYANUM AND ARE OF POTENTIAL USE AS BIOLOGICAL CONTROLS FOR THIS ALGA. STUDIES ON THE AS-1/ANACYSTIS NIDULANS SYSTEM CLEARLY INDICATE THAT MUTANTS OF A. NIDULANS RESISTANT FOR AS-1 RAPIDLY DEVELOP PURING AS-1 INFECTION. AS-1 IS UNABLE TO ATTACH TO THE SURFACE OF THESE MUTANTS. AS-1 IS ALSO IRREVERSIBLY INACTIVATED BY THE LIPOPOLYSACCHARIDE (LPA) ISOLATED FROM WILD TYPE A. NIDULANS. THESE RESULTS SUGGEST THAT IF MUTANTS OF OTHER BLUE-GREEN ALGAE DEVELOP AS RAPIDLY UNDER CYANOPHAGE SELECTION PRESSURE AS IS THE CASE IN A. NIDULANS AND IF THE NATURE OF THEIR RESISTANCE IS SIMILAR, THEN THE USE OF CYANOPHAGES AS SPECIFIC BIOLOGICAL CONTROLS SEEMS OF DUBIOUS VALUE.

D854 JENKINS, D.

GREATER NEW YORK REGION POPULATION PROJECTION BASED ON NYU ENERGY PROJECT (1985): MANUFACTURING EMPLOYMENT AND PORT AUTHORITY EMPLOYMENT AND POPULATION ESTIMATES FOR 1985 [1975]

BATTELLE COLUMBUS LABS. NSF. COLUMBUS. OH 14 PP NTIS-PB-292 022

THE POSSIBLE IMPACT OF AREAWIDE RESIDENTIAL LOCATION POLICY ON FUTURE RESIDENTIAL ELECTRICITY USAGE IN THE TRI-STATE METROPOLITAN REGION CENTERING ON NEW YORK CITY IS INVESTIGATED. IN ORDER TO ECONOMICALLY ESTIMATE THE 1985 POPULATION OF THE GREATER NEW YORK CITY REGION, THIS PAPER PROPOSES TO CALCULATE A LABOR FORCE PARTICIPATION RATE BASED ON 1985 POPULATION AND TOTAL EMPLOYMENT PROJECTIONS FROM THE 1974 STUDY BY THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY. THEN FROM A TOTAL EMPLOYMENT FIGURE FOR 1985 BASED ON ENERGY PROJECT MANUFACTURING EMPLOYMENT PROJECTIONS FOR THAT YEAR, THE 1985 POPULATION OF THE REGION WILL BE CALCULATED FROM THE PREVIOUSLY DETERMINED LABOR FORCE PARTICIPATION RATE. AFTER TOTAL EMPLOYMENT FIGURES FOR 1985 ARE CALCULATED FOR THE ENERGY PROJECT, THE LABOR FORCE PARTICIPATION RATE (TOTAL EMPLOYMENT/POPULATION) IS CALCULATED FROM A PORT AUTHORITY DATA BASE. SINCE THE LABOR FORCE PARTICIPATION RATE IS ASSUMED TO BE EQUAL FOR BOTH STUDIES, IT IS POSSIBLE TO CALCULATE THE 1985 POPULATION OF THE REGION BASED ON ENERGY PROJECT PROJECTIONS OF MANUFACTURING EMPLOYMENT.

D855 JENNY, R.J.

NATIONAL DAM SAFETY PROGRAM. LAKE TAPPAN DAM (NJ00246), HACKENSACK RIVER BASIN, HACKENSACK RIVER, BERGEN COUNTY, NJ. PHASE I INSPECTION REPORT [1979]

NJ DEP. TRENTON, NJ 124 PP NTIS-AD-A769 220

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0856 JENNY. R.J.

NATIONAL DAM SAFETY PROGRAM. LAKE NELSON DAM (NJ00376), RARITAN RIVER BASIN, AMBROSE BROOK, MIDDLESEX COUNTY, NJ. PHASE I INSPECTION REPORT [1979]

NJ DEP. TRENTON, NJ 124 PP NTIS-AD-A069 219

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0857 JENSEN, A.C.

THERMAL POLLUTION IN THE MARINE ENVIRONMENT [1970]

CONSERVATIONIST 25(2):8-13

IF ADEQUATE ECOLOGICAL PLANNING IS NOT UNDERTAKEN BEFORE THE CONSTRUCTION OF A POWER PLANT, THE DAMAGE TO THE FISHING INDUSTRY FROM THERMAL POLLUTION CAN BE SUBSTANTIAL. ALTHOUGH, AT THE PRESENT TIME, EIGHTY % OF NY'S MARINE DISTRICTS THERMAL POLLUTION COMES FROM ELECTRIC POWER PLANTS, THE PLANS FOR CONSTRUCTION OF MASSIVE NUCLEAR POWER PLANTS COULD HAVE MORE SERIOUS CONSEQUENCES BECAUSE THEY ARE PLANNED FOR AREAS WHERE THE POLLUTION LEVEL IS STILL LOW.

0858 JENSEN. A.C.

FISH AND POWER PLANTS [1970]

CONSERVATIONIST 24(3):2-5

A BIOLOGICAL SURVEY WAS MADE TO PREDICT THE EFFECTS OF THE PROPOSED STORM KING MOUNTAIN PUMPED STORAGE HYDROELECTRIC PLANT ON THE ECOLOGY OF THE HUDSON RIVER ESTUARY. LARGE NUMBERS OF EGGS, LARVAE, AND YOUNG STRIPED BASS WOULD BE WITHDRAWN BY THE PROPOSED HYDROELECTRIC PLANT. HOWEVER, THE EGGS AND YOUNG FISH THAT WOULD BE WITHDRAWN WOULD BE BUT A SMALL PERCENTAGE OF THE TOTAL NUMBER OF EACH OF THE LIFE STAGES OF STRIPED BASS PRESENT IN THE ESTUARY. APPROXIMATELY 2.8% WOULD BE SUBJECT TO WITHDRAWAL. SUBSTANTIAL NUMBERS OF BLUEBACK HERRING, ALEWIFE, TOMCOD AND WHITE PERCH, SMALL ENOUGH TO PASS THROUGH THE SCREENS, ALSO HOULD BE WITHDRAWN SEASONALLY BUT THAT BECAUSE OF THE VARYING DISTRIBUTION OF THE SPECIES IN THE ESTUARY, THE EFFECT OF LOSSES BY THE OPERATION OF THE PLANT PROBABLY WOULD BE MINIMAL. OPERATION OF ADDITIONAL PLANTS—POWER, MANUFACTURING OR OTHER—THAT REQUIRE LARGE VOLUMES OF JATER COULD, IN COMBINATION WITH THE PROPOSED CORNWALL PLANT, DESTROY SUFFICIENT NUMBERS OF EGGS AND LARVAE OF FISHES TO ADVERSELY AFFECT SUBSEQUENT POPULATIONS. THESE EFFECTS COULD BE PARTICULARLY SEVERE IF THE PLANTS WERE BUILT IN AREAS OF HEAVY FISH CONCENTRATIONS. THE PROPOSED PUMP—STORAGE HYDROELECTRIC PLANT AT CORNWALL WOULD NOT HAVE A SIGNIFICANT ADVERSE EFFECT ON THE POPULATIONS OF STRIPED BASS AND SHAD IN THE HUDSON RIVER.

SPORT FISHERIES AND OFFSHORE OIL [1974]

NY FISH GAME J 21(2):105-116

THE POSSIBILITY OF EXPLORATORY AND PRODUCTION DRILLING FOR PETROLEUM ON THE CONTINENTAL SHELF OFF THE NORTHEAST COAST OF THE US HAS AROUSED THE CONCERN OF SPORT FISHERMEN FROM NY AND NEIGHBORING STATES. THIS PAPER DISCUSSES THE MARINE SPORT FISHERY RESOURCES IN THE AREA IN RELATION TO THE SUSPECTED PETROLEUM RESERVES.

0860 JENSEN. A.C.

MANAGING SHELLFISH RESDURCES UNDER INCREASING POLLUTION LOADS [1974]

PAGES 173-180 IN PROC. 26TH ANN SESSION OF GULF AND CARIBBEAN FISHERIES INSTITUTE, NEW ORLEANS, LA, OCT 1973

THOSE CHARGED WITH THE MANAGEMENT OF MARINE SHELLFISH RESOURCES ARE FACED WITH THE PROBLEM OF HOW TO MAINTAIN USABLE PRODUCTION IN THE FACE OF ENVIRONMENTAL PRESSURES. THIS IS A SUMMARY OF THE CASE OF NY'S PROSPEROUS SHELLFISH INDUSTRY. OF THE 16.3 MILLION LBS OF HARD CLAMS PRODUCED IN THE US IN 1972, NY WAS THE SOURCE OF MORE THAN 52% OF THEM. IN 1972, THE STATE'S SHELLFISH INDUSTRY HARVESTED 8.5 MILLION LBS OF HARD CLAMS (MERCENARIA MERCENARIA) WORTH \$13.2 MILLION AT THE DOCKSIDE. IN ADDITION, THE INDUSTRY HARVESTED 1.1 MILLION POUNDS OF AMERICAN OYSTERS (CRASSOSTREA VIRGINICA). MOST OF THE BIVALVE SHELLFISH WERE HARVESTED FROM APPROXIMATELY 425,000 ACRES OF UNDERWATER LAND CONTROLLED BY NY. AT THE PRESENT TIME, ABOUT 24% ARE CLOSED BECAUSE THE WATERS DO NOT MEET CRITERIA ESTABLISHED FOR THE CERTIFICATION OF SHELLFISH GROWING AREAS. VARIOUS SOURCES OF POLLUTION ARE IDENTIFIED: FARM WASTES, DOMESTIC SEWAGE, STORM WATER RUNOFF, PESTICIDES, AND HEAVY METALS. METHODS OF DEALING WITH THIS PROBLEM ARE SET FORTH.

0861 JENSEN, A.C.

NEW YORK'S FISHERIES FOR SCUP, SUMMER FLOUNDER AND BLACK SEA BASS [1974]

NY FISH GAME J 21(2):126-134

THE REPORTED COMMERCIAL LANDS FOR NY'S MARINE FISHERIES SHOW WHAT APPEAR TO BE SERIOUS DECLINES IN ABUNDANCE. THE HEAVY EXPLOITATION BY FOREIGN FISHING FLEETS OFF OUR COAST HAS BEEN BLAMED FOR THE DECLINES. AN EXAMINATION OF THE DATA INDICATES THAT, FOR MANY SPECIES, THE DECLINE IN COMMERCIAL LANDINGS BEGAN WELL BEFORE THE FOREIGN FLEETS FISHED IN THE LOCAL COASTAL WATERS. BILATERAL FISHERY AGREEMENTS HAVE BEEN NEGOTIATED BETWEEN THE US AND THE USSR AND POLAND. PREPARATORY TO THE SIGNING OF THESE AGREEMENTS, THE NY DEC WAS REQUESTED TO REVIEW NY'S FISHERIES FOR SCUP, SUMMER FLOUNDER AND BLACK SEA BASS. THE RESULTS OF THE REVIEW INDICATE THAT THE RECREATIONAL FISHERIES ARE RESPONSIBLE FOR A SUBSTANTIAL REMOVAL OF THE RESOURCE. IT IS SUGGESTED THAT AS MANAGEMENT PLANS ARE MADE FOR NY'S MARINE FISHERIES, SERIOUS CONSIDERATION BE GIVEN FIRST TO MANAGING THE RECREATIONAL EFFORT.

D362 JENSEN. A.C.

ARTIFICIAL FISHING REEFS [1975]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 13. NYSG, ALBANY, NY 26 PP NTIS-PB-249 756

THE MONOGRAPH DISCUSSES ARTIFICIAL FISHING REEFS OUTSIDE BARRIER BEACH AREAS IN NEW YORK BIGHT. IT DESCRIBES MATERIALS, LOCATIONS, AND SUCCESS OF THESE REEFS IN ENHANCING THE MARINE ENVIRONMENT TO IMPROVE ANGLING OPPORTUNITIES FOR SPORT FISHERMEN. THESE ARTIFICIAL FISHING REEFS ARE DESCRIBED AS UNDERWATER STRUCTURES DESIGNED TO ATTRACT AND CONCENTRATE FISHES, MAKING THEM MORE AVAILABLE TO ANGLERS. IN CONTRAST TO NATURAL FISHING REEFS, SUCH AS ROCK LEDGES OR CORAL FORMATIONS--RARE IN NEW YORK BIGHT--ARTIFICIAL REEFS CONSIST OF BOTH NATURAL AND MAN-MADE MATERIALS. MOST ARTIFICIAL REEFS ARE OF SOLID MATERIALS

DELIBERATELY SUNK AS PART OF FISHERIES MANAGEMENT PLANS UNDER THE DIRECTION OF GOVERNMENTAL AGENCIES. RESEARCH HAS SHOWN THAT DISCARDED AUTOMOBILE TIRES ARE AMONG THE BEST MATERIALS FOR THE REEFS. TIRES ARE EASILY OBTAINED, INEXPENSIVE, ATTRACT A VARIETY OF ORGANISMS, AND ARE LONG-LASTING IN THE DESTRUCTIVE ENVIRONMENT OF SEAWATER. SEVEN PLANNED ARTIFICIAL FISHING REEFS CONSTRUCTED BEYOND THE BARRIER BEACHES IN NEW YORK BIGHT. HAVE BEEN STUDIES INTENSIVELY AND ARE REPORTED ON IN THIS MONOGRAPH.

0863 JENSEN, A.C.

OFFSHORE OIL AND FISHERY RESOURCES [1976]

NY FISH GAME J 23(2):138-148

THE PROSPECT OF PETROLEUM RESERVES OFF NY AND ADJACENT STATES HAS FOCUSED A DETAILED LOOK AT THE LIVING MARINE RESOURCES OF THE AREA AS THEY MIGHT BE AFFECTED BY DRILLING FOR THE PETROLEUM AND BY POSSIBLE OIL SPILLS. THIS PAPER REVIEWS THE OFFSHORE AND COASTAL FISHERY RESOURCES IN RELATION TO THE SUSPECTED PETROLEUM RESERVES.

0864 JENSEN, A.C.

NEW YORKS' MARINE FISHERIES: CHANGING NEEDS IN A CHANGING ENVIRONMENT [1977]

NY FISH GAME. J 24(2):99-128

MARINE FISHERIES THROUGHOUT THE WORLD HAVE MADE TREMENDOUS CHANGES OVER THE LAST 25 YR. THE SITUATION IN NY IS TYPICAL.
INCREASED PRESSURE FROM FOREIGN FISHING FLEETS, CHANGING DOMESTIC EMPHASIS FROM COMMERCIAL TO RECREATIONAL FISHING, AND A
CHANGING MARINE ENVIRONMENT (FROM NATURAL AS WELL AS MAN-MADE CAUSES) ARE PRODUCING CHANGES IN SPECIES COMPOSITION IN SOME
ECOSYSTEMS AND IN THE AVAILABILITY AND USABILITY OF A NUMBER OF FOOD SPECIES. MERCURY, PCBS, AND OTHER POLLUTANTS HAVE
THREATEND THE USEFULNESS OF SEVERAL SPECIES. POLLUTION FROM DOMESTIC WASTES HAS FORCED THE CLOSURE OF PRODUCTIVE SHELLFISH
GROUNDS. THE POSSIBILITY OF OFFSHORE DRILLING FOR OIL AND GAS POSES A SERIOUS DILEMMA FOR COASTAL ZONE MANAGERS AND FISHERIES
MANAGERS. THE INCREASE IN THE NUMBER OF MARINE ANGLERS HAS PUT HEAVY PRESSURE ON SEVERAL FISH STOCKS. NEW MANAGEMENT PROGRAMS
ARE SUGGESTED TO BRING PRESENT FISHERIES PROGRAMS INTO LINE WITH TECHNOLOGICAL, SOCIAL, AND ENVIRONMENTAL CHANGES.

0865 JINKS, S.M.; M.E. WRENN

RADIOCESIUM TRANSPORT IN THE HUDSON RIVER ESTUARY [1975]

PAGES 207-227 IN ENVIRONMENTAL TOXICITY OF AQUATIC RADIONUCLIDES: MODELS AND MECHANISMS, PROC, 8TH ROCHESTER INTERNATL CONF ON ENVIRON TOXICITY

RADIOCESIUM DATA OBTAINED IN THE HUDSON RIVER ESTUARY WERE USED TO EVALUATE THE DISTRIBUTION. RATES OF TRANSFER, AND THE MECHANISMS OF RADIONUCLIDE TRANSFER BETWEEN WATER AND SEDIMENT. THE PERCENTAGE OF CS-137 AND CS-134 PRESENT IN THE DISSOLVED STATE AT INDIAN POINT WAS FOUND TO VARY AS A FUNCTION OF WATER SALINITY WITH LESS THAN 20% OF THE TOTAL RADIOCESIUM BEING DISSOLVED IN FRESH WATER AND OVER 90% BEING IN THE DISSOLVED STATE WHEN CHLORINE CONCENTRATIONS EXCEEDED 2.0 G/L. DESORPTION DURING INTRUSION OF SALINE WATER APPEARS TO BE THE PRIMARY MECHANISMS FOR THE REMOVAL OF RADIOCESIUM FROM BOTTOM SEDIMENT AT THE SITE. MODELS WERE CONSTRUCTED FOR THE ESTIMATION OF MONTHLY AVERAGE CONCENTRATIONS AND COMPARED WITH OBSERVED CONCENTRATIONS OF RADIOCESIUM IN FISH.

0866 JINKS, S.M.; T.C. CANNON; D.L. LATIMER; L. CLAFLIN

AN APPROACH FOR THE ANALYSIS OF STRIPED BASS ENTRAINMENT SURVIVAL AT HUDSON RIVER POWER PLANTS [1978]

PAGES 343-350 IN 4TH NAT'L WORKSHOP ON ENTRAINMENT AND IMPINGEMENT, DEC 5, 1977, CHICAGO, IL

STUDIES HAVE SHOWN THAT A HIGH PERCENIAGE OF STRIPED BASS ARE CAPABLE OF SURVIVING THE ENTRAINMENT EXPERIENCE WHEN THE TEMPERATURE OF THE CIRCULATING WATER SYSTEM IS BELOW LETHAL LIMITS, AND THAT MORTALITY INCREASES CONCURRENTLY WITH ELEVATION IN DISCHARGE TEMPERATURE ABOVE THESE LIMITS. THERMAL EXPOSURE FACTORS CONSIDERED IN THIS STUDY WERE AMBIENT WATER TEMPERATURE, DELTA-T OF CIRCULATING WATER, AND TRANSIT TIME. THESE FACTORS WERE DEPENDENT ON SEASON, PLANT GENERATING LOAD, AND CIRCULATING WATER FLOW RATE. MECHANICAL EFFECTS ON ENTRAINMENT SURVIVAL WERE DETERMINED FROM FIELD ENTRAINMENT STUDIES. THERMAL EFFECTS WERE DESCRIBED BY REGRESSION MODELS BASED ON THERMAL LABORATORY RESULTS AND ON INCORPORATING DEPENDENCE ON ACCLIMATION TEMPERATURE AND EXPOSURE DURATION.

0367 JINKS, S.M.

INVESTIGATION OF THE FACTORS INFLUENCING RADIOCESIUM CONCENTRATIONS OF FISH INHABITING NATURAL AQUATIC ECOSYSTEMS (1979)

PH.D. THESIS. NYU. NEW YORK. NY 308 PP

DISTRIBUTIONS OF RADIOACTIVE AND STABLE CESIUM WERE DETERMINED IN WATER, SEDIMENT, AND BIDTA FROM EIGHT DIFFERENT AQUATIC ECOSYSTEMS BETWEEN 1971 AND 1973. THE ECOSYSTEMS INCLUDED FOUR LAKES, FRESH AND BRACKISH WATER REGIONS OF THE HUDSON RIVER ESTUARY, AND TWO COASTAL MARINE SITES. IN THE HUDSON RIVER ESTUARY, THE DISTRIBUTION OF RADIOCESIUM BETWEEN SUSPENDED AND DISSOLVED PHASES IN WATER WAS FOUND TO BE A FUNCTION OF SALINITY. MEAN RATES OF DEPOSITION OF SUSPENDED RADIOCESIUM INTO BOTTOM SEDIMENT ARE CALCULATED FROM THE TEMPORAL CHANGES IN CONCENTRATIONS OF THE MEDIA, AND OBSERVED DEPTH DISTRIBUTIONS IN SEDIMENT ARE SEMI-QUANTITATIVELY DESCRIBED. DESORPTION BY SALT WATER IS IDENTIFIED AS THE MAJOR MECHANISM FOR TRANSPORT OF RADIOCESIUM FROM BJITOM SEDIMENT IN THE LOWER ESTUARY, AND HALF-TIMES FOR REMOVAL BY THIS MECHANISM ARE ESTIMATED TO BE 1.5 TO 2.0 YRS. SUSPENDED-DISSOLVED DISTRIBUTIONS OF RADIOCESIUM IN WATER, AND DEPTH DISTRIBUTIONS IN SEDIMENT ARE ALSO PRESENTED FOR LAKE AND MARINE SYSTEMS. ACCUMULATION OF RADIOCESIUM BY FISH IS EXAMINED IN RELATION TO RADIOCESIUM DISTRIBUTIONS IN WATER, SEDIMENT, AND OTHER BIOTA, AND TO THE CHEMICAL CHARACTERISTICS OF EACH ECOSYSTEM. RADIOCESIUM DISSOLVED IN WATER WAS THE PRIMARY SOURCE TO THE FISH IN ALL ECOSYSTEMS. SEDIMENT INVENTORIES OF CS-137 CONSTITUTED A SECONDARY SOURCE WHICH PROVIDED AS MUCH AS SO X OF THE RADIOCESIUM IN BENTHIC FEEDING FISH IN THE HUDSON RIVER. DIETARY INTAKE OF CS-137 IS SHOWN TO BE INVERSELY RELATED TO THE POTASSIUM CONCENTRATION IN THE AMBIENT WATER, AND RESULTS IN AN INVERSE PROPORTIONALITY BETWEEN THE CONCENTRATION FACTOR IN FISH AND THE POTASSIUM CONCENTRATIONS IN THE DIFFERENT FRESHWATER AND ESTUARINE ECOSYSTEMS.

0868 JOHNSEN, J.H.

THE HUDSON RIVER GUIDE: A GEOLOGICAL AND HISTORICAL GUEDE TO THE LOWER AND MID-HUDSON VALLEY REGION, AS VIEWED FROM THE RIVER [1976]

GUIDEBOOK. 48TH ANNUAL MEETING, NYS GEOL ASSOC, VASSAR COLLEGE OCT 15-17, 1976

A GUIDEBOOK INTENDED FOR ANY HUDSON RIVER BUFF IN THE LOWER AND MIDDLE VALLEY WHETHER A SUNDAY SAILOR OR AN ESTUARINE SCIENTIST.

0869 JOHNSON, E.A. (EDITOR)

WATER POLLUTION IN THE GREATER NEW YORK AREA. PROC OF A SYMP DEC 13. 1970, CUNY, NEW YORK, NY [1970]

GORDON AND BREACH, SCI PUBL INC., NEW YORK, NY 211 PP

PROCEEDINGS PUBLISHED IN THE VOLUME FEATURE A COORDINATED EFFORT TO STUDY THE CURRENT STATE OF THE WATERS IN AND AROUND MY. THE SYMPOSIUM WAS DIVIDED INTO FOUR SESSIONS DEALING WITH PHYSICAL, CHEMICAL, BIOLOGICAL AND ENGINEERING ASPECTS OF POLLUTION OF THE NEW YORK BIGHT AND ESTUARIES. THREE SPEAKERS WERE SELECTED FOR EACH SESSION ON THE BASIS OF THEIR SPECIAL KNOWLEDGE AND

EXPERIENCE.

0870 JOHNSON, R.S.

PILOT INSTALLATION OF AUTOMATIC RADIOLOGICAL MONITORING SYSTEMS [1974]

OFFICE OF CIVIL DEFENSE, WASHINGTON, DC 193 PP NJIS-AD-A010 264

THE STUDY DESCRIBES ADAPTATION OF EXISTING AUTOMATIC AIR QUALITY DATA ACQUISITION AND TELEMETRY NETWORKS TO INCLUDE RADIOLOGICAL MONITORING. THO RANGES OF RADIOLOGICAL EQUIPMENT .1 R/HR-10,000 R/HR (HIGH RANGE); AND AMBIENT BACKGROUND OF UP TO 500 COUNTS/MIN (LOW RANGE) WERE ADDED ON A SINGLE TELEMETRY CHANNEL TO AIR QUALITY TELEMETRY SYSTEMS IN NEW YORK CITY, CHICAGO, AND THE STATE OF DELAWARE. SPECIALIZED INTERFACE EQUIPMENT WAS DESIGNED AND IS DESCRIBED. A TECHNIQUE FOR DIGITALLY COMPRESSING FIVE DECADES OF RADIOLOGICAL INSTRUMENT DYNAMIC RANGE ON A TELEMETRY SYSTEM CAPABLE OF ONLY THREE DECADES OF RANGE WAS DEVELOPED. DATA TRANSMISSION LINKS FROM THE AIR MONITORING NETWORK CONTROL STATION TO CIVIL DEFENSE EMERGENCY OPERATING CENTERS (EOC.) HERE ENGINEERED AND INSTALLED IN NYC AND DE. USE OF A REPRESENTATIVE LEASED WIRE-LINE SIREN CONTROL SYSTEM FOR COMBINED SIREN CONTROL AND RADIOLOGICAL TELEMETRY WAS INVESTIGATED BUT NOT IMPLEMENTED BECAUSE OF TARIFF RESTRICTIONS ON THE LEASED LINES. RESULTS INDICATED THAT USE OF AIR QUALITY TELEMETRY SYSTEMS FOR RADIOLOGICAL MONITORING IS TECHNICALLY AND OPERATIONALLY FEASIBLE.

0871 JOHNSON, R.W.

ECOLOGY OF THE NORTHERN CLAPPER RAIL RALLUS LONGIROSTRIS CREPITANS GMELIN [1973]

PH.D. THESIS. CORNELL UNIV. ITHACA. NY NP

THIS IS A LIFE HISTORY AND MANAGEMENT STUDY OF A SALT MARSH GAME BIRD WHOSE PRESENCE ON SALT MARSHES IS AN INDICATION OF HABITAT CONDITIONS. RESEARCH INCLUDES LIMITING FACTORS, POPULATION DENSITY, BEHAVIOR (PARTICULARLY REPRODUCTIVE BEHAVIOR) AND DISTRIBUTION.

0872 JOHNSON, R.W.; I.W. DUEDALL; R.M. GLASGOW; J.R. PRONI; T.A. NELSEN

QUANTITATIVE MAPPING OF SUSPENDED SOLIDS IN WASTEWATER SLUDGE PLUMES IN THE NEW YORK BIGHT APEX [1977]

J WATER POLLUT CONTROL FED 49(10):2063-2073

STATISTICAL ANALYSIS TECHNIQUES WERE APPLIED TO DEVELOP QUANTITATIVE RELATIONSHIPS BETWEEN AIRCRAFT REMOTELY SENSED DATA AND MEASUREMENTS MADE IN THE PLUME RESULTING FROM OCEAN DUMPING OF WASTEWATER IN THE NEW YORK BIGHT. A CORRELATIONS COEFFICIENT OF 0.96 WAS OBTAINED BETWEEN SUSPENDED SOLIDS IN THE PLUME AND REMOTELY SENSED DATA FROM AN AIRCRAFT MULTISPECTRAL SCANNER. THE STANDARD ERROR OF ESTIMATE WAS 4.11 MG/L OVER A MEASURED RANGE OF 1.11 TO 332.20 Mg/L. A CALIBRATED REGRESSION EQUATION FROM THE ANALYSIS WAS USED TO DEVELOP A MAP OF QUANTITATIVE DISTRIBUTIONS OF SUSPENDED SOLIDS IN WASTEWATER SLUDGE DUMP PLUMES.

D873 JOHNSON, R.W.

IDENTIFICATION AND MAPPING OF POLLUTION FEATURES IN THE COASTAL ZONES [1977]

PRESENTED AT REGION 3 CONF AND EXHIBIT. WILLIAMSBURG. VA. APR 4-6, 1977, 15 PP

RESULTS OF FIELD EXPERIMENTS CONDUCTED IN THE ATLANTIC COASTAL ZONE INDICATED THAT POLLUTION FEATURES SUCH AS PLUMES RESULTING FROM OCEAN DUMPING OF SEWAGE SLUDGE AND ACID WASTE MATERIALS, HAVE UNIQUE SPECTRAL CHARACTERISTICS. THESE CHARACTERISTICS MAY

BE USED TO LOCATE, IDENTIFY, AND MAP THEIR DISTRIBUTIONS, WITHOUT CONCURRENT SEA TRUTH. THIS TECHNOLOGY BASE WILL BE REQUIRED FOR THE DEVELOPMENT OF A REMOTE SENSING MONITORING SYSTEM; FOR EXAMPLE, TO MONITOR OCEAN DUMPING IN THE NEW YORK BIGHT. SPECTRAL CHARACTERISTICS OF OCEAN DUMPED MATERIALS INDICATE SIGNIFICANT DIFFERENCES WHEN AN IN-SCENE CALIBRATION TECHNIQUE IS USED. IN THIS TECHNIQUE THE RADIANCE RATIO OF THE POLLUTION FEATURE (I.E., SEWAGE SLUDGE OR ACID WASTE PLUME) TO OCEAN WATER IS DETERMINED. THE RESULTING UNIQUELY SHAPED CURVE AS A FUNCTION OF WAVELENGTH MAY BE USED TO IDENTIFY THE POLLUTION FEATURE. AFTER IDENTIFICATION, THE EXTENT OF THE POLLUTION FEATURE IS MAPPED BASED ON RADIANCE DIFFERENCE BETWEEN THE PLUME AND THE BACKGROUND WATER. PRELIMINARY RESULTS OF TESTS USING SEWAGE SLUDGE AND ACID WASTES INDICATE THAT LABORATORY DERIVED RADIANCE RATIO CURVES QUALITATIVELY AGREE WITH THOSE FROM FIELD EXPERIMENTS. SPECIFICALLY, THE ACID WASTE RADIANCE RATIO CURVES HAVE PEAK VALUE AT WAVELENGTHS OF 700 NM OR GREATER.

0874 JOHNSON, R.W.; J.B. HALL, JR.

REMOTE SENSING OPERATIONS (MULTISPECTRAL SCANNER AND PHOTOGRAPHIC) IN THE NEW YORK BIGHT. SEPTEMBER 22. 1975 [1977]

TM-X-73993. NASA, HAMPTON, VA 13 PP

OCEAN DUMPING OF WASTE MATERIALS IS A SIGNIFICANT ENVIRONMENTAL CONCERN IN THE NEW YORK BIGHT. ONE OF THESE WASTE MATERIALS, SEWAGE SLUDGE, WAS MONITORED IN A JOINT NASA/NOAA EXPERIMENT CONDUCTED IN THE NEW YORK BIGHT ON SEP 22, 1975. NASA REMOTE SENSING OVER CONTROLLED SEWAGE SLUDGE DUMPING INCLUDED AN 11-BAND MULTISPECTRAL SCANNER, FIVE MULTISPECTRAL CAMERAS AND ONE MAPPING CAMERA ON THE JOHNSON SPACE CENTER NP-3A AIRCRAFT. CONCURRENT IN SITU WATER SAMPLES WERE TAKEN AND ACOUSTICAL MEASUREMENTS WERE MADE OF THE SEWAGE SLUDGE PLUMES DURING THE EXPERIMENT BY NOAA. DATA WERE OBTAINED FOR SEWAGE SLUDGE PLUMES RESULTING FROM LINE (MOVING BARGE) AND SPOT (STATIONARY BARGE) DUMPS. MULTIPLE AIRCRAFT OVERPASSES WERE MADE TO EVALUATE TEMPORAL EFFECTS ON THE PLUME SIGNATURE.

0875 JOHNSON. R.W.

MAPPING OF CHLOROPHYLL A DISTRIBUTIONS IN COASTAL ZONES [1978]

PHOTOGR E R 44(5):617-624

REMOTELY SENSED DATA MAY BE CALIBRATED BY CONCURRENTLY MEASURED SEA TRUTH. REGRESSION EQUATIONS FROM THE ANALYSIS MAY BE USED TO MAP QUANTITATIVE DISTRIBUTIONS OF CHLOROPHYLL A IN COASTAL JONE AREAS, THEREBY PROVIDING INFORMATION THAT IS READILY AVAILABLE FROM OTHER SOURCES. RESULTS OF EXPERIMENTS WITH AIRCRAFT MULTISPECTRAL SCANNERS OVER THE TURBID JAMES RIVER, VA, AND THE NEW YORK BIGHT OCEAN AREA, INDICATE THAT STATISTICALLY SIGNIFICANT QUANTITATIVE RELATIONSHIPS EXIST BETWEEN REMOTELY SENSED DATA AND CHLOROPHYLL A MEASUREMENTS IN THESE ENVIRONMENTALLY DIFFERENT AREAS.

0876 JOHNSON, R.W.; R.M. GLASGOW; I.W. DUEDALL; J.R. PRONI

MONITORING THE TEMPORAL DISPERSION OF A SEWAGE SLUDGE PLUME [1979]

PHOTOG9 E R 45(5):763-768

SEWAGE SLUDGE FROM THE METROPOLITAN NYC AREA IS DUMPED IN THE APEX OF THE NEW YORK BIGHT. POSSIBLE ENVIRONMENTAL EFFECTS DUE TO THIS DUMPING ARE BEING STUDIED. RESULTS OF A JOINT NASA, NOAA AND SUNY EXPERIMENT ON JULY 15, 1976, INDICATE REMOTELY SENSED MONITORING AND DATA ANALYSIS TECHNIQUES MAY BE USED TO STUDY TEMPORAL DISPERSION CHARACTERISTICS OF PLUMES RESULTING FROM DUMPING OF SEWAGE SLUDGE. REMOTELY SENSED DATA WERE COLLECTED BY MULTISPECTRAL SCANNER AND PHOTOGRAPHY FROM A NASA AIRCRAFT PLATFORM. MULTIPLE FLIGHTS WERE MADE OVER THE PLUME FROM A SPOT DUMP (RAPID DISCHARGE FROM A STATIONARY BARGE) AT ABOUT 15 MIN INTERVALS FOR 2 HRS AFTER THE DUMP, WHICH WAS MADE AT 10 A.M. (LOCAL TIME). AFTERNOON FLIGHTS OVER THE DUMP AREA INDICATED THAT THE PLUME WAS WELL DISPERSED BY ABOUT 5 HRS AFTER THE DUMP. CONCURRENT SEA-TRUTH MEASUREMENTS WERE MADE FROM NOAA AND SUNY

SHIPS IN AND AROUND THE DUMP PLUME. CONCENTRATIONS OF SUSPENDED SOLIDS IN THE PLUME WERE CORRELATED WITH MULTISPECTRAL SCANNER RADIANCE DATA TO OBTAIN A REGRESSION EQUATION WHICH WAS THEN USED TO MAP QUANTITATIVE DISTRIBUTIONS OF SUSPENDED SOLIDS IN THE PLUME. FOR THE SPOT DUMP MONITORED, REFLECTED RADIANCES FROM THE SURFACE WATERS REACHED PEAK VALUES ABOUT 45 MINUTES AFTER THE DUMP. AFTER THIS TIME. SPECTRAL ANALYSIS INDICATED THAT THE CALIBRATED EQUATION COULD BE APPLIED.

0877 JOHNSON, R.W.

REMOTE SENSING AND SPECTRAL ANALYSIS OF PLUMES FROM OCEAN DUMPING IN THE NEW YORK BIGHT APEX [1980]

REMOTE SENS ENVIRON 9(3):197-209

EXPERIMENTS CONDUCTED IN THE ATLANTIC COASTAL ZONE INDICATE THAT PLUMES RESULTING FROM OCEAN DUMPING OF ACID WASTES AND SEWAGE SLUDGE HAVE DISTINGUISHABLE SPECTRAL CHARACTERISTICS. REMOTELY SENSED WIDE-AREA SYNOPTIC OVERAGE PROVIDES INFORMATION ON THESE POLLUTION FEATURES THAT IS NOT READILY AVAILABLE FROM OTHER SOURCES. PHOTOGRAPHIC AND MULTISPECTRAL SCANNER DATA REMOTELY SENSED FROM AIRCRAFT WERE INTERPRETED BY TWO METHODS. FIRST, QUALITATIVE ANALYSES IN WHICH POLLUTION FEATURES ARE LOCATED. MAPPED, AND IDENTIFIED WITHOUT CONCURRENT SEA TRUTH AND, SECOND, QUANTITATIVE ANALYSES IN WHICH CONCURRENTLY COLLECTED SEA TRUTH IS USED TO CALIBRATE THE REMOTELY SENSED DATA AND TO DETERMINE QUANTITATIVE DISTRIBUTIONS OF ONE OR MORE PARAMETERS IN A PLUME. APPLICATION OF THIS TECHNIQUE TO DATA FROM SEVERAL EXPERIMENTS INDICATES THAT PLUMES RESULTING FROM ACID WASTES AND SEMAGE SLUDGE HAVE DISTINCTIVE SPECTRAL CHARACTERISTICS OVER A RANGE OF ENVIRONMENTAL CONDITIONS AND FOR TWO MULTISPECTRAL SCANNERS FLOWN AT ALTITUDES OF 3.0 AND 19.7 KM.

0878 JOHNSTON, R.C.; M. BEVNHEIMER; D.A. ZARRELLA

OPTIMIZING SELECTION OF MARINE RETAINING WALLS [1976]

ASCE J GEOTECH ENG DIV 102(12):1209-1224

THE FACTORS INVOLVED IN SELECTING AN APPROPRIATE PERIMETER BULKHEAD OR RETAINING STRUCTURE FOR WATERFRONT DEVELOPMENTS ARE EXAMINED WITH PARTICULAR EMPHASIS ON CONDITIONS IN NEW YORK HARBOR. THE SELECTION PROCESS IS ILLUSTRATED BY DESCRIPTIONS OF TWO RECENT CASES. FOR BATTERY PARK CITY CONSIDERATIONS OF MODERATE FIRST COSTS, LOW MAINTENANCE, AND LONG LIFE LEAD TO THE CHOICE OF A LOW-LEVEL RELIEVING PLATFORM ABOVE A STONE EMBANKMENT FOR THE PERIMETER STRUCTURE. AT NORTHEAST MARINE TERMINAL RETAINING STRUCTURES INCLUDED A SHEET PILE WALL, CIRCULAR CELLS AND A RELIEVING PLATFORM, EACH ADAPTED TO EXISTING CONDITIONS TO MINIMIZE FIRST COST AND YET PROVIDE NECESSARY STABILITY AND A MEDIUM LENGTH USABLE LIFE.

0879 JOLLS, F.K.

NATIONAL DAM SAFETY PROGRAM. WESTONS MILLS ARCH DAM (NJ00382), RARITAN RIVER BASIN, LAWRENCE BROOK, MIDDLESEX COUNTY, NJ. PHASE I INSPECTION REPORT [1978]

NJ DEP, TRENTON, NJ 64 PP NTIS-AD-A058 847

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL, HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

D880 JOLLS, F.K.

NATIONAL DAM SAFETY PROGRAM. TENNENTS BROOK DAM (NJ00380), RARITAN RIVER BASIN, TENNENTS BROOK, MIDDLESEX COUNTY, NJ. PHASE I

INSPECTION REPORT [1978]

NJ DEP. TRENTON, NJ 59 PP NTIS-AD-A059 138

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL, HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0381 JOLLS, F.K.

NATIONAL DAM SAFETY PROGRAM. DAVIDSONS MILL POND DAM (NJ00516), RARITAN RIVER BASIN, LAWRENCE BROOK, MIDDLESEX COUNTY, NJ. PHASE I INSPECTION REPORT [1978]

NJ DEP. TRENTON, NJ 62 PP NTIS-AD-AD58 846

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, PRELIMINARY STRUCTURAL, HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0882 JOLLS, F.K.

NATIONAL DAM SAFETY PROGRAM. BLOODGOODS POND DAM (NJOO370), RARITAN RIVER BASIN, RAHWAY RIVER, UNION COUNTY, NJ. PHASE I INSPECTION REPORT [1979]

NJ DEP. TRENTON. NJ 87 PP NTÍS-AD-AD69 949

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0883 JOLLS. F.K.

NATIONAL DAM SAFETY PROGRAM. WESTON MILLS POND DAM (NJOO164), RARITAN RIVER BASIN, LAWRENCE BROOK, MIDDLESEX COUNTY, NJ. PHASE I INSPECTION REPORT [1979]

NJ DEP, TRENTON, NJ 60 PP NTIS-AD-A063-904

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0884 JOLLS, F.K.

NATIONAL DAM SAFETY PROGRAM. MANALAPAN LAKE DAM (NJ00293), RARITAN RIVER BASIN, MANALAPAN BROOK, MIDDLESEK COUNTY, NJ. PHASE I INSPECTION REPORT [1979]

NJ DEP, TRENTON, NJ 73 PP NTIS-AD-A063 352

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

0885 JONES, C.R.; J.R. SCHUBEL

DISTRIBUTION OF SURFICIAL SEDIMENTS AND EELGRASS IN NEW YORK'S SOUTH SHORE BAYS: AN ASSESSMENT FROM THE LITERATURE [1978]

NO 78111601. NOAA, ROCKVILLE, MD NP NTIS-PB-289 702

AN INVESTIGATION WAS COMPLETED OF ALL PUBLISHED AND UNPUBLISHED INFORMATION AVAILABLE ON THE DISTRIBUTIONS OF SURFICIAL SEDIMENT AND EELGRASS (JOSTERA MARINA) IN NY'S SOUTH SHORE BAYS. THIS REPORT PRESENTS GRAPHICAL AND TABULAR SUMMARIES OF FINDINGS FOR SEDIMENT TEXTURE AND EELGRASS COVER.

0886 JONES, C.R.; G.T. FRAY; J.R. SCHUBEL

TEXTURAL PROPERTIES OF SURFICIAL SEDIMENTS OF LOWER BAY OF NEW YORK HARBOUR [1979]

SPEC REP 21. MSRC. SUNY, STONY BROOK, NY 118 PP

THE OBJECTIVE IS TO DESCRIBE THE TEXTURAL PROPERTIES OF THE SURFICIAL SEDIMENTS OF THE LOWER BAY OF NEW YORK HARBOR. THE GRAIN SIZE DISTRIBUTIONS ARE SUMMARIZED IN TABULAR FORM. FIGURES SUMMARIZE THE SPATIAL DISTRIBUTIONS OF SELECTED STATISTICAL PARAMETERS: MEAN DIAMETER, MEDIAN DIAMETER, STANDARD DEVIATION, SKEWNESS, AND KURTOSIS. A FIGURE DELIMIT 25 AREAS IN THE LOWER BAY OF NEW YORK HARBOR ON THE BASIS OF SEDIMENT TEXTURE. THE TEXTURAL PROPERTIES OF SAMPLES WITHIN EACH OF THESE 25 AREAS ARE SUMMARIZED IN TABLES.

0887 JONES, C.R.; J.R. SCHUBEL

DISTRIBUTION OF SURFICIAL SEDIMENT AND EELGRASS IN GREAT SOUTH BAY. NEW YORK [1980]

SPEC REP 39. MSRC, SUNY, STONY BROOK, NY 19 PP

SEDIMENT SAMPLES AT 582 STATIONS WERE TAKEN OVER 290 KM2 OF GREAT SOUTH BAY AT APPROXIMATELY 800 M INTERVALS. THE SAMPLES WERE ANALYZED IN TERMS OF MASS PERCENT OF GRAVEL, SAND, SILT, CLAY AND SHELL FRAGMENTS AND ORGANIC CARBON CONTENT, BETWEEN APR 1977 TO OCT 1978. AN EELGPASS SURVEY WAS MADE OVER THE SAME PERIOD AND QUANTIFIED IN TERMS OF THIN, MEDIUM AND THICK COVERAGE, WHICH WAS CHECKED BY SAMPLING OVER A MEASURED 1 M2 AREA. THE RESULTS ARE SHOWN IN TABLES AND A SERIES OF SIX MAPS.

0888 JONES . D.S.; I. THOMPSON; W. AMBROSE

AGE AND GROWTH RATE DETERMINATIONS FOR THE ATLANTIC SURF CLAM SPISULA SOLIDISSIMA (BIVALVIA: MACTRACEA), BASED ON INTERNAL GROWTH LINES IN SHELL CROSS SECTIONS [1978]

MAR BIOL 47:63-70

MARKED AND RECOVERED SURF CLAMS, SPISULA SOLIDISSIMA DILLWYN, FROM VA, USA DEPOSITED ONE INTERNAL GROWTH LINE DURING A PERIOD OF 1 1/2 YEARS, PROBABLY IN RESPONSE TO SPAWNING DURING LATE SUMMER. WE HAVE USED THESE ANNUAL GROWTH LINES TO MAKE GROWTH

CURVES FOR THO SAMPLES OF NJ CLAMS, ONE FROM INSHORE (1.8 KM FROM SHORE, 15 M DEEP), THE OTHER FROM OFFSHORE (17.5 KM FROM SHORE, 28 M DEEP) WATERS. THE OFFSHORE AND INSHORE CLAMS GROW AT APPROXIMATELY THE SAME RATE UNTIL AGE 3 YRS, AFTER WHICH TIME THE GROWTH RATES DIFFER, AS DOES THE ULTIMATE LIFE-SPAN; THE OFFSHORE CLAMS GROW MORE RAPIDLY AND ATTAIN A GREATER AGE--UP TO 31 YRS. COMPARISON OF OUR GROWTH CURVES WITH OTHER PUBLISHED CURVES REVEALED A CLOSE CORRESPONDENCE TO A CURVE WHICH WAS BASED ON A STUDY OF GROWTH OVER A 5-YEAR PERIOD. CURVES BASED ON EXTERNAL GROWTH LINES PROBABLY UNDERESTIMATE GROWTH RATE IN EARLY LIFE AND OVERESTIMATE IT IN LATER YEARS.

0889 JONES, D.S.

THE NEMERTEAN. MALACOBDELLA GROSSA. IN THE OCEAN QUAHOG ARCTICA ISLANDICA (BIVALVIA) [1979]

NAUTILUS 93(1):29-30

THE COMMENSAL RELATIONSHIP SETWEEN THE MARINE BIVALVE ARCTICA ISLANDICA AND THE NEMERTEAN MALACOBDELLA GROSSA ALONG THE ATLANTIC COAST OF NORTH AMERICA HAS NOT HERETOFORE BEEN REPORTED, ALTHOUGH IT HAS BEEN DOCUMENTED IN EUROPEAN SPECIMENS. A SINGLE M. GROSSA WAS FOUND LIVING IN A SMALL OCEAN QUAHOG PREDGED FROM OFFSHORE NJ. IN ADDITION, THE NEMERTEAN OCCURRED IN THE VENERID CLAM, PITAR MORRHUANA, FROM THE SAME LOCALITY WITH A FREQUENCY OF 28%. EXAMINATION OF NUMEROUS SPECIMENS OF A. ISLANDICA FOR M. GROSSA WITH NEGATIVE RESULTS SUGGESTS THIS OCCURRENCE IS ATYPICAL.

0890 JONES, H.G.M.; H. BRONHEIM; P.F. PALMEDO

ELECTRICITY GENERATION AND OIL REFINING [1975]

GP-AM-75-016. NYSG, ALBANY, NY 26 PP NTIS-PB-249 755

THIS REPORT SUMMARIZES WHAT IS KNOWN ABOUT PRESENT ENERGY SUPPLIES AND DEMANDS IN THE NEW YORK BIGHT REGION. IT DISCUSSES ENERGY CONSUMPTION, PRODUCTION CAPACITY, AND FUTURE REQUIREMENTS.

0891 JONES, R.A.; G.F. LEE

EVALUATION OF THE ELUTRIATE TEST AS A METHOD OF PREDICTING CONTAMINANT RELEASE DURING OPEN-WATER DISPOSAL OF DREDGED SEDIMENTS AND ENVIRONMENTAL IMPACT OF OPEN-WATER DREDGED MATERIAL DISPOSAL. VOL 1: DISCUSSION [1978]

NTIS, SPRINGFIELD, VA 288 PP NTIS-AD-A064 014

THE US ARMY COE AND THE US EPA DEVELOPED THE ELUTRITATE TEST FOR THE PURPOSE OF PREDICTING THE RELEASE OF CHEMICAL CONTAMINANTS FROM DREDGED SEDIMENTS UPON OPEN-WATER DISPOSAL. THIS STUDY WAS CONDUCTED TO EVALUATE THE FACTORS INFLUENCING THE RESULTS OF THE ELUTRIATE TEST AND THE RELIABILITY OF THIS TEST IN PREDICTING THE RELEASE OF CONTAMINANTS DURING ACTUAL OPEN-WATER DREDGED MATERIAL DISPOSAL OPERATIONS. SEDIMENT SAMPLES WERE TAKEN FROM WATERWAYS LOCATED AT OR NEAR DUWAMISH RIVER-ELLIOTT BAY-PUGET SOUND, WA; SAN FRANCISCO BAY, MAR ISLAND, RODEO FLATS, OAKLAND HARBOR, AND LOS ANGELES HARBOR, CA; CALVESTON BAY ENTRANCE CHANNEL, GALVESTON CHANNEL, TEXAS CITY CHANNEL, HOUSTON SHIP CHANNEL, AND PORT LAVACA, TX; MOBILE BAY, AL; APALACHICOLA BAY, FL; WILMINGTON, NC; JAMES RIVER, VA; PERTH AMBOY, NJ; BAY RIDGE AND FOUNDRY COVE, NY; NEWPORT, RI; NORWALK AND STAMFORD HARBORS, CT; MENOMINEE RIVER, WI; UPPER MISSISSIPRI RIVER NEAR ST. PAUL, MN; AND THE US ARMY ENGINEER WATERWAYS EXPERIMENT STATION LAKE, VICKSBURG, MS. THESE SAMPLES WERE SUBJECTED TO THE STANDARD AND MODIFIED ELUTRIATE TESTS IN ORDER TO EXAMINE THE INFLUENCE OF VARIOUS OPERATING CONDITIONS ON THE RESULTS OF THE TEST. IN ADDITION, FIELD STUDIES WERE CONDUCTED AT ELLIOTT BAY-PUGET SOUND, WA; GALVESTON BAY ETTRANCE CHANNEL DISPOSAL AREA, TX; MOBILE BAY, AL; APALACHICOLA BAY, FL; JAMES RIVER, VA.

0892 JONES, W.I.; F.J. WENTZ; L.C. SCHROEDER

ALGORITHM FOR INFERRING WIND STRESS FROM SEASAT-A. [1978]

J SPACECRAFT 15 (6):368-374

ON THE SEASAT-A SATELLITE, A MICROWAVE SCATTEROMETER WILL BE USED TO INFER THE WIND VECTOR OVER THE WORLD'S OCEANS. THIS PAPER DESCRIBES AN ALGORITHM TO CONVERT THE SCATTEROMETER'S NORMALIZED RADAR CROSS-SECTION MEASUREMENTS TO SEA-SURFACE WIND STRESS AND NEUTRAL STABILITY WIND VECTOR. THE ALGORITHM IS BASED ON EXPERIMENTAL NRCS DATA FROM AIRCRAFT MEASUREMENTS AND A TWO-SCALE RADAR-SCATTERING MODEL. THE TECHNIQUE USES BAYES' PROBABILISTIC EQUATION TO INFER THE FRICTION VELOCITY VECTOR, FROM WHICH THE WIND STRESS AND NEUTRAL STABILITY WIND VECTORS ARE DETERMINED. TWO EXAMPLES OF INVERTED RADAR ARE PRESENTED: (1) A COMPARISON OF AIRCRAFT-RADAR-INFERRED FRICTION VELOCITY VECTOR TO THAT DERIVED FROM SURFACE WIND MEASUREMENTS IN THE NEW YORK BIGHT AND (2) A SIMULATED SEASAT-A MEASUREMENT INVERSION IN WHICH COMPARISONS ARE MADE OF THE RECOVERED AND SAMPLE WIND FIELDS.

0893 JOSEPHSON. J.

DUMPING SEWAGE SLUDGE IN THE OCEAN [1376]

ENVIRON SCI TECHNOL 10(6):530-531

SHORTLY AFTER SEWAGE SLUDGE IS DUMPED AT THE DESIGNATED NEW YORK BIGHT SITE, THERE IS VERY LITTLE EVIDENCE THAT THE SLUDGE HAD BEEN DUMPED. ORGANIC MATERIAL—RICH MUDS ARE DETECTED, BUT THEY MAY BE COMPOSED PARTLY OF DREDGED MATERIAL (DM), OR EVEN MATERIAL OF NATURAL ORIGIN, AS WELL AS SEWAGE SLUDGE. MOST OF THIS MATERIAL IS FOUND IN A TOPOGRAPHIC DEPRESSION NORTH AND WEST OF THE SEWAGE SLUDGE DUMP SITE, AT THE HEAD OF THE HUDSON SHELF VALLEY. BY DEC 1973, SEWAGE SLUDGE DUMPING (SSD) HAD BECOME A VERY CONTROVERSIAL ISSUE, THE RESPONSE TO WHICH LED TO GREATER EMPHASIS ON SSD BY THE NEW YORK BIGHT PROJECT (NYBP) OF THE MARINE ECOSYSTEMS ANALYSIS (MESA) PROGRAM. THE STUDY USES A SHIP TO OBTAIN DATA ON SALINITY, TEMPERATURE, TURBIDITY, DEPTH, DISSOLVED OXYGEN (DO), AND PH. INSTRUMENTS ON BUOYS ALSO PROVIDE DATA ON SALINITY, DEPTH, TEMPERATURE, AND CURRENT VELOCITY. THE SEWAGE SLUDGE AT THE NEW YORK BIGHT APEX SITE CONSISTS OF ABOUT 5% SOLIDS AND 95% WATER. IT IS LESS DENSE THAN WATER AND FRACTIONATES AND IS EDDIED ABOUT RATHER THAN SINKING AS A UNIT. NEVERTHELESS, ADVERSE EFFECTS INCLUDE FIN ROT ON SOME FISH, EXOSKELETON EROSION AND GILL CLOGGING ON CRABS AND LOBSTERS, HIGH COLI COUNTS, ABSENCE OF ADULT SURF CLAMS NEAR SOME DUMPING SITES, DECREASED DO, HIGH TOTAL ORGANIC CARBON(TOC) AND HEAVY METALS CONCENTRATIONS, AND EVIDENCE OF PATHOGENS. THE DUMPING SITES, DECREASED DO, HIGH TOTAL ORGANIC CARBON(TOC) AND HEAVY METALS CONCENTRATIONS, AND EVIDENCE OF PATHOGENS. THE DUMPING SITES NO PROOF SATISFACTORY TO PUBLIC HEALTH AUTHORITIES OF A HAZARD TO HUMAN HEALTH, THE NATIONAL DEFANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) SUGGESTS USING THE EXISTING DUMP SITES UNTIL OCEAN DUMPING BE PHASED OUT IN 1981.

0894 JUDKINS, D.C.; C.D. WIRICK; W.E. ESAIAS

COMPOSITION ABUNDANCE, AND DISTRIBUTION OF ZOOPLANKTON IN THE NEW YORK BIGHT, SEPTEMBER 1974-SEPTEMBER 1975 [1979]

FISH BULL 77(3):669-683

ZOOPLANKTON TAXA WERE COUNTED IN 8-19 SAMPLES FROM EACH OF 11 CRUISES IN THE NEW YORK BIGHT BETWEEN SEPT 1974 AND SEPT 75. MAJOR SEASONAL EVENTS WERE AN INFLUX INTO THE REGION OF TROPICAL-SUBTROPICAL COPEPOD SPECIES DURING AUTUMN 74 AND SUMMER 75, AN OFFSHORE (>50 M WATER DEPTH) ZOOPLANKTON ABUNDANCE MAXIMUM IN MAR DOMINATED BY THE PTEROPOD LIMACINA RETROVERSA. A SECOND OFFSHORE MAXIMUM IN MAY CHARACTERIZED BY HIGH PSEUDOCALANUS SP, CALANUS FINMARCHICUS, AND OITHONA SIMILIS, AND AN OFFSHORE (<50 M WATER DEPTH) MAXIMUM IN JULY CHARACTERIZED BY HIGH ABUNDANCE OF THE COPEPODS CENTROPAGES TYPICUS AND TEMORA LONGICORNIS. THE OFFSHORE MAXIMA OCCURRED DURING OR SHORTLY AFTER THE LOCAL SPRING PHYTOPLANKTON BLOOM (MAR-APR). ADVECTION OF PTEROPOD AND COPEPOD STOCKS INTO THE REGION FROM THE NORTHEAST PROBABLY CONTRIBUTED TO THESE PEAKS. THE JULY C. TYPICUS-T. LONGICORNIS PEAK ASSOCIATED WITH SUMMER WARMING OF THE WATER COLUMN WITHIN THE HIGHLY PRODUCTIVE WATERS IN THE BIGHT APEX AND OFF THE NJ COAST.

0895 KACZOROWSKI, R.T.

OFFSET TIDAL INLETS, LONG ISLAND, NEW YORK [1976]

GEOL SOC AM ABSTR PROG 8(2):207

4 OF 6 TIDAL INLETS ON THE SOUTH SHORE OF LONG ISLAND, NY, WERE STUDIED FROM 1969 TO 1971. THESE INLETS ARE CONSIDERED UNIQUE IN THAT THEY ARE OF THE UPDRIFT OFFSET VARIETY (1.e., THE UPDRIFT SIDE OF THE INLET IS OFFSET SEAWARD OF THE DOWNDRIFT SIDE). THE MOST COMMON TYPE OF INLET ON THE EASTERN COAST OF THE US IS THE DOWNDRIFT OFFSET VARIETY (1.e., THE DOWNDRIFT SIDE IS OFFSET SEAWARD OF THE UPDRIFT SIDE), AHICH OCCURS ALONG THE COASTS OF THE GULF OF MEXICO, THE MID-ATLANTIC STATES, AND NEW ENGLAND. HISTORIC ANALYSIS SHOWS THAT THE ORIGIN OF THE LONG ISLAND INLETS IS DUE TO STORMS THAT HAVE CAUSED BREACHES IN A BARRIER ISLAND CHAIN. WINDS, COMMONLY FROM LATER STORMS, TEND TO ORIENT THE INLETS IN A NORTH-NORTHEAST BY SOUTH-SOUTHWEST DIRECTION. DETAILED TIDAL-CURRENT ANALYSIS SHOWS THAT THIS NATURAL ORIENTATION IS MAINTAINED BY TIDAL CURRENTS IN THE INLETS. SINCE EACH INLET IS LOCATED WEST OF CENTER OF ITS ADJACENT BAY, THE EBB-TIDAL CURRENTS IN THE EASTERN CHANNELS OF THE INLETS. THEN TO BE OF LONGER DURATION AND HIGHER VELOCITY THAN THOSE IN THE WESTERN CHANNELS. PRESUMABLY THIS IS DUE TO A LARGER VOLUME OF WATER CONTAINED IN THE PORTIONS OF THE BAYS EAST OF THE INLETS. THESE CURRENTS ALSO AFFECT THE WESTERLY LITTORAL DRIFT, CAUSING INCREASED DEPOSITION OF SAND ON THE UPDRIFT SIDE OF THE INLET, WHICH RESULTS IN A SEAWARD MIGRATION OF THE UPDRIFT SIDE. THE ULTIMATE RESULT IS THAT ALL OF THE INLETS ON THE SOUTH SHORE OF LONG ISLAND ARE ORIENTED IN A NORTH-NORTHEAST BY SOUTH-SOUTHEAST DIRECTION WITH THE UPDRIFT SIDE OF THE INLETS. SEAWARD OF THE DOWNDRIFT SIDE. AN ADVANCED STAGE OF THIS MODEL IS DEMONSTRATED BY FIRE ISLAND INLET, WHICH HAS DEVELOPED INTO AN UPDRIFT OVERLAP.

0896 KACZYNSKI. V.W. (EDITOR)

HUDSON RIVER ECOLOGICAL STUDY IN THE AREA OF INDIAN POINT--FIRST SEMIANNUAL REP: VOL I--BIOLOGICAL SAMPLING, VOL II--STANDARD PROCEDURES [1972]

CONSOLIDATED EDISON CO, NEW YORK, NY NP

THIS IS A REPORT ON A STUDY OF THE EFFECTS OF THE INDIAN POINT PLANTS ON THE SURROUNDING AREA AND. HUDSON RIVER ECOSYSTEM. 6 SUBPROGRAMS ARE: POPULATION DYNAMICS, SUBPOPULATIONS AND STOMACH ANALYSIS, WATER QUALITY, BENTHIC ECOLOGY, FISH BEHAVIOR AND PHYSIOLOGY, AND DATA ANALYSIS/ EXPERIMENTAL DESIGN. VOLUME 1 OF THIS REPORT IS ORGANIZED TO PRESENT THE RESULTS OBTAINED IN EACH OF THE SUBPROGRAMS. A LITERATURE REVIEW WAS BEGUN PRIOR TO THE FIELD PROGRAM AND IS CONTINUING; PERTINENT REFERENCES ARE INCLUDED IN THE BIBLIOGRAPHY. VOLUME II OF THIS SEMIANNUAL REPORT CONTAINS THE STANDARD PROCEDURES ESTABLISHED FOR DATA COLLECTION AND DATA ANALYSIS FOR THE YEAR 1972.

0897 KAHN, d.; B. SHLEIEN; C. WEAVER

ENVIRONMENTAL EXPERIENCE WITH RADIOACTIVE EFFLUENTS FROM OPERATING NUCLEAR POWER PLANTS [1971]

PAGES 3.3-29 TO 3.3-45 IN A/CONF. 49/P-087. UNIPUB INC. NEW YORK. NY

RADIOLOGICAL SURVEILLANCE ACTIVITIES AT THE 8 NUCLEAR POWER STATIONS AND THE NUCLEAR-FUEL REPROCESSING PLANT UNDER ROUTINE COMMERCIAL OPERATION IN THE US ARE DESCRIBED AND CURRENT RESULTS ARE SUMMARIZED. AT EACH FACILITY THE OPERATOR OR HIS CONTRACTOR MONITORS THE ENVIRONMENT AND PRESENTS FINDINGS IN PERIODIC REPORTS TO THE USACC. THE APPROPRIATE STATE AGENCY FOR PUBLIC HEALTH OR ENVIRONMENTAL PROTECTION ALSO PERFORMS RADIOLOGICAL MEASUREMENTS IN THE NEIGHBORHOOD OF THE PLANT, USUALLY AS PART OF A STATEWIDE MONITORING PROGRAM. THE USAEC SPONSORS A PROGRAM OF INDEPENDENT MEASUREMENTS AT SEVERAL STATIONS AND PERIODIC SERIAL RADIATION SURVEILLANCE OF THE ENVIRONMENT. NYU AND THE ESSEX MARINE LABORATORY ARE EVALUATING POSSIBLE THERMAL AND RADIOLOGICAL EFFECTS OF LIQUID EFFLUENTS FROM TWO OF THESE PLANTS ON AQUATIC LIFE IN THE HUDSON AND CONNECTICUT RIVERS RESPECTIVELY. THE FIELD STUDIES, WHICH WERE INITIALLY UNDERTAKEN AT A FUEL REPROCESSING PLANT, A BOILING-WATER REACTOR, AND PRESSURIZED-WATER REACTOR THAT HAD BEEN IN OPERATION FOR SEVERAL YEARS, HAVE NOW BEEN EXTENDED TO INCLUDE THE NEWER AND LARGER LIGHT-JATER NUCLEAR POWER STATIONS. CONCURRENT MEASUREMENTS OF INDIVIDUAL RADIONUCLIDES ARE MADE WITHIN THE STATION, AT POINTS OF WASTE DISCHARGE, IN THE IMMEDIATE ENVIRONMENT, AND AT POINTS OF POSSIBLE HUMAN EXPOSURE. THUS THE MAGNITUDE OF THE SOURCE, THE IMPORTANCE OF PATHS TO AND THROUGH THE ENVIRONMENT. AND THE EXTENT OF RADIONUCLIDE DISPERSION OR CONCENTRATION ARE

INDICATED.

0898 KALIN. R.J.

BIOLOGICAL EFFECTS OF WASTE DISPOSAL IN WESTERN LONG ISLAND SOUND: AN INITIAL SURVEY [1971]

PAGES 56-67 IN SURVEY OF MARINE WASTE DEPOSITS, NEW YORK METROPOLITAN REGION. TECH REP 8. MSRC, SUNY, STONY BROOK, NY

A STUDY WAS DESIGNED TO EVALUATE POSSIBLE EFFECTS OF WASTE DISPOSAL OPERATIONS IN WESTERN LONG ISLAND SOUND AND ITS ADJACENT WATERS. THE AREA STUDIED CONSISTED OF SIX REGIONS WHOSE TOTAL AREA APPROXIMATED 30 SQ KM. FORAMINIFERA WERE USED AS BIOLOGICAL INDICATORS BECAUSE OF THEIR SMALL SIZE, LARGE NUMBERS, AND LIMITED MOBILITY. THEIR LARGE NUMBERS MADE POSSIBLE STATISTICALLY SIGNIFICANT STUDIES ON THE COMMUNITY LEVEL USING RELATIVELY SMALL SEDIMENT SAMPLES. SEDIMENT SAMPLES WERE COLLECTED USING A SHIPEK SAMPLER; CORES WERE COLLECTED 41TH A PHLEGER-TYPE SHORT CORING DEVICE. THE TOTAL NUMBER OF LIVING FORAMINIFERA PER SAMPLE INDICATED HIGHER RATIOS OF LIVING FORAMINIFERA TO THE TOTAL NUMBER OF SPECIES IN THE WESTERN AND SOUTHERN PARTS OF THE SAMPLING AREA.

0899 KALTER. R.J.: W.E. TYNER

ATLANTIC OUTER CONTINENTAL SHELF ENERGY RESOURCES: ECONOMIC IMPLICATIONS FOR LONG ISLAND £1975]

DEPT OF AGRICUL ECON. CORNELL UNIV. ITHACA, NY NP

THE FOLLOWING TOPICS ARE DISCUSSED: THE ATLANTIC OUTER CONTINENTAL SHELF AND ITS GEOLOGY, POTENTIAL OIL RESERVES, PRODUCTION COSTS, AND LEASING POSSIBILITIES; ECONOMIC AND SOCIAL IMPACTS OF SUCH PRODUCTION; AND THE EFFECTS OF INFORMATION CONSTRAINTS.

0900 KAMLET. K.S.

IT'S TIME TO STOP KILLING THE OCEAN [1975]

NATL WILDL APRIL-MAY:19-21

DISCUSSES TWO MAJOR OBSTACLES TO REGULATION OF OCEAN DUMPING: 1) DIFFICULTIES IN MEASURING THE EFFECTS OF OCEAN DUMPING AND THE ABSENCE--REAL OR APPARENT--OF FEASIBLE ALTERNATIVES; 2) OCEAN DUMPING IS PRESENTLY TOO PROFITABLE TO STOP. AS LONG AS SOCIETY PERMITS OCEAN DUMPING TO BE REGARDED AS THE PATH OF LEAST COST AND RESISTANCE, IT WILL CONTINUE TO PROLIFERATE.

0901 KANETA, P.J.

PHYTOPLANKTON COMMUNITY STRUCTURE IN THE NEW YORK BIGHT, AUGUST 1977 [1979]

M.S. THESIS. SUNY, STONY BROOK, NY 51 PP

THE DISTRIBUTION AND TAXONOMIC COMPOSITION OF THE PHYTOPLANKTON IN THE NEW YORK BIGHT WERE INVESTIGATED DURING AUG 1977. PRINCIPAL COMPONENT ANALYSIS PERMITTED SEPARATION OF THE PHYTOPLANKTON SAMPLES INTO THREE DISTINCT GROUPS BY DEPTH AND GEOGRAPHICAL POSITION, THE ONSHORE/OFFSHORE DELINEATION BEING THE 50 M ISOBATH. THESE REGIONS WERE INSHORE NJ. INSHORE LONG ISLAND AND OFFSHORE ON THE SHELF. THE FIRST TWO PRINCIPAL COMPONENTS WERE BOTH RELATED TO SALINITY AND TEMPERATURE. THE DISTINCT GROUPS COULD BE CLEARLY SEEN AS PROJECTIONS ON THE TWO-DIMENSIONAL SUBSPACE DEFINED BY THESE AXES, BUT WERE NOT SIMPLY RELATED TO SALINITY AND TEMPERATURE GRADIENTS, OR ANY OF THE OTHER HYDROGRAPHIC VARIABLE THAT WERE MEASURED. THE DIFFERENCES BETWEEN GROUPS COULD POSSIBLY BE RELATED TO THE PAST HISTORY OF THE WATER MASS OR SOME OTHER LESS STANDARD AND LESS EASILY MEASURED HYDROGRAPHIC VARIABLE (E.G. TRACE ELEMENTS) WHICH WAS NOT MONITORED.

0902 KANTOR, R.A.

OCEAN RESOURCES: MINERAL -- A STAFF WORKING PAPER [1976]

OFF OF COASTAL ZONE MANAGE, DIV OF MAR SERV, NJ DEP, TRENTON, NJ NP

OCEAN MINERAL RESOURCES SUCH AS OIL, GAS, SAND AND GRAVEL ARE THOUGHT TO LIE OFF NJ. BUT THESE ARE NOT EXPLOITED TODAY. THE QUANTITY OF RESOURCES AND BEST METHODS OF EXTRACTION ARE NOT FULLY KNOWN. THE POTENTIAL FOR ENVIRONMENTAL HARM RESULTING FROM THEIR EXTRACTION IS GREAT. CONCERNS ARE FOR ONSHORE AS WELL AS NEAR AND OFFSHORE IMPACT. THIS PAPER IS INTENDED TO FURTHER DEBATE ON IMPORTANT ENVIRONMENTAL PROBLEMS WHICH MAY RESULT FROM MARINE MINERAL EXTRACTION. THE FIRST SECTION BRIEFLY DEFINES THESE ISSUES IN THE COASTAL ZONE AND THEN PRESENTS ALTERNATIVE POLICIES WHICH COULD BE PART OF THE COASTAL ZONE MANAGEMENT PROGRAM IN NJ. SECTION III PROVIDES A GENERAL DESCRIPTION OF THE PHYSICAL CHARACTERISTICS OF NJ. MARINE ENVIRONMENT. THIS IS FOLLOWED BY A DESCRIPTION OF EACH MARINE MINERAL RESOURCE AND AN ANALYSIS OF THE POTENTIAL BIOLOGICAL IMPACTS FROM THEIR EXTRACTION.

0903 KANTOR, R.A.

UPLAND LIVING RESOURCES: ENDANGERED, THREATENED, AND RARE WILDLIFE A STAFF WORKING PAPER [1976]

OFF OF COASTAL ZONE MANAGE, DIV OF MAR SERV, NJ DEP. TRENTON, NJ NP

OVER 500 SPECIES OF MAMMALS, BIRDS, REPTILES, AND AMPHIBIANS HAVE BEEN RECORDED TO OCCUR IN NJ (APPLEGATE, 1974). OF THESE, 90 SPECIES HAVE BEEN DESIGNATED BY THE NJ DEP AS ENDANGERED, THREATENED, PERIPHERAL, OR UNDETERMINED STATUS. THE POPULATIONS OF THESE ANIMALS ARE PRECARIOUSLY LOW OR DECREASING, MOSTLY DUE TO THE EFFECTS OF HUMAN ACTIVITIES. EXTINCTION OF ENDANGERED SPECIES WITHIN THE STATE COULD RESULT UNLESS STRONG PROTECTIVE MEASURES ARE ENSURED.

0904 KAO, A.Z.H.

CURRENT STRUCTURE IN THE SANDY HOOK TO ROCKAWAY POINT TRANSECT [1975]

M.S. THESIS. SUNY, STONY BROOK, NY NP

THE STRUCTURE OF TIDAL AND NONTIDAL CURRENTS WITHIN THE SANDY HOOK TO ROCKAWAY POINT TRANSECT HAS BEEN INVESTIGATED IN LIGHT OF USCAGS CURRENT METER DATA. THE DATA ARE FROM SURVEYS CONDUCTED IN NEW YORK HARBOR IN 1952, 1958, AND 1959. THE VERTICAL AND HORIZONTAL VARIATION OVER THE TRANSECT OF TIDAL CURRENT AMPLITUDE AND PHASE IS DISCUSSED, AS WELL AS THE VARIATION OF NONTIDAL CURRENT VELOCITY. THE TIDAL AND NONTIDAL VOLUME TRANSPORT OF WATER HAS BEEN CALCULATED. THE COMPLICATED SPATIAL STRUCTURE OF TIDAL AND NONTIDAL CURRENTS APPEARS TO HAVE IMPORTANT EFFECTS ON THE TRANSPORT OF DISSOLVED AND SUSPENDED MATERIALS THROUGH THE TRANSECT. TIDAL CURRENTS ARE DOMINATED BY THE SEMI-DIURNAL TIDE. STRONGEST EBB VELOCITIES ARE CONFINED TO THE SURFACE LAYERS AND TO THE SANDY HOOK SIDE OF THE TRANSECT. FLOOD VELOCITIES ARE STRONGER AT DEPTH THAN EBB VELOCITIES. THE NONTIDAL CURRENT STRUCTURE IS A TWO-LAYER SYSTEM WITH SEAWARD FLOW IN THE SURFACE LAYER AND UPSTREAM FLOW AT DEPTH.

0905 KAO, T.W.; C. PARK; H.P. PAO

BUOYANT SURFACE DISCHARGE AND SMALL-SCALE OCEANIC FRONTS: A NUMERICAL STUDY [1977]

J GEOPHYS RES 82(12):1747-1752

A STUDY IS MADE OF THE 2-DIMENSIONAL BUOYANT SURFACE DISCHARGE INTO AN AMBIENT BODY OF WATER. THE NUMERICAL STUDY IS BASED ON AN INITIAL BOUNDARY VALUE PROBLEM USING THE FULL NAVIER-STOKES AND DIFFUSION EQUATIONS. A TURBULENCE MODEL USING THE MUNK-AYDERSON PARAMETERIZATION FORMULA FOR DENSITY STRATIFICATION EFFECT IS ALSO INCORPORATED. THE RESULTS SHOW THE

ESTABLISHMENT OF A SURFACE DENSITY CURRENT WITH STRONG SURFACE CONVERGENCE AND DOWNWELLING NEAR THE FRONT. COMPARISON IS MADE WITH THE FIELD EXPERIMENTS OF GARVINE AND MUNK ON A SMALL-SCALE OCEANIC FRONT IN LONG ISLAND SOUND. EXCELLENT AGREEMENT IS OBTAINED.

0906 KAPLAN, E.H.; J.R. WELKER; M.G. KRAUS

SOME EFFECTS OF DREDGING ON POPULATIONS OF MACROBENTHIC ORGANISMS [1974]

FISH BULL 72(2):445-480

POPULATIONS OF EPI-AND INFAUNA WERE STUDIED FROM 10 MO BEFORE TO 11 MO AFTER A NAVIGATION CHANNEL WAS DREDGED THROUGH A SMALL, SHALLOW LAGOON. VALUES OF CERTAIN PARTICULATE AND DISSOLVED NUTRIENTS CHANGED AFTER DREDGING, BUT NO CORRELATION WAS OBSERVED BETWEEN ANIMAL POPULATIONS AND FLUCTUATIONS IN NUTRIENTS. SIGNIFICANT REDUCTIONS IN STANDING CROP FIGURES AND SPECIES AND SPECIMEN NUMBERS OCCURRED IN BOTH THE BAY AND THE DREDGED CHANNEL. MERCENARIA MERCENARIA POPULATIONS WERE REDUCED. PRODUCTIVITY OF GOOSE CREEK WAS CALCULATED AT 89.87 G/M2/YR BEFORE DREDGING AND 31.18 G/M2/YR AFTER DREDGING. THE UNUSUALLY PROFOUND EFFECTS OF DREDGING REPORTED FOR GOOSE CREEK ARE ATTRIBUTED TO ITS SMALL SIZE AND SHALLOWNESS.

0907 KAPLAN, E.H.; J.R. WELKER; M.G. KRAUS; S. MCCOURT

SOME FACTORS AFFECTING THE COLONIZATION OF A DREDGED CHANNEL [1975]

MAR BIOL 32(2):193-204

STANDING CROP, POPULATION SIZE, AND SPECIES DIVERSITY OF THE MACROBENTHIC ORGANISMS IN AN ESTUARINE CHANNEL WERE STUDIED BEFORE AND AFTER DREDGING. A NEW SUCTION-CORER WHICH SAMPLED AN AREA 0.1 M2 TO A DEPTH OF 30 CM WAS USED IN ORDER TO INSURE THE INCLUSION OF LARGE, DEEP-DWELLING ANIMALS. 11 MO AFTER DREDGING, BIOMASS AND NUMBER OF SPECIES AND SPECIMENS HAD NOT RECOVERED TO PRE-DREDGING LEVELS. COLONIZATION BEGAN WITH RELATIVELY LARGE, SWIFTLY MOVING FORMS SUCH AS THE ERRANT POLYCHAETE NEREIS SUCCINEA AND THE CRAB NEOPANOPE TEXANA SAYI. STATIONS IN SILT AND MUD REGIONS RECOVERED MORE SLOWLY THAN THOSE IN SANDIER SEDIMENTS. MOST OF THE DOMINANT AND SUBDOMINANT SPECIES HAD NOT RECOVERED 11 MO AFTER DREDGING, AND THE PREVIOUSLY ABUNDANT POLYCHAETES NOTOMASTUS LATERICEUS AND CLYMENELLA TORQUATA HAD VIRTUALLY DISAPPEARED. ONLY RELATIVELY UNCOMMON LAMELLIBRANCHS SUCH AS TELLINA AGILIS, LYONSIA HYALINA AND MULINIA LATERALIS INCREASED AFTER DREDGING. DISTRIBUTION OF SEDIMENT TYPES CHANGED AS THE RESULT OF MODIFIED TIDAL VELOCITIES IN THE CHANNEL. MUD AND SILT WERE REMOVED BY THE DREDGE, EXPOSING THE SAND UNDERNEATH, AND SANDY STATIONS BECAME MUDDIER AS THE RESULT OF LOWERED CURRENT VELOCITIES. MARKED CHANGES IN SPECIES COMPOSITION REFLECTED THIS CHANGE IN SEDIMENT CHARACTER. 11 MO AFTER DREDGING NO EVIDENCE OF SUCCESSION WAS FOUND, BUT COLONIZATION HAD BEGUN. VALUES OF ALL THREE PARAMETERS STUPIED WERE REDUCED TO SMALL FRACTIONS OF PRE-DREDGING LEVELS, ALTHOUGH SPECIES DIVERSITY IN SANDY SEDIMENTS EXCEEDED PRE-DREDGING LEVELS.

0908 KAPLAN. M.; R.I. REIS (EDITORS)

NEW YORK SEA GRANT LAW AND POLICY JOURNAL. VOL II. 1978 [1978]

NYSG. ALBANY, NY 283 PP NTIS-PB-297 724

THE WIDE-RANGING POLICY IMPLICATIONS OF COASTAL MANAGEMENT LAW ARE DEMONSTRATED IN THE CONTRIBUTIONS OF SIX TRAINEES OF THE SEA GRANT LAW PROGRAM CONSTITUTING THIS ISSUE OF THE JOURNAL. FIVE ARTICLES ARE INCLUDED: STATE BOUNDARY EXTENSIONS ON THE CONTINENTAL SHELF; AQUACULTURE-EMERGING ISSUES OF LAW AND POLICY; THE ACQUISITION OF DEVELOPMENT RIGHTS IN THE COASTAL ZONE-AN ALTERNATIVE TO WETLANDS REGULATION; SEACH ACCESS—AN HISTORICAL OVERVIEW; IRONDEQUOIT BAY DEVELOPMENT PLANNING-SOME IMPLICATIONS FOR INSTITUTIONAL REFORM.

0909 KASTENS, K.A.; C.T. FRAY; J.R. SCHUBEL; R.E. WILSON

ENVIRONMENTAL EFFECTS OF SAND MINING IN THE LOWER BAY OF NEW YORK HARBOR. PHASE I [1978]

NO 790-30713. NOAA, BOULDER, CO 148 PP NTIS-PB-293 585

AN INTRODUCTION TO THE CONTINUING INVESTIGATION OF THE SAND AND GRAVEL RESOURCES OF LOWER NEW YORK HARBOR IS PRESENTED. THE REPORT CONSISTS OF (1) AN ANNOTATED BIBLIOGRAPHY AND CRITICAL REVIEW OF ALL PERTINENT LITERATURE; (2) A COLLECTION AND INTERPRETATION OF ALL PERTINENT EXISTING DATA; (3) TEXTURAL DATA FOR NEW SEDIMENT SAMPLES COLLECTED FROM EAST BANK AND ADJACENT AREAS EAST OF AMBROSE CHANNEL, AND A LIMITED NUMBER OF SAMPLES FROM WEST BANK; AND (4) RESULTS OF A PRELIMINARY GEOPHYSICAL SURVEY OF LOWER NEW YORK HARBOR. THE OBJECTIVE OF THIS STUDY WAS TO DEVELOP A PREDICTIVE CAPABILITY FOR ASSESSING THE ENVIRONMENTAL IMPACTS THAT WOULD RESULT FROM A VARIETY OF SAND AND GRAVEL MINING ACTIVITIES—DIFFERENT TECHNIQUES OF MINING, DIFFERENT RATES AND PATTERNS OF REMOVAL; AND TO USE THIS INFORMATION TO DEVELOP APPROPRIATE PLANS FOR MANAGEMENT OF THIS RESOURCE.

0910 KATZ. 8.G.; S.E. RAGONE; J.B. LINDER

MONTHLY FLUCTUATIONS IN THE QUALITY OF GROUND WATER NEAR THE WATER TABLE IN NASSAU AND SUFFOLK COUNTIES, LONG ISLAND, NEW YORK [1978]

USGS. ALBANY, NY 44 PP

WATER SAMPLES FROM WELLS IN A SEWERED AND AN UNSEWERED SUBURBAN AREA AND AN UNSEWERED RURAL AREA WERE COLLECTED AND ANALYZED MONTHLY FROM AUG 1975 TO JUL 1976 TO DETERMINE THE CONCENTRATIONS OF CHLORIDE, SULFATE, AND NITRATE IN GROUNDWATER NEAR THE WATER TABLE. SHORT-TERM AND SEASONAL FLUCTUATIONS IN THEIR CONCENTRATIONS WERE EVALUATED TO DETERMINE THE RELATION TO NONPOINT DISCHARGES. MAJOR FACTORS THAT MAY CAUSE CONCENTRATIONS OF THESE SUBSTANCES TO FLUCTUATE AT A GIVEN SITE ARE PRECIPITATION, LAWN FERTILIZER, DISSOLVED SALTS IN STORM RUNOFF, AND EFFLUENT FROM SEPTIC TANKS AND CESSPOOLS. CHLORIDE CONCENTRATIONS DURING THE STUDY FLUCTUATED BY AS LITTLE AS 2 MG/L AT SOME SITES AND AS MUCH AS 300 MG/L AT OTHERS. NITRATE AND SULFATE CONCENTRATIONS SHOWED ESSENTIALLY NO CHANGE AT SOME SITES BUT FLUCTUATED BY AS MUCH AS 8 AND 40 MG/L, RESPECTIVELY, AT OTHERS. SHORT-TERM FLUCTUATIONS IN THE CONCENTRATIONS OF THESE SUBSTANCES IN GROUNDWATER SEEM TO HAVE NO CONSISTENT CORRELATION WITH TYPE OF LAND USE (SUBURBAN OR AGRICULTURAL) OR PRECIPITATION BUT SEEM TO BE RELATED TO SEASONAL VARIATIONS IN INPUT FROM SPECIFIC NONPOINT SOURCES.

0911 KATZ, S.J.; C.B. GRIMES; K.W. ABLE

IDENTIFICATION OF TILEFISH, LOPHOLATILUS CHAMAELEONTICEPS STOCKS ALONG THE US EAST COAST AND GULF OF MEXICO [1979]

IN 35TH ANN FISH & WILDLIFE CONF. FISHERIES ABSTRACTS. PROVIDENCE. RI NP

TILEFISH, LOPHOLATILUS CHAMAELEONTICEPS, AN IMPORTANT COMMERCIAL AND RECREATIONAL SPECIES OF THE OUTER CONTINENTAL SHELF IN THE MID-ATLANTIC BIGHT, OCCUR FROM NOVA SCOTIA TO SURINAM, SOUTH AMERICA. AS A PORTION OF A COMPREHENSIVE STUDY TO DETERMINE THE BIOLOGICAL BASIS OF TILEFISH MANAGEMENT, EYE, LIVER AND MUSCLE PROTEIN AND MORPHOLOGICAL CHARACTERISTIC VARIATIONS ARE BEING USED TO DIFFERENTIATE STOCKS. SPECIMENS FROM THE EASTERN (OFF PORT CHARLOTTE, FL) AND WESTERN (OFF TEXAS) GULF OF MEXICO, SOUTH ATLANTIC BIGHT (OFF GEORGETOWN, SC) A 1D 8 LOCATIONS WITHIN THE MID-ATLANTIC BIGHT HAVE BEEN EXAMINED. 26 MORPHOMETRIC AND MERISTIC CHARACTERS ARE BEING ANALYZED, AND RESULTS OF INITIAL STARCH-GEL ELECTROPHORETIC SCREENING OF MANY ENZYME SYSTEMS HAVE REVEALED TWO (LIVER IDH AND ESTERASE) WHICH ARE POLYMORPHIC AND SHOW SIGNIFICANT FREQUENCY VARIATION BETWEEN SAMPLES. DATA COLLECTION AND ANALYSIS IS CONTINUING, BUT PRELIMINARY RESULTS INDICATE THAT MID-ATLANTIC BIGHT TILEFISH ARE QUITE DIFFERENT FROM GULF OF MEXICO AND SOUTH ATLANTIC BIGHT POPULATIONS, SUGGESTING AT LEAST TWO MANAGEMENT UNITS FOR TILEFISH.

0912 KAUFMAN, B.M.

THE EFFECTS OF CHLORDANE AND HEPTACHLOR ON THE MARINE DINOFLAGELLATE EXUVIELLA BALTICA, LOHMANN [1976]

M.S. THESIS. SUNY. STONY BROOK. NY 41 PP

CHLORDANE AND HEPTACHLOR, CHLORINATED CYCLODIENE PESTICIDES, INHIBITED BOTH GROWTH AND PHOTOSYNTHESIS &N THE MARINE DINOFLAGELLATE EXUVIELLA BALTICA, LOHMANN. AT 50 PARTS PER BILLION, BOTH CHLORDANE AND HEPTACHLOR REDUCED CELL GROWTH, BIOMASS, C-14 UPTAKE PER CELL AND C-14 UPTAKE PER UNIT CHLOROPHYLL A. BOTH PERSISTENT PESTICIDES CAUSED AN INCREASE IN SMALLER PARTICLES IN TREATED CULTURES, THUS AFFECTING PARTICLE SIZE DISTRIBUTION. AT 50 PPB, CHLORDANE WAS MORE TOXIC THAN HEPTACHLOR. THIS INHIBITION AND SHIFT IN SIZE CLASS DISTRIBUTION COULD AFFECT FOOD AVAILABILITY FOR PARTICLE-FEEDING HERBIVORES.

0913 KEENAN, E.M.

HYDROCARBON DISTRIBUTIONS IN SEDIMENTS FROM THE HUDSON ESTUARY [1979]

GEOL SOC AM ABSTR PROG 11 (1):19 ABS ONLY

IN JUL 1972 AND OCT 1976, GRAB SAMPLES WERE COLLECTED IN THE HUDSON ESTUARY FROM POUGHKEEPSIE TO THE VERRAZANO-NARROWS BRIDGE. SATURATED, STRAIGHT CHAIN HYDROCARBONS WERE EXTRACTED FROM ALL SAMPLES AND ANALYZED. RESULTS INDICATE THAT NEW YORK HARBOR IS POLLUTED BY PETROLEUM HYDROCARBONS. CHARACTERISTIC FEATURES OF CONTAMINATION ARE PRESENT IN THE CARBON PREFERENCE INDEX (1.0-1.5), HIGH SAT. HC-TOC (RATIO OF SATURATED HYDROCARBONS TO TOTAL ORGANIC CARBON) (.01-.06), AND UNRESOLVED COMPLEX MIXTURES. SAMPLES TAKEN FROM THE NORTHERN SECTION OF THE STUDY AREA PRODUCED CONFLICTING RESULTS. THE 1972 SERIES WAS COLLECTED 3 WEEKS AFTER TROPICAL STORM AGNES AND INDICATED THAT TERRESTRIAL PLANTS HAD SUPPLIED THE SATURATED HYDROCARBONS TO THE SEDIMENTS. THIS WAS CONFIRMED BY LOW SAT. HC/TOC (.0011-.0071) AND HIGH CPI(1.5-3.6). SAMPLES COLLECTED IN 1976 FROM THE SAME AREA YIELDED SAT.HC/TOC AND CPI VALUES SIMILAR TO THOSE FROM NEW YORK HARBOR, THUS INDICATING PETROLEUM CONTAMINATION. IT IS BELIEVED THAT TROPICAL STORM AGNES EXPOSED OLDER, UNCONTAMINATED SEDIMENT IN THE NORTHERN PORTION OF THE STUDY AREA BY EROSION OF THE POLLUTED MATERIAL, TRANSPORTATION DOWNSTREAM AND DEPOSITION IN NEW YORK HARBOR. REDISPOSITION OF CONTAMINATED MATERIAL AFTER TROPICAL STORM AGNES IN THE NORTHERN AREA WOULD LEAD TO THE SATURATED HYDROCARBON CONTENT FOUND IN THE 1976 SAMPLES.

0914 KEENAN, E.M.

SOURCES OF FATTY ACIDS IN SEDIMENTS FROM THE HUDSON ESTUARY [1980]

GEOL SOC AM ABSTR PROG 12(2):44-45 ARS ONLY

SEDIMENT GRAB SAMPLES COLLECTED FROM 13 LOCALITIES IN THE HUDSON ESTUARY FROM BEAR MOUNTAIN TO THE VERRAZANO-NARROWS WERE ANALYZED FOR N-ALKANOIC AND N-ALKENOIC ACIDS TO DETERMINE THE CORRELATION BETWEEN FATTY ACID CONTENT OF EACH SAMPLE AND ITS DISTANCE FROM METROPOLITAN NY. RAW SEMAGE TAKEN FROM A WASTE TREATMENT PLANT ON MANHATTAN WAS EXAMINED TO ESTABLISH THE MAXIMUM LEVEL OF FATTY ACIDS SUPPLIED FROM WASTE PRODUCTS. THE RATIO OF FATTY ACIDS TO TOTAL ORGANIC CARBON (FA/TOC) FLUCTUATED FROM ONE LOCALITY TO THE NEXT (3-39x19EXP-2) REFLECTING NUMEROUS SOURCES OF FATTY ACIDS IN THE SEDIMENTS THROUGHOUT THE STUDY AREA. THE CARBON PREFERENCE INDEX (CPI FA) WAS MAXIMUM FOR THE SEWAGE, 86.3, AND RANGED FROM 3.9 TO 29.7 FOR THE GRAB SAMPLES. WHILE THE CIP FA FOR PETROLEUM APPROXIMATES 1, THE HIGH VALUES FOR THE GRAB SAMPLES INDICATE THAT PETROLEUM IS NOT A MAJOR SOURCE OF FATTY ACIDS IN THE SEDIMENTS BUT RATHER SEWAGE, WITH ITS LARGE CPI FA, IS THE MAIN CONTRIBUTOR FOR THOSE SAMPLES WITH THE HIGHEST RATIOS. THOSE WITH INTERMEDIATE AND LOW RATIOS PROBABLY RECEIVED COMPOUNDS FROM A VARIETY OF OTHER SOURCES AS WELL, SUCH AS HIGHER PLANT WAXES, ALGAE AND BACTERIA. SAMPLES FROM THE NORTHERN PORTION OF THE STUDY AREA DISPLAYED FATTY ACID DISTRIBUTIONS FROM HIGHER TERRESTRIAL PLANTS (N-C24 TO N-C32). HOWEVER, THE MAJORITY OF THE SAMPLES EXHIBITED PATTERNS OF A N-ALKANOIC AND N-ALKENOIC ACIDS DERIVED FROM INDUSTRIAL WASTES AND MUNICIPAL SEWAGE (N-C14 TO N-C20).

0915 KEENE, J.S.

LEAD IN THE HEMPSTEAD ESTUARY: CONCENTRATIONS AND EFFECTS [1974]

M.S. THESIS, HOFSTRA UNIV, HEMPSTEAD, NY NP

A STUDY OF THE HEAVY METAL, LEAD, IN THE HEMPSTEAD ESTUARY REVEALED HIGH CONCENTRATIONS IN BOTTOM SEDIMENTS, RANGING FROM OVER 400 MG LEAD PER KG OF DRY SEDIMENT. THIS CONTENT EXHIBITED A POSITIVE CORRELATION WITH SEDIMENTS OF HIGH ORGANIC CONTENT, AND HIGH PROPORTIONS OF CLAY AND SILT. OF 6 PLANT SPECIES ANALYZED, ALL SHOWED AN ACCUMULATION OF LEAD IN THE TISSUES: 2 SALT-MARSH GRASSES HAD LEAD CONTENT OF 11 AND 14 MG/KG DRY WEIGHT, AND 4 SPECIES OF MACROALGAE CONTAINED FROM 1 TO 13 MG/KG LEAD DRY WEIGHT. NO DETECTABLE LEAD (<1 MG/KG MET WEIGHT) WAS FOUND IN ESTUARINE FISH OR INVERTEBRATE TISSUES USED AS HUMAN FOOD. IN ACUTE TOXICITY STUDIES WITH THE SHEEPSHEAD MINNOW, CYPRINODON VARIEGATUS, THE CONCENTRATION FATAL TO 50% OF THE ORGANISMS IN 96 HOURS (TLM) WAS 35 MG/L LEAD AS TETRACTHYL LEAD AT 26 D C AND 30% PPT SALINITY AT THE SAME SALNITY AND TEMPERATURES OF 21 AND 22 C, THREE ACUTE TOXICITY BIOASSAYS GAVE 96 HOUR TLM OF 52 +/- 2 MG/L LEAD AS TETRACTHYL LEAD. LEAD RESIDUES IN VARIOUS BODY TISSUES WERE FOUND IN INCREASING MAGNITUDE IN MUSCLE, BRAIN, LIVER, INTESTINE PLUS CONTENTS, AND GILLS AFTER THE ACUTE TOXICITY BIO-ASSAYS. AFTER 8 WEEKS CHRONIC EXPOSURE TO 10 MG/L LEAD AS TETRACTHYL LEAD, TISSUE RESIDUES INCREASED IN MUSCLE, GILLS, INTESTINE PLUS CONTENTS, BRAIN WITH HIGHEST LEVELS IN LIVER.

0916 KEHNEMUYI, M.; R.C. NICHOLS

ATLANTIC GENERATING STATION [1973]

NUCL ENG INT 18(205):477-478

THE FIRST OF WHAT PROMISES TO BE A LONG LINE OF NUCLEAR POWER STATIONS DESIGNED FOR OFF-SHORE OPERATION WILL BE SITED 3 MI OFF THE NJ COAST AFTER BEING TOWED THERE FROM THE MANUFACTURING FACILITY IN FL. THE PRIMARY ADVANTAGES LIES IN THE ENHANCED LICENSIBILITY OF SUCH A PLANT DUE TO ITS RELATIVE INDEPENDENCE FROM PARTICULAR SITE CONDITIONS, INCREASED DESIGN AND COMPONENT STANDARDIZATION AND THE LESSENED ENVIRONMENTAL IMPACT. CONCEPTS AND PROCEDURES UTILIZED FOR SITE SELECTION ARE EVALUATED.

0917 KELLER, G.H.; D. LAMBERT; G.T. RONE; N. STARESINIC

BOTTOM CURRENTS IN THE HUDSON CANYON [1973]

SCIENCE 180(4082): 181-183

IN THE HUDSON CANYON THE CURRENT REGIME IS CHARACTERIZED BY A PRONOUNCED REVERSAL OF FLOW UP AND DOWN THE CANYON. VELOCITIES ARE COMMONLY OF THE ORDER OF 8 TO 15 CM/SEC, REACHING 27 CM/SEC ON OCCASION IN THE UPPER AND CENTRAL PORTION OF THE CANYON. ALTHOUGH A 2.5-DAY RECORDING OF CURRENTS SHOWED A NET TRANSPORT UPCANYON, COMBINATION OF 66 CURRENT MEASUREMENTS FROM THE SUBMERSIBLE ALVIN, ANALYSIS OF SEDIMENT TEXTURE AND ORGANIC CARBON, AND DETERMINATION OF THE BENTHIC FAUNA-NUTRIENT RELATIONSHIP INDICATE THAT OVER THE LONG-TERM THERE IS A NET TRANSPORT OF FINE MATERIAL THROUGH THE CANYON TO THE DUTER CONTINENTAL RISE.

0918 KELLOGG, R.L.; J.J. SALERNO; D.L. LATIMER

EFFECTS OF ACUTE AND CHRONIC THERMAL EXPOSURES ON THE EGGS OF THREE HUDSON RIVER ANADROMOUS FISHES. [1978]

PAGES 714-725 IN ENERGY AND ENVIRON STRESS IN AQUAT SYST. TECH INFO CENTER, US DOE, OAK RIDGE, TN

ATLANTIC TOMCOD, ALEWIFE, AND STRIPED BASS EGGS WERE TESTED FOR CHRONIC AND ACUTE TOLERANCE TO ELEVATED TEMPERATURES TO GENERATE INFORMATION ON POTENTIAL THERMAL EFFECTS OF POWER PLANT OPERATION. UPPER LETHAL TEMPERATURES (T LDSO) FOR NORMAL HATCHING SUCCESS WERE 26.5 C FOR ALEXIFE EGGS, 26.3 C FOR STRIPED BASS EGGS, AND 6.6 C FOR ATLANTIC TOMCOD EGGS. THERMAL TOLERANCE OF EGGS EXPOSED TO ELEVATED TEMPERATURES FOR S TO 60 MIN INCREASED WITH ADVANCING STAGE OF EMBRYONIC DEVELOPMENT AND DECREASED WITH LENGTHENING EXPOSURE DURATION. THE APPLICATIONS OF THE DATA TO THE ASSESSMENT OF THE IMPACT OF POWER PLANTS ARE DISCUSSED.

0919 KELL Y: M.G.

AERIAL PHOTOGRAPHIC STUDIES OF THE COASTAL WATERS OF NEW YORK AND LONG ISLAND [1971]

UNIV OF VIRGINIA, CHARLOTTESVILLE, VA 7 PP

AERIAL AND SATELLITE PHOTOGRAPHS SHOW SIGNIFICANT PATTERNS OF DISTRIBUTION OF COASTAL BOTTOM (BENTHIC) VEGETATION AND SUSPENDED MATERIALS IN THE WATER. A KNOWLEDGE OF THESE DISTRIBUTIONS, WHICH ARE IMPOSSIBLE TO PERCEIVE FROM THE SURFACE, IS OBVIOUSLY AN IMPORTANT FACTOR TO UNDERSTAND COASTAL ECOLOGICAL PROCESSES AND TO AID IN FUTURE PLANNING. BENTHIC VEGETATION, AS SEEN FROM THE AIR, IS A GOOD INDICATOR OF ENVIRONMENTAL CONDITIONS IN TROPICAL CLEAR-WATER AREAS. WORK IS BEING EXTENDED TO TEMPERATE TURBID WATERS. WATER COLOR PATTERNS CAUSED BY BACKSCATTERED LIGHT FROM SUSPENDED MATERIALS ARE RELATED TO OCEANOGRAPHIC CONDITIONS SUCH AS WATER MASS BOUNDARIES, CHLOROPHYLL CONCENTRATION, PHYTOPLANKTON POPULATIONS, SUSPENDED SEDIMENTS, AND THE EFFECT OF MAN'S SEWAGE AND DREDGING.

0920 KEMPNER, A.T.

PUBLIC ATTITUDES AND ACTIONS REGARDING SALT MARSHES [1973]

M.S. THESIS. SUNY, STONY BROOK, NY 19 PP

A SURVEY WAS CONDUCTED TO DETERMINE THE ATTITUDES REGARDING SALTWATER MARSHES OF THE PEOPLE LIVING ON THE PERIMETERS OF WETLAND AREAS IN NASSAU AND SUFFOLK COUNTIES, LI. TABULATIONS OF THE DATA FROM A SAMPLE OF 56 HOUSEHOLDS REVEALS A WELL EDUCATED. UPPER-MIDDLE CLASS UNIVERSE WHICH, IN GENERAL, HAS GREAT RESPECT FOR THE WETLANDS AND IS IN FAVOR OF MAINTAINING THEM IN THEIR NATURAL STATE. THE SUGGESTION IS MADE THAT THESE HOUSEHOLDERS BE PERSUADED TO WORK WITH LOCAL PLANNING COMMISSIONS, CIVIC AND COMMUNITY GROUPS SO THAT THEY CAN PROMOTE THE ORDERLY TRANSFER OF THE REMAINING PRIVATELY OWNED WETLANDS INTO THE HANDS OF RESPONSIBLE GOVERNMENT AGENCIES.

0921 KENDALL, A.W., JR.; J.W. REINTJES

GEOGRAPHIC AND HYDROGRAPHIC DISTRIBUTION OF ATLANTIC MENHADEN EGGS AND LARVAE ALONG THE MIDDLE ATLANTIC COAST FROM RV "DOLPHIN" CRUISES, 1965-66 [1974]

NO 75051501-10. NOAA. BOULDER. CO 20 PP

ATLANTIC MENHADEN, BREVOORTIA TYRANNUS. EGGS AND LARVAE WERE COLLECTED DURING 8 ICHTHYOPLANKTON CRUISES FROM DEC 1965 TO DEC 1966. ON EACH CRUISE TOWS WERE MADE WITH A GULF V PLANKTON NET AT 92 STATIONS ALONG 14 TRANSECTS FROM THE COAST TO THE EDGE OF THE CONTINENTAL SHELF FROM MARTHA'S VINEYARD, MA, TO CAPE LOOKOUT, NC. SEASONAL SHIFTS IN GEOGRAPHIC PATTERN OF LARVAE INDICATED SPAWNING STARTED IN SUMMER OFF NJ AND NY, BECAME WIDESPREAD IN MIDDLE ATLANTIC BIGHT IN FALL, AND CONTINUED INTO WINTER OFF NC. LARVAE WERE EQUALLY DISTRIBUTED IN SHALLOW (0-15 M) AND DEEP (18-33 M) TOWS DURING NIGHT AND DAY. LARVAE OCCURRED OVER A WATER TEMPERATURE RANGE FROM 0 TO 25 C AND A SALINITY RANGE OF 29 TO 36 PPT. SEASONAL DISTRIBUTION OF LARVAE SUGGESTS SOME OF THE ANNUAL VARIATION IN YEAR CLASSES MAY BE DUE TO COLD-RELATED MORTALITY OF LARVAE ENTERING MIDDLE ATLANTIC ESTUARIES IN LATE FALL.

0922 KENDALL, A.W., JR.

PATTERNS OF LARVAL FISH DISTRIBUTIONS IN THE MIDDLE ATLANTIC BIGHT [1975]

PAGES 126-145 IN B. MANOWITZ, ED. PROC OF CONFERENCE, EFFECTS OF ENERGY-RELATED ACTIVITIES ON THE ATLANTIC CONTINENTAL SHELF. BROOKHAVEN NAT'L LAB. 10-12 NOV 1975. BNL. UPTON. NY

THERE IS NO PLACE OR TIME NOT USED BY SOME FISH IN THE MIDDLE ATLANTIC BIGHT FOR SPAWNING AND LARVAL DEVELOPMENT. EGGS AND LARVAE OF FISH ARE FOUND FROM THE SHORE ZONE TO THE EDGE OF THE CONTINENTAL SHELF AND BEYOND. SEVERAL SPECIES CENTER THEIR AREA OF EARLY DEVELOPMENT IN THE BIGHT, WHILE OTHERS USE THE BIGHT AS SOUTHERN OR NORTHERN EXTENTS OF THEIR SPAWNING AREAS. MOST MARINE FISH PROBABLY DO NOT SEEK A SPECIFIC GEOGRAPHIC SITE FOR SPAWNING AT SEA. RATHER, THEY SEEM TO BE INFLUENCED BY TEMPERATURE AND OTHER FACTORS TO SPAWN WHEREVER THEY FIND THEMSELVES WITHIN BROAD GEOGRAPHIC AREAS. SPAWNING AREAS FOR EACH SPECIES GENERALLY SHIFT ALONG THE COAST SEASONALLY. THE SIZES OF YEAR-CLASSES OF FISH ARE LARGELY DETERMINED BY DIFFERENTIAL MORTALITY DURING THE EGG AND LARVAL STAGES. THESE STAGES ARE QUITE VULNERABLE AND SENSITIVE TO MANY FORMS OF ENVIRONMENTAL STRESS, EVEN CONDITIONS LASTING ONLY A FEW DAYS. ENORMOUS QUANTITIES OF PLANKTONIC EGGS AND LARVAE ARE PRODUCED OVER FAIRLY LARGE AREAS AND LONG PERIODS OF TIME. TO MAINTAIN STABLE POPULATIONS, MOST OF THESE MUST DIE BEFORE REACHING ADULTHOOD. MAN-INDUCED MORTALITY MUST BE CONSIDERED IN LIGHT OF THE HIGH LEVEL OF NATURAL MORTALITY. FISHES WITH DISSIMILAR HABITS AND ECONOMIC IMPORTANCE AS ADULTS MAY BE COMPETITORS OR PREDATORS AS LARVAE AND THUS INFLUENCE EACH OTHERS" YEAR-CLASS STRENGTH. DENSITY-DEPENDENT MORTALITY MAY ALSO OCCUR DURING THE LARVAL PERIOD.

0923 KENDALL, A.W., JR.; J.W. REINTJES

GEOGRAPHIC AND HYDROGRAPHIC DISTRIBUTION OF ATLANTIC MENHADEN EGGS AND LARVAE ALONG THE MIDDLE ATLANTIC COAST FROM RV "DOLPHIN" CRUISES, 1965-1966 [1975]

FISH BULL 73 (2):317-335

ATLANTIC MENHADEN, BREVOORTIA TYRANNUS, EGGS AND LARVAE WERE COLLECTED DURING 8 ICHTHYOPLANKTON CRUISES OF THE RV DOLPHIN FROM DEC 1965 TO DEC 1966. ON EACH CRUISE TOWS WERE MADE WITH A GULF V PLANKTON NET AT 92 STATIONS ALONG 14 TRANSECTS FROM THE COAST TO THE EDGE OF THE CONTINENTAL SHELF FROM MARTHA'S VINEYARD, MA, TO CAPE LOOKOUT, NC. LARVAE RESULTING FROM A PROTRACTED SPAWNING SEASON WERE TAKEN THROUGHOUT THE YEAR. ÆGGS WERE TAKEN TAKEN OVER THE MIDDLE OF THE SHELF IN FALL. SEASONAL SHIFTS IN GEOGRAPHIC PATTERN OF LARVAE INDICATED SPAWNING STARTED IN SUMMER OFF NJ AND NY, BECAME WIDESPREAD IN THE MIDDLE ATLANTIC BIGHT IN FALL, AND CONTINUED INTO WINTER OFF NC. LARVAE WERE EQUALLY DISTRIBUTED IN SHALLOW (0-15 M) AND DEEP (18-33 M) TOWS DURING NIGHT AND DAY. LARVAE OCCURRED OVER A WATER TEMPERATURE RANGE FROM 0 TO 25 C AND A SALINITY RANGE OF 29 TO 36 PPT. SEASONAL DISTRIBUTION OF LARVAE SUGGESTS SOME OF THE ANNUAL VARIATION IN YEAR CLASSES MAY BE DUE TO COLD-RELATED MORTALITY OF LARVAE ENTERING MIDDLE ATLANTIC ESTUARIES IN LATE FALL.

0924 KENDALL, A.W., JR.

BIOLOGICAL AND FISHERIES DATA ON BLACK SEA BASS, CENTROPRISTIS STRIATA (LINNAEUS) [1977]

SANDY 400K LAB, HIGHLANDS, NJ 29 PP

THIS PAPER DESCRIBES BLACK SEA BASS, INCLUDING TAXONOMY, DISTRIBUTION, REPRODUCTION AND DEVELOPMENT, NUTRITION, POPULATION DYNAMICS, FISHING AND MANAGEMENT. THE OFFSHORE WINTER TRAWL FISHERY IS REGULATED. CATCHES WERE INCREASED THREEFOLD IN AN AREA PLANTED WITH OYSTER SHELLS.

0925 KENDALL, A.W., JR.; L.A. WALFORD

SOURCES AND DISTRIBUTION OF BLUEFISH, POMATOMUS SALTATRIX, LARVAE AND JUVENILES OFF THE EAST COAST OF THE UNITED STATES [1979]

FISH BULL 77(1):213-227

LARVAL BLUEFISH ARE FOUND OFFSHORE SOMEWHERE BETWEEN CAPE COD, MA, AND PALM BEACH, FL, DURING EVERY SEASON OF THE YEAR.
HOWEVER, THERE APPEAR TO BE TWO MAIN SPAWNING CONCENTRATIONS--ONE DURING SPRING NEAR THE WESTERN EDGE OF THE GULF STREAM IN THE
SOUTH ATLANTIC BIGHT AND THE OTHER DURING SUMMER OVER THE CONTINENTAL SHELF OF THE MIDDLE ATLANTIC BIGHT. LARVAE COMPLETE
DEVELOPMENT NEAR THE SURFACE; JUVENILES ARE STRONGLY ASSOCIATED WITH THE SURFACE. JUVENILES FROM THE SPRING SPAWNING REMAIN AT

SEA AND ARE CARRIED NORTHWARD PAST CAPE HATTERAS, NC, ABOVE THE EDGE OF THE CONTINENTAL SHELF. AS SURFACE SHELF WATER WARMS.
THEY MOVE SHOREWARD TO SPEND THE SUMMER IN ESTUARIES OF THE MIDDLE ATLANTIC BIGHT. BLUEFISH SPAWNED IN SUMMER REMAIN AT SEA AS
JUVENILES OR ENTER ESTUARIES BRIEFLY IN LATE SUMMER. IN FALL, AS THE WATER COOLS, THE JUVENILES MOVE SOUTHWARD OUT OF THE
MIDDLE ATLANTIC BIGHT. IT IS POSSIBLE THAT THESE TWO SPAWNINGS REPRESENT DIFFERENT POPULATIONS. A SMALLER FALL AND WINTER
SPAWNING WHICH OCCURS OFFSHORE SOUTH OF CAPE HATTERAS MAY REPRESENT A SMALL POPULATION RESIDENT TO THE SOUTH ATLANTIC BIGHT.

0926 KENNER. B.H.

MELAMPUS BIDENTATUS POPULATION DENSITY AND DISTRIBUTION WITHIN A LONG ISLAND SALT MARSH [1973]

M.A. THESIS. HOFSTRA UNIV. HEMPSTEAD. NY 38 PP

THE SNAIL MELAMPUS BIDENTATUS IS A PROMINENT MEMBER OF THE ATLANTIC SALT MARSH COMMUNITY, WITH WITH A RANGE EXTENDING FROM CANADA TO THE TEXAS GULF COAST. A POPULATION DIVERSITY STUDY WAS MADE ON ALDER ISLAND, LONG ISLAND, NY TO DETERMINE WHAT FACTORS INFLUENCED ITS DISTRIBUTION WITHIN THE MARSH AND TO ESTIMATE ITS TOTAL POPULATION. THE PRESENCE OF TRAPPED VEGETATIVE DRIFT ON THE SUBSTRATUM WAS FOUND TO PROVIDE AN ENVIRONMENT RESULTING IN HIGHER DENSITIES OF MELAMPUS THAN IN GROUNDWATER WITHOUT IT. AVERAGE DIVERSITIES WITHIN THE HIGH AND LOW MARSH WERE 780/M2 AND 210/M2 RESPECTIVELY, INCLUDING ALL QUADRATES WITH OR WITHOUT VEGETATIVE DRIFT. INCREASED LIVING COVER WAS FOUND TO INCREASE POPULATION DENSITY, BUT NOT TO THE EXTENT THAT TRAPPED DRIFT DID. NO FLORAL SPECIES ASSOCIATED PREFERENCE WAS FOUND FOR M. BIDENTATUS WITHIN THE HIGH MARSH. THE STANDING CROP OF SNAILS IN 1977 WAS ESTIMATED AT 2.1 X 10EXP6 AND 7.8 X 10EXP6 SNAILS/HECTAR IN THE LOW AND HIGH MARSH RESPECTIVELY THIS REPRESENTS A HIGH BIOMASS WHOSE EFFECT ON ENERGY TURNOVER CANNOT BE DISREGARDED.

0927 KENNISH, M.J.

THE EFFECTS OF THERMAL ADDITION ON THE MICROSTRUCTURAL GROWTH OF MERCENARIA MERCENARIA [1974]

GEOL SOC AM ABSTR PROG 6(1):43-44

THE EFFECTS OF THERMAL ADDITION FROM THE OYSTER CREEK NUCLEAR POWER PLANT AT BARNEGAT BAY, NJ, ARE RECORDED IN THE MIGROSTRUCTURAL GROWTH OF MERCENARIA MERCENARIA, A COMMON COASTAL MARINE PELECYPOD. THE ANALYSIS OF THE SHELL MIGROSTRUCTURE SHOWS THAT THESE ORGANISMS ACT AS EFFECTIVE MONITORS OF THE ENVIRONMENTAL CONDITIONS EXISTING IN THE MARINE WATERS ADJACENT TO THE POWER PLANT. MANY PHYSIOLOGICAL AND ENVIRONMENTAL EVENTS SUCH AS SPAWNING, FREEZE SHOCKS, ENVIRONMENTAL STRESS SHOCKS AND MAJOR STORMS, FOR EXAMPLE, ARE CLEARLY RECORDED IN THE SHELL MICROSTRUCTURE. THE EXACT TIME OF OCCURRENCE OF THESE EVENTS CAN BE DETERMINED BY COUNTING DAILY GROWTH INCREMENTS BACKWARDS FROM THE OUTER SHELL MARGINS. MIGROSTRUCTURAL GROWTH PATTERNS REFLECTED IN BARNEGAT BAY SAMPLES INDICATE THAT THESE PELECYPODS WERE AFFECTED MAINLY BY TEMPERATURE VARIATIONS, TIDAL CYCLES, TYPE OF SUBSTATUM AND AGE. MOST SEVERE ENVIRONMENTAL CONDITIONS CORRESPOND EXACTLY WITH THE TEMPERATURE VARIATIONS ASSOCIATED WITH POWER PLANT SHUTDOWNS OR RAPID RENEWAL OF PLANT OPERATIONS FOLLOWING SHUTDOWNS. THESE STRESS PERIODS SHOW UP AS MASSIVE BREAKS IN THE NORMAL MICROSTRUCTURAL GROWTH PATTERNS. THIS IS IN SHARP CONTRAST TO SAMPLES COLLECTED FOM CONTROL GROUPS 5 MI FROM THE PLANT SITE WHICH SHOW FEWER SHOCK BREAKS, MORE UNIFORM GROWTH PATTERNS AND LARGER INCREMENTS OF GROWTH. THE LATTER SAMPLES INDICATE MORE UNIFORM ENVIRONMENTAL CONDITIONS.

0928 KENNISH, M.J.; R.K. OLSSON

EFFECTS OF THERMAL DISCHARGES ON THE MICROSTRUCTURAL GROWTH OF MERCENARIA MERCENARIA [1975]

ENVIRON GEOL 1(1):41-64

THE EFFECTS OF THERMAL DISCHARGES FROM THE OYSTER CREEK NUCLEAR GENERATING STATION AT BARNEGAT BAY, NEW JERSEY, ARE RECORDED IN THE MICROSTRUCTURAL GROWTH OF MERCENARIA MERCENARIA, A COMMON COASTAL MARINE PELECYPOD. THE ANALYSIS OF THE SHELL MICROSTRUCTURE SHOWS THAT THIS BIVALVE ACTS AS AN EFFECTIVE MONITOR OF THE ENVIRONMENTAL CONDITIONS EXISTING IN THE MARINE

WATERS ADJACENT TO THE POWER STATION. MANY PHYSIOLOGICAL AND ENVIRONMENTAL EVENTS SUCH AS SPAWNING, WINTER (FREEZE) SHOCKS, SUMMER (HEAT) SHOCKS, THERMAL SHOCKS, TIDAL CYCLES, AND MAJOR STORMS ARE CLEARLY RECORDED IN THE SHELL MICROSTRUCTURE. THE EXACT TIME OF OCCURRENCE OF THESE EVENTS CAN BE DETERMINED BY COUNTING DAILY GROWTH INCREMENTS BACKWARDS FROM THE OUTER SHELL MARGINS OF FRESHLY KILLED INDIVIDUALS. MICROSTRUCTURAL GROWTH PATTERNS REFLECTED IN BARNEGAT BAY SPECIMENS INDICATE THAT THESE PELECYPODS WERE AFFECTED MAINLY BY TEMPERATURE EXTREMES, TEMPERATURE VARIATIONS, TIDES, TYPE OF SUBSTRATUM, AND AGE. GROWTH PATTERNS IN SPECIMENS FROM AREAS SURROUNDING DYSTER CREEK (AFFECTED BY THERMAL EFFLUENT) ARE SIGNIFICANTLY DIFFERENT FROM THOSE FROM OTHER BAY LOCALITIES (UNAFFECTED BY THERMAL EFFLUENT). MERCENARIA MERCENARIA MITHIN APPROXIMATELY A 1.6 KM RADIUS OF DYSTER CREEK SHOW A LOWER SUMMER GROWTH RATE (10 % TO 25 % LOWER) AND A GREATER NUMBER OF GROWTH BREAKS 42 TO 6 MORE PER CLAM) THAN THOSE AWAY FROM THE CREEK. THE LOWER SUMMER GROWTH RATES OCCUR IN BIVALVES SUBJECTED TO THE EFFLUENT BECAUSE THE ADDED HEAT DURING THE SUMMER MONTHS CAUSES JATER TEMPERATURES TO EXCEED A CRITICAL THRESHOLD FOR OPTIMUM GROWTH IN THE SPECIES. THE GREATER NUMBER OF GROWTH BREAKS TAKES PLACE, IN TURN, BECAUSE MANY OF THE BREAKS (THERMAL SHOCK BREAKS) ARE GENERATED BY RAPIDLY FLUCTUATING TEMPERATURES ASSOCIATED WITH ABRUPT SHUTDOWNS, MASSIVE LOAD REDUCTIONS AND RAPID RENEWAL OF OPERATIONS FOLLOWING SHUTDOWNS OR LOAD REDUCTION PERIODS AT THE NUCLEAR POWER STATION OPERATIONS TO ADDITION, THE EFFLUENT MAY BE UPSETTING NATURAL SPAWNING EVENTS IN THE CLAMS WHEN ABRUPT CHANGES IN POWER STATION OPERATIONS OVERLAP WITH SPAWNING PERIODS. IN THIS RESPECT, SPAWNING MAY BE PRECLUDED BY SHARP TEMPERATURE CHANGES WHICH RESULT IN PHYSIOLOGICAL SHOCKS TO THE ANIMAL.

0929 KENNISH, M.J.

EFFECTS OF THERMAL DISCHARGES ON MORTALITY OF MERCENARIA MERCENARIA IN BARNEGAT BAY. NEW JERSEY [1978]

ENVIRON GEOL 2(4):223-254

THERMAL DISCHARGES FROM THE OYSTER CREEK NUCLEAR GENERATING STATION DO NOT AFFECT MORTALITY IN NATURAL POPULATIONS OF MERCENARIA MERCENARIA (LINNE) IN BARVEGAT BAY, NJ. THE ANALYSES OF DAILY GROWTH INCREMENTS AND DISTURBANCE BANDS IN SHELL CROSS-SECTIONS OF DEATH ASSEMBLAGES OF THE PELECYPODS COLLECTED AT THE MOUTH OF OYSTER CREEK (STRONGLY AFFECTED BY THERMAL DISCHARGES) AND AT THREE CONTROL SITES (UNAFFECTED BY THERMAL DISCHARGES) IN THE BAY INDICATE THAT SIMILAR MORTALITY PATTERNS EXIST IN ALL ASSEMBLAGES. THIS IS REVEALED BY MORTALITY RATE CURVES, SURVIVORSHIP CURVES, AND LIFE TABLES, WHICH ARE NEARLY IDENTICAL FOR EACH ASSEMBLAGE. EACH DEATH ASSEMBLAGE RESULTS FROM NATURAL AND NOT CENSUS MORTALITY, AS IS EVIDENT FROM ITS CORRESPONDING DEATH-FREQUENCY HISTOGRAM WHICH SHOWS THAT INDIVIDUALS HAVE DIED AT DIFFERENT TIMES OF THE YEAR. THE PEAK FREQUENCY OF STRESS AND DEATH OCCURS IN OLDER INDIVIDUALS OF THE POPULATIONS AND DEVELOPS IN THE SUMMER AND WINTER. THE HIGH INCIDENCE OF SUMMER DEATH MAY BE ASSOCIATED WITH THE EFFECTS OF PHYSIOLOGICAL STRESS DURING SPAWNING AND WITH INCREASED. ACTIVITY OF PREDATORS AND PARASITES DURING THE WARMER MONTHS OF THE YEAR, WHEREAS HIGH WINTER MORTALITY SEEMS TO BE CAUSED BY HARSH ENVIRONMENTAL CONDITIONS. IT IS CONCLUDED THAT MORTALITY OF M. MERCENARIA IN BARNEGAT BAY IS CAUSED BY THE NORMAL POPULATION DYNAMICS OF THE SPECIES. THE PATTERN OF ONTOGENETIC MORTALITY IN THE BIVALVE IS HIGH-LOW-HIGH. MORTALITY IS HIGH DURING THE PLANKTONIC LARVAL STAGES, LOW SUBSEQUENT TO SPAT SETTLEMENT, AND HIGH AGAIN IN THE GERONTIC STAGE. MORTALITY IS ATTAINED.

0930 KESSMAN, I.B.

PARKS AND RECREATION STUDY [1974]

NASSAU COUNTY PLANNING COMMISSION, MINEOLA, NY NP

THIS REPORT IS CONCERNED WITH THE EXISTING RECREATIONAL LANDS AND FACILITIES IN NASSAU COUNTY. COUNTY FACILITIES WERE EXAMINED IN THE FIELD AND AN ANALYSIS OF CONDITIONS WAS MADE BY EMPLOYING GENERALLY ACCEPTED PLANNING AND RECREATIONAL STANDARDS. THESE FACTORS WERE FURTHER CONSIDERED WITHIN THE CONTEXT OF NASSAU COUNTY'S SPECIFIC ACCOMPLISHMENTS IN THE AREA OF PARK DEVELOPMENT. AS WELL AS ITS CURRENT NEEDS. THE RECREATIONAL NEEDS OF THE COUNTY HAVE INCREASED AS ITS POPULATION HAS GROWN. WITHIN THE LAST THIRTY YEARS, NASSAU COUNTY HAS WITNESSED A GROWTH RATE THAT HAS LEFT ONLY SEVEN PERCENT OF ITS LAND VACANT. THEREFORE, IT MUST BE RECOGNIZED THAT RECOMMENDATIONS OF LAND UTILIZATION REQUIREMENTS NEEDED TO PROVIDE NASSAU COUNTY WITH ADEQUATE RECREATIONAL ACREAGE FOR ITS POPULATION WILL NEVER BE ACHIEVED. CONSEQUENTLY, PROGRAM PLANNING AND ALTERNATE METHODS OF SATIFYING GROWING RECREATIONAL DEMANDS MUST BE CONSIDERED.

0931 KESTER. D.R.

THE OCEAN AS A DUMP SITE: STUDIES BASIC TO A NATIONAL POLICY [1978]

MARITIMES 22(2):10-11

DESPITE CONCERN IN RECENT YEARS ABOUT MAN'S POLLUTION OF THE MARINE ENVIRONMENT, OCEAN DISPOSAL IS PRACTICED WIDELY ALONG THE ATLANTIC GULF, AND PACIFIC COASTS OF THE US. FOR MANY WASTES THERE IS NO SATISFACTORY ALTERNATIVE TO OCEAN DISPOSAL, AND FOR OTHERS DUMPING THEM IN THE OCEAN REPRESENTS THE MOST ECONOMICAL, AND PRESUMABLY LEAST DETRIMENTAL, DISPOSAL METHOD. IN 1972 THE US CONGRESS PASSED A LAW WHICH PROHIBITED UNREGULATED WASTE DISPOSAL IN THE OCEAN, AND SINCE 1973 THE EPA HAS ESTABLISHED REGULATIONS AND ISSUED PERMITS FOR OCEAN DUMPING. THESE PROVISIONS HAVE BEEN FOLLOHED BY AN INCREASE IN OCEANOGRAPHIC STUDIES TO ASSESS THE EFFECTS OF OCEAN DUMPING ON THE MARINE ENVIRONMENT. THE CONSEQUENCES OF OCEAN DUMPING ARE NOT WELL UNDERSTOOD. THERE MAY BE SOME POSITIVE BENEFITS SUCH AS THE FORMATION OF NEW HABITATS FOR FISH AND THE PROVISION OF FOOD FOR PLANKTON. THERE ARE NEGATIVE EFFECTS SUCH AS THE CONTAMINATION OF SHELLFISHING GROUNDS, AND THERE ARE INDICATIONS THAT FIN-ROT IN FISH INCREASES NEAR DUMP SITES. THE MATERIALS DUMPED AT SEA INCLUDE SEWAGE SLUDGE FROM WASTE TREATMENT FACILITIES, INDUSTRIAL CHEMICAL WASTES, DREDGE MATERIALS FROM HARBOR CONSTRUCTION PROJECTS, CONSTRUCTION AND DEMOLITION DEBRIS FROM URBAN PROJECTS, AND SOLID WASTES (GARBAGE). PREVIOUSLY OCEAN DUMP SITES WERE USED FOR DISPOSING OF MILITARY MUNITIONS AND CONTAINERIZED RADIOACTIVE WASTES. IN THE NEW YORK BIGHT, BETWEEN THE SHORES OF NJ AND LI, SPECIFIC GEOGRAPHIC AREAS HAVE BEEN DESIGNATED FOR THE DUMPING OF PARTICULAR WASTES. DURING THE PAST THO YEARS THE LABORATORY AT URI HAS BEEN WORKING WITH INVESTIGATORS AT WHOI AND THE NOAA IN A STUDY AT THE DEEPWATER DUMPSITE NUMBER 106 (DWD-106).

0932 KETCHUM, B.H.

PHYTOPLANKTON NUTRIENTS IN ESTUARIES [1967]

ESTUARIES 83:329-335

ESTUARIES CAN BE ENRICHED IN NUTRIENTS BY RIVER WATERS, POLLUTION, OR SEA WATER. LOCAL ENRICHMENT OF ESTUARIES BY RIVERS MAY BE IMPORTANT, BUT IT APPEARS THAT THIS SOURCE CANNOT USUALLY BE INVOKED TO EXPLAIN PRODUCTIVITY. THE STRAIT OF JUAN DE FUCA IS CITED AS AN EXAMPLE OF NUTRIENT DUE TO SEA WATER DRAWN FROM DEPTHS BELOW THE EUPHOTIC ZONE. IN THIS ZONE, THE CONCENTRATION OF NUTRIENTS HAS NOT BEEN DEPLETED BY THE GROWTH OF PHYTOPLANKTON. TOTAL PHOSPHORUS AND SALINITY WERE USED TO IDENTIFY 3 DIFFERENT SOURCES OF WATER IN THE NEW YORK BIGHT. THE TYPES OF WATER ARE: (1) BRACKISH RIVER WATER WITH 30 PPT SALINITY; (2) SURFACE COASTAL WATER WITH 30.95 PPT AND (3) DEEP OCEAN WATER WITH 34 PPT SALINITY. IN ADDITION TO THE TYPE OF WATER, THE POPULATION OF PHYTOPLANKTON WILL DEPEND ON FACTORS SUCH AS GRAZING, THE STABILITY OF THE WATER COLUMN, THE PRESENCE OF VITAMINS OR INHIBITORS IN THE WATER, AND WATER TRANSPARENCY.

0933 KETCHUM. B.H.

POPULATION, RESOURCES, AND POLLUTION, AND THEIR IMPACT ON THE HUDSON ESTUARY [1974]

NY ACAD SCI ANN 250:144-156

DATA ARE PRESENTED ON THE DISTRIBUTION PROPERTIES IN THE LOWER END OF THE HUDSON ESTUARY SO AS TO DEFINE AND DELINEATE SOME OF THE PROBLEMS THAT SHOULD BE FURTHER INVESTIGATED. SUCH DATA INDICATE THAT THE HUDSON RIVER ESTUARY IS NOT ITSELF CAPABLE OF ACCEPTING AND RECYCLING THE NUTRIENTS THAT ARE BEING ADDED TO IT IN THE SEWAGE FROM THE POPULATION OF NYC. ADEQUATE CONTROL OF THE DOMESTIC SEWAGE WILL REQUIRE THE REMOVAL OF A SUBSTANTIAL PART OF THE NUTRIENTS AS WELL AS THE REMOVAL OF THE ORGANIC MATERIAL THAT CREATES THE BIOCHEMICAL OXYGEN DEMAND.

0934 KETCHUM, B.H.

THE OLD AND THE NEW: NEW YORK BIGHT RESEARCH IN PERSPECTIVE [1976]

PAGES 14-19 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

THIS REPORT EVALUATES RESEARCH ACCOMPLISHMENTS OF RECENT YEARS AS WELL AS NEEDS FOR FUTURE YEARS. NEWER METHODS ARE PRODUCING RESULTS UNOBTAINABLE IN EARLIER INVESTIGATIONS. IT SEEMS APPARENT THAT ECOLOGICAL CONDITIONS IN THE NEW YORK BIGHT APEX HAVE DETERIORATED CONSIDERABLY OVER THE LAST 25 YRS. EVIDENCE IS ACCUMULATING THAT WILL MAKE IT POSSIBLE TO EVALUATE THE VARIOUS OPTIONS FOR CORRECTIVE ACTION.

0935 KIDDER, T.

SLUDGE [1775]

ATLANTIC 235:62-68

SLUDGE IS THE END RESULT OF MUCH OF AMERICA'S POLLUTION TREATMENT ACTIVITIES. PRESENTLY, CITIES LIKE NEW YORK, BOSTON AND PHILADELPHIA ARE DUMPING THEIR SLUDGE INTO OFFSHORE WATERS. A TWENTY SQUARE MILE AREA CALLED THE NEW YORK BIGHT IS REALLY NO MORE THAN A DEAD SEA. WHILE MID-WESTERN CITIES LIKE CHICAGO, MILWAUKEE, AND HOUSTON WERE LAYING THEIR SLUDGE PRODUCTIVELY ON LAND TO ACT AS A SOIL CONDITIONER, THESE EASTERN CITIES WERE KILLING LARGE OCEAN AREAS. IT SEEMS PROBABLE THAT WITHIN THE NEXT FEW YEARS THE MASS OF SLUDGE WILL REACH THE SOUTH SHORE OF LONG ISLAND, CLOSING DOWN ITS BEACHES FOR PUBLIC BATHING, PERHAPS. PERMANENTLY. THE SOLUTION MUST COME FROM LAND DEPOSITS. EVEN THOUGH LAND DISPOSAL OF SLUDGE IS COSTLY, IT IS BETTER THAN DESTROYING FISH LIFE AND PLANKTON RESOURCES. HOWEVER, IT SHOULD BE NOTED THAT THE US EPA HAS JUST APPROVED NEWER AND DEEPER AREAS FOR OCEAN SLUDGE DUMPING.

0936 KILBURN, C.

HYDROGEOLOGY OF THE TOWN OF NORTH HEMPSTEAD, NASSAU COUNTY, LONG ISLAND, NEW YORK [1979]

LI WATER RESEARCH BULL 12. SUFFOLK COUNTY WATER AUTH, HAUPPAUGE, NY NP

THE GROUNDWATER RESERVOIR UNDERLYING THE TOWN OF NORTH HEMPSTEAD IS COMPOSED OF UNCONSOLIDATED GLACIAL DEPOSITS OF PLEISTOCENE AGE AND MARINE AND TERRESTRIAL COASTAL-PLAIN DEPOSITS OF LATE CRETACEOUS AGE; IT IS UNDERLAIN BY BEDROCK OF LOWER PALEOZOIC AND(OR) PRECAMBRIAN AGE. THE BEDROCK SURFACE IS THE BASE OF THE GROUNDWATER RESERVOIR. THE CRETACEOUS DEPOSITS BENEATH MOST OF THE TOWN OF NORTH HEMPSTEAD, EXCEPT IN THE NORTHERN PARTS OF GREAT NECK AND MANHASSET NECK, CONSIST OF THREE HYDROGEOLOGIC UNITS (NOT NECESSARILY CORRELATIVE WITH ROCK STRATIGRAPHIC UNITS). THESE ARE, FROM OLDEST TO YOUNGEST, THE LLOYD AQUIFER AND RARITAN CLAY, BOTH OF THE RARITAN FORMATION; AND THE MAGOTHY AQUIFER, WHICH BELONGS TO THE MAGOTHY FORMATION-MATAWAN GROUP, UNDIFFERENTIATED. THE LOW PERMEABILITY OF THE RARITAN CLAY GENERALLY CAUSES THE WATER IN THE UNDERLYING LLOYD AQUIFER TO BE CONFINED AND RETARDS BUT DOES NOT PREVENT THE MOVEMENT OF WATER BETWEEN THE TWO AQUIFERS. THESE DEPOSITS ARE OVERLAIN BY GLACIAL DEPOSITS OF LATE PLEISTOCENE AGE, WHICH FORM THE UPPER GLACIAL AQUIFER. THE CRETACEOUS DEPOSITS IN THE NORTHERN PARTS OF GREAT NECK AND MANHASSET NECK HAVE BEEN DEEPLY ERODED, ICE SHOVED, AND REMOVED LOCALLY. IN THESE AREAS, PLEISTOCENE DEPOSITS REST UPON THE EROSIONAL REMNANTS OF THE CRETACEOUS DEPOSITS OR ON BEDROCK. THE PLEISTOCENE AND HOLOCENE DEPOSITS TOGETHER WITH ANY REMAINING CRETACEOUS DEPOSITS IN THE NORTHERN PARTS OF THE NECKS. HAVE BEEN DIVIDED INTO TWO DISTINCT HYDROGEOLOGIC UNITS. HEREIN NAMED THE PORT WASHINGTON AQUIFER AND THE PORT WASHINGTON CONFINING UNIT. THE PORT WASHINGTON AQUIFER OVERLIES BEDROCK AND IS IN TURN OVERLAIN BY THE PORT WASHINGTON CONFINING UNIT. THE CONFINING UNIT CONFINES WATER IN THE PORT WASHINGTON AQUIFER BUT DOES NOT RETARD MOVEMENT OF WATER BETWEEN THE OVERLYING UPPER GLACIAL AQUIFER AND THE PORT WASHINGTON AQUIFER. GLACIAL DEPOSITS OF LATE PLEISTOCENE AGE AND LOCAL DEPOSITS OF HOLOCENE AGE FORM THE UPPER GLACIAL AQUIFER. THESE UNDIFFERENTIATED DEPOSITS OVERLIE THE OLDER DEPOSITS AND ABUT THEM LOCALLY IN BURIED VALLEYS. THE UPPER SURFACE OF THE GLACIAL DEPOSITS FORM THE PRESENT LAND SURFACE.

0937 KIMBALL R.J.

NATIONAL DAM SAFETY PROGRAM. ALCOVE DAM (NY93), LOWER HUDSON RIVER BASIN, ALBANY COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 221 PP NTIS-AD-A069 100

THIS REPORT PROVIDES INFORMATION AND ANALSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. ALCOVE RESERVOIR DAM WAS JUDGED TO BE SAFE, ALTHOUGH A STABILITY ANALYSIS AND A HYDROLOGIC ANALYSIS WERE RECOMMENDED.

0938 KIMBALL, R.J.

NATIONAL DAM SAFETY PROGRAM. CROTON FALLS DAM (NY39), LOWER HUDSON RIVER BASIN, PUTNAM COUNTY, NY. PHASE I INSPECTION REPORT

NTIS, SPRINGFIELD, VA 112 PP NTIS-AD-A066 394

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. CROTON FALLS DAM WAS JUDGED TO BE UNSAFE-NON-EMERGENCY DUE TO A SERIOUSLY INADEQUATE SPILLWAY.

0939 KIMBALL, R.J.

NATIONAL DAM SAFETY PROGRAM. WASHINGTON LAKE DAM (NY603), LOWER HUDSON RIVER BASIN, ORANGE COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 114 PP NTIS-AD-A069 103

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. WASHINGTON LAKE DAM WAS JUDGED TO BE UNSAFE-NON-EMERGENCY DUE TO A SERIOUSLY INADEQUATE SPILLWAY. ADDITIONAL FOLLOW-UP STUDIES WERE RECOMMENDED.

0940 KIMBALL, R.J.

NATIONAL DAM SAFETY PROGRAM. STURGEON POOL DAM (NY75), LOWER HUDSON RIVER BASIN, ULSTER COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 220 PP NTIS-AD-069 101

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. STURGEON POOL DAM WAS JUDGED TO BE UNSAFE-NON-EMERGENCY DUE TO A SERIOUSLY INADEQUATE SPILLWAY. ADDITIONAL ANALYSIS AND MAINTENANCE ACTIONS WERE RECOMMENDED.

0941 KIMMEL, G.E.

CHANGE IN POTENTIOMETRIC HEAD IN THE LLOYD AQUIFER. LI. NEW YORK [1973]

J RES USGS 1(3):345-350

THE POTENTIOMETRIC SURFACE OF THE LLOYD AQUIFER IN 1970 LOCALLY WAS AS MUCH AS 40 FT LOWER THAN IN 1900. DURING THIS PERIOD, WITHDRAWAL OF WATER FROM WELLS WAS ESTIMATED TO EXCEED 300 BILLION GALLONS, AND THE AMOUNT OF WATER RELEASED FROM AQUIFER STORAGE BY COMPRESSIVE FORCES WAS ESTIMATED TO BE 1.6 BILLION GALLONS (ABOUT 0.5 % OF THE WITHDRAWAL). THE REMAINDER OF THE WITHDRAWAL WAS DERIVED FROM DOWNWARD LEAKAGE THROUGH OVERLYING AQUIFERS AND CONFINING LAYERS AND BY THE DISPLACEMENT OF FRESH WATER IN THE AQUIFER BY LANDWARD MOVEMENT OF SALTY GROUND WATER.

0942 KING, L.R.; J.B. HUTCHISON, JR.; T.G. HUGGINS

IMPINGEMENT SURVIVAL STUDIES ON WHITE PERCH, STRIRED BASS, AND ATLANTIC TOMCOD AT THREE HUDSON RIVER POWER PLANTS. [1978]

PAGES 217-233 IN L.D. JENSEN, ED. 4TH NATL WORKSHOP ON ENTRAINMENT AND IMPINGEMENT, 5 DEC 1977, CHICAGO, IL. E.A. COMMUNICATIONS. MELVILLE. NY

IMPINGEMENT SURVIVAL STUDIES WERE CONDUCTED FROM NOV 1976 THROUGH MAR 1977 AT THE BOWLING POINT GENERATING STATION AND FROM NOV 1976 THROUGH MAY 1977 AT THE ROSETON AND DANSKAMMER POINT GENERATING STATIONS. THESE POWER PLANTS ARE LOCATED ON THE LOWER HUDSON RIVER ESTUARY IN NEW YORK. IMPINGED FISH WERE COLLECTED FROM THE SCREENWASH DISCHARGE AT EACH PLANT. THREE MODES OF TRAVELING SCREEN OPERATIONS WERE TESTED: CONTINUOUS WASH, 2-HOUR HOLD, AND 4-HOUR HOLD. VARIOUS SCREENWASH PRESSURES WERE ALSO TESTED. DATA FROM THIS STUDY INDICATE THAT CONTINUOUS SCREEN OPERATION AT LOW-PRESSURE WASH PROVIDES THE HIGHEST POTENTIAL SURVIVAL FOR YOUNG WHITE PERCH. LATENT SURVIVAL WAS EVIDENT FOR THE HOLD OPERATIONAL MODES, HOWEVER, THESE VALUES WERE LOWER THAN INITIAL SURVIVAL ESTIMATES. STRIPED BASS SURVIVAL WAS SIMILAR TO THAT FOR WHITE PERCH. ATLANTIC TOMCOD SHOWED HIGH SURVIVAL REGARDLESS OF SCREEN OPERATIONAL MODE. IT IS EVIDENT THAT 10% MORTALITY ESTIMATES ARE CONSERVATIVE WHEN USED IN IMPINGEMENT IMPACT ASSESSMENT FOR WHITE PERCH, STIPED BASS AND ATLANTIC TOMCOD AT THESE THREE HUDSON RIVER POWER PLANTS.

0943 KINSMAN, B.; J.R. SCHUBEL; M.J. BOWMAN; H.H. CARTER; A. OKUBO; D.W. PRITCHARD; R.E. WILSON

TRANSPORT PROCESSES IN ESTUARIES; RECOMMENDATIONS FOR RESEARCH [1977]

SPEC REP 6. MSRC. SUNY. STONY BROOK. NY 21 PP

A REVIEW OF THE STATE OF CURRENT KNOWLEDGE OF TRANSPORT PROCESSES IN ESTUARIES IS PRESENTED. A BETTER DESCRIPTION AND QUANTIFICATION OF THOSE TERMS IN THE EQUATIONS OF MOTION NOT GIVEN A PRIORI BY THE PHYSICS OF THE FLOW AND COMMONLY REFERRED TO AS "DIFFUSIVE" OR "DISPERSIVE" REMAIN ELUSIVE GOALS. PROPER VERIFICATION AND TESTING OF THREE-DIMENSIONAL TIME-VARYING MODELS THAT ARE UNIVERSALLY APPLICABLE TO DIFFERENT TYPES OF ESTUARIES HAVE YET TO BE UNDERTAKEN. A SET OF FIELD EXPERIMENTS IS OUTLINED IN BROAD TERMS. IT IS HOPED THAT THESE EXPERIMENTS WILL PROVIDE NEW INSIGHT INTO BASIC NONADVECTIVE TRANSPORT MECHANISMS IN VARIOUS TYPES OF ESTUARIES RANGING FROM WELL-MIXED TO HIGHLY STRATIFIED.

0944 KINSMAN, B.; J.R. SCHUBEL; G.E. CARROLL; M. GLACKIN-SUNDELL

A SUGGESTION FOR ANTICIPATING ALTERATIONS IN WAVE ACTION ON SHORES CONSEQUENT UPON CHANGES IN WATER DEPTHS IN HARBORS AND COASTAL WATERS [1979]

SPEC REP 27. MSRC, SUNY, STONY BROOK, NY 43 PP

A COMPUTER PROGRAM DESIGNED FOR THE CALCULATION AND PLOITING OF SURFACE WAVE RAYS IN THE LOWER BAY OF NEW YORK HARBOR IS REPORTED. THE DATA INDICATE WHICH PARTS OF THE COAST ARE SUSCEPTIBLE TO NATURAL EROSION AND EROSION CAUSED BY DREDGING. SIX DIFFERENT WAVES WERE SELECTED FOR RAY TRACING IN ORDER TO GIVE THE WAVE ENERGY ALONG THE COAST OF THE LOWER BAY. THE BATHYMETRY OF THE LOWER BAY WAS STORED IN A COMPUTER AND FOR CONVENIENCE, THE AREA WAS SECTIONALIZED IN GRIDS OF 0.1 NAUTICAL MILE AND THE WATER DEPTHS WERE DIGITIZED. DREDGED CHANNELS RESULTED IN A LOSS OF INFORMATION BECAUSE THEY REPRESENTED ABORTED RAYS. THE HEAVIEST WAVE ATTACKS WERE FOUND ON THE SEAWARD FACES OF SANDY HOOK AND ROCKAWAY POINT. SURPRISINGLY, SELECTED DREDGING TO 90 FT WOULD INCREASE THE WAVE ENERGY ON THE SEAWARD FACE OF SANDY HOOK BY 8.3%. OTHER AREAS OF HEAVY WAVE ATTACK ARE CONEY ISLAND

AND A STRIP FROM HUGENOT BEACH TO MIDLAND BEACH ON STATEN ISLAND. THESE ARE ALREADY KNOWN AREAS OF HEAVY WAVE ACTIVITY, SO THE COMPUTER SIMULATION WORKS WELL. SHIFTS IN WAVE INTENSITIES CAN BE BROUGHT ABOUT BY SELECTED DREDGING. DREDGING FOLLOWED BY BACKFILLING WITH UNWANTED FINE-GRAINED DREDGED MATERIAL MAY PREVENT INCREASED WAVE ACTION. COMPUTER SIMULATION OF COASTAL WAVE EROSION WILL HELP IN THE ISSUANCE OF DREDGING PERMITS.

0945 KIRSCHBAUM, H.S.; E.V. SOMERS; V.T. SULZBERGER

EVALUATION OF OFFSHORE SITE FOR WIND ENERGY GENERATION [1976]

PAGES 474-483 IN PROC OF THE AMERICAN POWER CONF. CHICAGO. IL. 20 APR 1976

AN EVALUATION OF AN OFFSHORE SITE OFF NJ FOR WIND ENERGY GENERATION IS GIVEN. THE SITE POTENTIAL IS DISCUSSED AND A BRIEF ECONOMIC ANALYSIS IS MADE.

0946 KLAAS, E.E.; A.A. BELISLE

ORGANOCHLORINE PESTICIDE AND POLYCHLORINATED BIPHENYL RESIDUES IN SELECTED FAUNA FROM A NEW JERSEY SALT MARSH--1967 VS. 1973

PEST MONIT J 10(4):149-158

MORE THAN A HALF MILLION POUNDS OF DDI WERE APPLIED TO CONTROL MOSQUITOES IN SALT MARSH ESTUARIES OF CAPE MAY COUNTY, NJ, FROM 1946 TO 1966. THE USE OF DDT WAS DISCONTINUED IN THE COUNTY AFTER 1966. IN 1967, MEAN CONCENTRATIONS OF DDT AND METABOLITES RANGED FROM 0.63 TO 9.05 PPM IN AQUATIC FAUNA, BUT BY 1973 MEAN RSIDUE LEVELS HAD DECREASED 84 TO 99 % AMONG 9 SPECIES. DDE WAS STILL PRESENT AT REDUCED LEVELS IN NEARLY ALL SAMPLES IN 1973, BUT OTHER DDT ISOMERS HAD MOSTLY DISAPPEARED. DIELDRIN WAS DETECTED ONLY IN CLAPPER RAILS, AND RESIDUE LEVELS DECREASED DURING THE PERIOD. MEAN CONCENTRATIONS OF PCBS INCREASED IN THE CLAPPER RAIL, REMAINED THE SAME IN THE FIDDLER CRAB AND MUD SNAIL, AND DECREASED IN THE SHEEPSHEAD MINNOW, MUMMICHOG, STRIPED KILLIFISH, AND SALT MARSH SNAIL. SMALL AMOUNTS OF MIREX, JOXAPHENE, CIS-CHLORDANE (AND/OR TRANS-NONACHLOR), OXYCHLORDANE, AND HCB WERE DETECTED IN A FEW SPECIMENS.

0947 KLEIN, L.A.; M. LANG; N. NASH; S.L. KIRSCHNER

SOURCES OF METALS IN NEW YORK CITY WASTEWATER [1974]

J WATER POLLUT CONTROL FED 46(12):2653-2662

IN AN ATTEMPT AT RENDERING AS STRICT AN ACCOUNTING AS POSSIBLE FOR COPPER, CHROMIUM, NICKEL, ZINC, AND CADMIUM FOUND IN NYC WASTEWATERS, SAMPLES FROM INDUSTRIAL EFFLUENTS, SURFACE RUNOFF, WASTE TREATMENT PLANT INFLUENTS AND EFFLUENTS, THE WATER SUPPLY, AND THE RIVERS AND HARBORS WERE EXTENSIVELY ANALYZED. RESULTS INDICATED THAT CONTRIBUTIONS OF METALS TO WASTEWATER FROM THE ELECTROPLATING INDUSTRY MAY BE SIGNIFICANTLY OVERSHADOWED BY THOSE FROM NON-INDUSTRIAL SOURCES WHICH ARE MORE DIFFICULT TO CONTROL. ELECTROPLATING IS THE LARGEST SINGLE CONTRIBUTOR OF BOTH CHROMIUM AND NICKEL. ON THE OTHER HAND, WATER SUPPLY, STORM WATER RUNOFF, AND RESIDENTIAL WASTES ARE LARGER CONTRIBUTORS OF COPPER AND ZINC. CADMIUM CONTRIBUTED BY RESIDENTIAL WASTES EXCEEDS THAT FROM THE ELECTROPLATERS. EXTENSIVE TABULATIONS OF TOTAL DAILY WEIGHTS OF METALS AND AVERAGE CONCENTRATIONS WERE PRESENTED.

0948 KLEIN, M.S.

SOME FACTORS AFFECTING THE DISTRIBUTION OF THE BENTHOS IN PORT JEFFERSON HARBOR, NEW YORK [1976]

M.S. THESIS. SUNY, STONY BROOK, NY 60 PP

DURING DEC 1975, BOTTOM SAMPLES WERE TAKEN AT 13 STATIONS IN PORT JEFFERSON HARBOR, NY. PHYSICAL AND CHEMICAL ANALYSIS OF THE SEDIMENTS REVEALED A SEDIMENTARY REGIME IN WHICH PHYSICAL FACTORS PREDOMINATED. GAS CHROMATOGRAPHY OF SEDIMENT EXTRACTS DEMONSTRATED THE PRESENCE OF AT LEAST TWO DIFFERENT MIXTURES OF NON-BIOGENIC HYDROCARBONS, PROBABLY DERIVED FROM PETROLEUM, PRESENT IN CONCENTRATIONS RANGING FROM 0.01 TO 0.26 MG/G DRY SEDIMENT. PROBABLE SOURCES OF THE HYDROCARBONS INCLUDED WASTEWATER EFFLUENT, STORMWATER RUN-OFF, VESSEL 3ILGE-WATER, AND SMALL OIL SPILLS. THE DENSITY OF THE MACROBENTHOS RANGED FROM 875 TO 9500 INDIVIDUALS/M2 WITH A MEAN OF ABOUT 3400. NUCULA PROXIMA AND NEPTHYS INCISA WERE ALMOST COMPLETELY REPLACED BY MULINIA LATERALIS AND CAPITELLID WORMS. SIMILARITY ANALYSIS REVEALED THREE FAUNISTIC GROUPS. HYDROCARBONS CONCENTRATION IN THE SEDIMENTS DIFFERED SIGNIFICANTLY (P<.05) BETWEEN TWO OF THE GROUPS.

U949 KLEINMAN. M.T.; T.J. KNEIP; D.M. BERNSTEIN; M. EISENBUD

FALLOUT OF TOXIC TRACE METALS IN NEW YORK CITY. BIOLOGICAL IMPLICATIONS OF METALS IN THE ENVIRONMENT [1977]

PAGES 144-152 IN SYMP ON THE BIOLOGICAL IMPLICATIONS OF METALS IN THE ENVIRON, RICHLAND, WA. 29 SEPT 1975

DEPOSITED DUST IN LARGE URBAN AREAS IS ONE OF THE MOST PERSISTENT REMINDERS OF THE PROBLEMS OF AIR POLLUTION. ASIDE FROM THE NUISANCE IT CREATES, DUSTFALL CONTAINS SEVERAL TOXIC TRACE ELEMENTS AND MAY HAVE IMPORTANT ECOLOGICAL IMPACTS. FOR EXAMPLE, REMOVAL OF FALLOUT PARTICLES AS SURFACE RUNOFF CONTRIBUTES ABOUT 20% OF THE TOXIC METALS DISCHARGED TO THE WATERS IN NEW YORK HAPBOR. SINCE 1972 DUSTFALL AND SUSPENDED PARTICULATE SAMPLES HAVE BEEN COLLECTED AT SEVERAL LOCATIONS IN NYC. THE TRACE METAL COMPOSITION OF MONTHLY TOTAL DÜSTFALL SAMPLES HAS BEEN DETERMINED. PHYSICAL PROPERTIES SUCH AS DEPOSITION VELOCITIES AND PARTICLE SIZES OF THE TRACE ELEMENTS CONTAINED IN THE FALLOUT HAVE BEEN STUDIED. IT IS FOUND IN GENERAL THAT THE DEPOSITION VELOCITY OF AN ELEMENT 1S RELATED TO THE SIZE OF THE PARTICLES WITH WHICH IT IS ASSOCIATED.

0950 KLEPPEL, G.S.

ASPECTS OF PRIMARY PRODUCTIVITY IN THE EAST RIVER OF NEW YORK HARBOR [1979]

PH.D. THESIS. FORDHAM UNIV. NEW YORK. NY 161 PP

SEVERAL ASPECTS OF PRIMARY PRODUCTIVITY WERE STUDIED AT ONE STATION ALONG THE EAST RIVER FROM THE FALL OF 1977 TO THE SUMMER OF 1978. PRIMARY PRODUCTIVITY AND SEASONAL CYCLES WERE ESTIMATED USING C-14 METHOD AND CHL A ANALYSIS. DOC WAS ANALYZED AND RELATED TO OCCURRENCE OF BLOOMS.

0951 KLINKHAMMER, G.P.; M. BENDER; J. SIMPSON

A TRACE METAL MODEL OF THE HUDSON ESTUARY [1975]

IN 169TH NAT'L MEETING: SPECIAL SYMP ON MARINE CHEM IN THE COASTAL ENVIRON NO 14. ACS, WASHINGTON, DC

THE CONCENTRATIONS OF SOLUBLE CD, ZN, CU, MN, AND NI IN THE LOWER HUDSON RIVER WERE ENVESTIGATED DURING THE PERIOD OF MAXIMUM RIVER DISCHARGE. SAMPLES WERE TAKEN IN APR 1974 OVER A WIDE GEOGRAPHICAL AREA FROM THE NEW YORK BIGHT TO 40 MI ABOVE MANHATTAN. THIS SAMPLING INCLUDED SURFACE AND VERTICAL PROFILE STATIONS WITH PARTICULAR EMPHASIS ON A SECTION ACROSS THE STEEPEST SALINITY GRADIENT. CONCENTRATIONS OF THE METALS WERE DETERMINED BY FLAME AND FLAMELESS ATOMIC ABSORPTION SPECTROPHOTOMETRY FOLLOWING PRECONCENTRATION USING AN ION-EXCHANGE RESIN (CHELEX-10J). THE YIELDS OF THE METALS OBTAINED IN THE ELUATES WERE FOLLOWED BY ISOTOPE DILUTION WITH SHORT HALF-LIFE REACTOR-PRODUCED RADIOISOTOPES. CADMIUM RANGED FROM 0.1 TO 0.7 PPB; ZN, 8-30 PPB; CU, 2-7 PPB; MN, 20-50 PPB; AND NI, 2-11 PPB. DEPARTURES FROM A SIMPLE FRESH- AND SALTWATER MIXING CURVE ARE APPARENT THROUGHOUT THIS AREA. ANOMALOUSLY HIGH CONCENTRATIONS OF THESE DISSOLVED METALS WERE FOUND ALONG MANHATTAN, INDICATIVE OF AN INPUT OF POLLUTANTS FROM THE CITY, SEWAGE DISCHARGE APPARENTLY IS THE DOMINANT FACTOR CONTROLLING THE TRACE METAL CHEMISTRY OF THE LOWER

HUDSON RIVER.

0952 KLINKHAMMER, G.P.; M. BENDER; J. SIMPSON

THE PARTITIONING OF SOME TRACE METALS IN THE HUDSON RIVER ESTUARY [1976]

EOS: TRANS AM GEOPHYS UNION 57(4):255

TRACE METAL SAMPLES WERE COLLECTED IN THE HUDSON RIVER ESTUARY DURING MAR, 1974 AND OCT, 1975. PARTICULATE AND DISSOLVED PHASES WERE SEPARATED BY FILTRATION THROUGH 0.45 MICRON MILLIPORE FILTERS. BOTH PHASES WERE ANALYZED FOR CD, ZN, CU, MN, NI AND FE BY A COMBINATION OF ATOMIC ABSORPTION SPECTROPHOTOMETRY AND INSTRUMENTAL NEUTRON ACTIVATION. TOTAL METAL CONCENTRATIONS RANGED FROM 0.3-0.5 PPB FOR CD; 11-37 PPB FOR ZN; 5.0-9.0 PPB FOR CU; 12-60 PPB FOR MN AND 90-1800 PPB FOR FE. COPPER AND NICKEL WERE PRESENT TO ABOUT AN EQUAL EXTENT IN 90TH PHASES WHILE NORMALLY 50% OF THE CADMIUM AND ZINC WERE PRESENT IN THE DISSOLVED FORM. THE PARTICULATE PHASE CONTRIBUTED THE BULK OF THE TOTAL IRON WITH DISSOLVED CONCENTRATIONS AVERAGING ABOUT 50 PPB. THE PARTITIONING OF MANGANESE WAS FOUND TO BE VARIABLE WITH BOTH SALINITY AND SAMPLING PERIOD. DISSOLVED MANGANESE COMPRISED 70-90% OF THE TOTAL DURING THE SPRING HIGH RUNOFF PERIOD. HOWEVER, DURING FLOODING CONDITIONS IN OCT, 1975, THE DISSOLVED MANGANESE COMPRISED ABOUT 10% OF THE TOTAL AT LOW SALINITIES WHILE THIS FRACTION INCREASED RAPIDLY TO ABOUT 90% AT A SALINITY OF 8 PPT. THIS INCREASE IS ATTRIBUTED TO A COMBINATION OF AN ANTHROPOGENIC INPUT OF DISSOLVED MANGANESE NEAR MANHATTAN AND DESORPTION OF MANGANESE FROM PARTICULATE MATTER AT LOW SALINITIES. IN GENERAL, THE SHAPES OF METAL VERSUS SALINITY PLOTS FOR THE OTHER TRACE ELEMENTS INVESTIGATED ARE CONSISTENT ATTHE A THREE-SOURCE MIXING MODEL.

0953 KLINKHAMMER. G.P.

MEASURING METALS IN THE HUDSON RIVER GIVES CLUE TO WATER QUALITY [1977]

MARITIMES 21(4):7-9

A STUDY OF CONCENTRATIONS OF SEVERAL METALS CARRIED ALONG IN THE HUDSON RIVER AS DISSOLVED MATERIAL WAS RECENTLY CONDUCTED TO DETERMINE THE EFFECTS OF THE ANTHROPOGENIC INPUT OF POTENTIALLY HAZARDOUS POLLUTANTS. DISTRIBUTION PATTERNS OF FOUR METALS (MANGAYESE, ZINC, CADMIUM, AND NICKEL) AND TWO NON-METALLIC SUBSTANCES (FLUORIDE AND PHOSPHATE) WERE DETERMINED FROM AVERAGE CONCENTRATIONS AND PLOTTED AGAINST AN ARBITRARY MILE POINT (THE TIP OF MANHATTAN). HOWEVER NOT ALL THE DISSOLVED MATERIAL CAN BE ASSUMED TO BE FROM ANTHROPOGENIC SOURCES. THE PROBLEM WAS TO DISTINGUISH BETWEEN NATURAL AND ANTHROPOGENIC SOURCES AND LEVELS. USING THE DISTRIBUTION PATTERNS IT WAS DETERMINED THAT OF THE SIX SUBSTANCES INVESTIGATED ONLY FLUORIDE OCCURRED AT NEAR NATURAL LEVELS AND THE CONCENTRATIONS OF THEM CONCENTRATIONS OF THESE 5 WERE ESSENTIALLY AT THE SAME LOCATION THE SOURCE UNDOUBTEDLY BEING SEWAGE FROM THE NYC/NJ AREA. THE RESULTS POINT OUT THE IMPORTANCE OF SUCH MEASUREMENTS IN MONITORING THE GUALITY OF WATER RESOURCES.

0954 KNAPP. W.E.

MARINE COMMERCIAL FISHERIES OF NEW YORK STATE: AN ANALYSIS BY GEAR [1974]

M.S. THESIS. SUNY, STONY BROOK, NY 163 PP

THIS STUDY IS THE FIRST DETAILED ANALYSIS OF THE POUND-NET AND OTTER TRAWL FISHERIES FOR FOODFISH IN NY. IT IS INTENDED TO AID IN INTERPRETING HISTORIC TRENDS IN THE MARINE FISHERIES OF NY AND THEIR CAUSES, AND IN FORMULATING AND ENACTING LEGISLATION FOR MANAGEMENT OF THOSE FISHERIES.

0955 KNATZ, G.

SUCCESSION OF COPEPOD SPECIES IN A MIDDLE ATLANTIC ESTUARY [1978]

ESTUARIES 1(1):68-71

A STUDY OF THE SEASONAL SUCCESSION OF DOMINANT COPEPOD &PECIES WAS CONDUCTED DURING THE PERIOD MAY, 1972 TO JUNE, 1973 IN THE NAVESINK RIVER ESTUARY, A TRIBUTARY OF THE NEW YORK BIGHT. THE REPLACEMENT OF THE COPEPOD ACARTIA TONSA BY ACARTIA CLAUSI, A PHENOMENON WELL-DOCUMENTED IN THE MIDDLE ATLANTIC ESTUARIES FOR THE LATE WINTER AND EARLY SPRING SEASONS, WAS NOT OBSERVED DURING THIS STUDY, INDICATING THAT THIS SUCCESSION MAY NOT TAKE PLACE IN THE NAVESINK. INSTEAD, THE MORE BRACKISHWATER CALANOIDS, PSEUDODIAPTOMUS CORONATUS AND EURYTEMORA AFFINIS REPLACED A. TONSA, INCREASING IN NUMBERS MARKEDLY AS THE A. TONSA POPULATION DECLINED. ALTHOUGH A. CLAUSI IS KNOWN TO OCCUR IN TEMPERATURES AND SALINITIES COMPARABLE TO THOSE OF THE NAVESINK, THIS STUDY SUPPORTS THE RESULTS OF YAMIAI (1966) THAT THE OCCURRENCE OF A. CLAUSI IN THE NAVESINK IS A RARITY.

0956 KNEBEL, H.J.; S.A. WOOD

HUDSON RIVER: EVIDENCE FOR EXTENSIVE MIGRATION ON THE CONTINENTAL SHELF DURING THE PLEISTOCENE [1978]

GEOL SOC AM ABSTR PROG 10(7):436

THE MIGRATION OF THE HUDSON RIVER ON THE SUBAERIALLY EXPOSED U.S. ATLANTIC CONTINENTAL SHELF HAS LONG BEEN A MATTER OF CONJECTURE. IT GENERALLY HAS BEEN ASSUMED THAT THE RIVER FOLLOWED THE TOPOGRAPHIC HUDSON SHELF VALLEY DURING TIMES OF GLACIALLY LOWERED SEA LEVEL, YET, AN EXTENSIVE SOUTHWARD DIVERSION OF THE RIVER HAS BEEN POSTULATED ON THE BASIS OF BATHYMETRIC AND MINERALOGIC EVIDENCE. IN 1977, A SET OF MINISPARKER (400-1,200 Hz) ACOUSTIC-REFLECTION PROFILES WAS OBTAINED WITHIN A 50 KM MIDE BAND ACROSS THE CONTINENTAL SHELF JUST SOUTH OF THE HUDSON SHELF VALLEY. 7 OF THESE PROFILES REVEAL A LARGE CHANNEL FILLED WITH 30 TO 47 M OF SEDIEMNTS, WHICH SPLITS FROM THE TOPOGRAPHIC VALLEY BENEATH THE INNER SHELF AND EXTENDS SOUTHEAST FOR AT LEAST 30 KM TO THE MIDDLE SHELF. THE CHANNEL HAS A WIDTH OF 2 TO 17 KM, A RELIEF OF 3 TO 15 M, AND A DISCONTINUOUS AXIAL GRADIENT, ALL FEATURES SIMILAR TO THOSE OF THE HUDSON SHELF VALLEY. VIBRACORES COLLECTED ALONG THE TREND OF THE BURIED VALLEY SHOW THAT INTERBEDDED SAND AND CLAY LAYERS CONSTITUTE THE UPPER PART OF THE SEDIMENTARY FILL. PALEOENVIRONMENTAL INTERPRETATIONS BASED ON FORAMINIFERAL ASSEMBLAGES ALONG WITH RADIOCARBON AGES OF THE SEDIMENTS SUGGEST THAT MOST OF THE FILL ACCUMULATED UNDER EITHER A LAGOONAL OR INNER-SHELF ENVIRONMENT AND PRIOR TO THE LAST TRANSGRESSION OF SEA LEVEL. THESE RESULTS (1) INDICATE THAT THE COURSE OF THE HUDSON RIVER HAS SHIFTED CONSIDERABLY DURING THE PLEISTOCENE, PERHAPS IN RESPONSE TO GLACIOTECTONIC WARPING OF THE CONTINENTAL SHELF, AND (2) DEFINE AN AREA OF THICK HETEROGENEOUS SEDIMENTS THAT MAY POSE A STABILITY PROBLEM FOR OFFSHORE-FACILITY SITING.

0957 KNEBEL, H.J.; S.A. WOOD

HUDSON RIVER: EVIDENCE FOR EXTENSIVE MIGRATION ON THE EXPOSED CONTINENTAL SHELF DURING PLEIS TOCENE TIME [1979]

GEOLOGY 7(5):254-258

ANALYSES OF SEISMIC-REFLECTION PROFILES COLLECTED OFF NJ REVEAL A LARGE BURIED CHANNEL THAT SPLITS FROM THE TOPOGRAPHIC HUDSON SHELF VALLEY BENEATH THE INNER SHELF AND EXTENDS SOUTHWARD FOR AT LEAST 80 KM. THE BURIED VALLEY HAS A FLAT BOTTOM, A WIDTH OF 2 TO 17 KM, AND A RELIEF OF 3 TO 15 M, ALL FEATURES SIMILAR TO THOSE OF THE HUDSON SHELF VALLEY. THE BURIED VALLEY APPARENTLY IS AN ANCESTRAL PATHWAY OF THE HUDSON RIVER THAT HAS BEEN FILLED WITH HETEROGENOUS FLUVIAL DEPOSITS AND CAPPED BY AN ADDITIONAL 10 TO 30 M OF SEDIMENTS. VIBRACORES FROM OVER OR NEAR THE ANCESTRAL VALLEY SHOW THAT INTERBEDDED MARINE SAND AND MUD LAYERS CONSTITUTE THE UPPER PART OF THE SEDIMENTARY FILL. RADIOCARBON AGES, GEOTECHNICAL PROPERTIES, AND MICRO-PALEONTOLOGICAL ANALYSES OF THE CORE SEDIMENTS INDICATE THAT THE VALLEY WAS FORMED AND FILLED SOMETIME PRIOR TO 28,070 YR AGO AND THEN WAS EXPOSED SUBAERIALLY DURING AT LEAST ONE SEA-LEVEL REGRESSION. THESE RESULTS ARE THE FIRST CLEAR SUBBOTTOM EVIDENCE THAT THE ANCESTRAL HUDSON RIVER FLOWED SOUTH OF THE HUDSON SHELF VALLEY ON THE EXPOSED CONTINENTAL SHELF DURING PLEISTOCEYE TIME.

0958 KNEBEL, H.J.

ANOMALOUS TOPOGRAPHY ON THE CONTINENTAL SHELF AROUND HUDSON CANYON [1979]

MAR GEOL 33(3-4):M67-M75

RECENT SEISMIC-REFLECTION DATA SHOW THAT THE TOPOGRAPHY SHELF OFF NJ IS COMPOSED OF A SERIES OF DEPRESSIONS HAVING VARIABLE SPACINGS (<100 M TO 2 KM), DEPTHS (1-10 M), DUTLINES, AND BOTTOM CONFIGURATIONS THAT GIVE THE SEA FLOOR AN ANOMALOUS "JAGGED" APPEARANCE IN PROFILE. THE ACOUSTIC AND SEDIMENTARY CHARACTERISTICS, THE PROXIMITY TO RELICT SHORES, AND THE AREAL DISTRIBUTION INDICATE THAT THIS ROUGH TOPOGRAPHY IS AN EROSIONAL SURFACE FORMED ON UPPER PLEISTOCENE SILTY SANDS APPROXIMATELY 13,000 TO 15,000 YRS AGO BY PROCESSES RELATED TO HUDSON CANYON. THE PRONOUNCED SOUTHWARD EXTENSION OF THE SURFACE, IN PARTICULAR, MAY REFLECT A FORMER INCREASE IN THE LONGSHORE CURRENT EROSION CAPACITY CAUSE BY THE LOSS OF SEDIMENTS OVER THE CANYON. MODERN EROSION OR NONDEPOSITION OF SEDIMENTS HAS PREVENTED THE UBIQUITOUS SAND SHEET ON THE MIDDLE ATLANTIC SHELF FROM COVERING THE SURFACE. THE "ANOMALOUS" TOPOGRAPHY MAY, IN FACT, BE CHARACTERISTIC OF AREAS NEAR OTHER SUBMARINE CANYONS THAT INTERRUPT OR HAVE INTERRUPTED THE LONGSHORE DRIFT OF SEDIMENTS.

0959 KNEIP, T.J.; T. HERNANDEZ; G. RE

CADMIUM IN AN AQUATIC ECOSYSTEM: TRANSPORT AND DISTRIBUTION [1974]

PAGES 279-282 IN NSF--RESEARCH APPLICATIONS TO NATIONAL NEEDS TRACE CONTAMINANTS CONFERENCE, 29-31 AUG 1974. LBL-3217. UNIV OF CA, BERKELEY, CA

A STUDY OF CADMIUM AND NICKEL IN AN AQUATIC SYSTEM BECAUSE OF THE CONTAMINATION OF A MARSH AND COVE ALONG THE EAST SIDE OF THE HUDSON RIVER IN NY IS DESCRIBED. DISCHARGES OF THESE METALS IN WASTE WATERS FROM A NICKEL-CADMIUM BATTERY PLANT HAVE RESULTED IN HIGH CONCENTRATIONS OF THESE METALS IN A LARGE AREA OF SEDIMENTS IN THE COVE.

0960 KNEIP, T.J.; H.I. HIRSHFIELD

CADMIUM IN AN AQUATIC ECOSYSTEM: DISTRIBUTION AND EFFECT [1975]

INST OF ENVIRON MEDICINE, NYU MEDICAL CENTER, TUXEDO PARK, NY 114 PP NTIS-PB-242 180

THIS REPORT IS CONCERNED WITH EVALUATING THE DISTRIBUTION AND EFFECTS OF CADMIUM AND NICKEL RELEASED INTO AN AQUATIC ECOSYSTEM BY LOCAL INDUSTRY. THE STUDY FOCUSED UPON THE FOUNDRY COVE AREA WHICH INCLUDES BOTH A TIDAL MARSH AND AN ASSOCIATED COVE ON THE EAST SIDE OF THE HUDSON RIVER JUST NORTH OF CONSTITUTION ISLAND. THE STUDY PROVIDES DATA REGARDING (1) THE PROCESSES RESULTING IN THE SPREAD OF CONTAMINATION AND (2) PRELIMINARY SYSTEMATIC INFORMATION ON UPTAKE BY BIOTA AND POSSIBLE EFFECTS ON CERTAIN ORGANISMS IN THE ECOSYSTEM.

D961 KNEIP, T.J.; L.L. CIACCIO; R.D. HAMILION; G.F. LEE

INDUSTRIAL SYNTHETIC ORGANIC CHEMICALS SUBPANEL REPORT [1979]

PAGES 48-30 IN J.S. O'CONNER AND H.M. STANFORD, EDS. CHEMICAL POLLUTANTS OF THE NEW YORK BIGHT: PRIORITIES FOR RESEARCH. NOAA, BOULDER, CO

A NUMBER OF THE SYNTHETIC ORGANIC CHEMICALS EXAMMEND BY THE PANEL CANNOT BE CATEGORIZED BY SIMILAR PHYSICAL AND CHEMICAL PROPERTIES AS IN THE CASE OF THE CASE OF THE PESTICIDES. THE PANEL CONCLUDED THAT THE CHEMICALS IN THIS SECTION WERE ALL USED IN LARGE QUANTITIES IN ONE OR ANOTHER PART OF THE INDUSTRIAL SYSTEM, AND THIS COMMON FACTOR WAS USED TO DEFINE THEIR ASSOCIATION. IT IS NOT POSSIBLE TO GENERALIZE FOR THE COMPOUNDS IN THIS SECTION AS TO THEIR CHEMICAL NATURE, TOXICITIES, ENVIRONMENTAL EFFECTS, OR FATES. JUDGEMENTS HAVE BEEN MADE CASE BY CASE ON THE BASIS OF THE OVERALL DATA.

0962 KNEIP, T.J.; H.I. HIRSHFIELD; ET.AL.

CADMIUM IN AN AQUATIC ECOSYSTEM, DISTRIBUTION AND EFFECTS -- SECOND ANNUAL PROGRESS REPORT [1975]

INST OF ENVIRON MEDICINE, NYU MEDICAL CENTER, NEW YORK, NY 102 PP

THE RESULTS OF THE PROGRAM TO DATE HAVE SHOWN THAT THE DREDGING (BY A ROTARY SUCTION DREDGE WITH AN OVERFLOW RETURN FROM THE SPOIL HOLDING AREA) PESULTED IN A GREATER SPREAD OF CONTAMINATION IN THE COVE AND GREATER CONTAMINATION IN PARTICULAR AREAS OF THE COVE. THE METALS SHOW GREATER LABILITY AFTER DREDGING THAN WAS APPARENT PRIOR TO DREDGING. THE MAJOR TRANSPORT FACTORS ARE TIDAL FLOWS, WIND AND WAVES WITH RESULTING RESUSPENSION OF SOLIDS AND SOME RELEASE OF METALS IN DISSOLVED FORM. A NUMBER OF ORGANISMS HAVE BEEN TESTED FOR THE EFFECTS OF CADMIUM, AND FOUND TO SHOW SERIOUS RESPONSES TO 0.1 TO 1 PPM CD IN WATER. IT DOES NOT APPEAR LIKELY THAT THE COMBINATION OF THE CONCENTRATIONS OF DISSOLVED CADMIUM AND EXPOSURE (RESIDENCE) TIMES OF PLANKTONIC ORGANISMS WOULD RESULT IN EFFECTS ON THESE ORGANISMS. DECREASED BENTHIC POPULATION NUMBERS CORRELATE TO INCREASED CADMIUM SEDIMENTS DECREASE THE NUMBERS OF BENTHIC ORGANISMS.

0963 KOCAN, R.M.; M.L. LANDOLT; K.M. SABO

IN VITRO TOXICITY OF EIGHT MUTAGENS/CARCINOGENS FOR THREE FISH CELL LINES [1979]

BULL ENVIRONM CONTAM TOXICOL 23(1-2):269-274

BY USING WELL-ESTABLISHED IN VITRO MAMMALIAN TESTS, DETERMINATION CAN BE MADE OF THE TOXICITY, MUTAGENICITY, AND METABOLIC ALTERATIONS IN AQUATIC ANIMAL CELLS EXPOSED TO KNOWN MUTAGENIC/CARCINGENIC CHEMICALS AND EXTRACTS OF MATERIAL FROM SUSPECT AQUATIC SYSTEMS. THE FOLLOWING 8 MUTAGEN/PROMUTAGENS WERE USED: EMS (METHANESULFONIC ACID OTHYL ESTER (ETHYL METHANESULFONATE)) SIGMA; MNNG (N-METHYL-N1-NITRO-N-NITROSOSGUANIDINE) SIGMA; B(A)P (BENZO (A) PYRENE) EASTMAN KODAK CO; 30H-B (A)P (3-HYDROXY BENZO (A)PYRENE) GIFT; MCA (3-METHYLCHOLANTHRENE) EASTMAN KODAK CO; AA (9-AMINOACRIDINE) GRADE II, SIGMA; AFF (2-ACEIAMIDOFLUORENE) ALDREICH CHEMICAL CO, INC. THE 8 MUTAGENS WERE ADDED TO CULTURE MEDIA OF CELLS OF RAINBOW TROUT (SALMO GAIRDNERI) GONAD, BLUEGILL (LEPOMIS MACROCHIRUS) FRY, AND STEELHEAD TROUT S. GAIRDNERI EMBRYO. TWO DISTINCT RESPONSES WERE OBSERVED--IN THE 1ST, THE NUMBER OF CELLS CONTINUED TO DECLINE IN DIRECT PROPORTION TO THE AMOUNT OF CHEMICAL IN THE MEDIA; IN THE 2ND, RESPONSE WAS ONE OF AN INITIAL REDUCTION IN CELL NUMBER BELOW THE CONTROLS BUT NO FURTHER DECREASE IN CELL NUMBER AS THE MUTAGEN CONCENTRATIONS INCREASED. THIS RESPONSE WAS THE RESULT OF TREATED CELLS NOT DIVIDING, WHILE THE UNTREATED CONTROLS CONTINUED TO REPLICATE. IN GENERAL THE FISH CELLS RESPONDED SIMILARLY TO HUMAN FIBROBLASTS. THE BUEGILL FRY WERE THE MOST SUSCEPTIBLE TO THE TOXIC EFFECTS OF 7 OF THE 8 AGENTS USED.

D964 KOCH. G.

NATIONAL DAM SAFETY PROGRAM. VLY CREEK DAM (NY96), LOWER HUDSON RIVER BASIN, ALBANY COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 178 PP NTIS-AD-A071 974

THE VLY CREEK DAM IS COMPOSED OF A 24.5 FT HIGH AND 338 FT LONG EARTH EMBANKMENT DAM WITH SPILLWAY, AND A 39.5 FT HIGH AND 1720 FT LONG EARTH EMBANKMENT DIKE WITH CONTROL TOWER FOR WATER SUPPLY REGULATION. VISUAL INSPECTION DID NOT REVEAL CONDITIONS THAT ARE CONSIDERED TO BE UNSAFE. THE TOTAL DISCHARGE CAPACITY OF THE SPILLWAY IS ADEQUATE TO PASS HALF THE PROBABLE MAXIMUM FLOOD (PMF) REGARDLESS OF THE FLASHBOARDS. THE SPILLWAY IS ALSO CAPABLE OF DISCHARGING PMF WITHOUT FLASHBOARDS, BUT NOT WITH FLASHBOARDS.

0965 KOCH, G.

NATIONAL DAM SAFETY PROGRAM. SLEEPY HOLLOW DAM (NY 142), LOWER HUDSON RIVER BASIN, GREEN COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 187 PP NTIS-AD-AD64 171

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. SLEEPY HOLLOW DAM WAS JUDGED TO BE SAFE.

0966 KOCH. G.

NATIONAL DAM SAFETY PROGRAM. BATAVIA KILL WATERSHED PROJECT DAM NUMBER 3 (NY608), MOHAWK RIVER BASIN, GREENE COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 71 PP NTIS-AD-A]64 529

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. BATAVIA KILL WATERSHED PROJECT DAM NUMBER 3 WAS JUDGED TO BE SAFE.

0967 KOCH. G.

NATIONAL DAM SAFETY PROGRAM. BATAVIA KILL WATERSHED PROJECT DAM NUMBER 1 (NY615), MOHAWK RIVER BASIN, BATAVIA KILL, GREENE COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 66 PP NTIS-AD-A365 176

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. BATAVIA KILL WATERSHED PROJECT DAM NO. 1 WAS JUDGED TO BE SAFE.

0968 KOCH, G.

NATIONAL DAM SAFETY PROGRAM. BATAVIA KILL WATERSHED PROJECT DAM NUMBER 4A (NY570), MOHAWK RIVER BASIN, GREENE COUNTY, NY. PHASE I INSPECTION REPORT [1979]

NTIS, SPRINGFIELD, VA 80 PP NTIS-AD-AD74 709

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. BATAVIA KILL WATERSHED PROJECT DAM NO. 4A WAS FOUND TO HAVE NO DEFICIENCIES WHICH WOULD RENDER THE DAM LINSAFE.

0969 KOCH, G.

NATIONAL DAM SAFETY PROGRAM. DASHVILLE DAM (NY76), LOWER HUDSON RIVER BASIN, ULSTER COUNTY, NY. PHASE I INSPECTION REPORT

NTIS, SPRINGFIELD, VA 141 PP NTIS-AD-A075 891

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND

ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. DASHVILLE DAM DID NOT REVEAL ANY CONDITIONS WHICH POSE AN IMMEDIATE THREAT TO LIFE OR PROPERTY. ADDITIONAL STRUCTURAL STABILITY ANALYSIS RECOMMENDED. MINOR DEFICIENCIES LIMITED TO CONCRETE SURFACE DETERIORATION. INSUFFICIENT SPILLWAY DISCHARGE CAPACITY FOR PASSING 1/2 OF PMF HAS DEEMED SPILLWAY INADEQUATE.

0970 KOCH. S.G.

PUBLIC PARTICIPATION AND BUREAUCRATIC ACCOUNTABILITY: WATER RESOURCES PLANNING IN NEW ENGLAND [1977]

PH.D. THESIS. UNIV OF MA. AMHERST. MA 345 PP

BECAUSE OF THEIR SPECIALIZED KNOWLEDGE AND POLITICAL SKILLS, ADMINISTRATORS PLAY A MAJOR ROLE IN PUBLIC POLICY-MAKING. THIS STUDY EXAMINES THAT ROLE, WITH EMPHASIS ON ONE POLICY AREA, WATER RESOURCES. HOW CAN PUBLIC BUREAUCRATS, WHO MAY BE MOTIVATED BY A NUMBER OF POLITICAL, ORGANIZATIONAL, PROFESSIONAL AND PERSONAL CONCERNS, BE HELD ACCOUNTABLE, SO AS TO ENHANCE THE CREATION OF RESPONSIBLE PUBLIC POLICIES? THROUGH THE USE OF THREE CASE STUDIES OF WATER RESOURCES PLANNING, ONE APPROACH TO THIS PROBLEM, THAT OF INCREASING PUBLIC PARTICIPATION IN ADMINISTRATIVE ACTIVITIES, IS ASSESSED. ONE INITIAL CONCLUSION IS THAT, OF THE MANY ARGUMENTS ADVANCED, THE MOST SIGNIFICANT ARE THAT PARTICIPATION ENHANCES BOTH DEMOCRACY AND THE QUALITY OF PUBLIC POLICIES. THE SPECIALIZED LITERATURE FOCUSING ON THE TECHNIQUES FOR INVOLVING THE PUBLIC IN WATER RESOURCES PLANNING IS ALSO REVIEWED. AN EXAMINATION OF THREE REGIONAL STUDIES CONDUCTED BY THE NEW ENGLAND RIVER BASINS COMMISSION: THE LONG ISLAND SOUND STUDY, THE SOUTHEASTERN NEW ENGLAND STUDY, AND THE CONNECTICUT RIVER BASIN SUPPLEMENTAL STUDY, FOUND MANY CITIZENS PARTICIPATING THROUGH ELABORATE PROGRAMS EMPLOYING WIDELY-USED TECHNIQUES, SUCH AS ADVISORY GROUPS AND PUBLIC MEETINGS.

0971 KODITSCHEK, L.K.

ANTIMICROBIAL-RESISTANT COLIFORMS IN NEW YORK BIGHT [1974]

MAR POLLUT BULL 5(5):71-74

SEDIMENT SAMPLES AND OVERLYING WATER FROM STATIONS AROUND THE SEWAGE DUMP SITE IN THE NEW YORK BIGHT WERE ANALYZED FOR COLIFORM AND NONCOLIFORM BACTERIA RESISTANT TO MERCURY AND ANTIBIOTICS. FEW OR NO COLIFORMS COULD BE FOUND IN THESE SAMPLES, BUT A POLLUTION GRADIENT WAS IDENTIFIED IN A NORTHEASTERLY DIRECTION, TOWARD LONG ISLAND. ABOUT 1% OF THE SEDIMENT BACTERIA DESORBED WAS CONSISTENTLY RESISTANT TO HGCLZ 1]EXP-3 M AND/OR TETRACYCLINE 40 MCG/ML AT MESA STATION 34. THE ANTIBIOGRAM OF A MAJORITY OF THE ISOLATES FROM THESE SEDIMENTS SHOWED MULTIPLE ANTIBIOTIC RESISTANCE. SEDIMENTS FROM WHICH ANTIMICROBIAL RESISTANT BACTERIA WERE ISOLATED HAD HIGH BOUND WATER CONTENT, MUCH DEBRIS, LITTLE OR NO EVIDENCE OF NORMAL BENTHIC MACROFAUNA AND A BLACK, GELATINOUS CONSISTENCY. IN CONTRAST, SEDIMENT TAKEN FROM THE SANDY HOOK TRANSECT SHOWED NO RESISTANT BACTERIA. AND DEMONSTRATED NO OTHER PARAMETERS RELATED TO POLLUTION. ANALYSIS OF WATER AND SEDIMENTS CONTAINING VERY SMALL NUMBERS OF COLIFORMS FROM A BEACH AT SANDY HOOK STATE PARK REVEALED A SIGNIFICANT NUMBER OF BACTERIA RESISTANT TO SEVEN OR MORE ANTIBIOTICS. THESE DATA SUGGEST THAT TECHNIQUES USED IN THESE STUDIES MAY DETECT POLLUTION GRADIENTS WHICH ARE NOT MEASUREABLE BY COLIFORM COUNTS.

0972 KODITSCHEK, L.K.

ANTIMICROBIAL RESISTANT BACTERIA IN THE NEW YORK BIGHT [1976]

PAGES 383-393 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV, 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG. ALLEN PRESS, LAWRENCE, KS

SEDIMENT SAMPLES AND OVERLYING WATER FROM STATIONS AROUND THE SEWAGE DUMP SITE IN THE NEW YORK BIGHT WERE ANALYZED FOR COLIFORM AND NONCOLIFORM BACTFRIA RESISTANT TO MERCURY AND ANTIBLOTICS. FEW OR NO COLIFORMS COULD BE FOUND IN THESE SAMPLES, BUT A POLLUTION GRADIENT WAS IDENTIFIED IN A NORTHEASTERLY DIRECTION, TOWARD LONG ISLAND. ABOUT 1% OF THE SEDIMENT BACTERIA DESORBED

WAS CONSISTENTLY RESISTANT TO HGCL2 10EXP-3 M AND/OR TETRACYCLINE 40 MCG/ML AT MESA STATION 34. THE ANTIBIOGRAM OF A MAJORITY OF THE ISOLATES FROM THESE SEDIMENTS SHOWED MULTIPLE ANTIBIOTIC RESISTANCE. SEDIMENTS FROM WHICH ANTIMICROBIAL RESISTANT BACTERIA WERE ISOLATED HAD HIGH BOUND WATER CONTENT, MUCH DEBRIS, LITTLE OR NO EVIDENCE OF NORMAL BENTHIC MACROFAUNA AND A BLACK, GELATINOUS CONSISTENCY. IN CONTRAST, SEDIMENT TAKEN FROM THE SANDY HOOK TRANSECT SHOWED NO RESISTANT BACTERIA, AND DEMONSTRATED NO OTHER PARAMETERS RELATED TO POLLUTION. ANALYSIS OF WATER AND SEDIMENTS CONTAINING VERY SMALL NUMBERS OF COLIFORM A BEACH AT SANDY HOOK STATE PARK REVEALED A SIGNIFICANT NUMBER OF BACTERIA RESISTANT TO SEVEN OR MORE ANTIBIOTICS. THESE DATA SUGGEST THAT TECHNIQUES USED IN THESE STUDIES MAY DETECT POLLUTION GRADIENTS WHICH ARE NOT MEASURABLE BY COLIFORM COUNTS.

0973 KOEBEL, C.T.; D.A. KRUECKEBERG

DEMOGRAPHIC PATTERNS IN THE NEW YORK DIGHT REGION [1975]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 23. NYSG. ALBANY. NY 43 PP

ATLAS MONOGRAPH 23 SUMMARIZES WHAT WE PRESENTLY KNOW AND CAN PREDICT ABOUT BIGHT REGION POPULATION. THE REGION'S EARLY AND INTIMATE TIES WITH THE PORT OF NEW YORK BROUGHT TRADE, PROSPERITY, AND MANY PEOPLE, WHO HAVE BEEN MIGRATING INTO BIGHT REGION CITIES SINCE THE EARLY 1800S. THE AUTHORS DESCRIBE THE STRONG URBAN PATTERN OF PEOPLE WORKING IN A LOCATION DIFFERENT FROM THE ONE THEY LIVE IN, AND THE PATTERN OF POPULATION EXPANSION INTO SUCCESSIVE OUTER RINGS. PROJECTIONS SUGGEST A STABILIZING POPULATION IN THE NORTHEAST AS A WHOLE, BUT MAJOR INCREASES IN SUBURBAN COUNTIES, 60% OF THEM DIRECTLY ON THE OCEAN, HARBOR, AND ESTUARIES.

0974 KOLITZ, B.L.; J.B. HAZELWORTH; R.B. STARR; S.R. CUMMINGS

MESA NEW YORK BIGHT PROJECT, EXPANDED WATER COLUMN CHARACTERIZATION CRUISES (XWCC-4~5), NOAA SHIP KELEZ, MAY-JUN 1975 [1976]

DR-ERL-MESA-24. NOAA, BOULDER, CO 23 PP NTIS-PB-271 400

DURING THE PERIOD MAY-JUNE 1975, TWO OCEANOGRAPHIC CRUISES, DENOTED XWCC 4 AND 5, WERE MADE BY THE NOAA SHIP KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISES WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED PHYSICAL DATA FROM THESE CRUISES.

0975 KOLITZ, B.L.; J.B. HAZELWORTH; R.B. STARR; G.A. BERBERIAN; S.R. CUMMINGS

NEW YORK BIGHT PROJECT, EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC-7), NOAA SHIP GEORGE B. KELEZ, DEC 1975 [1976]

DR-ERL-MESA-26. NOAA, BOULDER, CO 122 PP NTIS-PB-271 402

DURING THE PERIOD 3-8 DEC 1975, AN OCEANOGRAPHIC CRUISE WAS MADE BY THE NOAA SHIP KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER MOVEMENTS IN THE HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE.

0976 KOLLMEYER, R.C.; M.E. THOMPSON

NEW YORK HARBOR OIL DRIFT PREDICTION MODEL [1977]

PAGES 441-445 IN J.O. LUDWIGSON, ED. PROC, 1977 OIL SPILL CONF (PREVENTION, BEHAVIOR, CONTROL, CLEANUP), NEW ORLEANS, LA, 8 MAR 1977. AM PETROLEUM INST, WASHINGTON, DC

AN OPERATIONAL PREDICTIVE OIL SLICK MOVEMENT MODEL IS DEVELOPED AND APPLIED TO NEW YORK HARBOR. THIS COMPUTER SIMULATION EMPLOYS HOURLY TIDAL CURRENTS FOR ALL STAGES OF THE TIDE AS INPUT DATA, COMBINED WITH RIVER FLOW AND CONTINUOUS WIND DATA TO PREDICT OIL SLICK MOVEMENT. SLICK SPREADING AND TRANSPORT IS ACCOMPLISHED USING A CONSERVATIVE FORM OF THE DIFFUSION/ADVECTION EQUATION. THE SHAPE OF THE SLICK AS WELL AS ITS POSSIBLE SEPARATION INTO MULTIPLE SLICKS DUE TO CURRENT DIVERGENCE IS PREDICTED. TIME STEPS ON THE ORDER OF THREE MIN AND GRID SPACING OF 200 M ALLOW SHORT TERM, SMALL SCALE SLICK POSITION AND SHAPE PREDICTIONS TO FACILITATE QUICK RESPONSE FOR LOCATION OF SITES FOR CONTAINMENT OR CLEANUP ACTIVITIES. HINDCASTING FEATURES ALLOW FOR POSSIBLE SOURCE LOCATION OF THE INITIAL SPILL.

0977 KONOP, D.

MONITORING OCEAN DUMPING [1978]

SEA TECHNOL 19(10):26-28

THE US NATIONAL OCEAN SURVEY'S (NOS) OCEAN DUMPING PROGRAM IS A SERIES OF OCEAN DUMPING FIELD STUDIES BEING CARRIED OUT AROUND THE US COASTS. BEFORE THE EFFECTS OF WASTE DUMPING CAN BE UNDERSTOOD, A COMPLETE PICTURE OF THE PHYSICAL, CHEMICAL, BIOLOGICAL AND GEOLOGICAL CHARACTERISTICS OF THE DUMPSITE AREA MUST BE DEVELOPED. LEVELS OF HEAVY AND TRANSITION METALS AND DTHER WASTES AT A SITE ARE MEASURED; WATER TEMPERATURE AND SALINITY ARE MEASURED TO DETERMINE DENSITY LAYERS; CURRENT PATTERNS ARE ANALYZED TO DEVELOP PATTERNS OF SURFACE AND SUBSURFACE WATER MOVEMENT; AND SAMPLES OF THE DUMPING AREA'S PLANT AND ANIMAL LIFE ARE COLLECTED TO IDENTIFY THE TYPES OF DISTRIBUTION OF THE AREA'S BIOTA. ONCE A SITE HAS BEEN CHARACTERIZED, IT MUST THEN BE 'MONITORED TO DETECT ANY ADVERSE EFFECTS FROM DUMPING. HOWEVER, SINCE SITE MONITORING MAY BE REQUIRED ON A MONTHLY BASSIS OVER A PERIOD OF SEVERAL YEARS, AND THE SHIP TIME CAN RUN AS HIGH AS SEVERAL THOUSAND DOLLARS A DAY, OTHER MONITORING METHODS, SUCH AS REMOTE AERIAL SENSING AND MOORED AND FREE-FLOATING SENSORS, ARE BEING INVESTIGATED. HORK BEING UNDERTAKEN AROUND THE NEW YORK BIGHT, THE DEEPWATER DUMPSITE 106, PUERTO RICO, AND THE GULF OF MEXICO ARE DISCUSSED.

0978 KONTROVITZ, M.

HOLOCENE OSTRACODS FROM GREAT BAY, NEW JERSEY, UNITED STATES [1977]

REVISTA ESPANOLA DE MICROPALEONTOLOGIA 10(1):27-46

A HOLOCENE OSTRACOD FAUNA WAS COLLECTED FROM A NJ ESTUARY AND THE TAXONOMY AND DISTRIBUTION ARE DISCUSSED. THE STUDY REPRESENTS A CONTRIBUTION TO THE KNOWLEDGE OF OSTRACODS FROM THE EASTERN US; PREVIOUSLY THE COASTAL AREA FROM RI TO DE WAS NEGLECTED IN THIS REGARD. THE FAUNA IS UNLIKE THOSE OF OTHER MIDDLE-LATITUDE ESTUARIES AND IS COMPOSED OF 20 SPECIES THAT REPRESENT 14 GENERA. LEPTOCYTHERE DOMURATI IS DESCRIBED AS NEW. INDIVIDUAL SPECIES AND BIOFACIES (DELINEATED BY CLUSTER ANALYSIS) WERE COMPARED TO VARIOUS ENVIRONMENTAL FACTORS SUCH AS WATER DEPTH, SALINITY AND THE COMPOSITION OF THE SEDIMENT. ONE BIOFACIES, COMPOSED OF LOXOCONCHA GRANULATA AND CYTHEROMORPHA WARNERI NEWPORTENSIS WAS CORRELATED SIGNIFICANTLY TO THE PERCENT OF SAND IN THE SEDIMENT. OTHER PIOFACIES SHOWED A TENDENCY TO BE RELATED TO WATER DEPTH AND THE ORGANIC CONTENT OF THE SEDIMENT.

0979 KOONS, C.B.; J.P. THOMAS

C15+ HYDROCARBONS IN THE SEDIMENTS OF THE NEW YORK BIGHT [1979]

PAGES 625-623 IN PRQC, 1979 OIL SPILL CONF (PREVENTION, BEHAVIOR, CONTROL, CLEANUP), LOS ANGELES, CA, MARCH 19-22, 1979. AM PETROLEUM INST, WASHINGTON, DC

THE PURPOSE OF THIS STUDY WAS TO DOCUMENT THE DISTRIBUTION AND ABUNDANCE OF C15+ HYDROCARBONS IN SEDIMENT SAMPLES TAKEN FROM THE HUDSON RIVER, THE NEW YORK HARBOR, AND ACROSS THE CONTINENTAL SHELF TO THE CONTINENTAL RISE. COLLECTION OF 35 OF THESE SAMPLES TOOK PLACE IN 1975-76 USING A MULTIPLE CORER, A BOTTOM GRAB, OR THE SUBMERSIBLE ALVIN. MATERIALS ORTAINED FROM THESE AREAS WERE CONSIDERED REPRESENTATIVE AND INCLUDED DREDGE SPOILS, SEWAGE SLUDGE, AND SEDIMENT FROM BOTH THE DEEPWATER DUMPSITE

106 ON THE CONTINENTAL RISE AND THE COMPARATIVELY CLEANER SEA FLOOR OF THE CONTINENTAL SHELF BEYOND THE APEX OF THE NEW YORK BIGHT. TOTAL C15+ HYDROCARBONS ARE MOST ABUNDANT (3000-6000 PPM) IN AREAS HIGHLY IMPACTED BY MAN--HARBOR SEDIMENTS AND DREDGE SPOIL AND SEWAGE SLUDGE DISPOSAL AREAS. VALUES FROM THE CONTINENTAL RISE ARE LOWEST (40 PPM). GAS CHROMATOGRAPHIC TRACES CLEARLY DISTINGUISH THE HYDROCARBONS IN THE DREDGE SPOIL AND SEWAGE SLUDGE SEDIMENT SAMPLES FROM THE HYDROCARBONS FROM THE HYDROCARBONS FOUND IN SEDIMENT SAMPLES RELATIVELY FREE OF SLUDGE OR SPOIL MATERIALS.

U980 KOOPMAN. R.C.

A BENTHIC MACROFAUNA STUDY OF FLAX POND, OLD FIELD, NEW YORK [1973]

M.S. THESIS. SUNY. STONY BROOK, NY 80 PP

BENTHIC MACROFAUNAL AND SEDIMENT SAMPLES WERE TAKEN FROM 32 STATIONS IN FLAX POND, A TIDAL POND IN OLD FIELD, NY, FROM DEC 26TH TO THE 29TH, 1972. CONCENTRATIONS OF ORGANISMS RANGED UP TO 132,300/M2 AND WET WEIGHT BIOMASS UP TO 551 G/M2. THE AVERAGE DENSITY OF ORGANISMS AND AVERAGE BIOMASS WERE 12,800/M2 AND 140 G/M2 RESPECTIVELY. THE NUMERICALLY DOMINANT FORMS WERE A GASTROPOD HYDROBIA TOTTENI AND A PELECYPOD GEMMA GEMMA. A SEDIMENT MAP WAS CONSTRUCTED FOR THE CHANNEL AREAS OF THE POND. A STATISTICAL TEST OF ASSOCIATION WAS USED TO FIND ASSOCIATIONS BETWEEN SPECIES DISTRIBUTION AND PERCENT SILT PLUS CLAY, PERCENT CLAY, AND PERCENT LOSS ON IGNITION OF THE SEDIMENT. RELATIONSHIPS BETWEEN FEEDING TYPES AND PERCENT SILT PLUS CLAY AND PERCENT LOSS ON IGNITION WERE DEMONSTRATED. NO STRONG CORRELATION WAS FOUND BETWEEN SUMMER DISSOLVED OXYGEN CONCENTRATIONS AND WINTER FAUNAL ASSEMBLAGES. SPECIES DIVERSITY WAS FOUND TO BE HIGHEST IN AREAS WHERE THE SEDIMENT WAS STABILIZED BY A LARGE NUMBER OF POLYCHAETE TUBES.

0981 KOPPELMAN, L.E.

INTEGRATION OF COASTAL ZONE SCIENCE AND REGIONAL PLANNING [1974]

PAGES 17-40 IN PART ONE: THE MARINE SETTING. PRAEGER PUBL, NEW YORK, NY

IN THIS REPORT THE PHYSICAL AND BIOLOGICAL PROPERTIES OF COASTAL FRONTS, INCLUDING ESTUARINE FRONTS IS DISCUSSED. AN ASSESSMENT IS MADE OF THE PRESENT STATE OF SCIENTIFIC KNOWLEDGE, WHAT ARE THE SIGNIFICANT ENVIRONMENTAL IMPLICATIONS, WHAT ARE THE MOST IMPORTANT AREAS UPON WHICH TO FOCUS FUTURE RESEARCH, AND WHAT RESOURCES WILL BE NEEDED TO ATTAIN THOSE GOALS.

0982 KOPPELMAN, L.E.; P. CHENEY; D.S. DAVIES; A. KUNZ; G. LINZEE

METHODOLOGY TO ACHIEVE THE INTEGRATION OF COASTAL ZONE SCIENCE AND REGIONAL PLANNING: DETAILED WORK PROGRAM [1974]

HUD, WASHINGTON, DC. 116 PP NTIS-PB-300 064

A METHODOLOGY DESIGNED BY THE NASSAU REGIONAL PLANNING BOARD AND REGIONAL MARINE RESOURCES COUNCIL FOR MANAGING THE DEVELOPMENT OF THE NASSAU-SUFFOLK REGION USING A LAND USE PLAN INTEGRATED WITH ELEMENTS OF COASTAL ZONE SCIENCE IS PRESENTED. THE METHODOLOGY BEGINS WITH A DESCRIPTION OF THE LONG ISLAND REGION (ITS HISTORY, PHYSICAL CHARACTERISTICS, WETLANDS, DREDGING HISTORY, EELGRASS AND POLLUTION PROBLEMS, AND MARINE-RELATED ECONOMY) AND THEN TURNS TO A DISCUSSION OF THE NASSAU-SUFFOLK REGIONAL COMPREHENSIVE PLAN. THE PLAN HAS THESE MAJOR CONCEPTS: CORRIDORS, BROAD RESIDENTIAL AREAS ALONG THE NORTH AND SOUTH SHORES SERVED BY HIGHWAYS AND RAILWAYS AND IN REACH OF CENTRAL EMPLOYMENT AND TRANSPORTATION; CLUSTERS, NEW RESIDENTIAL AREAS INCLUDING STACKED MOFILE HOMES, HIGH RISE APARTMENTS, AND GARDEN APARTMENTS; AND CENTERS, EXTENSIONS OF CLUSTERING AND THE FOCUS OF EMPLOYMENT, EDUCATION, TRANSPORTATION, SPECIAL SERVICES, SHOPPING, AND RECREATION ACTIVITY. THE LAND USE PLAN PROPOSES AREAS FOR PUBLIC ACQUISITION TO BE USED AS PARKS OR CONSERVATION REGIONS AND PROTECTION OF WEILANDS, WATERWAYS, AND SEASHORES. THE METHODOLOGY ITSELF CONSISTS OF NINE TASKS. AN INVENTORY OF LAND USES AND ACTIVITIES WILL BE MADE, AND THE IMPACTS OF LAND USE ON THE MARINE ENVIRONMENT WILL BE ASSESSED. A SUITABLE PROGRAMING MODEL, DEVELOPMENT DESIGN, AND SYSTEM FOR CLASSIFYING LARGE AMOUNTS OF DATA WILL BE SELECTED. ALTERNATIVE TYPES OF DEVELOPMENT PLANS MUST BE FORMED, SUBJECTED TO ECONOMIC AND

POLITICAL EVALUATION, AND ASSESSED FOR TRANSFERABILITY. ADMINISTRATIVE AND INSTITUTIONAL STRUCTURES WILL BE IDENTIFIED AND THE ENTIRE PROJECT WILL BE DOCUMENTED. MAPS. A GLOSSARY, ILLUSTRATIONS OF COMPONENTS. AND AN ANNOTATED BIBLIOGRAPHY ARE PROVIDED.

0983 KOPPELMAN, L.E.; P.K. WEYL; M.G. GROSS; D.S. DAVIES

THE URBAN SEA: LONG ISLAND SOUND [1976]

DESIGN/ENVIRON PLANNING SER. PRAEGER PUBL, NEW YORK, NY 223 PP

THE "URBAN SEA" BEGINS WITH THE GEOLOGICAL FORMATION OF THE SOUND, CONTINUES THROUGH THE HISTORY OF THE DEVELOPMENT OF THE REGION AND ENDS WITH A DISCUSSION OF THE EFFORTS BY CITIZENS IN THE AREA TO PERFECT A MORE RATIONAL APPROACH TO THE MANAGEMENT OF RESOURCES IN THE AREA. THE VARIOUS FUNCTIONS THAT THE SOUND PERFORMS AND THEIR IMPACTS ON THE QUALITY OF THE WATER ARE CAREULLY REVIEWED.

0984 KOSKI, R.T.

SINISTRALITY AND ALBINISM AMONG HOGCHOKERS IN THE HUDSON RIVER [1974]

NY FISH GAME J 21(2):186-187

IN A LIFE HISTORY AND ECOLOGICAL STUDY OF THE HOGCHOKER IN THE HUDSON RIVER IN NY, 1 TOTALLY AND 2 PARTIALLY ALBINISTIC SPECIMENS WERE OBSERVED AMONG SOME 3000 INDIVIDUALS COLLECTED FROM 1969-1971. THESE 3 SPECIMENS APPEARED TO BE OTHERWISE COMPLETELY NORMAL IN THEIR EXTERNAL MORPHOLOGY. THESE ABNORMALITIES MAY BE INDUCED GENETICALLY OR EPIGENETICALLY, OR THEY MAY BE CAUSED BY INJURY DURING EARLY LIFE STAGES. THESE CONDITIONS ARE NOT NECESSARILY GENETICALLY CONTROLLED, BUT MAY BE INFLUENCED BY THE ENVIRONMENT. GREATER ENVIRONMENTAL VARIABILITY EXISTS IN THE NORTHERN RANGE OF THE HOGCHOKER AND MAY BE RELATED TO THE GREATER FREQUENCIES OF SINISTRALITY AND ALBINISM. THE HUDSON RIVER APPEARS TO SUPPORT THE LARGEST NORTHERN POPULATION OF THIS SPECIES.

0985 KOSKI, R.T.

AGE. GROWTH, AND MATURITY OF THE HOGCHOKER, TRINECTES MACULATUS. IN THE HUDSON RIVER, NEW YORK [1978]

TRANS AM FISH SOC 107(3):449-453

BIOLOGICAL STUDIES OF THE HOGCHOKER, T. MACULATUS, WERE CONDUCTED IN THE LOWER HUDSON RIVER, NY. SCALES WERE FORMED ON INDIVIDUALS BY THE TIME THEY WERE 10 MM TOTAL LENGTH. ANNULUS FORMATION OCCURRED BETWEEN APR AND JUN, AND FALSE ANNULI WERE NOTED OCCASIONALLY. GROWTH OF T. MACULATUS WAS RAPID DURING THE FIRST 2 YRS OF LIFE. FEMALES GREW LARGER AND OLDER THAN MALES, BUT SEXUAL MATURITY OCCURRED AS EARLY AS 2 YRS OF AGE FOR BOTH SEXES. THE SEX RATIO WAS 1:1 AND MAJOR SPAWNING OCCURRED IN MIDSUMMER. THE LENGTH-WEIGHT RELATIONSHIPS OF MALE AND FEMALE HOGCHOKERS DID NOT DIFFER SIGNIFICANTLY AND THE RESULTING EQUATION FOR 2.692 SPECIMENS WAS W = 0.015108 LEXP-3.10845., WHERE W = WEIGHT (G) AND L = TOTAL LENGTH (MM). FISH LENGTH AT TIME OF ANNULUS FORMATION WAS SIMILAR TO THAT REPORTED FOR PATUXENT RIVER, MD, SPECIMENS. SIZE AT MATURITY MAY OCCUR EARLIER AND SPAWNING EACH YEAR MAY OCCUR OVER A LONGER PERIOD OF TIME FOR HOGCHOKERS IN THE HUDSON RIVER COMPARED TO INDIVIDUALS IN MID-AILANTIC COASTAL AREAS.

0986 KOSTUK, R.K.

EVALUATION OF SOLAR PHOTOVOLTAIC ARRAYS FOR USE ON MARINE AIDS TO NAVIGATION. FINAL REPORT. MAY 1974-JULY 1978 [1979]

USCG RESEARCH & DEVELOP CENTER, GROIDN, CT 32 PP NTIS-AD-074 893

DURING THE PERIOD FROM MAY 1974 TO JULY 1978, FOUR TEST AND EVALUATION PROGRAMS OF SOLAR PHOTOVOLTAIC ARRAYS WERE CONDUCTED TO EVALUATE THE POTENTIAL OF THESE ENERGY SOURCES FOR USE ON MARINE AIDS TO NAVIGATION. ARRAY TESTING CONSISTED OF: LONG-TERM ROOFTOP EXPOSURE; FIELD DEPLOYMENT OF BUOYS IN AK, FL, AND MA; FIELD DEPLOYMENT ON BUOYS IN LONG ISLAND SOUND; AND INITIAL DEVELOPMENT OF A SCREENING TEST TO EVALUATE PERFORMANCE IN A SHORT TIME FRAME. THE RESULTS OF THESE TESTS ARE PRESENTED.

0987 KOUTSOFTAS, D.C.; J.A. FISCHER; J.T. DETTE; H. SINGH

EVALUATION OF THE VIBRACORER AS A TOOL FOR UNDERWATER GEOTECHNICAL EXPLORATIONS. [1976]

PAGES 107-121 IN 8TH ANN OFFSHORE TECHNOLOGY CONFERENCE, DALLAS, TX. VOL 3.

THE VIBRACORER WAS USED EXTENSIVELY FOR UNDERWATER CORING AS PART OF THE FULL RANGE OF GEOTECHNICAL EXPLORATIONS FOR AN OFFSHORE FLOATING NUCLEAR POWER PLANT, LOCATED 2.3 MI OFF THE COAST OF NU WITH WATER DEPTHS OF 30 TO 40 FT. EXPERIENCES GAINED WITH THE VIBRACORER ARE DESCRIBED AND EVALUATED AS THEY RELATE TO STRATIGRAPHY. THE QUALITY OF SAMPLES OBTAINED WITH THE VIBRACORER ARE DESCRIBED AND EVALUATED AS THEY RELATE TO STRATIGRAPHY. THE QUALITY OF SAMPLES OBTAINED WITH THE VIBRACORE SAMPLES OF TWO MEDIUM STIFF TO STIFF HOLECENE CLAYS, TO THE RESULTS OF SIMILAR TESTS ON "UNDISTURBED" SAMPLES OBTAINED IN TEST BORINGS DRILLED FROM A JACK-UP PLATFORM. THE VIBRACORER IS FOUND TO PROVIDE USEFUL SUPPLEMENTARY STRATIGRAPHIC INFORMATION WHEN USED IN CONJUNCTION WITH OTHER METHODS OF UNDERWATER SAMPLING. VIBRACORE SAMPLES, HOWEVER, ARE SEVERELY DISTURBED. UNDRAINED STRENGTH TESTS ON SUCH SAMPLES UNDERESTIMATE IN-SITU SHEAR STRENGTHS BY AS MUCH AS A FACTOR OF TWO. TRIAXIAL TESTS ON VIBRACORE SAMPLES OF A LEAN SENSITIVE MEDIUM STIFF (LAY (CL) AND A STIFF PLASTIC CLAY (CH), WHICH WERE RECONSOLIDATED IN THE LABORATORY TO STRESSES GREATER THAN THE MAXIMUM PAST PRESSURE, WERE FOUND TO GIVE REASONABLE ESTIMATES OF EFFECTIVE STRESS-STRENGTH PARAMETERS. THE RESULTS OF THESE TESTS WERE ALSO FOUND TO GIVE REASONABLE ESTIMATES OF NORMALIZED UNDRAINED SHEAR STRENGTHS, SU/ANTI SIGMA, FOR THE NORMALLY CONSOLIDATED STATE; HOWEVER, THE MEASURED VALUES WERE SLIGHTLY HIGHER THAN CORRESPONDING VALUES OBTAINED FROM TRIAXIAL TESTS ON "UNDISTURBED" SAMPLES.

0988 KOUTSOFTAS, D.C.; J.A. FISCHER

IN-SITU UNDRAINED SHEAR STRENGTH OF TAO MARINE CLAYS [1976]

ASCE J GEOTECH ENG DIV 102(9):989-1005

FIELD TESTING WAS PERFORMED AT AN OFFSHORE SITE APPROX 2.8 MI (4.5 KM) FROM THE NJ COAST, WITH WATER DEPTHS OF 35 FT TO 5 FT (10.7 TO 1.5 M) TO EVALUATE THE UNDRAINED STRENGTH OF TWO RELATIVELY YOUNG (8,000 YR OLD) COHESIVE MARINE SOILS; A STIFF PLASTIC CLAY AND A MEDIUM-STIFF, LEAN, SLIGHTLY SENSITIVE CLAY. NUMEROUS CONSOLIDATION TESTS INDICATE THAT THE RELATIVELY YOUNG HOLECENE SEDIMENTS ARE PRECOMPRESSED RESULTING IN OVERCONSOLIDATION RATIOS RANGING FROM 3.5 TO 6 FOR THE PLASTIC CLAY AND BETWEEN 5 AND 25 FOR THE SILTY CLAY. THE NORMALIZED UNDRAINED SHEAR STRENGTH S(U)/SIGMA(VO) FROM UUC TESTS AND FIELD VANE TESTS WERE CORRELATED WITH THE OVERCONSOLIDATION RATIOS OF THESE SEDIMENTS AND COMPARED WITH THE RESULTS OF K(O)-CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION AND DIRECT-SIMPLE SHEAR TESTS.

0989 KRAUSE, C.

HUDSON RIVER POWER CASE: OAK RIDGE SCIENTISTS PLAY A ROLE [1979]

ORNL REVIEW 12(1):26-34

ISSUES INVOLVED IN THE HUDSON RIVER POWER CASE ARE REVIEWED, AND THE ROLE OF OAK RIDGE NATIONAL LABORATORY (ORNL) ECOLOGISTS IN HELPING TO RESOLVE THE ISSUES IS SUMMARIZED. OF PRIME CONCERN IS THE EFFECT OF THE PROPOSED PUMPED-STORAGE HYDROELECTRIC PLANT NEAR CORNWALL ON THE HUDSON RIVER ON THE TRADITIONAL HABITAT FOR THE ATLANTIC OCEAN STRIPED BASS. POSITIONS DRAWN BY THE UTILITY INVOLVED AND THE EPA ARE OUTLINED.

0990 KRAUSER, R.F.; N.K. COCH

SEDIMENT DYNAMICS AND TEXTURAL FACIES IN THE BRIGANTINE INLET AREA. NEW JERSEY [1978]

GEOL SOC AM ABSTR PROG 10(2):72

THE BRIGANTINE AREA OF SOUTHERN NJ INCLUDES FLOOD AND EÐB TIDAL CHANNELS, AN EÐB DELTA, TRANSVERSE BAR, AND RIDGE AND SWALE TOPOGRAPHY. THESE FEATURES CONSIST OF DISTINCTIVE SEDIMENTS WHOSE SIZE DISTRIBUTION ARE CHARACTERIZED BY DIFFERENCES IN GRAIN SIZE PARAMETERS AND BY DIFFERENCES IN TRANSPORT POPULATIONS DERIVED FROM PROBABILITY CURVE DISSECTIONS. MORPHOLOGY AND SEDIMENT GRAIN SIZE PARAMETERS, TOGETHER WITH HISTORICAL SHORELINE CHANGES, SURFICIAL SEDIMENTARY STRUCTURES, AND INFORMATION ABOUT CURRENT PATTERNS WERE USED TO INFER SEDIMENT DYNAMICS IN THE AREA. BRIGANTINE INLET IS SEDIMENT STARVED AS IT RECEIVES ONLY A SMALL AMOUNT OF RELATIVELY FINE SEDIMENT MOSTLY BY DOWNCOAST (SOUTHWEST) LONGSHORE DRIFT. THE SEDIMENT IS THEN REWORKED BY EÐB AND FLOOD TIDAL CURRENTS. MUCH OF THE SEDIMENT TRANSPORTED OUT OF THE INLET BY THE EÐB CURRENT IS DEPOSITED AS AN EÐB DELTA. THE EÐB CURRENT IS DIVERTED TO THE SOUTH BY INTERACTION WITH THE SOUTHWEST FLOWING LONGSHORE CURRENT, MAKING THE DELTA ASYMMETRIC. THE EÐB DELTA AND A SHALLOW TRANSVERSE BAR AT ITS SEAWARD EDGE, SERVE TO SHIELD THE INLET AREA FROM FULL DESTRUCTIVE EFFECTS OF NORTHEAST GENERATED STORM WAVES. SEAWARD OF THE DELTA, NEARSHORE AREA SEDIMENT SHOWS A BIMODAL DISTRIBUTION, SUGGESTING THE MIXING OF A FINE GRAINED LONGSHORE CURRENT TRANSPORTED FRACTION WITH A COARSER GRAINED WAVE TRANSPORTED ONE. THE SOUTHERN PART OF THE STUDY AREA INCLUDES RIDGE AND SWALE TOPOGRAPHY, WHICH IS CHARACTERISTIC OF THE INNER CONTINENTAL SHELF. SEDIMENT DISTRIBUTION HERE IS STRONGLY RELATED TO BATHYMETRY, AND LITTLE OF THIS SEDIMENT IS TRANSPORTED INTO THE INLET AREA.

0991 KRAYBILL, H.F.; C.J. DAWE; J.C. HERSHBERGER; R.G. TARDIFF (EDITORS)

AQUATIC POLLUTANTS AND BIOLOGIC EFFECTS WITH EMPHASIS ON NEOPHASIA [1977]

NY ACAD SCI, NEW YORK, NY 604 PP

THE REALIZATION THAT NEOPLASMS ARE OCCURRING IN FINFISH AND SHELLFISH AND THAT A TUMOR INCIDENCE MAY APPEAR TO BE ASSOCIATED WITH THE EXTENT OF POLLUTION INTRODUCES A NEW DIMENSION FOR EXPLORATION AS TO THE SIGNIFICANCE OF SUCH OBSERVATIONS IN TERMS OF HUMAN CANCER. THUS, GENERAL POLLUTION OR POINT SOURCE CONTAMINATION MAY BE VIEWED WITH RESPECT TO OBSERVATIONS IN TERMS OF HUMAN CANCER. THUS, GENERAL POLLUTION OR POINT SOURCE CONTAMINATION MAY BE VIEWED WITH RESPECT TO OBSERVATIONS IN THE MOODER SENSE, THESE OBSERVATIONS MAY BE THE PRESUMPTIVE EVIDENCE FOR PROPOSING CAUSAL RELATIONSHIPS IN MAN, THE AQUATIC ENVIRONMENT, AND POTABLE WATER SUPPLIES. BIOREFRACTORIES HAVE BEEN IDENTIFIED. THEY HAVE BEEN QUANTIFIED IN MUNICIPAL WATER SUPPLIES, AND MANY SUCH CHEMICALS ARE KNOWN OR SUSPECT CARCINOGENS. CURRENTLY, WE CANNOT DETERMINE TO WHAT EXTENT SUCH CARCINOGENIC BIOREFRACTORIES IN DRINKING WATER AND IN FOODS PROCESSED IN WATER, AND THE CARCINOGENIC CONTAMINANTS IN MARINE ANIMALS AND/OR FOOD, IMPACT ON HUMAN CANCER INDUCTION. HOWEVER, THIS IS AN AREA THAT SHOULD PROVIDE A MAJOR STIMULUS FOR FURTHER RESEARCH. WATER AND THE AQUATIC ENVIRONMENT REPRESENT ONE VECTOR OR ROUTE OF HUMAN EXPOSURE TO ENVIRONMENTAL CARCINOGENS. PROGRAMS AND PROJECTS NEED TO BE IDENTIFIED THAT RELATE TO THIS IMPORTANT AREA. IT IS HOPED THAT THIS CONFERENCE BLOREFRACTORIES AND AQUATIC POLLUTANTS AND THEIR ROLE IN ENVIRONMENTAL CANCER.

0992 KREIDLER, W.L.

UNDERGROUND DISPOSAL OF LIQUID WASTE IN NEW YORK [1975]

MAP AND CHART 26. NY MUSEUM AND SCIENCE SERVICE, SUNY, ALBANY, NY 29 PP

PART I OF THIS REPORT BRINGS TO THE ATTENTION OF CONSULTANT GEOLOGISTS, ENGINEERS, AND COMPANIES, SOME OF THE GUIDELINES THAT SHOULD BE FOLLOWED FOR UNDERGROUND DISPOSAL OF INDUSTRIAL LIQUID WASTE IN NY. PART II IS A REVIEW OF THE SUBSURFACE GEOLOGICAL FORMATIONS IN THE ALLEGHENY SYNCLINORIUM WHICH MAY BE SUITABLE FOR LIQUID WASTE DISPOSAL. OTHER AREAS OF NEW YORK LESS FAVORABLE FOR SUBSURFACE LIQUID WASTE DISPOSAL ARE BRIEFLY REVIEWED, ACCOMPANIED BY 4 MAPS.

0993 KRET. E.H.

WATERFRONT REDEVELOPMENT: A PARTNERSHIP BETWEEN PUBLIC RESOURCES AND PRIVATE INGENUITY [1979]

NYSG. ALBANY. NY 136 PP

URBAN JATERFRONTS WERE ONCE BUSY CENTERS OF ECONOMIC ACTIVITY. INDEED, WE ARE STILL LIKELY TO ASSOCIATE PORTS WITH PUFFING CARGO SHIPS AND SCRAMBLING DOCK WORKERS. BUT THE IMAGE IS AN OUTMODED ONE. OVER THE LAST FEW DECADES, AMERICA'S MAJOR PORTS HAVE SEEN AN ECONOMIC DECLINE. NEW TRANSPORTATION TECHNOLOGIES HAVE MADE THE URBAN WATERFRONT LESS ATTRACTIVE AND LESS SIGNIFICANT AS A CENTER OF TRADE. RECENT YEARS, HOWEVER, HAVE SEEN SOMETHING OF A "WATERFRONT REVIVAL." THE FOCUS IS NO LONGER NECESSARILY ECONOMIC. CITIZENS, PUBLIC OFFICIALS, AND PLANNERS HAVE BEGUN TO TAKE A NEW INTEREST IN THE GREAT AESTHETIC POTENTIALS OF OUR URBAN WATERFRONTS. THEIR ACCESSIBILITY AND UNIQUE NATURAL AND HISTORICAL FEATURES MAKE THEM AN EXCITING FRONTIER FOR DEVELOPMENT AND INNOVATION. THE AUTHOR PROVIDES AN OVERVIEW OF THE PAST AND PRESENT URBAN WATERFRONT. SHE DISCUSSES THE GENERAL ISSUE OF LAND USE AND ZONING AND RELATES IT TO WATERFRONT CONCERNS. SHE THEN TAKES AN IN-DEPTH LOOK AT LEASING PRACTICES AND EXPLORES WAYS TO USE LONG-TERM LEASING IN WATERFRONT DEVELOPMENT. A CASE STUDY OF THE NEW YORK CITY WATERFRONT FOLLOWS, FOCUSING ON BOTH THE PARTICULAR AND GENERAL ASPECTS OF ITS CURIOUS HISTORY. THE AUTHOR CONCLUDES BY OFFERING RECOMMENDATIONS FOR PLANNERS INVOLVED IN WATERFRONT DEVELOPMENT.

0994 KROGER, R.L.; J.F. GUTHRIE

MIGRATIONS OF TAGGED JUVENILE ATLANTIC MENHADEN [1973]

TRANS AM FISH SOC 102(2):417-422

FROM 1767 TO 1971 OVER 80,000 JUVENILE ATLANTIC MENHADEN, BREVOORTIA TYRANNUS, WERE TAGGED FROM FL TO MA. RETURNS OF THE INTERNAL FERROMAGNETIC BODY TAGS FROM THE COMMERCIAL MENHADEN FISHERIES INDICATE THE JUVENILES MIGRATE AS FAR SOUTH AS FL IN THE FALL AND WINTER AND THEN REDISTRIBUTE NORTHWARD ALONG THE COAST BY SIZE AS AGE-I FISH DURING THE FOLLOWING SPRING AND . SUMMER. LARGER 1-YEAR-OLD FISH MIGRATE NORTH EARLIER AND IN GREATER NUMBERS THAN SMALL ONES WHICH REMAIN IN MORE SOUTHERN WATERS WHERE SOME ARE NOT AVAILABLE TO THE FISHERIES FOR PART OF THE YEAR. SOME NORTHWARD MOVEMENT OF AGE-I FISH FROM THE SOUTH ATLANTIC FISHING AREA TO CHESAPEAKE BAY. EVIDENTLY OCCURS THROUGH MIDSUMMER.

0995 KROGER, R.L.; J.F. GUTHRIE; M.H. JUDY

GROWTH AND FIRST ANNULUS FORMATION OF TAGGED AND UNTAGGED ATLANTIC MENHADEN [1974]

TRANS AM FISH SOC 103(2):292-296

TAGGED ATLANTIC MENHADEN, BREVOORTIA TYRANNUS, ALONG WITH NONTAGGED CONTROLS WERE HELD CAPTIVE IN A NATURAL COVE AT BEAUFORT, NC FROM DEC 1970 TO JAN 1972. RATE OF GROWTH, ANNULUS FORMATION AND INCREASE IN SCALE DIAMETER WAS THE SAME FOR CONTROL MENHADEN AND THOSE TAGGED ONE, TWO OR THREE TIMES. GROWTH OF FISH IN THE COVE WAS SIMILAR TO ALL OTHER PREVIOUS ESTIMATES OBTAINED FROM BACK-CALCULATED LENGTH-FREQUENCY STUDIES. BOTH DEVELOPMENT OF SCALES AND GROWTH OF FISH WERE CORRELATED WITH ANNUAL TEMPERATURE CHANGES, AND ONLY ONE ANNULUS FORMED DURING THE YEAR. LARVAL MENHADEN, WHICH WERE THOUGHT TO REQUIRE WATER OF LOW SALINITY TO METAMORPHOSE INTO NORMAL JUVENILES, TRANSFORMED IN THE COVE WHERE THE SALINITY WAS 30%, AN "INNER RING," WHICH FORMS ON THE SCALES WHEN MENHADEN ARE 50 TO 70 MM AND OCCURS ON ABOUT 15% OF THE SCALES FROM COMMERCIAL ATLANTIC MENHADEN LANDINGS SOME YEARS, MAY REPRESENT A FRUE ANNULUS FORMED BY VERY SMALL JUVENILES FROM LONG ISLAND SOUND, NY.

0996 KROM, M.D.; R.A. BERNER

THE DIFFUSION COEFFICIENTS OF SULFATE, AMMONIUM, AND PHUSPHATE IONS IN ANOXIC MARINE SEDIMENTS [1980]

LIMNOL OCEANOGR 25(2):327-337

THE DIFFUSION COEFFICIENTS (DS) OF SULFATE, AMMONIUM, AND PHOSPHATE IONS WERE DETERMINED DIRECTLY IN THE LABORATORY BY PLACING TWO SAMPLES OF HOMOGENIZED, ANOXIC MUD FROM LONG ISLAND SOUND IN CONTACT WITH ONE ANOTHER ACROSS A PLANAR INTERFACE. AFTER 141 H, CONCENTRATION PROFILES WERE DETERMINED, AND FROM THEM VALUES OF EFFECTIVE DIFFUSION COEFFICIENTS (WHICH INCORPORATE THE EFFECTS OF ADSORPTION) WERE CALCULATED. CORRECTION OF THESE VALUES FOR ADSORPTION, USING INDEPENDENTLY DETERMINED LINEAR ADSORPTION CONSTANTS FOR THE SAME SEDIMENTS, GAVE THE FOLLOWING VALUES (XO.000001 SQ CM/S, 20C, ERROR +/- 2 SIGMA): DS (SD4), 5.0 +/- 1.2: DS (NH4), 9.8 +/-2.0; DS (PO4), 3.6 +/- 1.1. THESE VALUES AGREE WELL WITH VALUES CALCULATED FOR THE SAME SEDIMENTS FROM ESTIMATES OF FORMATION FACTORS PLUS DATA FOR DIFFUSION COEFFICIENTS AT INFINITE DILUTION.

0997 KRONMAN. B.

NYPIRG'S GUIDE TO NYC PUBLIC RECORDS [1979]

NYPIRG INC.. NEW YORK. NY NP

THIS GENERAL GUIDE TO LOCATING INFORMATION CONCERNING NEW YORK CITY INCLUDES BUSINESSES, COURTS, ELECTIONS, GENERAL REFERENCE, HEALTH CARE, HOUSING, PERSONAL INFORMATION, REAL PROPERTY, AND WELFARE, IT ALSO CONTAINS A SUBJECT INDEX.

0998 KU, H.F.H.; J. VECCHIOLI; S.E. RAGONE

CHANGES IN CONCENTRATION OF CERTAIN CONSTITUTENTS OF TREATED WASTE WATER DURING MOVEMENT THROUGH THE MAGOTHY AQUIFER, BAY PARK, NEW YORK [1975]

J RES USGS 3(1):89-92

APPROXIMATELY 7 MILLION GAL (27 MILLION L) OF TERTIARY-TREATED SEWAGE (RECLAIMED WATER) WAS INJECTED BY WELL INTO THE MAGOTHY AQUIFER AND WAS SUBSEQUENTLY PUMPED OUT. AS THE RECLAIMED WATER MOVED THROUGH THE AQUIFER, CONCENTRATIONS OF CERTAIN DISSOLVED CONSTITUENTS DECREASED AS FOLLOWS: TOTAL NITROGEN, 7 %; METHYLENE BLUE ACTIVE SUBSTANCES, 49 %; CHEMICAL OXYGEN DEMAND, 50 %; AND PHOSPHATE, MORE THAN 93 %.

0999 KUMAR, N.; J.E. SANDERS

INLET SEQUENCE: A VERTICAL SUCCESSION OF SEDIMENTARY STRUCTURES AND TEXTURES CREATED BY LATERAL MIGRATION OF TIDAL INLETS [1974]

SEDIMENTOL 21:491-532

FIRE ISLAND INLET, LOCATED 36 KM EAST OF NYC, HAS MIGRATED WSH AT A MEAN RATE OF 64 M/YR DURING THE PERIOD 1825-1940. WAVES APPROACHING THE COAST, PREDOMINANTLY FROM THE SOUTHEAST, HAVE SHIFTED SEDIMENT ALONG THE SHORE TOWARD THE WSW. DEPOSITION OF SEDIMENT ON THE EAST SIDE OF THE INLET HAS FORCED THE TIDAL CURRENTS TO ERODE THE WEST SIDE OF THE INLET, THUS CAUSING LATERAL MIGRATION. BECAUSE HYDRAULIC CONDITIONS VARY FROM THE CHANNEL FLOOR TO THE SUBAERIAL PART OF THE SPIT WHICH IS PRESENT ON THE ENE SIDE OF THE CHANNEL, SEDIMENTARY STRUCTURES AND TEXTURES VARY SYSTEMATICALLY WITH DEPTH. WE HAVE DETERMINED THE VARIOUS SEDIMENTARY ENVIRONMENTS ASSOCIATED WITH THE MODERN FIRE ISLAND INLET, SAMPLED AND DESCRIBED THE SEDIMENTS FROM THESE ENVIRONMENTS, AND HAVE COLLECTED SAMPLES FROM CORINGS MADE ON THAT PART OF FIRE ISLAND THROUGH WHICH THE INLET HAS MIGRATED. ON THE BASIS OF OUR STUDIES, WE PROPOSE AN INLET SEQUENCE WHICH IS FORMED BY THE LATERAL MIGRATION OF A TIDAL INLET. THE SEDIMENTS BELONGING TO VARIOUS UNITS IN THIS SEQUENCE HAVE BEEN IDENTIFIED IN FOUR BORINGS MADE ON THOSE PARTS OF FIRE ISLAND THROUGH WHICH THE FIRE ISLAND INLET HAS MIGRATED SINCE 1825. THIS SEQUENCE SHOULD BE APPLICABLE TO OTHER INLETS ALSO. WE THINK THAT THE BOUNDARY BETWEEN DEEP CHANNEL AND SHALLOW CHANNEL UNITS REMAINS RELATIVELY FIXED AT ~4.5 M, WHEREAS THE THICKNESS OF THE DEEP CHANNEL UNIT IS DETERMINED BY THE DEPTH RANGE BETWEEN ~4.5 M AND THE TOTAL DEPTH OF THE INLET. HENCE, THE MAIN SOURCE OF

VARIATION IN THE INLET SEQUENCE WILL BE THE THICKNESS OF THE DEEP-CHANNEL UNIT. MOST OF THE SEDIMENTS OF THE INLET SEQUENCE ARE INCISED BELOW MEAN LOW WATER; HENCE THEY WILL ALMOST CERTAINLY BE PRESERVED IN THE GEOLOGIC RECORD, EVEN IF ALL OTHER ASSOCIATED SEDIMENTS FROM BARRIER ENVIRONMENTS LOCATED ABOVE MEAN LOW WATER ARE NOT PRESERVED. BECAUSE OF THE GREAT VARIABILITY POSSIBLE IN RATES OF LATERAL MIGRATION OF INLETS ALONG THE SHORE COMPARED WITH THE RATES OF BARRIER DISPLACEMENT PERPENDICULAR TO THE SHORE INLET SEDIMENTS MAY BE PRESERVED AS ELONGATE LENSES, OR AS WIDESPREAD BLANKETS. THE SHAPE OF INLET DEPOSITS REVEALS MUCH ABOUT THE BEHAVIOUR OF BARRIERS DURING A SUBMERGENCE. HENCE, INLET SEDIMENTS SHOULD SHED NEW LIGHT ON SEDIMENTS OF THE CONTINENTAL SHELVES AND ON BASAL TRANSGRESSIVE SANDS IN THE GEOLOGIC RECORD.

1000 KUMAR, N.; J.E. SANDERS

INLET SEQUENCE FORMED BY THE MIGRATION OF FIRE ISLAND INLET, LONG ISLAND, NEW YORK [1975]

PAGES 75-83 IN R.N. GINSBERG, ED. TIDAL DEPOSITS: A CASEBOOK OF RECENT EXAMPLES AND FOSSIL COUNTERPARTS. SPRINGER-VERLAG, NEW YORK, NY

FIRE ISLAND INLET HAS MIGRATED 8KM WESTWARD BETWEEN 1825 AND 1940 BY ACTION OF LONGSHORE CURRENT. CHARACTERISTIC SEDIMENT STRUCTURES AT DIFFERENT PARTS OF THE INLET LEAVE A SEQUENCE OF SEDIMENTS INDICATING POSITION. DESCRIPTIONS OF SEQUENCES ARE DETAILED IN THIS PAPER.

1001 KUMAR, N.; J.E. SANDERS

CHARACTERISTICS OF SHOREFACE STORM DEPOSITS: MODERN AND ANCIENT EXAMPLES [1976]

J SEDIAENT PETROL 46(1):145-162

CORES OF SHOREFACE SEDIMENTS OFF FIRE ISLAND, NY, IN WATER DEPTHS RANGING BETWEEN 5 AND 21 M, CONTAIN A DISTINCTIVE THREE-PART SEQUENCE; FROM BASE UPWARD CONSISIING OF: (A) BASAL LAG, UP TO 50 CM THICK, CONTAINING COARSE GRAVEL; (B) FINELY LAMINATED SAND UP 10 2 M THICK, HAVING MEDIAN DIAMETERS RANGING FROM 0.210 TO 0.125 MM, AND (C) BURROW-MOTTLED SAND COARSER IN SIZE THAN UNIT (B), UP TO 37 CM THICK. THE BOUNDARIES BETWEEN (A), (B), AND (C) ARE SHARP. THE RELATIVELY COARSER, MOTTLED SAND COMPOSING THE UPPER PART OF THIS SEQUENCE RESULTS FROM PROCESSES OPERATING IN THE SHOREFACE ZONE DURING FAIR WEATHER. SUCH PROCESSES CREATE EITHER WAVE-RIPPLE LAMINAE (BETWEEN WAVE BASE AND THE BREAKER ZONE) OR BURROW-MOTTLED SEDIMENT (SEAWARD OF WAVE BASE). THE LOWER PART OF THE SEQUENCE IS INFERRED TO RESULT FROM STORMS. THE BASAL GRAVEL IS INTERPRETED AS A LAG FORMED DURING MAXIMUM STORM INTENSITY WHEN THE COARSE MATERIAL IS JOSTLED AT THE BOTTOM AND THE FINER SEDIMENT IS KEPT DISPERSED OR IS IN TURBULENT SUSPENSION. THE FINELY LAMINATED SAND IS INFERRED TO HAVE BEEN RAPIDLY DEPOSITED UNDER CONDITIONS OF INTENSE BOTTOM SHEAR AS THE STORM WANED. EXAMPLES IN THE GEOLOGIC RECORD OF WHAT WE REGARD AS COMPARABLE STORM-DEPOSITED SEQUENCES OCCUR AT THE FOLLOWING LOCATIONS: RELICT HOLOCENE SEDIMENTS OFF FORE ISLAND, NY; PLEISTOCENE SEDIMENTS UNDERLYING FIRE ISLAND BARRIER, NY; NORFOLK FORMATION (PLEISTOCENE), GENNS CHURCH, SOUTHEASTERN VA; EOCENE SANDSTONES AND CONGLOMERATES, TECHACHAPI AND SAN EMIGDIO MOUNTAINS, SOUTHERN CA; AND CAMBRIAN SANDSTONES AND CONGLOMERATES, PARFREY'S GLEN, BARAGOD RANGE, WI. IN ADDITION, OTHER WORKERS HAVE IDENTIFIED CHARACTERISTIC SEQUENCES VERY SIMILAR TO THE ONE DESCRIBED HERE IN THE FOLLOWING LOCALITIES: RECENT SEDIMENTS OFF VA; RECENT SEDIMENTS, SOUTHERN NORTH SEA; UPPER PART OF SUNDANCE FORMATION (JURASSIC) OF WY AND MT: UPPER CAMBRIAN, BARAGOO DISTRICT, WI; AND "SUBLITTORAL SHEET SANDSTONES" DESCRIBED FROM SEVERAL LOCATIONS. WE SPECULATE THAT THE GEOLOGIC RECORD OF SHOREFACE SEDIMENTS CONTAINS A MINIMAL PROPORTION OF SEDIMENTS DEPOSITED DURING FAIR-WEATHER CONDITIONS AND CONSISTS LARGELY OF STORM DEPOSITS.

1002 KUMPF, H.E.

ECONOMIC IMPACT OF THE EFFECTS OF POLLUTION ON THE COASTAL FISHERIES OF THE ATLANTIC AND GULF OF MEXICO REGIONS, OF THE UNITED STATES OF AMERICA [1978]

FAO FISH TECH PAPER 172:71-79

THIS REPORT REVIEWS AND EVALUTES THE ECONOMIC IMPACT ON THE FISHERIES OF THE ATLANTIC AND GULF OF MEXICO COASTS OF THE US OF OTHER HUMAN ACTIVITIES. FOUR TYPES OF IMPACT WERE CONSIDERED: PRODUCTION OF OIL AND GAS; DIRECT FISH MORTALITIES CAUSED BY EFFLUENT; HABITAT DETERIORATION; AND CLOSURE OF MOLLUSCAN FISHERIES FOR HEALTH REASONS. AN ATTEMPT IS MADE TO OBTAIN QUANTITATIVE (DOLLAR) ESTIMATES OF THE IMPACTS, BOTH NEGATIVE AND POSITIVE. THE MAIN QUANTIFIABLE EFFECTS ARE OF HABITAT DESTRUCTION ON SPECIES REQUIRING ESTUARIES AND SIMILAR AREAS AS NURSERIES (PARTICULARLY IN THE GULF AND MIDDLE ATLANTIC REGION), AND MOLLUSCAN FISHERIES (AGAIN THE GULF REGION IS PARTICULARLY AFFECTED). FISH KILLS SEEM HIGHLY VARIABLE FROM YEAR TO YEAR. A MASSIVE KILL (INCLUDING LARGE-SCALE DESTRUCTION OF VALUABLE SURF CLAM STOCKS) OCCURRED IN THE NEW YORK BIGHT IN 1976, ASSOCIATED WITH ANOXIC CONDITIONS. THESE CONDITIONS WERE AT LEAST PARTLY DUE TO NATURAL, ENVIRONMENTAL EVENTS.

1003 KUO, C.Y.; T.D. MODENA

MATHEMATICAL MODEL INVESTIGATION OF LONG-TERM TRANSPORT OF OCEAN-DUMPED SEWAGE SLUDGE RELATED TO REMOTE SENSING [1979]

NASA, WASHINGTON, DC 151 PP NTIS-N79-18478

AN EXISTING, THREE-DIMENSIONAL, EULERIAN-LAGRANGIAN FINITE-DIFFERENCE MODEL WAS MODIFIED AND USED TO EXAMINE THE TRANSPORT PROCESSES OF DUMPED SEWAGE SLUDGE IN THE NEW YORK BIGHT. BOTH IN SITU AND LABORATORY DATA WERE UTILIZED IN AN ATTEMPT TO APPROXIMATE MODEL INPUTS SUCH AS MEAN CURRENT SPEED, HORIZONTAL DIFFUSION COEFFICIENTS, PARTICLE SIZE DISTRIBUTIONS, AND SPECIFIC GRAVITIES. THE RESULTS PRESENTED ARE A QUANTITATIVE DESCRIPTION OF THE FATE OF A NEGATIVELY BUOYANT SEWAGE SLUDGE PLUME RESULTING FROM CONTINUOUS AND INSTANTANEOUS BARGE RELEASES. CONCENTRATIONS OF THE SLUDGE NEAR THE SURFACE WERE COMPARED QUALITATIVELY WITH THOSE REMOTELY SENSED. LABORATORY STUDY WAS PERFORMED TO INVESTIGATE THE BEHAVIOR OF SEWAGE SLUDGE DUMPING IN VARIOUS AMBIENT DENSITY CONDITIONS.

1004 KUPERSTEIN, I.S.

SCHEDULING OF DRAWBRIDGE OPERATIONS [1977]

ASCE J TRANSP ENG DIV 103(6):729-739

A PROCEDURE FOR DETERMINING THE OPERATIONAL METHOD AND SCHEDULE FOR A DRAWBRIDGE IS PRESENTED. THE PROCEDURE IS APPLIED TO A LOCATION WITH CONFLICTING RECREATIONAL TRAFFIC FLOWS, BOTH WATERBORNE AND VEHICULAR. MANY ASPECTS OF THE DRAWBRIDGE SCHEDULING PROCESS ARE RELATED TO AN ANALOGOUS PROBLEM: TIMING VEHICULAR TRAFFIC SIGNALS. THE ANALOGOUS ASPECTS OF THE TWO SITUATIONS ARE EXAMINED, AND THE RESULTS OBTAINED FOR A DRAWBRIDGE OFFERD. A REGRESSION MODEL RELATING BRIDGE SWING TIME TO BOAT ARRIVAL PATTERNS IS DEVELOPED. A VEHICULAR DELAY FUNCTION IS ALSO RELATED TO BRIDGE SWING TIME. THE APPLICATION OF THE PROCEDURE IS PRESENTED USING DATA FOR BOTH WATERBORNE AND VEHICULAR TRAFFIC AT THE SHREWSPURY RIVER BRIDGE IN HIGHLANDS, NJ (AT THE ENTRANCE TO THE SANDY HOOK UNIT OF THE GATEWAY NATIONAL RECREATION AREA). CHANGES IN THE METHOD OF BRIDGE OPERATION WERE INDICATED AND IMPLEMENTED. THE NEW FIXED-TIME OPENING SCHEME RESULTED IN SIGNIFICANT REDUCTIONS TO VEHICULAR TRAFFIC DELAY AND WERE ACCEPTABLE FOR MARINE REQUIREMENTS.

1005 KWIATKOWSKI, B.S.

THE SEDIMENTS OF THE HUNTINGTON BAY REGION OF NORTHERN LONG ISLAND, NEW YORK [1976]

M.S. THESIS. LONG ISLAND UNIV, BRENTWOOD, NY NP

IN THE LATE FALL OF 1974, THE SEDIMENTS FROM 37 STATIONS IN THE COLD SPRING HARBOR-HUNTINGTON BAY-NORTHPORT BAY REGION OF NORTHERN LONG ISLAND, WERE COLLECTED BY USING THE PHLEGER GRAVITY CORER. THESE SAMPLES WERE ANALYZED FOR PH. EH, GRAIN SIZE DISTRIBUTION, GRAIN SIZE CHARACTERISTICS, TOTAL FORAMINIFERA CONTENT, AND PARTICULATE ORGANIC MATTER CONTENT. ADDITIONAL SAMPLES WERE TAKEN FROM THESE STATIONS BY USING THE EKMAN GRAB FOR THE ANALYSES OF BOD AND INVERTEBRATE COMPOSITION. THE SEDIMENTS CONSISTED OF, FOR THE MOST PART, FINE TO VERY FINE SANDS AND MUDS WITH COARSE SAND PREDOMINATING AT HARBOR ENTRANCES.

ANALYSES OF THE GRAIN SIZE DISTRIBUTION REVEALED THAT HIGH ENERGY FORCES ARE AT WORK REWORKING THESE SEDIMENTS. THESE SEDIMENTS WERE OXIDIZING IN CHARACTER, HAD A WIDE VARIABILITY IN PH, AND CONTAINED CONSISTENTLY LOW BODS. HIGH CONCENTRATIONS OF PARTICULATE ORGANIC CARBON AND NITROGEN WERE FOUND AT THE HEADS OF SOME HARBORS. THIS FURTHER EMPHASIZED THAT THE HEADS OF SOME HARBORS ACT AS SEDIMENT TRAPS. NO DEFINABLE PATTERN OF ORGANIC PHOSPHORUS DISTRIBUTION WAS SEEN IN THIS REGION. HOWEVER, IT WAS INDICATED THAT THE ACCUMULATION OF PHOSPHORUS IN DREDGED CHANNELS OCCURED MORE SO THAN IN UNDISTURBED SITES. TWELVE HETEROGENEOUS CORES WERE RECOVERED. THE ANALYSES OF GRAIN SIZE AND DISTRIBUTION AND PARTICULATE MATTER IN THESE CORES REVEALED THE EFFECTS OF POSSIBLE BACTERIAL ACTIVITY AND INCREASED EUTROPHIC CONDITIONS IN THIS REGION. IT WAS FOUND THAT THE RRESENCE OF BENTHIC INVERTEBRATES AND FORAMINIFERA VARIED CONSIDERABLY. SEDIMENT INDICES REVEALED POTENTIAL POLLUTION CONDITIONS IN THOSE AREAS WHERE URBAN DEVELOPMENT IS GREATEST.

1006 LAEVASTU. T.: R.J. CALLAWAY: A. STROUD: M. CLANCY

COMPUTATION OF TIDES, CURRENTS, AND DISPERSAL OF POLLUTANTS IN THE NEW YORK BIGHT FROM BLOCK ISLAND TO ATLANTIC CITY WITH LARGE GRID SIZE. SINGLE AND TWO-LAYER HYDRODYNAMICAL-NUMERICAL MODELS. PART 4 [1974]

ENVIRON PREDICTION RES FACILITY. NAVAL POST-GRAD SCHOOL. MONTEREY. CA 79 PP NTIS-AD-778 617

THE APPLICATION OF A LARGE GRID HN MODEL TO THE NY BIGHT IS TO LARGE EXTENT A PROBLEM OF TREATING TWO LONG OPEN BOUNDARIES. THE INPUT AT THESE OPEN POUNDARIES SERVES ALSO FOR TUNING OF THE RESULTS INSIDE THE COMPUTATIONAL AREA. A FEW EARLIER CURRENT MEASUREMENTS BY TWO LIGHTSHIPS IN THE BIGHT AS REPORTED BY HAIGHT (1942) HAVE BEEN USED FOR VERIFICATION. THE TIDAL CURRENTS PREDOMINATE IN THE NY BIGHT PROPER. WITH A SUPERIMPOSED SLOW NET FLOW TOWARD THE SOUTH. THIS NET FLOW CAN BE SIMULATED IN THE MODELS AND TUNED WITH THE PRESCRIPTION OF A PROPER SLOPE TO THE TWO OPEN BOUNDARIES. THE DIFFUSION COMPUTATIONS OVER A SHORT PERIOD OF TAME IN THE LARGE GRID MODELS DO NOT GIVE FULLY SATISFACTORY RESULTS WITH THE DIFFUSION MODEL USED AT PRESENT IN THE HN MODELS. INSTEAD. THE TRANSPORT OF THE CENTERS OF RELEASE POINTS HAVE BEEN COMPUTED AND PRESENTED. FURTHERMORE. THE NET TRANSPORT THROUGH VARIOUS SECTIONS IN THE AREA HAS ALSO BEEN COMPUTED. THE SINGLE-LAYER MODEL IS APPLICABLE FOR THE WINTER SEASON WHEN THE AREA IS FULLY MIXED FROM SURFACE TO THE BOTTOM. IN THE TWO-LAYER HN MODEL, WHICH IS APPLICABLE FOR SUMMER CONDITIONS WHEN STRATIFICATION OF THE WATERS OCCURS. SOME INPUTS SUCH AS INTERNAL FRICTION, NEED SOME ADDITIONAL NUMERICAL EXPERIMENTATION AND ADJUSTMENT AND ABOVE ALL PROPER FIELD MEASUREMENTS AS NEARLY NO DATA IS AVAILABLE FOR THE SELECTION OF A PROPER INTERNAL FRICTION COEFFICIENT. FURTHERMORE, INTERNAL WAVES (INTERNAL FLUCTUATIONS) OCCUR IN THE INTERFACE AFTER INTRODUCTION OF THE WIND INTO THE MODEL RUN. THESE FLUCTUATIONS DIMINISH WITH TIME. AND SUBSEQUENTLY REQUIRE A LONG REAL-TIME COMPUTATION PERIOD AND AS A CONSEQUENCE, MORE COMPUTER TIME. SUCH FLUCTUATIONS ARE KNOWN TO OCCUR IN THE SEA AS RECORDINGS OF THERMAL STRUCTURE CHANGES WITH DEPTH AND TIME OVER THE CONTINENTAL SHELF. AS WELL AS SEA LEVEL RECORDINGS NEAR THE COASTS HAVE SHOWN. OF PRACTICAL IMPORTANCE IS THE KNOWLEDGE OF DIFFERENCES IN THE CURRENTS IN UPPER AND LOWER LAYERS AND THE TIME AND SPACE VARIATION OF THESE DIFFERENCES. THE RESULTS OF THE MODEL SHOW THAT IN MANY AREAS A DIFFERENT NET FLOW OCCURS IN THE LOWER LAYER THAN IN THE SURFACE LAYER. THIS IS PARTLY DEMONSTRATED IN THE REPORT WITH SOME OF THE OUTPUT FROM SPECIAL SELECTED POINTS AND AGREES WITH THE RESULTS FROM SEA BED DRIFTER EXPERIMENTS. THERE IS A COASTWARD MOVEMENT OF THE DEEPER LAYERS OFF LONG ISLAND SOUND. MAKING THIS AREA LESS DESIRABLE FOR SLUDGE DISPOSAL. THE HUDSON SUBMARINE CANYON DIVIDES THE HYDROGRAPHIC REGIME IN NY BIGHT. THE FLOW SOUTH OF THE CANYON IS STRONGER AND TOWARD THE SOUTH. A POTENTIAL USE OF THIS TYPE OF STUDY IS IN THE SELECTION OF GENERAL AREAS WHERE SLUDGE DUMPING MAY BE LESS TROUBLESOME THAN IN OTHERS.

1007 LAEVASTU. T.; M. CLANCY; A. STROUD

COMPUTATION OF TIDES: CURRENTS AND DISPERSAL OF POLLUTANTS IN LOWER BAY AND APPROACHES TO NEW YORK WITH FINE AND MEDIUM GRID SIZE HYDRODYNAMICAL-NUMERICAL MODELS: PART 3 [1974]

ENVIRON PREDICTION RESEARCH FACILITY. NAVAL POST-GRADUATE SCHOOL. MONTEREY. CA 59 PP NTIS-AD-778 610

THE REPORT SUMMARIZES THE RESULTS OF TWO DIFFERENT HN MODEL APPLICATIONS WITH DIFFERENT GRID SIZES: ONE WITH A SMALL GRID SIZE FOR THE LOWER BAY OF NEW YORK; AND THE SECOND WITH A LARGER GRID SIZE FOR THE APPROACHES TO NEW YORK, WHICH INCLUDES PART OF THE NEW YORK BIGHT OUTSIDE THE AMBROSE CHANNEL.

1008 LAEVASTU, T.; M. CLANCY; A. STROUD

COMPUTATION OF TIDES, CURRENTS AND DISPERSAL OF POLLUTANTS IN LOWER BAY AND APPROACHES TO NEW YORK WITH FINE MEDIUM GRID SIZE HYDRODYNAMICAL-NUMERICAL MODELS. PART 3--ABSTRACT [1974]

GOVERNMENT REP ANNOUNC 74(14):57 ABS ONLY NTIS-AD-778 610

THE REPORT SUMMARIZES THE RESULTS OF TWO DIFFERENT HN MODEL APPLICATIONS WITH DIFFERENT GRID SIZES: ONE WITH A SMALL GRID SIZE FOR THE LOWER BAY OF NEW YORK; AND THE SECOND WITH A LARGER GHID SIZE FOR THE APPROAGHES TO NEW YORK, WHICH INCLUDES PART OF THE NEW YORK BIGHT OUTSIDE THE AMBROSE CHANNEL.

1009 LAEVASTU, T.; R.J. CALLAWAY; A. STROUD; M. CLANCY

COMPUTATION OF TIDES, CURRENTS, AND DISPERSAL OF POLLUTANTS IN THE NEW YORK BIGHT FROM BLOCK ISLAND TO ATLANTIC CITY WITH LARGE GRID SIZE, SINGLE AND TWO-LAYER HYDRODYNAMICAL-NUMERICAL MODELS. PART 4--ABSTRACT [1974]

GOVERNMENT REP ANNOUNC 74(14):57 ABS ONLY NTIS-AD-778 617

THE APPLICATION OF A LARGE GRID HN MODEL TO THE NEW YORK BIGHT IS TO LARGE EXTENT A PROBLEM OF TREATING TWO LONG OPEN BOUNDARIES. THE INPUT AT THESE OPEN BOUNDARIES SERVES ALSO FOR TUNING OF THE RESULTS INSIDE THE COMPUTATIONAL AREA. A FEW EARLIER CURRENT MEASUREMENTS BY TWO LIGHTSHIPS IN THE BIGHT AS REPORTED BY HAIGHT (1942) HAVE BEEN USED FOR VERIFICATION. THE TIDAL CURRENTS PREDOMINATE IN THE NEW YORK BIGHT PROPER, WITH A SUPERIMPOSED SLOW NET FLOW TOWARD THE SOUTH. THIS NET FLOW CAN BE SIMULATED IN THE MODELS AND TUNED WITH THE PRESCRIPTION OF A PROPER SLOPE TO THE TWO OPEN BOUNDARIES.

1010 LAEVASTU, T.

A MULTILAYER HYDRODYNAMICAL-NUMERICAL MODEL (W. HANSEN TYPE) MODEL DESCRIPTION AND OPERATING/RUNNING INSTRUCTIONS [1974]

ENVIRON PREDICTION RES FACILITY, NAVAL POST-GRAD SCHOOL, MONTEREY, CA 54 PP

THE MULTILAYER HYDRODYNAMICAL-NUMERICAL (HN) MODEL (W. HANSEN TYPE) IS, IN MANY RESPECTS, SIMILAR TO HANSEN'S SINGLE-LAYER HN MODEL. THE HYDRODYNAMICAL FORMULAS PRESENT VERTICALLY INTEGRATED MOTION THROUGH GIVEN LAYERS. THE LOWER LAYER IS PARTLY DRIVEN BY FRICTION, WHICH IS PROPORTIONAL TO THE MEAN DENSITY RELATIONS OF THE LAYERS, AND PARTLY BY HORIZONTAL PRESSURE GRADIENTS CAUSED BY THE INCLINATION OF THE SURFACE AS WELL AS OF THE INTERFACE. THE FINITE DIFFERENCE FORMS ARE SIMILAR TO THOSE USED IN SINGLE-LAYER MODELS, EXCEPT FOR THE ADDITIONAL TERMS DICTATED BY THE SECOND LAYER. THE MODEL USES A CONTINUITY EQUATION IN ITS DIRECT, PHYSICALLY SIMPLE AND CORRECT FORM. IN RESPECT TO THE INPUTS, THE MODEL IS ALSO SIMILAR TO THE SINGLE-LAYER HN MODEL, WITH THE EXCEPTION OF ADDITIONAL INPUTS OF SECOND LAYER THICKNESS AND INTERNAL TIDES IN THE SECOND LAYER. BESIDES THE BASIC FORMULAS OF THE MODEL, THIS REPORT DESCRIBES THE VUMERICAL MODEL IN FORTRAN. THE DESCRIPTION OF THE INPUT PARAMETERS, ABBREVIATIONS USED, AND THE PROGRAM ISSELF ARE GIVEN IN THE APPENDICES. THE VERIFICATION OF THE MODEL IS DESCRIBED IN ANOTHER REPORT. THE MODEL DESCRIBED IN FORTRAN HAS NOT BEEN FULLY OPTIMIZED FOR ROUTINE PRODUCTION RUNS.

1011 LAEVASTU, T.; J. HARDING; K. RABE; S. LARSON

OCEAN-AIMOSPHERE INTERACTIONS OFF THE NORTHEAST COAST OF NORTH AMERICA [1976]

PAGES 35-43 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

THE NY BIGHT-MIDDLE ATLANTIC CONTINENTAL SHELF RESION IS TYPICAL OF MIDLATITUDE CONTINENTAL EAST COAST AREAS IN THE INTENSE SEA-AIR INTERACTION OCCURRING DURING LATE AUTUMN AND WINTER. DURING THESE SEASONS DRY BUT COOL AIR MOVING OVER WARM CUASTAL

WATER TAKES UP A CONSIDERABLE AMOUNT OF HEAT AND MOISTURE (LATENT HEAT). THE DAILY UPTAKE NEAR THE COAST CAN EXCEED 0.5 G OF WATER PER SQ CM ON A MONTHLY MEAN BASIS. THE RESPONSE OF THE SURFACE LAYERS OF THE ATMOSPHERE TO THE PROPERTIES OF THE SEA SURFACE IS RELATIVELY RAPID SO THAT QUASI-EQUILIBRIUM CONDITIONS ARE ESTABLISHED AFTER SURFACE AIR HAS TRAVELED ABOUT 6 H OVER WATER. THE MAIN CONSEQUENCES OF THIS LARGE HEAT AND MOISTURE UPTAKE ON THE ATMOSPHERE ARE DEEPENING OF LOWS THAT PASS THE COASTLINE AND FREQUENT CYCLOGENESIS OFF THE COAST. AS THE HEAT AND MOISTURE ARE TRANSPORTED UPWARD, A TROUGH FORMS AT THE 850-MB LEVEL--A THERMALLY DRIVEN CYCLONIC SURFACE WIND COMPONENT IS CREATED ALONG THE COAST, BUT IT OFTEN ESCAPES THE ATTENTION OF SYNDPTIC JEATHER ANALYSIS. THE MAIN EFFECT OF THE ATMOSPHERE ON THE OCEAN IS RAPID COOLING OF ALREADY COOL COASTAL WATERS DURING AUTUMN AND HINTER, RESULTING IN INCREASES IN THERMOCLINE DEPTH. THE COASTAL SOUTHERLY CURRENT IS INFLUENCED BY THE SURFACE CYCLONIC WIND COMPONENT.

1012 LAGNA. L.

THE RELATIONSHIP OF SPARTINA ALTERNIFLORA TO MEAN HIGH WATER [1974]

M.S. THESIS. SUNY, STONY BROOK, NY 105 PP

THE RELATIONSHIP BETWEEN SPARTINA ZONATION AND TIDAL HEIGHTS WAS DETERMINED BY COMPARING DIRECT TIDE MEASUREMENT AND MARSH SURFACE ELEVATIONS TO PLANT DISTRIBUTION AT 5 LOCATIONS ON LONG ISLAND, NY. NEITHER SPECIES DISTRIBUTION NOR PLANT VIGOR WERE CLOSELY CORRELATED WITH ANY SPECIFIC TIDAL ELEVATION. IN SOME AREAS S. ALTERNIFLORA WAS FOUND GROWING WELL ABOVE THE PLANE OF MEAN HIGH WATER. SINCE THE OBSERVED ELEVATION LIMITS FOR S. ALTERNIFLORA VARIED AMONG THE 5 MARSHES, OTHER FACTORS BESIDES THE TIDE-ELEVATION EFFECT MUST CONTRIBUTE SIGNIFICANTLY TO PLANT ZONATION. BECAUSE VEGETATION IS NOT A PRECISE INDICATOR IT SHOULD NOT BE USED TO DETERMINE THE MHW LINE. THE UPLAND BORDER OF THE 5 MARSHES IN THIS STUDY ALSO FAILED TO COINCIDE WITH ANY PARTICULAR TIDAL DATUM. IF A TIDAL PLANE IS EMPLOYED IN A WETLANDS DEFINITION IT SHOULD BE ONLY ONE OF SEVERAL CRITERIA AND SHOULD BE RELATED TO THE LOCAL TIDE RANGE OF EACH AREA.

1013 LAINE, E.P.

GEOLOGIC EFFECTS OF THE GULF STREAM SYSTEM IN THE NORTH AMERICAN BASIN [1978]

PH.D. THESIS. MIT. CAMBRIDGE. MA 164 PP

THE GULF STREAM SYSTEM CONTAINS A CLOCKWISE ROTATING SET OF BOTTOM CURRENTS THAT INFLUENCE THE SEA BED IN THE NORTHERN NORTH AMERICAN BASIN. IT IS POSSIBLE TO INTERPRET THE PRESENT DAY AND HISTORICAL RECORD OF CURRENT ACTIVITY IN THIS BASIN IN TERMS OF THE DEEP FLOW OF THE GULF STREAM. THIS INTERPRETATION PROVIDES A MORE SATISFACTORY AND CONSISTENT EXPLANATION OF THE GEOLOGIC RECORD THAN PREVIOUS INTERPRETATIONS BASED STRICTLY UPON THE INFLUENCE OF THE CLASSIC ABYSSAL CIRCULATION. THE PRESENT DAY CIRCULATION OF THE GULF STREAM ACTIVELY RESUSPENDS LARGE QUANTITIES OF SEDIMENT ON AND NEAR THE NORTHERN BERMUDA RISE, AND THIS RESUSPENSION MAY BE CAUSED BY THE EDDY FIELD THAT IS EMBEDDED IN THE WESTWARD FLOWING RETURN FLOW. DURING THE LATE CENOZOIC. THE GULF STREAM SYSTEM WAS RESPONSIBLE FOR DEPOSITING AND SHAPING THE MAJOR ACOUSTIC/SEDIMENTOLOGICAL UNITS ON THE RELATIVELY SMOOTH SURFACE OF THE HORIZON A COMPLEX. FINE GRAINED, MONTMORILLIONITE-RICH SEDIMENTS DERIVED FROM THE CHEMICALLY WEATHERED SAPROLITES OF THE HUDSON AND ST. LAWRENCE DRAINAGE BASINS WERE INJECTED INTO THE DEEP OCEAN BASINS BY TURBIDITY CURRENTS DURING THE LATE PALEOGENE AND THE NEOGENE. FINE-GRAINED TURBIDITIES FROM THE ST. LAWRENCE SPREAD SOUTHWARD DOWN THE SE SOHM ABYSSAL PLAIN ACROSS THE EASTWARD FLOWING GULF STREAM AND ITS WESTWARD FLOWING RETURN FLOWS. PORTIONS OF THESE FINE-GRAINED SEDIMENTS WERE ENTRAINED BY THE MAIN AND RETURN FLOWS AND DEPOSITED DOWNSTREAM AS ACCOUSTICALLY NONLAMINATED ACCUMULATIONS ON THE CORNER AND BERMUDA RISES, RESPECTIVELY. THE HUDSON RIVER INPUT WAS INJECTED INTO THE DEEP BASIN THROUGH THE HUDSON CANYON SYSTEM. THE INTERACTION OF THESE FINE-GRAINED TURBIDITIES WITH THE SOUTHWARD FLOWING WESTERN BOUNDARY UNDERCURRENT AND THE NORTHWARD FLOWING DEEP FLOW OF THE GULF STREAM SYSTEM LED TO THE FORMATION OF A PAIR OF OUTER RIDGE DEPOSITS; RESPECTIVELY. THE HUDSON AND GULF STREAM OUTER RIDGES WERE DEFINED FOR THE FIRST TIME. DURING THE LATE NEOGENE OR EARLY PLEISTOCENE, THE GULF STREAM OUTER RIDGE JAS PARTIALLY ERODED BY THE GULF STREAM SYSTEM, AND PURTIONS WERE SUBSEQUENTLY COVERED BY COARSE-GRAINED PLEISTOCENE TURBIDITIES. THE HUDSON OUTER RIDGE DAMMED A SIMILAR SERIES OF TURBIDITIES BEHIND 1TS LANDWARD FLANK. THE COARSE-GRAINED ILLITE-RICH TURBIDITIES THAT FLOWED ACROSS THE SE SOHM ABYSSAL PLAIN ALSO CROSSED THE MAIN AND RETURN FLOWS OF THE GULF STREAM SYSTEM. THE FINER PORTIONS OF THESE SEDIMENTS WERE ENTRAINED AND DEPOSITED AS PLEISTOCENE ACOUSTICALLY

LAMINATED SEDIMENTS ON THE PLATEAUS OF THE BERMUDA AND CORNER RISES.

1014 LAIRD. R.

HEALTH PLANNING COMMISSION REPORT ON PCBS [1976]

NYS EXECUTIVE CHAMBER, ALBANY, NY 4 PP

AFTER STUDIES OF PCB CONTAMINATION, THE COMMISSION HAS RECOMMENDED SHARP RESTRICTIONS ON THE CONSUMPTION OF FISH TAKEN FROM THE HUDSON RIVER. A DISCUSSION OF TOXICITY AND HEALTH HAZZARDS CAUSED BY DIETARY PCBS AND YUSHO DISEASE IS INCLUDED.

1015 LANDAU, M.

A COMMENT ON SELF-FERTILIZATION IN THE BARNACLE, BALANUS EBURNEUS GOULD (CIRRIPEDIA THORACICA) [1976]

CRUSTACEANA 30(1):105-106

THE CAPACITY TO SELF-FERTILIZE IN CERIAIN BARNACLES HAS BEEN DISCUSSED BY BARNES & CRISP (1956). BALANUS BALANOIDES (L.), ELMINIUS MODESTUS DARWIN, AND PROBABLY B. CRENATUS BRUGUIERE AND B. BALANUS (L.), SEEM TO BE OBLIGATORY CROSS-FERTILIZING SPECIES; HOWEVER, ISOLATED CHTHAMALUS STELLATUS (POLI), VERRUCA STROEMIA (O. F. MULLER), AND B. PERFORATUS BRUGUIERE WERE OBSERVED TO BEAR EMBRYOS. CHEUNG & NIGRELLI (1969) CULTURED A SINGLE SPECIMEN OF B. EBURNEUS GOULD THAT WAS APPARENTLY ABLE TO PRODUCE NAUPLII ALTHOUGH ISOLATED. THE BARNACLE PRODUCED ITS FIRST BROOD ONLY 44 DAYS AFTER METAMORPHOSIS AND A TOTAL OF 10 BROODS IN THE FIRST 9 MO. THE AGE WHEN REPRODUCTION TOOK PLACE AND THE FECUNDITY OF THIS INDIVIDUAL MARK IT AS ATYPICAL. A SAMPLING OF SEVERAL WILD POPULATIONS IN THE EASTERN LONG ISLAND AREA WAS UNDERTAKEN TO DETERMINE IF THE SELF-FERTILIZATION OBSERVED WAS MERELY A LABORATORY PHENOMENON OR AN EXAMPLE OF A REPRODUCTIVE PATHWAY NORMALLY FOLLOWED WHEN B. EBURNEUS IS ISOLATED.

1016 LANG, 4.

PROBLEMS OF POLLUTION AND WATER RESOURCES IN THE NEW YORK CITY METROPOLITAN AREA [1974]

NY ACAD SCI ANN 250:178-181

HIGH-DEGREE SECONDARY TREATMENT FOR DRY WEATHER WASTEWATER. CONSTRUCTION OF STORM WATER TREATMENT TO BE COMPLETED BY 1980. DESCRIPTION OF TREATMENT PLANTS, IMPROVEMENTS AND PROBLEMS.

1017 LANG, M.; C. SAMOWITZ; M. JETHWANI

CONTROL OF WATER POLLUTION IN NEW YORK CITY [1975]

WATER RES 9:981-991

A WATER POLLUTION CONTROL PROGRAM, TO BE EFFECTIVE, MUST: (1) CONVINCE BOTH PUBLIC AND GOVERNMENT OF THE NEED FOR A PROGRAM; (2) OBTAIN MONEY FOR THE PROGRAM; AND (3) DESIGN AND CONSTRUCT THE PROGRAM. SINCE IT MAY BE 20-50 YRS BEFORE THIS PROCESS RESULTS IN A WORKING PROGRAM, IT IS NECESSARY TO CONSIDER WHAT THE LOCAL NEEDS AND REQUIREMENTS WILL BE WHEN THE PROGRAM BEGINS TO FUNCTION. IT IS NECESSARY TO PLAN THE PROGRAM WITH CHANGING POPULATIONS, INDUSTRIES AND TECHNOLOGIES IN MIND. THIS PAPER DISCUSSES THE DEVELOPMENT OF SUCH A WATER POLLUTION CONTROL PROGRAM, USING NYC AS THE EXAMPLE.

1018 LANG, J.H.: E.A. DENNIS

MORPHOLOGY AND SEASONAL INCIDENCE OF INFECTION OF PROCTOECES MACULATUS (LOOSS, 1901) ODHNER, 1911 (TREMATODA) IN MYTILUS EDULIS L [1976]

OPHELIA 15(1):65-75

THE MORPHOLOGY OF ADULT PROCTOECES MACULATUS FROM THE MUSSEL, MYTILUS EDULIS, IS DESCRIBED AND COMPARED TO PREVIOUS DESCRIPTIONS OF THE WORM FROM FISH AND THE BIVALVE, SCROBICULARIA PLANA. STAGES IN THE MUSSEL INCLUDE TWO GENERATIONS OF SPOROCYSTS, CERCARIAE AND PROGENETIC ADULTS. BOTH SPOROCYSTS AND ADULTS EXHIBITED SEASONAL VARIATION IN THE INCIDENCE OF INFECTION DURING ONE YEAR OF SAMPLING AT TWO SITES. SPOROCYSTS WERE MOST COMMON IN LATE SUMMER AND THE INCIDENCE OF INFECTION INCREASED WITH INCREASE IN THE SIZE CLASS OF THE HOST. THE INCIDENCE OF ADULT TREMATODE INFECTION PEAKED IN EARLY WINTER AND RAPIDLY DECLINED WITH NO WORMS BEING RECOVERED BY LATE MAY. SPOROCYSTS APPEARED TO PERSIST UNTIL HOST DEATH WHEREAS ADULTS MATURED, RELEASED EGGS, AND DIED DURING LATE WINTER. THE MUSSEL APPEARS TO REPRESENT AN ALTERNATIVE FINAL HOST OF THIS TREMATODE. PERHAPS REPLACING TROPICAL FISH HOSTS IN TEMPERATE WATERS.

1019 LANGE, R.; M.A. DICKERSON; K.R. PETERSON; C.A. SHERMAN; J.J. SULLIVAN

PARTICLE IN CELL VS STRAIGHT LINE AIRFLOW GAUSSIAN CALCULATIONS OF CONCENTRATION AND DEPOSITION OF AIRBORNE EMISSIONS OUT TO 70 KM FOR TWO SITES OF DIFFERING METEOROLOGICAL AND TOPOGRAPHICAL CHARACTER [1976]

LAWRENCE LIVERMORE LAB. UNIV OF CA. LIVERMORE. CA 71 PP

TWO NUMERICAL MODELS FOR THE CALCULATION OF AIR CONCENTRATION AND GROUND DEPOSITION OF AIRBORNE EFFLUENT RELEASES ARE COMPARED. THE THE PARTICLE-IN-CELL (PIC) MODEL AND THE STRAIGHT-LINE AIRFLOW GAUSSIAN MODEL WERE USED FOR THE SIMULATION. TWO SITES WERE SELECTED FOR COMPARISON: THE HUDSON RIVER VALLEY, NY, AND THE AREA AROUND THE SAVANNAH RIVER PLANT, SC. INPUT FOR THE MODELS WAS SYNTHESIZED FROM METEOROLOGICAL DATA GATHERED IN PREVIOUS STUDIES BY VARIOUS INVESTIGATORS. IT WAS FOUND THAT THE PIC MODEL MORE CLOSELY SIMULATED THE THREE-DIMENSIONAL EFFECTS OF THE METEOROLOGY AND TOPOGRAPHY OVERALL, THE GAUSSIAN MODEL CALCULATED HIGHER CONCENTRATIONS UNDER STABLE CONDITIONS WITH BETTER AGREEMENT BETWEEN THE TWO METHODS DURING NEUTRAL TO UNSTABLE CONDITIONS. IN ADDITION, BECAUSE OF IIS CONSIDERATION OF EXPOSURE FROM THE RETURNING PLUME AFTER FLOW REVERSAL. THE PIC MODEL CALCULATED AIR CONCENTRATIONS OVER LARGER AREAS THAN DID THE GAUSSIAN MODEL.

1020 LANGE, R.; C.A. SHERMAN

PARTICLE IN CELL VS STRAIGHT LINE GAUSSIAN CALCULATIONS FOR AN AREA OF COMPLEX TOPOGRAPHY [1977]

IN CONF ON APPLICATIONS OF AIR POLLUT METEOROL, SALT LAKE CITY, UT, NOV 1977. 32 PP

TWO NUMERICAL MODELS FOR THE CALCULATION OF TIME INTEGRATED AIR CONCENTRATION AND GROUND DEPOSITION OF AIRBORNE RADIOACTIVE EFFLUENT RELEASES ARE COMPARED. THE TIME DEPENDENT PARTICLE-IN-CELL (PIC) MODEL AND THE STEADY STATE GAUSSIAN PLUME MODEL WERE USED FOR THE SIMULATION. THE AREA SELECTED FOR THE COMPARISON WAS THE HUDSON RIVER VALLEY, NY. INPUT FOR THE MODELS WAS SYNTHESIZED FROM METEOROLOGICAL DATA GATHERED IN PREVIOUS STUDIES BY VARIOUS INVESTIGATORS. IT WAS FOUND THAT THE PIC MODEL MORE CLOSELY SIMULATED THE THREE-DIMENSIONAL EFFECTS OF THE METEOROLOGY AND TOPOGRAPHY. OVERALL, THE GAUSSIAN MODEL CALCULATED HIGHER CONCENTRATIONS UNDER STABLE CONDITIONS. IN ADDITION, BECAUSE OF ITS CONSIDERATION OF EXPOSURE FROM THE RETURNING PLUME AFTER FLOW REVERSAL, THE PIC MODEL CALCULATED AIR CONCENTRATIONS OVER LARGER AREAS THAN DID THE GAUSSIAN MODEL.

1021 LANZA, G.R.; G.J. LAUER; T.C. GINN; P.C. STORM; L.S. ZUBARIK

PIOLOGICAL EFFECTS OF SIMULATED DISCHARGE PLUME ENTRAINMENT AT INDIAN POINT NUCLEAR POWER STATION, HUDSON RIVER ESTUARY, USA [1975] PAGES 95-126 IN COMBINED EFFECTS OF RADIOACTIVE: CHEM AND THERM RELEASES TO THE ENVIRON: PROC OF SYMP, STOCKHOLM, SWEDEN, JUN 2-5, 1775. IAEA, VIENNA, AUSTRIA

LABORATORY AND FIELD SIMULATIONS OF THE DISCHARGE PLUME ENTRAINMENT OF PHYTOPLANKTON, 700PLANKTON AND FISH WERE CARRIED OUT AT THE INDIAN POINT NUCLEAR STATION, HUDSON RIVER ESTUARY. PHYTOPLANKTON ASSEMBLAGES STUDIED ON TWO DATES PRODUCED DIFFERENT RESPONSE PATTERNS MEASURED AS PHOTOSYNTHETIC ACTIVITY. CHLOROPHYLL A LEVELS DID NOT CHANGE FOLLOWING SIMULATED ENTRAINMENT. POSSIBLE EXPLANATIONS FOR THE DIFFERENCES ARE DISCUSSED. THE TWO ABUNDANT COPEPODS, ACARTIA TONSA AND EURYTEMORA AFFINIS, APPEAR TO TOLERATE EXPOSURE TO DISCHARGE PLUME DELTA T WITHOUT ADVERSE EFFECTS. COPEPODS SUBJECTED TO PLUME ENTRAINMENT MAY SUFFER CHLORINATION. IN GENERAL, THE AMPHIPOD GAMMARUS SPP. DID NOT APPEAR TO SUFFER SIGNIFICANT MORTALITY DURING SIMULATED ENTRAINMENT. JUVENILE STRIPED BASS, MORONE SAXATILIS, WERE NOT AFFECTED BY SIMULATED PLUME TRANSIT BEFORE AND DURING PLANT CONDENSER CHLORINATION; HOWEVER, A SIMULATED "WORST POSSIBLE CASE" PLUME DELTA T PRODUCED STATISTICALLY SIGNIFICANT MORTALITIES.

- 1022 LASSEN, H.H.; E.J. TURANO
 - CLINAL VARIATION AND HETEROZYGOTE DEFICIT AT THE LAP-LOCUS IN MYTILUS EDULIS [1978]

MAR BIOL 49(3):245-254

ELECTROPHORETIC INVESTIGATIONS OF M. EDULIS POPULATIONS ON THE NY AND CT COASTS OF LONG ISLAND SOUND REVEALED A CLINE IN THE FREQUENCY OF THE LAPSY-ALLELE AT A 20-KM ZONE AT THE ENTRANCE TO THE ESTUARY. SIGNIFICANT DEFICITS OF HETEROZYGOTES WERE FOUND IN THE REGION OF THE CLINE AND ARE DISCUSSED IN TERMS OF A MODEL OF MIXING BETWEEN OCEANIC MUSSEL POPULATIONS OF HIGH GENE FREQUENCY AND ESTUARINE POPULATIONS OF LOW FREQUENCY. THE PATTERN OF ESTUARINE CIRUCLATION IS ASSUMED TO PROVIDE A MECHANICAL BASIS FOR ISOLATION PETWEEN OCEANIC AND ESTUARINE POPULATIONS AND TO DETERMINE THE POSITION OF THE GENE FREQUENCY CLINE.

1023 LAUER, G.J.; W.T. WALLER; D.W. BATH; A. MEEKS; R. HEFFNER

ENTRAINMENT STUDIES ON HUDSON RIVER ORGANISMS [1976]

PAGES 37-82 IN ENTRAINMENT AND INTAKE SCREENING, PROC, 2ND ENTRAINMENT AND INTAKE SCREENING WORKSHOP, JOHNS HOPKINS UNIV, BALTIMORE, MD, FEB 5-9, 1973

IN THIS EVALUATION OF THE POTENTIAL EFFECTS OF THE INDIAN POINT NUCLEAR POWER STATION ON THE BIOTA OF THE HUDSON RIVER ESTUARY, REPRESENTATIVES OF ALL TROPHIC LEVELS, INCLUDING MICROBIAL DECOMPOSERS, PHYTOPLANKTON, HERBI VEROUS AND CARNIVOROUS ZOOPLANKTON, SMALL EGGS AND LARVAE OF INVERTEBRATES AND FISH WERE CONSIDERED. LABORATORY THERMAL TOLERANCE STUDIES INDICATED THAT SIGNIFICANT DECREASES IN BACTERIAL ABUNDANCE OCCURRED ONLY AT TEMPERATURES HIGHER THAN THOSE PROJECTED FOR NORMAL PLANT OPERATION. A.SIGNIFICANT DECREASE IN ATP CONCENTRATIONS WAS NOTED IN WATER SAMPLES OBTAINED FROM CONDENSERS BEING CHLORINATED BUT DATA INDICATED THAT RECOVERY TO INTAKE LEVELS WOULD OCCUR BEFORE THE WATER LEFT THE DISCHARGE CANAL. THERE WAS NO EVIDENCE THAT THE INDIAN POINT FACILITY WAS ALTERING THE ABUNDANCE OR SPECIES COMPOSITION OF PHYTOPLANKTON. MICROZOOPLANKTON NUMBERS AND SPECIES COMPOSITION VARIED WITH SEASONAL FACTORS. MACROZOOPLANKTON SHOWED SOME MORTALITIES WITH THERMAL STRESS AND CHLORINATION. TOLERANCE OF FISH EGGS AND LARVAE TO TEMPERATURE ELEVATIONS VARIED WITH THE DEVELOPMENTAL STAGES TESTED.

- 1024 LAVELLE, J.W.; G.H. KELLER; T.L. CLARKE
 - POSSIBLE BOTTOM CURRENT RESPONSE TO SURFACE WINDS IN THE HUDSON SHELF CHANNEL [1975]

J GEOPHYS RES 80(15):1953-1956

CURRENT MEASUREMENTS MADE IN THE HUDSON SHELF CHANNEL DURING THE SUMMER OF 1973 SHOWED ESSENTIALLY CHANNEL AXIAL BOTTOM CURRENT EVEN THOUGH THE CHANNEL ASPECT RATIO IS SMALL IN THE AREA OF MEASUREMENT. ALTHOUGH THE CURRENT RECORD IS OF SHORT DURATION.

CORRELATION OF WATER MOVEMENT WITH SURFACE WINDS WAS SUGGESTED BY THE DATA. THE SENSE OF SUMMERTIME NONTIDAL BOTTOM FLOW IN THE CHANNEL (UP OR DOWN CHANNEL) WOULD APPEAR TO BE CONTROLLED BY THE SURFACE WIND DIRECTION (OFFSHORE OR ONSHORE). THESE RESULTS WOULD SUGGEST THE LIKELIHOOD OF NET DOWN-CHANNEL FLOW DURING THE SUMMER MONTHS.

1025 LAVELLE, J.W.; D.J.P. SWIFT; H.R. BRASHEAR; F.N. CASE

TRACER OBSERVATIONS OF SAND TRANSPORT ON THE LONG ISLAND INNER SHELF [1975]

EOS: TRANS AM GEOPHYS UNION 56(12):1003

WE HAVE OBSERVED BOTH SPRING-SUMMER AND FALL-WINTER SAND TRANSPORT IN TWO EXPERIMENTS ON THE LONG ISLAND INNER SHELF AT WATER DEPTHS OF 20 TO 24 M USING A RADIOISOTOPE SAND TRACER SYSTEM. DISPERSION PATTERNS OF THE TAGGED MATERIAL, MEDIUM TO FINE SAND WITH A MEAN DIAMETER OF 0.125 MM, SAMPLED BIWEEKLY OVER BOTH 70-DAY EXPERIMENTS, SUPPORT THE HYPOTHESIS OF WINTERTIME STORM ACTIVITY AS THE PRINCIPAL AGENT OF SHELF SAND TRANSPORT. IN THE LATE SPRING AND EARLY SUMMER, MOVEMENT IS PRIMARILY DIFFUSIVE IN NATURE, EXTENDING 200 M FROM THE (*1)ECTION POINT, WHILE LATE FALL-WINTER PATTERNS HAVE STRONG ADVECTIVE FEATURES, INCLUDING AN ELLIPSOIDAL SMEAR OF MATERIAL EXTENDING APPROXIMATELY 1200 M LONGSHORE AFTER THE PASSAGE OF SEVERAL "NORTHEASTERS."

NEAR-BOTTOM CURRENT OBSERVATIONS MADE WITH SAVONIUS ROTOR SENSORS SHOW: A DOUBLING OF PEAK NEAR-BOTTOM VELOCITIES FROM APPROXIMATELY 30 TO 60 CM/SEC, FROM THE FIRST TO THE SECOND EXPERIMENT; AND THE DOMINANCE OF WESTWARD STORM FLOW ALONG THE LONG ISLAND INNER SHELF IN THE TRANSPORTING SAND.

1026 LAVELLE, J.W.; P.E. GADD; G.C. HAN; D.A. MAYER; W.L. STUBBLEFIELD; D.J.P. SWIFT; R.L. CHARNELL; H.R. BRASHEAR; F.N. CASE; K.W. HAFF; C.W. KUNSELMAN

PRELIMINARY RESULTS OF COINCIDENT CURRENT METER AND SEDIMENT TRANSPORT OBSERVATIONS FOR WINTERTIME CONDITIONS ON THE LONG ISLAND INNER SHELF [1976]

GEOPHYS R L 3(2):97-100

WE HAVE OBSERVED LATE FALL AND WINTER BEDLOAD SEDIMENT TRANSPORT AND THE OVERLYING CURRENT FIELD IN RIDGE AND SWALE TOPOGRAPHY ON THE INNER CONTINENTAL SHELF SOUTH OF LONG ISLAND, AND CAN REPORT MOVEMENT OF BED MATERIAL AT A WATER DEPTH OF 20 M TO A DISTANCE OF APPROXIMATELY 1500 M AFTER SEVERAL STORM EVENTS. MOVEMENT OVER AN 11 WEEK OBSERVATION PERIOD WAS LONGSHORE AND OBLIQUE TO THE RIDGE CREST AT THE EXPERIMENTAL SITE. CURRENTS WERE ALSO PREDOMINATELY LONGSHORE, BUT LONG TERM AVERAGES DEMONSTRATE THAT A VERTICAL SHEAR EXISTED IN THE FLUID MOTION. ALTHOUGH THE NUMBER OF SEDIMENT TRANSPORT "EVENTS" SUGGESTED BY THE CURRENT METER DATA IS NEARLY BALANCED IN EASTWARD AND WESTWARD DIRECTIONS, BOTH ESTIMATES OF TRANSPORT FROM CURRENT SPEEDS AND TRACER DISPERSION PATTERNS SHOW THAT SEVERAL WESTWARD FLOWING EVENTS DOMINATED THE TRANSPORT DURING A 2-1/2 MO PERIOD. A QUANTITATIVE UPPER BOUND OF 31 CM/SEC ON THE THRESHOLD VELOCITY FOR SEDIMENT MOVEMENT IN THIS SIZE RANGE IS ALSO SET BY THE DATA.

1027 LAVELLE, J.W.; R.A. YOUNG; D.J.P. SWIFT; T.L. CLARKE

NEAR-BOTTOM SEDIMENT CONCENTRATION AND FLUID VELOCITY MEASUREMENTS ON THE INNER CONTINENTAL SHELF. NEW YORK (1978)

J GEOPHYS RES 83(C12):6052-6062

PROTOTYPE INSTRUMENTATION DESIGNED TO MEASURE LIGHT SCATTERING AND TRANSMISSION AND THE HORIZONTAL COMPONENTS OF FLUID VELOCITY AT A POINT 100 CM OFF THE SEA FLOOR WAS DEPLOYED ON THE LI INNER SHELF FOR 27 D IN OCT AND NOV OF 1976. DEPTH AT THE POINT OF DEPLOYMENT WAS 10.5 M. DATA WERE TAKEN FROM SENSORS IN HOURLY BURSTS CONSISTING OF 468 CONSECUTIVE 1-SEC SAMPLES. THE RESULTS FROM THE DEPLOYMENT SHOW THE EFFECTS OF WATER MOTIONS AT BOTH WAVE AND SUBTIDAL FREQUENCIES ON SEDIMENT CONCENTRATIONS. ALTHOUGH BURST MEAN CURRENTS FLUID MOTIONS DURING THE OBSERVATION INTERVAL WERE PRIMARILY OF TIDAL FREQUENCY, A SINGLE WIND-FORCED EVENT CAUSED BURST MEAN CURRENTS IN EXCESS OF 38 CM/SEC. DURING THAT SAME EVENT. SUSPENDED PARTICULATE

CONCENTRATIONS ROSE TO A BURST MEAN OF 79 MG/L FROM A PRESTORM LEVEL OF 5 MG/L. AN ORDER OF MAGNITUDE INCREASE OCCURRING OVER A PERIOD OF APPROXIMATELY 12 HR. DURING THE STORM EVENT, INDIVIDUAL BURST RECORDS SHOW THAT FLUID MOTIONS AT SURFACE WAVE FREQUENCIES AND WITH AMPLITUDES OF >100 CM/SEC OCCURRED AT THE EXPERIMENTAL SITE. THE NEAR-BOTTOM SUSPENDED MATTER FIELD HAD APPRECIABLE ENERGY AT SURFACE WAVE FREQUENCIES AS WELL. CHANGES IN SUSPENDED MATTER CONCENTRATION OF THE ORDER OF 130 MG/L OCCURRED IN A PERIOD OF 3-5 SEC. INCREASED BURST MEAN CONCENTRATION ACCOMPANIED INCREASED WAVE ACTIVITY, ALTHOUGH INCREASED MEAN FLOW WITH DECLINING WAVE ACTIVITY ALSO LED TO INCREASED SUSPENDED PARTICULATE CONCENTRATION. WHEN STORM CONDITIONS (WAVE ACTIVITY AND MEAN FLOW MUCH ABOVE DEPLOYMENT INTERVAL AMBIENTS) ABATED, CONCENTRATIONS RETURNED TO AMBIENT LEVELS IN <12 HR. COHERENCE BETWEEN SUSPENDED MATTER CONCENTRATION AND HORIZONTAL FLUID VELOCITY WAS STATISICALLY SIGNIFICANT DURING 4 INTERVALS OF THE DEPLOYMENT. IN MOST CASES THE SIGNIFICANCE WAS CENTERED AROUND A BROAD FREQUENCY BAND NEAR 0.1 Hz. VERTICAL NEAR-BOTTOM WAVE VELOCITIES WERE INFERRED FROM THE CURRENT MEASUREMENTS.

1028 LAVELLE, J.W.; D.J.P. SWIFT; P.E. GADD; W.L. STUBBLEFIELD; F.N. CASE; H.R. BRASHEAR; K.W. HAFF

FAIR WEATHER AND STORM SAND TRANSPORT ON THE LONG ISLAND. NEW YORK INNER SHELF [1978]

SEDIMENTOL 25(6):823-842

BOTH SPRING-SUMMER AND FALL-WINTER SAND TRANSPORT HAVE BEEN OBSERVED ON THE LONG ISLAND, NY, INNER SHELF AT WATER DEPTHS OF 20-22 M USING A RADIOISOTOPE SAND TRACER SYSTEM. THE EXTENT OF DISPERSAL OF THE TAGGED, FINE SAND WAS MEASURED AT 3 WEEK INTERVALS IN TWO 70 DAY EXPERIMENTS. IN THE LATE SPRING AND EARLY SUMMER, MOVEMENT WAS PRIMARILY DIFFUSIVE IN NATURE, EXTENDING 100 M AROUND THE LINE OF TRACER INJECTION, WHILE LATE FALL-WINTER PATTERNS HAD STRONG ADVECTIVE FEATURES, INCLUDING AN ELLIPSOIDAL DUTLINE EXTENDING APPROXIMATELY 1500 M WESTWARD OF THE INJECTION POINTS AFTER THE PASSAGE OF SEVERAL STORMS WITH STRONG NORTHEASTERLY WINDS. NEAR-BOTTOM CURRENT OBSERVATIONS MADE WITH SAVONIUS ROTOR SENSORS IDENTIFY THE EVENT RESPONSIBLE FOR THE BULK OF THE TRANSPORT OVER THE 135 DAY OBSERVATION PERIOD AS A STORM FLOW OF 2 DAYS DURATION. TRACER AND CURRENT OBSERVATIONS TOGETHER SUGGEST THAT WESTWARD WINTER STORM FLOW ALONG THE LONG ISLAND SHELF IS THE MAJOR MECHANISM OF SAND TRANSPORT AT THESE DEPTHS ON A YEARLY TIME SCALE. A LEAST-SQUARES FIT OF SEVERAL OF THE OBSERVED WINTER PATTERNS WITH A PLUME MODEL YIELDS AVERAGE SEDIMENT MASS FLUX LOWER BOUNDS OF 3.2 x 10EXP-3 GM/CM/SEC AND 1.7 x 10EXP-1 GM/CM/SEC FOR "TYPICAL" AND EXTREME WINTER STORM ACTIVITY.

1029 LAWLER, J.P.; R.A. NORRIS; G. GOLDWYN; K.A. ABOOD; T.L. ENGLERT

HUDSON RIVER STRIPED BASS LIFE CYCLE MODEL [1976]

PAGES 33-94 IN ENTRAINMENT AND INTAKE SCREENING, PROC, 2ND ENTRAINMENT AND INTAKE SCREENING WORKSHOP, JOHNS HOPKINS UNIV. BALTIMORE, MD, FEB 5-9, 1973

A MATHEMATICAL MODEL WAS DESIGNED TO SIMULATE THE LIFE CYCLE OF THE STRIPED BASS IN THE HUDSON RIVER WITH THE GOAL OF DEVELOPING THE CAPACITY TO PREDICT THE EFFECT WHICH THE IMPOSITION OF INCREASED MORTALITY AT ANY POINT IN THE LIFE CYCLE WILL HAVE ON THE POPULATION AS A WHOLE. THE MODEL WAS BASED ON THE FINITE DIFFERENCE FORM OF THE ONE-DIMENSIONAL ADVECTION-DISPERSION TRANSPORT EQUATION AND WAS MODIFIED TO INCLUDE REALISTIC SOURCE AND DECAY TERMS FOR STRIPED BASS EGGS AND LARVAE. RESULTS CORRESPONDED REASONABLY WELL WITH FIELD DATA. THE PARAMETERS OF BIOLOGICAL COMPENSATION, TIDAL EFFECTS AND VERTICAL NON-HOMOGENFITY WERE NOT INCLUDED IN THE MODEL AND THE AUTHORS RECOMMEND IMPROVEMENT TO INCLUDE THESE FACTORS.

1030 LAWLER, J.P.; T.L. ENGLERT; R.A. NORRIS; C.B. DEW

MODELING OF COMPENSATORY RESPONSE TO POWER PLANT IMPACT. [1977]

IN W. VAN WINKLE, ED. PROC OF THE CONF ON AGSESSING THE EFFECTS OF POWER-PLANT-INDUCED MORTALITY ON FISH POPULATIONS, GATLINBURG, IN, 3-6 MAY'1977. PERGAMON PRESS, NEW YORK, NY 185 PP

MECHANISMS OF KINETICS OF COMPENSATORY RESPONSE IN FISH POPULATIONS SUBJECT TO POWER PLANT CROPPING ARE PRESENTED. TOPICS DISCUSSED INCLUDE: (A) THE BIOLOGICAL AND MATHEMATICAL UNDERPINNING LEADING TO NONLINEAR PREY-PREDATOR AND COMPETITOR RELATIONS; (B) THE MATHEMATICAL RELATIONSHIP BETWEEN COMPENSATING AND NONCOMPENSATING SYSTEMS FOR SINGLE SPECIES; (C) THE RELATIONSHIP BETWEEN RICKER-TYPE STOCK-RECRUITMENT, POPULATION OSCILLATION, AND LAGGED LOGISTIC GROWTH; (D) THE USE OF RICKER AND BEVERTON-HOLT STOCK-RECRUITMENT CURVES TO SIMULATE COMPENSATION IN SINGLE-SPECIES LIFE CYCLE MODELS; AND (E) A MODEL OF DENSITY-DEPENDENT GROWTH. APPLICATION OF THE LAST TWO TOPICS TO THE ASSESSMENT OF POWER PLANT IMPACT IN THE HUDSON RIVER IS DISCUSSED.

1031 LEAHEY, D.M.; J. HALITSKY

LOW WIND TURBULENCE STATISTICS AND RELATED DIFFUSION ESTIMATES FROM A SITE LOCATED IN THE HUDSON RIVER VALLEY [1973]

ATMOS ENVIRON 7(1):49-61

A "YURRULENCE CLIMATOLOGY" HAS BEEN COMPILED FOR WIND SPEEDS LESS THAN OR EQUIVALENT TO 2 M/SEC FROM BIVANE READINGS. THE METHOD OF J.S. HAY AND F. PASQUILL WAS EMPLOYED TO CONVERT THIS CLIMATOLOGY TO QUANTITATIVE ESTIMATES OF DIFFUSION. IT IS SHOWN THAT THE HIGHEST SURFACE CONCENTRATIONS FROM A GROUND BASED SOURCE AT A DOWNWIND DISTANCE OF 1100 M CORRESPONDS TO ESTIMATES MADE FROM ASSUMING THE CONDITIONS OF PASQUILL'S DIFFUSION CATEGORY D.

1032 LEATHERMAN, S.P.

THE GEOMORPHIC EFFECTS OF OFF-ROAD VECHICLES ON BEACHES AND DUNES [1978]

GEOL SOC AM ABSTR PROG 10-(2):72

VEHICULAR DISTURBANCE OF COASTAL ECOSYSTEMS IS BEING STUDIED AT CAPE COD AND FIRE ISLAND NATIONAL SEASHORES. IN THE PROVINCE LANDS OF CAPE COD, OFF-ROAD VEHICLES (ORVS) ARE CONTRIBUTING TO THE DYNAMIC NATURE AND DISRUPTION OF THIS LANDSCAPE. VEHICULAR PASSAGE QUICKLY DESTROYS DUNE GRASS AND BLOWOUTS DEVELOP, RESULTING IN ALTERATION OF DUNE SHAPE AND RELIEF. THE EXPERIMENTAL APPROACH WAS ADOPTED IN ORDER TO DETERMINE THE AMOUNT OF SEDIMENT DISPLACEMENT DOWNSLOPE BY VEHICULAR PASSAGE. NAUSET SPIT, A BARRIER SPIT ALONG OUTER CAPE COD, IS HEAVILY USED BY RECREATIONAL VEHICLES. LARGE GAPS IN THE PRIMARY DUNE LINE HAVE DEVELOPED AS CORRIDORS FOR ORV TRAFFIC. THESE DUNE BREACHES SERVE AS OVERWASH CHANNELS DURING STORMS. OUR STUDIES IN THIS AREA INVOLVE THE DETERMINATION OF THE ROLES OF OVERWASH AND DUNE BUILDING, AND THE IMPACT OF ORVS ON THESE NATURAL PROCESSES. SEVERAL WASHOVER FANS/FLATS ARE BEING MONITORED TO DETERMINE THE RATE OF RECOVERY BY NATURAL MEANS AND THROUGH BEACH GRASS PLANTINGS. THE FIRE ISLAND STUDIES ARE FOCUSED ON THE DIRECT IMPACT OF VEHICULAR PASSAGE ON THE BEACH AND DUNE FACE. A DRIFTLINE/DUNE FACE EXCLOSURE HAS BEEN ESTABLISHED IN ORDER TO DELINEATE THE ROLE OF VEHICULAR IMPACT IN THIS CRITICAL ZONE. PHYSIOGRAPHIC AND VEGETATIVE TRANSFERS ARE CONDUCTED IN THE CONTROL (EXCLOSURE) AND ADJACENT IMPACT AREAS TO ILLUSTRATE PROGRESSIVE DIFFERENCES IN VEGETATIVE PARAMETERS AND ELEVATION. ALSO, DIRECT MONITORING OF SEDIMENT MOVEMENT PER VEHICLE PASS ON THE BEACH IS BEING MEASURED BY A NEWLY DEVELOPED MICROTOPOGRAPHY PROFILER. THESE STUDIES HAVE BEEN DESIGNED TO DETERMINE THE NATURE AND MAGNITUDE OF ORV-INDUCED DISRUPTION OF NATURAL GEOMORPHIC PROCESSES AND LANDFORMS.

1033 LEATHERMAN, S.P.; D. JONEJA; C. JOHNSON

GEOMORPHIC ANALYSIS OF SOUTH SHORE BARRIERS LONG ISLAND, NEW YORK: PHASE I FINAL REPORT & APPENDIX [1980]

UNIT REP 47. NATIONAL PARK SERVICE COOPERATIVE RESEARCH, UNIV OF MA, AMHERST, MA 2 VOL NP

THIS REPORT IS DIVIDED INTO TWO PRINCIPAL SECTIONS. THE BARRIER ISLAND EVOLUTION CHAPTER BY LEATHERMAN CONTAINS AN EXTENSIVE LITERATURE REVIEW IN OUTLINE FORM. MAJOR THEORIES ARE ANALYZED, PARTICULARLY FOR APPLICATION TO THE SOUTH SHORE OF LONG ISLAND PARRIERS. THE INFORMED READER MAY FEEL THAT OTHER PAPERS SHOULD HAVE BEEN INCLUDED IN THIS SECTION, BUT ONLY ARTICLES THAT CONTRIBUTED NEW INFORMATION AND DEALT WITH THE MAIN SUBJECT AREA WERE CRITIQUED. THEREFORE, GENERAL REVIEW PAPERS WERE OMITTED

WHERE THE MATERIAL WAS PREVIOUSLY PRESENTED BY THE SAME AUTHOR. THE SECOND MAJOR CHAPTER, CHRONOLOGY OF HISTORICAL CHANGES, WAS PRINCIPALLY WRITTEN BY JONEJA WITH ASSISTANCE FROM LEATHERMAN. DATA FOR THE STUDY AREA FROM EXISTING LITERATURE, MAPS, CHARTS, AND AERIAL PHOTOGRAPHS WERE ASSEMBLED INTO A BIOGRAPHICAL FORMAT FROM 1600 TO THE PRESENT. THE SOURCES FOR THIS DETAILED INFORMATION ARE PRESENTED IN TABULAR FORM AS AN APPENDIX. FINALLY, TENTATIVE CORING SITES HAVE BEEN CHOSEN AND INDICATED ON A SUMMARY MAP OF THE ENTIRE REACH (FIRE ISLAND INLET TO SOUTHAMPTON), WHICH ALSO INCLUDES THE LOCATION OF KNOWN OVERWASH AND INLET ACTIVITY AND PREVIOUS CORING TRANSECTS. IN ADDITION TO THIS REPORT, A SEPARATE APPENDIX OF MATERIALS HAS BEEN PREPARED. A SINGLE COPY OF THE FOLLOWING INFORMATION HAS BEEN INCLUDED: PHOTOGRAPHIC COPIES OF THE ORIGINAL MAPS AND CHARTS, ORIGINAL COPIES OF NOAA AND USGS CHARTS AND MAPS, AND XEROX COPIES OF THE PERTINENT ARTICLES AND REPORTS AS CITED IN THE BIBLIOGRAPHIES. SOME BOOKS WERE PURCHASED FOR INCLUSION IN THIS PACKAGE. PERHAPS OF SPECIAL INTEREST IS A SET OF 1928 VERTICAL AERIAL PHOTOGRAPHS FOR FIRE ISLAND NATIONAL SEASHORE, AND SOME OBLIQUE SHOTS OF STORM DAMAGE ACQUIRED FROM THE PHOTO MORGUES OF THE NEW YORK TIMES.

1034 LEBLANC, L.

OIL COMPANIES PLACE HEAVY WAGER ON TRACTS AT BALTIMORE CANYON [1976]

OFFSHURE 36(10):89-92, 97

THIS PAPER DESCRIBES THE AUG 17,1976 BIDDING BY OIL COMPANIES FOR TRACTS AT BALTIMORE CANYON OFF NJ. 101 OF 154 OFFERED TRACTS WERE BID ON. THESE BIDS TOTALLED \$1.1 BILLION. EXXON WON THE LARGEST AMOUNT, BIDDING \$350 MILLION FOR 34 TRACTS.

1035 LEE, G.F.; R.A. JONES

AN ASSESSMENT OF THE ENVIRONMENTAL SIGNIFICANCE OF CHEMICAL CONTAMINANTS PRESENT IN DREDGED SEDIMENTS DUMPED IN THE NEW YORK BIGHT [1977]

REP TO MY DISTRICT, ARMY CORPS OF ENG. OCCASIONAL PAP 28. ENVIRON CHEM CENTER FOR ENVIRON STUDIES, UNIV OF TX. DALLAS, TX 62 PP

A STUDY OF THE ENVIRONMENTAL IMPACT OF THE DUMPING OF DREDGED SEDIMENTS AT THE NY BIGHT MUD DUMPSITE HAS SHOWN THAT THE CHEMICAL CONTAMINANTS PRESENT IN THESE SEDIMENTS ARE NOT EXPECTED TO HAVE A SIGNIFICANT ADVERSE EFFECT ON DUMPSITE WATER OUALITY. DUMPSITE WATER COLUMN ORGANISMS WOULD NOT LIKELY BE AFFECTED EITHER THROUGH TOXICITY, STIMULATION OF EXCESSIVE GROWTHS OR BIOACCUMULATION OF CONTAMINANTS RELEASED FROM DUMPED SEDIMENTS. CONCENTRATIONS OF HG. CHLORINATED HYDROCARBON PESTICIDES AND PCHS IN EDIBLE PORTIONS OF CRAB AND COMMERCIALLY IMPORTANT BOTTOM-DWELLING FISH FROM THE MUD DUMPSITE WERE FOUND TO BE LESS THAN THE FDA GUIDELINES FOR THE USE OF THE ORGANISMS AS HUMAN FOOD. THESE ORGANISMS ARE APPARENTLY NOT BIOACCUMULATING EXCESSIVE AMOUNTS OF THESE CONTAMINANTS. ADDITIONAL ORGANISMS SHOULD BE COLLECTED AT QUARTERLY INTERVALS AND ANALYZED FOR THESE CONSTITUENTS TO BE CERTAIN THAT THIS CONCLUSION IS APPLICABLE THROUGHOUT THIS YEAR. SOME OF THE PREVIOUS ESTIMATES OF TOTAL CONTAMINANT LOADS TO THE NY BIGHT ASSOCIATED WITH DREDGED SEDIMENT DISPOSAL ARE BASED ON INADEQUATE AND UNRELIABLE DATA. FURTHER, THERE IS NO RELATIONSHIP BETAEEN THE TOTAL AMOUNTS OF CONTAMINANTS PRESENT IN DREDGED SEDIMENTS AND THEIR EFFECT ON WATER QUALITY AT THE DISPOSAL SITE. THE TOTAL CONTAMINANT CONTENT OF THE SEDIMENT IS NOT A RELIABLE BASIS FOR DEVELOPING DREDGED MATERIAL DISPOSAL CRITERIA. NO RELATIONSHIP HAS BEEN FOUND BETWEEN THE CONTENT OF VARIOUS CONTAMINANTS IN SEDIMENTS AND THE RELEASE OF THOSE CONTAMINANTS AT THE DREDGED MATERIAL DISPOSAL CRITERIA. NO RELATIONSHIP HAS BEEN FOUND BETWEEN THE CONTENT OF VARIOUS CONTAMINANTS IN SEDIMENTS AND THE RELEASE OF THOSE CONTAMINANTS AT THE DREDGED MATERIAL DISPOSAL SITE.

1036 LEE, J.J.; M.E. MCENERY; E.M. KENNEDY; H. RUBIN

A NUTRITIONAL ANALYSIS OF A SUBLITTORAL DIATOM ASSEMBLAGE EPIPHYTIC ON ENTEROMORPHA FROM A LONG ISLAND SALT MARSH [1975]

J PHYCOL 11:14-49

THE DIATOM POPULATION STRUCTURE OF A SALT MARSH EPIPHYTIC COMMUNITY GROWING ON ENTEROMORPHA INTESTINALIS WAS STUDIED AT ONE STATION THROUGHOUT THE SUMMER. A TOTAL OF 218 SPECIES OR VARIETIES WERE RECOGNIZED. 6 SPECIES—FRAGILARIA CONSTRUENS, COCCOMEIS

SCUTELLUM. COCCONEIS PLACENTULA. ACHMANTHES HAUCKIANA VARIETIES. ACHMANTHES PINNATA. AND AMPHORA COFFEAEFORMIS (VAR. ACUITUSCULA) -- DOMINATED THE ENTEROMORPHA EPIPHYTIC COMMUNITY DURING THE SUMMER MONTHS AND COMPRISED APPROXIMATELY 40% OF THE TOTAL POPULATIONS. MELOSIRA NUMMULOIDES. OPEPHORA MARTYI. SYNEDRA FASICULATA VAR TABULATA. S. AFFINIS. NAVICULA PLATYVENTRIS. AND N. PAVILLARDI WERE ALSO VERY COMMON SPECIES (13% OF THE TOTAL POPULATION). THE DISTRIBUTION OF MANY SPECIES IN THE COMMUNITY WAS SEASONAL. A SERIES OF DIFFERENTIAL MEDIA HAVE BEEN DEVELOPED WHICH ARE EFFECTIVE AS TOOLS FOR THE ISOLATION AND NUTRITIONAL CHARACTERIZATION OF THE ALGAE AND BACTERIA FROM THE COMMUNITY. MANY DIATOM SPECIES CAN BE RECOGNIZED BY THEIR COLONY TYPE OR GROWTH PATTERN ON SOLIDIFIED MEDIA. A KEY AND ILLUSTRATED PLATES AID IN IDENTIFICATION. CHANGES IN POPULATION STRUCTURE OF THE COMMUNITY WERE REFLECTED BY CHANGES IN THE NUTRITIONAL PATTERNS AS JUDGED BY DIFFERENCES IN THE GROWTH OF DIATOMS AND BACTERIA ON THE DIFFERENTIAL MEDIA TESTED. THE NUTRITIONAL REQUIREMENTS, SELECTIVITY, AND RANK ORDER OF MEDIA FOR INDIVIDUAL SPECIES IS GIVEN. ALMOST HALF OF THE COLONY TYPES (32-33) GREW ON EITHER UNENRICHED SEAWATER FROM THE COLLECTION SIGHT OR BASAL SYNTHETIC SEAWATER. ERDSCHRIEBER WAS A POORER MEDIUM FOR THE ISOLATION OF ALGAE THAN SEAWATER ALONE. FEW ALGAL COLONIES GREW ON EITHER MARINE NUTRIENT AGAR OR TRYPTICASE SOY AGAR. NITRITE INHIBITED ALGAL GROWTH. MEDIA ENRICHED WITH THIAMINE, BIOTIN, OR NITRATE, PHOSPHATE, AND B12 WERE STIMULATORY. SOIL EXTRACT OR AN ACETONE EXTRACT OF ENTEROMORPHA TRIPLED GROWTH; A COMPLEX VITAMIN MIXTURE, OR GLYCEROL OR MANNITOL, OR AN AUTOCLAVED EXTRACT OF ENTEROMORPHA DOUBLED COLONY NUMBERS. THE GREATEST NUMBERS OF DIATOM 14PES (43) AND TOTAL COLONIES (655) WERE RECOVERED ON MEDIA ENRICHED WITH ACETONE EXTRACT OF ENTEROMORPHA, SUGGESTING A POSSIBLE NUTRITIONAL RELATIONSHIP BETWEEN ENTEROMORPHA AND 11S EPIPHYTES. THE REPRESENTATIVENESS OF THE ISOLATIONS FROM THE NATURAL COMMUNITY AS A FUNCTION OF TIME WAS ALSO CONSIDERED. CONCENTRATIONS OF SELECTED DISSOLVED POTENTIAL GROWTH-STIMULATING NUTRIENTS WERE MEASURED WITHIN AND EXTERNAL TO ENTEROMORPHA COMMUNITIES. WE CONCLUDE THAT THE ALGAL ASSEMBLAGE GROWING EPIPHYTICALLY ON ENTEROMORPHA INTESTINALIS HAS A DIVERSE AUXOTROPHIC PROFILE WHICH CONTRIBUTES TO THE PRODUCTIVITY AND STAPILITY WITHIN THIS IMPORTANT COMPONENT OF THE EPIPHYTIC COMMUNITY AND THAT MUCH OF THE ORGANIC SUBSTRATES USED BY INDIVIDUAL SPECIES ORIGINATE WITHIN AND ARE RECYCLED AMONG THE COMMUNITY MEMBERS.

1037 LEE, J.J.

THE DISTRIBUTION OF FORAMINIFERA OF THE NEW YORK METROPOLITAN REGION [1975]

CUNY, NEW YORK, NY 17 PP

THIS IS AN ANALYSIS OF 100 BENTHIC SAMPLES AND 20 PLANKTON TOWS. THERE ARE COMPARATIVELY LARGE NUMBERS OF FORAMINIFERA (ENVIRONMENTAL INDICATOR SPECIES) IN THE BENTHIC COMMUNITIES OF THE LOWER NY HARBOR AND BIGHT. FORAMINIFERA POPULATION HERE IS SIMILAR TO ASSEMBLAGES FOUND IN CORES AFTER PLEISTOCENE GLACIER RETREAT. SUPERFICIAL ANALYSIS OF DATA SUGGESTS 90% REDUCTION IN FORAMINIFERA IN NORTHERN PARTS OF THE DUMPSITE.

1038 LEE, J.J.; C. MASTROPAOLO; M.E. MCENERY; J.H. TIETJEN; J. GARRISON

IN SITU MONITORING OF THE EFFECTS OF WATER QUALITY ON BENTHIC DETRITAL DECOMPOSITION [1978]

DEPT OF BIOLOGY, CUNY, NEW YORK, NY 27 PP

DETRITAL DECOMPOSITION IS AN IMPORTANT MARINE BENTHIC PROCESS WHICH CONTRIBUTES TO THE FERTILITY OF SEAS, PARTICULARLY IN ESTUARIAN AND COASTAL WATERS. THE PROCESS INVOLVES A COMPLEX COMMUNITY OF MICROORGANISMS AND SMALL ANIMALS WHICH INTERACT WITH EACH OTHER IN A MANNER SIMILAR TO THAT WHICH OCCURS IN FOREST LITTER AND IN COMPOSTS. PLASTIC CHAMBERS FOR MEASURING DECOMPOSITION RATES OF SPARTINA ALTERNIFLORA WERE PLACED ON THE BOTTOM OF THE SEA AT FOUR SITES IN THE NORTHEAST: TOWN POINT. SOUTHAMPTON, NY; THE EFFLUENT QUARRY OF THE MILLSTONE POWER PLANT ON NIANTIC BAY, LONG ISLAND SOUND; WINSOR COVE, CATAUMET, MA (THE SITE OF AN OIL SPILL); AND SIPPEXISSETT MARSH, FALMOUTH, MA (A CONTROL SITE FOR WINSOR COVE). THE STATIONS WERE VISITED MONTHLY. BY VARIOUS MEANS MEASUREMENTS WERE TAKEN OF THE RATES OF DECOMPOSITION AND GROWTH OF SEDIMENT MICROBIAL AND ANIMAL POPULATIONS.

1039 LEE, T.R.

ACQUISITION OF RIPARIAN RIGHT IN NEW YORK [1964]

PAGES 13-21 IN PROC. ABA SECTION OF MINERAL AND NATURAL RESOURCES LAW

THIS ARTICLE IS A REVIEW OF THE LAW OF RIPARIAN RIGHTS PARTICULARLY AS THEY RELATE TO NY. IT BRIEFLY DESCRIBES THE VARIOUS DOCTRINES OF RIPARIAN RIGHTS IN EFFECT IN THE US, PLACING EMPHASIS ON THE COMMON LAW DOCTRINE. THE AUTHOR DISCUSSES SOME OF THE ISSUES RAISED IN THE NEW YORK CITY WATER SUPPLY PROCEEDING, AS WELL AS CERTAIN LIMITATIONS ON THE RIGHTS OF RIPARIAN OWNERS AND SOME OF THE OBJECTIONS WHICH HAVE BEEN MADE TO THE COMMON LAW DOCTRINE. ALSO MENTIONED IS A PROPOSAL FOR CHANGING THE COMMON LAW DOCTRINE BY LEGISLATION AND THE CURRENT ATTITUDE OF THE NEW YORK LEGISLATURE TOWARD POSSIBLE CHANGES. THE ARTICLE CONCLUDES THAT THE COMMON LAW DOCTRINE OF RIPARIAN RIGHTS APPLIES GENERALLY IN NY, ALTHOUGH CRITICIZED; THAT THE CITY OF NEW YORK IS REQUIRED BY STATUTE TO PAY INDIRECT REAL ESTATE AND BUSINESS DAMAGES, AS WELL AS DIRECT DAMAGES, IN RIPARIAN PROCEEDINGS; AND THAT THE NY LEGISLATURE, AT THE PRESENT TIME, DOES NOT SEEM INCLINED TO RELIEVE THE CITY OF THAT OBLIGATION NOR TO MATERIALLY CHANGE THE COMMON LAW DOCTRINE WITH RESPECT TO PAYMENT FOR RIPARIAN RIGHTS.

1040 LEE. W.Y.

CHRONIC SUBLÉTHAL EFFECTS OF THE WATER SOLUBLE FRACTIONS OF NO. 2 FUEL OILS ON THE MARINE ISOPOD, SPHAEROMA QUADRIDENTATUM
[1979]

MAR ENVIRON RES 1(1):5-17

ONE-MONTH-OLD ISOPODS WERE EXPOSED TO SUBLETHAL CONCENTRATIONS [0.1%-15% WATER-SOLUBLE FRACTION (WSF)] OF A FUEL OIL (BAYTOWN, EXXON) AT ROOM TEMPERATURES OF 24 F(1.60 C) FOR 9 MO. THESE ISOPODS SURVIVED TO MATURITY AND REPRODUCED. GROWTH RATE WAS ADVERSELY AFFECTED, HOWEVER, AT CONCENTRATIONS 3% WSF AND FECUNDITY WAS DEPRESSED AT CONCENTRATIONS 1% WSF. SURVIVAL OF OFFSPRING IN CLEAN SEAWATER WAS DEPENDENT TO A LARGE EXTENT ON THE HISTORY OF THE PREVIOUS GENERATION. OFFSPRING FROM GROUPS EXPOSED TO 1% WSF EXPERIENCED HIGH MORTALITY (>70% WITHIN 5 WK) EVEN IN CLEAN SEAWATER. THIS MAY IMPLY THAT A POPULATION OF SPHAEROMA EXPOSED TO WSF AS LOW AS 0.2 PPM MAY EVENTUALLY DISAPPEAR, ALTHOUGH ANIMALS CAN GROW TO MATURITY AND REPRODUCE AT CONCENTRATIONS <3 PPM. IN ANOTHER EXPERIMENT, 3-MO-OLD SPHAEROMA WERE SUBJECTED TO THE WSF*S OF 4 FUEL OILS (BATON ROUGE, OIL FOR THE KIND OF FUEL OIL. THE NUMBER OF YOUNG PRODUCED BY THE SURVIVING FEMALES VARIED, HOWEVER, WITH THE TYPE OF FUEL OIL FOR THE SAME LEVEL OF WSF. THIS MAY BE ATTRIBUTED TO DIFFERENT RELATIVE AMOUNTS OF TOXIC COMPONENTS PRESENT IN THE WSF.

1041 LEENDERTSE, J.J.; S.K. LIU

A WATER-QUALITY SIMULATION MODEL FOR JELL MIXED ESTUARIES AND COASTAL SEAS: VOL VI, SIMULATION, OBSERVATION, AND STATE ESTIMATION [1974]

R-1586. RAND CORP, NEW YORK, NY 108 PP

WATER QUALITY SIMULATION OF POST-RAINSTORM COLIFORM BACIERIA DISTRIBUTIONS IN JAMAICA BAY, NY, IS DESCRIBED BY USE OF MODELS OF THE DRAINAGE BASINS SURROUNDING THE 9AY AND A WATER QUALITY SIMULATION OF THE BAY ITSELF. A STOCHASTIC ANALYSIS METHOD IS USED TO ASSESS BEHAVIOR AND RESOLVING POWER OF THE WATER QUALITY SIMULATION MODEL AND TO DERIVE AN OPTIMAL ESTIMATE OF MISSING INPUT DATA. ESTIMATES OBTAINED BY SIMULATION AGREE WELL WITH JHOSE OBTAINED BY FIELD MEASUREMENTS, EXCEPT NEAR BERGEN BASIN, WHERE AN UNKNOWN SOURCE OF COLIFORM BACTERIA EXISTS. SINCE THE RESPONSE TO A RAINSTORM OF ALL MAJOR COMPONENTS OF THIS URBAN ESTUARINE SYSTEM CAN BE DETERMINED, THE MODELS DESCRIBED WILL PROVIDE THE BASIS FOR THE OPTIMAL DESIGN AND MANAGEMENT OF AN AUXILIARY TREATMENT SYSTEM FOR SEWER OVERFLOWS OF THE DRAINAGE BASINS AROUND THE BAY.

1042 LEENDERTSE. J.J.

COMPARISON OF OBSERVED ESTUARINE TIDE DATA WITH HYDRAULIC MODEL DATA BY USE OF CROSS-SPECTRAL DENSITY FUNCTIONS [1974]

R-16 12. RAND CORP. NEW YORK. NY 80 PP

CROSS-SPECTRAL ANALYSIS IS USED TO ESTABLISH AMPLITUDE AND PHASE RELATIONSHIPS FOR DIFFERENT TIDAL COMPONENTS BETWEEN PAIRS OF TIDE LEVEL STATIONS IN JAMAICA BAY AND IN THE MODEL. PROPAGATION AND AMPLIFICATION OF THESE TIDAL COMPONENTS ARE THEN ACCURATELY COMPARED WITH THOSE IN THE BAY. FLOW RESISTANCE IN THE MODEL IS FURTHER ADJUSTED IN 2 STEPS BY ADDING RESISTANCE STRIPS IN THE CHANNELS UNTIL AMPLITUDE AND PHASE RELATIONSHIPS OBTAINED FROM THE MODEL AGREE WITH THOSE OBTAINED FROM PROTOTYPE DATA FOR THE TIDAL COMPONENTS. PHASE LAGS AND AMPLIFICATION OF SEMIDUIRNAL TIDE IN THE JAMAICA BAY MODEL, AFTER ADJUSTMENTS BY USE OF THE CROSS-SPECTRAL METHOD, AGREE WELL WITH THOSE OBTAINED FROM FIELD MEASUREMENTS.

1043 LEENDERTSE, J.J.; S.K. LIU

STATE ESTIMATION OF ESTUARINE CIRCULATION AND WATER QUALITY BY NUMERICAL SIMULATION AND OBSERVATION [1976]

PAGES 1223-3242 IN PROC. 15TH COAST ENG CONFERENCE, HONOLULU, HI; 11 JUL 1976. VOL 4. ASCE, NEW YORK, NY

THIS PAPER DESCRIBES A HINDCAST OF POST-RAINSTORM COLIFORM BACTERIA DISTRIBUTIONS IN JAMAICA BAY MADE BY USE OF A WATER-QUALITY SIMULATION MODEL OF THAT BAY AND MODELS OF THE SURROUNDING DRAINAGE BASINS ON THE BASIS OF TIDE, WIND, AND RAINFALL DATA. THAT HINDCAST IS THEN COMPARED WITH COLIFORM ESTIMATES OBTAINED BY FIELD SAMPLING. ALTHOUGH THE INVESTIGATORS DID NOT HAVE ACCESS TO THE RESULTS OF THE FIELD SAMPLING UNTIL THE HINDCAST WAS COMPLETED, THE ESTIMATES OBTAINED BY SIMULATION AGREE WELL WITH THE ESTIMATES FROM FIELD DATA. IT IS CONCLUDED THAT THE MODELS USED HERE ARE CAPABLE OF MAKING PREDICTIONS FOR ENGINEERING ASSESSMENTS.

1044 LEENDERTSE, J.J.; S.K. LIU

A THREE-DIMENSIONAL MODEL FOR ESTUARIES AND COASTAL SEAS: VOLUME 4. TURBULENT ENERGY COMPUTATION [1977]

R-2187-OWRT. OWRT, WASHINGTON, DC 67 PP NTIS-PB-235 964

THREE-DIMENSIONAL FLOWS IN WATER BODIES WITH NONHOMOGENEOUS DENSITY CAN BE COMPUTED BY USE OF A FINITE DIFFERENCE MODEL WHICH CONTAINS AN EQUATION OF CONTINUITY, EQUATIONS DESCRIBING CONSERVATION OF MOMENTUM, SALINITY, TEMPERATURE, SUBGRIDSCALE ENERGY, AND AN EQUATION OF STATE. IN THE MODEL, VERTICAL ACCELERATIONS ARE NEGLECTED, BUT NOT THE VERTICAL VELOCITIES. THE VERTICAL EXCHANGE COEFFICIENTS ARE COMPUTED FROM THE SUBGRIDSCALE ENERGY INTENSITY. EXPERIMENTS MADE WITH THE MODEL PRODUCED VELOCITY DISTRIBUTIONS WHICH TYPICALLY OCCUR IN COASTAL AREAS.

1045 LEENDERTSE, J.J.; A.B. NELSON

A WATER-QUALITY SIMULATION MODEL FOR JELL MIXED ESTUARIES AND COASTAL SEAS: VOLUME IX, THE COMPUTER PROGRAM [1978]

R-2298-RC. RAND CORP. SANTA MONICA, CA 87 PP

THE MODEL AS PRESENTED IS NOT A GENERALIZED MODEL WHICH CAN BE USED FOR A CERTAIN CLASS OF ESTUARIES AND COASTAL SEAS. IT IS LIMITED IN ITS BOUNDARY CONDITIONS, AND CHANGES ARE REQUIRED IF THE MODEL BOUNDARY IS NOT ON THE LEFT SIDE OF THE MODEL ARRAY. THE MODEL WAS A TOOL FOR ENGINEERING ANALYSES, AND THUS THE AUTHORS DID NOT GO FURTHER IN ITS DEVELOPMENT THAN TO BE ABLE TO SOLVE THE PROBLEM AT HAND. THEY REFRAINED FROM MAKING AN EXTENDED ANALYSIS OF THE COMPUTATIONAL PROPERTIES OF THE FINITE DIFFERENCE SCHEME USED IN THE MODEL. IN A FEW INSTANCES, THEY TOOK FIRST-ORDER APPROXIMATIONS OF CERTAIN TERMS OF THE DIFFERENTIAL EQUATIONS, WHICH IN THEIR CASE WAS SATISFACTORY. FOR A MORE GENERAL APPLICATION, THE COMPUTATIONAL METHOD HAS SOME SHORTCOMINGS. THE MOST IMPORTANT AND IPOUBLESOME IS THAT THE ADVECTION TERMS ARE TAKEN AT THE LOWER TIME LEVEL, WHICH INTRODUCES A STABILITY CONDITION UPON TIME STEP AND GRID SIZE. FOR LARGE ARRAYS, THE POSSIBLITY ALSO EXISTS THAT NONLINEAR INSTABILITIES ARE GENERATED BY THE CHIICE OF THE PRIMITIVE FORM OF THE FINITE DIFFERENCE EXPRESSION IN THE ADVECTION TERMS. IN THE JAMAICA BAY STUDY, IT WAS NOT NECESSARY TO INCORPORATE ADVECTION TERMS WHICH WOULD NOT GENERATE THESE INSTABILITIES.

BECAUSE THE PRIMITIVE TERMS USED DID NOT GENERATE TROUBLESOME INSTABILITIES AND BECAUSE MORE STABLE EXPRESSIONS FOR THESE TERMS WOULD HAVE INCREASED THE COMPUTATION TIME.

1046 LEHMANN, E.J.

OCEAN WASTE DISPOSAL. A BIBLIOGRAPHY WITH ABSTRACTS [1974]

GOVERN REP. ANNOUNC 74(18):118

THE MAJORITY OF THE CITED TOPICS DISCUSS THE OCEAN DISPOSAL OF SEWAGE, SEWAGE SLUDGE, AND DREDGED MATERIAL, ALTHOUGH REPORTS ON THE DISPOSAL OF RADIOACTIVE WASTES, BRINES AND INDUSTRIAL WASTES ARE ALSO COVERED. THE ECOLOGICAL EFFECTS ARE INCLUDED AS IS RESEARCH ON THE POLLUTION OF THE NEW YORK BIGHT. HOWEVER, STUDIES ON THE DISCHARGE OF HEATED EFFLUENTS IS EXCLUDED.

1047 LEIBOVITZ, L.

A STUDY OF VIERIOSIS AT A LONG ISLAND SHELLFISH HATCHERY [1978]

RR-79/12. ALBANY, NY 23 PP NTIS-PB-297 186

A FIVE YEAR QUANTITATIVE AND QUALITATIVE STUDY (1973-1977) OF THE BACTERIAL FLORA OF INCOMING BAY AND WELL WATER, STOCK AND POOLED ALGAL CULTURES AND LARVAL CYSTER CULTURES AT A LONG ISLAND CYSTER HATCHERY WAS CONDUCTED. WATER QUALITY STUDIES WERE MADE OF INCOMING HATCHERY BAY AND WELL WATER, TAKEN AT THE TIME OF BACTERIOLOGIC SAMPLING DURING A 2-YEAR PERIOD. THE RELATIONSHIP OF VIBRIO SPP. ISOLATED TO OTHER BACTERIAL ISOLATES AND WATER QUALITY CHANGES IS THE SUBJECT OF THIS REPORT. ALTHOUGH VIBRIO SPP. WERE ISOLATED AT LOW FREQUENCIES THROUGHOUT THE SHELLFISH GROWING SEASON, THEY WERE FOUND TO BE THE DOMINANT BACTERIAL POPULATION IN INCOMING BAY WATER DURING A SINGLE PEAK PERIOD OF EACH YEAR. THIS PEAK PERIOD WAS OF VARIABLE DURATION AND OCCURRED IN THE SPRING ON SUMMER. A CONCURRENT DROP IN AMMONIA-NITROGEN LEVELS OF INCOMING BAY WATER WAS NOTED. THE ONSET OF THIS PERIOD WAS ASSOCIATED WITH AN INCREASE IN TOTAL BACTERIAL COUNTS AND SUSPENDED ORGANIC CONTENT OF THE INCOMING BAY WATER.

1048 LEITNER, D.F.

THE RULE OF NATURAL RESOURCE INVENTORIES IN THE PASSAIC RIVER BASIN, NEW JERSEY [1980]

PASSAIC RIVER COALITION, BASKING RIDGE, NJ 152 PP

THE PREPARATION OF COMPREHENSIVE NATURAL RESOURCE INVENTORIES IS A SOUND AND PRACTICAL IDEA. DECISION-MAKERS RECEIVE A TOOL WHICH FACILITATES CONSIDERATION OF ENVIRONMENTAL IMPACTS. PLANNERS OBTAIN AN ECOLOGICAL PERSPECTIVE OF THEIR COMMUNITIES AND A DATA BASE PRESENTED IN A USABLE FORMAT. BUSINESSMEN CAN USE NRI'S TO AVOID ENVIRONMENTAL PROBLEMS WHICH CAUSE DELAYS IN THEIR PROJECTS. REVIEW AND PREPARATION OF ENVIRONMENTAL IMPACT STATEMENTS IS ALSO EXPEDITED. THE GENERAL PUBLIC GAINS AN EDUCATIONAL DOCUMENT WHICH ENABLES THEM TO MONITOR PUBLIC DECISIONS AFFECTING ENVIRONMENTAL QUALITY. QUALITY OF EXISTING NRI'S IN THE PASSAIC RIVER BASIN VARIES. SOME COMMUNITIES HAVE INVESTED LARGE AMOUNTS OF TIME, MONEY, AND EFFORT TO PRODUCE PROFESSIONAL DOCUMENTS. THESE ARE INCORPORATED IN MASTER PLANS. MOST TOWNS, HOWEVER, HAVE PRODUCED NRI'S ON "SHOE-STRING" BUDGETS. ALTHOUGH SOME OF THESE STUDIES WERE CONSIDERED TO BE ADEQUATE, ADDITIONAL FUNDS, TECHNICAL ASSISTANCE, AND PERHAPS LAWS WILL BE REQUIRED TO BE LEVATE THEM INTO PROFESSIONAL PLANNING TOOLS.

1049 LEKAN. J.F.

SPATIAL VARIABILITY OF PHYTOPLANKTON BIOMASS IN THE SURFACE WATERS OF LONG ISLAND [1976]

M.S. THESIS. SUNY, STONY BROOK, NY 32 PP

INTERMEDIATE TO LARGE SCALE SPATIAL STRUCTURE (MINIMUM WAVELENGTH .3 KM) OF IN VIVO CHLOROPHYLL A OBSERVED IN THE SURFACE WATERS ALONG A 192 KM TRANSECT THROUGH EASTERN LONG ISLAND SOUND AND THE COASTAL WATERS OF EASTERN LONG ISLAND IS INTERPRETED IN TERMS OF THE RELATIVE IMPORTANCE OF BIOLOGICAL AND PHYSICAL PROCESSES IN PRODUCING STRUCTURE OF DIFFERENT LENGTH SCALES. THE INTERPRETATION IS BASED ON POWER SPECIFICAL AND CORRELATION ANALYSES OF THE RECORDS OF CHLOROPHYLL A, TEMPERATURE, AND SALINITY TAKEN SIMULTANEOUSLY ALONG THE TRANSECT. RESULTS SUGGEST THAT CHLOROPHYLL STRUCTURE AT LARGE WAVELENGTHS (>20 KM) IS RELATED TO THE DISTRIBUTION OF NUTRIENTS, AND THAT TIDES GENERATE STRUCTURE AT WAVELENGTHS FROM 5 TO 20 KM. AT WAVELENGTHS SHORTER THAN 5 KM TEMPERATURE AND SALINITY SPECTRA EXHIBIT SLOPES OF APPROXIMATELY -5/3 WHILE THE CHLOROPHYLL SPECTRUM EXHIBITS A SLOPE OF APPROXIMATELY -1. A SLOPE OF -1 FOR THE CHLOROPHYLL SPECTRUM AT THESE WAVELENGTHS IS CONSISTENT WITH CORRSIN'S (1961) THEORETICAL RESULTS FOR THE SPECTRUM OF A REACTING FIELD. THE REACTION IN THIS CASE IS THE PRODUCTION OF CHLOROPHYLL BY PHYTOPLANKTON.

1050 LEKAN, J.F.; R.E. WILSON

SPATIAL VARIABILITY OF PHYTOPLANKTON JIOMASS IN THE SURFACE WATERS OF LONG ISLAND [1978]

ESTUARINE COASTAL MAR SCI 6(3):239-251

THE RELATIVE IMPORTANCE OF INTERACTIONS AMONG VARIOUS BIOLOGICAL AND PHYSICAL PROCESSES IS ANALYZED IN TERMS OF AFFECTS OF THESE DIFFERENCES ON VARYING SIZES (INTERMEDIATE TO LARGE-SCALE) OF IN VIVO CHLOROPHYLL A OBSERVED IN SURFACE WATERS ALONG A 192 KM TRANSECT THROUGH EASTERN LONG ISLAND SOUND AND NEARBY COASTAL WATERS. STATISTICAL ANALYSIS OF RECORDS OF CHLOROPHYLL A, TEMPERATURE AND SALINITY CONFIRMS THE EXISTENCE OF SMALL STRUCTURE IN CHLOROPHYLL A AND LARGER STRUCTURE IN TEMPERATURE AND SALINITY. CROSS-COVARIANCE ANALYSIS INDICATES THAT THERE IS NO CORRELATION BETWEEN THE CHLOROPHYLL A STRUCTURE AND THAT OF TEMPERATURE AND SALINITY. THE POWER SPECTRA FOR THESE THREE VARIABLES ARE SIMILAR AT WAVELENGTHS OF 5-20 KM. SUGGESTING THAT STRUCTURE AT THESE WAVELENGTHS IS DETERMINED BY PHYSICAL PROCESSES. AT WAVELENGTHS SHORTER THAN 5 KM THE CHLOROPHYLL SPECTRUM EXHIBITS A SLOPE OF APPROXIMATELY -1, WHILE TEMPERATURE AND SALINITY HAVE STEEPER SLOPES (-5/3). POWER SPECTRA FOR TEMPERATURE AND SALINITY STEEPEN AT WAVELENGTHS GREATER THAN 20 KM, REFLECTING THE LARGE SCALE CHANGES IN THESE PARAMETERS ASSOCIATED WITH THE TRANSITION FROM ESTUARINE TO COASTAL WATERS. CHLOROPHYLL A STRUCTURE AT THESE WAVELENGTHS IS RELATED TO THE DISTRIBUTION OF NUTRIENTS, ESPECIALLY AMMONIUM.

1051 LENTSCH, J.W.; T.J. KNEIP; M.E. WRENN; G.P. HOWELLS; M. EISENBUD

STABLE MANGANESE AND MANGANESE-54 DISTRIBUTIONS IN THE PHYSICAL AND BIOLOGICAL COMPONENIS OF THE HUDSON RIVER ESTUARY [1971]

PAGES 752-768 IN RADIONUCLIDES IN ECOSYSTEMS, PROC OF 3RD NAT'L SYMP ON RADIOECOLOGY, MAY 10-12, 1971, OAK RIDGE, TN

SAMPLES WERE TAKEN FROM A 30-MI SECTOR DURING 1969 AND 1970. MANGANESE-54 HAS BEEN INTRODUCED INTO THIS SECTION OF THE HUDSON PRIMARILY IN OPERATIONAL MASTE FROM THE INDIAN POINT UNIT 1 REACTOR. THE MANGANESE CONTENT OF SEVERAL SPECIES OF ROOTED AQUATIC PLANTS WAS PROPORTIONAL TO THE DISSOLVED MANGANESE CONCENTRATION IN WATER. HOWEVER, SEVERAL SPECIES OF FISH MAINTAINED RELATIVELY CONSTANT MANGANESE LEVELS, REGARDLESS OF VARIABLE CONCENTRATIONS OF MANGANESE IN WATER. MANGANESE DISSOLVED IN WATER APPEARS TO BE MORE BIOLOGICALLY AVAILABLE THAN SEDIMENTARY DEPOSITS OF MANGANESE, AS INDICATED BY THE SPECIFIC ACTIVITIES OF MN 54 IN WATER, BOTTOM SEDIMENT, AND BIOTA. MANGANESE WAS LEACHED FROM BOTTOM SEDIMENTS BY SEAWATER INTRUSION INTO FRESHWATER REGIONS OF THE ESTUARY. SUPPLEMENTARY DATA ON SALINITY, FRESHWATER DISCHARGE, SUSPENDED SEDIMENT LOAD, WATER TEMPERATURE, PH, AND DISSOLVED OXYGEN ARE INCLUDED TO ALLOW GENERALIZATION OF OBSERVED PHENOMENA TO OTHER SIMILAR ESTUARIES.

1052 LEONARD, I.R.; B. DUNN

MAXIMUM KNOWN STAGES AND DISCHARGES OF NEW YORK STREAMS THROUGH 1973 [1976]

BULL 72. NY DEC. ALBANY, NY 67 PP

THIS REPORT IS A COMPILATION OF ALL KNOWN MAXIMUM STAGES AND DISCHARGES IN THE FILES OF THE USGS. INCLUDING SOME DATA FURNISHED BY OTHER FEDERAL, STATE, AND PRIVATE ORGANIZATIONS. THE COMPILATION IS AN UPDATING OF NEW YORK STATE WATER RESOURCES COMMISSION BULLETIN 67 PUBLISHED IN 1970. MAXIMUM STAGES AND RATES OF DISCHARGE HAVE BEEN DETERMINED AT REGULAR GAGING STATIONS. PARTIAL-RECORD STATIONS, AND AT OTHER LOCATIONS WHERE DATA BECAME AVAILABLE AFTER FLOODS SINCE ABOUT 1900 UNDER COOPERATIVE AGREEMENT BETWEEN THE NY AND THE GEOLOGICAL SURVEY.

1053 LEONARD, J.E.; P.M. PRENNINKMEYER

THE EFFECT OF FLUID DRAG FORCES ON THE GEOMETRIC CONFIGURATION OF INSTANTANEOUS SEDIMENT SUSPENSION EVENTS IN THE NEAR SHORE ZONE [1979]

EOS: TRANS AM GEOPHYS UNION 60(18):295

IT IS WELL-KNOWN THAT NEARSHORE SEDIMENT SUSPENSION EVENTS OCCUR MORE FREQUENTLY DURING STORM CONDITIONS THAN DURING NON-STORM CONDITIONS. CURRENT VELOCITY AND SEDIMENT SUSPENSION DATA COLLECTED AT TWO FIELD SITES (TIANA BEACH, LONG ISLAND, NY AND NAUSET LIGHT BEACH, CAPE COD, MA) DURING DISSIMILAR ENERGY CONDITIONS INDICATE THAT THE GEOMETRY AND FLUID RESPONSE OF THESE INSTANTANEOUS SEDIMENT SUSPENSION EVENTS CAN BE BEST APPROXIMATED BY A TABULAR SHAPE. ANALYSES OF THESE DATA INDICATE THAT THIS TABULAR SHAPE IS THE CHARACTERISTIC RESPONSE FORMED BY THE INTERACTION AND COLLISION OF TWO OPPOSING FLOW FIELDS.

SEAWARD-RETURN WATER FLOW INTERACTS WITH UPRUSHING WATER CAUSING A HYDRAULIC JUMP AND SUBSEQUENT SEDIMENT SUSPENSION. AFTER FORMATION, THESE TABULAR SUSPENSION WITH HEIGHT PROVIDING AN APPARENT ROTATION OF HYDRAULIC DRAG FORCE. THIS PROCESS CAN CAUSE A DIFFERENTIAL TRANSLATION WITH HEIGHT PROVIDING AN APPARENT ROTATION IN THE VERTICAL PLANE ABOUT THE BASE. THIS ROTATION WILL CAUSE "APPARENT" CONCENTRATION INVERSIONS WITHIN BOTH THE TRANSITION AND SURF ZONES.

1054 LERNER, L.; M.A. GRAHAM

NEW YORK OFFSHORE AIRPORT FEASIBILITY STUDY [1973]

US FAA, DOT, WASHINGTON, DC 32 PP

THE FEASIBILITY OF AN OFFSHORE AIRPORT FOR NY WAS THE TOPIC OF THIS STUDY. ANALYSIS WAS MADE OF THE FOLLOWING FACTORS:
METEOROLOGY, GEOLOGY, OCEANOGRAPHY, ENVIRONMENT, AIR TRAFFIC PROJECTIONS, TRAFFIC CONTROL, AND AIRPORT DESIGN AND CONSTRUCTION.
AS A RESULT OF THIS STUDY, IT WAS DECIDED THAT AIRPORT DEVELOPMENT OF THIS TYPE IS FEASIBLE AND THAT THE BEST LOCATION WOULD
BE SOUTH OF LONG ISLAND'S BARRIER BEACHES.

1055 LESHT, B.M.; R.V. WHITE; R.L. MILLER

A SELF-CONTAINED FACILITY FOR ANALYZING NEAR-BOTTOM FLOW AND ASSOCIATED SEDIMENT TRANSPORT [1976]

TM-ERL-MESA-9. NOAA, BOULDER, CO. 44 PP NTIS-PB-265 277

THE FIELD SYSTEM DESCRIBED IN THIS REPORT WAS DESIGNED TO MONITOR SEVERAL ASPECTS OF THE NEAR BOTTOM ENVIRONMENT. THE SYSTEM CAN MEASURE AND RECORD HORIZONTAL VELOCITIES AT SEVERAL LEVELS WITHIN ONE M OF THE OCEAN FLOOR. SIMULTANEOUS MEASUREMENTS OF WAVE PRESSURE, MEAN CURRENT DIRECTION AND TURBIDITY CAN ALSO BE RECORDED. THE RECORDED INFORMATION IS STORED IN DIGITAL FORMAT FACILITATING LATER ANALYSIS. THE SYSTEM IS RELATIVELY INEXPENSIVE, FLEXIBLE, AND CAN BE EASILY TRANSPORTED BY SMALL TRUCK TO THE FIELD LOCATION. SEVERAL EXPERIMENTS HAVE BEEN CONDUCTED WITH SUCCESS IN THE NEW YORK BIGHT BETWEEN MAY 1974 AND OCT 1975. THESE ARE SUMMARIZED. FIELD OPERATIONS ARE ILLUSTRATED BY A SERIES OF PHOTOGRAPHS. PRELIMINARY ANALYSIS INDICATES THAT IN THE SHALLOHER EXPERIMENTAL AREAS SURFACE JAVE ACTIVITY MAY HAVE A SIGNIFICANT EFFECT ON THE FLOW FIELD NEAR THE BOTTOM EVEN IN SLIGHT SEAS.

1056 LESHT, B.M.

SIMULTANEOUS OBSERVATIONS OF NEAR BOTTOM FLOW AND TURBIDITY ON THE LONG ISLAND INNER SHELF [1976]

EOS: TRANS AM GEOPHYS UNION 57(12):938

EXPERIMENTS CORRELATING NEAR BOTTOM VELOCITIES AND TURBIDITY HAVE BEEN DONE OVER BOTH MUD AND SAND BOTTOMS ON THE LONG ISLAND INNER SHELF. HORIZONTAL VELOCITIES WERE MEASURED USING THREE DUCTED IMPELLOR CURRENT METERS PLACED WITHIN ONE METER OF THE BOTTOM. A BEAM TRANSMISSIOMETER ATTACHED TO THE CURRENT METER ARRAY SIMULTANEOUSLY MEASURED THE TURBIDITY 15 CM ABOVE THE BOTTOM. DATA WAS RECORDED DIGITALLY OVER A COMPLETE TIDAL CYCLE. THE VELOCITIES WERE SAMPLED EVERY 1.64 SEC. THE TURBIDITY WAS SAMPLED EVERY 3.28 SEC. BOTH EXPERIMENTS WERE DONE IN GOOD WEATHER IN WATERS APPROXIMATELY 20 M DEEP. SEDIMENT TRANSPORT WAS OBSERVED IN BOTH EXPERIMENTS TO BE CORRELATED WITH INTERMITTENT PERIODS OF HIGH SHEAR STRESS ASSOCIATED WITH THE COMBINATION OF SWELL AND TIDE. LONGER PERIOD SHEAR STRESS AVERAGES WERE WELL BELOW ACCEPTED CRITICAL LEVELS.

1057 LESHT, B.M.

FREQUENCY DISTRIBUTION OF BOTTOM SHEAR STRESSES WITHIN A TIDAL CYCLE ON THE INNER CONTINENTAL SHELF [1977]

EOS: TRANS AM GEOPHYS UNION 58(6):409

BOTTOM SHEAR STRESS VALUES HAVE BEEN EXAMINED AS A FUNCTION OF TIME AT THREE LOCATIONS ON THE LONG ISLAND INNER SHELF. THESE STRESS VALUES WERE CALCULATED FROM NEAR BOTTOM VELOCITY OBSERVATIONS MADE AT 1.64 SEC INTERVALS OVER A COMPLETE TIDAL CYCLE. SLIDING AVERAGE FILTERS WERE USED TO PROVIDE AN ENSEMBLE OF 25600 MEAN VELOCITY PROFILES FOR EACH EXPERIMENT. SHEAR STRESS-ELAPSED TIME MAPS WERE PRODUCED BY PLOTTING SHEAR STRESS HISTOGRAMS OF SUCCESSIVE 512 SAMPLE (14 MINUTE) SECTIONS OF THE TOTAL RECORD SIDE BY SIDE. IN EACH EXPERIMENT THE SHEAR STRESS VALUES CALCULATED FROM LONGER PERIOD (107 SEC) AVERAGES CLOSELY FOLLOW THE MEAN VELOCITY CURVE. SHORTER AVERAGES (28 SEC, 8 SEC) RESULT IN SHEAR STRESS VALUES WHICH ALSO FOLLOW THE MEAN VELOCITY CURVE BUT WHICH DISPLAY CONSIDERABLY MORE SCATTER. THIS SCATTER IS THOUGHT TO BE THE RESULT OF THE SHORTER PERIOD (10 SEC) SURFACE WAVES SUPERIMPOSED ON THE MEAN FLOW. PEAK SHEAR STRESS ESTIMATES BASED ON THE LONGER AVERAGES ARE TYPICALLY SOX LOWER THAN THOSE MADE FROM THE SHORTER AVERAGES.

1058 LESHT . B.M.

FIELD MEASUREMENTS OF THE BOTTOM FRICTIONAL BOUNDARY LAYER IN THE NEW YORK BIGHT [1978]

TM-ERL-MESA-28. NOAA, BOULDER, CO 169 PP NTIS-PB-288 194

A DETAILED FIELD STUDY OF THE BOTTOM FRICTIONAL BOUNDARY LAYER ON THE INNER CONTINENTAL SHELF IN THE APEX OF THE NEW YORK BIGHT USED AN INSTRUMENTATION SYSTEM DESIGNED TO MEASURE HORIZONTAL VELOCITIES AT THREE LEVELS WITHIN 1 METER OF THE BOTTOM, THE PRESSURE FLUCTUATIONS DUE TO SURFACE MAVES, THE DIRECTION OF THE MEAN CURRENT AND THE TURBIDITY 15 CM ABOVE THE SEA FLOOR. THE FOUR EXPERIMENTS OF THE STUDY MERE DESIGNED TO INVESTIGATE THE INFLUENCE OF THE HIGHER FREQUENCY (UP TO 0.3 HERTZ) COMPONENTS OF THE FLOW ON THE STRUCTURE OF THE BOTTOM BOUNDARY LAYER AND ON SEDIMENT TRANSPORT IN TYPICAL INNER CONTINENTAL SHELF ENVIRONMENTS. THEY WERE CONDUCTED IN WATERS 18 TO 20 METERS DEEP OVER COARSE SAND, MEDIUM SAND, AND MUDDY SILT BOTTOMS. SHEAR STRESS VALUES, CALCULATED FROM LONGER PERIOD AVERAGES WERE GENERALLY 50% LOWER THAN THOSE CALCULATED FROM SHORTER AVERAGES. SURFACE WAVES DID NOT SEEM TO AFFECT THE VALUE OF THE MEAN SHEAR STRESS CALCULATED FROM THE KARMAN-PRANDIL EQUATION. ALTHOUGH NEAR BOTTOM TURBIDITY WAS GENERALLY CORRELATED WITH MEAN VELOCITY, THE RANGE OF THE FLUCTUATIONS OF CALCULATED SHEAR STRESS VALUES MADE IT IMPOSSIBLE TO ESTABLISH ONE VALUE OF SHEAR STRESS AS CRITICAL FOR THE EROSION OF THE SEDIMENTS STUDIED. IT WAS POSSIBLE TO RELATE SEDIMENT RESUSPENSION TO THE DISTRIBUTION OF SHEAR STRESS VALUE.

1059 LESHT, 8.M.

RELATIONSHIP BETWEEN SEDIMENT RESUSPENSION AND THE STATISTICAL FREQUENCY DISTRIBUTION OF BOTTOM SHEAR STRESS [1979]

MAR GEOL 32:M19-M27

DETAILED OBSERVATIONS OF NEAR-BOTTOM TURBIDITY AND CURRENTS ARE USED TO EXAMINE THE RELATIONSHIP BETWEEN BOTTOM SHEAR STRESS AND SEDIMENT RESUSPENSION. TURBIDITY IS RELATED TO THE STATISTICAL FREQUENCY DISTRIBUTION OF BOTTOM SHEAR STRESS IN A WAY THAT IMPLIES THAT A FEW HIGH-STRESS EVENTS MAY BE RESPONSIBLE FOR RESUSPENSION. SUCH SHORT-PERIOD PROCESSES WILL USUALLY BE MASKED BY CONVENTIONAL METHODS OF DATA HANDLING.

1060 LESHT. B.M.

BENTHIC BOUNDARY-LAYER VELOCITY PROFILES: DEPENDENCE ON AVERAGING PERIOD [1980]

J PHYS OCEANOG 10(6):985-991

THE RELATIONSHIP BETWEEN BENTHIC BOUNDARY-LAYER VELOCITY PROFILES AND CURRENT METER AVERAGING TIME WAS INVESTIGATED USING DETAILED (0.51 Hz) CURRENT MEASUREMENTS RECORDED WITHIN 1 M OF THE BOTTOM ON THE INNER CONTINENTAL SHELF IN THE NEW YORK BIGHT. THE PERCENTAGE OF VELOCITY PROFILES WHICH CORRESPONDS TO THE VON KARMAN-PRANDTL MODEL OF THE NEUTRALLY STRATIFIED TURBULENT BOUNDARY LAYER INCREASES RAPIDLY AS THE AVERAGING PERIOD IS LENGTHENED FROM A FEW SECONDS. WHEN THE AVERAGING PERIOD EXCEEDS APPROXIMATELY 20 TIMES THE CHARACTERISTIC TIME SCALE OF THE FLOW, THE PERCENTAGE OF LOGARITHMIC PROFILES BECOMES INDEPENDENT OF AVERAGING PERIOD. THIS RELATIONSHIP WAS FOUND FOR BOTH WAVE AND TURBULENCE DOMINITED FLOWS. INCREASING THE AVERAGING PERIOD BEYOND THE MINIMUM REQUIRED TO DEFINE STABLE MEAN VALUES DOES NOT SIGNIFICANTLY CHANGE EITHER ESTIMATES OF MEAN FRICTION VELOCITY OR THE STATISTICAL DISTRIBUTION OF THE DRAG COEFFICIENT C-100 COMPUTED FROM THE OBSERVATIONS.

1061 LESSER, A., JR.

DISCUSSION: "ORGANIZATIONAL EVALUATION OF INDUSTRIAL WATER POLLUTION CONTROL IN THE NEW YORK REGION" BY RAE ZIMMERMAN [1974]

WATER RESOUR BULL 10(6):1298-1299

PROFESSOR ZIMMERMAN STATES THAT THE PRIMARY METALS INDUSTRY, WHICH HAS COMPLEX WASTE PROBLEMS, HAD A RELATIVELY LOW DEGREE OF NON-COMPLIANCE. IT IS SUGGESTED THAT VARIABLE VIGOR OF ENFORCEMENT WAS NOT CONSIDERED. DESCRIPTION OF NJ AREAS WHICH DIFFER IN ENFORCEMENT VIGOR TO ILLUSTRATE THAT SAMPLES FROM DIFFERENT AREAS CANNOT BE COMBINED AS IF THEY WERE HOMOGENEOUS.

1062 LETTAU, B.; W.A. BROWER, JR.; R.G. QUAYLE

MARINE CLIMATOLOGY [1976]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 7. NYSG, ALBANY, NY 239 PP

ATLAS MONOGRAPH 7 PRESENTS WHAT WE KNOW ABOUT THE CLIMATE OF NEW YORK BIGHT IN TWO WAYS: FIRST, SELECTED DATA ILLUSTRATE THE SEASONAL VARIATION OF METEOROLOGICAL PARAMETERS; SECOND, ISOPLETH MAPS AND STATISTICAL GRAPHS GIVE A DETAILED CLIMATIC PROFILE. THE FIGHT COASTS HAVE A TEMPERATE, RAINY CLIMATE WITH WARM SUMMERS, NO DRY SEASON, AND RAPID CHANGES IN WEATHER FROM SEASON TO SEASON, AT TIMES FROM DAY TO DAY. UNIQUE TO THE ATLANTIC CDAST BETWEEN NEW ENGLAND AND NC IS THE MAJOR CYCLONIC STORM TRACK THAT PASSES THROUGH THE OUTER BIGHT, FOLLOWING THE NJ COASTLINE. BECAUSE SUCH STORMS INTENSIFY AND MOVE VERY RAPIDLY, THEY PRESENT DISTINCT WEATHER FORECASTING PROBLEMS FOR BIGHT COASTAL AREAS, ESPECIALLY SINCE NOT ALL CONDITIONS FAVORABLE FOR STORM FORMATION ACTUALLY PRODUCE A STORM. ACCORDING TO BROWER AND QUAYLE, THE ATLAS DATA PROVIDE THE BEST POSSIBLE CLIMATOLOGICAL PICTURE OF THE BIGHT'S NEAR-COASTAL ZONE, A REGION OF SHARP GRADIENTS AND COMPLEX CLIMATES.

1063 LEVANDOWSKY M.

AN ORDINATION OF PHYTOPLANKTON POPULATIONS IN PONDS OF VARYING SALINITY AND TEMPERATURE [1972]

ECOLOGY 53(3):398-407

PHYTOPLANKTON POPULATIONS AND HYDROGRAPHIC VARIABLES IN TWO TRANSIENT BEACH PONDS AND NEARBY LONG ISLAND SOUND, MY, WERE OBSERVED FROM JUN, 1967 THROUGH NOV, 1968. VARIOUS INDICES OF SAMPLE SIMILARITY ARE DISCUSSED, AND A MEASURE OF TAXA CONTENT SIMILARITY HAVING CERTAIN DESIRABLE FEATURES WAS CALCULATED FOR ALL PAIRS AMONG 70 SAMPLES. THIS SET OF RELATIONS WAS USED TO CONSTRUCT A THREE-DIMENSIONAL ORDINATION. TWO OF THE RESULTING PRINCIPAL AXES ARE SEEN TO BE RELATED TO SALINITY AND TEMPERATURE. IN THESE PROJECTIONS, NO SEPARATE CLUSTERS OF POINTS ARE SEEN THAT WOULD SUGGEST THAT THE TAXA OBSERVED BELONG TO WELL-DEFINED, MUTUALLY EXCLUSIVE COMMUNITIES WITH RESPECT TO SALINITY OR TEMPERATURE.

1064 LEVENSON, A.M.

EVALUATION OF RECREATIONAL AND CULTURAL BENEFITS OF ESTUARINE USE IN AN URBAN SETTING [1971]

OFFICE OF WATER RESEARCH, US DEPT OF INTERIOR, WASHINGTON, DC 121 PP

THE MOST IMPORTANT DIRECT USE OF THE HEMPSTEAD ESTUARY IS AS A MAJOR SOURCE OF OUTDOOR RECREATION (BOATING, FISHING, CLAMMING, HUNTING). THE ESTIMATED ANNUAL RECREATIONAL SERVICES, YIELDED TO HEMPSTEAD RESIDENTS IS VALUED AT \$3.8 MILLION.

1065 LEVINTON, J.S.; H.H. LASSEN

SELECTION, ECOLOGY AND EVOLUTIONARY ADJUSTMENT WITHIN BIVALVE MOLLUSC POPULATIONS [1978]

PHILOS TRANS R SOC LOND 284(1001):403-415

DISTRIBUTIONAL AND EXPERIMENTAL STUDIES OF PROTEIN POLYMORPHISMS OF BIVALVE POPULATIONS PERMIT CONSIDERATIONS OF THE ROLES OF MIGRATION AND SELECTION IN EVOLUTION. MINIMAL VARIATION OF WEST COAST NORTH AMERICAN MYTILUS CALIFORNIANUS POPULATIONS, RELATIVE TO GREATER GEOGRAPHIC DIFFERENTIATION IN EAST COAST M. EDULIS, CORRELATES WITH THE RELATIVELY STEEP LATITUDINAL THERMAL GRADIENT OF THE EAST COAST. A MONG-LOCALITY DIFFERENCES ARE PROBABLY DUE TO LOCAL SELECTION AND DIFFERENCES IN THE GENETIC COMPOSITION OF LARVAL IMMIGRANTS. ECOLOGICAL INFLUENCES ARE INDICATED BY CORRELATIONS OF GENETIC STRUCTURE WITH INTERTIDAL HEIGHT, HYDROGRAPHIC STRUCTURE, AND GREATER AMONG-LOCALITY DIFFERENTIATION OF THE EURYTOPIC M. EDULIS, RELATIVE TO THE STENOTOPIC M. CALIFORNIANUS IN THE SAME REGION. PROBLEMS IN DETERMINING EXPERIMENTALLY THE RELATIVE CONTRIBUTIONS OF MIGRATION AND SELECTION ARE HIGHLIGHTED BY A GENETIC DIFFERENCE IN M. EDULIS WITHIN AND OUTSIDE LONG ISLAND SOUND. A DRAMATIC CLINE IN ALLELE FREQUENCY OCCURS OVER A DISTANCE EASILY TRANVERSED BY THE PLANKTOTROPHIC LARVAL STAGE. THE LARGE AMOUNT OF SELECTION INDICATED, HOWEVER, IS NOT CONFIRMED THROUGH SHOCK-MORTALITY EXPERIMENTS IN THE LABORATORY OR AMONG-GENOTYPE MEASURES OF PHYSIOLOGICAL RESPONSE SUCH AS GRO4TH. THE WITHIN-SOUND POPULATIONS MAY BE MORE ISOLATED THAN ARE NOW SUPPOSED, EITHER THROUGH THE ESTUARINE FLOW OF THE SOUND OR BY THE EXISTENCE OF PHYSIOLOGICAL RACES OF ECOTYPES. THE ESTABLISHMENT OF SUCH ISOLATION WOULD PERMIT GENETIC DIFFERENCE TO ACCUMULATE SLOWLY.

1066 LEVINTON, J.S.; H.H. LASSEN

EXPERIMENTAL MORTALITY STUDIES AND ADAPTATION AT THE LAP LOCUS IN MYTILUS EDULIS [1978]

PAGES 229-254 IN B. PATTAGLIA AND J.A. BEARDMORE, EDS. MARINE ORGANISMS GENETICS, ECOLOGY AND EVOLUTION. PLENUM PRESS, NEW YORK, NY

MUSSELS FROM LONG ISLAND SOUND AND THE ADJACENT OPEN SEA WERE SUBJECTED TO SALINITY AND TEMPERATURE SHOCK. USING STANDARD

DOSAGE-MORTALITY TESTS, TO DETERMINE MORTALITY PATTERNS AND ALLELE FREQUENCY CHANGES AT THE LAP LOCUS, AND THEREBY TEST THE FOLLOWING HYPOTHESES (1) THAT ESTUARINE AND OPEN MARINE POPULATIONS HAVE DIFFERENT PHYSIOLOGICAL RESPONSES TO THE SAME STRESS; (2) BETWEEN-GEOTYPE PHYSIOLOGICAL DIFFERENCES RESULT IN DIFFERENTIAL GROWTH; AND (3) BETWEEN-GENOTYPE PHYSIOLOGICAL DIFFERENCES RESULT IN A SHIFT IN GENOTYPIC AND ALLELE FREQUENCIES OF POPULATIONS SUBJECTED TO ENVIRONMENTAL CHANGE THAT INDUCES MORTALITY. IT IS CONCLUDED THAT SMALL ALLELE FREQUENCY SHIFTS ACCOMPANYING MORTALITY ARE THE USUAL EVENT, POSSIBLY A ACCUMULATING OVER GENERATIONS AND RESULTING IN THE DIFFFRENTIATION OF THE LONG ISLAND SOUND POPULATION.

1067 LI, Y.H.; G. MATHIEU; P.E. BISCAVE; H.J. SIMPSON

THE FLUX OF RA-226 FROM ESTUARINE AND CONTINENTAL SHELF SEDIMENTS [1977]

EARTH PLANET 37(2):237-241

A PRONOUNCED DESORPTION PHENOMENON OF RA-226 FROM SEDIMENT WAS OBSERVED IN THE HUDSON RIVER ESTUARY. MASS BALANCE CALCULATIONS INDICATED THAT THE DESORPTION OF RA-226 FROM THE RIVER-BORNE SEDIMENT IN ESTUARINE ENVIRONMENTS IS AN IMPORTANT SOURCE OF RA-226 TO THE OCEANS.

1068 LI, Y.H.; L.H. CHAN

DESORPTION OF BA AND RA-226 FROM RIVER-BORNE SEDIMENTS IN THE HUDSON ESTUARY [1979]

EARTH PLANET 43 (3):343-350

THE PRONOUNCED DESORPTION OF BA AND RA-226 FROM RIVER-BORNE SEDIMENTS IN THE HUDSON ESTUARY CAN BE EXPLAINED QUANTITATIVELY BY. THE DRASTIC DECREASE IN THE DISTRIBUTION COEFFICIENTS OF BOTH ELEMENTS FROM A FRESH TO A SALTY WATER MEDIUM. THE DESORPTION IN ESTUARIES CAN AUGMENT, AT LEAST, THE TOTAL GLOBAL RIVER FLUXES OF DISSOLVED BA AND RA-226 BY ONE AND NINE TIMES, RESPECTIVELY. THE DESORPTIVE FLUX CF RA-226 FROM ESIUARIES ACCOUNTS FOR 17-43% OF THE TOTAL RA-226 FLUX FROM COASTAL SEDIMENTS. TWO MASS BALANCE MODELS DEPICTING MIXING AND ADSORPTION-DESORPTION PROCESSES IN ESTUARIES ARE DISCUSSED.

1069 LI, Y.H.; H.W. FEELY; P.H. SANTSCHI

TH-223/RA-223 RADIOACTIVE DISEQUILIBRIUM IN THE NEW YORK BIGHT AND ITS IMPLICATIONS FOR COASTAL POLLUTION [1979]

EARTH PLANET 42(1):13-26

IN THE SUMMER OF 1975, THE HALF REMOVAL TIME OF TH-228 BY SETTLING PARTICLES, T(C), WAS ABOUT 11 +/- 4, 29 +/- 8 AND 70 +/- 10 DAYS IN THE SHELF SURFACE WATER, THE SHELF WINTER WATER AND THE SLOPE SURFACE WATER OF THE NEW YORK BISHT, RESPECTIVELY. IN THE FALL OF 1974, T(C) WAS ABOUT 17 +/- 1 TO 28 +/- 2 DAYS FROM THE INNER SHELF TO THE OUTER SHELF SURFACE WATERS AND ABOUT 70 +/- 10 DAYS IN THE SLOPE SURFACE WATER. A SIMPLE BOX MODEL OF THE SHELF WATER IN THE MIDDLE ATLANTIC BIGHT SHOWS THAT: (1) THE EXCHANGE RATE BETWEEN THE SHELF AND THE SLOPE WATERS IS ABOUT 2500 +/- 800 km3 vr; (2) THE MEAN RESIDENCE TIME OF THE SHELF WATER IS ONLY ABOUT 132 +/- 36 DAYS, AND (3) THE AVERAGE RA-226 AND RA-228 FLUXES PER UNIT AREA OF THE COASTAL SEDIMENTS ARE ABOUT 7.05 DPM RA-226 /CM2 YR AND 0.37 DPM RA-228/CM2 YR. THESE RATES ARE CONSISTENT WITH PREVIOUSLY REPORTED RESULTS. THE IMPLICATION OF THESE RATES TO POLLUTANTS IN THE COASTAL ENVIRONMENT IS DISCUSSED.

1070 LICHTENBERG, J.J.; J.W. EICHELBERGER; R.C. DRESSMAN; J.E. LONGBOTTOM

PESTICIDES IN SURFACE WATERS OF THE UNITED STATES: A FIVE-YEAR SUMMARY 1964-1968 [1969]

ANALYT QUALITY CONTR LAB, US EPA, CINCINNATI, OH 34 PP

THIS REPORT SUMMARIZES THE RESULTS OF FIVE ANNUAL SYNOPTIC SURVEYS (1964-1968) FOR CHLORINATED HYDROCARBON PESTICIDES IN SURFACE WATERS OF THE U.S. THE ANALYTICAL METHODS EMPLOYED WERE BASED UPON STANDARD METHODS ESTABLISHED BY FWQA WHICH ARE SPECIFIC FOR DIELDRIN, ENDRIN, DDT, DDE, DDD, ALDRIN, HEPTACHLOR, HEPTACHLOR EXPOXIDE, LINDANE BHC. GAMMA-CHLORDANE AND TECHNICAL CHLORDANE. IN THE 1967 AND 1968 SURVEYS, SAMPLES WERE ALSO ANALYZED FOR METHYL PARATHION, PARATHION, FENTHION, ETHION, MALATHION, AND TRITHION. THE RESULTS SHOWED WIDESPREAD OCCURRENCE OF THE PESTICIDES THROUGHOUT THE U.S. THE NUMBER OF OCCURRENCES REACHED A PEAK IN 1966 AND THEN DECLINED SHARPLY IN 1967 AND 1968. THE MAXMUM CONCENTRATIONS HAVE NOT EXCEEDED PERMISSIBLE LIMITS AS THEY RELATE TO HUMAN INTAKE DIRECTLY FROM A DOMESTIC WATER SUPPLY. HOWEVER, THEY HAVE OFTEN EXCEEDED THE ENVIRONMENTAL LIMIT RECOMMENDED BY THE FEDERAL COMMITTEE ON WATER QUALITY CRITERIA. MAPS AND TABLES ARE INCLUDED TO SHOW THE DISTRIBUTION OF THE VARIOUS PESTICIDES THROUGHOUT THE U.S.

1071 LIEBERMAN, J.T.; P.H. MUESSIG

EVALUATION OF AN AIR BUBBLER TO MITIGATE FISH IMPINGEMENT AT AN ELECTRIC GENERATING PLANT [1978]

ESTUARIES 1(2):129-132

TO DETERMINE WHETHER FISH IMPINGEMENT AT AN ELECTRIC GENERATING PLANT WAS SIGNIFICANTLY REDUCED DURING THE OPERATION OF AN AIR BUBBLER, IMPINGEMENT MONITORING DATA WAS SUBJECTED TO STATISTICAL ANALYSIS. DAILY IMPINGEMENT RATES WERE CALCULATED FOR TOTAL FISH COLLECTIONS AND FOR THREE IMPINGED SPECIES, AND ASSOCIATED WITH WATER CHEMISTRY CONDITIONS AND AIR CURTAIN OPERATION DURING IMPINGEMENT PERIODS. ANALYSIS FOR EACH SPECIES BY SEASON INDICATED THAT THE AIR CURTAIN WAS NOT AN EFFECTIVE FISH DETERRENT.

1072 LIEBLING, R.S.

CLAY MINERALS OF THE WEATHERED BEDROCK UNDERLYING COASTAL NEW YORK [1973]

GEOL SOC AM BULL 84(5):1813-1816

PLEISTOCENE AND CRETACEOUS SEDIMENTS OF LONG ISLAND REST UPON A WEATHERED BEDROCK SURFACE WHICH PRESUMABLY FORMED IN LATE JURASSIC OR EARLY CRETACEOUS TIME. THE GREAT DEPTH OF WEATHERING, HIGH PROPORTION OF CLAY CONSTITUENTS, AND PREVALENCE OF KAOLINITE IN MODERATELY TO STRONGLY WEATHERED HORIZONS SUGGEST THAT THE LATE MESOZOIC WAS A TIME OF HIGHER TEMPERATURES AND RAINFALL THAN THOSE OF THE PRESENT.

1073 LILLEY, W.D.; C. ASSINI

ENGINEERING AND ENVIPONMENTAL GEOLOGY OF THE HUDSON VALLEY POWER SITES (TRIP B-10) [1976]

PAGES 3-10-1 - B-10-20 IN J.H. JOHNSEN, ED. FIELD GUIDE BOOK NY STATE GEOLOGICAL ASSOC 48TH ANNUAL MEETING, 15-16 OCT 1976, VASSAR COLLEGE, POUGHKEEPSIE, NY

THIS PAPER BRIEFLY DESCRIBES THE GEOLOGY OF SITES IN MARLBORD, ROSETON, CORNWALL, STONY POINT, BUCHANAN, AND WAPPINGERS FALLS SITES (EXISTING AND PROPOSED).

1074 LILLEY, W.D.; R.H. FAKUNDINY; K. DAVIS; G. TOUNG; F. IRVING; P.J.R. BUTTNER

GEOLOGY IN STATE SERVICE [1979]

PAGES 310-317 IN G.M. FRIEDMAN, ED. GUIDEBOOK, JOINT ANN MEETING, NYS GEOL ASSOC (51ST ANNUAL MEETING) AND NEW ENGLAND INTERCOLLEGIATE GEOL CONF (71ST ANNUAL MEETING) 5,6,7 OCT 1979, TROY, NY

AN EXPLANATION OF THE INVOLVEMENT OF STATE AGENCIES WITH GEOLOGICAL RESPONSIBILITIES IN REVIEW OF VARIOUS IMPACT STATEMENTS.
SAFETY ANALYSES. REPORTS AND LEGISLATION OF OTHER STATE AND FEDERAL AGENCIES.

1075 LINKY, E.J.

LEAD AGENCY DESIGNATION AND PROPOSED LICENSING PROCEDURES FOR OCEAN THERMAL ENERGY CONVERSION FACILITIES [1979]

PAGES 4D-4/1 - 4D-4/4 IN G.L. DUGGER, ED. OCEAN THERMAL ENERGY FOR THE 80°S, 6TH OCEAN THERMAL ENERGY CONVERSION (OTEC) CONF, 19-22 JUNE 1979, WASHINGTON, DC

THE ATTEMPT OF PUBLIC SERVICE ELECTRIC AND GAS COMPANY TO BUILD THE ATLANTIC GENERATING STATION 2.8 M1 OFF NJ IS BUT ONE EXAMPLE OF OFFSHORE ENERGY FACILITY SITING CAUGHT IN A REGULATORY WEB. DEEPWATER PORT SITING IS ANOTHER EXAMPLE, ALTHOUGH THESE FACILITIES HAVE GENERALLY FARED BETTER IN THE REGULATORY PROCESS THAN THE FLOATING NUCLEAR POWER PLANTS. IN RECENT YEARS, STATE PLANNING AND REGULATORY PROGRAMS HAVE GAINED JURISDICTION OVER OFFSHORE ENERGY FACILITIES PRINCIPALLY THROUGH THE FEDERAL COASTAL ZONE MANAGEMENT ACT P.L. 92-583. 16 USC 1451 ET SEQ. AND THE QUITER CONTINENTAL SHELF LANDS ACT AMENDMENTS OF 1978 P.L. 95-372. THIS A ANALYSIS EXAMINES THE CONCEPT OF A LEAD AGENCY BOTH AT THE FEDERAL AND STATE LEVELS AND ATTEMPT TO DETERMINE IF SUCH A CONCEPT WILL ACTUALLY AID THE PERMITTING OF AN OTEC FACILITY. FINALLY, KEY FEATURES OF A LICENSING PROCEDURE AT THE FEDERAL AND STATE LEVELS WILL BE SET FORTH. OFFSHORE SITING OF ENERGY FACILITIES IS PARTICULARLY SUSCEPTIBLE TO COMPETING AND OFTEN CONFLICTING REGULATORY AND PLANNING PROGRAMS OF FEDERAL AGENCIES.

1076 LINSALATA, P.

DETERMINATION OF PU-239/240 AND PU-238 IN HUDSON RIVER ESTUARY SEDIMENTS [1979]

HEALTH PHYS 37(6):804-805 ABS ONLY

MEASUREMENTS OF PU-239/240 AND PU-238 WERE MADE ON 61 SEDIMENT DREDGE SAMPLES COLLECTED FROM 1974 TO 1977 IN THE VICINITY OF THE INDIAN POINT NUCLEAR STATION. PLUTONIUM WAS LEACHED FROM THE SEDIMENT USING AQUA-REGIA, EXTRACTED FROM THE LEACHATE WITH TRILAURYLAMINE, ELECTRO-DEPOSITED AND QUANTITATED (USING PU-240 AS AN ISOTOPIC TRACER) BY ALPHA SPECTROMETRY. ANNUAL PU-239/240 AND PU-238 CONCENTRATIONS IN SURFICIAL SEDIMENTS ARE GIVEN FOR 1974-77. TEMPORAL VARIATION BETWEEN THESE AVERAGES WAS POSITIVELY CORRELATED WITH THE ANNUAL CUMULATIVE FRESHWATER DISCHARGE RATE MEASURED AT A FEDERAL DAM IN TROY, NY. ANALYSIS OF THE SAMPLE OF PU-238:PU-239/240 ACTIVITY RATIO WAS PERFORMED ON AN INDIVIDUAL BASIS IN AN EFFORT TO IDENTIFY THE SOURCE OF THESE YUCLIDES IN THE ESTUARY. A TEST FOR INDIVIDUAL SAMPLES TO REJECT THE NULL HYPOTHESIS (I.E., THAT THERE IS NO DIFFERENCE BETWEEN THE SAMPLE RATIO AND THAT IN FALLOUT) WHEN TRUE WITH A PROBABILITY OF 0.01 WAS DEVISED. FOR 61 SAMPLES ANALYZED, THE NULL HYPOTHESIS WAS REJECTED ONCE. PLUTONIUM CONTRIBUTION FROM SOURCES OTHER THAN FALLOUT WAS NOT DETECTED.

1077 LISSAUER, I.M.

A TECHNIQUE FOR PREDICTING THE MOVEME. FT OF OIL SPILLS IN NEW YORK HARBOR [1974]

USCG RESEARCH & DEVEL CENTER, GROTON, CT 53 PP NT1S-AD- 786 627

THE MAJOR FACTORS INVOLVED IN THE TRANSPORT OF AN OIL SLICK IN NY BAY ARE WINDS, TIDES, AND FRESHWATER FLOW FROM THE HUDSON RIVER. COMPUTATIONS WERE MADE TO QUANTIFY THE EFFECT OF EACH OF THESE FACTORS ON THE MOVEMENT OF AN OIL SLICK. QUANTIFICATION OF EACH EFFECT RESULTED IN A SIMPLE METHOD OF FORECASTING THE MOVEMENT OF AN OIL SLICK WITHIN THE HARBOR. IN ADDITION, A METHOD OF PREDICTING THE BOUNDARIES WITHIN WHICH A SLICK IS MOST LIKELY TO MOVE WAS PRESENTED. EXTENSIVE TABULATIONS OF THE EXPERIMENTAL DATA WEPE CONTAINED IN AN APPENDIX.

1078 LISSAUER, I.M.; J.C. BACON

PREDICTED OIL SLICK MOVEMENT FROM VARIOUS LOCATIONS OFF THE NEW JERSEY-DELAWARE COASTLINE. FINAL REPORT [1975]

USCG RESEARCH & DEVEL CENTER, GROTON, CT 132 PP

PROJECTIONS OF THE MOVEMENT OF DIL SLICKS AND THEIR IMPACT LOCATION ALONG THE SHORELINE OF NJ AND DE WERE DETERMINED FROM THREE POTENTIAL DEEPWATER PORT SITES AND THREE POTENTIAL OIL DRILLING SITES. AVERAGE MONTHLY WIND SPEEDS AND DIRECTIONS AND AVERAGE MONTHLY CURRENT PATTERNS WERE USED FOR PREDICTING THE OIL SLICK MOVEMENT. PROBABLE AREAS OF IMPACT ALONG THE SHORLLINE WERE INDICATED.

1079 LISSAUER, I.M.; J.C. BACON; M.C. MILLER

A COMPUTER SIMULATION TECHNIQUE FOR OIL SPILLS OFF THE NEW JERSEY- DELAWARE COASTLINE. [1977]

PAGES 437-44] IN API-PUBL 4284. API, WASHINGTON, DC

PREDICTIONS OF THE TRAJECTORIES OF OIL SLICKS AND THEIR IMPACT LOCATIONS ALONG THE SHORELINE OF NJ AND DE WERE DETERMINED FOR 2 POTENTIAL DEEPWATER PORTS AND 2 POTENTIAL DRILLING SITES. A HYDRODYNAMICAL-NUMERICAL MODEL FOR THE NY BIGHT AREA WAS COUPLED WITH A WIND GENERATING MODEL TO PRODUCE TEMPORAL PATTERNS OF CONCENTRATION OF OIL. THE WIND MODEL EMPLOYS PRESSURE DISTRIBUTIONS AND STORM MOVEMENT TO PRODUCE HOURLY PATTERNS OF THE WIND FIELD PRODUCED BY ANY STORM FOR A PREDETERMINED GRID AREA. SHORELINE IMPACT DETERMINATIONS WERE MADE FOR THE FOUR SPILL SITES FOR THE AVERAGE WINTER STORM CONDITIONS AND AVERAGE SUMMER HIGH PRESSURE SYSTEMS GENERATED BY THE MODELS. WINTER STORMS MOVING THROUGH THE STUDY AREA DO NOT POSE A HIGH RISK TO THE SHORELINE SHOULD A SPILL OCCUR. THE MAXIMUM TRANSPORT FROM THE FOUR SITES TOWARD THE SHORE WAS 18 MI. THIS LEFT THE SLICK WELL OFFSHORE SO THAT THE ENSUING WIND SHIFT FROM THE FRONTAL PASSAGE WOULD RAPIDLY TRANSPORT THE OIL SEAWARD. DURING A STAGNANT SUMMER HIGH PRESSURE SYSTEM, SPILLS OCCURRING WITHIN 50 MI OF THE SHORELINE HAVE A HIGH PROBABLILITY OF IMPACTING THE SHORELINE IF THE SPILL SHOULD OCCUR AI THE BEGINNING OF THE PERIOD IN WHICH THE SYSTEM AFFECTS THE AREA.

1080 LISSAUER, I.M.

FORECASTING THE MOVEMENT OF OIL SPILLS [1980]

ENVIRGN INTERNAT 3(2):145-150

FORECASTING TECHNIQUES FOR PREDICTING THE MOVEMENT OF OIL SPILLS IN ESTUARINE AND OFFSHORE AREAS ARE DESCRIBED USING SEVERAL ACTUAL CASE HISTORIES (JONES BEACH AND STATEN ISLAND, NY; PERTH AMBOY, NJ; AND CAPE ANN, MA). THE VARIED USES OF A PREDICTIVE SYSTEM FOR FORECASTING, HINDCASTING, AND DETERMINING SAMPLE LOCATIONS ARE HIGHLIGHTED. RESULTS OF FORECASTS ARE GIVEN, AND THE VALIDITY OF THE TECHNIQUES IS DISCUSSED. FUTURE RESEARCH NEEDS WHICH DEFINE STUDIES NEEDED TO INCREASE THE PRECISION AND EFFECTIVENESS OF FORECASTING SYSTEMS ARE OUTLINED.

1081 LITCHFIELD: C.D.; J.P. NAKAS; R.H. VREELAND

BACTERIAL FLUX IN SOME NEW JERSEY ESTUARINE SEDIMENTS [1976]

PAGES 340-353 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG. ALLEN PRESS, LAWRENCE. KS

FROM JUL 1972 THROUGH DEC 1974 10 SAMPLING TRIPS HERE MADE IN RARITAN BAY AND SANDY HOOK BAY TO OBTAIN ESTUARINE SEDIMENTS. THE CORES HERE SUBSECTIONED AT APPROXIMATELY 10 CM INTERVALS AND EACH SECTION WAS ANALYZED FOR PH, EH, CARBON, NITROGEN, PERCENT MOISTURE, TOTAL AEROPIC COLONY FORMING UNITS, AND FACULTATIVELY ANAEROBIC COLONY FORMING UNITS. REPLICA PLATE TECHNIQUE WAS USED TO DETERMINE THE INORGANIC AND ORGANIC NITROGEN REQUIREMENTS OF THE CULTURED AEROPIC COLONIES. SEDIMENTARY BACTERIAL POPULATIONS EXHIBIT WIDE FLUCTUATIONS IN TOTAL NUMBERS (UP TO FIVE ORDERS OF MAGNITUDE), RELATIVE POPULATION COMPONENTS, AND

INORGATIC NITROGEN REQUIREMENTS. THESE FLUXES CANNOT BE CORRELATED OVERALL WITH SEASON, SEDIMENT PARTICLE SIZE, NITROGEN OR CARBON CONTENT, PH, OR EH. ALTHOUGH THE GENERAL TREND OF HIGH BACTERIAL NUMBERS IN SILT-CLAY SEDIMENTS EXISTS, THE MARKED DECREASE IN TOTAL AND SPECIFIC BACTERIAL FLORA AT STATION 15 MAKES IT IMPOSSIBLE TO CONSIDER THIS AN ABSOLUTE PRINCIPLE FOR ESTIMATING BACTERIAL NUMBERS AND POTENTIAL FOR ACTIVITY IN MARINE SEDIMENTS.

1082 LITCHFIELD, C.D.

MICROHIAL CONTRIBUTIONS TO NUTRIENT CYCLING IN THE NEW YORK BIGHT. 1 FEBRUARY 1976-1 JANUARY 1977 [1978]

PAP NO 78083005. MESA. STONY BROOK. NY 116 PP NTIS-P8-287 661

THE FOLLOWING STUDIES ARE COMBINED TO FORM THIS FINAL REPORT: IMPACT OF A CERATIUM BLOOM ON MICROBIAL BIOMASS AND ACTIVITIES IN SEDIMENTS OF THE NEW YORK BIGHT; ADD THE EFFECT OF CADMIUM AND PETROCHEMICALS ON SEDIMENTARY MICRODRIGANISMS IN THE NEW YORK BIGHT.

1083 LITCHFIELD, C.D.; M.A. DEVANAS; J. ZINDULIS; C.E. CARTY; J.P. NAKAS; E.L. MARTIN

APPLICATION OF THE C-14 ORGANIC MINERALIZATION TECHNIQUE TO MARINE SEDIMENTS [1979]

PAGES 128-147 IN SPEC TECH PUB 673. ASTM. PHILADELPHIA. PA

THIS RESEARCH WAS DESIGNED TO DEMONSTRATE THE USEFULNESS OF THE HETEROTROPHIC MINERALIZATION TECHNIQUE IN MARINE SEDIMENTS AND TO ASSESS THE TEMPORAL AND SPATIAL HETEROGENEITY OF THE MARINE SEDIMENTARY MICROBIAL POPULATION. TO DO THIS, ADAPTATION OF THE MINERALIZATION PROCEDURES USING C-14/UREA AND UL-C-14-L-ASPARTIC ACID WAS MADE. TEMPORAL HETEROGENEITY WAS EXAMINED DURING TWO CRUISES IN AUG 1975 AND AUG 1976 BY REPEATED SAMPLING AT ONE OR MORE STATIONS DURING A 24-48 HR CYCLE. CLOSE CORRELATION BETWEEN NUMBERS OF COLONY FORMING UNITS ON SELECTIVE MEDIA AND UTILIZATION OF THAT C-14 LABELED SUBSTRATE INDICATE THE TECHNIQUE IS MEASURING MICROBIAL ACTIVITY.

1084 LITCHFIELD, C.D.; M.A. DEVANAS; C. MCCLEAN; J. GIANNI

COINCIDENCE OF CADMIUM AND ANTIBIOTIC RESISTANCE IN NEW YORK BIGHT APEX BENTHIC MICROORGANISMS [1980]

MAR POLLUT BULL 11(9):264-269

MICROORGANISMS RESISTANT TO 1-500 PPM CD WERE ISOLATED OVER 11 MO FROM SEDIMENTS AT THE SEWAGE SLUDGE, DREDGE SPOILS, AND INDUSTRIAL ACID WASTE DISPOSAL SITES, AS WELL AS AT AN ESTUARINE OUTFLOW TO THE NY BIGHT APEX. TESTS FOR ANTIBIOTIC RESISTANCE REVEALED THAT 94% OF THE ISOLATES WERE RESISTANT TO ONE OR MORE ANTIBIOTICS AND THAT 91% OF THE ORIGINAL ISOLATES COULD BE CHARACTERIZED BY MULTIPLE DRUG RESISTANCE. DIFFERENT SELECTIVE PRESSURES MAY ACCOUNT FOR THE VARIOUS GENERA AND ANTIMICROBIAL RESISTANCE PATTERNS OBSERVED. POSSIBLE EXTRACHROMOSOMAL LINKAGE OF CD AND STREPTOMYCIN RESISTANCE IS DISCUSSED.

1085 LIU, C.S.; W.B. SNOW

METEOROLOGICAL AND HYDROLOGICAL DROUGHT IN RARITAN RIVER BASIN IN NEW JERSEY [1969]

PROJECT A-002-NJ. WATER RESOURCES RES INST, RUTGERS UNIV, NEW BRUNSWICK, NJ 6 PP

THE 1961-66 DROUGHT IN THE NORTHERN PART OF NJ WAS THE MOST INTENSE EVER RECORDED IN THE REGION. THE METEOROLOGICAL DROUGHTS, INDICATED BY THE PALMER DROUGHT INDEX, AND THE CORRESPONDING HYDROLOGICAL DROUGHTS WERE INVESTIGATED. THE DROUGHT SEQUENCE IS A TIME SERIES CHARACTERIZED BY A MARKOV CHAIN PROCESS. LONG SEQUENCES OF GENERATED DROUGHT DATA WERE UTILIZED FOR EVALUATING THE

VARIOUS DROUGHT DISTRIBUTIONS.

1086 LIU. S.K.; J.J. LEENDERTSE; J. VOUGT

ESTIMATION OF BOUNDARY CONDITIONS FOR COASTAL MODELS [1975]

PAGES 2122-2139 IN PROC. 14TH INTERNAT'L COASTAL ENGINEER CONF., COPENHAGEN, DENMARK, JUN 24-28, 1974. VOL 3. ASCE. NEW YORK, NY

FREQUENCY RESPONSE AND TRANSFER FUNCTION TECHNIQUES ARE USED TOGETHER WITH CROSS-SPECTRAL AND FAST FOURIER TRANSFORM METHODS TO DETERMINE THE PROPER BOUNDARY VALUES FOR COMPUTING THE FLOW FIELD OF A COASTAL SEA. TIDE DATA CONTAINING CONSIDERABLE PERTURBATIONS FROM SWELL AND METEOROLOGICAL DISTURBANCES ARE ANALYZED. IN COMPUTING THE FREQUENCY RESPONSE ESTIMATES, THE EFFECT OF NOISE IN THE INPUT IS TREATED BY A CANCELLING TECHNIQUE AND BY THE CHOICE OF A REFERENCE STATION TO EVALUATE THE INTERDEPENDENCIES AMONG THE OTHER STATIONS AT THE BOUNDARY. THE USEFULNESS OF THE NETWORK FREQUENCY RESPONSE FUNCTION IS THREEFOLD: (1) FUTURE CONDITIONS CAN BE SIMULATED USING OBSERVED WATER LEVELS AT ANY SINGLE LOCATION, (2) BOUNDARY INFORMATION FOR MODELS OF DIFFERENT GRID SIZE CAN BE OBTAINED BY INTERPOLATION, AND (3) MISSING DATA AT A GIVEN LOCATION CAN BE ESTIMATED OPTIMALLY USING DATA AT NEIGHBORING STATIONS AND THE NETWORK RESPONSE FUNCTION. THE PAPER DISCUSSES AN EXAMPLE OF SUCH AN APPLICATION, THE DETERMINATION OF A BOUNDARY OF A TWO-DIMENSIONAL MODEL OF JAMAICA BAY, NYC. EQUATIONS AND GRAPHS REPRESENT DATA.

1087 LIU, S.K.; J.J. LEENDERTSE

MULTIDIMENSIONAL NUMERICAL MODELING OF ESTUARIES AND COASTAL SEAS [1978]

ADV HYDROSCI 11:95-164

A DISCUSSION OF RECENT ADVANCES IN THE PRACTICE OF TWO- AND THREE-DIMENSIONAL NUMERICAL MODELLING OF ESTUARINE AND COASTAL SYSTEMS IS PRESENTED. VARIOUS METHODS OF SIMULATING THE DYNAMICS AND PROPERTY DISTRIBUTIONS OF THESE REGIONS ARE CONSIDERED. CURRENT AND CIRCULATION MAPS ARE PRESENTED FOR SAN FRANCISCO BAY, CHESAPEAKE BAY, AND LONG ISLAND SOUND.

1088 LOCKWOOD, H.A., III

THE DYNAMIC SEDIMENTOLOGY IN OYSTER BAY HARBOR, NY [1980]

M.S. THESIS. C.W. POST CAMPUS, LONG I SLAND UNIV. BRENTWOOD. NY NP

THIS PAPER DESCRIGES MODERN SEDIMENTARY PROCESSES OF BEDLOAD EROSION BY COMBINING SEDIMENT AND TIDAL CURRENT PARAMETERS. CURRENTS WERE MEASURED BY A LEANING TUBE CURRENT INDICATOR. SAND-SIZED SEDIMENTS WERE ANALYZED BY A SETTLING TUBE (RSA) AND RECENT CHANGES IN BATHYMETRY WERE DETERMINED BY A DEPTH SURVEY. DETAILED MAPS OF BEDLOAD EROSION, SEDIMENT MOMENTS, TIDAL CURRENTS AND BATHYMETRIC PROFILES INDICATE CHANNEL EROSION OCCURRING ADJACENT TO DREDGED AREAS, UPLAND EROSION AND NODAL POINTS, WHICH IS CONSISTENT WITH ENVIRONMENTAL CLASSES DISTRIBUTED THROUGHOUT OYSTER BAY HARBOR. IT IS SIGNIFICANT THAT THE AREA IS UNDERGOING CHANGE, MUCH OF WHICH CAN BE ATTRIBUTED TO MAN'S IMPACT.

1089 LONG . E.E.

TIDE AND TIDAL CURRENT OBSERVATIONS FROM 1965 THROUGH 1967 IN LONG ISLAND SOUND. BLOCK ISLAND SOUND. AND TRIBUTARIES [1978]

NATIONAL OCEAN SURVEY, ROCKVILLE, MD 91 PP NTIS-PB-283 849

DURING THE PERIOD BETWEEN MAY 1965 AND SEP 1967, AND EXTENSIVE TIDAL CURRENT SURVEY WAS MADE IN BLOCK ISLAND SOUND, FISHER

ISLAND SOUND, LONG ISLAND SOUND, AND IHEIR MAJOR TRIBUTARIES. THE STUDY WAS CARRIED OUT BY THE NATIONAL OCEAN SURVEY. THE REPORT INCLUDES TABLES LISTING THE FINDINGS IN DETAIL, GRAPHS, AND MAPS OF THE AREAS WITH THE 163 SELECTED SITES SPECIFIED. THE INVESTIGATIVE METHODOLOGY IS DISCUSSED, AND THE EQUIPMENT FOR DATA GATHERING IS DESCRIBED.

1090 LONGWELL, A.C.

CHROMOSOME MUTAGENESIS IN DEVELOPING MACKEREL EGGS SAMPLED FROM THE NEW YORK BIGHT [1976]

PAGES 337-339 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG. ALLEN PRESS, LAWRENCE, KS

CERTAIN HEAVY METALS AND PESTICIDES ARE RECOGNIZED MUTAGENS AND, ALONG WITH SOME OTHER MAJOR CLASSES OF MARINE CONTAMINANTS, MAY HAVE IMPORTANT IMPLICATIONS IN SURVIVAL OF FISH POPULATIONS. THIS MAY BE PARTICULARLY SO FOR FISH USING THE POLLUTED NEW YORK BIGHT AS SPAWNING GROUNDS. MUTAGENS CAN CAUSE GENETIC DAMAGE AT SUBTOXIC LEVELS. MANY MARINE CONTAMINANTS ACCUMULATE IN THE BODY TISSUES OF FISH AND OTHER MARINE SPECIES. CADMIUM HAS BEEN SHOWN TO BE ABSORBED FROM SEAWATER BY POSTSPAWNED FISH EGGS. THE CHROMOSOMES OF DEVELOPING FISH EGGS PROVIDE A SENSITIVE TEST FOR GENETICALLY ACTIVE SUBSTANCES, BOTH EXPERIMENTALLY AND IN POLLUTED NATURAL WATERS. ANY NEW DETERMINATION OF MORTALITY OF EARLY FISH STAGES, IRRESPECTIVE OF ITS CAUSE, WOULD HAVE IMPORTANT BEARING ON THE GENERAL THEORIES OF FLUCTUATIONS OF FISH POPULATIONS AND ON PREDICTIONS OF SUCCESS OF ANY YEAR CLASS OF COMMERCIAL FISH. TWO STATIONS JUST SOUTH OF LONG ISLAND WERE AMONG THOSE WITH THE LOWEST INCIDENCES OF CHROMOSOMES ABERRATIONS AND MITOTIC IRREGULARITIES. A THIRD STATION FARTHER UP THE LONG ISLAND COAST HAD A SLIGHTLY HIGHER INCIDENCE. THE STATION WITH THE HIGHEST MEAN OFF NJ WAS THE ONLY ONE WITH ANY SIGNIFICANT OBSERVABLE MORTALITY. ON THE BASIS OF CELL CONTRAST AND DETERIORATION OF THE NUCLEI, 20 OF 76 EMBRYOS (26%) WERE ALREADY DEAD. THERE WAS NOT YET ANY GROSS DETERIORATION OF THE EMBRYO OR EGG. ALSO, THERE WERE MORE INSTANCES OF MULTIPLE CHROMOSOME ABNORMALTIES WITHIN MITOSING CELLS OF EMBRYOS FROM THIS STATION.

1091 LONGWELL, A.C.

A GENETIC LOOK AT FISH EGGS AND OIL [1977]

OCEANUS 20(4):46-58

THE "ARGO MERCHANT" OIL SPILL IN 1976 PROVIDED AN OPPORTUNITY TO STUDY THE GENETIC EFFECTS OF OIL ON FISH EGGS, WHICH ARE HIGHLY SUSCEPTIBLE TO ERRORS OF CHROMOSOME SEPARATION AND GENE-LEVEL MUTATIONS. DATA ON THIS SUBJECT IS SCARCE, APART FROM A PREVIOUS STUDY OF MACKEREL EGGS IN THE POLLUTED NY BIGHT. ICHTHYOPLANKTON SAMPLES TAKEN AFTER THE "ARGO MERCHANT" SPILL SHOWED EXTENSIVE FOULING OF THE CHORION OF COD AND POLLACK EGGS, AND CYTOGENETIC STUDIES REVEALED GREAY DETERIORATION INCLUDING ABNORMAL CHROMOSOME DIVISIONS AND OTHER MUTAGENIC EFFECTS. MORTALITIES OCCURRED IN UP TO 46% OF EGGS, WITH HADDOCK MORE SUSCEPTIBLE THAN COD. AMONG THE CONSTITUTENTS OF OIL, BENZENE AND POLYNUCLEAR AROMATIC HYDROCARBONS ARE KNOWN TO CAUSE MUTATIONS AND ALTER THE SURFACE PROPERTIES OF EGG MEMBRANES, AND THE LIPID CONTENT OF EGGS ENCOURAGES THEIR DISSOLUTION. FULL INTERPRETATION OF THE EFFECTS OF THE OIL SPILL WAS HINDERED BY A LACK OF QUANTITATIVE DATA, BUT MANY IMPORTANT IMPLICATIONS CAN BE DRAAN. GENETIC DAMAGE OF FISH WOULD NOT BE IMMEDIATELY APPARENT, BUT WOULD SHOW UP IN RECRUITMENT. INTENSIVE RESEARCH IS NECESSARY TO INCREASE KNOWLEDGE IN THIS FIELD.

1092 LONGWELL, A.C.; J.B. HUGHES

CYTOLOGIC, CYTOGENETIC AND EMBRYOLOGIC STATE OF ATLANTIC MACKEREL EGGS FROM SURFACE WATERS OF THE NEW YORK BIGHT IN RELATION TO POLLUTION [1779]

NMFS. WE FISHERIES CENTER, MILFORD, CI 26 PP

CYTOLOGIC, CYTOGENETIC, AND EMBRYOLOGIC MEASURES WERE MADE ON ABOUT 10,000 EGGS OF THE ATLANTIC MACKEREL (SCOMBER SCOMBRUS) AT

THE CLEAVAGE THROUGH TAIL-FREE EMBRYO STAGES. AS COLLECTED IN ZOOPLANKTON FROM SURFACE WATERS OF THE NEW YORK BIGHT. EGGS WERE SAMPLED IN MAY OF '74 AND '77 AT A TOTAL OF ABOUT 80 DIFFERENT BIGHT SITES. DEVELOPMENT RATES AS CALCULATED BY MITOTIC INDEX. VIABILITY AS CALCULATED FROM EARLY INDICATORS OF CELL DEATH. AND CHROMOSOME-MITOTIC ABNORMALTIES OF THE MACKEREL EMBRYOS VARIED WIDELY OVER THE SAMPLE SITES IN BOTH '74 AND '77. IN '77 GROSS EMBRYO MALFORMATIONS WERE FREQUENT, AND THESE TOO VARIED FROM STATION TO STATION. THE "74 STATIONS WERE GROUPED FOR STATISTICAL STUDY ACCORDING TO PROXIMITY TO ONE ANOTHER, WATER TEMPERATURE. AND PATTERNS OF WATER CIRCULATION IN THE BIGHT. GROUP ESTIMATES OF EGG MORIBUNDITY BASED ON CELL STATE. MITOTIC-CHROMOSOME IRREGULARITIES. AND DIVISION ARREST AT GASTRULATION AND JUST AFTER WERE THEN COMPARED. THESE SHOWED STATISTICALLY SIGNIFICANT LOWER EGG VIABILITY IN PRESUMED MORE IMPACTED BIGHT AREAS RELATIVE TO LESS IMPACTED AREAS MORE DISTANT FROM THE COAST AND WASTE DUMPING GROUNDS. ALONG WITH THE "77 COLLECTION OF MACKEREL EGGS FOR CYTOLOGICAL STUDY. WATER FROM THE MICROLAYER (OR SURFACE) AND FROM THE SUBSURFACE WAS SAMPLED FOR HEAVY METAL ANALYSIS. LARGE QUANTITIES OF ZOOPLANKTON WERE ALSO SAMPLED FOR ANALYSES FOR 65 AROMATIC AND CHLORINATED HYDROCARBONS. THE "77 SAMPLES PROVIDE SOME EVIDENCE FOR STATISTICALLY SIGNIFICANT ASSOCIATIONS BETWEEN CYTOLOGIC. CYTOGENETIC. AND EMBRYOLOGIC MEASURES OF MACKEREL EGG HEALTH AT THE SEVERAL SAMPLE SITES AND CONCENTRATIONS OF HEAVY METALS IN SURFACE WATER AND ZOOPLANKTON. AND TOXIC HYDROCARBON CONCENTRATIONS IN ZOOPLANKTON AT THESE SITES. THE MEASURES OF EGG STATE SHOWING ASSOCIATIONS FALL INTO THE FOLLOWING CATEGORIES: EMBRYO MORIBUNDITY (CELLULAR EVIDENCE); CHROMOSOME-MITOTIC ABNORMALITIES; MITOTIC INDEX; CELL DIFFERENTIATION PROBLEMS; GROSS EMBRYO MALFORMATION; TOTAL EGG NUMBER COLLECTED.

1093 LONGWELL, A.C.; J.B. HUGHES

CYTOLOGIC, CYTOGENETIC, AND DEVELOPMENTAL STATE OF ATLANTIC MACKEREL EGGS FROM SEA SURFACE WATERS OF THE NEW YORK BIGHT, AND PROSPECTS FOR BIOLOGICAL EFFECTS MONITORING WITH ICHTHYOPLANKTON [1980]

REUN CONS INT EXPLOR MER 179:275-291

BUOYANI, EARLY-DEVELOPING STAGES OF FISH EGGS ARE EXPECTED TO BE A MOST SENSITIVE COMPONENT OF PLANKTON RESPONDING TO VARIOUS ENVIRONMENTAL CYTOTOXINS. MUTAGENS AND TERATOGENS. THE RISK OF CONTAMINANT EXPOSURE MUST BE INCREASED BY THEIR POSITION NEAR THE OCEAN SURFACE, AS WELL AS BY THE LOCATION OF IMPORTANT SPAWNING GROUNDS IN POLLUTED COASTAL AREAS. RATHER STANDARD PROCEDURES HAVE BEEN MODIFIED FOR SIMPLE, DIRECT EXAMINATION OF THE MITOSES AND CELLS OF FISH EMBRYOS AS SAMPLED IN PLANKTON. ALSO. IT HAS BEEN DETERMINED THAT THE YOLK-SAC MEMBRANE OF SUCH FISH EGGS IS SUITABLE FOR DETAILED CHROMOSOME ANALYSIS. ACCORDINGLY, CYTOLOGIC, CYTOGENETIC, AND EMBRYOLOGIC MEASURES WERE MADE ON ABOUT 10,000 EARLY-STAGE EGGS OF THE ATLANTIC MACKEREL (SCOMBER SCOMBRUS). EGGS WERE SAMPLED IN MAY 1974 AND MAY 1977 FROM SURFACE WATERS AT A TOTAL OF ABOUT 80 SITES IN THE NEW YORK BIGHT. DEVELOPMENT RATES AS CALCULATED BY MITOTIC INDEX. VIABILITY AS CALCULATED FROM EARLY INDICATORS OF CELL DEATH. AND CHROMOSOME-MITOTIC ABNORMALITIES OF THE MACKEREL EMBRYOS VARIED WIDELY OVER THE SAMPLE SITES IN BOTH 1974 AND 1977. EARLY-STAGE EMBRYOS THAT HAVE CEASED TO UNDERGO CHROMOSOME AND CELL DIVISIONS, AND EMBRYOS WITH GROSSLY IRREGULAR AND ARRESTED MITOSES, HAVE LITTLE CHANCE FOR ANY FURTHER NORMAL DEVELOPMENT. IN 1977, GROSS EMBRYO MALFORMATIONS WERE FREQUENT AND THESE TOO VARIED FROM STATION TO STATION, GENERALLY, THERE WERE SIGNIFICANT CORRELATIONS BETWEEN MEASURES ON CHRONOLOGICALLY RELATED DEVELOPMENT STATES, AND IN 1974 BETWEEN ALL STAGES, EXCLUDING CLEAVAGE. THE 1974 STATIONS WERE GROUPED FOR STATISTICAL STUDY ACCORDING TO PROXIMITY TO ONE ANOTHER, WATER TEMPERATURE, AND PATTERNS OF WATER CIRCULATION IN THE BIGHT. GROUP ESTIMATES OF EGG MORIBUNDITY BASED ON CELL STATE, MITOTIC-CHROMOSOME IRREGULARITIES, AND DIVISION ARREST AT GASTRULATION AND JUST AFTER WERE THEN COMPARED. THESE SHOWED STATISTICALLY SIGNIFICANT LOWER EGG VIABILITY IN PRESUMED MORE IMPACTED BIGHT AREAS RELATIVE TO LESS IMPACTED AREAS MORE DISTANT FROM THE COAST AND DUMPING GROUNDS. ALONG WITH THE 1977 COLLECTION OF MACKEREL EGGS FOR CYTOLOGICAL STUDY, MICROLAYER (OR SURFACE) AND SUBSURFACE WATERS WERE SAMPLED FOR HEAVY METAL ANALYSIS. LARGE QUANTITIES OF PLANKION WERE ALSO SAMPLED FOR ANALYSES OF 65 TOXIC AROMATIC AND CHLORINATED HYDROCARBONS. THIS STUDY PROVIDES SOME EVIDENCE FOR STATISTICALLY SIGNIFICANT ASSOCIATIONS BETWEEN CYTOLOGIC. CYTOGENETIC. AND EMBRYOLOGIC MEASURES OF MACKEREL EGG HEALTH AT THE SEVERAL SAMPLE SITES AND HEAVY METAL LEVELS OF SURFACE WATER AND PLANKTON, AND TOXIC HYDROCARBON LEVELS OF PLANKTON AT THESE SITES. THE MEASURES OF EGG STATE SHOWING ASSOCIATIONS FALL INTO THE FOLLOWING CATEGORIES: EMBRYO MORIBUNDITY (ON THE RASIS OF CELLULAR AND MITOTIC INDICATORS). CHROMOSOME-MITOTIC ABNORMALITIES, DEVELOPMENT RATE, CELL DIFFERENTIATION PROBLEMS, GROSS EMBRYO MALFORMATION, AND TOTAL EGG NUMBER SAMPLED. TEMPERATURE AND SALINITY ALSO ASSOCIATED WITH SOME OF THE 1977 EGG VARIABLES, BUT NOT NECESSARILY IN THE DIRECTION THAT DEVELOPMENTAL OPTIMA FOR MACKEREL WOULD HAVE INDICATED. ATLANTIC MACKEREL. FURTHERMORE. ARE COASTAL SPAWNERS WITH NORMAL DEVELOPMENT PROCEEDING OVER A CONSIDERABLE RANGE OF TEMPERATURE AND SALINITY. DATA ARE PRESENTLY INTERPRETED AS INDICATING THAT SPAWNED EGGS OF THE SOUTHERN CONTINGENT OF ATLANTIC MACKEREL ARE BEING ADVERSELY IMPACTED BY HYDROCARBON AND HEAVY METAL POLLUTION IN A PORTION OF THEIR SPAWNING GROUNDS IN THE STRESSED NEW YORK

BIGHT, VARIABLE TEMPERATURE AND SALINITY MOST LIKELY AFFECTED OVERALL EXPRESSION OF THE MEASURED IMPACT. SAMPLES FROM A 1978 CRUISE WILL PROVIDE ADDITIONAL INFORMATION ON ASSOCIATIONS BETWEEN SURFACE WATER, PLANKTON POLLUTION, AND MACKEREL EGG HEALTH. THIS APPLICATION OF PROCEDURES OF CYTOLOGY AND CYTOGENETICS TO ICHTHYOPLANKTON IS THE FIRST DEMONSTRATION OF THE FEASIBILITY OF MEASURING IN OPEN OCEAN WATERS A TECHNICALLY SUBLETHAL EFFECT OF SEA SURFACE POLLUTION DIRECTLY ON A REPRODUCTIVE PHASE OF A FISHERY RESOURCE SPECIES. THE MACKEREL STUDIES ARE BELIEVED TO DEMONSTRATE THE GENERAL USEFULNESS OF CYTOLOGICAL AND CYTOGENETIC ANALYSIS OF PELAGIC FISH EGGS AS COLLECTED IN PLANKTON TO MONITOR BIOLOGICAL EFFECTS OF SEA SURFACE WATER POLLUTION. THIS COMBINED EMBRYO-CELL-CHROMOSOME APPROACH HAS THE ADVANTAGE OF BEING A SENSITIVE BIOLOGICAL GAUGE OF SUBLETHAL EFFECTS OF POLLUTION. AT THE SAME TIME, IT CAN ROUTINELY SUPPLY INFORMATION ON IMPACTS, NATURAL AND UNNATURAL, ON THE EARLY LIFE HISTORY STAGES OF A COMMERCIAL RESOURCE. DATA ON FISH STOCKS DEVELOPED IN OTHER STUDIES OF THESE RESOURCES CAN AID IN INTERPRETATION OF MONITORING RESULTS THEREBY CONTRIBUTING TO THE DEVERALL VALUE OF ANY BIOLOGICAL EFFECTS OCEAN MONITORING.

1094 LONNIE, T.P.

A MINEROLOGIC STUDY OF LONG ISLAND CLAYS [1977]

M.S. THESIS. ADELPHI UNIV, GARDEN CITY, NY 44 PP

CLAYS EXPOSED ON THE NORTH AND SOUTH SHORES OF LONG ISLAND, HAVE BEEN STUDIED TO ESTABLISH THEIR ENVIRONMENT OF DEPOSITION. ENVIRONMENTAL DETERMINATIONS WERE MADE IN ORDER TO DIFFERENTIATE BETWEEN PROGLACIAL AND MARINE DEPOSITS. TECHNIQUES EMPLOYED INCLUDE X-RAY DIFFRACTION, PIPETTE ANALYSIS, ATOMIC ABSORPTION SPECTROMETRY AND COLORIMETRY. THE CLAYS HAVE BEEN GROUPED USING MINERALOGICAL, TEXTURAL AND GEOCHEMICAL PARAMETERS. A PRINCIPLE COMPONENTS PROGRAM WAS USED FOR CORRELATION OF DATA. SAMPLES FELL INTO TWO GROUPS. GROUP I CONTAINS ILLITIC CLAYS, HIGH IN MAGNESIUM AND TOTAL IRON. GROUP II CLAYS ARE KAOLINITIC, HIGH IN TITANIUM WITH LOWER MAGNESIUM AND VALUES. THE VARIATION OF THE LONG ISLAND CLAYS STUDIED IN THIS REPORT INDICATES TWO DISTINCT DEPOSITIONAL ENVIRONMENTS. GROUP I CLAYS ARE MARINE WHILE GROUP II CLAYS WERE DEPOSITED IN A FRESHWATER ENVIRONMENT. THE AUTHOR SUGGESTS THAT THESE CLAY GROUPS DEFINE PROGLACIAL AND INTERGLACIAL OR INTERSTADIAL CLAY DEPOSITS. GROUP I CLAYS ARE THEREFORE CLASSIFIED AS MARINE. INTERGLACIAL OR INTERSTADIAL CLAY DEPOSITS.

1095 LOPEZ, G.R.; J.S. LEVINTON; L.B. SLOBODKIN

THE EFFECT OF GRAZING BY THE DETRITIVORE ORCHESTIA GRILLUS ON SPARTINA LITTER AND ITS ASSOCIATED MICROBIAL COMMUNITY [1977]

OECOLOGIA 30:111-127

ORCHESTIA GRILLUS EFFICIENTLY FEEDS UPON MICROORGANISMS ATTACHED TO INGESTED SPARTINA ALTERNIFLORA LITTER, BUT DDES NOT DIGEST LITTER ITSELF. MICROORGANISMS RESPOND TO ORCHESTIA GRAZING WITH INCREASED METABOLIC ACTIVITY, REFLECTED IN ACCELERATED DECOMPOSITION OF THE NITROGEN FRACTION OF LITTER AND INCREASED MICROBIAL BIOMASS. INCREASED MICROBIAL ACTIVITY MAY BE PARTLY A FUNCTION OF AMMONIA EXCRETION AND HIGHER DIFFUSION RATE DUE TO ANIMAL MOVEMENT, BUT MAINLY IT IS A DIRECT RESPONSE TO GRAZING. MICROBIAL BIOMASS INCREASES WITH GRAZING BECAUSE THE POOL OF AVAILABLE NITROGEN BECOMES LARGER. A MODEL POSTULATING INTERACTIONS BETWEEN ORCHESTIA, SPARTINA LITTER AND ATTACHED MICROORGANISMS IS PRESENTED.

1096 LOPE ? . M.D.

NEW YORK, A GUIDE TO INFORMATION AND REFERENCE SOURCES [1980]

THE SCARECROW PRESS, INC., METUCHEN, NJ NP

THIS IS A GUIDEBOOK INTENDED FOR PERSONS INVESTIGATING ASPECTS OF NY'S CULTURAL, ECONOMIC, POLITICAL, OR SOCIAL LIFE. THIS IS A CLASSIFIED SELECTIVE, ANNOTATED BIBLIOGRAPHY OF OVER 1,000 INFORMATION AND REFERENCE RESOURCES. FOREIGN LANGUAGE MATERIALS, DISSERTATIONS, AND THESES ARE EXCLUDED; ENTRIES ARE GENERALLY LIMITED TO BOOKS, SERIALS, AND GOVERNMENT PUBLICATIONS.

1097 LOPE 7. S.

CITY SHORES [1979]

NYSG. NEW YORK. NY 4 PP

THIS BI-MONTHLY NEWS MEMORANDUM FOCUSES ON COASTAL REDEVELOPMENT PERTAINING TO NEW YORK CITY AND IS INTENDED MAINLY FOR COMMUNITY LEADERS. GOVERNMENT OFFICIALS AND EDUCATORS.

1098 LOPE 7. S.

CHANGING NEW YORK CITY'S WATERFRONT [1979]

NYSG. NEW YORK. NY 12 PP

THIS REPORT DESCRIBES THE MECHANISM FOR CHANGE AND THE MANY AGENCIES INVOLVED IN DECISION-MAKING ON A WATERFRONT DEVELOPMENT PROJECT IN NYC. INTENDED FOR USE BY COMMUNITY LEADERS, PUBLIC INTEREST GROUPS AND GOVERNMENT OFFICIALS IN WATERFRONT REDEVELOPMENT PROGRAMS. IT LISTS NUMEROUS AGENCY ADDRESSES FOR MORE SPECIFIC FOLLOW-UP.

1099 LOSEE, E.

INFLUENCE OF HEREDITY ON LARVAL AND SPAT GROWTH IN CRASSOSTREA VIRGINICAL [1978]

PAGES 101-107 IN J.W. AVAULT, JR., ED. PROC, 9TH ANN MEET, WORLD MARICULTURE SOC, ATLANTA, GA, JAN 3-6, 1978. WORLD MARICULTURE SOC. BATON ROUGE, LA

GROWTH RATE WAS MEASURED ON WILD LONG ISLAND SOUND STOCK CRASSOSTREA VIRGINICA LARVAE AND SPAT AND USED TO CALCULATE HERITABILITY ESTIMATES. THE HERITABILITY ESTIMATES FOR LARVAL GROWTH RATE RANGED FROM 0.40 TO 0.55. HERITABILITY ESTIMATES FOR SPAT GROWTH RATE MEASURED AT 6 WEEKS POST-SETTLING AVERAGED 0.50. AN ANALYSIS OF RELATIONSHIP BETWEEN LARVAL AND SPAT GROWTH RATES IS PRESENTED IN THIS PAPER.

1100 LOVEGREEN. J.R.

PALEODRAINAGE HISTORY OF THE HUDSON RIVER ESTUARY [1974]

GEOL SOC AM ABSTR PROG 6(1):49-50

COMPILATION AND GEOLOGIC ANALYSIS OF THE RECORDS FROM MORE THAN 2500 ENGINEERING AND WATER-WELL BORINGS, AND OF SELECTED GEOPHYSICAL DATA IN THE NYC METROPOLITAN AREA DEMONSTRATE THAT THE GEOLOGIC HISTORY OF THE HUDSON RIVER ESTUARY IS SUBSTANTIALLY MORE COMPLICATED THAN PREVIOUSLY RECOGNIZED. IT NOW IS POSSIBLE TO DELINEATE THE COURSE OF THREE MAJOR SUBSURFACE BEDROCK CHANNELS WHICH TREND N 30 E-S 30 W ALONG THE STRIKE OF THE TRIASIC NEWARK GROUP. FROM SE TO NW THESE STRIKE-VALLEY CHANNELS ARE DESIGNATED: (1) HOBOKEN CHANNEL, (2) CLOSTER CHANNELS, AND (3) ORADELL CHANNEL. AT VARIOUS TIMES DURING THE LAST 100 MILLION YEARS THE HUDSON FLOWED AS A RIVER IN THESE CHANNELS. THE HOBOKEN CHANNEL, 40 M DEEP AND 25 KM LONG, LIES ALONG THE EASTERN SCARP OF THE PALISADES RIDGE FROM HOBOKEN, NJ TO WEST-CENTRAL STATEN ISLAND, NY. A CLAY MEMBER OF THE CRETACEOUS RARITAN FORMATION IS PRESENT BENEATH PLEISTOCENE SEDIMENTS IN THE HOBOKEN CHANNEL. THIS CRETACEOUS CLAY INDICATES THAT THE HOBOKEN CHANNEL IS AT LEAST 100 MILLION YEARS OLD. THE CLOSTER AND ORADELL CHANNELS, 90 M DEEP AND 35 KM LONG, UNDERLIE THE HACKENSACK MEADOWS AND NORTHERN BERGEN COUNTY, NJ, WEST OF THE PALISADES RIDGE. THE SEDIMENTARY SEQUENCE IN THESE TWO CHANNELS CONTAINS ONLY PLEISTOCENE SEDIMENTS. HOWEVER, THE ORADELL CHANNEL IS BELIEVED TO HAVE SERVED AS A COURSE OF THE HUDSON RIVER DURING LATEST TERTIARY AND QUATERNARY TIME.

1101 LOW, S.T.

AN INVESTAGATION OF THE FEDERAL, STATE, AND LOCAL OIL SPILL CONTINGENCY PLANS FOR THE LONG ISLAND SOUND AREA [1973]

REP TO NY ASSEMBLY SCIENTIFIC STAFF. MSRC, SUNY, STONY BROOK, NY 63 PP NTIS-COM-73 11041

VARIOUS CONTINGENCY PLANS FOR ACTION IN THE EVENT OF AN OIL SPILL IN THE LONG ISLAND SOUND AREA ARE EXAMINED IN DETAIL. AMONG THOSE PLANS INVESTIGATED ARE: THE NATIONAL OIL AND HAZARDOUS SUBSTANCES POLLUTION CONTINGENCY PLAN, FORMULATED IN COMPLIANCE WITH THE FEDERAL WATER POLLUTION CONTROL ACT; FEDERAL REGIONAL CONTINGENCY PLANS; THE NY WATER QUALITY ACCIDENT CONTINGENCY PLAN; THE CT OIL SPILL CONTINGENCY PLAN; AND VARIOUS LOCAL GOVERNMENTAL CONTINGENCY PLANS. THE PLANS ARE EXAMINED FOR THEIR LEGAL AUTHORITY, THE GEOGRAPHIC AREA OF JURISDICTION, THE OPERATIONAL PROCEDURES, AND THEIR POSSIBLE INTERACTION WITH OTHER CONTINGENCY PLANS. ADDITIONALLY, THE BIOLOGICAL ASPECTS OF OIL POLLUTION AND TECHNIQUES OF OIL POLLUTION CONTROL AND DISPOSAL ARE EXAMINED.

1102 LUBIENIECKI. B.

NOTE ON THE OCCURENCE OF LARVAL ANISAKIS IN ADULT HERRING AND MACKEREL FROM LONG ISLAND TO CHESAPEAKE BAY [1973]

INT COMM NORTHWEST ATL FISH RES BULL 10:79-81

SAMPLES OF HERRING AND MACKEREL COLLECTED IN APR AND MAY 1971 FROM LONG ISLAND TO CHESAPEAKE BAY HAD LOWER LEVELS OF INFESTATION BY LARVAL NEMATODES ANISAKIS (2-11% INCIDENCE FOR HERRING AND 9-30% FOR MACKEREL) THAN THOSE REPORTED FOR HERRING IN ICNAF SUBAREAS 3 AND 4 AND IN MOST AREAS OF THE NE ATLANTIC. THE ABSENCE OF SIGNIFICANT VARIABILITY IN THE INFESTATION OF BOTH HERRING AND MACKEREL SUGGESTS THAT THE POPULATIONS OF THE 2 SPP. IN THE AREA INVESTIGATED ARE HOMOGENEOUS. THE RELATIONSHIPS BETWEEN NEMATODE INTENSITY AND FISH LENGTH SHOWED GRADUALLY INCREASING TRENDS IN INTENSITY WITH FISH SIZE, THE TREND FOR MACKEREL BEING MORE PRONOUNCED THAN THAT FOR HERRING.

1103 LUCE, C.F.

POWER FOR TOMORROW: THE SITING DILEMMA [1970]

ENVIRONMENTAL LAW 1(1):60-71

SOCIETY IS FACED WITH THE DILEMMA OF INCOMPATIBILITY BETWEEN TWO SOCIAL GOALS: PROTECTION OF THE ENVIRONMENT AND THE PRODUCTION OF ELECTRICITY. PART OF THIS DILEMMA IS THE DECISION OF WHERE TO PLACE PRODUCTION FACILITIES. EXAMPLES ARE GIVEN WHICH ILLUSTRATE ENVIRONMENTAL OBJECTIONS TO POWER PLANT SITING. MANY REQUIRED APPROVALS FROM GOVERNMENTAL AGENCIES FOR A NEW POWER PLANT INVOLVE ENVIRONMENTAL ISSUES. A FINAL NEGATIVE DECISION ON ANY POINT CAN CANCEL AN ENTIRE PROJECT. THE PROCEDURE FOLLOWED IN OBTAINING A PERMIT FROM THE AEC IS ILLUSTRATED. SUCH A PERMIT IS ONLY ONE OF MANY REQUIRED FOR BUILDING OR OPERATING A NEW POWER PLANT. LAWS GOVERNING THE CONSTRUCTION OF SUCH PLANTS ARE WEAK. THERE IS NO COORDINATED, SYSTEMATIC REVIEW BY A SINGLE REGULATORY AGENCY IN WHICH ALL THE FACTORS NECESSARY TO A WISE DECISION ARE CONSIDERED. REVISION OF THESE LAWS SHOULD PROVIDE FOR AN EARLY PUBLIC HEARING, EXPEDITIOUS JUDICIAL REVIEW, AND ADMINISTRATIVE REVIEW OF ADVANCE PLANS. ONE OF THE MOST DIFFICULT PROBLETS TO OVERCOME WOULD BE THE ALTERATION OF JURISDICTION CURRENTLY HELD BY FEDERAL, STATE, AND LOCAL AGENCIES. IN THE LONG RUN, THE RESOLUTION OF THE SITING DILEMMA WILL BE FOUND IN BETTER PUBLIC UNDERSTANDING OF THE ISSUES INVOLVED, NOT IN ADMINISTRATIVE INNOVATION.

1104 LUTHER, G.W.; A.L. MEYERSON; J.J. KRAJEUSKI; R. HIRES

METAL SULFIDES IN ESTUARINE SEDIMENTS [1980]

J SEDI*ENT PETROL 50(4):1117-1120

THE SEDIMENTS OF NEWARK BAY, NJ, CONTAIN ZINC SULFIDE MINERALS AS SHOWN BY SCANNING ELECTRON MICROSCOPY WITH ENERGY DISPERSIVE X-RAY ANALYSIS. THIS IS THE FIRST REPORT OF FRAMBIODAL SULFIDE MINERALS WHICH CONTAIN A CATION OTHER THAN IRON AS THE MAJOR CONSTITUENT IN RECENT ESTUARINE SEDIMENTS. NICKEL AND MANGANESE ARE INCORPORATED INTO THE STRUCTURE OF PYRITE AND IRON MONOSULFIDE CRYSTALS. RESPECTIVELY. THESE CRYSTALS ARE FORMED DURING SULFATE REDUCTION TO SULFIDES IN THE ESTUARINE SYSTEM.

1105 LYNCH. G.L.

FISHERY COOPERATIVES IN THEORY AND IN PRACTICE [1976]

M.S. THESIS. SUNY. STONY BROOK. NY 122 PP

COMMERCIAL FISHERMEN IN NY, AS IN OTHER PARTS OF THE NATION, ARE AT THE MERCY OF BUYERS AND BESET WITH RESTRICTIVE LAWS AND SOCIAL-POLITICAL PRESSURES WHICH RAISE COSTS AND LIMIT RETURNS. AS INDIVIDUALS, THEY CAN DO LITTLE ABOUT IT. ONE WAY TO IMPROVE THEIR ECONOMIC POSITION AND GAIN BARGAINING POWER WITHOUT SACRIFICING VALUED INDIVIDUALITY IS TO ORGANIZE A COOPERATIVE. PRINCIPAL REQUIREMENTS FOR SUCCESSFUL ORGANIZATION ARE THAT A GROUP OF FISHERMEN PERCEIVE A SET OF PROBLEMS ON WHICH THEY ARE WILLING TO SPEND TIME AND MONEY TO SOLVE. THIS STUDY WAS MADE TO GIVE NY FISHERMEN THE ESSENTIAL PRINCIPLES AND PROCEDURES TO BE FOLLOWED IN FORMING A COOPERATIVE. STATUTORY AND TECHNICAL DETAILS WERE OBTAINED FROM GOVERNMENT SOURCES. PERSONAL CONTACTS WITH PEOPLE EXPERIENCED WITH FISHERY COOPERATIVES WERE MADE TO EXAMINE THE PRINCIPLES AND PROBLEMS AS SEEN IN PRACTICE. THE INCENTIVE TO ASSOCIATE MUST COME FROM THE FISHERMEN THEMSELVES. THE AUTHOR HOPES THAT THIS REPORT WILL BE HELPFUL TO THOSE WHO RECOGNIZE A NEED AND WANT TO TAKE ACTION.

1106 LYNCH, J.T.

THE ROLE OF LAW ENFORECEMENT IN NEW YORK FISHERIES MANAGEMENT [1979]

FISHERIES 4(5):2-5

THIS ARTICLE DESCRIBES THE ROLE OF THE NY DEC DIVISION OF LAW ENFORCEMENT AND ITS RELATIONAHIP TO FISHERIES MANAGEMENT. IT DETAILS FISHING REGULATIONS AND THE TRAINING OF LAW ENFORCEMENT OFFICERS.

1107 LYONS, W.B.; H.E. GAUDETTE; N.D. CHASTEEN; T.R. FOGG

EARLY DIAGENESIS OF NEARSHORE AND CONTINENTAL SHELF ANOXIC SEDIMENT: THE AMOUNT, NATURE AND POSSIBLE ROLE OF DISSOLVED ORGANIC CARBON [1978]

GEOL SOC AM ABSTR PROG 10(2):74

THE ROLE OF DISSOLVED ORGANIC CARBON IN DIAGENETIC PROCESSES OF RECENTLY DEPOSITED ESTUARINE AND HEMIPELAGIC ANOXIC SEDIMENTS IS NOT CLEARLY UNDERSTOOD. PORE WATER DATA OF THIS STUDY FROM LONG ISLAND SOUND, GREAT BAY, NH AND JEFFREY'S BASIN, NEW ENGLAND CONTINENTAL SHELF SUGGEST THAT DISSOLVED ORGANIC CARBON (DOC) MAY BE EXTREMELY IMPORTANT IN A NUMBER OF POST-DEPOSITIONAL PROCESSES. OUR DATA DEMONSTRATE THAT THE DOC CONCENTRATIONS OF THESE PORE FLUIDS ARE AS MUCH AS 20 TIMES HIGHER THAN THAT OF THE OVERLYING WATERS. THIS SUGGESTS THAT DOC IN PORE WATERS IS AN EXCELLENT INDICATOR OF INTENSE DIAGENETIC PROCESSES. DISSOLVED ORGANIC CARBON COMPOUNDS IN THE ANOXIC PORE WATERS MAY LEAD TO INHIBITION OF AUTHIGENIC CACO3 METAL SULFIDE FORMATION. DIALYSIS EXPERIMENTS AND ELECTRON PARAMAGNETIC RESONANCE (EPR) SPECTROSCOPY ANALYSES SUGGEST DOC-TRACE METAL ASSOCIATIONS ARE EXTREMELY IMPORTANT IN THE SPECIATION AND MOBILITY OF THESE METALS IN THE SEDIMENTARY ENVIRONMENT. DATA ALSO INDICATE THAT THE MAJORITY OF DUC IN ESTUARINE PORE WATERS MAY WE NON-REFRACTORY IN CHARACTER AND A CONDENSATION PRODUCT OF BIOCHEFICAL MONOMERS.

1108 LYONS, W.B.; W.F. FITZGERALD

TRACE METAL FLUXES TO NEARSHORE LONG ISLAND SOUND SEDIMENTS [1980]

MAR POLLUT BULL 11(6):157-161

TRACE METALS ARE INTRODUCED INTO THE WESTERN AND CENTRAL LONG ISLAND SOUND THROUGH ANTHROPOGENIC ACTIVITIES WITH THE MAJOR SOURCES PROBABLY BEING THE EAST RIVER, SEWAGE TREATMENT FACILITIES, AND OTHER VARIOUS WASTE DISPOSAL ACTIVITIES. THE MAJOR SOURCE OF TRACE METAL TO THE EASTERN SOUND IS RIVERINE RUNOFF FROM THE CONNECTICUT RIVER. THE SEDIMENTS ARE POSSIBLY THE MAJOR "SINK" OF TRACE METALS IN THE SOUND. CORES WERE TAKEN WITH ACID PRECLEANED POLYVINYL CHLORIDE. IRON, MN, CU, IN, CD, PB, AND AGWERE DETERMINED. ORGANIC C AND TOTAL SEDIMENTARY TRACE METAL DATA FROM THE MYSTIC RIVER ESTUARY AND THE BRANFORD HARBOR SAMPLING SITES WERE TABULATED. METAL FLUXES WERE TABULATED FOR VARIOUS NEARSHORE AREAS OF THE WORLD AND VARIOUS NORTHEASTERN US NEARSHORE SEDIMENTS. SEDIMENTARY FLUXES WERE HIGHEST AT SITES CLOSE TO KNOWN SOURCES OF ANTHROPOGENIC METAL INPUTS.

1109 LYZENGA, D.R.; F.C. POLCYN

TIDAL AFFECTED DISTRIBUTIONS OF SURFACE CHLOROPHYLL AND TRANSPARENCY IN THE NEW YORK BIGHT [1977]

NO 122500-1-F. ENVIRONMENTAL RESEARCH INST OF MICHIGAN, ANN ARBOR, MI 47 PP NTIS-PB-284 444

MULTISPECTRAL DATA AT TWO ALTITUDES AND TWO TIMES OF DAY WERE ANALYZED. THE RED/BLUE AND RED/GREEN REFLECTANCE RATIOS APPEAR TO BE USEFUL INDICATORS OF CHLOROPHYLL AND TOTAL PARTICULATE CONCENTRATION (OR SECCI DISK TRANSPARENCY) IN WATER. THE RED/BLUE RATIO TECHNIQUE IS SENSITIVE TO ATMOSPHERIC EFFECTS. CALCULATION OF ATMOSPHERIC EFFECTS USING THEORETICAL MODELS IS USEFUL FOR LENDING INSIGHT INTO THIS PROBLEM. THE SECOND DERIVATIVE TECHNIQUE HOLDS PROMISE AS AN INDICATOR OF WATER QUALITY WHICH IS RELATIVELY INSENSITIVE TO ATMOSPHERIC EFFECTS. FURTHER EMPIRICAL AND THEORETICAL INVESTIGATIONS NEED TO BE DONE WITH DATA FROM VARIOUS ALTITUDES AND WATER TYPES TO ESTABLISH THE LIMITATIONS OF THIS TECHNIQUE.

1110 MACINNES, J.R.

RESPONSE OF EMBRYOS OF THE AMERICAN DYSTER, CRASSOSTREA VIRGINICA, TO HEAVY METAL MIXTURES [1980]

MAR ENVIRON RES 4 (1980-81):217-227

THE RESPONSE OF EMBRYOS OF THE AMERICAN OYSTER, CRASSOSTREA VIRGINICA, TO VARIOUS COMBINATIONS OF 2 OR 3 METALS (CU, HG, AND 2N AS THE NITRATES AND CHLORIDES) WAS STUDIED IN THE LABORATORY AT THE OPTIMAL TEMPERATURE AND SALINITY REGIME FOR THEIR DEVELOPMENT. THE EXPERIMENTAL DESIGN AAS A 3 X 3 X 3 FACTORIAL EXPERIMENT USING CU CONCENTRATIONS OF 0, 8 AND 16 PPB; ZN CONCENTRATIONS OF 0, 100 AND 200 PPB AND HG CONCENTRATIONS OF 0, 6 AND 10 PPB. HIGHLY SIGNIFICANT TOXIC SYNERGISM WAS OBSERVED IN THE CU-ZN MIXTURES AND THREE-METAL MIXTURES OF BOTH SALTS, PARTICULARLY AT HIGH CONCENTRATIONS ALTHOUGH THE CHLORIDE SALT APPEARED TO BE SLIGHTLY MORE TOXIC THAN THE NITRATE SALT, THE OVERALL DIFFERENCE WAS NOT SIGNIFICANT.

1111 MACKENZIE, C.L., JR.

USE OF QUICKLIME TO INCREASE OYSTER SEED PRODUCTION [1977]

AQUACULTURE 10(1): 45-51

A SINGLE APPLICATION OF QUICKLIME (CALCIUM OXIDE), SPREAD AT A RATE OF 6.75 METRIC TONS/HA, WAS USED TO PREPARE DORMANT DYSTER SETTING REDS FOR SPAT PRODUCTION. OF 2,000 HA IN LONG ISLAND SOUND, CT, 1200 HA HAD SUFFICIENT SHELLS TO COVER AT LEAST 75% OF THE BOTTOM. HOWEVER, THESE SHELLS HAD A CONTINUOUS FOULING ORGANISM LAYER THAT WOULD PREVENT SIGNIFICANT DYSTER SETTING. MANY BEDS HAD PREDATOR POPULATIONS OF SEA STAR (ASTERIAS FORBESI) AND DYSTER DRILLS (UROSALPINX CINEREA AND EUPLEURA CAUDATA). QUICKLIME CLEANS THE SHELLS BY KILLING FOULING ORGANISMS, AND ALSO CONTROLS SEA STARS AND EMBRYONIC DYSTER DRILLS. WHEN THE SUPPLY OF CLEAN SHELLS FOR ANNUAL SPREADING ON THE SETTING BEDS IS LIMITED, USE OF THE QUICKLIME METHOD PREPARES GREATER

QUANTITIES OF SHELLS FOR POSSIBLE OYSTER SET.

1112 MACKENZIE, C.L., JR.

PREDATION ON HARD CLAM (MERCENARIA MERCENARIA) POPULATIONS [1977]

TRANS 4M FISH SOC 106(6):530-537

PREDATION WAS EXAMINED IN LABORATORY EXPERIMENTS AND IN WILD POPULATIONS (NORWALK HARBOR, MILFORD, CT; GREAT SOUTH BAY, NY; AND HORSESHOE COVE IN THE EASTERN PORTION OF SANDY HOOK BAY, NJ). INCREASES IN CLAM DENSITY FOLLOWING PREDATOR REDUCTION WERE ALSO EXAMINED. THE PRINCIPAL PREDATORS OF HARD CLAMS ARE GASTROPODS AND CRABS, WHICH TAKE MOSTLY SMALL CLAMS. IN THE LABORATORY, CRABS CONSUME CLAMS RAPIDLY. WILD POPULATIONS OF CLAMS ARE MOST ABUNDANT IN AREAS WHERE EITHER PREDATORS ARE SCARCE OR STONES PROVIDE COVER FROM THEM. VARIATIONS IN RECRUITMENT AND PREDATION ON CLAMS SMALLER THAN ABOUT 15 TO 20 MM DETERMINE THE STRENGTH OF YEAR CLASSES. AS CLAMS GROW, THEY BECOME LESS VULNERABLE TO A SUCCESSION OF PREDATORS, FIRST OUTGROWING MUD CRABS AT A LENGTH OF ABOUT 7 MM, ROCK CRABS AT ABOUT 15 MM, OYSTER DRILLS AT ABOUT 20 MM, AND MOON SNAILS AT ABOUT 50 MM. CLAM DENSITIES WERE 7 AND 8 TIMES AS GREAT IN SECTIONS OF SHELLFISH BEDS WHERE PREDATORS WERE REDUCED BY PESTICIDE APPLICATIONS COMPARED WITH UNTREATED SECTIONS OF THE SAME BEDS.

1113 MACKENZIE, C.L.; A.S. MERRILL

OBSERVATIONS OF SEA SCALLOP STOCKS ON GEORGES BANK AND MIDDLE ATLANTIC SHELF IN 1975 [1977]

PROC NATE SHELLFISH ASSOC 67:120

2 RESOURCE ASSESSMENT SURVEYS FOR SEA SCALLOPS FROM GEORGES BANK SOUTHWARD TO CAPE HATTERAS, NO WERE MADE IN 1975. SCALLOPS WERE MADST ABUNDANT ON NORTHERN EDGE AND NORTHEAST PEAK ON GEORGES BANK, AND SOUTH OF LONG ISLAND AND EAST OF THE NORTHERN NJ COAST ON MIDDLE ATLANTIC SHELF. A WIDESPREAD SCALLOP SET OCCURRED ON GEORGES BANK AND MIDDLE ATLANTIC SHELF IN 1972. THE SET WAS SUFFICIENTLY ABUNDANT TO PREDICT A SIGNIFICANT INCREASE IN COMMERCIAL SCALLOP LANDINGS IN THE NEAR FUTURE.

1114 MACKENZIE, C.L., JR.

RELATION OF BIOLOGICAL AND ENVIRONMENTAL FACTORS TO SOFT-SHELL AND HARD SHELL CLAM MANAGEMENT [1978]

PAGES 67-78 IN PROC OF THE NORTHEAST CLAM INDUSTRIES: MANAGEMENT FOR THE FUTURE, 27-28 APR 1978, HYANNIS, MA. MA COOP EXTENSION SERVICE, UNIV OF MA, AMHERST, MA

THIS PAPER DESCRIBES THE BIOTIC POTENTIAL AND ENVIRONMENTAL REQUIREMENTS OF MERCENARIA MERCENARIA AND MYA ARENARIA. IT DISCUSSES ENVIRONMENTAL FACTORS THAT SUPPRESS THE BIOTIC POTENTIAL OF THESE SPECIES AND POSSIBILITIES FOR INCREASING THE ABUNDANCE OF CLAMS BY MEANS OF PREDATOR REDUCTION.

1115 MACKENZIE, C.L., JR.; A.S. MERRILL; F.M. SERCHUK

SEA SCALLOP RESOURCES OFF THE NORTHEASTERN US COAST. 1975 [1978]

MAR FISH REV 40(2):19-23

COMMERCIAL SCALLOP LENGTH FREQUENCY DATA (BOTH US AND CANADA) INDICATE THAT THE PRESENT SCALLOP FISHERIES ARE DEPENDENT MOSTLY ON THE 1972 YEAR CLASS. THE HIGH ABUNDANCE EXHIBITED BY THE 1972 YEAR CLASS DOES NOT, IN ITSELF, INSURE THAT THE SCALLOP STOCK WILL NOT BE OVERFISHED. INDEED, IT IS POSSIBLE THAT GROWTH OVERFISHING (THE REMOVAL OF SCALLOPS BEFORE THEY HAVE ATTAINED THEIR

MAXIMUM GROWTH POTENTIAL, 1.E., YIELD PER RECRUIT) MAY HAVE ALREADY TRANSPIRED. FROM THE LITTLE KNOWLEDGE AVAILABLE OF STOCK-RECRUITMENT RELATIONSHIPS FOR SEA SCALLOP POPULATIONS AND GIVEN THE CHARACTERISTIC IRREGULARITY OF RECRUITMENT, IT APPEARS DESIRABLE TO ESTIMATE THE SIZE OF AN ADULT SPAWNING STOCK THAT IS LARGE ENOUGH FOR PROVIDING ADEQUATE RECRUITMENT IN THE FUTURE AND THEN REGULATE FOR PRESERVING IT, IN ORDER THAT A VIABLE FISHERY WILL BE MAINTAINED. MANAGEMENT ALTERNATIVES TO REACH THIS UBJECTIVE ARE CURRENTLY BEING CONSIDERED BY THE NEWLY ESTABLISHED REGIONAL FISHERY MANAGEMENT COUNCILS.

1116 MACKENZIE, C.L., JR.

BIOLOGICAL AND FISHERIES DATA ON SEA SCALLOP, PLACOPECTEN MAGELLANICUS (GMELIN) [1979]

TECH REP 19. SANDY HOOK LABORATORY, HIGHLANDS, NJ 34 PP

BRIEF DESCRIPTIONS OF SEA SCALLOPS INCLUDING TAXONOMY, MORPHOLOGY, DISTRIBUTION, REPRODUCTION, DEVELOPMENT, NUTRITION, BEHAVIOR, POPULATION DYNAMICS, LIMITING FACTORS, FISHING AND MANAGEMENT ARE GIVEN IN THIS REPORT. IN 1978 THE STATE OF MAINE HAD IMPOSED SIZE LIMITS AND REQUIRED A LICENSE FOR COMMERCIAL GATHERING. NO OTHER RESTRICTIONS WERE PLACED ON US FISHERMEN.

1117 MACKENZIE, C.L., JR.

MANAGEMENT FOR INCREASING CLAM ABUNDANCE [1979]

MAR FISH REV 41(10):10-22

THE OBJECTIVE OF CLAM MANAGEMENT, TO INCREASE CLAM ABUNDANCE IN BEDS AND CONSEQUENT YIELDS AND SUPPLIES, CAN BE ACHIEVED WHEN PRACTICABLE, LOW-COST METHODS ARE DEVELOPED AND USED FOR REMOVING PREDATORS FROM CLAM BEDS. THE EXAMPLES FROM TEST AREAS IN WILD CLAM BEDS OF SUBSTANTIAL INCREASES IN ABUNDANCE OF THE HARD CLAM AND SOFT CLAM FOLLOWING POISONING AND FENCING-OUT. RESPECTIVELY, OF PREDATORS SHOW THAT CLAM ABUNDANCE WILL ALSO INCREASE SUBSTANTIALLY AFTER PREDATORS ARE REMOVED FROM OTHER WILD CLAM BEDS. STUDIES SHOULD BE UNDERTAKEN TO DETERMINE WHETHER OR NOT SETTING DENSITIES OF CLAM SPAT CAN BE INCREASED WITH PRACTICABLE METHODS. A PERMANENT INCREASE IN CLAM ABUNDANCE AND TIELDS WILL VITALIZE THE CLAM FISHERY AND THUS MEET BASIC HUMAN NEEDS 8Y: 1) INCREASING THE ECONOMIC SECURITY, STABILITY, AND PROSPERITY OF CLAM FISHERMEN: 2) STIMULATING THE ECONOMY OF LOCAL COMMUNITIES; AND 3) INCREASING CLAM SUPPLIES AT MORE STABLE PRICES IN THE MARKET, WITHOUT SUBSTANTIAL COST IN MOVEY OR TIME. HERETOFORE, CLAM MANAGEMENT HAS BEEN DESIGNED TO CONSERVE CLAM POPULATIONS AND ENSURE CONTINUOUS CLAM VIELDS. AS STATED ABOVE. VARIOUS STATE AND LOCAL REGULATIONS RESTRICT THE CLAM SIZES AND QUANTITIES TO BE GATHERED AND THE TYPES OF GATHERING GEAR. THE CONSERVATION MANAGEMENT CONCEPT SOMEWHAT PARALLELS MANAGEMENT OF MANY OF THE WILDLIFE RESOURCES. SUCH AS FRESHWATER FISH. WATERFOWL, AND UPLAND GAME OF OUR NATION. IT DIFFERS IN THAT ATTEMPTS HAVE BEEN MADE TO INCREASE WILDLIFE ABUNDANCE WITHIN THE THREE CATEGORIES THROUGH ENVIRONMENTAL IMPROVEMENT. THE MANAGEMENT GOALS HAVE BEEN SUCCESSFULLY REACHED THROUGH THE LEGAL RESTRICTIONS ON CLAM GATHERING. BUT UNDER THE CONSERVATION CONCEPT. CLAMS CAN AND DO BECOME SCARCE FOR YEARS. NO ATTITUDES AND SOLUTIONS WITHIN THE CONCEPT EXIST TO INCREASE CLAM ABUNDANCE. IMPOSING INCREASED RESTRICTIONS ON GATHERING CLAMS WILL NEVER CREATE INCREASED CLAM ABUNDANCE. THIS HAS BEEN'EVIDENCED WHEN FRESHWATER FISH, WATERFOWL, AND UPLAND GAME DID NOT INCREASE WITH THE IMPOSITION OF INCREASED RESTRICTIONS ON FISHING AND HUNTING. CONVENTIONAL MANAGEMENT FOR THE CONSERVATION OF CLAM POPULATIONS SHOULD BE REPLACED WITH A MANAGEMENT CONCEPT WHICH EMBRACES CONSERVATION AND INCREASED CLAM ABUNDANCE THROUGH ENVIRONMENTAL IMPROVEMENT. PERMANENT INCREASES IN CLAM ABUNDANCE CAN BE BROUGHT ABOUT THROUGH A COMBINATION OF: 1) A CONTINUATION OF THE REGULATIONS PROHIBITING THE GATHERING OF SMALL CLAMS; 2) PROBLEM-ORIENTED RESEARCH AND DEVELOPMENT AND IMPLEMENTATION OF METHODS AND PROGRAMS FOR IMPROVING CLAM ENVIRONMENTS BY CLAM PRODUCTION SPECIALISTS; 3) ESTABLISHMENT OF THE. PROGRAMS BY DECISION-MAKING CIVIC BODIES, AUTHORIZED AND WILLING TO DO IT; AND 4) GUIDANCE BY THE PRODUCTION SPECIALISTS IN THE YEARS AFTER PROGRAMS HAVE BEEN ESTABLISHED. REMOVING THE CONSTRAINTS ON CLAM ABUNDANCE IN BEDS, WHICH HAVE HERETOFORE CONSISTENTLY DEPRIVED CLAM FISHERMEN, LOCAL COMMUNITIES, AND THE MARKET, WILL BENEFIT EVERYONE.

1118 MACKENZIE, C.L., JR.

RIOTIC POTENTIAL AND ENVIRONMENTAL RESISTANCE IN THE AMERICAN DYSTER (CRASSOSTREA VIRGINICA) IN LONG ISLAND SOUND [1981]

AQUACULTURE 22:229-268

THE AMERICAN OYSTER (CRASSOSTREA VIRGINICA) IN LONG ISLAND SOUND WAS STUDIED THROUGHOUT ITS LIFE SPAN ON COMMERCIAL BEDS BY CONDUCTING SCUBA SURVEYS AND SUPPORTING LABORATORY TESTS FROM 1966-1972. THE OYSTER HAD A BIOTIC POTENTIAL OF A MAGNITUDE LARGE ENOUGH TO COVER THE ENTIRE BOTTOM OF THE SOUND WITHIN A FEW YEARS, GIVEN OPTIMUM ENVIRONMENTAL CONDITIONS. THE LIMITING FACTORS WERE MAINLY: LOW TEMPERATURES, A LACK OF CLEAN SHELL SUBSTRATUM ON WHICH OYSTER LARVAE COULD SET, AND ABOUT 20 CAUSES OF MORTALITY OF SEDENTARY OYSTERS, THE MOST SUBSTANTIAL OF WHICH WERE: (1) PREDATION BY STARFISH (ASTERIAS FORBESI), OYSTER DRILLS (EUPLEURA CAUDATA AND UROSALPINX CINEREA) AND CRABS (CANCER TRRORATUS AND NEOPANOPE SAYI); (2) COMPETITION BY SLIPPER-SHELLS (CREPIDULA FORNICATA AND CREPIDULA PLANA) AND OTHER ANIMALS ON SHELLS; (3) SUFFOCATION BY SILT AND (4) SHELL FRACTURE DURING TRANSPLANTING BY OYSTER GROWERS. OYSTER MORTALITIES OCCURRED MOSTLY FROM SPRING TO FALL AND WERE NEGLIGIBLE DURING WINTER. THE MORTALITIES WERE AREA-SPECIFIC WITHIN BEDS, BED-SPECIFIC AND MUCH HIGHER IN SPAT THAN IN 1, 2 AND 3-YEAR-OLD OYSTERS. THE SURVIVAL OF OYSTERS FROM SETTING OF SPAT THROUGHOUT THEIR LIFE SPAN ON CULTURED BEDS WAS ESTIMATED TO BE 2-5%. FEW OYSTERS COULD SURVIVE IN THE SOUND WITHOUT BED CULTURE. DURING 1966 AND CONTINUING AFTERWARDS, THE GROWERS APPLIED IMPROVED CULTURAL METHODS AND NEW TECHNOLOGIES TO REMOVE A NUMBER OF LIMITING FACTORS FROM THE BEDS, AND THIS RESULTED IN AN OYSTER ABUNDANCE AND PRODUCTION TAKEOFF.

1119 MACLEAY, S.A.; C.L. RUDDELL

THREE NEW CRUSTACEAN HOSTS FOR THE PARASITIC DINOFLAGELLATE HEMATODINIUM PEREZI (DINOFLAGELLATEA, SYNDINIDAE) [1978]

J PARASITOL 64(1):158-160

THREE CRABS, CANCER IRRORATUS, C. BOREALIS, AND OVALIPES OCELLATUS, ARE ADDED TO THE LIST OF CRUSTACEAN HOSTS OF HEMATODINIUM PEREZI, EXTENDING THE GEOGRAPHICAL RANGE OF THE PARASITE TO INCLUDE THE INSHORE AND OFFSHORE WATERS OF THE MID-ATLANTIC BIGHT. GROSSLY INFECTED CRABS WERE UNREMARKABLE HISTOLOGICALLY, THE HAEMAL SPACES WERE FOUND TO CONTAIN SMALL ROUNDED CELLS (9-14 MICRON DIAMETER) WHICH RESEMBLED CRAB HAEMOCYTES AND OCCASIONALLY APPEARED IN THE FORM OF MULTINUCLEATE MASSES. THE NUCLEI OF THESE CELLS JERE ATYPICAL FOR CRAB HAEMOCYTES AND HAD 5 V-SHAPED CHROMOSOMES, AND ON THIS BASIS THE IDENTIFICATION OF H. PEREZI WAS MADE. CONCLUSIONS CONCERNING THE HOST-PARASITE RELATIONSHIP OF H. PEREZI COULD NOT BE DRAWN BECAUSE SO FEW INFECTED CRABS WERE FOUND. HOWEVER. THE INFECTION RATE FOR C. BOREALIS WAS HIGH IN COMPARISON TO THAT OF THE OTHER SPECIES EXAMINED.

1120 MACOMBER, R.T.; R.L. MAIRS; D.T. STANCZUK

A STUDY OF THE SURFACE FLUID FLOW CHARACTERISTICS OF THE NEW YORK BIGHT AND THE DEVELOPMENT OF RESEARCH DATA DISPLAY TECHNIQUES [1974]

NESS, WASHINGTON, DC 63 PP NTIS-COM-75 10734

IN RESPONSE TO THE NEED FOR (1) A DEMONSTRATION OF REMOTE SENSING DATA ACQUISITION APPLIED TO STUDIES OF THE COASTAL MARINE ECOSYSTEM IN THE NEW YORK BIGHT AREA, AND (2) A DEMONSTRATION OF THE REMOTE SENSING BASED INFORMATION PRODUCTS WHICH CAN BE PROVIDED TO AREA USERS, EARTH SATELLITE CORPORATION ENTERED INTO A CONTRACT AGREEMENT WITH THE SPACECRAFT OCEANOGRAPHY GROUP OF NOAA TO DEMONSTRATE THE APPLICABILITY OF REMOTE SENSOR RECORDS TO THE STUDY OF CIRCULATION, DISPERSION, AND RELATED ENVIRONMENTAL CHARACTERISTICS, AND TO DEVELOP REMOTE SENSOR-DERIVED PRODUCTS FOR POTENTIAL USERS IN THE NEW YORK BIGHT AREA.

1121 MADIGAN, J.K.

PIER 16, EAST RIVER, NEW YORK RESTORED USING HIGHWAY TECHNIQUES [1979]

AMERICAN SEAPORT 41(7):23-24

PIFR 15, LOCATED ON THE EAST RIVER SHORE OF MANHAITAN ISLAND, NYC, IS DAILY VISITED BY TOURISTS AND THE BUSINESS POPULATION OF

THE WALL STREET FINANCIAL DISTRICT THREE STREETS AWAY. IN 1978, THE MAYOR'S OFFICE DETERMINED THAT THE RESTORATION OF PIER 16 WOULD BE INCLUDED IN THE CITY'S PUBLIC WORKS IMPROVEMENT PROGRAM FOR \$2.2 MILLION. THE DESIGN CRITERIA ESTABLISHED FOR THE WORK HERE TO FIREPROOF THE PIER; TO REDUCE MAINTENANCE; TO ASSURE PEDESTRIAN SAFETY; TO HAVE THE PIER APPEAR AS ORIGINALLY CONSTRUCTED (1902); AND TO PERFORM THE WORK FOR THE LEAST POSSIBLE COST. THE STRUCTURAL CONTRACTS PROVIDED FOR DECK REMOVAL AND REPAIR. INSTEAD OF THE TRADITIONAL METHOD OF BUILDING A TEMPORARY STRUCTURE TO BE LATER REPLACED BY CONCRETE, THE CONSTRACTOR PROPOSED THE USE OF PRECAST, PRESTRESSED CONCRETE PLANKS. THE USE OF COMPOSITE CONSTRUCTION MAKES AVAILABLE THE ENTIRE CROSS SECTION OF THE SLAB TO CARRY STRESS AND LOADS, AND WAS A NEW DESIGN CONSIDERATION. TO ACCOMMODATE VARIANCES IN DIMENSIONS IN THE STRUCTURE, THE SPAN OF THE PLANKS VARIED FROM 9 TO 10 FT. THE PLANKS HAVE INSERTS AT EACH END FOR BOND SPIKES TO CONTROL TRANSVERSE CRACKING OF THE PLANK ELEMENTS.

1122 MAGNELL, B.A.

COHERENCE BETWEEN WIND AND CURRENT OBSERVED IN NEW JERSEY COASTAL WATERS [1975]

EOS: TRANS AM GEOPHYS UNION 56(6):382

MOORED CURRENT METER DATA OBTAINED CONTINUOUSLY DURING 1973 AND 1974 IN 13 M OF WATER ABOUT 4.5 KM OFF LITTLE EGG INLET, NJ, WERE ALALYZED USING TIME SERIES TECHNIQUES, TOGETHER WITH WIND DATA COVERING THE SAME PERIOD. THERE IS STRONG VISUAL CORRELATION BETWEEN THE ALONGSHORE COMPONENTS OF WIND STRESS AND CURRENT. THE POWER DENSITY SPECTRUM OF THE ALONGSHORE CURRENT. TAKEN OVER THE ENTIRE YEAR, IS SMOOTH EXCEPT FOR PEAKS AT THE SEMIDIURNAL AND DIURNAL FREQUENCIES. NO INERTIAL PEAK WAS FOUND. THE SPECTRUM OF THE ALONGSHORE WIND STRESS IS ALSO SMOOTH. THE COHERENCE BETWEEN ALONGSHORE WIND STRESS AND CURRENT, TAKEN OVER THE ENTIRE YEAR, IS ABOVE THE LEVEL OF ZERO SIGNIFICANCE OVER A FREQUENCY BAND FROM ABOUT 1/30-1 CYCLES/D. THE CURRENT LAGS THE WIND AT ALL FREQUENCIES IN THIS BAND BY A CONSTANT TIME DELAY OF 3.5 HR. A WELL-DEFINED NOTCH IN THE YEARLY COHERENCE IS FOUND NEAR PERIODS OF 25-30 HR. IN SUMMER THE COHERENCE BETWEEN THE ALONGSHORE CURRENT AND THE ON-OFFSHORE WIND STRESS EXHIBITS A PEAK AT 24 HR, INDICATIVE OF SEA BREEZE FORCING.

1123 MAHONEY, J.B.; F.H. MIDLIGE; D.G. DEUEL

A FIN ROT DISEASE OF MARINE AND EURYHALINE FISHES IN THE NEW YORK BIGHT [1973]

TRANS AM FISH SOC 102(3): 596-605

A FIN ROT DISEASE REACHED EPIZOOTIC PROPORTIONS IN 1967 AMONG AT LEAST 22 SPECIES OF MARINE AND EURYHALINE FISHES IN THE NEW YORK BIGHT AND HAS CONTINUED TO OCCUR ANNUALLY TO THE PRESENT TIME. FIN NECROSIS WAS THE CONSISTENT EXTERNAL SIGN OF THE DISEASE; OTHER EXTERNAL PATHOLOGICAL CHANGES INCLUDED SKIN HEMORRHAGES, SKIN ULCERS AND, OCCASIONALLY, BLINDNESS. BLUEFISH, SUMMER FLOUNDER, WINTER FLOUNDER AND JEAKFISH WERE THE PRINCIPAL SPECIES AFFECTED. RESULTS OF THESE STUDIES INDICATE A BACTERIAL CAUSE. BACTERIA OF 3 GENERA, AEROMONAS, VIBRIO AND PSEUDOMONAS ARE LIKELY IMPLICATED. SIMILAR EPIZOOTICS AMONG FRSHWATER FISHES WERE ASSOCIATED WITH UNSANITARY CONDITIONS IN AQUARIA AND WITH WATER POLLUTION IN NATURE. THE EPIZOOTIC PRIMARY CENTER, LOWER NEW YORK HARBOR IS GROSSLY POLLUTED WITH SEWAGE AND INDUSTRIAL WASTES. POLLUTION MAY HAVE A ROLE IN THE DISEASE.

1124 MAHONEY, J.B.

THE NUTRITION AND PHYSIOLOGY OF PROROCENTRUM MICANS, MASSARTIA ROTUNDATA, AND OLISTHODISEUS LUTEUS. ISOLATED FROM BLOOMS IN NEW YORK HARBOR AND NEW JERSEY COASTAL WATERS [1974]

PH.D. THESIS. FORDHAM UNIV. NEW YORK, NY 113 PP

THE THREE PHYTOFLAGELLATES STUDIED WERE TESTED FOR THEIR RELATIVE UTILIZATION OF ORGANIC NUTRIENT AS AN INDICATOR OF THEIR ADAPTATION TO A POLLUTED ENVIRONMENT. ALL THREE WERE DEMONSTRATED TO BE STIMULATED TO GROW BY A WIDE RANGE OF ORGANIC NUTRIENTS

FOUND IN NY HARBOR IN SIMILAR CONCENTRATIONS TO THOSE FOUND THERE NATURALLY. THIS IS CONSIDERED EVIDENCE THAT BLOOMS OF THESE SPECIES IN THIS AREA CAN BE PROMOTED BY THE FERTILIZATION OF THE WATERS BY VARIOUS POLLUTION SOURCES.

1125 MAHONEY, J.B.; J.J.A. MCLAUGHLIN

THE ASSOCIATION OF PHYTOFLAGELLATE BLJOMS IN LOWER NEW YORK BAY WITH HYPERTROPHICATION [1977]

J EXP MAR BIOL ECOL 28(1):53-65

LARGE QUANTITIES OF NUTRIENTS, INCLUDING ORGANIC SUBSTANCES. IN TREATED AND UNTREATED WASTES, ARE DISCHARGED INTO THE NEW YORK ESTUARY. THE POSSIBLE RELATIONSHIP BETWEEN ANNUAL PHYTOFLAGELLATE BLOOMS IN LOWER NEW YORK BAY AND THE URBAN HYPERTROPHICATION WAS INVESTIGATED BY TESTS OF THE UTILIZATION OF A WIDE VARIETY OF ORGANIC C, N, AND P COMPOUNDS BY THE DOMINANT PHYTOPLANKTONIC ORGANISMS. CARBON COMPOUNDS WERE TESTED AT 50, 25, AND 5 MG C/L; N COMPOUNDS AT 1.4, 0.7, AND 0.14 MG N/L; AND P COMPOUNDS AT 0.25, AND 0.1 MG P/L. THE RESULTS FROM THE LOWEST CONCENTRATION ARE CONSIDERED OF GREATEST ENVIRONMENTAL RELEVANCE. AT THE LOW CONCENTRATIONS MASSARTIA ROTUNDATA USED 11, OLISTHODISCUS LUTEUS 14, AND PROROCENTRUM MICANS 15 OF 20 ORGANIC C COMPOUNDS; M. ROTUNDATA USED 14, 0. LUTEUS 7, AND P. MICANS 14 OF 16 ORGANIC N COMPOUNDS; M. ROTUNDATA USED 6. 0. LUTEUS 8, AND P. MICANS 7 OF 8 ORGANIC P COMPOUNDS. THESE RESULTS, TOGETHER WITH COMPLEMENTARY DATA INDICATING UTILIZATION OF ORGANIC SUBSTANCES DURING BLOOMS, SUGGEST A BLOOM-HYPERTROPHICATION ASSOCIATION.

1126 MAHONEY, J.B.

THE SEASONAL MAXIMA OF "CERATIUM TRIPOS" WITH PARTICULAR REFERENCE TO A MAJOR NEW YORK BIGHT BLOOM [1978]

TECH REP 16. NMFS, HIGHLANDS, NJ 28 PP NTIS-PB-287 914

BOTTOM WATER OXYGEN DEFICIENCY WAS APPARENTLY RESPONSIBLE FOR A CATASTROPHIC KILL OF MARINE ANIMALS OFF THE NJ CDAST DURING THE SUMMER OF 1976. INVESTIGATION HAS INDICATED THAT THE DECLINE AND DECOMPOSITION OF AN IMMENSE BLOOM OF THE DINOFLAGELLATE CERATIUM TRIPOS CONTRIBUTED TO THE OXYGEN DEPLETION. AN ESTIMATED AREA OF OVER 14,000 SQ KM WAS AFFECTED BY THE DXYGEN DEPLETION; LETHAL LEVELS OF HYDROGEN SULPHIDE WERE PRODUCED IN PART OF THE AREA. MORTALITIES OCCURRED AMONG FINFISH AND INVERTEBRATES; OF ESPECIAL ECONOMIC SIGNIFICANCE WAS THE MORTALITY OF THE SURF CLAM, SPISULA SOLIDISSIMA. THE UNUSUAL NATURE AND ECILOGICAL IMPORTANCE OF THE 1976 EVENT WARRANTS THE EXAMINATION OF AVAILABLE INFORMATION ON THE BIOLOGY OF C. TRIPOS, PARTICULARLY ON THIS SPECIES' SEASONAL MAXIMA OR BLOOMS.

1127 MAHONEY, J.B.; J.J.A. MCLAUGHLIN

SALINITY INFLUENCE ON THE ECOLOGY OF PHYTOFLAGELLATE BLOOMS IN LOWER NEW YORK BAY AND ADJACENT WATERS [1979]

J EXP MAR BIOL ECOL 37(3):213-223

THE POSSIBLE ROLE OF SALINITY IN PHYTOFLAGELLATE BLOOMS IN NEW YORK HARBOR ESTUARINE AND OCEANIC WATERS WAS EXAMINED BY CULTURE STUDIES OF THE DOMINANT SPECIES. MASSARTIA ROTUNDATA, (= KATODINIUM ROTUNDATUM) GREW BEST IN THE RANGE 24-30 PPT, OLISTHODISCUS LUTEUS IN THE RANGE 10-36 PPT, AND PROROCENTRUM MICANS IN THE RANGE 27-36 PPT. THE OPTIMUM RANGES FOR ALL 3 SPECIES SUFFICIENTLY MATCH THE CHARACTERISTIC BAY-OCEAN RANGE (17-32 PPT) TO ELIMINATE SALINITY TOLERANCE AS A MAJOR FACTUR IN BLOOM DEVELOPMENT. LAH SIMULATION OF THE CHANGE FROM BRACKISH-RIVER TO OCEAN MATER SALINITIES, BY CULTURE PRECONDITIONING AT 20 PPT OR AT 30 PPT BEFORE INOCULATION INTO SALINITY GRADIENT, SHOWS STRESS EFFECTS ON GROWTH, ESPECIALLY IN M. ROTUNDATA AND OLUTEUS. IT IS SPECULATED THAT SALINITY STRESS MAY TEMPORARILY AFFECT THE DEVELOPMENT OF PARTICULAR BLOOMS OF THESE 2 SPECIES.

ENVIRONMENTAL AND PHYSIOLOGICAL FACTORS IN GROWTH AND SEASONAL MAXIMA OF THE DINOFLAGELLATE CERATIUM TRIPOS [1979]

BULL NJ ACAD SCI 24(1):28-38

AN EXTENSIVE MORTALITY OF MARINE ANIMALS OFF NJ IN 1976 WAS ASSOCIATED WITH AN IMMENSE BLOOM OF THE DINOFLAGELLATE CERATIUM TRIPOS. C. TRIPOS CAN THRIVE WHEN NUTRIENT SUPPLIES ARE MINIMAL, IS A EURYHALINE AND EURYTHERMAL SPECIES, AND IS ADAPTED FOR LOW LIGHT REGIMES, THUS THESE FACTORS PROBABLY HAD LITTLE INFLUENCE ON LIMITING THE BLOOM. COMPARISON OF THE NEW YORK BIGHT OCCURRENCE WITH C. TRIPOS MAXIMA IN OTHER LOCALES INDICATES THAT THE NEW YORK BIGHT BLOOM HAD AN EXTRAORDINARILY HIGH CELL DENSITY, BUT OTHER FEATURES, INCLUDING AREAL DISTRIBUTION, SEASON OF OCCURRENCE, DURATION, AND MID-DEPTH RESIDENCE IN THE WARMER MONTHS. ARE NOT UNIQUE.

1129 MAHONEY, J.B.; F.W. STEIMLE, JR.

A MASS MORTALITY OF MARINE ANIMALS ASSOCIATED WITH A BLOOM OF "CERATIUM TRIPOS" IN THE NEW YORK BIGHT [1979]

PAGES 225-230 IN D.L. TAYLOR AND H.H. SELIGER, EDS. PROC OF 2ND INTERNAT'L CONF ON TOXIC DINOFLAGELLATE BLOOMS, ELSEVIER-NORTH HOLLAND. NY. NTIS-PB-296 284

A DEPLETION OF OXYGEN IN BOTTOM WATERS OF THE NEW YORK BIGHT DEVELOPED DURING THE SUMMER OF 1976. AT ITS MAXIMUM AREAL EXTENT IN SEPTEMBER, THE OXYGEN DEPLETION EXTENDED OVER 13,000 SQ KM. THE LOW OXYGEN LEVELS AND, PROBABLY, THE SUBSEQUENT PRODUCTION OF HYDROGEN SULFIDE, CAUSED EXTENSIVE MORTALITIES OF MARINE ANIMALS, ESPECIALLY THE SURF CLAM, SPISULA SOLIDISSIMA; 5-7 YEARS MAY BE REQUIRED FOR THE RECOVERY OF SHELLFISH STOCKS. THE EVENT WAS APPARENTLY RELATED TO THE DECLINE AND ULTIMATE COLLAPSE OF AN IMMENSE BLOOM OF THE DINOFLAGELLATE, CERATIUM TRIPOS, WHICH HAD DEVELOPED IN THE BIGHT DURING THE LATE WINTER AND SPRING. A TIME/LOCALE COINCIDENCE BETWEEN ADVANCED BLOOM DECOMPOSITION AND ZONES OF MAXIMUM OXYGEN DEPLETION SUGGESTS A RELATIONSHIP BETWEEN THE PHENOMENA. COMPARISON OF FEATURES OF THIS BLOOM WITH THOSE OF PRIOR MAXIMA OF C. TRIPOS IN THE NEW YORK BIGHT AND OTHER LOCALES INDICATES THAT ITS INTENSITY WAS EXTRAORDINARY BUT OTHER ASPECTS SUCH AS SEASON AND DURATION OF OCCURRENCE ARE NOT UNIQUE.

1130 MAHONEY, J.B.; F.W. STEIMLE, JR.

POSSIBLE ASSOCIATION OF FISHING GEAR CLOGGING WITH A DIATOM BLOOM IN THE MIDDLE ATLANTIC BIGHT [1980]

BULL NJ ACAD SCI 25(1):18-21

INCIDENTS OF FISHING GEAR CLOGGING WITH A BLACK OR GREY VISCOUS SLIME HAVE BEEN CAUSED BY A MUCILAGENOUS SUBSTANCE PRODUCED BY A DIATOM POPULATION PRESENT FROM JAN THROUGH MAY IN THE AFFECTED AREAS. THE DOMINANT SPECIES IS COSCINODISCUS NOBILIS.

1131 MALINS, D.C.

POLLUTION OF THE MARINE ENVIRONMENT [1980]

ENVIRON SCI TECHNOL 14(1): 32-37

WITH 63,000 CHEMICALS IN COMMON USE, THE TASK OF IDENTIFYING SPECIFIC POLLUTANTS AND THEIR EFFECTS IN RELATION TO MARINE LIFE IS IMMENSE. THE INTERDISCIPLINARY APPROACH TO THIS COMPLEX ISSUE INCLUDES STUDIES IN ANALYTICAL CHEMISTRY, BIOCHEMISTRY, VERTEGRATE AND INVERTEGRATE PATHOLOGY, ELECTRON MICHOSCOPY, IMMUNOLOGY, AND BEHAVIORAL BIOLOGY. PRIMARY CONCERNS ARE WHETHER POLLUTANTS ARE AVAILABLE TO ORGANISMS AND WHETHER THEY ARE TRANSFERRED THROUGH MARINE FOOD WEBS. STUDIES ON MARINE AND ESTUARINE POLLUTION IN THE NEW YORK BIGHT AND PUGET SOUND, WA, ARE SUMMARIZED. AMONG OTHER RESULTS IT IS INTERACTIVE EFFECTS BETWEEN THO POLLUTANTS IN MARINE ORGANISMS THAT ACCOUNT FOR SUBSTANTIAL ALTERATIONS IN CERTAIN BIOCHEMICAL SYSTEMS AND IN CELLULAR MORPHOLOGY.

1132 MALONE, T.C.

PHYTOPLANKTON PRODUCTIVITY, NUTRIENT RECYCLING AND ENERGY FLOW IN THE INNER NEW YORK BIGHT: SEPTEMBER 1973-FEBRUARY 1974 [1974]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 7 PP

THE COMPOSITION AND QUANTITY OF SUSPENDED ORGANIC AND INORGANIC MATERIAL IN THE WATER COLUMN WILL HAVE A PRONOUNCED EFFECT ON ENERGY FLOW THROUGH PELAGIC AND BENTHIC FOOD CHAINS. THE PURPOSE OF OUR RESEARCH CONTRIBUTION TO THE MESA PROJECT IS TO DETERMINE THE RELATIVE IMPORTANCE OF ORGANIC DETRITUS AND PHYTOPLANKTON AS FOOD SOURCES IN PLANKTONIC FOOD CHAINS ON A SEASONAL BASIS IN THE NEW YORK BIGHT. IN THIS CONTEXT, THE DUMPING OF SEWAGE SLUDGE AND DREDGE SPOILS, THE HUDSON AND RARITAN RIVER ESTUARIES, AND THE BENTHOS REPRESENT MAJOR SOURCES OF DETRITUS AND DISSOLVED NUTRIENTS WHICH INFLUENCE THE GROWTH AND STANDING OF PLANKTONIC ORGANISMS OF THE BIGHT ECOSYSTEM. PHYTOPLANKTON STANDING CROP WILL BE A FUNCTION OF GROWTH WITHIN THE SYSTEM AND ADVECTION OF PHYTOPLANKTON INTO OR OUT OF THE SYSTEM. EVALUATION OF THE EFFECTS OF CURRENT DUMPING PRACTICES IS DEPENDENT ON THE DEGREE TO WHICH WE UNDERSTAND THE IMPORTANCE OF ESTUARINE RELATED INPUTS WHICH WARY IN PROPORTION TO RIVER FLOW. THE OBJECTIVES OF OUR FIRST YEARS RESEARCH ARE TO DOCUMENT TEMPORAL AND SPATIAL VARIATIONS IN SUSPENDED SEDIMENTS, ORGANIC DETRITUS, INORGANIC NUTRIENTS, AND PHYTOPLANKTON AND TO DETERMINE THE ENVIRONMENTAL PROCESSES RESPONSIBLE FOR THESE VARIATIONS. THE DISTRIBUTIONS OF THESE VARIABLES WILL BE EVALUATED IN TERMS OF LOCATION, TIME OF YEAR, FRESH WATER VOLUME FLOW OF THE HUDSON RIVER, WATER COLUMN STRATIFICATION, ZOOPLANKTON ABUNDANCE AND PHYTOPLANKTON PRODUCTIVITY. THIS REPORT PRESENTS THE RESULTS OF OUR FIRST SIX MONTHS OF WORK (SEPT 73 THROUGH FEB 74) WITH THE EXCEPTION OF THE FEB ZOOPLANKTON DATA AND THE DATA FOR PHYTOPLANKTON CELL DENSITY AND TAXONOMIC COMPOSITION. THE REPORT IS INTENDED TO BE A PRESENTATION OF DATA AND INCLUDES LITTLE DATA ANALYSIS.

1133 MALONE, T.C.; C. GARSIDE; K.C. HAINES; O.A. ROELS

NITRATE UPTAKE AND GROWIH OF CHAETOCEROS SP. IN LARGE OUTDOOR CONTINUOUS CULTURES [1975]

LIMNOL OCEANOGR 20(1):9-19

DIEL VARIATIONS IN THE GROWTH AND NUTRIENT UPTAKE RATES OF CHAETOCEROS SP. WERE OBSERVED IN 2,000 L OUTDOOR CONTINUOUS CULTURES. NITRATE UPTAKE WAS CONTINUOUS AND INDEPENDENT OF THE LIGHT-DARK CYCLE AT DILUTION RATES OF 1.57D AND LESS. AT A DILUTION RATE OF 2.07D NITRATE UPTAKE AND NET CELLULAR ORGANIC NITROGEN PRODUCTION VARIED IN SYNCHRONY, PEAKING EARLY IN THE PHOTOPERIOD AND DECREASING TO A DIEL MINIMUM DURING THE DARK PERIOD. GROWTH APPEARED TO BE LIMITED BY NITRATE UPTAKE AT THE SLOWER DILUTION RATES AND BY THE RATE AT WHICH NITROGEN COULD BE INCORPORATED INTO NEW PROTOPLASM AT THE HIGHEST DILUTION RATE. THE LATTER WAS PROBABLY LIGHT LIMITED.

1134 MALONE, T.C.

PHYTOPLANKTON PRODUCTIVITY IN THE APEX OF THE NEW YORK BIGHT: ENVIRONMENTAL REGULATION OF PRODUCTIVITY/CHLOROPHYLL A [1976]

PAGES 260-272 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL UCEANOG, ALLEN PRESS, LAWRENCE, KS

PHYTOPLANKTON PRODUCTIVITY WITHIN A 6JO SQ KM AREA OF THE NEW YORK BIGHT APEX RANGED FROM A DEC MINIMUM TO A JUNE MAXIMUM. NETPLANKTON PRODUCTIVITY PEAKED IN FEB AND JUNE; NANNOPLANKTON PRODUCTIVITY WAS HIGHEST IN JUNE AND JULY. PRODUCTIVITY WAS RESTRICTED TO WITHIN 20 KM OF THE MOUTH OF THE HUDSON-RARITAN ESTUARY. NETPLANKTON AND NANNOPLANKTON ACCOUNTED FOR 41% AND 59% OF THE ANNUAL PHYTOPLANKTON PRODUCTION. THE SUPPLY OF DISSOLVED INORGANIC NITROGEN FROM THE HUDSON ESTUARY EXCEEDED PHYTOPLANKTON DEMAND EXCEPT DURING JUNE, JULY, AND AUG WHEN REGENERATION WITHIN THE APEX WAS AN IMPORTANT SOURCE OF NITROGEN. NO EVIDENCE OF NITROGEN-LIMITED PHYTOPLANKTON GROWTH WAS FOUND. EVIDENCE SHOWS THAT CHLOROPHYLL A SPECIFIC PHYTOPLANKTON PRODUCTIVITY WAS REGULATED BY LIGHT AND TEMPERATURE. OCEAN DUMPING HAD NO OBSERVABLE EFFECT ON PHYTOPLANKTON ASSIMILATION NUMBERS OR ON THE DISTRIBUTION OF ENVIRONMENTAL FACTORS REGULATING PHYTOPLANKTON GROWTH IN THE APEX.

1135 MALONE, T.C.

PHYTOPLANKTON PRODUCTIVITY IN THE APEX OF THE NEW YORK BIGHT: SEPTEMBER 1973-AUGUST 1974 [1976]

TM-ERL-MESA-5. NOAA, BOULDER, CO 106 PP NTIS-PB-266 245

THE ANNUAL PRODUCTION OF 370 GC/M2/D CALCULATED FOR THE APEX REFLECTS THE CONTINUOUS INPUT OF NUTRIENT-RICH ESTUARINE WATER WHICH IS CONFINED TO THE PHOTIC ZONE BY THERMAL STRATIFICATION DURING THE SUMMER MONTHS OF GREATEST PHYTOPLANKTON DEMAND. PHYTOPLANKTON PRODUCTIVITY/ CHLOROPHYLL A IN THE PHOTIC ZONE WAS A LINEAR FUNCTION OF MEAN PHOTIC ZONE LIGHT ENERGY, AND LIGHT-SATURATED PHOTOSYNTHESIS/CHLOROPHYLL A WAS AN EXPOENTIAL FUNCTION OF TEMPERATURE OVER MOST OF THE YEAR. SIMULATED IN SITU PRODUCTIVITY/CHLOROPHYLL A WAS SIGNIFICANTLY CORRELATED WITH VALUES CALCULATED BY A MATHEMATICAL MODEL RELATING PRODUCTIVITY/CHLOROPHYLL A TO LIGHT AND TEMPERATURE.

1136 MALONE, T.C.

LIGHT-SATURATED PHOTOSYNTHESIS BY PHYTOPLANKTON SIZE FRACTIONS IN THE NEW YORK BIGHT. USA [1977]

MAR BIOL 42(4):281-292

THE RESPONSE OF PHYTOPLANKTON SIZE FRACTIONS TO ENVIRONMENTAL CHANGES WAS STUDIED IN THE LOWER HUDSON ESTUARY AND APEX OF THE NEW YORK BIGHT USING DATA GATHERED FOR 1975-76 SUMMER AND WINTER PHYTOPLANKTON BLOOMS. CELL SIZE AND CHAIN LENGTH, WHICH INFLUENCE RESIDENCE TIME IN THE EUPHOTIC ZONE, ARE IMPORTANT FACTORS IN PHYTOPLANKTON POPULATION DYNAMICS AND TROPHIC INTERACTIONS. COPEPODS FAVOR LARGE CELLS FOR GRAZING, AND CELL SIZE IS ALSO RELATED TO SUSPENSION IN STRATIFIED MEDIA AND DISTRIBUTION IN CONVECTION CELLS AND UPWELLING SYSTEMS. NETPLANKTON BLOOMS WERE FOUND TO OCCUR IN LATE WINTER (FEB), AND NANOPLANKTON BLOOMS IN SUMMER (JUN). WATER TEMPERATURES WERE 2-8 C AND 18-24 C, RESPECTIVELY. NANNOPLANKTON AND HETPLANTKON ASSIMILATION NUMBERS WERE HIGHER DURING BLOOM PERIODS THAN DURING TRANSITION PERIODS OF RAPID TEMPERATURE CHANGE (8-18 C). DIFFERENCES IN ASSIMILATION NUMBERS BETWEEN SIZE FRACTIONS COULD ACCOUNT FOR SUMMER NANNOPLANKTON DOMINANCE, BUT NOT WINTER NETPLANKTON DOMINANCE. ASSIMILATION NUMBERS WERE EXPONENTIAL FUNCTIONS OF TEMPERATURE BETWEEN 8-24 C FOR NANNOPLANKTON, AND 8-20 C FOR NETPLANKTON. BELOW 8 C. NETPLANKTON ASSIMILATION NUMBERS WERE COCCASIONALLY CORRELATED WITH DISSOLVED INORGANIC NITROGEN.

1137 MALONE, T.C.

ENVIRONMENTAL REGULATION OF PHYTOPLANKTON PRODUCTIVITY IN THE LOWER HUDSON ESTUARY [1977]

ESTUARINE COASTAL MAR SCI 5(2):157-171

PHYTOPLANKION PRODUCTIVITY AND MEAN PHOTIC ZONE CHLOROPHYLL A CONCENTRATIONS RANGED FROM 0.01 G CARBON/M2/D (DEC) TO 2.22 G CARBON/M2/D (JUL) AND FROM 0.8 MICROG CHL/L (DEC) TO 6.4 MICROG CHL/L (JUL), RESPECTIVELY. DISSOLVED INORGANIC MUTRIENT CONCENTRATIONS WERE HIGH THROUGHOUT THE YEAR, AND (WITH THE POSSIBLE EXCEPTION OF SILICATE DURING THE SUMMER) TEMPORAL VARIATIONS WERE NOT CORRELATED WITH CONCURRENT VARIATIONS IN PHYTOPLANKTON PRODUCTIVITY. CHLOROPHYLL A SPECIFIC PHYTOPLANKTON PRODUCTIVITY WAS REGULATED BY LIGHT AND TEMPERATURE. NANNOPLANKION GROWTH ACCOUNTED FOR INCREASES IN PHYTOPLANKTON PRODUCTIVITY ABOVE 5.25 G CARBON/M2/D WITHIN THE LOWER ESTUARY. EXCEPT DURING THE SUMMER WHEN PHYTOPLANKTON GROWTH RATES WERE HIGH, INCREASES IN PHYTOPLANKTON BIOMASS WERE RELATED TO THE ADVECTION OF PHYTOPLANKTON INTO THE LOWER HUDSON ESTUARY FROM RARITAN PAY OR THE APEX OF THE NEW YORK BIGHT. ALTHOUGH MAJOR NUTRIENT CONCENTRATIONS WERE CONSISTENTLY HIGH, NETPLANKTON GROWTH RATES WERE APPARENTLY LESS THAN FLUSHING RATES AND, THEREFORE, TOO LOW TO GENERATE BLOOMS IN THE LOWER ESTUARY.

1138 MALONE, T.C.

NEW YORK BIGHT ATLAS: PLANKTON SYSTEMATICS AND DISTRIBUTION [1977]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 13. NYSG, ALBANY, NY 45 PP NT1S-PB-268 892

PUBLISHED AND UNPUBLISHED DATA COLLECIED OVER THE PAST 75 YEARS ARE USED TO DESCRIBE THE DISTRIBUTIONS OF PHYTOPLANKTON AND ZOOPLANKTON SPECIES IN NEW YORK BIGHT. PHYTOPLANKTON AND ZOOPLANKJON DENSITIES WERE FOUND TO DECREASE WITH DISTANCE FROM THE RARITAN-HUDSON RIVER ESTUARY. PHYTOPLANKTON POPULATIONS WERE DOMINATED BY DIATOMS (COLD MONTHS) AND CHLOROPHYTES (WARM MONTHS) IN THE ESTUARY AND BY DIATOMS IN THE OUTER BIGHT. ZOOPLANKTON POPULATIONS WERE DOMINATED BY COPEPODS AND MEROPLANKTON (SUMMER ONLY) IN THE ESTUARY AND BY COPEPODS IN THE BIGHT. THESE OBSERVATIONS SUGGEST THAT PHYTOPLANKTON SPECIES COMPOSITION IN NEW YORK BIGHT IS STRONGLY INFLUENCED BY OCEANIC PROCESSES. INCREASES IN ZOOPLANKTON ABUNDANCE MAY REFLECT GROWTH WITHIN THE BIGHT OR ADVECTIVE TRANSPORT INTO THE REGION. DECREASES IN COPEPOD ABUNDANCE DURING LATE SUMMER AND AUTUMN APPEAR TO BE DUE TO CTENOPHORE PREDATION.

1139 MALONE, T.C.

THE ENVIRONMENTAL REGULATION OF CARBON PRODUCTION BY PHYTOPLANKTON IN THE NEW YORK BIGHT [1978]

FINAL REPORT TO NOAA. LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 180 PP

THIS REPORT EVALUATES THE ROLE OF PHYTOPLANKTON SIZE FRACTIONS AND COPEPODS IN THE PARTICULATE ORGANIC CARBON (POC) BUDGET OF THE APEX OF THE NEW YORK BIGHT. BECAUSE OF THE IMPORTANCE OF PHYTOPLANKTON AS AN INPUT OF POC TO THE APEX, A MAJOR EFFORT HAS BEEN MADE TO QUANTIFY THE ENVIRONMENTAL REGULATION OF PHYTOPLANKTON GROWTH. DATA COLLECTED DURING 35 CRUISES IN THE APEX FROM SEP, 1973 TO APR, 1976 WERE USED TO EVALUATE THE FIDELITY OF THE NUMBERICAL MODEL USED TO SIMULATE CHLOROPHYLL A SPECIFIC CARBON PRODUCTION. THE ROLE OF COPEPODS IN THE FOOD CHAIN TURNOVER OF POC WAS EVALUATED AS PART OF A DOCTORAL DISSERTATION BY DR. MIGA CHERVIN.

1140 MALONE, T.C.

THE 1976 "CERATIUM TRIPOS" BLOOM IN THE NEW YORK BIGHT: CAUSES AND CONSEQUENCES [1978]

PAGES 1-14 IN NOAA-TR-NMFS-CIRC-410. LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY NT 15-PB-286 740

AN EXTENSIVE BLOOM OF THE DINOFLAGELLATE CERATIUM TRIPOS OCCURRED THROUGHOUT THE NEW YORK BIGHT BETWEEN JANUARY AND JULY 1976. POPULATION SIZE PEAKED DURING APRIL-JUNE AND DECLINED RAPIDLY DURING JULY. A FLOC CONSISTING PRIMARILY OF DECAYING C. TRIPOS CELLS WAS OBSERVED TO COVER THE BOTTOM DURING JULY BETWEEN SANDY HOOK AND ATLANTIC CITY BETWEEN 5 AND 50 KM OFFSHORE. THE DISTRIBUTION OF THE FLOC ROUGHLY COINCIDED BOTH TEMPORALLY AND SPATIALLY WITH THE DEVELOPMENT OF A SUBTHERMOCLINE DXYGEN MINIMUM LAYER AND EXTENSIVE FISH KILLS. PRIOR TO THE ONSET OF THERMAL STRATIFICATION (JAN-MAR), THE C. TRIPOS POPULATION WAS UNIFORMLY DISTRIBUTED THROUGHOUT THE JATER COLUMN AND WAS GROWING PHOTOSYNTHETICALLY. AS THE WATER COLUMN BEGAN TO STRATIFY IN APRIL, THE POPULATION AGGREGATED IN A LAYER 1-3 M THICK NEAR THE BASE OF THE THERMOCLINE BETWEEN THE 0.1 AND 10% LIGHT DEPTHS. IF PHOTOSYNTHETIC GROWTH WAS OCCURRING DURING MAY-JUNE, IT WAS AT A VERY LOW RATE (ABOUT 0.02 G C/MZ/D AT THE 1% LIGHT LEVEL). THE POSSIBLITY OF NO GROWTH OR HETEROTROPHIC GROWTH CANNOT BE DISMISSED, ESPECIALLY IN THE APEX OF THE NEW YORK BIGHT AND ALONG THE NJ COAST. THE C. TRIPOS BLOOM RESULTED IN A GRADUAL ACCUMULATION OF A LARGE QUANTITY OF PARTICULATE ORGANIC MATTER WHICH DID NOT ENTER PELAGIC FUOD CHAINS. RESPIRATION OF THIS BIOMASS AND ITS DECAY BELOW THE THERMOCLINE WERE PROBABLY MAJOR FACTORS. IN THE DEVELOPMENT OF OXYGEN-POOR BOTTOM WATERS IN JUNE AND JULY. LOCALIZATION OF THE OXYGEN MINIMUM LAYER OFF THE NJ COAST PROBABLY REFLECTS THE BOTTOM TOPOGRAPHY OF THE NEW YORK BIGHT AND THE DISTRIBUTION OF THE C. TRIPOS BIOMASS WITHIN THE BIGHT. THE OCCURRENCE OF C. TRIPOS BLOOMS PER SE IS NOT UNUSUAL. THE BLOOM WAS UNIQUE ONLY IN TERMS OF THE SIZE OF THE POPULATION PRODUCED. ITS AREAL EXTENT, AND ITS DURATION. BECAUSE HIGH DENSITIES OF C. TRIPOS DEVELOPED THROUGHOUT THE NEW YORK BIGHT DURING JANUARY-MARCH WITH MAXIMUM DENSITIES BETWEEN MIDSHELF AND THE SHELF BREAK. IT IS UNLIKELY THAT THE BLOOM OCCURRED IN RESPONSE TO LOCAL NUTRIENT ENRICHMENT (RELATED TO THE DISPOSAL OF DOMESTIC AND INDUSTRIAL WASTES) DURING THE PERIOD OF THE BLOOM. HOWEVER, CAUSES OF THE BLOOM AND ITS COLLAPSE CANNOT BE DETERMINED. BASED ON EXISTING INFORMATION.

THE PRODUCTION AND FATE OF PHYTOPLANKION SIZE FRACTION IN THE PLUME OF THE HUDSON RIVER. NEW YORK BIGHT [1979]

LIMNOL OCEANOGR 24(4):683-696

SEASONAL EFFECTS OF WATER COLUMN STABILITY, PHYTOPLANKTON GROWTH, AND COPEPOD GRAZING ON THE BIOMASS OF PHYTOPLANKTON SIZE FRACTIONS ARE DESCRIBED IN THE CONTEXT OF VARIATIONS IN POC. NETPLANKTON BIOMASS WAS MORE VARIABLE IN TIME (BETWEEN WEEKS AND MONTHS), WHEREAS NANNOPLANKTON BIOMASS WAS MORE VARIABLE IN SPACE (BETWEEN SURFACE AND BOTTOM LAYERS AND BETWEEN STATIONS). BIOMASS WAS HIGHEST AND MOST UNIFORMLY DISTRIBUTED DURING FEB-MAR WHEN NETPLANKTON DIATOMS DOMINATED AND DOUBLING TIMES APPROXIMATED THE FLUSHING TIME OF THE PLUME. BIOMASS DECLINED RAPIDLY WITH DEPTH AND DISTANCE FROM THE MOUTH OF THE PLUME. VARIATIONS IN POC WERE WELL CORRELATED WITH PHYTOPLANKTON BIOMASS WHEN NETPLANKTON DOMINATED AND BIOMASS WAS LIMITED BY SINKING AND MIXING. WHEN NANNOPLANKTON DOMINATED, BIOMASS WAS LIMITED MAINLY BY GRAZING AND CORRELATIONS BETWEEN POC AND BIOMASS WERE POOR. MOST OF THE BIOMASS PRODUCED BY NETPLANKTON DIATOMS APPARENTLY SINKS FROM THE SURFACE LAYER BEFORE THE SUMMER THERMOCLINE DEVELOPS, WHEREAS MOST OF THE BIOMASS PRODUCED BY NANNOPLANKTON DURING THE SUMMER ENTERS PELAGIC FOOD CHAINS BEFORE SINKING FROM THE SURFACE LAYER.

1142 MALONE, T.C.; W.E. ESAIAS; P.G. FALKOWSKI

PLANKTON DYNAMICS AND NUTRIENT CYCLING--PART 1: WATER COLUMN PROCESSES [1979]

PAGES 193-218 IN OXYGEN DEPLETION AND ASSOCIATED BENTHIC MORTALITIES IN NEW YORK BIGHT, 1976. NOAA PROFESSIONAL PAPER 11. NOAA, BOULDER, CO

NANNOPLANKTON PRODUCTIVITY PER SE WAS PROBABLY NOT A MAJOR FACTOR IN THE 1976 OXYGEN DEPLETION EVEN THOUGH IT NORMALLY ACCOUNTS FOR MOST OF THE INPUT OF POM TO THE REGION. WITH THE EXCEPTION OF WINTER-SPRING DIATOM BLOOMS, WHICH APPARENTLY GO UNGRAZED, THERE IS NO EVIDENCE THAT A SIGNIFICANT PORTION OF PHYTOPLANKTON PRODUCTION NORMALLY ACCUMULATES BELOW THE THERMOCLINE DURING SUMMER. THE DOMINANCE OF SMALL-CELLED PHYTOPLANKTON (USUALLY LESS THAN 10 MICRONS IN DIAMETER), VERTICAL CHLOROPHYLL A DISTRIBUTIONS, THE IMPORTANCE OF AMMONIA AS A NITROGEN SOURCE FOR PHYTOPLANKTON, AND THE RAPID INCREASE IN ZOOPLANKTON GRAZING PRESSURE DURING MAY AND JUNE ARE CONSISTENT WITH THE RAPID TURNOVER OF POC CALCULATED FOR THE APEX IN THE ABSENCE OF C. TRIPOS. IN EFFECT, THE C. TRIPOS BLOOM PROVIDED A MECHANISM BY WHICH LARGE QUANTITIES OF POC WERE ACCUMULATED OVER SEVERAL MONTHS. THE CHANGE IN THE RELATIVE ABUNDANCE OF PHYTOPLANKTON SPECIES AND THE EFFECTS OF THIS CHANGE ON THE DISTRIBUTION AND QUANTITY OF POC IN THE SUBTHERMOCLINE WATER COLUMN RESULTED IN EXCEPTIONALLY HIGH BDD IN 1976. UNFORTUNATELY, WE DO NOT UNDERSTAND THIS TYPE OF SPECIES SUCCESSION VERY WELL, AND THE BASIC QUESTION OF WHY THE C. TRIPOS BLOOM OCCURRED IN THE FIRST PLACE REMAINS UNANSWERED.

1143 MALONE, T.C.; P.J. NEALE; D.C. BOARDMAN

INFLUENCES OF ESTUARINE CIRCULATION ON THE DISTRIBUTION AND BIOMASS OF PHYTOPLANKTON SIZE FRACTIONS [1980]

PAGES 249-261 IN V.S. KENNEDY, ED. ESTUARINE PERSPECTIVES. ACADEMIC PRESS INC. LAWRENCE, KS

RIOMASS OF NETPLANKTON DIATOMS IN THE LOWER HUDSON ESTUARY IS HIGHEST WHEN SURFACE TEMPERATURE IS BELOW 15C AND DEPENDS ON THE DEVELOPMENT OF DIATOM BLOOMS IN ADJACENT COASTAL JATERS. PEAKS IN NETPLANKTON BIOMASS OCCUR BETWEEN PULSES IN FRESHWATER FLOW DUE TO ENTRAINMENT OF DIATOMS IN HIGH SALINITY BOTTOM WATER ADVECTED INTO THE ESTUARY. AS THE SEASONAL THERMOCLINE DEVELOPS AND SURFACE TEMPERATURE APPROACHES 20C, COASTAL DIATOM BLOOMS BECOME LESS FREQUENT AND DIATOMS BECOME RARE IN THE ESTUARY. NAMNOPLANKTON BLOOMS OCCUR DURING THE SUMMER IN ASSOCIATION WITH PULSES OF FRESHWATER OR WHEN FRESHWATER FLOW IS LOW. PEAKS IN NAMNOPLANKTON BLOOMS ARE DUE TO GROWTH WITHIN THE ESTUARY AND ARE DISSIPATED BY TIDAL MIXING, NONTIDAL SEAWARD FLOW OF THE SURFACE LAYER, AND GRAZING. THESE SEASONAL PATTERNS WERE REFLECTED IN CHLOROPHYLL BUDGETS OF THE LOWER HUDSON ESTUARY. THE ESTUARY WAS A CHLOROPHYLL SINK DURING WINTER-SPRING WHEN NETPLANKTON DOMINATED AND A SOURCE DURING SUMMER WHEN NANNOPLANKTON DOMINATED.

1144 MALONE, T.C.; C. GARSIDE; P.J. NEALE

EFFECTS OF SILICATE DEPLETION ON PHOTOSYNTHESIS BY DIATOMS IN THE PLUME OF THE HUDSON RIVER [1980]

MAR BIOL 58-59:197-204

SILICATE DEPLETION WAS OBSERVED DURING A BLOOM OF NETPLANKTON DIATOMS. NETPLANKTON CHLOROPHYLL A INCREASED OVER THE SAME SALINITY RANGE AND AT THE SAME. RATE THAT SILICATE DECREASED. SILICATE DEPLETION COINCIDED WITH A DECREASE IN THE APPARENT SI:N UPTAKE RATIO AS WELL AS A CHANGE IN THE MAGNITUDE AND DIURNAL PHASING OF LIGHT SATURATED PHOTOSYNTHESIS BY NETPLANKTON DIATOMS. NANNOPLANKTON LIGHT SATURATED PHOTOSYNTHESIS WAS UNAFFECTED BY SILICATE DEPLETION AND INCREASED WITH TEMPERATURE. CONSEQUENTLY, NANNOPLANKTON LIGHT SATURATED PHOTOSYNTHESIS EVENTUALLY EXCEEDED NETPLANKTON LIGHT SATURATED PHOTOSYNTHESIS WHILE NETPLANKTON BIOMASS WAS STILL INCREASING RELATIVE TO NANNOPLANKTON BIOMASS.

1145 MALONE, T.C.; P.J. NEALE

PARAMETERS OF LIGHT-DEPENDENT PHOTOSYNTHESIS FOR PHYTOPLANKTON SIZE FRACTIONS IN TEMPERATE, ESTUARINE AND COASTAL ENVIRONMENTS

MAR BIOL, INTERNAT J ON LIFE IN OCEAN'S AND COASTAL WATERS 61(4):289-297

PHOTOSYNTHETIC PARAMETERS FOR NETPLANKTON (>22 MICRONS) AND NANNOPLANKTON (<22 MICRONS) VARIED OVER SIMILAR RANGES BUT EXHIBITED DIFFERENT SEASONAL AND GEOGRAPHIC PATTERNS OF VARIATION. NANNOPLANKTON PHOTOSYNTHETIC EFFICIENCY WAS RELATIVELY CONSTANT (0.06 MG C/[MG CHL-H]/[MICRO EINSTEINS/M2/S]) WAS AN EXPONENTIAL FUNCTION OF TEMPERATURE INDEPENDENT OF NUTRIENT CONCENTRATION AND VERTICAL STABILITY IN THE EUPHOTIC ZONE. THE TEMPERATURE FUNCTION GIVES A LIGHT INTENSITY SATURATED PHOTOSYNTHESIS OF 24 AT 25 C FOR NANNOPLANKTON GROWING IN AN ESTUARINE ENVIRONMENT CHARACTERIZED BY HIGH NUTRIENT CONCENTRATIONS AND A SHALLOW, STRATIFIED EUPHOTIC ZONE. VARIATIONS IN NETPLANKTON PHOTOSYNTHETIC EFFICIENCY AND LIGHT INTENSITY SATURATED PHOTOSYNTHESIS WERE LESS PREDICTABLE AND WERE NOT CORRELATED WITH TEMPERATURE, NUTRIENTS OR VERTICAL STABILITY. CHAIN FORMING DIATOMS WITH SMALL CELLS WERE ABLE TO ACHIEVE HIGH PHOTOSYNTHETIC EFFICIENCY (0.10-0.15) AND LIGHT INTENSITY SATURATED PHOTOSYNTHESIS (20-24) THAT WERE 3 TO 5 TIMES HIGHER THAN LARGE-CELLED DIATOMS AND DINOFLAGELLATES WERE ABLE TO ACHIEVE.

1146 MALONE, T.C. (EDITOR)

THE 1976 NEW JERSEY FISH KILL: SUMMARY OF WORKSHOPS [1977]

PAGES 1-11 IN OXYGEN DEPLETION AND ASSOCIATED ENVIRONMENTAL DISTURBANCES IN THE MIDDLE ATLANTIC BIGHT IN 1976. TECH SER REP 3. NMFS, HIGHLANDS, NJ

MASS MORTALITIES OF FINFISH AND SHELLFISH POPULATIONS OCCURRED OFF THE NJ COAST BETWEEN SANDY HOOK AND ATLANTIC CITY FROM LATE JUNE THROUGH SEPT, 1976. THIS HAS HAD IMMEDIATE IMPACTS ON COMMERCIAL AND SPORT FISHERIES AND COULD HAVE LONG TERM EFFECTS AS A CONSEQUENCE OF LARVAL MORTALITY AND REDUCTIONS IN THE SIZE OF SPAWNING POPULATIONS. THE FISH KILLS WERE APPARENTLY CAUSED BY THE DEVELOPMENT OF AN OXYGEN MINIMUM LAYER AND LOCAL HYDROGEN SULFIDE PRODUCTION BELOW THE THERMOCLINE IN WATERS 20 TO 40 M DEEP BETWEEN 5 AND 40 KM OFFSHORE. BECAUSE OF THESE FISH KILLS AND OTHER UNUSUAL EPISODES IN THE NEW YORK BIGHT DURING THE FIRST HALF OF 1976 (F.G. THE CERATIUM TRIPOS BHOOM), WORKSHOPS WERE ORGANIZED TO COLLATE EXISTING ENVIRONMENTAL DATA, TO DOCUMENT THE ENVIRONMENTAL IMPACT OF THE OXYGEN MINIMUM LAYER AND TO DETERMINE WHY EXCEPTIONALLY LOW OXYGEN CONCENTRATIONS DEVELOPED OFF THE NJ COAST DURING SUMMER, 1976. THIS REPORT IS AN INTEGRATED SUMMARY OF THESE WORKSHOPS.

1147 MALTEZOU, S.P.

WASTE OIL RECYCLING: THE NEW YORK METROPOLITAN AREA CASE [1976]

COUNCIL ON THE ENVIRONMENT OF NEW YORK CITY, NEW YORK, NY 206 PP

WASTE OIL CAN BE BOTH A SOURCE OF ENVIRONMENTAL POLLUTION AS WELL AS A VALUABLE RESOURCE SUPPLEMENTING ENERGY AND LUBRICATING SUPPLIES. THE METHODS OF WASTE OIL DISPOSAL AND REUSE ARE INFLUENCED BY THE CONDITIONS OF SUPPLY AND DEMAND IN THE VIRGIN OIL MARKETS. AT THE PRESENT TIME, MARKET INCENTIVES HAVE INCREASED DEMAND FOR WASTE OIL RESOURCES. HOWEVER, THE MOST COMMON METHOD OF REUSE IS THE UNCONTROLLED BURNING OF WASTE OIL AS FUEL; THIS METHOD IS NOT THE MOST DESIRABLE FROM AN ENVIRONMENTAL POINT OF VIEW. OF THE APPROXIMATELY 97 MILLION GALLONS OF WASTE OIL GENERATED IN THE NEW YORK METROPOLITAN AREA, 54 MILLION ARE RECOVERED AND OF THESE LESS THAN 20 MILLION GALLONS ARE ALLOCATED TO RECYCLING (RE-REFINING). SINCE THE MARKET MECHANISM CANNOT ASSURE BOTH A SATISFACTORY RATE OF RECOVERY AND ENVIRONMENTALLY ACCEPTABLE METHODS OF REUSE, GOVERNMENT MUST PLAY A KEY ROLE IN THE CHANNELING OF WASTE OIL SUPPLIES TO RE-REFINING, CONTROLLED BURNING, AND OTHER METHODS OF DISPOSAL THAT MEET ECONOMIC CRITERIA AND SATISFACTORY ENVIRONMENTAL STANDARDS.

1148 MANN. R.

RIVERS IN THE CITY [1973]

PRAEGER PUBLISHERS. NEW YORK. NY 256 PP

THE MOST INTENSIVELY USED AND ABUSED RESOURCE ON EARTH, THE URBAN RIVER, IS SURVEYED IN TERMS OF THE CRISES OF MISMANAGED RIVERS AND WASTELAND RIVERSIDES AND THE IMPORTANT ASPECTS OF PROGRESS IN THE CONSERVATION OF THE RIVER LANDSCAPE. A BRIEF DISCUSSION IS PRESENTED OF THE HISTORICAL, ECONOMIC, SOCIOLOGICAL, AESTHETIC AND TECHNICAL ASPECTS OF THE PROBLE4. HOW 15 MAJOR URBAN REGIONS HAVE UTILIZED THEIR RIVER LANDSCAPES IN THE PROCESS OF URBAN AND REGIONAL DEVELOPMENT IS DESCRIBED. THE URBAN REGIONS ARE: WASHINGTON, DC (POTOMAC), BOSTON (CHARLES), NEW YORK (HUDSON), PLUS ALL THE MAJOR CITIES AND RIVERS OF WESTERN EUROPE AND ENGLAND. LINKING THE OLD AND NEW TO PROVIDE RECREATIONAL FACILITIES AND AESTHETIC SETTING BY UTILIZING URBAN RIVER LANDSCAPES (AMSTERDAM AND PARIS) IS CONTRASTED WITH SITUATIONS CREATED BY HEAVY INDUSTRIALIZATION AND GROWTH PROBLEMS ALONG URBAN RIVER BANKS (LONDON AND TYNESIDE). ENCROACHMENT OF HIGH-RISE BUILDINGS, EXPRESSWAYS, PARKING LOTS AND ILL-DESIGNED CREATION STRUCTURES THREATEN RIVERSIDES OF WASHINGTON, DC, BOSTON, PARIS AND ZURICH. USE OF KNOWLEDGE AND EXPERIENCE, SUFFICIENT FUNDS, AND PLANNING ON THE BROADEST SCALE MUST BE EMPLOYED TO PRESERVE AND PROMOTE URBAN RIVERSIDES OF HIGH ENVIRONMENTAL QUALITY.

1149 MANOGUE, H.; A. LESSER

WATERFRONT REDEVELOPMENT PROJECT REPORT NO. 2: AVAILABLE OPTIONS [1977]

HUD, WASHINGTON, DC, 147 PP NTIS-PBB3-135 858

THE SECOND IN A SERIES ON REDEVELOPMENT OF THE HOBOKEN, NJ WATERFRONT, THIS REPORT EXAMINES AVAILABLE OPTIONS FOR SHORT AND LONG TERM REDEVELOPMENT OF THE WATERFRONT. THE ADVANTAGES AND DISADVANTAGES OF VARIOUS ALTERNATIVE SCHEMES ARE CONSIDERED, AND IDEAS THAT WERE RESEARCHED AND REJECTED, TOGETHER WITH THE REASONS FOR THEIR ELIMINATION, ARE ALSO INCLUDED. EXISTING CONDITIONS (1977) OF PROPERTY AND EMPLOYMENT ON THE WATERFRONT ARE DESCRIBED, AND RECENT EVENTS THAT HAVE BEEN HELD IN THE WATERFRONT AREA ARE DISCUSSED AS EXAMPLES OF HOW THE WATERFRONT CURRENTLY CAN BE USED MITHOUT RADICAL CHANGE. IT IS NOTED THAT WATERFRONT TOURISM CANNOT BE CULTIVATED ONLY BY SINGLE, UNIQUE EVENTS WHICH HAVE CHARACTERIZED WATERFRONT USAGE IN RECENT YEARS. THERE MUST BE REGULARLY SCHEDULED TOURIST ATTRACTIONS PUBLICIZED IN ADVANCE. ONE ATTRACTIVE TOURISM PLAN INCORPORATES VARIOUS RECREATIONAL AND HISTORICAL SITES INTO A PACKAGE PRESENTATION. ADVANTAGES AND DISADVANTAGES OF ALTERNATIVE USES OF THE WATERFRONT ARE DISCUSSED INCLUDING THE FOLLOWING: INDUSTRIAL LAND USE, FOREIGN TRADE ZONE, OIL AND GAS OFF-SHORE EXPLORATION FACILITIES, SHIPPING, INDUSTRIAL FIRMS NOW ON THE WATERFRONT, COMMERCIAL LAND USE, COMMERCIAL BUILDINGS, MEDICAL COMPLEX, CONVENTION CENTER, MOVIE STUDIOS, RESIDENTIAL LAND USE, RECREATIONAL LAND USE, ROOFTOPS AND VACANT AREAS, PARK SETTINGS, MARINA, AND PRIVATE CLUBS. IDEAS FOR IMPLEMENTING AND CONTROLLING VARIOUS DEVELOPMENT PLANS ARE DISCUSSED. ALL GOVERNMENT LEVELS SHOULD BE INVOLVED IN REDEVELOPMENT PLANS. STATE AND FEDERAL INFLUENCES ON IMPLEMENTATION, GOVERNMENTAL MECHANISMS FOR IMPLEMENTATION ARE CONSIDERED. INGREDIENTS OF AN URBAN WATERFRONT, NEW REGIONAL GOVERNMENTS, AND SPECIFIC MECHANISMS FOR IMPLEMENTATION ARE CONSIDERED. INGREDIENTS OF AN URBAN WATERFRONT, PLANNING AND CONTROLL SYSTEM ALSO ARE EXAMINED. TABULAR AND

GRAPHIC DATA OBTAINED IN THE STUDY ARE INCLUDED; THE APPENDICE'S CONTAIN AN URBAN WATERFRONT POLICY FOR NJ AND AN ATTITUDE ASSESSMENT SURVEY.

1150 MANOWITZ, B. (EDITOR)

COASTAL SHELF OCEANOGRAPHY PROGRAM. PROGRESS REPORT #1: JANUARY 1 TO JUNE 30. 1974 [1974]

BNL. UPTON. NY 24 PP

USING LINEARIZED EQUATIONS AND A QUADRATIC BOTTOM FRICTION LAW, THE BAROTROPIC FORCED (APERIODIC) RESPONSE TO WIND STRESS OR EXTERNAL PRESSURE GRADIENT OF VARIOUS SIMPLE CONTINENTAL SHELF MODELS WAS STUDIED. THE FRICTIONLESS RESPONSE TO LONGSHORE WIND STRESS SHOWS MANY OF THE CHARACTERISTICS OF THE CLASSICAL "COASTAL JET" PROBLEM, BUT IS COMPLICATED BY DEPTH VARIATIONS MAINLY BECAUSE OF THE GENERATION OF VORTICITY OVER A SLOPING BOTTOM. THUS IN A DEEP GULF SEPARATED FROM THE OPEN OCEAN BY A SHALLOW BANK (THE GULF OF MAINE, FOR EXAMPLE) A DOUBLE GYRE CIRCULATION TENDS TO BE ESTABLISHED. COMPARISON OF THEORETICAL RESULTS WITH OBSERVATIONS IN THE GULF OF MAINE SUGGESTS THIS CIRCULATION IS A BAROTROPIC RESPONSE TO EASTERLY WIND STRESS. IT IS HYPOTHESIZED THAT WARM WINDS BLOWING OFF THE CONTINENT EARLY IN THE SEASON PRODUCE LOW STRESSES AND DOMINATE THE AIR-SEA MOMENTUM EXCHANGE.

1151 MARAVALLI, G.

A KEY TO SOME LONG ISLAND FISHES BASED ON SKULL AND VERTEBRAL CHARACTERS [1974]

M.S. THESIS. LONG ISLAND UNIV. BRENTWOOD. NY NP

THIS IS A KEY PRESENTED AS A SUMMARAZATION OF THE SKELETAL CHARACTERISTICS OF 69 LONG ISLAND FISHES ARRANGED IN PHYLOGENETIC SEQUENCE. IT OFFERS A MEANS OF DIFFERENTIATING EACH SPECIES, OFTEN ILLUSTRATED, BASED ON SKULL AND VERTEBRAL CHARACTERISTICS.

1152 MARR, P.D.; E.D. SCHULER, JR.

GOVERNMENTAL JURISDICTIONS OF THE NEW YORK COASTAL ZONE: AN ANALYSIS OF COASTAL PROGRAMS [1976]

RS-76-021. NYSG, ALBANY, NY 116 PP

THE PURPOSE OF THIS REPORT IS TO CLARIFY THE GREAT MULTIPLICITY OF AGENCY PROGRAMS FOR BOTH THE MARINE AND GREAT LAKES COASTAL ZONES OF NY. PARTICULARLY FOR THOSE ENTERING THE MAZE OF COASTAL AFFAIRS FOR THE FIRST TIME, THIS REPORT INTRODUCES AND SUMMARIZES THE WORK OF EVERY AGENCY WITH RESPONSIBILITY FOR COASTAL ACTIVITIES: INTERNATIONAL, FEDERAL INTERSTATE, NEW YORK STATE, AND REGIONAL ORGANIZATIONS/BOARDS/COMMISSIONS/AUTHORITIES. MATRICES, MAPS, APPENDICES, AND BIBLIOGRAPHY ILLUSTRATE AND AUGMENT THE TEXT.

1153 MARR, P.D.

JURISDICTIONAL ZONES AND GOVERNMENTAL RESPONSIBILITIES [1979]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 22. NYSG, ALBANY, NY 47 PP

GOVERNMENT AGENCIES PERVADE THE NEW YORK BIGHT AREA. EACH LEVEL OF GOVERNMENTAL ACTIVITY OPERATES WITHIN A LEGALLY DEFINED SPACE AND CONFORMS TO SIX JURISDICTIONAL ZONES-THE SHORE, THE COASTAL RIM, THE TERRITORIAL SEA, THE CONTIGUOUS ZONES, THE OUTER CONTINENTAL SHELF, AND THE HIGH SEAS. THE RESPONSIBILITIES OF PUBLIC AGENCIES AT EACH LEVEL OF GOVERNMENTAL ACTIVITY, INCLUDING MINOR CIVIL DIVISIONS, SUBSTATE REGIONS, STATE, INTER-STATE COMMISSION, THE FEDERAL GOVERNMENT, AND INTERNATIONAL

AGENCIES, CONFORM TO ONE OR MORE OF THE JURISDICTIONAL ZONES. THE ZONES AND GOVERNMENTAL ACTIVITIES ARE IN A STATE OF FLUX.
REFLECTING TECHNOLOGICAL CHANGE AND THE CONTINUALLY INCREASING DEMAND AND COMPETITION FOR COASTAL AND OFFSHORE RESOURCES.
CHANGES HAVE RESULTED IN THE DEVELOPMENT OF NEW RESOURCE MANAGEMENT AGENCIES AND THE EXTENSION OF ESTABLISHED PROGRAM
RESPONSIBILITIES.

1154 MARR, P.D.

BOOK REVIEW OF COASTAL WATERS, A MANAGEMENT ANALYSIS [1979]

COASTAL ZONE MANAG J 5(3):251-55

"COASTAL WATERS, A MANAGEMENT ANALYSIS," BY J.M. ARMSTRONG AND P.C. RYNER, PROVIDES A BROAD OVERVIEW OF COASTAL MANAGEMENT ISSUES. THE REVIEWER SEES IT AS A VALUABLE TOOL TO HELP STEER EXISTING COASTAL MANAGEMENT PROGRAMS AWAY FROM MANAGING COASTAL LAND TOWARD MANAGING COASTAL RESOURCES. THE REVIEW RECOMMENDS THIS VOLUME TO ALL THOSE WORKING ON COASTAL WATER MANAGEMENT, AND PRAISES THE AUTHORS" ANALYSIS OF THE FEDERAL ENVIRONMENT IN WHICH STATE COASTAL PLANS MUST DEVELOP, ESPECIALLY THE SECTION ON WATER ZONING. "COASTAL WATERS, A MANAGEMENT ANALYSIS," BRIEFLY DISCUSSES VARIOUS USES OF COASTAL WATERS, AS WELL AS SOME CONCEPTS OF COASTAL WATER MANAGEMENT BASES OF AUTHORITY FOR SUCH MANAGEMENT, AND THE COASTAL ZONE MANAGEMENT ACT. CITED AS VALUABLE INTRODUCTORY DESCRIPTIONS ARE CHAPTERS ON OCEAN DUMPING, FISHERIES MANAGEMENT, NATIONAL DEFENSE, DEEP WATER PORTS, TANKER SAFETY, LIQUIFIED NATURAL GAS, AND OUTER CONTINENTAL SHELF OIL AND GAS DEVELOPMENT. HOWEVER, THE BOOK LACKS A GOOD CONCEPTUAL TREATMENT OF RESOURCE MANAGEMENT, AND A COMPREHENSIVE LISTING OF THE LAWS, RULES, AND REGULATIONS AFFECTING COASTAL MANAGEMENT.

1155 MARSHALL, H.G.

PHYTOPLANKTON DISTRIBUTION ALONG THE EASTERN COAST OF THE USA PART IX. SEASONAL ASSEMBLAGES NORTH OF CAPE HATTERAS, NORTH CAROLINA [1978]

MAR BIOL 45:203-208

THE PHYTOPLANKTON IN WATERS OFF THE EASTERN COAST OF THE US BETWEEN NOVA SCOTIA AND CAPE HATTERAS, NC, CONSISTS MAINLY OF DIATOMS, COCCOLITHOPHORES, AND PYRRHOPHYCEANS, WHICH REFLECT SEASONAL CHANGES IN COMPOSITION. NORTH OF CAPE HATTERAS ARE TYPICALLY TEMPERATE AND BOREAL PHYTOPLANKTON, WITH THE WARM-WATER SPECIES MORE COMMON SOUTH OF THIS AREA. THE GULF STREAM, WITH ITS MOVEMENTS AND EDDY FORMATION, PROVIDES ENTRY OF TROPICAL AND SUBTROPICAL SPECIES INTO WATERS NORTH OF CAPE HATTERAS. A LARGE CONCENTRATION OF MELOSIRA DISTANS AND M. ISLANDICA WAS FOUND AT NUMEROUS NERITIC STATIONS.

1156 MARTENS, C.S.; R.A. PERNER

METHANE PRODUCTION IN THE INTERSTITIAL WATERS OF SULFATE-DEPLETED MARINE SEDIMENTS [1974]

SCIENCE 185(4157):1167-1169

METHANE IN THE INTERSTITIAL WATERS OF ANOXIC LONG ISLAND SOUND SEDIMENTS DOES NOT REACH APPRECIABLE CONCENTRATIONS UNTIL ABOUT 90 % OF SEAWATER SULFATE IS REMOVED BY SULFATE-REDUCING BACTERIA. THIS IS IN AGREEMENT WITH LABORATORY STUDIES OF ANOXIC MARINE SEDIMENTS SEALED IN JARS, WHICH INDICATE THAT METHANE PRODUCTION DOES NOT OCCUR UNTIL DISSOLVED SULFATE IS TOTALLY EXHAUSTED. UPWARD DIFFUSION OF METHANE OR ITS PRODUCTION IN SULFATE-FREE MICROENVIRONMENTS, OR BOTH, CAN EXPLAIN THE OBSERVED COEXISTENCE OF MEASURABLE CONCENTRATIONS OF METHANE AND SULFATE IN THE UPPER PORTIONS OF ANOXIC SEDIMENTS.

1157 MARTENS, C.S.; R.A. RERNER

INTERSTITIAL WATER CHEMISTRY OF ANOXIC LONG ISLAND SOUND SEDIMENTS. 1. DISSOLVED GASES [1977]

LIMNOL OCEANOGR 22(1):10-25

MEASUREMENTS OF DISSOLVED N2, AR, CH4, AND SO4 AND SALINITY AND TEMPERATURE WERE USED TO EXAMINE THE PROCESSES CONTROLLING THEIR DISTRIBUTIONS IN THE INTERSTITIAL WATERS OF NEARSHORE SEDIMENTS. WHERE SULFATE REDUCTION IS INCOMPLETE, DISSOLVED N2 AND AR CONCENTRATIONS IN THE UPPER 10-30 CM APPEAR TO BE CONTROLLED BY MACROINFAUNAL IRRIGATION ACTIVITIES AND TO VARY IN ACCORDANCE WITH OVERLYING WATER CONDITIONS. BELOW 30 CM, N2 AND AR CONCENTRATIONS APPEAR TO HAVE BEEN LAST AFFECTED BY AUG THROUGH OCT IRRIGATION. IN HARBOR SEDIMENTS WHERE SULFATE REDUCTION IS COMPLETE AT SHALLOW DEPTH, LOW N2 AND AR CONCENTRATIONS RESULT FROM IN SITU STRIPPING BY METHANE BUBBLES. METHANE CONCENTRATIONS REMAIN BELOW ABOUT 0.1 MM UNTIL ABOUT 90% OF SEAMATER SULFATE IS REMOVED. AS SULFATE CONCENTRATIONS APPROACH ZERO, METHANE BUILDS UP TO BUBBLE SATURATION. CONCAVE-UP METHANE DEPTH DISTRIBUTIONS CAN BE EXPLAINED BY METHANE CONSUMPTION FOLLOWING FIRST-ORDER KINETICS IN THE ZONE OF SULFATE REDUCTION. LABORATORY JAR EXPERIMENTS WITH NATURAL SEDIMENTS INDICATED NO METHANE PRODUCTION DURING SULFATE REDUCTION, WHICH IS IN AGREEMENT WITH PREVIOUS MODELS AND DISTRIBUTION STUDIES OF SULFATE REDUCTION AND FIELD RESULTS SUPPORT THE HYPOTHESIS THAT METHANE IS PRODUCED MAINLY AFTER SULFATE IS DEPLETED BUT IS CONSUMED HATCHING WITHIN THE SULFATE REDUCTION ZONE AS IT DIFFUSES UPWARD.

1158 MARTENS, C.S.; R.A. BERNER; J.K. ROSENFELD

INTERSTITAL WATER CHEMISTRY OF ANOXIC LONG ISLAND SOUND SEDIMENTS. 2. NUTRIENT REGENERATION AND PHOSPHATE REMOVAL [1978]

LIMNOL OCEANOGR 23(4):605-617

NUTRIENT REGENERATION CHEMISTRY IN ANOXIC LONG ISLAND SOUND SEDIMENTS WAS EXAMINED THROUGH CHANGES IN THE CONCENTRATION OF DISSOLVED SULFATE, AMMONIA, AND REACTIVE PHOSPHATE AND OTHER CHEMICAL SPECIES WITH DEPTH IN INTERSTITIAL WATERS. IN OFFSHORE SEDIMENTS THE RATIO OF MEAN CHANGES IN DISSOLVED SULFATE, DISSOLVED AMMONIA, AND DISSOLVED REACTIVE PHOSPHATE WAS -53:4.6:0.37. IN SHALLOW HARBOR SEDIMENT THE RATIO WAS -53:19:3.3 AND CHANGES IN AMMONIA AND REACTIVE PHOSPHATE RATIOS WERE HALF THE OFFSHORE RATIO. THESE APPARENT SHOREWARD CHANGES REFLECT MORE RAPID DEPOSITION AND THEREFORE EITHER LESS PREFERENTIAL STRIPPING OF PHOSPHORUS AND NITROGEN FROM ORGANIC MATERIAL BEFORE BURIAL IN SHALLOW WATER HARBOR SEDIMENTS, OR SELECTIVE STRIPPING IN THE HEAVILY BIOTURBATED UPPER SEDIMENT LAYERS OFFSHORE, OR BOTH. EFFECTS OF DIFFERENTIAL DIFFUSION AND ADSORPTION OF AMMONIA AND PHOSPHORUS ARE CONSIDERED. PHOSPHATE CONCENTRATION MAXIMA IN AMMONIA—AND PHOSPHATE—RICH SHALLOW HARBOR SEDIMENTS YIELD EVIDENCE FOR POSSIBLE EQUILIBRIUM WITH RESPECT TO VIVIANITE AND STRUVITE. PHOSPHATE REMOVAL AT DEPTH AT TWO OF THE CORING SITES WAS PROBABLY CAUSED BY AUTHIGENIC MINERAL FORMATION. THE THREE SITES IN LONG ISLAND SOUND WERE CHOSEN TO REPRESENT SEDIMENTARY ENVIRONMENTS WITH A RANGE OF DISSOLVED SULFATE DISTRIBUTIONS; WATER DEPTHS (MEAN LOW TIDE) WERE ABOUT 7.0, 2.0, AND 1.5 M AT THE STATIONS.

1159 MARTIN, R.M.

HUDSON RIVER [1973]

PAGES 149-174 IN A.J. VAN TASSEL. ED. OUR ENVIRONMENT: THE OUTLOOK FOR 1980, PART 1. LEXINGTON BOOKS, LEXINGTON, MA

TIDAL INFLUENCE IS A MAJOR FACTOR IN THE RECIRCULATION RATE OF NUTRIENTS DURING THE DRY MONTHS IN THE HUDSON RIVER. FRESH WATER INFLOW IS SUFFICIENT FOR AN EXCHANGE HATE OF ONLY ABOUT 0.3-2.5% PER DAY. WITH A DRAINAGE AREA OF 12,400 TO 14,500 SQ MI, SERVING A POPULATION OF ABOUT 12 MILLION, THE HUDSON IS SEVERELY SUBJECT TO HIGH NUTRIENT LOADINGS. PHOSPHORUS CONCENTRATIONS IN MANHATTAN HAVE BEEN AS HIGH AS 4 TIMES THAT OF AN UNPOLLUTED WATER (12 PPB V 2.8 PPB). PROJECTIONS INDICATE THAT MID HUDSON AND LOHER HUDSON (NYC) AREAS WILL EXPERIENCE THE MOST SIGNIFICANT GROWTH IN THIS DECADE, WITH A TOTAL STATE POPULATION OF 20 MILLION BY 1980. INDUSTRIAL GROWTH IS EXPECTED TO SHIFT FROM "NON DURABLES" SUCH AS FOOD PROCESSING AND TEXTILES TO LESS POLLUTING "DURABLES" LIKE MACHINERY, WITH THE PHASE OUT OF SOME HEAVILY POLLUTING PAPER MILLS IN THE NORTH. THE GROSSLY DIFFERENT POPULATION DENSITIES ALONG ITS COURSE TOGETHER WITH THE RIVER'S STRONG REGENERATIVE CAPACITY, NECESSITATE AN ANALYSIS OF THE HUDSON BY SECTORS. THE UPPER HUDSON, OR ALBANY AREA, DUE TO HEAVY WASTE DISCHARGE FROM PAPER MILLS, HAS BEEN

CHARACTERIZED AS AN "OPEN SEWER"; HOWEVER PHASE OUT OF MANY OF THESE MILLS SHOULD MEAN IMPROVED WATER QUALITY. SIMILAR PROGRESS WILL BE SEEN IN THE MOHAWK AREA BECAUSE OF HEAVY EMPHASIS ON SEWAGE TREATMENT COMBINED WITH LIGHT INDUSTRIAL DISCHARGE. THE MID HUDSON REGION, WITH A HIGH NATURAL ASSIMILATIVE CAPACITY, WILL CONTINUE TO EXPERIENCE GOOD WATER QUALITY IF TREATMENT IS IMPROVED TO ACCOMODATE A 46% POPULATION INCREASE (332,000 PEOPLE). THE LOWER HUDSON AREA WILL PROBABLY BE BURDENED WITH DEPLORABLE WATER QUALITY FAR INTO THE FUTURE. THE ONLY HOPE FOR IMPROVEMENT RESTS IN MASSIVE FEDERAL AND STATE HELP TO NYC AND NY COMMUNITIES AND IN RAPID PROGRESS IN CLEANING UP NJ INDUSTRIAL SOURCES.

1160 MARTINEZ, E.A.

MARINE MEIOFAUNA OF A NEW YORK CITY BEACH, WITH PARTICULAR REFERENCE TO TARDIGRADA [1975]

ESTUARINE COASTAL MAR SCI 3(3):337-343

DISTRIBUTION AND ABUNDANCE OF MEIOFAUNA OF A NYC BEACH WERE STUDIED FROM JUNE 1971 THROUGH JAN 1972. CORE SAMPLES WERE TAKEN FROM 5 STATIONS ALONG A TRANSECT RUNNING FROM MEAN HIGH WATER TO MEAN LOW WATER AND TO A DEPTH OF 5 CM FROM THE SURFACE OF THE SUBSTRATUM. ENVIRONMENTAL VARIABLES MEASURED INCLUDED PARTICLE SIZE DISTRIBUTION, TEMPERATURE, SALINITY AND INTERSTITIAL WATER CONTENT. THE SUBSTRATUM CONSISTS OF WELL-SORTED QUARTZ SAND, RANGING FROM FINE (0.23 MM) TO COARSE (0.95 MM) GRADES. GENERALLY, VARIATION OF OTHER PHYSICAL FACTORS REMAINED AT A MINIMUM DURING EACH SAMPLING PERIOD. BOTH TEMPERATURE AND SALINITY WERE LARGELY INFLUENCED BY ADJACENT OFFSHORE SEA WATER. ORGANIC CONTENT AVERAGED 0.61% BY WEIGHT. NEMATODES WERE THE DOMINANT TAXON, AVERAGING 85.5% OF THE TOTAL MEIOFAUNA COLLECTED BETWEEN JUNE 1971 AND JAN 1972. HIGHEST NUMBERS WERE OBSERVED DURING AUG; LOWEST DURING JUNE. TARDIGRADES WERE THE SECOND MOST ABUNDANT GROUP, COMPRISING 6% OF THE TOTAL MEIOFAUNA. MAXIMUM NUMBERS OF TARDIGRADES WERE OBSERVED IN JUNE AND MINIMUM NUMBERS IN SEPT. THO SPECIES OF TARDIGRADES WERE FOUND, BATILLIPES MIRUS RICHTERS, 1909 AND B. PENNAKI MARCUS, 1946. B. MIRUS WAS DOMINANT DURING JUNE, AUG AND JAN, WHILE B. PENNAKI PREVAILED DURING SEPT AND NOV. OTHER TAXONOMIC GROUPS COMPRISED THE REMAINING 8.5% OF THE TOTAL MEIOFAUNA.

1161 MARTINSEN, R.; J.J.C. GINTER; C. TUTHILL; J.J. SPAGNOLI; A.C. JENSEN

ENVIRONMENT IMPACT OF DUMPING SEWAGE SLUDGE IN THE NEW YORK BIGHT [1972]

UNPUB REP. MSRC, SUNY, STONY BROOK, NY 52 PP

SLUDGE DUMPING MODIFIES WATER QUALITY AND HABITAT. IT CREATES PUBLIC HEALTH PROBLEMS. THERE ARE CONCERNS FOR PHYSICAL AND SOCIAL ENVIRONMENTS. THE APPROACH TO THIS PROBLEM INVOLVES: GRADUAL DECREASE IN DUMPING BY DEVELOPING USES FOR SLUDGE, REMOVAL OF ALL TOXIC ELEMENTS IN PRODUCT OF TREATMENT FACILITIES. A LONG-RANGE PLAN FOR THE REUSE OF ALL SLUDGE GENERATED, AND CLEANSING OF ADJACENT ESTUARIES BY VIRTUE OF BENEFITS ACCRUED BY PASSAGE OF ENVIRONMENTAL-BOND ISSUE.

1162 MATHER, F.J., III; B.J. ROTHSCHILD; G.J. PAULIK; W.H. LENARZ

ANALYSIS OF MIGRATIONS AND MORTALITY OF BLUEFIN TUNA, THUNNUS THYNNUS, TAGGED IN THE NORTHWESTERN ATLANTIC OCEAN [1974]

FISH BULL 72(4):900-914

AN ANALYSIS IS PRESENTED ON THE RELEASE AND RETURN DATA FROM BLUEFIN TUNA, THUNNUS THYNNUS, TAGGED IN THE NORTHWEST ATLANTIC OCEAN FROM 1754 TO 1970. THERE WAS AN APPARENT NORTHWARD MOVEMENT OF FISH FROM THE NJ AREA AS THE FISHING SEASONS PROGRESSED. TAG RETURNS FROM BLUEFIN RELEASED IN THE LONG ISLAND AND SOUTHERN NEW ENGLAND AREAS TENDED TO BE TO THE NORTH AT FIRST AND THEN TO THE SOUTH. MEAN DISTANCES BETWEEN RELEASE AND RETURN TENDED TO BE GREATER FOR FISH RELEASED IN THE NJ AREA THAN FOR THE OTHER THO AREAS. ESTIMATES OF MORTALITY RATES FOR TAGGED BLUEFIN WERE MADE USING THE CHAPMAN-ROBSON METHOD AND THEN ADJUSTED FOR TYPE-I TAG SHEDDING AND TYPE-I TAGGING MORTALITY. THE AVERAGE ESTIMATE OF INSTANTANEOUS FISHING MORTALITY IS 0.57 AYD OTHER LOSSES (NATURAL, TAGGING, AND EMIGRATION) IS 0.66 ON AN ANNUAL BASIS. THE ESTIMATE OF OTHER LOSSES IS CONSIDERABLY HIGHER THAN THE NATURAL MORTALITY THAT WOULD BE FXPECTED FOR BLUEFIN. EVIDENCE IS PRESENTED SUGGESTING THAT THE

RATE OF EMIGRATION MAY BE QUITE HIGH. THE AVERAGE SINGLE SEASON EXPLOITATION RATE OF TAGGED BLUEFIN WAS ESTIMATED TO BE 0-33. IT WAS NOTED THAT SINCE BLUEFIN MAY BE BOTH IMMIGRATING TO AND EMIGRATING FROM THE FISHERY THE ESTIMATE OF EXPLOITATION MAY NOT BE REPRESENTATIVE OF THE ENTIRE POPULATION. EVEN THOUGH VALIDITY OF AVAILABLE EFFORT DATA IS QUESTIONABLE, REGRESSION ESTIMATES OF MORTALITY AND SURVIVAL RATES WERE MADE USING CATCH PER EFFORT DATA. THESE ESTIMATES OF SURVIVAL ARE LOWER THAN THOSE OBTAINED USING THE CHAPMAN-ROBSON METHOD.

1163 MATTHENS, E.R.

SCUBA INFORMATION FOR NEW YORK AND GREAT LAKES DIVERS [1978]

NYSG, CORNELL UNIV, ITHACA, NY 4 PP

A BOOKLET PROVIDING INFORMATION ON SCUBA INSTRUCTION, EMERGENCY CARE AND DIVING PUBLICATIONS FOR DIVERS IN NY AND OTHER GREAT LAKE STATES. IT DESCRIBES THE SYMPTOMS AND TREATMENT OF AIR EMBOLISM AND DECOMPRESSION SICKNESS, TWO OF THE PRIMARY CAUSES OF ACCIDENTAL DEATH IN SCUBA DIVERS. IT LISTS SCUBA ORGANIZATIONS, NATIONAL AGENCIES WHICH OFFER DIAGNOSTIC CONSULTATION AND REFERRAL FOR TREATMENT, THE LOCATION OF HYPERBARIC CHAMBERS AND DOCTORS SPECIALIZING IN SCUBA-RELATED ILLNESSES.

1164 MATTHEWS, E.R.

SHORELINE PROTECTION PERMITS: FOR LONG ISLAND NORTH TO THE TAPPAN ZEE BRIDGE [1978]

NYSG, CORNELL UNIV, ITHACA, NY, 4 PP

COASTAL BUSINESSES AND PROPERTY OWNERS NEED TO UNDERSTAND THE GOVERNMENT PERMIT PROCESS BEFORE BUILDING EROSION CONTROL STRUCTURES ON THEIR SHORE OR EVEN BEFORE GRADING OR CLEANING THEIR BEACH. THIS FACT SHEET DESCRIBES THOSE CIRCUMSTANCES UNDER WHICH PERMITS ARE OBTAINED. THE VARIOUS EROSION CONTROL MEASURES CONSIDERED ARE: MAINTENANCE AND REPAIR, REPLACEMENT, CHANGES IN DESIGN AND PLACEMENT, NEW CONSTRUCTION AND NONSTRUCTURAL ACTIVITIES LIKE BEACH CLEANING. CHARTS SHOWING THE STATE AND FEDERAL PROCESS ARE INCLUDED ALONG WITH APPROPRIATE ADDRESSES.

1165 MATTSON, O.P.: N.C. VALLARIO: D.J. SMITH; S. ANISFIELD; G. POTERA

HACKENSACK ESTUARY OIL SPILL: CUTTING OIL-SOAKED MARSH GRASS AS AN INNOVATIVE DAMAGE CONTROL TECHNIQUE [1977]

PAGES 243-246 IN PROC, OIL SPILL CONFERENCE, NEW ORLEANS, LA, MAR 1977. PUB 4284. API. WASHINGTON, DC

ON MAY 26, 1776, A TWO MILLION GALLON OIL SPILL, ORIGINATING AT A RIVERSIDE TANK FARM IN JERSEY CITY, NJ, STRUCK THE HACKENSACK RIVER ESTUARY. BOOMS FAILED AND THE OIL MOVED UPRIVER, COATING SHORES, MARSHES, CREEK BANKS, BULKHEADS, MARINAS, AND THE SAWMILL CREEK WILDLIFE MANAGEMENT AREA. ON-GOING HYDROLOGY RESEARCH IN VELOCITY AND WATER DISTRIBUTION PATTERNS PROVIDED FOR PREDICTABILITY OF SLICK MOVEMENT. AN INNOVATIVE GRASS-CUTTING TECHNOLOGY WAS IMPLEMENTED. ANALYSIS FROM A 5 MO PERSPECTIVE INDICATES THE ADVISABILITY OF A QUICKLY IMPLEMENTED CUTTING OPERATION WHERE TIDAL FLUSHING IS POOR, AND THE HIGH POTENTIAL FOR NATURAL CLEANSING WHERE OIL HAS REACHED LOW-LYING, WELL-WASHED MARSH AREAS.

1166 MAUL, G.A.; R.L. CHARNELL

OCEANOGRAPHIC OBSERVATION OF NEW YORK BIGHT FROM ERTS-1 [1972]

NOAA, MIAMI, FL 11 PP

THE EARTH RESOURCES TECHNOLOGY SATELLITE MADE A TRANSIT OVER NEW YORK BIGHT ON 16 AUG 1972. IMAGERY FROM THIS TRANSIT SHOWS

SEVERAL OCEANOGRAPHIC FEATURES THAT DEMONSTRATE THE USEFULNESS OF REMOTE SENSING FOR LARGE AREA, SYNOPTIC OBSERVATION OF CHANGES IN WATER QUALITY IN THE COASTAL ZONE. BOTH THE EXTENT AND TURBULENT CHARACTER OF THE HUDSON RIVER PLUME ARE DISCERNIBLE IN THE IMAGE. RESIDUE FROM A DUMP OF MASTE ACID IS VISIBLE OVER A 5 MI AREA IN THE APEX OF THE BIGHT. LITTLE DISPERSION OF THIS RESIDUE HAS OCCURRED WHICH SUGGESTS THIS FEATURE WILL BE A PERSISTENT SIGNATURE IN IMAGES FROM FUTURE SATELLITE TRANSITS.

1167 MAUL, G.A.; R.L. CHARNELL; R.H. QUALSET

COMPUTER ENHANCEMENT OF ERTS-1 IMAGES FOR OCEAN RADIANCES [1974]

REMOTE SENS ENVIRON 3:237-253

SUBTLE CONTRASTS AND LOW RADIANCES OBSERVED BY THE ERTS MULTISPECTRAL SCANNER OVER THE OCEAN REQUIRE COMPUTER ENHANCEMENT FOR ADEQUATE ANALYSIS. EXPERIMENTS DESIGNED TO EVALUATE CONTRAST STRETCHING, RATIOING, DIFFERENCING, SMOOTHING, FILTERING, AND FALSE-COLOR ENHANCING, INDICATE THAT THE BEST INFORMATION CAN BE EXTRACTED BY SIMPLE CONTRAST STRETCHING. SPECTRAL ANALYSIS OF THE DATA SHOWS THAT A LOW-PASS, TWO-DIMENSIONAL FILTER KERNEL, DESIGNED TO BE 6 DB DOWN AT 10 SCANSPOTS, EFFECTIVELY ELIMINATES THE SIX-LINE BANDING CAUSED BY THE MULTISPECTRAL SCANNER DESIGN. AUTOMATIC CONTOURING TECHNIQUES REQUIRE CAREFUL SCRUTINY BECAUSE DATA FIELDS ARE CREATED WHICH CAN LEAD TO FALSE INTERPRETATIONS. JOINT HISTOGRAMS OF OCEANIC RADIANCES DID NOT PROVE TO BE USEFUL DUE TO THE LOW RANGE OF ENERGY IN THE SEVERAL SPECTRAL INTERVALS. COMPARISONS OF SATELLITE DATA WITH SURFACE SHIP OBSERVATIONS CONFIRM THEORETICAL PREDICTIONS OF THE DIFFICULTY IN INTERPRETING SCENES OF THE COASTAL ZONE.

1168 MAURER, D.; L. WATLING; D. BOTTOM; A. PEMBROKE

SEASONAL FLUCTUATION OF WATER QUALITY (NUTRIENTS AND PIGMENTS) IN LOWER DELAWARE BAY £1978]

HYDROBIOLOGIA 60(3):203-211

MAY 1974-MAY 1975 BASELINE DATA SHOW THAT THE LOWER DELAWARE BAY ESTUARY IS SIMILAR TO OTHER ESTUARIES AND BAYS IN THE MID-ATLANTIC BIGHT IN REGARD TO SEASONAL FLUCTUATIONS OF NUTRIENTS AND PIGMENTS. THE FIRST SET OF SEASONAL WATER QUALITY BASELINE DATA FOR THE BAY INDICATES NUTRIENT AND PIGMENT CONCENTRATIONS REFLECT SEASONAL NUTRIENT PATTERNS IN THE MARSHES TO A CERTAIN DEGREE. ALL OF THE ESTUARIES COMPARED, INCLUDING DELAWARE, NARRANGANSETT, RARITAN, AND CHESAPEAKE BAYS, AND LONG ISLAND SOUND, HAD HIGH DISSOUVED OXYGEN (DO) IN WINTER, AND MOST HAD UNDERSATURATED DO IN SUMMER, EXCEPT LONG ISLAND SOUND WHICH WAS HIGH IN WINTER. PIGMENT CONCENTRATIONS WERE SIMILAR AMONG THE ESTUARIES, BUT SEASONAL PEAKS VARIED. NITRITE, NITRATE AND INORGANIC PHOSPHATE LEVELS IN DELAWARE BAY WERE CLOSEST TO THOSE OF CHESAPEAKE BAY. LOWER DELAWARE BAY DID NOT SHOW EXCESS NUTRIENT POLLUTION, BASED ON NITROGEN/PHOSPHORUS RATIOS. IN DELAWARE BAY SURFACE AND BOTTOM WATER SAMPLES WERE ANALYZED FOR TEMPERATURE, SALINITY, DO, SILICATE, MITRATE, NITRITE, ORTHOPHOSPHATE, AMMONIA, CHLOROPHYLLS A, B, AND C, PHAEOPIGMENTS, AND CAROTENOIDS. SALINITY RANGED FROM 22.7-29.7 PPT, AND DO FROM 4.53-3.53 ML/L. SILICATE (30.3 MICROGRAMS-AT/L) AND ORTHOPHOSPHATE (1.59) WERE HIGHEST IN SEP; AMMONIA IN JUL (6.8); NITRATE AND NITRITE. IN JAN (24.27), FEB (18.2), AND MAY (16.37); AND CHLOROPHYLL A IN AUG (17.2), OCT (15.7), AND MAR (15.33).

1169 MAURO, J.J.

THE ACCUMULATION OF CS-137 BY FUNDULUS HETEROCLITUS IN THE HUDSON RIVER ESTUARY [1973]

PH.D. THESIS. NYU. NEW YORK. NY 112 PP

THE PATHWAYS BY WHICH FUNDULUS HETEROCLITUS (SALTWATER KILLIFISH) OBTAIN RADIOCESIUM FROM THE HUDSON RIVER ESTUARY IN THE VICINITY OF INDIAN POINT AND THE EFFECT OF SALINITY ON THIS UPTAKE WERE QUANTITATIVELY DETERMINED BY THE USE OF LABORATORY AND FIELD STUDIES. THE VALUES OBTAINED WERE APPLIED TO A THEORETICAL MODEL AND THE PREDICTED ACTIVITY WAS COMPARED TO THE OBSERVED ACTIVITY.

1170 MAY, P.W.

ANALYSIS AND INTERPRETATION OF TIDAL CURRENTS IN THE COASTAL BOUNDARY LAYER [1979]

PAPER NO 79-59. WHOI, WOODS HOLE, MA 201 PP NTIS-PB-299 428

THE COASTAL BOUNDARY LAYER TRANSECT (COBOLT) EXPERIMENT WAS CONDUCTED WITHIN 12 KM OF THE SOUTH SHORE OF LONG ISLAND TO ELUCIDATE THE CHARACTERISTICS OF THE COASTAL BOUNDARY LAYER IN THE MIDDLE ATLANTIC BIGHT. ANALYSIS OF DATA FROM THIS EXPERIMENT SHOW THAT 35% OF THE KINETIC ENERGY OF CURRENTS AVERAGED OVER THE 30 M DEPTH ARE DUE TO THE SEMIDIURNAL AND DIURNAL TIDES. TIDAL ELLIPSES SHOW CONSIDERABLE VERTICAL STRUCTURE WHICH CAN BE EXPLAINED ADEQUATELY BY A LOCAL CONSTANT EDDY VISCOSITY MODEL WITH A SLIPPERY BOTTOM BOUNDARY CONDITION. THE MAJOR AXIS OF THE TIDAL ELLIPSE FORMED FROM THE DEPTH AVERAGED SEMIDIURNAL CURRENTS IS NOT PARALLEL TO THE LOCAL SHORELINE BUT IS ORIENTED AT AN ANGLE OF ABOUT -15 DEGREES. THIS ORIENTATION "TILT" IS A CONSEQUENCE OF THE ONSHORE FLUX OF ENERGY, COMPUTED TO BE ABOUT 80 WATTS/M, AND CAN BE EXPLAINED WITH A SIMPLE MODEL EMPLOYING LONG-ROTATIONAL GRAVITY WAVES (SVERDRUP WAVES) AND AN ABSORBING COASTLINE. INTERNAL OSCILLATIONS OF TIDAL FREQUENCY ALSO OCCURING THE COBOLT DATA. THESE ARE PRIMARILY AT DIURNAL FREQUENCIES AND MAY BE DOPPLER-SHIFTED BY THE MEAN CURRENTS OF THE COASTAL REGION.

1171 MAY, W.E.; S.N. CHESLER; B.H. GUMP; EI.AL.

AN ANALYSIS OF PETROLEUM HYDROCARBONS IN THE MARINE ENVIRONMENT: RESULTS OF AN INTERLABORATORY COMPARISON EXERCISE [1979]

J ENVIRON SCI HEALTH-PART A A13(5-6):403-410

IN AN INTERLABORATORY EXERCISE, EXXON RESEARCH AND ENGINEERING AND THE NATIONAL BUREAU OF STANDARDS (NBS) COLLECTED WATER SAMPLES FROM 2 STATIONS IN THE NEW YORK BAY AREA BY INDIVIDUAL SAMPLENG TECHNIQUES AND DETERMINED HYDROCARBON CONTENT BY SEPARATE ANALYTICAL PROCEDURES. NBS COLLECTED THE WATER BY A DROP SAMPLER, SEPARATED THE HYDROCARBONS BY A DYNAMIC HEADSPACE PROCEDURE, AND QUANTIFIED HYDROCARBON CONTENT BY GC; EXXON USING A STAINLESS STEEL BUCKET, EXTRACTED THE HYDROCARBONS WITH CARBON TETRACHLORIDE, AND IDENTIFIED THE HYDROCARBON CONTENT BY IR WITH SUPPLEMENTAL GC-MS. BOTH JECHNIQUES WERE SENSITIVE TO LG/KG LEVELS.

1172 MAYER, D.A.; D.V. HANSEN; S.M. MINTON

WATER MOVEMENT ON THE NEW JERSEY SHELF 1976 AND 1976 [1976]

PAGES 149-163 IN OXYGEN DEPLETION AND ASSOCIATED BENTHIC MORTALITIES IN NEW YORK BIGHT. PROF PAP 11. NOAA, BOULDER, CO

CURRENT METER MOORINGS WERE MAINTAINED AT SEVERAL SITES IN THE NEW YORK BIGHT DURING THE LATE WINTER AND SPRING OF 1975 AND FROM AUTUMN 1975 THROUGHOUT 1976. THE STRENGTH AND VARIATION ON VARIOUS TIME SCALES OF CURRENTS OBSERVED ON THE CONTINENTAL SHELF OFF NEW JERSEY AND LONG ISLAND, NY, WERE INVESTIGATED TO DETERMINE THE DIFFERENCES BETWEEN THE 2 YEARS. THESE DIFFERENCES MAY HELP EXPLAIN WHY ANOXIC CONDITIONS DEVELOPED IN NJ NEAR-BOTTOM WATERS DURING SUMMER 1976, BUT DID NOT DEVELOP IN SUMMER 1975. 7 TAUT-WIRE MOORINGS (WITH AANDERAA CURRENT METERS AND TETHERED SURFACE SPAR BUOYS) WERE SELECTED FOR ANALYSIS FROM THOSE DEPLOYED DURING THE 1975 AND 1976 MESA CURRENT SURVEYS. ON THE NJ SHELF, THREE STATIONS WERE ESTABLISHED IN SHALLOW WATER (ABOUT 30M), AND TWO WERE IN DEEPER WATER (60-70 M) NEAR THE SHELF BREAK. OFF LONG ISLAND, TWO STATIONS WERE ESTABLISHED NEAR SHORE IN 49 M OF WATER. BECAUSE LOW DISSOLVED OXYGEN (DO) CONCENTRATIONS WERE OBSERVED NEAR THE BOTTOM, THIS ANALYSIS FOCUSES ON NEAR-BOTTOM MOTIONS. WEATHER DATA ALSO WERE OBTAINED FROM JFK INTERNATIONAL AIRPORT AND FROM TWO METEOROLOGICAL DATA BUOYS.

1173 MAYER, D.A.; D.V. HANSEN; D.A. ORIMAN

LONG-TERM CURRENT AND TEMPERATURE OBSERVATIONS ON THE MIDDLE ATLANTIC SHELF [1979]

J GEOPHYS RES 84(C4):1776-1792

NEARLY 22CO DAYS OF CURRENT AND TEMPERATURE DATA WERE COLLECTED AT A MIDSHELF LOCATION IN THE MIDDLE ATLANTIC BIGHT DETWEEN JUNE 1974 AND MARCH 1977. THESE DATA JERE EXAMINED FOR THE AVERAGE CONDITIONS AND SEASONAL CYCLES OF MATER CIRCULATION AND TEMPERATURE AND SOME STATISICAL PROPERTIES OF THEIR VARIATION AT HIGHER FREQUENCY. THE AVERAGE FLOW IS FOUND TO BE TOWARD THE SOUTH-SOUTHWEST AT ABOUT 5 CM/S NEAR THE SURFACE, DIMINISHING TO ABOUT 1 CM/S NEAR THE BOTTOM. THE OCCURRENCE OF ENERGETIC WIND-DRIVEN TRANSIENT CURRENT EVENTS. 4HICH CAN EXCEED A 2 MONTH DURATION MAKES IT IMPOSSIBLE TO DETERMINE A CLEAR SEASONAL PATTERN IN THE DISTRIBUTION OF HIGHER-FREQUENCY FLUCTUATIONS. STORM JIND-INDUCED TRANSIENT CURRENTS OF 3-TO-10 DAY DURATION APPEAR PROMINENTLY IN WINTER RECORDS. INERTIAL CURRENTS APPEAR SELECTIVELY IN THE SUMMER, THAT IS, IN PARTS OF THE WATER COLUMN WELL INSULATED FROM THE BOTTOM BY A STRONG THERMOCLINE. FOR LOW-FREQUENCY MOTIONS (PERIODS FROM 3 TO 10 DAYS) IN BOTH SUMMER AND WINTER RECORDS THE PREFERRED DIRECTIONS OF MOTION THROUGHOUT THE WATER COLUMN APPEAR TO BE CONSISTENT WITH EQUILIBRIUM (MEAN) EXMAN VEERING ARGUMENTS. THE WATER COLUMN RESPONSE JAS FOUND ALSO TO BE MOST SENSITIVE TO THE COMPONENT OF WIND STRESS PARALLEL TO THE BATHYMETRY. THE TEMPERATURE FOLLOWS A WELL-KNOWN SEASONAL CYCLE OF HEATING AND STRATIFICATION. DURING THE UNSTRATIFIED SEASONS, VERY LITTLE HIGH FREQUENCY TEMPERATURE VARIATION IS OBSERVED, BUT DURING SUMMER, THERMAL OSCILLATIONS DUE TO DAILY HEATING AND INERTIAL AND SEMIDALLY TIDAL FREQUENCIES (3/3,4/3, AND 6/3 CPD) AND A 5/3 CPD OSCILLATION APPEAR PROMINENTLY.

1174 MAYER, G.F.

NEW YORK BIGHT PROJECT ANNUAL REPORT FOR FY 1976-76T [1977]

IM-ERL-MESA-25. NOAA. BJULDER. CO 105 PP NTIS-PB-283 196

THE ANNUAL REPORT FOR FISCAL YEAR 1976-76T DESCRIBES MESA NEW YORK BIGHT PROJECT ACTIVITIES BETWEEN 1 JULY 1975 AND 30 SEPT 1976. SPECIFICALLY, IT SUMMARIZES RESEARCH EFFORTS SPONSORED BY THE PROJECT AND REVIEWS SIGNIFICANT TECHNICAL, OPERATIONAL, AND ADMINISTRATIVE ACHIEVEMENTS DURING THE PERIOD. SOME OF THE OCEANOGRAPHIC INVENTORY STUDIES COVER WATER CIRCULATION, BIOLOGICAL PRODUCTIVITY, OCEAN DUMPING, SEDIMENT TRANSPORT, WATER POLLUTION AND EFFECTS OF POLLUTANTS ON THE BIGHT.

1175 MAYHUE, R.J.; R.W. LOVELADY

ACOUSTIC TRACKING OF WOODHEAD SEABED DRIFTERS [1977]

TN-D-8392. NASA, LANGLEY STATION, VA 22 PP

AN INVESTIGATION WAS CONDUCTED TO DETERMINE THE FEASIBILITY OF TRACKING WOODHEAD SEABED DRIFTERS THAT WERE INSTRUMENTED WITH MINIATURE ACOUSTIC TRANSMITTERS HAVING A RANGE IN WATER IN EXCESS OF 1.0 NMI. A TRIAL CRUISE AT THE ENTRANCE OF DELAWARE BAY, WITH THE RV ANNANDALE AS THE SONAR-TRACKING VESSEL, VERIFIED ACOUSTIC COMMUNICATIONS AND POSITIONING OF THE BOTTOM DRIFTERS. A DEMONSTRATION CRUISE WITH THE RV ANNANDALE WAS ALSO PERFORMED IN THE NEW YORK BIGHT TO COLLECT INFORMATION ON BOTTOM WATER MOVEMENT NEAR THE SEWAGE SLUDGE DUMP SITE. RESULTS FROM THE TRACKING MISSION IN THE NEW YORK BIGHT SUGGESTED THAT BOTTOM WATER CURRENTS WERE NEGLIGIBLE NEAR THE DUMP SITE DURING THE TIME INTERVAL FROM 7-12 NOV 1975, AND THAT SHIPBOARD SONAR TRACKING OF ACOUSTIC WOODHEAD SEABED DRIFTERS COULD PROVIDE USEFUL LAGRANGIAN INFORMATION ON BOTTOM WATER MOVEMENT CAUSED BY TIDAL AND OTHER NONSTORM EFFECTS.

1176 MCCALL, P.L.

COMMUNITY PATTERNS AND ADAPTIVE STRATEGIES OF THE INFAUNAL BENTHOS OF LONG ISLAND SOUND [1977]

J MAR RES 35(2):221-266

THIS STUDY EXAMINES THE IMPORTANCE OF DISTURBANCES OF THE SEAFLOOR WHICH RESULT IN LOCAL MORTALITY OF RESIDENT POPULATIONS AS A

CAUSE FOR SPATIAL AND TEMPORAL FAUNAL CHANGES COMMONLY OBSERVED IN NEARSHORE BENTHIC COMMUNITIES. THE ROLE OF DISTURBANCE IN ECOLOGIC SUCCESSION WAS EXAMINED BY IN SITU EXPERIMENTS IN CENTRAL LONG ISLAND SOUND. DIFFERENCES IN THE DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS IN CENTRAL LONG ISLAND SOUND MAY BE EXPLAINED IN TERMS OF TWO DIFFERENT ADAPTIVE STRATEGIES. OPPORTUNISTIC OR EQUILIBRIUM. THE RELATIVE OPPORTUNISM OF THE LONG ISLAND SOUND BENTHOS IS MOST CLOSELY RELATED TO MOBILITY AND LIVING AND FEEDING POSITION IN THE SUBSTRATUM. SEPENTARY ANIMALS AND THOSE LIVING OR FEEDING CLOSE TO THE SEDIMENT-WATER INTERFACE ARE MORE LIKELY TO BE OPPORTUNISTIC AND LESS PREDICTABLE IN SPACE AND TIME. MOBILE ANIMALS AND THOSE LIVING OR RETREATING DEEP INTO THE SEDIMENT ARE MORE LIKELY TO BE EQUILIBRISTIC, AND GENERALLY TEND TO HAVE POPULATIONS THAT ARE MORE PREDICTABLE IN SPACE AND TIME.

1177 MCCARTHY, G.T.; N.L. BARBAROSSA

SURFACE WATER RESOURCES PLANNING IN HUDSON BASIN [1968]

ASCE J HYDRAUL DIV 94(HY2):375-389

CONSULTANTS STUDIED WATER RESOURCES OF THE HUDSON-MOHAWK RIVER BASIN AND LONG ISLAND, A 15,000 SQ M1 AREA WITH A POPULATION OF 13,000,000 PEOPLE. PRIMARY OBJECTIVES WERE TO EVALUATE THE QUANTITY AND GENERAL QUALITY OF THE GROUND AND SURFACE WATER, TO ASSESS PRESENT UTILIZATION, AND ANALYZE AND PROJECT THE WATER NEEDS TO THE YEAR 2020. THE ENTIRE AREA WAS SCREENED FOR POSSIBLE RESERVOIR SITES; SUITABLE STORAGE PROJECTS WERE LOCATED IN THE HEADWATER AREAS. TECHNIQUES USED TO SCREEN POTENTIAL RESERVOIR SITES ARE DESCRIBED AND BELIEVED TO HAVE WIDE APPLICATION TO WATER RESOURCE PLANNING FOR LARGE RIVER BASINS. ALTERNATIVE SOLUTIONS ARE OUTLINED FOR MUNICIPAL 4ATER SUPPLIES FOR: (1) UPPER HUDSON RIVER BASIN; (2) MOHAWK RIVER BASIN; (3) LOWER HUDSON RIVER BASIN; AND (4) NYC, WESTCHESTER COUNTY, AND LONG ISLAND. SPECIAL ATTENTION IS GIVEN TO WATER PROBLEMS OF NYC AND VICINITY. TENTATIVE PLANS SHOWING COSTS OF A NUMBER OF ALTERNATIVE SOLUTIONS TO PROBLEMS ARE PRESENTED FOR FUTURE METROLPOLITAN WATER SUPPLY NEEDS.

1178 MCCAY, B.J.

OPTIMAL FORAGERS OR POLITICAL ACTORS? ECOLOGICAL ANALYSES OF A NEW JERSEY FISHERY [1981]

AM ETHNOLOG 8(2):356-382

RECENT TRENDS IN ECOLOGICAL ANTHROPOLOGY ARE DESCRIBED AND APPLIED IN AN ECOLOGICAL ANALYSIS OF A NEW JERSEY FISHERY. THE PROBLEM OF IDENTIFYING ENVIRONMENTAL PROBLEMS BECOMES APPARENT WHEN TRYING TO DESCRIBE THE TEMPORAL VARIABILITY, POLLUTION, RESTRICTIONS ON ACCESS, AND DEPLETION THAT CHARACTERIZE THE MARINE ENVIRONMENT OF "SHOAL HARBOR," A DIVERSIFIED COMMUNITY OF BAYMEN AND INSHORE FISHERMEN NOT FAR FROM NEW YORK CITY. A SET OF HYPOTHESES DERIVED FROM OPTIMIZATION THEORIES IN EVOLUTIONARY ECOLOGY PROVE HELPFUL IN SUGGESTING THE ECOLOGICAL RATIONALE FOR CERTAIN ASPECTS OF THE SHOAL HARBOR FISHERY, BUT PRACTICAL, METHODOLOGICAL, AND THEORETICAL QUALIFICATIONS LIMIT THEIR USEFULNESS. ANOTHER ECOLOGICAL APPROACH, THE "ECONOMICS OF FLEXIBILITY," IS USED HERE TO OPEN THE ANALYSIS TO THE POLITICAL DIMENSIONS OF ONE ASPECT OF SHOAL HARBOR BEHAVIOR: ILLEGAL FISHING. IN CONCLUSION, A BRIEF DISCUSSION OF THE PROBLEM OF OVERFISHING IS USED TO INDICATE THE IMPORTANCE OF BALANCING ECOLOGICAL APPROACHES WITH JUST CONSIDERATION OF SOCIAL, CULTURAL, AND POLITICAL REALITY.

1179 MCCLENNEN, C.E.

NEW JERSEY CONTINENTAL SHELF NEAR-BOTTOM CURRENT METER RECORDS AND RECENT SEDIMENT ACTIVITY [1973]

J SEDIMENT PETROL 43(2):371-380

MODERN SEDIMENTARY PROCESSES ASSOCIATED WITH THE RIDGE AND DEPRESSION TOPOGRAPHY OF THE NJ CONTINENTAL SHELF WERE INVESTIGATED WITH THE AID OF NEAR BOTTOM CURRENT METER MEASUREMENTS AND ALSO ESTIMATES OF NEAR BOTTOM WAVE ORBITAL VELOCITIES DERIVED FROM CLASSICAL WAVE THEORY AND AVAILABLE SURFACE WAVE OBSERVATIONS. 4 CURRENT METERS WERE SET 1.5 TO 2.0 M ABOVE SEA BUTTOM IN 30.

59, 74, AND 143 M DEPTHS FOR 9 TO 11 DAYS DURING THE LATE SPRINGS OF 1970 AND 1971. THE ROOT MEAN SQUARE SPEEDS OF THE METER RECORDS WERE 13.7, 11.8, 12.9, 19.5 CM/SEC IN ORDER OF INCREASING DEPTH, WITH A MAXIMUM RECORDED 2.5 MINUTE AVERAGE SPEED OF NEARLY 40 CM/SEC AND A NET SOUTHWESTERLY TRANSPORT. BOTH CURRENT AND WAVE DATA INDICATE REMORKING OF THE SURFACE SAND COVER ON THE SHELF. IN DETERMINING THE RELATIVE IMPORTANCE OF WAVE VS. CURRENT ACTIVITY THE TRUE VALUE OF THE CRITICAL EROSION VELOCITY IS OF PRIMARY IMPORTANCE. THE PRESENT DAY PHYSICAL REWORKING OF THE SURFACE SEDIMENTS IS INDICATED INDEPENDENTLY BY BOTTOM PHOTOGRAPHS OF RIPPLES AND BY SEDIMENTARY STRUCTURES IN BOX CORES, WITH REWORKING BEING GENERALLY LIMITED TO THE UPPER METER OF SEDIMENT. NO MECHANISM FOR THE PRESENT FORMATION OF THE LARGER SCALE RIDGE AND DEPRESSION TOPOGRAPHY IS INDICATED BY THE CURRENTS MEASURED OR THE WAVE CONSIDERATIONS.

1180 MCCLENNEN. C.E.

GREAT EGG BURIED CHANNEL ON THE NEW JERSEY CONTINENTAL SHELF: A POSSIBLE CONTINUATION OF THE PLEISTOCENE SCHUYLKILL RIVER TO WILMINGTON CANYON [1973]

GEOL SOC AM ABSTR PROG 5(2):194-195

HIGH RESOLUTION-LOW PENETRATION SEISMIC REFLECTION TECHNIQUES WERE USED TO SURVEY THE SHALLOW STRUCTURE OF THE NJ CONTINENTAL SHELF RETWEEN THE 18 AND 180 M ISOBATHS. AN ISOLATED BURIED VALLEY, TRENDING SOUTHEASTWARD FROM THE VICINITY OF GREAT EGG INLET TERMINATES NEAR THE HEAD OF WILMINGTON CANYON. THE SIZE, SHAPE, DEPTH, AND TREND OF THE VALLEY INDICATE BASIC SIMILARITIES TO THE HUDSON CHANNEL. APPARENTLY PLEISTOCENE EUSTATIC REGRESSIONS ALLOWED THE ANCIENT SCHUYLKILL RIVER TO EXTEND ITS VALLEY ACROSS NJ ALONG A COURSE CLOSELY ASSOCIATED WITH THE PRESENT GREAT EGG HARBOR RIVER AND CUT A CHANNEL ACROSS THE SHELF.

SUBSEQUENT STREAM EROSION AND STREAM CAPTURE REDIRECTED BOTH THE SCHUYLKILL AND DELAWARE RIVERS TO THE WEST OF THE COASTAL PLAIN CUESTA INTO DELAWARE BAY PRIOR TO THE LATE WISCONSIN TO CREATE THE PRESENT DRAINAGE SYSTEM. THE APPARENT ABSENCE OF ADDITIONAL MAJOR BURIED SHELF VALLEYS BETWEEN CAPE MAY AND SANDY HOOK INDICATES THAT THE DELAWARE AND HUDSON RIVERS FAILED TO DEVELOP CHANNELS LEADING TO OTHER CANYONS IN THE AREA. THE CHARACTER OF ACOUSTICAL REFLECTIONS SUGGESTS A CHANGE IN THE SEDIMENT DISPERSAL PATHWAYS AND DEPOSITIONAL PROCESSES NEAR THE 80 M ISOBATH. THE MAJOR FACTORS ACCOUNTING FOR THE SEDIMENT STRUCTURES APPEAR TO BE LONGSHORE DRIFT, CHANNEL-CANYON BYPASSING, AND SEA LEVEL CHANGES.

1181 MCCLDY, T.W.

RESEARCH AND INVENTORY OF SHELLFISH WITHIN ESTUARINE SYSTEMS OF THE ATLANTIC COAST OF NEW JERSEY [1980]

NO 80042306. NOAA, BOULDER, CO 56 PP NTIS-PB80-189 590

INVESTIGATIONS OF POSSIBLE SAMPLING VESSELS TO BE UTILIZED IN THE SHELLFESH INVENTORY HAVE BEEN CONDUCTED. THE DEVELOPMENT OF CRITERIA FOR THE CLASSIFICATION OF CLAM HABITAT BASED UPON ASSOCIATED MOLLUSCAN SPECIES CONTINUED WITH THE COLLECTION OF OVER 600 SAMPLES. THE LAKES BAY HARD CLAM RELAY WAS MONITORED FOR THE SECOND YEAR TO DETERMINE SIZE STRUCTURE OF THE POPULATION, RECRUITMENT, AND STANDING STOCK AND HOW THESE FACTORS FLUCTUATE IN RELATION TO HARVEST INTENSITY. BASED UPON THE LACK OF RECRUITMENT, DECREASE IN HARVEST, AND DECLINE IN CATCH PER EFFORT, IT APPEARS THAT THE HARD CLAM RESOURCE SUPPORTING THE PROGRAM IS DECLINING. ALL APPLICATIONS RECEIVED FOR LEASED SHELLFISH GROUND (ON THE ATLANTIC COAST) WERE INVESTIGATED AND CLASSIFIED ACCORDING TO THEIR PRODUCTIVITY AS SHELLFISH HABITAT.

1182 MCCORMICK, C.L.

PROBABLE CAUSES OF SHORELINE RECESSION AND ADVANCE ON THE SOUTH SHORE OF EASTERN LONG ISLAND [1973]

PAGES 61-71 IN D.R. COATES, ED. CUASTAL GEOMORPHOLOGY. PROC. 3RD ANN GEOMORPHOL SYMPOSIA SERIES. SUNY, BINGHAMTON, NY

A STUDY OF THE PROBABLE CAUSES OF SHORELINE RECESSION AND ADVANCE ON THE SOUTH SHORE OF LONG ISLAND, WHICH CONSISTS OF A PROGRADING SECTION NEAR THE MONTAUK CLIFFS.

1183 MCCORMICK, M.J.: P.T. QUINN

PHYTOPLANKTON DIVERSITY AND CHLOROPHYLL-A IN A POLLUTED ESTUARY [1975]

MAR POLLUT BULL 6(7):105-106

THE QUANTITY OF PHYTOPLANKTON IN NEWARK BAY, NJ AS INDICATED BY CHLOROPHYLL A CONTENT OF THE WATER, IS LOW IN THE WINTER AND EARLY SPRING, AND FLUCTUATES GREATLY DURING THE SPRING AND SUMMER. CHLOROPHYLL A CONCENTRATIONS ARE GENERALLY LESS THAN 20 MICROGRAMS UNT AR. BETWEEN APR AND AUG. THREE PHYTOPLANKTON BLOOMS WERE INDICATED BY CHLOROPHYLL A CONCENTRATIONS AS HIGH AS 81.4 MICRO G/L. NET PHYTOPLANKTON DIVERSITY VALUES INDICATED GENERALLY EUTROPHIC CONDITIONS; HOWEVER, THERE WAS NO SIGNIFICANT CORRELATION BETWEEN DIVERSITY AND CHLOROPHYLL A CONCENTRATIONS. A ROLE OF NANNOPLANKTON IN BLOOMS IS INDICATED.

1184 MCDERMOTT, R.J.

NATIONAL DAM SAFETY PROGRAM. SEELEY'S POND DAM (NJ00368), RARITAN RIVER BASIN, BLUE BROOK, UNION COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP, TRENTON, NJ 78 PP NIIS-AD-A087 312

BASED ON VISUAL INSPECTION, AVAILABLE RECORDS, CALCULATIONS AND PAST OPERATIONAL PERFORMANCE, SEELEY'S POND DAM, INITIALLY LISTED AS A 'HIGH' HAZARD POTENTIAL STRUCTURE, BUT REDUCED TO A 'SIGNIFICANT' HAZARD POTENTIAL STRUCTURE AS A RESULT OF THIS INSPECTION, IS JUDGED TO BE IN FAIR OVERALL CONDITION. THE DAM'S SPILLWAY IS CONSIDERED INADEQUATE BECAUSE A FLOW EQUIVALENT TO 40 % OF THE 100-YEAR FLOOD WOULD CAUSE THE DAM TO BE OVERTOPPED.

1185 MCDERMOTT, R.J.

NATIONAL DAM SAFETY PROGRAM. BRAINERD LAKE DAM (NJ00152), RARITAN RIVER BASIN, CRANBURY BROOK, MIDDLESEX COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP, TRENTON, NJ 82 PP NTIS-AD-A087 638

THIS DAM WAS INSPECTED ON 12 NOV 1979 BY STORCH ENGINEERS UNDER CONTRACT TO NJ. THE STATE, UNDER AGREEMENT WITH THE US ARMY ENGINEER DISTRICT, PHILADELPHIA, HAD THIS INSPECTION PERFORMED IN ACCORDANCE WITH THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. BRAINERD LAKE DAM, INITIALLY LISTED AS A "HIGH" HAZARD POTENTIAL STRUCTURE, BUT REDUCED TO A "SIGNIFICANT" HAZARD POTENTIAL STRUCTURE AS A RESULT OF THIS INSPECTION, IS JUDGED TO BE IN FAIR OVERALL CONDITION. THE DAM"S SPILLWAY IS CONSIDERED INADEQUATE BECAUSE A FLOW EQUIVALENT TO 17 % OF THE 100-YEAR FLOOD WOULD CAUSE THE DAM TO BE OVERTOPPED.

1186 MCDERMOTT, R.J.

NATIONAL DAM SAFETY PROGRAM. CAMPBELLS POND DAM (NJ00517), RAHWAY RIVER BASIN, WEST BRANCH RAHWAY RIVER, ESSEX COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP, TRENTON, NJ'90 PP NTIS-AD-AD98 252

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

1187 MCDERMOTT, R.J.

NATIONAL DAM SAFETY PROGRAM. CLINTON MILLS DAM (N100122), RARITAN RIVER BASIN, SOUTH BRANCH OF RARITAN RIVER, HUNTERDON COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP. TRENTON. NJ 86 PP NTIS-AD-A088 254

THIS DAM WAS INSPECTED ON 19 AND 28 NOV 1979 BY STORCH ENGINEERS UNDER CONTRACT TO NJ. THE STATE, UNDER AGREEMENT WITH THE US ARMY ENGINEER DISTRICT, PHILADELPHIA, HAD THIS INSPECTION PERFORMED IN ACCORDANCE WITH THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. CLINTON MILLS DAM, INITIALLY LISTED AS A "HIGH" HAZARD POTENTIAL STRUCTURE, BUT REDUCED TO A "SIGNIFICANT" HAZARD POTENTIAL STRUCTURE AS A RESULT OF THIS INSPECTION, IS JUDGED TO BE IN FAIR OVERALL CONDITION. THE DAM'S SPILLWAY IS CONSIDERED INADEQUATE BECAUSE A FLOW EQUIVALENT. TO FIVE 5 OF THE SPILLWAY DESIGN FLOOD (SDF) WOULD CAUSE THE DAM TO BE OVERTOPPED. THE SDF, IN THIS INSTANCE, IS ONE HALF OF THE PROBABLE MAXIMUM FLOOD.

1188 MCDERMOTT, R.J.

NATIONAL DAM SAFETY PROGRAM. CLINTON MILLS DIKE (NJ00564), RARITAN RIVER BAS'IN, SOUTH BRANCH OF RARITAN RIVER, HUNTERDON COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP, TRENTON, NJ 78 PP NTIS-AD-A038 256

THIS DIKE WAS INSPECTED ON 5 AND 28 DEC 1979 BY STORCH ENGINEERS UNDER CONTRACT TO NJ. THE STATE, UNDER AGREEMENT WITH THE US ARMY ENGINEER DISTRICT, PHILADELPHIA, HAD THIS INSPECTION PERFORMED IN ACCORDANCE WITH THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. CLINTON MILLS DIKE, A "HIGH" HAZARD POTENTIAL STRUCTURE, IS JUDGED TO BE IN FAIR OVERALL CONDITION. THE SPILLWAY FOR THE DIKE IS LOCATED AT CLINTON MILLS DAM (NJ00122) APPROXIMATELY 70 FT DOWNSTREAM FROM THE DIKE.

1189 MCDERMOTT, R.J.

NATIONAL DAM SAFETY PROGRAM. PEDDIE LAKE DAM (NJOO149), RAHWAY RIVER BASIN, ROCKY BROOK, MERCER COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP, TRENTON, NJ 83 PP NTIS-AD-A086 901

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

1190 MCDERMOTT, R.J.

NATIONAL DAM SAFETY PROGRAM. ROOSEVELT PARK DAM (NJOO370), RAHWAY RIVER BASIN, SOUTH BRANCH RAHWAY RIVER, MIDDLESEX COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP, TRENTON, NJ 87 PP NTIS-AD-AD37 313

BASED ON VISUAL INSPECTION, AVAILABLE RECORDS, CALCULATIONS AND PAST OPERATIONAL PERFORMANCE, ROOSEVELT PARK DAM, INITIALLY LISTED AS A "HIGH" HAZARD POTENTIAL STRUCTURE, BUT REDUCED TO A "SIGNIFICANT" HAZARD POTENTIAL STRUCTURE AS A RESULT OF THIS INSPECTION, IS JUDGED TO BE IN FAIR OVERALL CONDITION. THE DAM'S SPILLWAY IS CONSIDERED INADEQUATE BECAUSE A FLOW EQUIVALENT TO 9 % OF THE 100-YEAR FLOOD WOULD CAUSE THE DAM TO BE OVERTOPPED.

1191 MCDERMOTT, R.J.

NATIONAL DAM SAFETY PROGRAM. STONY BROOK WATERSHED DAM SITE NUMBER 7 (NJOD344), RARITAN RIVER BASIN, STONY BROOK, MERCER COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP. TRENTON. NJ 96 PP NTIS-AD-A087 327

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION. REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

1192 MCDERMOTT, R.J.

NATIONAL DAM SAFETY PROGRAM. SKILLMAN DAM (NJ00013), RARITAN RIVER BASIN, ROCK BROOK, SOMERSET COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP, TRENTON, NJ 93 PR NTIS-AD-A088 040

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

1193 MCDERMOTT, R.J.

NATIONAL DAM SAFETY PROGRAM. SHACKAMAXON DAM (NJ00369), RAHWAY RIVER BASIN, LAMBERT'S RUN, UNION COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP. TRENTON. NJ 88 PP NTIS-AD-A087 639

THIS DAM WAS INSPECTED ON 15 NOV 1979 BY STORCH ENGINEERS UNDER CONTRACT TO NJ. THE STATE, UNDER AGREEMENT WITH THE US ARMY ENGINEER DISTRICT, PHILADELPHIA, HAD THIS INSPECTION PERFORMED IN ACCORDANCE WITH THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. SHACKAMAXON DAM, A "HIGH" HAZARD POTENTIAL STRUCTURE, IS JUDGED TO BE IN FAIR OVERALL CONDITION. THE DAM'S SPILLWAY IS CONSIDERED INADEQUATE BECAUSE A FLOW EQUIVALENT TO 42 % OF THE SPILLWAY PESIGN FLOOD (SDF) WOULD CAUSE THE DAM TO BE OVERTOPPED. THE SDF, IN THIS INSTANCE, IS ONE HALF OF THE PROBABLE MAXIMUM FLOOD. THE DECISION TO CONSIDER THE SPILLWAY "INADEQUATE" INSTEAD OF "SERIOUSLY INADEQUATE" IS BASED ON THE DETERMINATION THAT DAM FAILURE FROM OVERTOPPING WOULD NOT SIGNIFICANTLY INCREASE THE HAZARD TO LOSS OF LIFE DOWNSTREAM FROM THE DAM FROM THAT WHICH WOULD EXIST JUST BEFORE OVERTOPPING FAILURE.

1194 MCDONALD, B.

MARITIME LAW RULINGS [1980]

MAR ENGINEER/LOG 85(2):42-48

SOME NJIEWORTHY COURT DECISIONS IMPACTING UPON THE DIVERSE BODY OF MANDATES KNOWN AS MARITIME LAW ARE DESCRIBED. DECISIONS REVIEWED OR DESCRIBED INCLUDE: AMERICAN SUGAR REFINING COMPANY VS. THE WATERFRONT COMMISSION OF NEW YORK HARBOR, JAPANESE LINE LIMITED VS. THE COUNTY OF LOS ANGELES, CHEVRON AND COMPANY VS. THE STATE OF ALASKA, A NEW DEFINITION OF CONTAINERS IN VIRGINIA, AND THE ALCOA STEAMSHIP COMPANY VS. THE NORDIC REJENT. IN THE 1ST CASE, THE WATERFRONT COMMISSION OF NEW YORK HARBOR WAS

PREVENTED FROM TAXING GUARANTEED ANNUAL INCOME AND VACATION/HOLIDAY FUNDS MAINTAINED FOR DOCKWORKERS.

1195 MCDONOUGH. K.B.

A BENTHIC INDEX OF ENVIRONMENTAL QUALITY FOR THE NEW YORK BIGHT APEX AND RARITAN BAY [1976]

M.S. THESIS. SUNY. STONY BROOK. NY 87 PP

THERE ARE MUCH DATA AVAILABLE QUANTIFYING THE ABUNDANCE AND DIVERSITY OF BENTHIC COMMUNITIES IN THE NEW YORK BIGHT APEX AND RARITAN BAY, AREAS HEAVILTY IMPACTED BY OCEAN DISROSAL (DUMPING, OCEAN OUTFALLS, RIVERINE INPUTS). A PROPOSED INDEX OF ENVIRONMENTAL QUALITY (EQ INDEX) IS DEVELOPED TO EVALUATE THESE DATA. EACH BENTHIC INVERTEBRATE IN A SAMPLE IS GIVEN A TOLERANCE VALUE BASED ON AN EVALUATION OF THE ORGANISM'S ABILITY TO COLONIZE A DEFINED ZONE WITH AN UNPREDICTABLY HARSH ENVIRONMENT. THE PRODUCT OF THE TOLERANCE VALUE AND THE ABUNDANCE OF EACH ORGANISM IS SUMMED FOR EACH SAMPLE AND DIVIDED BY THE TOTAL NUMBER OF ORGANISMS IN THE SAMPLE, RESULTING IN AN INDEX OF ENVIRONMENTAL QUALITY AT EACH STATION SAMPLED. A GRID WITH THE RESULTING INDEX NUMBERS DELINEATES AN AREA IN BOTH THE NEW YORK BIGHT APEX AND RARITAN BAY WITHIN WHICH THE BENTHIC COMMUNITY STRUCTURE HAS BEEN ALTERED BY OCEAN DISPOSAL. THE EQ INDEX IS COMPARED WITH DIVERSITY (H') AND EQUITABILITY (E). TWO INDICES WIDELY USED TO DETERMINE WATER QUALITY, AND IS FOUND TO BE MORE STABLE OVER TIME. OTHER ADVANTAGES AND COMPARISONS OF THESE INDICES ARE DISCUSSED. THE PROPOSED EQ INDEX YIELDS A COMPREHENSIVE ASSESSMENT OF THE DATA AND IS EASILY INTERPRETED AND UNDERSTOOD.

1196 MCFADDEN, J.T. (EDITOR)

INFLUENCE OF THE PROPOSED CORNWALL PUMPED STORAGE PROJECT AND STEAM ELECTRIC GENERATING PLANTS ON THE HUDSON RIVER, WITH EMPHASIS ON STRIPED BASS AND OTHER FISH POPULATIONS (REVISED) [1978]

CONSOLIDATED EDISON CO. NEW YORK, NY 55 PP

THIS IS A 50 PAGE BIBLIOGRAPHY WITH EMPHASIS ON THE FISH POPULATIONS OF THE HUDSON RIVER.

1197 MCGARVEY, F.X.

WHEN CLEAN IS NOT CLEAN [1970]

EFFLUENT WATER TREATM J 10(7):399

THIS ARTICLE DISCUSSES THE RESISTANCE OF SOAPS AND DETERGENTS TO BACTERIAL ACTION, AND THE POSSIBLE RESTRICTIONS OF PHOSPHATE LEVELS IN DETERGENTS.

1198 MCGOWAN, W.E.

MONITORING DISSOLVED HYDROCARBONS AS A FUNCTION OF THE TIDAL CYCLE (NEW YORK HARBOR) [1975]

R/DC-4/75. USCG RESEARCH & DEVELOP CENTER, GROTON, CT 39 PP NTIS-AD-A015 882

MEASUREMENTS OF DISSOLVED HYDROCARBON (C1-C4) AS A FUNCTION OF THE TIDAL CYCLE ARE REPORTED. MEASUREMENTS WERE MADE FROM 19 SEP TO 5 OCT 1973 TO EVALUATE A DISSOLVED HYDROCARBON MONITORING SYSTEM AND TO GAIN INFORMATION ABOUT THE BEHAVIOR OF DISSOLVED POLLUTANTS IN A TIDAL CYCLE. SEA WATER WAS PUMPED FROM 2-3 FEET BELOW THE WATER LEVEL OF NEW YORK HARBOR AND SPRAYED INTO A PARTIALLY EVACUATED CHAMBER WHERE HYDROCARBONS WERE RELEASED AS GASES AND SUBSEQUENTLY TRANSFERRED TO A PORTABLE GAS CHROMATOGRAPH FOR ANALYSIS. GENERALLY, THE MONITORING SYSTEM OPERATED PROPERLY IN THE FIELD WITH AN EXPERIMENTAL ERROR OF LESS

THAN 20%. THE TRENDS OF THE RELATIVE DATA ILLUSTRATE BOTH THE CHANGE IN HYDROCARBON CONCENTRATION OVER THE TIDAL CYCLE (AS MUCH AS 6%) AND THE DAY-TO-DAY VARIATION OF THE COORDINATED TIDAL DATA. THESE DATA INDICATE THAT EFFICIENT AND MEANINGFUL MONITORING OF DISSOLVED POLLUTANTS CAN BE ACCOMPLISHED BEST WITH AN UNDERSTANDING OF THE TIDAL PATTERN OF THE PRE-EXISTING POLLUTANTS. SUCH BACKGROUND INFORMATION IS ESSENTIAL: (1) TO DETERMINE A SAMPLING WINDOW IN THE TIDAL CYCLE WHICH WILL APPROPRIATELY REFLECT THE POLLUTANT INPUT RELATIVE TO THE PRE-EXISTING LEVELS; (2) TO INTERPRET THE EXTENT AND TIME FRAME OF THE INCREASE DUE TO THE POLLUTION INCIDENT; AND (3) TO INTERPRET POSSIBLE IRREGULARITIES IN THE SURVEILLANCE DATA OBTAINED DURING THE SAMPLING WINDOW.

1199 MCGRATH, D.C., JR.

MULTIDISCIPLINARY ENVIRONMENTAL ANALYSIS: JAMAICA BAY AND KENNEDY AIRPORT [1971]

J AM INST P 37(4):243-252

THE CASE OF JFK AIRPORT AND JAMAICA BAY ILLUSTRATES IN SHARP OUTLINE THE DILEMMA OF ENVIRONMENTAL CONSERVATION VS URBAN DEVELOPMENT. AVIATION USE INCREASES RESULT IN DEGRADATION OF THE NATURAL ASPECTS OF THE BAY YET CURTAILMENT OF AVIATION GROWTH HAS SERIOUS IMPLICATIONS FOR THE FUTURE DEVELOPMENT OF NEW YORK. CALLED ON TO INVESTIGATE THIS PROBLEM, AN INTERPISCIPLINARY PANEL ASSESSED THE CONFLICTING FACTORS INVOLVED. THEIR ANALYSIS DEVELOPED TECHNIQUES AND ENVIRONMENTAL CRITERIA OF POTENTIAL VALUE TO OTHER AREAS FACED WITH SIMILAR PROBLEMS.

1200 MCGRATH, R.A.

BENTHIC MACROFAUNAL CENSUS OF RARITAN BAY--PRELIMINARY RESULTS. BENTHOS OF RARITAN BAY [1973]

PAP 24 IN PROC OF 3RD SYMPOSIUM ON HUDSON RIVER ECOLOGY, MARCH 22-23, 1974. NY HUDSON RIVER ENVIRONMENTAL SOCIETY, BEAR MOUNTAIN, NY

A SEASONAL BENTHIC CENSUS OF THE RARITAN BAY ESTUARY HAS BEEN INITIATED DURING 1973. PRELIMINARY RESULTS INDICATE GREATLY DEPRESSED MACROFAUNAL DENSITIES IN COMPARISON WITH OTHER AREAS. A MULTIPLICITY OF WASTEWATER SOURCES AND A SLUGGISH FLUSHING PATTERN COMBINE TO MAKE THE RARITAN BAY SYSTEM A GROSSLY POLLUTED WATER BODY. PRESENT KNOWLEDGE IS INADEQUATE TO ASSESS THE EFFECTS OF KNOWN POLLUTANTS ON THE FAUNA OF THE BAY. THIS PAPER IS THE MOST RECENT SOURCE OF QUANTITATIVE DATA ON BENTHIC COMMUNITIES IN RARITAN BAY, SANDY HOOK BAY, AND LOWER BAY. COMMERCIALLY IMPORTANT SPECIES ARE NOT DISCUSSED HOWEVER.

1201 MCGRATH, R.A.; J.P. THOMAS

REQUIET FOR A HEAVYWEIGHT: A CALL FOR ACTION [1974]

UNDERWATER NAT 8(2):4-13

THIS PAPER DISCUSSES THE PATROLLING OF COASTAL AREAS FOR BEACHED WHALES AND THE POTENTIAL FOR USING THE BEACHED WHALES FOR STUDY. IT DESCRIBES AN INCIDENT AT ISLAND BEACH, NJ WHERE SCIENTISTS WERE ABLE TO MEASURE, IDENTIFY, DISSECT AND DISMEMBER A WHALE SKELETON FOR THE SMITHSONIAN. THE RECOMMENDED STEPS TAKEN TO REPORT A BEACHED WHALE ARE ALSO DISCUSSED.

1202 MCGUINNESS, W.V., JR.; R. PITCHAI; G.4. NORTHROP

TECHNOLOGY TRANSFER IN THE MARINE ENVIRONMENT OF LONG ISLAND [1973]

MARINE RESOURCES COUNCIL. LI REGIONAL PLANNING BOARD, HAUPPAUGE, NY 51 PP

1203 MCGUIRE, D. '

REGIONAL COASTAL INFORMATION CENTERS: A NEW SERVICE CONCEPT [1978]

SEA TECHNOL 19(7):26-28

A REGIONAL COASTAL INFORMATION CENTER (RCIC) OF THE NEW ENGLAND MARINE ADVISORY SERVICE WAS ESTABLISHED IN APR 1977. THE CENTER, LOCATED IN THE PELL LIBRARY AT URI IN NARRAGANSETT, WAS ESTABLISHED SPECIFICALLY TO PROVIDE COASTAL AND MARINE INFORMATION AND DATA FOR THE NEW ENGLAND STATES AND NEW YORK. THE BASIC RCIC PROGRAM IS BUILT ON 4 GENERAL GOALS: TO INCREASE THE AWARENESS OF LOCAL PLANNERS, MANAGERS, LEGISLATORS, DECISION-MAKERS AND RESEARCHERS OF THE EXISTENCE OF INFORMATION OF POTENTIAL VALUE TO THEM; TO ENHANCE THE ACCESSIBILITY OF ENVIRONMENTAL, SOCIAL, AND ECONOMIC INFORMATION, MAKING IT EASIER AND LESS COSTLY TO OBTAIN: TO PROVIDE A SOURCE OF AVAILABILITY OF INFORMATION OF SUBSTANTIAL POTENTIAL VALUE FOR WHICH NO SUITABLE MEANS OF DISSEMINATION OTHERWISE EXISTS; AND TO IMPROVE THE ASSESSMENT OF INFORMATION AND ITS APPLICATION TO PRACTICAL PROBLEMS BY ACTING AS A MIDDLEMAN BETWEEN THOSE WHO NEED ANALYTIC SERVICES AND THOSE WHO CAN PROVIDE THEM. AN RCIC IS EXPECTED TO SERVE THE PUBLIC, UNIVERSITIES, INSTITUTIONS, AND FEDERAL AND STATE AGENCIES. THE RCIC PROGRAM IS SPONSORED BY 3 NOAA COMPONENTS: THE MARINE ADVISORY SERVICE, EDS, AND OFFICE OF COASTAL ZONE MANAGEMENT. THE EDS HAS A VARIETY OF RCIC RESPONSIBILITIES, INCLUDING UPKEEP OF 2 COMPUTERIZED REFERRAL SOURCES, ONE BIBLIOGRAPHIC AND THE OTHER AN INDEX TO DATA SOURCES. THREE RICICS ARE OPERATIONAL; NINE RCICS COVERING ALL US COASTAL ZONE REGIONS ARE PLANNED. SERVICES ULTIMATELY SUPPLIED BY THE 9 RCICS ARE LISTED. THEY WILL ALSO DEVELOP A NETWORK FOR SHARING INFORMATION RESOURCES BETWEEN REGIONS AND UTILIZE NATIONAL AND FEDERAL MATERIALS AND SERVICES.

1204 MCHUGH, J.L.; J.J.C. GINTER; W.E. KNAPP; A.L. TSAE; M.D. GREENFIELD

POSSIBLE EFFECTS OF CONSTRUCTION AND OPERATION OF A SUPERTANKER TERMINAL ON THE MARINE ENVIRONMENT IN NEW YORK BIGHT [1972]

MSRC. SUNY. STONY BROOK. NY 213 PP NTIS-PB-219 649

ENVIRONMENTAL EFFECTS OF CONSTRUCTION AND OPERATION OF SUPERTANKER TERMINALS ARE ASSESSED BY EVALUATING SPECIFIC SITES IN THE NEW YORK BIGHT. INFORMATION WAS OBTAINED ENTIRELY FROM THE EXISTING LITERATURE AND FROM DISCUSSIONS AND CORRESPONDENCE. OIL AND OIL PRODUCTS MADE UP AT LEAST ONE QUARTER OF THE CARGOES TRANSPORTED BY MARINE TRAFFIC. PHYSIOGRAPHY, GEOLOGY, PHYSICAL ASPECTS, CHEMICAL ASPECTS, AND MARINE RESOURCES OF NEW YORK BIGHT ARE PRESENTED. ADVERSE CONSTRUCTION EFFECTS ON THE ENVIRONMENT AND BIOTA WILL BE MUCH LESS AT OFFSHORE SITES THAN IN SANDY HOOK BAY. SITES IN THE NEW YORK BIGHT AREA ARE RANKED ON THE BASIS OF THE FFFECTS OF CONSTRUCTION ALONE AND IN DESCENDING ORDER TO PREFERENCE: CASTLE HILL, TOBAY BEACH, AND SANDY HOOK BAY, THE EFFECTS AND POSSIBLE EFFECT OF DREDGING ON THE MARINE ENVIRONMENT ARE DESCRIBED. IN REGARD TO RARITAN BAY, A MAJOR SUPERTANKER TERMINAL IS NOT CONSISTENT WITH PLANS FOR POLLUTION ABATEMENT. ENVIRONMENTAL EFFECTS OF SUPERTANKER TERMINAL OPERATION APPEAR TO BE RELATED PRIMARILY TO CHRONIC OIL LEAKAGE OR ACCIDENTAL SPILLS. THE TOBAY BEACH SITE, FARTHER OFFSHORE AND IN DEEPER WATER THAN THE CASTLE HILL SITE, MAY BE LESS DESIRABLE BECAUSE IT MIGHT INTERFERE WITH COMMERCIAL CLAMMING AND FISHING OPERATIONS.

1205 MCHUGH, J.L.

BIOLOGICAL CONSEQUENCES OF ALTERNATIVE REGIMES [1974]

NOAA, BOULDER, CO 23 PP NTIS-COM-75-13897

MOST FISHERY DISPUTES RAGE AROUND TWO DISTINCT ISSUES: MANAGEMENT OF THE FISHERY AND THE RESOURCE FOR MAXIMUM SUSTAINABLE

YIELD, AND WHO GETS THE CATCH. SOLUTION OF FISHER'S PROBLEMS WOULD PROBABLY BE EASIER IF THE SCIENTIFIC QUESTIONS RELATED TO CONSERVATION AND THE SOCIAL-POLITICAL PROBLEMS RELATED TO ALLOCATION OF THE RESOURCE WERE RECOGNIZED AS DISTINCT, AND PRIORITIES WERE ESTAPLISHED ACCORDINGLY. BUT, TOO OFTEN, SOCIAL-POLITICAL ISSUES TAKE PRECEDENCE OVER SCIENTIFIC MATTER, OR THE TWO SETS OF ISSUES ARE THOROUGHLY ENTANGLED. THE BIOLOGICAL CONSEQUENCES OF VARIOUS REGIMES ARE VIEWED IN THE LIGHT OF PAST PERFORMANCE, DOMESTIC AND INTERNATIONAL, WITH EMPHASIS ON THE REGION KNOWN AS NEW YORK BIGHT. OBSERVATIONS APPEAR TO EMPHASIZE THE EXTREME IMPORTANCE OF INTERNATIONAL AGREEMENT ON A FISHERY MANAGEMENT. REGIME THAT WILL BE ACCEPTABLE TO MOST NATIONS.

1206 MCHUGH. J.L.

MANAGEMENT OF NEW YORK'S HARD CLAM FISHERY [1975]

PAGES 44-47 IN PROCEEDINGS OF A WORKSHOP, MAR 28, 1975, NYSG AND NY DEC. ALBANY. NY

THIS PAPER DESCRIBES THE PROBLEMS ASSOCIATED WITH MANAGEMENT OF NY'S HARD CLAM FISHERY AND THE APPROACHES THAT SHOULD BE TAKEN TO OVERCOME THESE PROBLEMS.

1207 MCHUGH. J.L.

ESTUARINE FISHERIES: ARE THEY DOOMED? [1976]

PAGES 15-27 IN M. WILEY, ED. ESTUARINE PROCESSES. VOL 1. USES, STRESSES AND ADAPTATION TO THE ESTUARY. ACADEMIC PRESS, LAWRENCE. KS

IN THE MOST RECENT YEAR FOR WHICH US COMMERCIAL AND RECREATIONAL CATCH STATISTICS ARE AVAILABLE, TOTAL FISH AND SHELLFISH LANDINGS WERE ABOUT 6.5 BILLION POUNDS, OF WHICH ABOUT 4.5 BILLION WERE ESTUARINE-DEPENDENT. ON THE ATLANTIC COAST ESTUARINE SPECIES WERE MORE IMPORTANT IN CATCHES FROM NORTH TO SOUTH, ON THE PACIFIC COAST FROM SOUTH TO NORTH. IN THE GULF OF MEXICO 98% WERE ESTUARINE. EFFECTS OF HUMAN ACTIVITIES THEREFORE SHOULD BE RELATIVELY MOST SEVERE FROM CHESAPEAKE BAY SOUTH, IN THE GULF, AND IN ALASKA. BUT ESTUARINE RESOURCES MAKE IMPORTANT CONTRIBUTIONS IN OTHER AREAS: NEW ENGLAND AND MIDDLE ATLANTIC LANDED COMMERCIAL VALUE WAS \$70 MILLION IN 1970. IN CALIFORNIA, ESTUARINE RESOURCES WERE ONLY 3% BY WEIGHT, BUT \$12 MILLION BY LANDED VALUE. NO ONE CAN QUESTION THE IMPORTANCE OF MAINTAINING ESTUARINE ENVIRONMENTAL QUALITY IF FISHERIES ARE TO CONTINUE. PRESENT CONCERNS ABOUT THE ENVIRONMENT PROBABLY HAVE HAD BENEFICIAL EFFECTS, ALTHOUGH CAUSE AND EFFECT IS DIFFICULT TO PROVE. DOOM HAS BEEN AVERTED, BUT CONSTANT VIGILANCE IS NEEDED. PUBLIC EDUCATION WILL BE MOST IMPORTANT, FOR THE ISSUES ARE MUCH MORE COMPLICATED THAN MOST PEOPLE REALIZE.

1208 MCHUGH, J.L.

DOES FISHING HAVE A FUTURE? [1976]

SEARCH 1(2):20-27

US FISHERIES ARE FAR BEHIND IN BOTH SCIENCE AND RESEARCH. INCREASED CATCHES ARE THE RESULT OF AN INCREASE IN NEEDS. 1/3 OF WORLD CATCH IS NOW BEING USED FOR ANIMAL FEED AND OILS. NY HAS 50% OF AMERICA'S HARD CLAM PRODUCTION WORTH \$100 MILLION/YR. THE NEED FOR SCIENTIFIC MANAGEMENT OF FISHERIES, ACCURATE INVENTORIES, BEHAVIOR PATTERNS, REDUCED POLLUTION, ENFORCEMENT MEASURES IS NOW PRESSING.

1209 MCHUGH, J.L.; A.D. WILLIAMS

HISTORICAL STATISTICS OF THE FISHERIES OF THE NEW YORK BIGHT AREA [1976]

RS-76-013. NYSG, ALBANY, NY 75 PP

A COMPILATION OF AVAILABLE INFORMATION ON FISH CATCHES OF THIS AREA SINCE 1880 IS DIVIDED INTO 3 CATEGORIES: DOMESTIC COMMERCIAL LANDINGS OFF MY AND MJ, RECREATIONAL, AND FOREIGN CATCHES. THE MIGRATORY HABITS OF MANY SPECIES VALUABLE TO DOMESTIC FISHERIES MAKE IT USEFUL TO INCLUDE CERTAIN CATCH STATISTICS FROM THE ENTIRE SOUTHERN NEW ENGLAND AND MIDDLE ATLANTIC BIGHT REGIONS. COMPARABILITY AND ACCURACY OF WT ESTIMATES OF FOREIGN AND DOMESTIC CATCHES ARE DISCUSSED. THE ICMAF QUOTAS FOR THE IMMEDIATE COASTAL AREA ARE CHARTED FOR CATCHES OF SPECIES FOR WHICH ADEQUATE SCIENTIFIC INFORMATION IS NOT AVAILABLE TO ESTIMATE ALLOWABLE CATCHES. THE MAJOR PROVISIONS OF THE FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976 SET OUT US FISHERY POLICY AND AUTHORITY, DESCRIBE HOW THE ACT RELATES TO FOREIGN FISHING AND EXISTING INTERNATIONAL AGREEMENTS, ESTABLISH NATIONAL STANDARDS FOR FISHERY CONSERVATION AND MANAGEMENT, AND PROVIDE MECHANISMS FOR IMPLEMENTATION.

1210 MCHUGH. J.L.

RECREATIONAL USE OF SHELLFISHES: ISSUES AND CONFLICTS [1977]

PAGES 56-62 IN SYMP ON COASTAL RECREATION RESOURCES IN AN URBANIZING ENVIRON. MA COOP EXTENSION SERVICE, UNIV OF MA, AMHERST, MA

PROSPECTS FOR MANAGING SHELLFISH FISHERIES OF SHALLOW WATERS, WHEN RECREATIONAL CATCHES ARE LARGE, DO NOT LOOK PROMISING. IN ADDITION TO ALL THE COMPLICATED ASPECTS OF DECISION MAKING AND CONTROL, ONLY A FEW OF WHICH HAVE BEEN TOUCHED ON HERE, ARE MANY DIFFICULT SOCIAL-POLITICAL CONSIDERATIONS. IN MOST PLACES WHERE IMPORTANT INSHORE SHELLFISHERIES EXIST, PUBLIC ATTITUDES ARE NOT CONDUCIVE TO EFFECTIVE MANAGEMENT, PARTLY BECAUSE PUBLIC UNDERSTANDING IS DEFICIENT. AN IMPORTANT ELEMENT FOR SUCCESSFUL MANAGEMENT WILL BE PUBLIC EDUCATION, FOR A CLEARER UNDERSTANDING OF THE ISSUES AND WIDE ACCEPTANCE OF THE NEED FOR CONTROLS.

1211 MCHUGH, J.L.

LIMITING FACTORS AFFECTING COMMERCIAL FISHERIES IN THE MIDDLE ATLANTIC ESTUARINE AREA [1977]

PAGES 149-163 IN ESTUARINE POLLUTION CONTROL AND ASSESSMENT, PROC OF CONFERENCE, PENSACOLA, FL. 11-13 FEB 1975. EPA REP 440/1-77-007A. US EPA, WASHINGTON, DC NTIS-PB-265 467

LANDINGS OF FISH AND SHELLFISH BY DOMESTIC COMMERCIAL FISHERMAN IN THE MIDDLE ATLANTIC ESTUARINE AREA (RI-VA INCLUSIVE) NEARLY DOUBLED IN WEIGHT FROM 1969 TO 1973, FROM ABOUT 636 MILLION TO MORE THAN 1,074 MILLION POUNDS. THE INCREASE WAS NOT ACCOMPANIED BY A SIMILAR INCREASE IN FISHING EFFORT, BUT BY DISTINCT INCREASES IN ABUNDANCE OF CERTAIN COASTAL FISHES LIKE MENHADEN, WEAKFISH, SUMMER FLOUNDER, AND BLUEFISH. IN THE AREA NORTH OF CHESAPEAKE BAY BLUE CRAB WAS MORE ABUNDANT THAN IT HAS BEEN FOR MORE THAN A DECADE AND SCUP ALSO WAS MORE PLENTIFUL. IT IS TEMPTING TO ATTRIBUTE THESE INCREASES TO POLLUTION ABATEMENT, BUT NO DIRECT PROOF IS AVAILABLE. FOR EXAMPLE, THE RETURN OF BLUE CRAB TO THE NEW YORK BIGHT AREA MAY HAVE BEEN MADE POSSIBLE BY THE DECLINE IN USE OF DDT. ALL THESE SPECIES ARE KNOWN TO VARY WIDELY IN ABUNDANCE FROM NATURAL VARIATIONS IN ENVIRONMENTAL FACTORS AND IT IS DIFFICULT TO SEPARATE NATURAL FROM MAMMADE CAUSES. THE ONLY CERTAINLY ADVERSE EFFECTS OF WATER POLLUTION ABUNDANCE OR CATCHES OF LIVING MARINE RESOURCES ARE THOSE WHICH PRODUCE OBVIOUS AND MEASURABLE EFFECTS, USUALLY CATASTROPHIC, OR WHICH RESULT IN CLOSURE OF SHELLFISH BEDS. BECAUSE SO MANY IMPORTANT LIVING RESOURCES USE THE ESTUARIES AS SPAWNING, NURSERY, OR FEEDING GROUNDS IT IS PRUDENT TO AVOID ADDITIONAL DETERIORATION OF WATER QUALITY AND, WHERE POSSIBLE, TO REDUCE DUMPING OF WASTES.

1212 MCHUGH, J.L.

FISHERIES AND FISHERY RESOURCES OF NEW YORK BIGHT [1977]

TECH REP CIRC+4-1. NMFS, WASHINGTON, DC 55 PP

THE HISTORY OF TOTAL FISH AND SHELLFISH LANDINGS IN THE TWO STATES (NY AND NJ) THAT FORM THE LANDWARD BOUNDARIES OF YEW YORK BIGHT IS A HISTORY OF CHANGE. RESOURCE AFTER RESOURCE HAS PRODUCED MAXIMUM LANDINGS, THEN DECLINED. TOTAL LANDINGS DRUPPED FROM ABOUT 315,000 METRIC TONS IN 1956 TO ABOUT 23,000 IN 1967 AND HAVE RISEN ONLY MODERATELY SINCE THAT TIME. THE RISE AND FALL OF THE INDUSTRIAL FISHERIES, MOSTLY MENHADEN, WAS RESPONSIBLE FOR MOST OF THIS DECLINE, AND THIS HAS MASKED TRENDS IN THE FOOD FISHERIES. ALTOGETHER ABOUT 132 SPECIES OF GROUPS OF SPECIES OF FISHES AND INVERTEBRATES HAVE BEEN REPORTED AS LANDED IN NJ OR NY SINCE 1880. FIFTY OF THESE ARE DISCUSSED AND ILLUSTRATED WITH FIGURES AND TABLES OF LANDINGS. EDIBLE FINFISH SPECIES AS A GROUP REACHED PEAK LANDINGS IN 1939 AND DECLINED FAIRLY STEADILY TO ABOUT ONE-THIRD THAT LEVEL IN THE 1970S. MOLLUSCAN AND CRUSTACEAN SHELLFISH PRODUCTION REACHED TWO PEAKS, IN 1950 AND 1966, THE SECOND CONSIDERABLY HIGHER THAN THE FIRST. THIS RECOVERY OF SHELLFISH LANDINGS IN 1966 WOULD NOT HAVE OCCURRED WERE IT NOT FOR THE RAPID DEVELOPMENT OF THE SURF CLAM FISHERY IN THE 1950S. THE TIMING OF THE DECLINES MAKES IT CLEAR THAT FOREIGN FISHING WAS NOT THE CAUSE, FOR FOREIGN FISHING PROBABLY COULD NOT HAVE AFFECTED THE FISHERIES OF NEW YORK BIGHT BEFORE THE MID-1960S. ACTUALLY, TOTAL CATCHES OF RESOURCES TAKEN ONLY BY DOMESTIC FISHERMEN HAVE DECLINED MORE SHARPLY THAN TOTAL DOMESTIC CATCHES OF SPECIES SHARED WITH FOREIGN FLEETS. FOREIGN FISHING IS BUT A STMPTOM OF THE TROUBLES OF THE DOMESTIC FISHERIES, SOME OF WHICH ARE IMAGINED. THE ILLS OF THE DOMESTIC FISHERIES ARE ECONOMIC AND SOCIO-POLITICAL, AND THEY WILL NOT YIELD EASILY TO SCIENTIFIC SOLUTIONS.

1213 MCHUGH, J.L.

UNITED STATES CLAM INDUSTRY: WHERE IS IT GOING? [1978]

PAGES 7-24 IN PROC OF NORTHEAST CLAM INDUSTRIES: MANAGEMENT FOR THE FUTURE, 27-28 APR 1978, HYANNIS, MA. MA COOP EXTENSION SERVICE, UNIV OF MA, AMHERST, MA

THIS REPORT DESCRIBES VARIOUS ASPECTS OF CLAM PRODUCTION AND INDUSTRY ALONG THE ATLANTIC COAST. THE LARGEST PRODUCTION AREA IS THE GREAT SOUTH BAY IN NY. ALSO DISCUSSED IS THE CONDITION OF THE INSHORE AND SURF CLAM FISHERIES AND THE FAILURE TO MAINTAIN CLAM PRODUCTION. CLAM MANAGEMENT AND REGULATION AND CLAM CULTURE AND HARVESTING TECHNIQUES ARE DISCUSSED ALSO.

1214 MCHUGH. J.L.; J.J.C. GINTER

FISHERIES [1978]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 16. NYSG. ALBANY. NY 129 PP

STATISTICS OF FISHERIES, BOTH DOMESTIC AND FOREIGN, IN THE NEW YORK BIGHT AREA ARE PRESENTED. MAPS AND GRAPHS PROVIDE AN HISTORICAL PICTURE OF PAST TRENDS. DETAILS OF TRENDS IN COMMERCIAL FISHERY LANDINGS ARE GIVEN FOR 14 MAJOR FOOD FINFISH, 6 SPECIES OR GROUPS OF SPECIES USED MOSTLY FOR INDUSTRIAL PURPOSES, AND 6 CRUSTACEAN AND MOLLUSCAN SHELLFISH RESOURCES. BRIEF ACCOUNTS OF 17 MINOR SPECIES ARE INCLUDED. FOREIGN PRESSURE IN THE INTERNATIONAL WATERS OF THE BIGHT BEGAN TO INCREASE STEADILY IN THE 1960S. THE PROBLEM IMPROVED IN 1977 WHEN THE US EXTENDED ITS DOMESTIC FISHERY JURISDICTION TO 200 MI, THUS ASSUMING TOTAL RESPONSIBILITY FOR FISHERY MANAGEMENT OVER THE US CONTINENTAL SHELF. FOREIGN FISHING WITHIN THE 200-MI ECONOMIC ZONE IS NOW PERMITTED ONLY BY SPECIAL PERMIT. THE MID-ATLANTIC REGIONAL FISHERY MANAGEMENT COUNCIL WAS FORMED TO DEVELOP MANAGEMENT PLANS FOR MAJOR FISHERIES 3 MI FROM THE COAST BETWEEN MONTAUK POINT, LONG ISLAND, AND CHESAPEAKE BAY; TO OVERSEE CATCH LIMITS AND ASSESS SURPLUSES; AND TO APPROVE PERMITS ALLOWING FOREIGN FLEETS ACCESS TO DESIGNATED SURPLUS. NEW YORK, NEW JERSEY, PENNSYLVANIA, DELAWARE, MARYLAND AND VIRGINIA FORM THE BASIS OF MEMBERSHIP IN THE COUNCIL.

1215 MCHUGH. J.L.

STATUS OF THE FISHERIES OF THE MIDDLE ATLANTIC BIGHT REGION [1979]

NO 800/1507. NOAA, BOULDER, CO 95 PP NTIS-PB-80-223 399

THE MIDDLE AILANTIC FIGHT REGION (US COASTAL WATERS FROM NY TO VA AND OUT TO THE EDGE OF THE CONTINENTAL SHELF) HAS PRODUCED

MAXIMUM ANNUAL DOMESTIC COMMERCIAL FISH AND SHELLFISH LANDINGS OF ABOUT 1.5 BILLION POUNDS, A MAXIMUM ANNUAL FOREIGN CATCH OF MORE THAN 700 MILLION POUNDS, AND A RECREATIONAL CATCH OF MORE THAN 300 MILLION POUNDS A YEAR. THE HISTORY AND CONDITION OF THE FISHERIES FROM 1887 TO 1976 ARE EXAMINED AND CHARTS OF PERIODIC VARIATIONS IN GROUPS AND TYPES OF LANDINGS ARE DETAILED. THE SIGNIFICANCE OF FOREIGN CATCHES IN THIS REGION IS POINTED OUT. IT IS CONCLUDED THAT MUCH COULD BE DONE TO IMPROVE THE CAPABILITY OF US FISHERMEN TO TAKE ADVANTAGE OF EXTENDED JURISDICTION.

1216 MCILROY, W.; G.C. MCCOYD; M.A. SPEIDEL

CONTINUOUS VERTICAL PROFILE MEASUREMENTS OF PHYSICAL VARIABLES OFF THE SOUTH SHORE OF LONG ISLAND USING A VARIABLE BUOYANCY INSTRUMENT PACKAGE [1975]

PAGES 517-527 IN PROC OF THE 7TH ANN OFFSHORE TECHNOLOGY CONFERENCE, 5 MAY 1975, HOUSTON, TX.

A BRIEF DESCRIPTION IS GIVEN OF A GRUMMAN-DESIGNED OCEANOGRAPHIC INSTRUMENT THAT WAS USED TO OBTAIN VERTICAL PROFILES OF TEMPERATURE, SALINITY, AND CURRENT SPEED AND DIRECTION IN A YEAR-LONG OCEANOGRAPHIC STUDY OF AN AREA OF THE NEW YORK BIGHT. THE VARIABLE BUOYANCY DEVICE THAT CONTROLS THE INSTRUMENTED PACKAGE, THE MOORING SYSTEM, AND THE COMPUTER PROGRAMS THAT ARE USED TO REDUCE THE DATA ARE DISCUSSED. SOME TYPICAL DATA ILLUSTRATE THE POTENTIAL OF THE DEVICE.

1217 MCINTOSH, J.A.; L.D. FARMER

A CENSUS OF NEW YORK HARBOR MARINE TRAFFIC DERIVED FROM SIDE-LOOKING AIRBORNE RADAR DATA [1974]

USCG RESEARCH & DEVELOP CENTER, GROTON, CT NP

THE PURPOSE OF THE REPORT IS TO DOCUMENT THE FINDINGS OF A CENSUS OF NEW YORK HARBOR MARINE TRAFFIC MADE DURING THE PERIOD 15-21 NOVEMBER 1973. THE PURPOSE OF THE CENSUS WAS TO OBTAIN DATA FOR USE BY THE COAST GUARD ON PLANNING FOR A VESSEL TRAFFIC SYSTEM FOR NEW YORK HARBOR. A SIDE-LOOKING AIRBORNE RADAR (SLAR) WAS USED TO MAKE THE CENSUS SO THAT DATA COULD BE READILY OBTAINED AT NIGHT OR DURING POOR VISIBILITY CONDITIONS. THE REPORT CONTAINS A DISCUSSION OF THE MEANS BY WHICH THE SLAR DATA WERE ANALYZED. AS WELL AS THE CENSUS DATA ITSELF.

1218 MCINTOSH, J.A.; L.B. BROWN

STATISTICS ON BRIDGE-TO-BRIDGE FREQUENCY USAGE AT SELECTED SITES IN THE THIRD COAST GUARD DISTRICT [1975]

D-100-75. USCG, GROTON, CIT 45 PP NTIS-AD-A015 936

EQUIPMENT WAS ASSEMBLED AND TESTED TO RECORD THE TIME OF OCCURRENCE AND THE DURATION OF TRANSMISSIONS ON THE VESSEL BRIDGE-TO-BRIDGE RADIO FREQUENCY, WHF-FM CHANNEL 13. THE INPUT TO THIS EQUIPMENT WAS PROVIDED BY MAGNETIC TAPE RECORDINGS PREVIOUSLY OBTAINED AT EACH SITE OVER A 24 HOUR PERIOD OR BY DIRECTLY CONNECTING THE EQUIPMENT TO A WHF-FM MONITOR RECEIVER. MESSAGE LENGTH HISTOGRAMS INDICATED THAT ABOUT 50 PERCENT OF ALL TRANSMISSIONS WERE OF LESS THAN 3 SECONDS IN DURATION AND THAT ABOUT 35 PERCENT OF ALL TRANSMISSIONS WERE OF LESS THAN 10 SECONDS IN DURATION. THE SITES FOR WHICH DATA WAS OBTAINED INCLUDE GOVERNOR'S ISLAND; FORT SCHUYLER, NY; SANDY HOOK, NJ; CAPE HENLOPEN; THE C AND D CANAL; PHILADELPHIA NAVAL SHIPYARD; EATONS NECK, NY; NEW HAVEN AND GROTON, CT.

1219 MCKINNEY, T.F.; D.J.P. SWIFT

SUBMERSIBLE AND SIDE-SCAN SONAR INVESTIGATION OF THE CENTRAL NEW JERSEY CONTINENTAL SHELF [1973]

GEOL SOC AM ABSTR PROG 5(2):195

2 ORDERS OF MORPHOLOGIC ELEMENTS ARE RECOGNIZED: 1ST ORDER RIDGES--14 M HIGH, 2-3 KM APART AND TRENDS OF 53-57 DEGREES; 2ND ORDER SYSTEMS OF RIDGES AND SWALES--2-5 M HIGH, .5-1.5 M APART AND TRENDS OF 35-45 DEGREES. THE 2ND ORDER SYSTEMS ARE SUPERIMPOSED UPON 1ST ORDER CRESTS, TROUGH FLANKS AND TROUGH BOTTOMS. BANDS OF COARSE SHELL PAVEMENT ARE LOCALLY EXPOSED IN TROUGH FLANKS AND BOTTOMS. A THIRD ORDER BEDFORM SYSTEM CONSISTS OF LARGE SCALE CURRENT LINEATIONS OF GROVES AND RIBBONS OR PATCHES WHICH SHOW A STRONG REGIONAL TREND OF 63-66 DEGREES. MOST OF THIS REGIONAL TREND IS MADE UP OF LOW LINEAR BANDS 2.5 TO 11 M WIDE AND 19 TO 38 M APART RIDGES TO 1 M HIGH AND WIDER SEPARATION (TO 76 M) ALSO OCCUR. THE LINEATIONS ARE NOT PRESENT IN THE BOTTOMS OF THE DEEPER TROUGH (24-25f). THEY OCCUR IN VARIOUS STAGES OF DETERIORATION, BEING BEST PRESERVED IN MODERATE TROUGH (21-22f). THE LINEATIONS ARE THOUGHT TO BE A RESPONSE TO A STORM CURRENT FIELD. SMALLER SCALE FORMS INCLUDE MEGARIPPLES AND WAVE RIPPLES. MEGARIPPLE (WAVELENGTH=1.3 M) FIELDS ARE PRESENT IN TWO TRENDS; O-10, AND A STRONGER TREND OF 113-130 DEGREES. THE RELATION OF THE MEGARIPPLES TO THE LINEATIONS IS UNCERTAIN BUT THEY ALSO APPEAR TO BE RELATED TO STORM CURRENTS. THE DATA SUGGESTS THAT THE 1ST AND 2ND ORDER RIDGES DID NOT DEVELOP IN RESPONSE TO THE INFERRED MODERN STORM HYDRAULICS. THE 2ND ORDER SYSTEM MAY HAVE BEEN SUPERIMPOSED ON THE 1ST ORDER AT LOWER SEA LEVELS AS A RESPONSE TO INNER SHELF HYDRAULICS.

1220 MCKINNEY, T.F.; A.E. COK; G.L. FREELAID; D.J.P. SHIFT

SIDE-SCAN SONAR MAPPING OF SEDIMENT FACIES AND DUMP MATERIAL IN NEW YORK BIGHT APEX [1974]

GEOL SOC AM ABSTR PROG 6(1):54

CLOSELY SPACED (2000°) SIDE-SCAN SONAR RECORDS AND 1/2 AND 1 NMI-SPACED GRAB SAMPLING HAVE BEEN USED TO PRODUCE A DETAILED BOTTOM FACIES MAP OF PART OF THE NEW YORK BIGHT APEX. THE DISTRIBUTION OF BOTTOM FACIES CAN BE RELATED TO THE Y-SHAPED, N-S TRENDING HEADWARD POPTION OF THE HUDSON SHELF VALLEY. BOTTOM FACIES INCLUDE: A) SILTY MUD AND FINE MUDDY SAND ALONG THE FLOOR OF THE VALLEY, GENERALLY BELOW 25M; B) ARTIFACT GRAVEL, WELL DISPLAYED BY SONAR MAPPING, IN THE HIGHER SEGMENTS BETWEEN THE BRANCHES OF THE Y AND FORMING THE CASTLE HILL CELLAR DIRT DEPCSIT; C) COARSE SAND AND/OR GRAVEL MOSTLY ON THE IRREGULAR SHALLOW BOTTOM WEST OF THE Y TO THE NJ SHORE; D) FINE TO MEDIUM SAND 1) AS ZONES ALTERNATING WITH ZONES OF COARSE SAND AND TRENDING ENE ALONG WITH THE BOTTOM FABRIC, INCREASING SOUTHWARD RELATIVE TO THE AMOUNT OF COARSER MATERIAL; AND 2) AS A BROAD BANK FACIES TO THE EAST OF THE Y. IN ADDITION, THE SONOGRAPHS REVEAL THE FOLLOWING SMALLER SCALE FEATURES 1) DEGRADED SANDWAVE-LIKE FORMS, ORIENTED NW TO N ON THE BANK EAST OF THE SHELF VALLEY; 2) ELONGATE PATCHES AND BANDS OF FINE TO MEDIUM SAND ACROSS THE COARSER SEDIMENTS; LOCALLY TWO SETS OF PATTERNS SUGGEST BOTH LONGTITUDINAL AND TRANSVERSE ELEMENTS ARE PRESENT; AND 3) DUMP LINEATIONS AND TRAILS ACORSS BOTH SEDIMENT ZONES AND PATCHES.

1221 MCKINNEY, T.F.; W.L. STUBBLEFIELD; D.J.P. SWIFT

LARGE-SCALE CURRENT LINEATIONS ON THE CENTRAL NEW JERSEY SHELF: INVESTIGATIONS BY 2 SIDE-SCAN SONAR [1974]

MAR GEOL 17:79-102

THO MORPHOLOGICAL ORDERS OF RIDGE AND TROUGH TOPOGRAPHY CAN BE RECOGNIZED ON A TERRACED SEGMENT (AT 37 M) OF THE CENTRAL NJ SHELF: (1) A FIRST ORDER SYSTEM WITH RIDGES TO 14 M HIGH, 2-6 KM APART, IN A Z-SHAPED PATTERN TRENDING TO THE NNE, AND (2) A SECOND-ORDER SYSTEM WITH RIDGES 2-5 4 HIGH, 0.5-1.5 KM APART AND TRENDS TO THE NE. SIDE-SCAN MAPPING TOGETHER WITH SUBMERSIBLE OBSERVATIONS AND BOTTOM SAMPLES INDICATE A THIRD-ORDER SYSTEM OF LARGE-SCALE CURRENT LINEATIONS WHICH HAS BEEN IMPRINTED ACROSS THE FIRST- AND SECOND-ORDER SYSTEMS. THE LINEATIONS ARE LOW RELIEF FORMS (TO 1.5 M HIGH) WHICH OCCUR AS ELONGATE ZONES OF TEXTURAL CONTRAST ARRANGED IN FURROWS, BANDS, PATCHES AND RIBBONS AND DISPLAY A UNIFORM DIRECTIONAL TREND TO THE ENE. THE MORPHOLOGY OF THE LINEATIONS APPEAR TO VARY IN RESPONSE TO THE NATURE OF THE BOTTOM. THE LINEATIONS ARE NARROW (10-25 M APART) AND HAVE NO DETECTABLE RELIEF IN TROUGHS AND WIDER (TO 75 M APART) AND HIGHER (TO 1.5 M HIGH) ON RIDGES, ESPECIALLY SECOND-ORDER RIDGES OF FINE SAND. ALSO REVEALED ARE WAVE RIPPLE PATTERNS AND A PATTERN RELATED TO THE OUTCROPPING OF PLEISTOCENE-HOLOCENE UNITS IN TROUGH BOTTOMS AND LOWER FLANKS. IT IS SUGGESTED THAT THE FIRST- AND SECOND-ORDER SYSTEMS DEVELOPED DURING EARLIER STAGES OF THE HOLOCENE TRANSGRESSION IN RESPONSE TO A HYDRAULIC REGIME OF THE INNER SHELF. THE ADJACENT TO A MAJOR ESTUARY. THE SECOND-ORDER SYSTEM DEVELOPED IN SLIGHTLY DEEPER WATER, SUBSEQUENT TO THE RESUMPTION OF THE TRANSGRESSION AFTER THE 37-M STILLSTAND. THE THIRD-ORDER LINEATIONS APPEAR TO BE A RESPONSE TO THE HELICAL-FLOW STRUCTURE

WITHIN THE FLOW FIELD OF A MAJOR SHELF STORM. RIDGES OF THE CENTRAL SHELF MAY BE MAINTAINED BY ALTERNATE PERIODS OF OBLIQUE SWEEPING DURING STORMS, RESULTING IN A NET TRANSPORT OF FINE SAND OUT OF THE TROUGHS AND UP ON THE RIDGES. SUBSEQUENT WAVE REWORKING RETURNS THE FINE SAND TO THE TROUGHS.

1222 MCLAUGHLIN. D.B.: J.A. ELDER: G.T. ORLOB: D.F. KIBLER: D.E. EVENSON

A CONCEPTUAL REPRESENTATION OF THE NEW YORK BIGHT ECOSYSTEM [1975]

NOAA, BOULDER, CO 373 PP NTIS-PB-252 343

THIS MEMORANDUM OFFERS A COMPREHENSIVE, CONCEPTUAL REPRESENTATION OF THE PHYSICAL, GEOLOGICAL, CHEMICAL AND BIOLOGICAL PROCESSES THAT AFFECT THE NEW YORK BIGHT ECOSYSTEM, AS WELL AS SOME SPECIFIC RECOMMENDATIONS SUGGESTING WHERE FIELD AND LABORATORY RESEARCH EFFORTS SHOULD BE UNDERTAKEN TO SUPPORT A SATISFACTORY EVALUATION OF MANAGEMENT ALTERNATIVES IN THE NEW YORK BIGHT. THE REPORT IDENTIFIES THE IMPORTANT PROBLEMS IN THE NEW YORK BIGHT, IN ORDER TO DEVELOP EFFECTIVE STRATEGIES AND RESEARCH EFFORTS TOWARDS SOLVING THEM. THEY ARE: THE MOVEMENT OF UNDESIRABLE MATERIALS ONTO BEACHES, SHELLFISH CONTAMINATION, AND A DECLINE AND INSTABILITY IN MIGRATORY FISHERIES. THE PROBLEM IS DESCRIBED, THE CRITICAL SUBSYSTEMS ARE IDENTIFIED, THEY ARE REVIEWED IN THE LIGHT OF PRESENT KNOWLEDGE, AND A SET OF RECOMMENDATIONS (OR RESEARCH TASKS) FOR FUTURE IMPLEMENTATION IS PROPOSED.

1223 MCLAUGHLIN. D.B.; J.A. ELDER

A CONCEPTUAL REPRESENTATION OF THE NEW YORK BIGHT ECOSYSTEM [1976]

PAGES 249-259 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

LARGE SCIENTIFIC ENTERPRISES NEED EFFECTIVE TECHNIQUES FOR ORGANIZING AND RELATING RESEARCH FINDINGS FROM DIFFERENT FIELDS.
GRAPHICAL REPRESENTATIONS (OR MODELS) OF THE ECOSYSTEM CAN BE PARTICULARLY USEFUL ORGANIZATIONAL TOOLS. THESE CONCEPTUAL MODELS
HELP LAY THE GROUNDWORK FOR DETAILED MATHEMATICAL OR EMPIRICAL DESCRIPTIONS OF ECOLOGICAL PROCESSES; THEY ALSO DEMONSTRATE THE
SCOPE OF THE PROBLEM BEING STUDIES. THE NEW YORK BIGHT ECOSYSTEM MODEL DISCUSSED HERE IS BASED ON A DESCRIPTIVE TECHNIQUE
DEVELOPED BY H.T. ODUM AND WIDELY APPLIED BY OTHERS. THE MODEL IS CONSTRUCTED FROM A FEW BASIC COMPONENTS WHICH FALL INTO THE
FOLLOWING CATEGORIES: ENERGY OR MASS STORAGE COMPARTMENTS; ENERGY OR MASS SOURCES; ENERGY OR MASS FLOW REGULATORS. THESE
COMPONENTS ARE PIECED TOGETHER INTO A COMPREHENSIVE REPRESENTATION OF PHYSICAL, CHEMICAL. AND BIOLOGICAL PROCESSES IN THE
BIGHT. SELECTED ASPECTS OF THE REPRESENTATION ARE EXAMINED AND. WHERE POSSIBLE, MASS AND ENERGY FLUXES ARE ESTIMATED.

1224 MCNAMARA, J.R.

AN OPTIMIZATION MODEL FOR REGIONAL WATER QUALITY MANAGEMENT [1976]

WATER RESOUR RES 12(2):125-134

THE USE OF COMBINATIONS OF POLLUTION ABATEMENT TECHNIQUES WILL BECOME IMPERATIVE IN COMING YEARS AS WASTE LOADS INCREASE AND THE APPLICATION OF SECONDARY LEVEL TREATMENT AT EACH POINT OF DISCHARGE BECOMES INADEQUATE TO MAINTAIN THE DESIRED LEVELS OF WATER QUALITY. AT HIGH LEVELS OF WASTE TREATMENT, COSTS RISE NONLINEARLY WITH THE FRACTION OF WASTE REMOVED. THE MARGINAL COST OF A SERIES OF POLLUTION ABATEMENT TECHNIQUES AT A GIVEN LOCATION IS LIKELY TO BE LESS THAN THE MARGINAL COST OF A SINGLE TECHNIQUE OPEPATED VERY INTENSIVELY. HEREIN, A NONLINEAR PROGRAMMING MUDEL FOR WATER QUALITY MANAGEMENT IS DEVELOPED, CAPABLE OF ASSESSING THE CONTRIBUTIONS OF A WARIETY OF POLLUTION ABATEMENT TECHNIQUES AND COMPATIBLE WITH AN EFFICIENT SOLUTION PROCEDURE. FORMULATED AS A GEOMETRIC PROGRAMING PROBLEM, THE MODEL IS INTENDED TO BE A PRELIMINARY SELECTION DEVICE PERMITTING THE PLANNER TO COMPARE ALTERNATIVE CONFIGURATIONS AND TO SKETCH A ROUGHLY OPTIMAL SOLUTION. IT IS SHOWN THAT THIS FORMULATION PERMITS THE SIMULTANEOUS CONSIDERATION OF WASTE TREATMENT PROCESSES, BYPASS PIPING, FLOW REGULATION, AND ARTIFICIAL AERATION IN

DETERMING A LEA'ST-COST SOLUTION TO A GIVEN WATER QUALITY MANAGEMENT PROBLEM. THE MODEL IS APPLIED TO THE UPPER HUDSON RIVER OF NY.

1225 MEADE, R.; P.L. SACHS; F.T. MANHEIM; J.C. HATHAWAY; D.W. SPENCER

SOURCES OF SUSPENDED MATTER IN WATERS OF THE MIDDLE ATLANTIC BIGHT [1975]

J SEDIMENT PETROL 45(1):171-188

SUSPENDED MATTER COLLECTED IN THE MIDDLE ATLANTIC BIGHT (THE COASTAL SEGMENT OF THE US BETWEEN CAPE COD AND CAPE HATTERAS) IN SEPTEMBER 1969 WAS PREDOMINANTLY ORGANIC: AN AVERAGE OF 80% COMBUSTIBLE ORGANIC MATTER IN SURFACE WATERS AND 40% NEAR BOTTOM. TOTAL SUSPENDED CONCENTRATIONS DECREASED BETWEEN THE INNER SHELF AND THE SHELF BREAK BY AN ORDER OF MAGNITUDE IN BOTH NEAR-SURFACE AND NEAR-BOTTOM WATERS. THE NONCOMBUSTIBLE (ASH) FRACTION OF THE SUSPENDED MATTER DECREASED OVER THE SAME DISTANCE BY ONE ORDER OF MAGNITUDE IN THE NEAR-BOTTOM WATERS AND TWO ORDERS OF MAGNITUDE IN NEAR-SURFACE WATERS. RECENTLY CONTRIBUTED RIVER SEDIMENT IS NOT A SIGNIFICANT CONSTITUENT OF THE SUSPENDED MATTER IN THE WATERS OF THE SHELF. PARTICULARLY THE OUTER SHELF. MOST OF THE INORGANIC MATERIAL IN SUSPENSION REPRESENTS RESUSPENDED BOTTOM SEDIMENTS (AT LEAST SOME OF WHICH ARE RELICT) WHOSE SUSPENDED CONCENTRATIONS ARE INCREASED NOTICEABLY BY STORMS.

1226 MEARS, H.C.: R. EISLER

TRACE METALS IN LIVER FROM BLUEFISH, TAUTOG AND TILEFISH IN RELATION TO BODY LENGTH [1977]

CHESAPEAKE SCI 18 (3):315-318

LIVERS FROM TAUTOG, TAUTOGA ONITIS, TILEFISH, LOPHOLATILUS CHAMAELEONTICEPS, AND BLUEFISH, POMATOMUS SALTATRIX COLLECTED DURING THE SU4MER OF 1971 OFF NJ WERE ANALYZED FOR CD, CR, CU, FE, MN, NI, AND ZN BY ATOMIC ABSORPTION SPECTROPHOTOMETRY. LIVER ASH FROM MALE AND FEMALE TAUTOG CONTAINED DECREASING CONCENTRATIONS OF NI WITH INCREASING BODY LENGTH. SMALLER MALES ALSO CONTAINED GREATER LEVELS OF CR AND CU IN LIVER IHAN LARGER TAUTOGS. LARGER TILEFISH CONTAINED PROPORTIONATELY MORE CD, CU, AND FE IN LIVER THAN SMALLER TILEFISH. DECREASING LEVELS ON MN AND ZN WITH BODY LENGTH WERE APPARENT ONLY F.OR FEMALES. LIVERS FROM LARGER MALE BLUEFISH WERE ASSOCIATED WITH HIGHER CONCENTRATIONS OF FE THAN THOSE FROM SMALLER MALES, WHILE THOSE FROM LARGER FEMALES CONTAINED LOWER CONCENTRATIONS OF CR THAN THOSE FROM SMALLER FEMALES. THE DATA SUGGESTED THAT FUTURE COMPARISONS FOR TRACE METALS WHICH VARY AS A FUNCTION OF SIZE BE MADE ONLY AMONG FISH OF THE SAME LENGTH.

1227 MECCIA, R.M.; W.C. ALLANACH; F.H. GRIFFIS

ENGINEERING CHALLENGES OF DREDGED MATERIAL DISPOSAL [1975]

ASCE J WATERWAYS DIV 101(WWI):1-13

THE US ARMY CORPS OF ENGINEERS HAS BEEN CONCERNED WITH THE DEVELOPMENT OF NAVIGABLE WATERWAYS IN THE US SINCE 1824. IN FULFILLING ITS MISSION, THE CORPS HAS BEEN RESPONSIBLE FOR THE ANNUAL DREDGING OF APPROX 380,000,000 CU YD (290,530,000 M3) OF BOTTOM SEDIMENTS. INCREASING CONCERN HAS DEVELOPED OVER THE IMPACTS OF THE DISPOSAL OF THESE MATERIALS. THE US ARMY ENGINEER WATERWAYS EXPERIMENT STATION IS CONDUCTING A NATIONWIDE RESEARCH PROGRAM TO DEVELOP ENVIRONMENTALLY COMPATIBLE, TECHNICALLY SATISFACTORY, AND ECONOMICALLY FEASIBLE DISPOSAL ALTERNATIVES. INCLUDING CONSIDERATION OF DREDGED MATERIAL AS A MANAGEABLE RESOURCE. PROBLEM IDENTIFICATION AND ASSESSMENTS ARE SUMMARIZED, AND PROGRAM PROGRESS WITH EMPHASIS ON ENGINEERING ASPECTS OF THE STUDY IS EXAMINED.

THE HUDSON RIVER SHAD FISHERY: BACKGROUND, MANAGEMENT PROBLEMS, AND RECOMMENDATIONS [1974]

MSRC, SUNY, STONY BROOK, NY 54 PP

THE HUDSON RIVER SHAD FISHERY HAS DECLINED GREATLY IN LANDINGS, VALUE, AND IMPORTANCE. TO DETERMINE THE CAUSES OF SUCH A DECLINE, THIS STUDY EVALUATES PAST RESEARCH ON THE HUDSON RIVER FISHERY AND ANALYZES RECENT ECONOMIC INFLUENCES. THE REDUCTION IN HUDSON RIVER SHAD LANDINGS IN RECENT TIMES WAS CAUSED INITIALLY BY OVERFISHING DURING WORLD WAR II. A REDUCTION IN DEMAND FOR SHAD AND A MANAGEMENT-INDUCED REDUCTION IN FISHING EFFORT HAS ALLOWED THE HUDSON RIVER SHAD STOCKS TO RETURN TO ABUNDANCE. ECONOMIC PROBLEMS ARE NOW THE MAJOR IMPEDIMENT TO THE REHABILITATION OF THE HUDSON RIVER SHAD FISHERY. THIS STUDY PRESENTS SEVERAL RECOMMENDATIONS FOR IMPROVED MANAGEMENT AND ECONOMIC REHABILITATION OF THE FISHERY.

1229 MEDEIROS, W.H.

LEGAL MECHANISMS TO REHABILITATE THE HUDSON RIVER SHAD FISHERY [1974]

PAPER NO 2-35281. NOAA, BOULDER, CO BO PP

THE HUDSON RIVER SHAD FISHERY HAS GREATLY DECLINED IN LANDINGS, VALUE, AND IMPORTANCE. TO DETERMINE THE CAUSES OF THIS DECLINE, THIS STUDY HAS EVALUATED PAST RESEARCH PERTAINING TO THE HUDSON RIVER FISHERY AND ANALYZED MORE RECENT ECONOMIC INFLUENCES. THE INITIAL RECENT REDUCTION IN HUDSON RIVER SHAD LANDINGS WAS CAUSED BY OVERFISHING DURING WORLD WAR II. A REDUCTION IN THE DEMAND FOR SHAD AND A MANAGEMENT-INDUCED REDICTION IN FISHING EFFORT HAS ALLOWED THE HUDSON RIVER SHAD STOCKS TO RETURN TO ABUNDANCE. ECONOMIC PROBLEMS ARE NOW THE MAJOR IMPEDIMENT TO THE REHABILITATION OF THE HUDSON RIVER SHAD FISHERY. SEVERAL RECOMMENDATIONS PERTAINING TO IMPROVED MANAGEMENT AND ECONOMIC REHABILITATION OF THE FISHERY ARE PRESENTED IN THIS PAPER.

1230 MEDWAY, W.

SUPPURATIVE MENINGOENCEPHALITIS IN A STRANDED PILOT WHALE (GLOBICEPHALA MELAENA) [1978].

AQUAT MAMM 6(3):99-100

AN IMMATURE FEMALE PILOT WHALE STRANDED ALONG THE NEW JERSEY COAST WAS FOUND TO HAVE MENINGOENCEPHALITIS. PATHOLOGICAL FEATURES ARE DESCRIBED, AND A NUMBER OF CAUSES OF MORTALITY AMONG SMALL WHALES AND DOLPHINS ARE REVIEWED.

1231 MEERS, K.F.

A SURVEY AND INVESTIGATION OF THE SHALLOW WATER INVERTEBRATES OF SOUTH OYSTER BAY [1972]

M.A. THESIS. HOFSTRA UNIV, HEMPSTEAD, NY 99 PP

A BRIEF CATALOG OF THE MOST COMMON SHALLOW WATER INVERTEBRATES IN THE BAY WITH SPECIFIC ORGANISM STUDIED FOR VERTICAL ZONATION IN THE BAY. INCLUDES A BRIEF HISTORY AND DISCUSSION OF EELGRASS, ZOSTERA MARINA, BECAUSE OF ITS IMPORTANCE IN THE GREAT SOUTH BAY.

1232 MEHTA, A.J.; H.S. HOU

HYDRAULIC CONSTANTS OF TIDAL ENTRANCES II: STABILITY OF LONG ISLAND INLETS [1974]

OFFICE OF NAVAL RESEARCH, ARLINGTON, VA 103 PP NIIS-AD/A-U04 992

THE SUSCEPTIBILITY OF A TIDAL INLET TO CLOSURE INVOLVES A CONSIDERATION OF THO OPPOSING AGENCIES, NAMELY, (1) THE ONSHORE WAVE ENERGY WHICH TENDS TO DRIVE LITTORAL MATERIAL TOWARDS THE ENTRANCE AND (2) THE TIDAL FLOW WHICH ATTEMPTS TO SCOUR THIS MATERIAL TO KEEP THE ENTRANCE CHANNEL OPEN. THIS CONCEPT HAS BEEN EXPLORED WITH REFERENCE TO THE STABILITY OF THE INLETS ON THE SOUTH SHORE OF LONG ISLAND. GENERALIZED CRITERION FOR STABILITY IS PROPOSED, AND IT IS FOUND THAT THIS CRITERION CAN BE USED TO CLASSIFY INLETS RANGING IN SIZE FROM A LABORATORY MODEL TO LARGE NATURAL ENTRANCES.

1233 MEHTA, B.M.; R.C. AHLERT; S.L. YU

STOCHASTIC VARIATION OF WATER QUALITY OF THE PASSAIC RIVER [1975]

WATER RESOUR RES 11(2):300-308

THE STOCHASTIC STRUCTURES OF SOME WATER QUALITY TIME SERIES WERE EXAMINED. THESE TIME SERIES INCLUDE DAILY OBSERVATIONS IN STREAMFLOW, WATER TEMPERATURE, HOD, AND DISSOLVED OXYGEN DEFICIT. AUTOREGRESSIVE INTEGRATED MOVING AVERAGE (ARIMA) MODELS WERE USED TO DESCRIBE THE RANDOM COMPONENTS OF THESE TIME SERIES. IT WAS FOUND THAT EXCEPT FOR THE BOD THE ARIMA MODELS COULD PROVIDE VERY SATISFACTORY RESULTS.

1234 MELLOR, G.L.; A.F. BLUMBERG

NUMERICAL SIMULATION OF THE NEW YORK BIGHT COASTAL WATERS [1978]

NJSG, NJ MARINE SCIENCES CONSORTIUM. HIGHLANDS. NJ 13 PP

THE CONSTRUCTION AND IMPLEMENTATION OF A FULLY THREE-DIMENSIONAL NUMERICAL MODEL CAPABLE OF PREDICTING THE DYNAMICS AND THERMODYNAMICS OF THE NEW YORK AND MIDDLE ATLANTIC BIGHTS ARE PRESENTED. PRELIMINARY RESULTS INDICATE THAT THE MODEL IS OPERATIONAL AND PLANS FOR ITS VERIFICATION AND USE ARE DISCUSSED.

1235 MENDEZ, A.; ET.AL.

MESA NEW YORK BIGHT PROJECT WINKLER OXYGEN DATA EXPANDED WATER COLUMN CHARACTERIZATION CRUISES (XWCC 2 TO XWCC 24) NOAA SHIPS RESEARCHER AND GEORGE B. KELEZ 1975-1979 [1981]

DR-OMPA-2. NOAA, BOULDER, CO 64 PP

DURING THE PERIOD OF FEB 1975 TO AUG 1979 23 OCEANOGRAPHIC CRUISES WERE MADE BY THE NOAA SHIPS RESEARCHER AND GEORGE B. KELEZ IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISES WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS. AND TO PROVIDE A BASELINE TO BE USED IN ASSESSING THE IMPACTS OF CONTAMINANTS IN THE NEW YORK BIGHT. THIS REPORT PRESENTS WINKLER DISSOLVED OXYGEN VALUES FROM SAMPLES COLLECTED IN THE NEW YORK BIGHT DURING EXPANDED WATER COLUMN CHARACTERIZATION CRUISES (XWCC-2 TO XWCC-24) CONDUCTED IN THIS PERIOD.

1236 MENZIE. C.A.

PRODUCTIVITY OF CHIRONOMID LARVAE IN A LITTORAL AREA OF THE HUDSON RIVER ESTUARY (1978)

PH.D. THESIS. CUNY, NEW YORK, NY NP

CHIRONOMID PRODUCTION IN A LITTORAL COVE OF BOWLINE POND, AN EMBAYMENT OF THE HUDSON RIVER ESTUARY, WAS ESTIMATED TO BE 15-19 G/M2/YR (DRY WEIGHT) DURING 1975. ESTIMATES WERE BASED ON 3 SPECIES THAT COMPRISED MORE THAN 98% OF THE TOTAL NUMBER OF CHIRONOMID LARVAE. DEPENDING ON THE SPECIES, THE HYNES & COLEMAN, ALLEN CURVE, OR TURNOVER RATIO METHODS WERE USED IN

CALCULATING PRODUCTIVITY. DATA USED IN THESE CALCULATIONS WERE OBTAINED FROM A FIELD SURVEY OF CHIRONOMID STANDING CROPS AND AGE STRUCTURE AS WELL AS ON LABORATORY OBSERVATIONS OF DEVELOPMENT RATES. THE MOST PRODUCTIVE SPECIES WERE DICROTENDIPES MODESTUS, WHICH LIVED IN THE SEDIMENTS AS WELL AS ON THE AQUATIC PLANT MYRIOPHYLLUM SPICATUM: CRICOTOPUS SYLVESTRIS. WHICH LIVED PRIMARILY ON AQUATIC PLANTS; AND CHIRONOMUS ATTENUATUS, WHICH LIVED SOLELY IN THE SEDIMENTS. ABUNDANCE OF CHIRONOMIDS IN THE SEDIMENTS OF THE COVE AVERAGED 13,600 LARVAE/M2 AND RANGED UP TO 20,475/M2; ABUNDANCE OF CHIRONOMIDS LIVING ON PLANTS IN THE COVE AVERAGED 18.300 LARVAE/M2 AND RANGED UP TO 51,200/M2. TOTAL ABUNDANCE OF INVERTEBRATES RETAINED ON A D.12 MM MESH SELVE AVERAGED 124.600 ORGANISMS/M2 (SEDIMENT AND PLANT POPULATIONS COMBINED) AND RANGED UP TO 201,200/M2. PRODUCTION OF CHIRONOMIDS IN THE LITTORAL COVE IS ESTIMATED TO BE OVER TWENTY TIMES GREATER THAN THAT IN SUBLITTORAL AREAS OF THE SAME REACH OF THE HUDSON. FACTORS CONSIDERED MOSI SIGNIFICANT IN CONTRIBUTING TO THE PRODUCTIVITY OF LITTORAL CHIRONOMIDS INCLUDE: (1) THE PRESENCE OF AQUATIC PLANTS WHICH PROVIDE ADDITIONAL HABITAT FOR SUPPORT, AND (2) THE MORE RAPID DEVELOPMENT RATES OF CHIRONOMID SPECIES ASSOCIATED WITH AQUATIC PLANTS. SPECIES LIVING ON THE PLANTS EXHIBITED 3-5 GENERATIONS PER YEAR WHILE THOSE LIVING SOLELY IN THE SEDIMENTS EXHIBITED 1-2 GENERATIONS. LARVAL DEVELOPMENT OF CRICOTOPUS SYLVESTRIS AND DICROTENDIPES MODESTUS (SPECIES WHICH LIVED ON THE PLANTS) WAS COMPLETED IN 9 AND 14 DAYS RESPECTIVELY AT 22 C IN THE LABORATORY. BASED ON A STUDY OF C. SYLVESTRIS. APPROXIMATELY 30% OF PHODUCED CHIRONOMID BIOMASS LEFT THE LITTORAL SYSIEM AS ADULT EMERGENCE. OF THE 70% THAT REMAINED WITHIN THE SYSTEM. 88% WAS CONSUMED BY NAIADS OF THE DAMSELFLY ENALLAGMA SPP. AND 12% WAS LOST TO OTHER SOURCES OF MORTALITY. THE IMPORTANCE OF ENALLAGMA AS A PREDATOR WAS SHOWN IN CAGE EXPERIMENTS CONDUCTED IN THE FIELD AS WELL AS IN FEEDING RATE EXPERIMENTS CONDUCTED IN THE LABORATORY. THE CAGE EXPERIMENTS WERE CONDUCTED TO EVALUATE THE EFFECTS OF FISH PREDATION BY EXCLUDING THEM FROM WITHIN THE CAGES AND MEASURING THE CHANGES IN CHIRONOMID STANDING CROPS. HOWEVER. AT THE END OF THE EXPERIMENTS. CHIRONOMID STANDING CROPS WERE LOWER INSIDE THE CAGES THAN OUTSIDE; THIS UNEXPECTED RESULT IS ATTRIBUTED TO THE HIGHER STANDING CROPS OF ENALLAGMA SPP. OBSERVED WITHIN THE CAGES. IN THE LABORATORY, NAIADS OF ENALLAGMA SPP. CONSUMED DAILY AN AVERAGE OF 22% OF THEIR BODY WEIGHT IN CHIRONOMID BIOMASS. CHIRONOMIDS WERE EATEN BY OTHER INVERTEBRATE PREDATORS AS WELL AS BY FISH. INVERTEBRATE PREDATORS OF CHIRONOMIDS (INCLUDING DAMSELFLY NAIADS AND AMPHIPODS) ALSO ARE EATEN BY FISH. THE RELATIVELY HIGH PRODUCTIVITY OF LITTORAL CHIRONOMIDS (AS COMPARED TO THE SUBLITTORAL), AND THE OBSERVATIONS THAT CHIRONOMIDS ARE EATEN BY FISH AND INVERTEBRATES (PREYED UPON BY FISH) SUGGESTS THAT. ALTHOUGH THE LITTORAL AREAS COMPRISE ONLY A SMALL PART OF THE HUDSON RIVER, THEY MAY BE IMPORTANT TO THE SUPPORT OF HUDSON RIVER FISH SPECIES.

1237 MENZIE, C.A.

GROWTH OF THE AQUATIC PLANT MYRIOPHYLLUM SPICATUM IN A LITTORAL AREA OF THE HUDSON RIVER ESTUARY (1979)

AQUAT BOT 6(4):365-375

GROWTH OF M. SPICATUM, IN AN ESTUARINE (0-6 0/00 SALINITY) LITTORAL AREA WAS EXAMINED FOR A 1 YR PERIOD. STANDING CROP OF THE PLANTS RANGED FROM 0 G/M? IN WINTER TO 60 G/M2 (DRY WT) IN SUMMER. A SIGNIFICANT REDUCTION IN STANDING CROP DURING AUG COULD BE THE RESULT OF HIGH TEMPERATURES (UP TO 42 C) OBSERVED IN THE PLANT STAND JUST PRIOR TO THE REDUCTION IN STANDING CROP. MAXIMUM STANDING CROP OF M. SPICATUM IN THIS STUDY WAS LESS THAN THAT OBSERVED FOR THIS PLANT IN SOME FRESHWATER LAKES AND PONDS. LOWER STANDING CROP OF M. SPICATUM IN THE PRESENT STUDY IS ATTRIBUTED TO PHYSICAL FACTORS. THE ESTUARINE LITTORAL AREA EXPERIENCED LOWER LIGHT PENETRATION, MORE DYNAMIC CURRENTS, AND COARSER SEDIMENTS THAN THE OTHER AREAS STUDIED. A NEGATIVE CORRELATION BETWEEN PERCENT COMPOSITION OF LEAF BLOMASS AND TOTAL PLANT STANDING CROP IS ATTRIBUTED TO SLOUGHING OF OLD LEAVES AS THE PLANT STEMS GROW. PARTICULATE MATERIAL ON THE PLANTS RANGED BETWEEN 0.8 AND 3.8 G/G M. SPICATUM BLOMASS AND CONSTITUTED MORE MATTER IN THE LITTORAL AREA THAN DID THE PLANTS.

1238 MENZIE, C.A.

THE CHIRONOMID (INSECTA: DIPTERA) AND OTHER FAUNA OF A MYRIOPHYLLUM SPICATUM L. PLANT BED IN THE LOWER HUDSON RIVER [1980]

ESTUARIES 3(1):38-54

THE BENTHIC FAUNA OF A SMALL COVE OF THE HUDSON R. CONTAINING M. SPICATUM, WAS STUDIED FOR ONE YEAR. THE FAUNA WAS CHARACTERISTIC OF OLIGONALINE ZONES OF US EAST COAST ESTUARTES. TOTAL ABUNDANCE OF INVERTEBRATES RETAINED ON A 0.12 MM MESH SIEVE AVERAGED 124.631 ORGANISMS/M2 (SEDIMENT AND PLANT POPULATIONS COMBINED) AND RANGED UP TO 196.000/M2. DURING THE MAY-AUG

PERIOD, INVERTEBRATES LIVING ON THE PLANTS COMPRISED 16-35% OF THE INVERTEBRATE FAUNA IN THE COVE. CHIRONOMID LARVAE WERE THE MOST ABUNDANT ORGANISMS ON PLANTS AND THE THIRD MOST ABUNDANT IN THE SEDIMENTS. TWO ASSEMBLAGES OF CHIRONOMID SPECIES WERE RECOGNIZED: ONE LIVED SOLELY IN SEDIMENTS, THE OTHER LIVED PRIMARILY ON THE PLANTS. CHIRONOMUS DECORUS AND TANYTARSUS SP. DOMINATED THE FORMER GROUP AND CRICOTOPUS SYLVESTRIS, THE LATTER. THE CHIRONOMID DICROTENDIPES MODESTUS UTILIZED BOTH HABITATS. DURING THE MAY-AUGUST PERIOD, CHIRONOMID BIOMASS ON THE PLANTS COMPRISED APPROXIMATELY 50% OF TOTAL CHIRONOMID BIOMASS IN THE COVE. THE MEAN DRY WEIGHT BIOMASS OF CHIRONOMIDS IN THE COVE. (1.6 G/MZ) IS ESTIMATED TO BE 16 TIMES GREATER THAN THAT OF THE FAUNA IN THE DEEPER AREAS OF THE KIVER. BECAUSE CHIRONOMID LARVAE ARE EATEN BY FISH AND INVERTEBRATES, SHALLOW MATER REGIONS WITH THEIR RICH CHIRONOMID (AND OTHER FAUNA) MAY CONTRIBUTE IMPORTANTLY TO THE TROPHIC DYNAMICS OF ESTUARINE SYSTEMS.

1239 MERRIAN, D.F. (EDITOR)

QUANTITATIVE TECHNIQUES FOR THE ANALYSIS OF SEDIMENTS: A 9TH INTERNATIONAL SEDIMENTOLOGICAL CONGRESS NICE (FRANCE) 8 JULY 1975
[1976]

PERGANON PRESS. OXFORD. UK 180 PP

A PRESENTATION OF 13 PAPERS ON VARIOUS ASPECTS OF SEDIMENTOLOGICAL DATA ANALYSIS INCLUDES A PAPER ON THE SEDIMENTARY ENVIRONMENTAL ANALYSIS OF LONG ISLAND SOUND WITH MULTIVARIATE STATISTICS.

1240 MERRILL, A.S.; J.D. DAVIS; K.O. EMERY

THE LATITUDINAL AND BATHYMETRIC RANGES OF LIVING AND FOSSIL MESODESMA ARCTATUM (BIVALVIA) WITH NOTES ON HABITS AND HABITAT REQUIREMENTS [1978]

NAUTILUS 98(3):108-112

LIVING ADULT MESODESMA ARCTATUM RANGE FROM BELLE ISLE STRAIT BETWEEN LABRADOR AND NEWFOUNDLAND S TO THE EASTERN SHORE OF LONG ISLAND, NY. A COMPANION SPECIES, MESODESMA DEAURATUM, IS RESTRICTED TO THE ST. LAWRENCE ESTUARY AND THE WESTERN PORTION OF THE NORTH SHORE OF THE GULF OF ST. LAWRENCE. BOTH BIVALVES ARE INTERTIDAL RESIDENTS GENERALLY RESTRICTED TO WELL-SORTED SAND AND GRAVEL IN SHALLOW WATER PARTICULARLY ADJACENT TO THE MOUTHS OF STREAMS AND TIDAL INLETS. FOSSILS OF M. ARCTATUM RANGE FROM HARE ISLAND, WESTERN GREENLAND, TO CAPE HATTERAS, NC. FOSSILS ARE COMMON ON THE MIDDLE ATLANTIC SHELF TO A DEPTH OF 355 M AND THEY EVEN HAVE BEEN TRANSPORTED BEYOND THE SHELF BY STRONG CURRENTS TO THE FLOOR OF THE HUDSON CANYON AT DEPTHS OF AT LEAST 3,473 M. RADIOCARBON DATING INDICATES THAT MANY OF THESE FOSSILS NOW FOUND AT LATITUDES AND DEPTHS BEYOND THE PRESENT RANGE LIVED DURING THE HOLOCENE STAGE OF THE QUATERNARY.

1241 MERRILL, A.S.; R.C. BULLOCK; D.R. FRANZ

RANGE EXTENSION OF MOLLUSKS FROM THE 41DDLE ATLANTIC BIGHT [1978]

NAUTILUS 92(1):34-40

NEW NORTHERN AND SOUTHERN RANGE AND DEPTH EXTENSIONS OFF THE EASTERN US OF 67 SPECIES OF MOLLUSKS COLLECTED ALIVE BY R/V DELAWARE CRUISE 60-7 ARE REPORTED, INCLUDING 3 SCAPHOPODS, 30 GASTROPODS AND 34 BIVALVES. CYLICHNA LINEARIS JEFFREYS (OPISTHORRANCHIATA: CYLICHNIDAE) IS REPORTED IN WESTERN ATLANTIC WATERS FOR THE FIRST TIME.

1242 MEYER, G.C.; J.L. VERBER; W.N. ADAMS; J.L. GAINES; P. SMITH

TOTAL AND FECAL COLIFORM LEVELS IN WATERS AND SEDIMENTS FROM THE ATLANTIC AND LONG BEACH OFFSHORE AREA OF THE NEW YORK BIGHT, 15-21 OCT 1974 [1974]

US DEPT HEW AND US FDA, WASHINGTON, DC 10 PP

DATA FROM AN ONGOING MONITORING AND EVALUATION IN THE NEW YORK BIGHT TO CLASSIFY SANITATION CONDITIONS OF SHELLFISHING AREAS IS PRESENTED. A 154 SQ MI AREA IS CLOSED DUE TO UNSATISFACTORY CONDITIONS. STATIONS OFF LONG BEACH ARE SATISFACTORY, BUT MONITORING MUST BE CONTINUED.

1243 MEYERS, T.R.; T.K. SAWYER; S.A. MACLEAN

HENNEGUYA SP. (CNIDOSPORA:MYXOSPORIDA) PARASITIC IN THE HEART OF THE BLUEFISH, POMATOMUS SALTATRIX [1977]

J PARASITOL 63(5):890-896

A MYXOSPORIDAN PARASITE, HENNEGUYA SP, WAS DISCOVERED IN THE BULBUS AND TRUNCUS ARTERIOSUS OF BLUEFISH, P. SALTATRIX. INFECTED FISH WERE CAPTURED FROM THE ATLANTIC OCEAN NEAR MONTAUK POINT, LONG ISLAND, NY, RARITAN BAY, NJ, AND CHESAPEAKE BAY, MD. COMPARATIVE FEATURES OF MATURE SPORES SHOWED THAT THEY WERE SIMILAR TO THOSE OF HENNEGUYA SEBASTA MOSER AND LOVE 1975, FROM THE BULBUS ARTERIOSUS OF SEVEN SPECIES OF CALIFORNIA ROCKFISH. STUDIES ON GROWTH STAGES OF THE PARASITE FROM BOTH HOST SPECIES ARE NECESSARY BEFORE A DEFINITE IDENTIFICATION OF THE BLUEFISH PARASITE CAN BE MADE.

1244 MEYERS, T.R.

PREVALENCE OF FISH PARASITISM IN RARITAN BAY, NEW JERSEY [1978]

PARASIT PROC HELMINTHOL SOC WASH 45(1):120-128

A BASELINE STUDY WAS MADE IN SOUTHERN RARITAN BAY, NJ FROM MAR THROUGH AUG 1974 TO INVENTORY THE PARASITES OF FISH IN THAT AREA. APPROXIMATELY 200 FISH REPRESENTING 16 SPECIES WERE EXAMINED AND THE PREVALENCE AND INTENSITY OF EACH PARASITE SPECIES WAS RECORDED. PARASITES IDENTIFIED REPRESENTED 6 GENERA OF NEMATODES, 8 OF CESTODES, 9 OF MONOGENETIC TREMATODES, 8 OF DIGENETIC TREMATODES, 4 OF ACANTHOCEPHALANS, 5 OF COPEPODS, AND 1 GENUS EACH OF ANNELIDS, ISOPODS, AND PROTOZOANS. RESULTS OF THE SURVEY ARE DISCUSSED WITH RESPECT TO PARASITE PREVALENCE AND INTENSITY, OBSERVED GROSS PATHOLOGY IN SEVERAL FISH SPECIES, AND PROBABLE REASONS FOR THE ABUNDANCE OF CERTAIN PARASITES.

1245 MEYERS, T.R.

A REO-LIKE VIRUS ISOLATED FROM JUVENILE AMERICAN OYSTERS (CRASSOSTREA VIRGINICA) [1979]

SG-44-S008-8. NOAA. BOULDER CO 12 PP NTIS-P880-160 898

A FILTERABLE AGENT, DESIGNATED 13P2 WAS ISOLATED FROM HUMOGENIZED JUVENILE CYSTER TISSUE INCCULATED ON TO BLUEGILL FRY (BF-2) CELL CULTURES. THE CYSTERS WERE FROM A HATCHERY ON LONG ISLAND SOUND, NY. SUCCESSIVE PASSAGES RESULTED IN PROGRESSIVE CYTOPATHIC EFFECTS (C.P.£.) CONSISTING OF DISCRETE PLAQUES CONTAINING LARGE SYNCYTIA SEEN WITHIN 2 TO 3 DAYS IN CULTURES HELD AT 15C. THE AGENT WAS CONCENTRATED FROM SUPERNATANT FLUIDS BY ULTRACENTRIFUGATION. NEGATIVE STAINED PREPARATIONS EXAMINED BY ELECTRON MICROSCOPY REVEALED ICOSAHEDRAL PARTICLES WITH A MEAN DIAM. OF 79 NM. VIRUS REPLICATION IN TISSUE CULTURE OCCURRED AT BOTH 15 AND 23 C. SUSCEPTIBLE FISH CELLS IN ADDITION TO THE BF-2 INCLUDED BROWN BULLHEAD, ATLANTIC SALMON, GUPPY EMBRYO AND WALLEYE FRY LINES. LIMITED C.P.E OCCURPED IN ATLANTIC SALMON HEART CELLS WHILE RAINBOW TROUT GONAD. RAINBOW TROUT SPLEEN AND FATHEAD MINNOW CELLS WERE REFRACTORY TO CYTOPATHIC CHANGES. BIOCHEMICAL AND PHYSICAL CHARACTERISTICS SUGGESTED THE 13P2 VIRUS BELONGED TO THE FAMILY REOVIRIDAE. THE POSSIBLITY THAT THIS VIRUS IS A KNOWN REOVIRUS, PRESENT ONLY AS A CONTAMINANT, WAS RULED OUT ON THE BASIS OF SEROLOGICAL RESULTS AND FAILURE OF AVIAN OR MAMMALIAN CELLS TO SUPPORT ITS GROWTH. THE 13P2 AGENT MAY BE AN UNDESCRIBED VIRUS. FURTHER INVESTIGATIONS CONCERNING THE IDENTITY OF THIS VIRUS AND ITS CAPABILITIES AS A PATHOGEN IN FISH AND SHELLFISH ARE UNDER WAY.

1246 MEYERS T.R.

PRELIMINARY STUDIES ON A CHLAMYDIAL AGENT IN THE DIGESTIVE DIVERTICULAR EPITHELIUM OF HARD CLAMS MERCENARIA MERCENARIA (L.) FROM GREAT SOUTH BAY, NEW YORK [1979]

J FISH DISEASE 2(3):179-189

THE PREVALENCE OF A CHLAMYDIAL INFECTION IN HATCHERY-REARED ADULT MERCENARIA MERCENARIA, FROM GREAT SOUTH BAY, LONG ISLAND, NY WAS RELATIVELY HIGH AND SEASONALLY STABLE. INFECTION OCCURRED EARLY IN LIFE WHILE JUVENILE CLAMS WERE STILL WITHIN THE HATCHERY. FLUORESCENT ANTIBODY TESTS SUGGESTED THAT THE CLAM AGENT SHARES THE GROUP ANTIGEN SPECIFIC FOR CHLAMYDIA, BUT TO A LESSEN DEGREE THAN A KNOWN CHLAMYDIAL STRAIN USED AS A POSITIVE CONTROL. THE METHOD OF GIMENEZ FAILED TO STAIN ELEMENTARY BODIES IN CLAM CELL INCLUSION BODIES. BASED ON THE OBSERVATIONS OF THIS STUDY, THE INCLUSION BODY AGENT IN THE HARD CLAM DIFFERS FROM KNOWN STRAINS OF CHLAMYDIA. CHARACTERIZATION OF THE CLAM CHLAMYDIA MUST AWAIT THE SUCCESSFUL PROPAGATION OF THE AGENT.

1247 MEYERS, T.R.

EXPERIMENTAL PATHOGENICITY OF REOVIRUS 13P 2 FOR JUVENILE AMERICAN DYSTERS CRASSOSTREA VIRGINICA (GMELIN) AND BLUGILL FINGERLINGS LEPOMIS MACROCHIRUS (RAFINESQUE) [198]]

J FISH DISEASE 3:187-201

THE OBJECTIVE OF THIS STUDY WAS TO DETERMINE IF THE 13P 2 VIRUS COULD REPLICATE OR PRODUCE DISEASE IN EITHER JUVENILE AMERICAN OYSTERS OR YOUNG-OF-THE-YEAR BLUEGILLS. PREVIOUS RESEARCH HAD RAISED THE POSSIBLITY THAT THE AMERICAN OYSTER WAS THE NATURAL HOST OF THIS VIRUS. IN THIS STUDY, THE AUTHOR EXPOSED BOTH YOUNG AMERICAN OYSTERS AND YOUNG BLUEGILL FISH, WHOSE CELLS HAD SHOWN HIGH SUSCEPTIBILITY TO THE VIRUS, TO 13P 2 VIRUS IN A SEAWATER ENVIRONMENT. THE RESULTS WERE MIXED. THE OYSTERS DID NOT SEEM TO BE HARMED BY THE VIRUS, LEADING THE AUTHOR TO QUESTION WHETHER THIS ANIMAL IS THE NATURAL HOST. HOWEVER, MANY OF THE BLUEGILL FISH DIED. THE IMPLICATION IS THAT THE 13P 2 VIRUS IS INDEED AN IMPORTANT NEW PATHOGEN, BUT MORE NEEDS TO BE KNOWN ABOUT ITS ORIGINS AND BEHAVIOR. A CAREFUL PRESENTATION OF METHODS AND DATA GUIDES THE READER THROUGH THE COURSE OF THE RESEARCH.

1248 MEZA, 4.P.

EVIDENCE FOR ONSHORE DEPOSITION OF PLEISTOCENE CONTINENTAL SHELF CLAYS [1977]

MAR GEOL 23(3):M27-M35

CLAY BALLS DEPOSITED AS A WASHOVER FAN AT STONE HARBOR, NJ, ARE PROBABLY FRAGMENTS OF A BED OF PLEISTOCENE CONTINENTAL SHELF CLAY, BASED ON PHYSICAL CHARACTERISTICS, CLAY MINERALOGY, AND RADIOCARBON AGES OF 20,135-24,630 YR BP. THEY MAY NOT ALL ORIGINATE IN THE SAME AREA AND ARE PROBABLY UNDERGOING MIXING WITH MODERN ORGANIC MATERIAL.

1249 MICHAEL, A.D.

STRUCTURE AND STABILITY IN THREE MARINE BENTHIC COMMUNITIES IN SOUTHERN NEW ENGLAND [1976]

PAGES 109-125 IN B. MANDWITZ, ED. PROC OF CONFERENCE, EFFECTS OF ENERGY-RELATED ACTIVITIES ON THE ATLANTIC CONTINENTAL SHELF, BROOKHAVEN NAT'L LAB. 10-12 NOV 1975. BNL. UPTON. NY

ALTHOUGH INFORMATION ON THE SHELF BENTHOS IS SCANT, IT IS KNOWN WHAT TYPES OF SPECIES ARE PRESENT AND THEIR APPROXIMATE
ABUNDANCES (WITHIN AN ORDER OF MAGNITIDE). THERE IS A HIGH DEGREE OF OVERLAP BETWEEN THE DENTHOS OF LARGE OPEN EMBAYMENTS SUCH

AS CAPE COD BAY AND THE ADJACENT CONTINENTAL SHELF. THE MAJOR CHANGE IN BENTHIC FAUNA OCCURS ON THE LOWER CONTINENTAL SLOPE. IN SPITE OF THE SCANT INFORMATION AVAILABLE FOR THE SHELF BENTHOS AND THE INADEQUACIES OF INSHORE DATA. SOME SIGNIFICANT ADVANCES HAVE RECENTLY BEEN MADE. THE MORE NUMEROUS DATA FROM INSHORE AREAS MAKE US MORE COGNISANT OF THE SAMPLING PROBLEMS AND THE SPATIAL AND TEMPORAL VARIATION IN BENTHIC COMMUNITIES. THE APPLICATION OF THE CONCEPT OF OPPORTUNISM AND DATA FROM COMMUNITIES RESPONDING TO STRESS IN LONG ISLAND SOUND AND BUZZARDS BAY HAS IMPROVED UNDERSTANDING OF THE BIOLOGY OF THESE SYSTEMS.

1250 MILLER, C.M.; R.H. LINDERMANN

AN ASSESSMENT OF PELECYPOD POPULATION STRUCTURE FOSSILIZATION PUTENTIAL IN BEACH AND INTERTIDAL SEDIMENTS FORM NORTHERN LONG ISLAND SOUND [1979]

GEOL SOC AM ABSTR PROG 11(1):45 ABS ONLY

VALVES OF THE SUBTIDAL PELECYPOD ANADARA OVALIS WERE SIEVED FROM THE BEACH AND MUDDY INTERTIDAL SEDIMENTS OF LONG ISLAND SOUND, AT GUILFORD, CT, TO ASSESS THE FOSSILIZATION POTENTIAL OF ACCURATE POPULATION DYNAMICS DATA WITHIN THESE ENVIRONMENTS. 2000 VALVES WERE COLLECTED, MEASURED, AND CHARACTERIZED AS TO LEFT OR RIGHT, AND AGE AT DEATH. A STATISTICALLY SIGNIFICANT DIFFERENCE WAS FOUND BETWEEN THE NUMBERS OF RIGHT AND LEFT VALVES OF ALL SIZES FROM BOTH ENVIRONMENTS. HISTOGRAMS OF SIZE-FREQUENCY, AGE-FREQUENCY, AND MORTALITY RATES DERIVED FROM BOTH SAMPLE SITES WERE FOUND TO DIFFER GREATLY FROM THOSE OF LOCALLY EXTANT POPULATIONS. IT IS CONCLUDED THAT BEACH AND INTERTIDAL DEPOSITS PRESERVED IN THE ROCK RECORD CAN NOT CONTAIN THE RAW DATA NECESSARY IN THE STUDY OF FOSSIL POPULATION DYNAMICS. IT IS FURTHER CONCLUDED THAT SHALLOW SUBTIDAL DEPOSITS FROM WHICH THE VALVES WERE DERIVED WILL ALSO PROVIDE SPURIOUS INFORMATION, AND THAT ACCURATE DATA ON THE POPULATION STRUCTURES OF SHELLED FAUNA IS POTENTIALLY RECORDED ONLY IN QUIET WATER DEPOSITS.

1251 MILLER, D.L.

ICHTHYOPLANKTON OF GREAT SOUTH BAY, NEW YORK [1977]

M.S. THESIS. ADELPHI UNIV, GARDEN CITY, NY 66 PP

THE ICHTHYOPLANKTON OF GREAT SOUTH BAY, NY WERE SAMPLED TWICE-MONTHLY FROM NOV 1975 TO NOV 1976. 6 STATIONS WERE CHOSEN TO REPRESENT A GRADIENT IN BOTH TEMPERATURE AND SALINITY. 16 SPECIES REPRESENTING 13 FAMILIES WERE FOUND IN TOW-NET COLLECTIONS. THO PEAKS IN SEASONAL ABUNDANCE WERE OBSERVED. THE GREATEST PEAK OCCURRED IN WINTER WITH AMMODYTES AMERICANUS DOMINATING. A SUMMER PEAK CONSISTED OF MANY RESIDENT SPRING AND EARLY SUMMER SPAWNERS SUCH AS SYNGNATHUS FUSCUS, SPAEROIDES MACULATUS, MENIDIA, AND ANCHOA MITCHILLI. JUNE WAS THE MOST DIVERSE MONTH WITH 9 SPECIES TAKEN. NO SIGNIFICANT DIFFERENCE WAS FOUND IN HORIZTONTAL DISTRIBUTION OF FISH LARVAE. IT WAS POSSIBLE TO DEMONSTRATE CERTAIN SPECIES HAD A GREATER AFFINITY BETWEEN THIS SURVEY AND PERLMUTTER'S (1939) STUPY. RESULTS SHOW THAT GREAT SOUTH BAY IS AN IMPORTANT SPAWNING AND NURSERY GROUND FOR MANY FORAGE AND BAIT FISH. APPARENTLY MOST GAME AND ECONOMICALLY IMPORTANT SPECIES UTILIZE AREAS OUTSIDE GREAT SOUTH BAY FOR SPAWNING.

1252 MILLER, D.W.; F.A. DELUCA; T.L. TESSIER

GROUNDHATER CONTAMINATION IN THE NORTHEAST STATES [1974]

US EPA, NEW YORK, NY 338 PP

AN EVALUATION OF PRINCIPAL SOURCES OF GROUNDWATER CONTAMINATION HAS BEEN CARRIED OUT IN 11 NORTHEAST STATES, INCLUDING ALL OF NEW ENGLAND, NY, NJ, PA, MD, AND DE. THE FINDINGS OF THIS STUDY HAVE BEEN USED TO DETERMINE PRIORITIES FOR RESEARCH INTO WAYS TO CORRECT EXISTING SOURCES OF CONTAMINATION AND TO POINT OUT DEFICIENCIES IN PRESENT CONTROL METHODS FOR PROTECTION AGAINST FURTHER DEGRADATION OF GROUNDWATER QUALITY. PRINCIPAL SOURCES OF GROUNDWATER QUALITY DEGRADATION CAUSED BY MAN'S ACTIVITIES THAT ARE COMMON TO MOST PARTS OF THE REGION ARE SEPTIC TANKS AND CESSPOOLS, BURIED TANKS AND PIPELINES INCLUDING SANITARY AND

STORM SEWERS, THE APPLICATION AND STORAGE OF HIGHWAY DEICING SALTS, MUNICIPAL AND INDUSTRIAL LANDFILLS OF SOLID WASTE, UNLINED SURFACE IMPOUNDMENTS. SPILLS, AND THE UNCONTROLLED DISCHARGE OF POLLUTANTS ON THE LAND SURFACE. IN NY AND PA, MINING AND PETROLEUM EXPLORATION AND DEVELOPMENT HAVE CAUSED MANY INSTANCES OF GROUNDWATER CONTAMINATION, BUT THE EXTENT OF THE PROBLEM HAS NOT BEEN DEFINED. SALTWATER INTRUSION IN COASTAL AREAS HAS BEEN ADEQUATELY CONTROLLED, BUT LITTLE IS KNOWN OF THE POTENTIAL THREAT TO FRESH-WATER AQUIFERS FROM THE ENCROACHMENT OF SALINE WATER THAT NATURALLY OCCURS IN INLAND FORMATIONS UNDERLYING THE WESTERN PORTIONS OF THE REGION.

1253 MILLER, M.C.; J.C. BACON; I.M. LISSAUER

COMPUTER SIMULATION TECHNIQUE FOR OIL SPILLS OFF THE NEW JERSEY-DELAWARE COASTLINE. FINAL REPORT [1975]

USCG RESEARCH & DEVEL CENTER. GROTON. CT 50 PP NTIS-AD-A018 947

PREDICTIONS OF THE MOVEMENT OF OIL SLICKS AND THEIR IMPACT LOCATIONS ALONG THE SHORELINE OF NJ AND DE WERE DETERMINED FOR TWO POTENTIAL DESPMATER PORTS AND TWO POTENTIAL DRILLING SITES. A HYDRODYNAMICAL-NUMERICAL MODEL FOR THE NEW YORK BIGHT AREA WAS COUPLED WITH A WIND GENERATING MODEL TO PRODUCE TEMPORAL PATTERNS OF CONCENTRATION OF OIL. SHORELINE IMPACT DETERMINATIONS WERE MADE FOR THE 4 SPILL SITES FOR THE AVERAGE WINTER STORM CONDITIONS AND AVERAGE SUMMER HIGH PRESSURE SYSTEMS GENERATED BY THE MODELS.

1254 MILSTEIN, C.B.; D.L. THOMAS

FISHES NEW OR UNCOMMON TO THE NEW JERSEY COAST [1976]

CHESAPEAKE SCI 17(3):198-204

FROM MAR 1972 THROUGH DEC 1974, FISHES WERE SYSTEMATICALLY AND INTENSIVELY SAMPLED THROUGHOUT THE BAYS AND OCEAN BETWEEN LONG BEACH ISLAND AND ATLANTIC CITY, NJ. OF THE 167 SPECIES TAKEN, 13 ARE CONSIDERED NEW TO NJ WHILE 33 ARE BELIEVED TO BE UNCOMMON. DATA ARE PRESENTED ON THESE 46 SPECIES AND ASSOCIATED OCEANOGRAPHIC OBSERVATIONS.

1255 MILSTEIN, C.B.; E.V. GARLO; A.E. JAHN

A MAJOR KILL OF MARINE ORGANISMS IN THE MIDDLE ATLANTIC BIGHT DURING SUMMER 1976 [1977]

BULL 16. ICHTHYOLOGICAL ASSOCIATES, INC., ABSECON, NJ 56 PP

DURING SUMMER 1976, WIDESPREAD AND PERSISTENT ANOXIC CONDITIONS IN BOTTOM WATERS OF THE MIDDLE ATLANTIC BIGHT CAUSED MORTALITIES OF MARINE ORGANISMS. ALTHOUGH THE CAUSE OF ANOXIA IS UNCERTAIN, IT HAS BEEN ASCRIBED TO A COMBINATION OF FACTORS INCLUDING A MAJOR BLOOM OF CERATIUM, UNUSUAL PHYSICAL CONDITIONS, AND THE CONTRIBUTIONS OF NUTRIENTS AND ORGANIC MATERIAL FROM A VARIETY OF SOURCES IN THE BIGHT. INFORMATION PRESENTED TO DATE INDICATES THAT ANOMOLOUS METEOROLOGICAL EVENTS IN EARLY 1976 LED TO THE EARLY ESTABLISHMENT OF A VERTICALLY STABLE WATER COLUMN WHICH IN TURN MAY HAVE ENHANCED THE DEVELOPMENT AND MAINTENANCE OF THE ANOXIA.

1256 MINARD, J.P.

SLUMP BLOCKS IN THE ATLANTIC HIGHLANDS OF NEW JERSEY [1974]

PROF PAP 898. USGS. HARTFORD. CT 24 PP

MANY SLUMP BLOCKS ARE PRESENT IN THE BLUFFS OF THE ATLANTIC HIGHLANDS ALONG THE SOUTH SIDE OF SANDY HOOK BAY AND THE NORTH SIDE

AUDUBON 77:44,46-63

THE COASTAL JONE MANAGEMENT ACT OF 1972 WAS DESIGNED TO HELP COASTAL STATES INVENTORY THEIR SHOREFRONT RESOURCES AND DRAW UP LONG-RANGE PLANS TO MANAGE THOSE RESOJRCES WISELY, AS WELL AS TO PROVIDE PLANNING GRANTS TO SPEED UP THE PROCESS. UNDER PRESIDENT FORD, HOWEVER, THE INTENT OF THE LEGISLATION HAS BEEN AVOIDED, AND INDISCRIMINATE OFFSHORE DRILLING HAS BEEN ENCOURAGED IN AN EFFORT TO INCREASE THE GROSS NATIONAL PRODUCT. LIKE DRILLING, THE LEASING OF OFFSHORE AREAS HAS ALSO PROCEEDED AT AN ASTRONOMIC RATE. AREAS ENCOMPASSED BY THESE LEASES INCLUDE CAPE MAY, LONG ISLAND, THE ALASKAN SHORE, AND A LARGE STRETCH OF THE CALIFORNIA COASTLINE, ALL OF WHICH WILL BE SUBJECT TO POTENTIAL OIL SPILLAGES ON THE ORDER OF THE SANTA BARBARA DISASTER OF A FEW YEARS AGO. YET EVEN WITH THESE THREATS, NO FEDERAL THOUGHT IS BEING GIVEN TO PLANNING FOR THE SURVIVAL OF THESE COASTAL AREAS. THIS IS UNFORTUNATE SINCE POTENTIAL SOLUTIONS DO EXIST. FOR INSTANCE, INCREASED FEDERAL EFFORTS IN. CONSERVING OIL AND GAS, ESPECIALLY IN THE AUTO INDUSTRY, COULD EFFORTS OBVIATE MUCH OF THE NEED FOR NEW DRILLING. UNTIL SUCH EFFORTS ARE INITIATED, HOWEVER, THE OIL COMPANIES WILL CONTINUE TO PUSH FOR SPEEDY EXPANSION OF OFFSHORE DRILLING.

1260 MITCHELL, J.K.

IMPACI OF OFFSHORE OIL AND GAS DEVELOPMENT ON THE COASTAL ZONE: REFORMING THE IMPACT ASSESSMENT PROCESS [1978]

COASTAL ZONE MANAG 1 4(3):299-327

IN AN OTHERWISE COMPLEX REGULATORY SYSTEM, THE FEDERAL ENVIRONMENTAL IMPACT STATEMENT PROCESS AFFORDS LOCAL DECISION MAKERS AND COASTAL ZONE RESIDENTS A RARE OPPORTUNITY TO ANALYZE THE COMPREHENSIVE RANGE OF LAND USE AND ENVIRONMENTAL ISSUES THAT MAY ARISE FROM OFFSHORE CONTINENTAL SHELF (OCS) HYDROCARBON DEVELOPMENT, WHILE THERE IS STILL TIME TO FORMULATE EFFECTIVE MANAGEMENT STRATEGIES. AS EXEMPLIFIED BY THE LEASE SALE 40 STATEMENTS, PRESENT ONSHORE IMPACT ASSESSMENT PROCEDURES ARE SUFFICIENTLY FLAWED TO SERIOUSLY COMPAONISE THIS GOAL. CRITICAL DEFICIENCIES INCLUDE FAILURE TO EMPHASIZE ONSHORE IMPACTS: INSENSITIVITY TO SPATIAL VARIATIONS OF IMPACT; NEGLECT OF AVAILABLE DATA; RIGID, UNSUPPORTED ASSUMPTIONS; AND PREOCCUPATION WITH SHORT-TERM EFFECTS TO THE EXCLUSION OF MORE SIGNIFICANT AND DEPENDENT LONG-TERM CONSEQUENCES. SUGGESTED REFORMS INCLUDE PREPARATION OF SEPARATE EXPLORATION AND DEVELOPMENT IMPACT STATEMENTS; ESTABLISHMENT OF SPECIAL COUNCIL ON ENVIRONMENTAL QUALITY REVIEW PROCEDURES; MODIFICATION OF THE JUDICIAL REVIEW PROCESS; AND PROVISION OF ADDITIONAL SUPPORT TO LOCAL ONSHORE OCS IMPACT AREAS.

1261 MITCHELL, R.D.

HUDSON RIVER AS A WATER SOURCE FOR NEW YORK CITY [1968]

ASCE J SANIT ENG DIV 94 (SA3):447-453

BACKGROUND CHARACTERISTICS OF THE HUDSON RIVER ARE DESCRIBED, AND PROBLEMS ARE CONSIDERED REGARDING FURTHER DEVELOPMENT OF THE RIVER SYSTEM FOR A MAJOR AUGMENTATION OF PUBLIC WATER SUPPLY FOR NYC METROPOLITAN AREA. THE KEY TO DEVELOPMENT IS STORAGE IN ADDITION TO THAT NOW AVAILABLE. AN ADDITIONAL UPLAND SUPPLY OF 1000 MGD IS THE ESTIMATED SUPPLY NEED OF NEW YORK CITY AND CONTIGUOUS AREA IN ANOTHER 50 YR. THIS INDICATES THE NEED FOR 1300 SQ MI OF ADDITIONAL UNDEVELOPED WATERSHED AND 360 BG OF STORAGE. THE HUDSON RIVER BASIN CAN FURNISH THIS AMOUNT FROM A WHOLLY UPLAND SYSTEM, OR WATER MAY BE RELEASED FROM UPLAND RESERVOIRS AND PUMPED FROM THE LOWER PART OF THE RIVER AT OR ABOVE HYDE PARK. THIS LATTER METHOD IS THE LEAST COSTLY.

1262 MITTL, R.L.

POTENTIAL POWER-GENERATING STATIONS ON THE ATLANTIC CONTINENTAL SHELF [1975]

PAGES 1-11 IN B. MANGWITZ, ED. PROC OF CONFERENCE, EFFECTS OF ENERGY-RELATED ACTIVITIES ON THE ATLANTIC CONTINENTAL SHELF, BROOKHAVEN NAT'L LAB, 10-12 NOV 1975. BNL, UPTON, NY

OF NAVESINK RIVER, NJ. AT PRESENT, SLJMPING IS TAKING PLACE IN PARTS OF THE BLUFFS THAT ARE AS MUCH AS 60 M (200 FT) HIGH. THE FORMATIONS IN THE BLUFFS ARE LARGELY UNCONSOLIDATED NEARLY FLAT-LYING SILTY AND CLAYEY MARINE SANDS OF LATE CRETACEOUS AND EARLY TERTIARY AGE. PLOCKS RANGE IN SIZE FROM ABOUT 30 M (100 FT) TO 180 M (590 FT) IN WIDTH, BY ABOUT 150 M (490 FT) TO 900 M (2,950 FT) IN LENGTH; VERTICAL DISPLACEMENT IS AS MUCH AS 26 M (85 FT). THE LARGER BLOCKS MAY CONTAIN AS MUCH AS SEVERAL MILLION TONS OF MATERIAL. MOST FORMER SLUMPS PROBABLY OCCURRED WHEN TIDAL CURRENTS AND OPEN OCEAN WAVES ERODED THE BLUFFS, POSSIBLY CENTURIES AGO TO AS RECENTLY AS ABOUT 100 YEARS AGO. SINCE 1972, SLUMPING HAS BEEN REACTIVATED IN FORMER SLUMP BLOCKS AND INITIATED IN STEEP SLOPES ADJACENT TO OLDER BLOCKS. IN ADDITION TO UNDERCUTTING THE TOE OF THE SLOPE, OTHER FACTORS SUCH AS AN UNUSUALLY HIGH WATER TABLE AND, CONCEIVABLY, EARTHQUAKE TREMORS, MAY HAVE CONTRIBUTED TO THE SLUMPING. THE ENTIRE BLUFF ALONG SANDY HOOK BAY APPEARS TO HAVE A HISTORY OF SLUMPING AND SHOULD THUS BE CONSIDERED AN AREA OF POSSIBLE GEOLOGIC HAZARDS. SLUMPING IS CURRENTLY CAUSING CONSIDERABLE DAMAGE TO HOUSES AND PROPERTIES. CAREFUL INVESTIGATIONS SHOULD BE MADE AND PRECAUTIONS EXERCISED BEFORE ANY CONSTRUCTION IS DONE AT THE BASE, ON THE SLOPE, OR ON TOP OF THE BLUFF.

1257 MIRCHEL, A.C.F.

ENFORCEMENT OF HARD CLAM LAWS ON GREAT SOUTH BAY, NEW YORK [1980]

M.S. THESIS. SUNY, STONY BROOK, NY 164 PP

ENFORCEMENT IS AN IMPORTANT ASPECT OF SUCCESSFUL PUBLIC GROUNDS SHELLFISH MANAGEMENT. INSUFFICIENT MANPOWER AND IMPROPER EQUIPMENT ARE PROBLEMS, BUT IT IS LIKELY THAT OTHER FACTORS ARE INVOLVED. EFFICIENT ENFORCEMENT IS COMPLICATED BY CONCURRENT JURISDICTIONS, NEGATIVE ATTITUDES, PRESSURE ON THE RESOURCE, LARGE AREAS TO PATROL AND LARGE NUMBERS OF CLAMMERS. KEY PERSONNEL REPRESENTING MANAGEMENT, ENFORCEMENT, COURTS AND HEALTH AGENCIES PROVIDED VIEWS ON ENFORCEMENT PROBLEMS. INSIGHTS WERE SUPPORTED BY OBSERVATIONS ON PATROLS AND IN COURTS. DATA ON ENFORCEMENT EFFORT AND HARD CLAM OFFENSES WERE GATHERED FROM AGENCIES AND COURTS. DIGGERS WERE INTERVIEWED PERSONALLY AND BY A WRITTEN SURVEY. CORRESPONDENCE WITH STATE AND FEDERAL PERSONNEL PROVIDED BACKGROUND INFORMATION ON THEIR RESPECTIVE PROGRAMS. INFORMATION ON LAWS, ENFORCEMENT EFFORT AND COSTS, AND HARD CLAM OFFENSES ARE PRESENTED. ENFORCEMENT MANPOWER IS BELOW A CALCULATED LOWER OPTIMUM AND EQUIPMENT IS, OVERALL, SATISFACTORY. COOPERATION AND COORDINATION CAN BE IMPROVED BY USE OF BETTER COMMUNICATION EQUIPMENT, DOCUMENTATION OF VARIOUS TYPES OF ENFORCEMENT EFFORTS, AND ATTENTIONS TO CONCERNS OF CLAMMERS AND COURTS. SOME ALTERNATIVES THAT WOULD CHANGE THE PRESENT ENFORCEMENT PEGIME ARE PRESENTED AND DISCUSSED.

1258 MITCHELL, J.G.

THE RESTORATION OF A RIVER [1972]

SATURDAY REV 55:35-37

THE HUDSON RIVER CLEANUP BEGAN WHEN A \$1 BILLION NEW YORK STATE BOND ISSUE WAS PASSED FOR A STATEWIDE PURE WATERS PROGRAM. ALTHOUGH ECONOMIC, POLITICAL, AND ORGANIZATIONAL BARRIERS HAVE PROVED IMMENSE, CITIZEN GROUPS AND THE LAW HAVE BECOME INCREASINGLY ACTIVE. THE REFUSE ACT OF 1899 HAS BEEN PARTICULARLY USEFUL IN THIS AREA. THE ACT PROHIBITS THE UNLICENSED DUMPING OF WASTES IN A NAVIGABLE WATERWAY, PROVIDES FOR VIOLATORS TO BE FINED, AND STIPULATES THAT PART OF THE FINE BE TURNED OVER TO THE PERSON OR PERSONS WHO SUPPLIED THE EVIDENCE LEADING TO CONVICTION. CLEANING UP THE RIVER'S DIRECT INDUSTRIAL DISCHARGES IS JUST A START, HOWEVER, AS INDIRECT DISCHARGE OF INDUSTRIAL WASTE CONTINUES BARELY ABATED. CLEANING UP MUNICIPAL POLLUTION ITSELF REMAINS A PROBLEM. BECAUSE FEDERAL FUNDS ARE SCARCE NEW YORK HAS BEEN FORCED TO PREFINANCE THE FEDERAL SHARE, WHICH HAS SHARPLY DECREASED THE STATE'S OWN FUNDS. THE MOST COMPLICATED PROBLEM IS THE INCREASING POTENTIAL FOR OVERLOADING THE RIVER WITH WASTE HEAT FROM POWER PLANTS. ADDITIONALLY, CURRENT WATER RESOURCE DEVELOPMENT PLANS MAY ENDANGER THE HUDSON'S HEADWATERS IN THE ADIRONDACKS.

1259 MITCHELL, J.G.

THE SELLING OF THE SHELF [1975]

IT SEEMS EVIDENT THAT A BASIC PATTERY OF FUTURE LOAD GROWTH IS UNAVOIDABLE. THE PUBLIC SERVICE ELECTRIC AND GAS COMPANY'S LOAD-GHOWTH STUDIES INDICATE THAT THE COMPANY MUST INSTALL APPROXIMATELY 500 MEGAWATTS OF NEW BASE-LOAD GENERATION EACH YEAR OVER THE NEXT 15 YRS. NUCLEAR POWER HAS BEEN THE CHOICE FOR NEW CAPACITY IN NJ DURING THE PAST 10 YRS AND REMAINS THE CHOICE FOR THE FORESEEABLE FUTURE. FAVORABLE ECONOMICS AND MINIMUM ENVIRONMENTAL IMPACT ARE IMPORTANT FACTORS IN SELECTING NUCLEAT RATHER THAN FOSSIL GENERATION. FEW DESIRABLE SITES FOR NUCLEAR GENERATING STATIONS REMAIN IN NEW JERSEY, A CONDITION THAT SHOULD COME AS NO SURPRISE IN VIEW OF POPULATION DENSITY. STEADILY DECREASING WATER SUPPLIES FOR COOLING, AND THE STATE'S DEDICATION TO PRESERVATION OF EXTENSIVE COASTAL AND WETLAND AREAS. IN AN EFFORT TO CIRCUMVENT THESE SITING PROBLEMS AND OVERCOME THE TREND TOWARD LENGTHY PROJECT SCHEDULES, TO WHICH CONSTRUCTION TIME AND LICENSING DELAYS HAVE CONTRIBUTED, PUBLIC SERVICE UNDERTOOK 4 1/2 YRS AGO AN INVESTIGATION OF THE FEASIBILITY OF SITING FLOATING NUCLEAR PLANTS OFFSHORE. THE CONCEPT OF OFFSHORE FLOATING NUCLEAR PLANTS HAS SOME IMPORTANT ADVANTAGES IN ADDITION TO SITE AVAILABILITY AND COOLING WATER CONSIDERATIONS. THESE INCLUDE SIMPLIFICATION OF THE LICENSING PROCESS, REDUCED OVERALL DESIGGN AND CONSTRUCTION TIME, AND ENHANCED QUALITY CONTROL.

1263 MITTON, J.B.; R.K. KOEHN

MORPHOLOGICAL ADAPTATIONS TO THERMAL STRESS IN A MARINE FISH, FUNDULUS HETEROCLITUS [1976]

BIOL BULL 151:548-559

POPULATIONS OF FUNDULUS HETEROCLITUS (CYPRINODONTIDAE), A COASTAL MARINE FISH, WERE STUDIED IN CONTROL AND ARTIFICIALLY HEATED ENVIRONMENTS ON THE NORTH SHORE OF LONG ISLAND TO DETERMINE PATTERNS OF VARIATION IN MORPHOLOGY AND THE EXTENT TO WHICH THIS VARIATION REFLECTED ADAPTATION TO ENVIRONMENTAL CHARACTERISTICS. FISHES LIVING IN WATER ARTIFICIALLY HEATED BY A POWER PLANT EXHIBITED MARKED DIVERGENCE FROM CONTROL POPULATIONS IN HEAD MORPHOLOGY, AND CONVERGENCE WITH A POPULATION SAMPLED AT MORE SOUTHERN LATITUDES. HENCE, THESE DIFFERENCES WERE INTERPRETED AS ADAPTATIONS TO WARM ENVIRONMENTS. GREATER MORPHOLOGICAL VARIATION IS DETECTED AT THE HEATED LOCALITY THAN AT CONTROL LOCALITIES, AND THIS MAY BE PARTIALLY DUE TO A BREAKDOWN IN DEVELOPMENTAL HOMEOSTASIS, AND PARTIALLY DUE TO SELECTION FAVORING PHENOTYPES THAT ARE RARE IN THIS ENVIRONMENT.

1264 MITTON, J.B.

RELATIONSHIP BETWEEN HETEROLYGOSITY FOR ENZYME LOCI AND VARIATION OF MORPHOLOGICAL CHARACTERS IN NATURAL POPULATIONS [1978]

NATURE 273(5664):661-662

AN EXAMINATION OF THE RELATIONSHIP BETWEEN GENETIC HETEROZYGOSITY OF PROTEINS AND MORPHOLOGICAL VARIATION IN NATURAL POPULATIONS OF THE KILLIFISH, FUNDULUS HETEROCLITUS, IN LONG ISLAND SOUND, NY, IS REPORTED. FIVE POLYMORPHIC LOCI WERE CHOSEN FOR THE INVESTIGATION: SERUM ESTERASE, SERE LIVER ESTERASE, EST-2 LACTATE DEHYDROGENASE, LDH GLUCOSE-6-PHOSPHATE DEHYDROGENASE, G6PDH PHOSPHOGLUCOMUTASE, PGM-1. THE NULL HYPOTHESIS TESTED WAS THAT INDIVIDUALS HETEROZYGOUS FOR AN ENZYME LOCUS HAVE THE SAME LEVEL OF MORPHOLOGICAL VARIATION AS INDIVIDUALS HOMOZYGOUS FOR THAT LOCUS. THE RESULTS INDICATE THAT INDIVIDUALS HETEROZYGOUS FOR AN ENZYME LOCUS.

1265 MOELLER, H.W.; S. GIORDANO

A METHOD FOR CULTIVATING OYSTERS [1975]

AQUACULTURE 5:215-218

MOLLUSCS CAN BE CULTIVATED AS WELL AS TRANSFERRED FROM ONE REARING SATE TO ANOTHER BY ENCLOSING DISCRETE GROUPS OF MOLLUSCS IN THE INTERIOR OF A TUPE OF NETTING MATERIAL. THE RESULTING TUBE IS THEN ATTACHED TO A FLOATING RAFT FOR RAFT CULTURE OR BURIED IN A SUITABLE BENTHIC SEDIMENT. AFTER A SUFFICIENT PERIOD OF TIME THE MOLLUSCS ARE HARVESTED, RETAINED IN THE NETTING FOR DEPURATION, OR SHIPPED DIRECTLY TO MARKET.

1266 MOHNEN, V.A.

AIR QUALITY [1977]

MESA NEW YORK BIGHT ATLAS MONOGRAPH ?3. NYSG, ALBANY, NY 42 PP

THE AIR QUALITY OF NEW YORK BIGHT IS DETERMINED BY ANTHROPOGENIC AND NATURAL EMISSIONS OF PARTICULATE AND GASEOUS MATERIAL FROM THE CONTINENT AND THE OCEAN, AND BY CHEMICAL AND PHYSICAL PROCESSES THAT OCCUR IN THE ATMOSPHERE. THE CONCEPT OF NATURAL CYCLES FOR WATER, SULFUR, AND NITROGEN CONTAINING MOLECULES, AND FOR SUSPENDED PARTICULATES IS INTRODUCED. THESE HIGHLY INTERACTIVE CYCLES (EMISSIONS, TRANSPORT AND CHEMICAL/PHYSICAL PROCESSES, SINKS) ARE FIRST DISCUSSED ON A GLOBAL BASIS WHERE ASSUMPTIONS CAN BE MADE THAT THEY PROCEED UNTIL COMPLETION. ANTHROPOGENIC EMISSIONS ARE THEN TREATED AS A PERTURBATION IN THE NATURAL CYCLES. AIR QUALITY IN THE BIGHT IS GOVERNED MAINLY BY ANTHROPOGENIC EMISSION SOURCES LOCATED INLAND OF THE BIGHT SHORELINES. ESTIMATES ARE DERIVED, USING TRANSPORT MODELS, FOR THE AMBIENT LEVEL OF POLLUTANT MATERIAL (MAINLY SUSPENDED PARTICULATE MATTER AND SULFUR DIOXIDE) AND FOR THE DEPOSITION RATE OF POLLUTANT MATERIAL IN NEW YORK BIGHT. WHILE REASONABLY GOOD AIR QUALITY DATA EXIST FROM MEASURING STATIONS LOCATED ON LAND, SIMILAR DATA OVER THE BIGHT ARE NONEXISTENT.

1267 MOHR, 1.P.

MARINE SPORT FISHERIES OF NEW YORK STATE [1976]

M.S. THESIS. SUNY, STONY BROOK, NY 120 PP

ASPECTS OF SPORT FISHING IN SALT WATERS NEAR NEW YORK STATE WERE INVESTIGATED. A LARGE VARIETY OF MARINE FISH AND SHELLFISH ARE LANDED BY NEW YORK ANGLERS. SPORT CATCH EXCEEDS COMMERCIAL CATCH FOR MOST SPECIES LANDED. ALTHOUGH PARTICIPATION IN MARINE RECREATIONAL FISHING IS GREAT IN NEW YORK, PUBLIC ACCESS IS RELATIVELY LIMITED. INCREASE IN NUMBER OF SHORE-BASED FACILITIES IS NEEDED. CONFLICTS BETWEEN ANGLERS AND OTHER RESOURCE USERS RESULT PRIMARILY FROM THE LARGE NUMBER OF USERS LIVING IN THE NEW YORK METPOPOLITAN ARFA. CONFLICTS MIGHT BE ALLEVIATED BY RESOURCE USE ZONING OF THE SHORE AND WATER. IMPROVEMENT OF FISHING INVOLVES KNOWLEDGE OF ALL RESOURCE USERS. MANAGEMENT IS BEST BEGUN ON ENDEMIC SPECIES. INTERSTATE COOPERATION IS NEEDED FOR MANAGEMENT OF MOST SPECIES. AS A MANAGEMENT TOOL, A SALT WATER LICENSE IS ADVISABLE ON THE BASIS THAT IT PROVIDES REVENUES AND A RESOURCE USER DATA BASE.

1268 MOLL, 9.A.

PHYTOPLANKTON IN A TEMPERATE-ZONE SALT MARSH: NET PRODUCTION AND EXCHANGES WITH COASTAL WATERS [1977]

MAR BIOL 42:109-118

PHYTOPLANKTON PRODUCTION AND ASSOCIATED VARIABLES WERE MEASURED IN FLAX POND, A 52 HA SALT MARSH ON THE NORTH SHORE DF LONG ISLAND, NY YORK, FROM JULY 1972 TO OCTOBER 1973. MEASUREMENTS MADE UP TO FIVE TIMES PER DAY, ONCE PER WEEK, YIELDED A MEAN ANNUAL NET PRIMARY PRODUCTION, DETERMINED BY THE C-14 TECHNIQUE, OF 20.5 MG C/M3/H; DAILY MEANS WERE AS HIGH AS 60.0 MG C/M3/H. HOWEVER, WHEN PRODUCTIVITY WAS CALCULATED FOR THE FINTIRE MARSH ECOSYSTEM, THE SHALLOW WATER IN THE SALT MARSH PRODUCED ONLY 11.7 G C/M2 OF MARSH/YEAR. THERE WAS A NET FLUX OF PHYTOPLANKTON FROM THE COASTAL WATERS INTO THE MARSH; DURING THE SUMMER UP TO 0.2 G CHLDROPHYLL/M2 OF MARSH WAS CARRIED IN WITH THE TIDES DAILY AND REMAINED IN THE MARSH. ANALYSIS OF THE PRODUCTIVITY DATA, AS WELL AS VARIABLES ASSOCIATED WITH PRODUCTIVITY (PH, STANDING CROP, NUTRIENTS, EXTINCTION COEFFICIENT), INDICATED THAT THE AQUATIC PORTION OF THE MARSH BEHAVED MORE AS A NET CONSUMER RATHER THAN A NET PRODUCE OF PHYTOPLANKTON.

1269 MONTANARI, F.W.; E.A. KARATH

JOINT DISCUSSION--NOPTHEASTERN US WATER SUPPLY STUDY: NEW YORK CITY WATER-SUPPLY AND ENVIRONMENT MANAGEMENT [1971]

J AM WATER WORKS ASSOC 63(5):315-320

THE CAPABILITY EXISTS OF MANAGING THE ENVIRONMENT, AND EVEN OF ENHANCING NATURE, THIS POSSIBLITY IS PARTICULARLY TRUE WITHIN THE AREA OF NATURAL RESOURCES, I.E. LAND AND WATER. COMPREHENSIVE PLANNING WILL PERMIT THE HUSBANDING OF RESOURCES AND "HONEST" CONSERVATION. IN NEW YORK STATE, CONCERN ABOUT THE ENVIRONMENT RESULTED IN CONSTRUCTIVE LEGISLATIVE ACTION, THE ENVIRONMENTAL CONSERVATION LAW (EFFECTIVE JULY 1, 1)70). NEW YORK NOW HAS ALL WATER RESOURCE ACTIVITIES, REGULATION, PLANNING, DEVELOPMENT, AND MANAGEMENT IN A SINGLE, EFFECTIVE, STREAMLINED DEPARTMENT. SOME OF THE MAJOR STUDY EFFORTS DISCUSSED INCLUDE: STATEWIDE RECONNAISSANCE STUDIES, THE INTER-MUNICIPAL PUBLIC WATER SUPPLY STUDY, AND THE NORTHEASTERN US WATER SUPPLY STUDY. THESE THREE MAJOR ENGINEERING STUDIES ARE EXPLORING ALTERNATIVES FOR NEW SOURCES OF SUPPLY FOR THE NYC METROPOLITAN AREA, EACH WITH A SOMEWHAT DIFFERENT FOCUS. IT IS APPARENT FROM THESE STUDIES THAT THE HUDSON RIVER COULD BE UTILIZED AS A MAJOR SOURCE OF SUPPLY FOR NYC. IT IS INDICATED THAT USE OF THE HUDSON RIVER COULD BE UTILIZED AS A MAJOR SOURCE OF SUPPLY FOR NYC. IT IS INDICATED THAT USE OF THE HUDSON RIVER RESOURCES, AS A RESULT OF MULTIPURPOSE BENEFITS. SUBSTANTIAL NUMBERS OF COMMUNITIES ARE USING THE WATER FROM THE HUDSON RIVER, AND IT IS BEING RECOMMENDED AS A SOURCE OF SUPPLY FOR OTHER COMMUNITIES, SO USE OF IT WILL INCREASE. EARLY DECISION MUST BE MADE UPON THE SITUATION OF NYC. AND THE PROGRAM BEGUN TO AVOID DRASTIC METROPOLITAN WATER SHORTAGES.

1270 MODERS, C.N.K.; J. FERNANDEX-PARTAGAS; J. PRICE

METEOROLOGICAL FORCING FIELDS OF THE NEW YORK BIGHT [1976]

PROGRESS REP. ROSENSTIEL SCHOOL OF MARINE AND ATMOSPHERIC SCIENCE, UNIV OF MIAMI, CORAL GABLES, FL 153 PP

THIS STUDY DEALS WITH SEVERAL ASPECTS OF METEOROLOGICAL FORCING (AIR-SEA TRANSFERS). METEOROLOGICAL FORCING IS THOUGHT TO BE ONE OF THE DOMINANT INFLUENCES DRIVING THE NEW YORK BIGHT CIRCULATION AND EXCHANGE PROCESS, AND THUS THE MARINE ECOSYSTEM. CONSIDERATION IS GIVEN TO THE DETAILS OF METEOROLOGICAL DISTURBANCES OVER THE NEW YORK BIGHT AREA, TO DETAILS RELATING TO EXTRATROPICAL CYCLONES OVER THE NEW YORK BIGHT AND TO SEA-AIR EXCHANGES RELATED TO THE MODEL EXTRATROPICAL CYCLONE OVER THE NEW YORK BIGHT AREA. THE MAJOR AREAS IN WHICH PROGRESS HAS BEEN MADE ARE: CHARACTERIZATION OF THE SPACE-TIME STRUCTURE OF THE SURFACE EXPRESSION, AND ASSOCIATED AIR-SEA TRANSFERS, OF THE MEDIAN WINTERTIME CYCLONE OVER THE MIDDLE ATLANTIC BIGHT CHARACTERIZATION OF THE SPACE-TIME CORRELATION FIELDS OF SURFACE ATMOSPHERIC PRESSURE AND WIND STRESS OVER THE MIDDLE ATLANTIC BIGHT AND EXPLORATORY VERIFICATION OF OBJECTIVE HINDCAST METHODS.

1271 MODERS, C.N.K.; R.W. GARVINE; W.W. MARTIN

SUMMERTIME SYNOPTIC VARIABILITY OF THE MIDDLE ATLANTIC SHELF WATER-SLOPE WATER FRONT [1979]

J GEOPHYS RES 84(C8):4837-4854

A QUASI-SYNOPTIC STUDY OF THE SHELF MATER/SLOPE WATER FRONT OFF NJ, DE, AND MD IN MID-JULY 1977 REVEALED AN ISOLATED BODY OF VERY COLD (<6 C) WATER IN THE NEAR-BOTTOM "COLD POOL." ITS VOLUME AT LEAST HALVED OVER 10 D DURING WHICH NEARBY SHELF WATERS WERE PERTUPBED BY 2 ANTICYCLONIC EDDIES LOCATED OVER THE CONTINENTAL SLOPE. WATER COLDER THAN 6 C LAY ALONG THE BOTTOM BETHERN THE 8L AND 100 M ISOPATHS AND WAS =30 M THICK. THE SEAWARD EDGE OF THE COLD POOL (COLDER THAN 8 C) MARKED THE INSHORE BOUNDARY OF THE SHELF WATER/SLOPE WATER SUBSURFACE TEMPERATURE FRONT, WITH 10 C VARIATIONS PER 2-20 KM, DEPENDING UPON ALONGSHELF LOCATION. THE THERMOCLINE UNDERWENT LARGE DISPLACEMENTS AND DEFORMATIONS OVER 10 D INDICATIVE OF VIGOROUS UPWELLING AND DOWNWELLING AND POTENTIAL VORTICITY CHANGES AT THE SHELF BREAK. THE DOMINANT SCALES OF VARIABILITY IN THE THERMAL FIELDS WERE 30 KM *LONGSHELF, 10 KM CROSS SHELF, AND 10 TO PERHAPS 20 D. THERE WAS SUBSTANTIAL VERTICAL STRUCTURE ON THE SCALE OF < OR =10 M. A SURFACE CONVERGENCE ZONE COINCIDED WITH A SURFACE ROUGHNESS BAND NEAR THE SHELF BREAK, AND INTERNAL GRAVITY WAVE ACTIVITY APPEARED INTENSE THERE ALSO. TWO INDEPENDENT ESTIMATES OF VERTICAL VELOCITY AT THE SHELF BREAK SUGGESTED VALUES OF -102 CM/SEC.

1272 MOPPER, K.; E.T. DEGENS

ASPECIS OF THE RIOGEOCHEMISTRY OF CARBOHYDRATES AND PROTEINS IN AQUATIC ENVIRONMENTS [1972]

WHOI: 400DS HOLE: MA 249 PP NTIS-PR-212 685

FACTORS AFFECTING ORGANIC MATTER CYCLING, FACTORS DETERMINING QUANTITY AND QUALITY OF ORGANIC MATTER INCORPORATED INTO SEDIMENT, EFFECT ON COMPOSITION AND STRUCTURE OF ORGANIC INPUT AT SEDIMENT-WATER INTERFACE, DIAGENETIC FACTORS AFFECTING SEDIMENT ORGANIC MATTER, ORGANIC MATTER CONDITION DURING DIAGENESIS, AND POSSIBLE FOSSIL ORGANIC MATTER USE TO ELUCIDATE PALEO-ENVIRONMENTS ARE CONSIDERED. IN SHALLOW REGIONS OF THE OCEAN, INPUT IS PREDOMINATED BY TRIPTON; IN DEEP REGIONS INPUT IS PREDOMINATED BY AGED, REFRACTORY MATERIAL WITH COMPOSITION REFLECTING A COMPOSITE OF HIGHLY DEGRADED TRIPTON AND PARTICULATE ORGANIC MATTER FROMED FROM DISSOLVED ORGANIC MATTER. BIOLOGICAL DEGRADATION IS LIMITED TO THE UPPER 10-20 CM OF SEDIMENT. AT 20 CM BELDW THE SEDIMENT-WATER INTERFACE FURTHER DIAGENESIS OCCURS MORE SLOWLY AND IS CONTROLLED BY PROCESSES SUCH AS ORGANIC-ORGANIC CONDENSATION, ORGANIC-METAL ION COMPLEXATION, ORGANIC-MINERAL INTERACTION, AND INCREASING TEMPERATURE. THE DEGREE OF METAL COMPLEXATION OR CARBOHYDRATES IS INDICATIVE OF THE EH AT THE SEDIMENT-WATER INTERFACE. AMINO ACIDS BECOME INCREASINGLY METAL-COMPLEXED WITH TIME, HENCE, THE DEGREE OF COMPLEXATION OF AMINO ACIDS MAY NOT BE AS USEFUL AS THAT OF SUGARS FOR DETERMINING PALEO-ACIDIZING AND PALEO-REDUCING CONDITIONS. GLUCOSE CONTENT OF SEDIMENT MAY GIVE ESTIMATES OF TERRIGENOUS INPUT. A HIGH AMINO ACID TO HEXOSAMINE RATIO REFLECTS HIGH PRODUCTIVITY, PERHAPS EUTROPHICATION.

1273 MORAN. D.A.

AN ARTIFICIAL SUBSTRATE METHOD OF WATER QUALITY MONITORING IN LONG ISLAND NORTH SHORE ESTUARIES [1977]

M.S. THESIS. LONG ISLAND UNIV. BRENTWOOD. NY NP

EPIBENTHIC ARTIFICIAL SUBSTRATE COMMUNITIES WERE MONITORED FROM APR TO DEC, 1974, IN NORTH SHORE ESTUARIES UNDER THE JURISDICTION OF THE TOWN OF HUNTINGTON, LONG ISLAND. THIS INVESTIGATION WAS INTENDED TO ESTABLISH BASELINE TROPHIC STRUCTURE DATA ON WHICH LATER STUDIES CAN BE COMPARED. TROPHIC STRUCTURE WAS EXAMINED BECAUSE IT BEST REFLECTS CHANGES IN WATER QUALITY DUE TO NUTRIFICATION. SALINITY, PH, DISSOLVED OXYGEN AND TEMPERATURE WERE MEASURED. OF THESE PARAMETERS, ONLY TEMPERATURE APPEARED TO INFLUENCE THE SUBSTRATE COMMUNITIES BY CONTROLLING THE REPRODUCTIVE CYCLES OF BENTHIC ORGANISMS. A DEFINITE SEASONAL VARIATION WAS OBSERVED THROUGHOUT THE SAMPLING AREA, WITH THE PERIODS OF JUN TO SEPT AS THE MOST PRODUCTIVE MONTHS. ALL ORGANISMS WERE CLASSIFIED INTO 5 IROPHIC CATEGORIES, AND THEIR BIOMASS ESTIMATED BY RELATIVE SIZE AND NUMBER. OMNIVORES DOMINATED THE YEARLY BIUMASS OF ALL SUBSTRATE COMMUNITIES BUT ONE. THE TUNICATE MOLGULA MANHATTENSIS CONSISTENTLY DOMINATED IN AREAS OF 35 % SAND AND 65 % MUD, WHILE THE ECTOPROCTS BOWERBANKIA AND ALCYONIDIUM DOMINATED IN AREAS OF COARSER SEDIMENTS. COMMUNITY TROPHIC STRUCTURES APPEAR CONSISTENT FOR AREAS OF SIMILAR PHYSICAL CHARACTERISTICS, BUT RESPOND NOTICEABLY TO AREAS OF HIGH NUTRIFICATION, AS EVIDENCED BY EXTREMELY HIGH OMNIVORE BIOMASS FOR HUNTINGTON HARBOR COMMUNITIES.

1274 MORCHELANO, R.A.; J.J. ZIEKOWSKI

FIN ROT DISEASE STUDIES IN THE NEW YORK BIGHT [1976]

PAGES 329-335 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

SURVEYS FROM FEB 1974 THROUGH JUNE 1975 SHOWED THE PREVALENCE OF FIN ROT DISEASE IN WINTER FLOUNDER (PSEUDOPLEURONECTES AMERICANUS) FROM THE NEW YORK BIGHT APEX WAS 3.9%, COMPARED TO 0.7% OUTSIDE THE APEX. PREVALENCE OF THE DISEASE IN WINTER FLOUNDER FROM APEX AREAS OF LOW CARBON DEPOSITS WAS 2.9%; WHEREAS, IN APEX AREAS OF HIGH CARBON DEPOSITS. DISEASE PREVALENCE WAS 5.1%. THE PREVALENCE OF FIN ROT DISEASE IN SUMMER FLOUNDER (PARALICHTHYS DENTATUS) FROM THE APEX WAS 0.5% AND THE SUMMER FLOUNDER FROM SANDY HOOK-RARITAN BAY WAS 3.4%. NO SUMMER FLOUNDER WITH FIN ROT WERE NOTED IN GREAT BAY, A CONTROL AREA OUTSIDE THE APEX. ALTHOUGH THE NUMBERS OF DISEASED FISH ARE SMALL, INDIDENCE OF FIN ROT DISEASE IN SUMMER FLOUNDER FROM SANDY HOOK-RARITAN BAY INCPEASED MONTHLY FRIM JUNE-NOV 1974. ATTEMPTS TO INDUCE FIN ROT DISEASE IN WINTER FLOUNDER IN CAGES SUBMERGED IN THE SEWAGE SLUDGE AREA OF THE BIGHT APEX PRODUCED ACTIVE FIN LESIONS ON THE COUDAL FINS MORE OFTEN THAN ON THE DORSAL AND ANAL FINS. THESE FLOUNDER WERE IN SUBSTANTIALLY WORSE CONDITION THAN FISH IN CAGES AT THE CONTROL SITE.

1275 MORELL. D.L.; G.L. SINGER

ENERGY FACILITY SITING IN THE URBAN COASTAL ZONE: COMPATIBLE OR NOT? [1979]

COASTAL ZONE MANAG J 6(2-3):215-232

MOST FEDERAL AND STATE COASTAL LAWS WERE FRAMED WITH A DISTINCT EMPHASIS ON PRESERVATION OF RURAL/RECREATIONAL AREAS. YET IN RECENT YEARS A RURAL/URBAN COASTAL DICHOTOMY HAS EMERGED. THIS HAS BEEN ESPECIALLY PROMINENT IN THE SITING OF ENERGY FACILITIES SINCE THESE OPERATIONS ARE OFTEN MATER DEPENDENT; POWER PLANTS, FOR EXAMPLE, NEED HUGE AMOUNTS OF COOLING WATER, AND OFFSHORE OIL AND GAS EXTRACTION REQUIRES ONSHORE SUPPORT FACILITIES. RECENTLY, THIS ISSUE HAS GAINED SPECIAL PROMINENCE ON THE EAST COAST AITH THE COMMENCEMENT OF OFFSHORE OIL AND GAS EXPLORATION. A CASE STUDY WAS CONDUCTED IN HUDSON COUNTY, NJ, IN NEW YORK HARBOR. IN THIS AREA FIVE OIL-RELATED FACILITY PROPOSALS WERE REJECTED FROM 1972 TO 1976, PRIMARILY DUE TO CITIZEN OPPOSITION. CITIZEN ACTIVISTS NOW SEE THE URBAN WATERFRONT AS A SPECIAL PLACE TO WHICH THEY WANT ACCESS AND AMENITY USES RATHER THAN A CONTINUATION OF PAST, ALMOST EXCLUSIVE INDUSTRIAL DEVELOPMENT. INNOVATIVE SITING WHICH UTILIZES INLAND, RATHER THAN COASTAL, LOCATIONS IS SUGGESTED AS ONE WAY TO LESSEN URBAN/RURAL SITING TENSIONS.

1276 MORGAN. C.W.: R.A. TAMILLOW: J.L. SHUHY

COMPUTERIZED TIDAL CURRENTS OF LONG ISLAND SOUND FOR SEARCH AND RESCUE PLANNING [1974]

REP (GOU-TR-75-1. USCG, WASHINGTON, DC 33 PP NTIS-AD-A026 919

THIS REPORT DESCRIBES A SIMPLE ADAPTATION OF THE TIDAL CURRENT CHARTS, LONG ISLAND SOUND AND BLOCK ISLAND SOUND (USCGS PUB SER NO 574) TO THE PROBLEM OF COMPUTERIZED SEARCH AND RESCUE PLANNING IN LONG ISLAND SOUND. THE ADAPTATION COMBINES THE CHARTS WITH THE NOTA TIDAL CURRENT PREDICTION PROGRAM IN A SIMPLE COMPUTER PROGRAM. THE PROGRAM DOES NOT INCLUDE THE EFFECT OF WIND.

1277 MORGAN, C.W.; J.M. BISHOP; F.F. MULHER

OCEANOGRAPHY OF THE NEW YORK BIGHT, AUGUST 1974 [1976]

REP 373-71. USCG, WASHINGTON, DC 89 PP NTIS-AD-A034 108

THE PHYSICAL OCEANOGRAPHY OF THE SHELF AND SLOPE WATERS OF THE NEW YORK BIGHT (BLOCK ISLAND TO CAPE MAY) IN AUGUST OF 1974 IS DESCRIBED. TEMPERATURE, SALINITY, AND DESNITY DATA, PRESENTED IN SURFACE CONTOURS AND SECTION PROFILES, SHOWED THE SHELF/SLOPE FRONT, A COLD CORE ON THE SHELF, AND A SALINITY CORE ON THE SLOPE. GEOSTROPHIC CURRENTS IN THE SLOPE WATER WERE INFERRED FROM THE DENSITY STRUCTURE, AND SHOWED THO ANTICYCLONIC EDDIES WITH MAXIMUM GEOSTROPHIC VELOCITIES OF APPROXIMATELY 40 CM. TEMPERATURE AND SALINITY PROFILES INDICATED SHELF/SLOPE MIXING RELATED TO THE EDDIES.

1278 MORGAN. T.C.

TIDAL FLUCTUATIONS IN NEW YORK HARBOR DURING AN INTENSE STORM [1976]

MARINER'S WEATHER LOG 20(6):326-327

THIS ARTICLE DESCRIBES AN UNUSUAL TIDAL FLUCTUATION IN THE UPPER DAY OF NEW YORK HARBOR, MEASURED AT A LOCATION CALLED "THE BATTERY," DURING AN EXPLOSIVELY DEEPERING, INTENSE WINTER STORM ON FEB 2, 1976. TIDES AT THE BATTERY FELL FROM MORE THAN THO FEET ABOVE PREDICTED ASTRONOMICAL LEVELS AT 0900 HR, WHEN THE NORTHWARD-TOVING STORM'S CENTER WAS OVER LONG ISLAND. TO MORE THAN FOUR FEET BELOW ASTRONOMICAL TIDES AT 1530 HR. AT 1530 HR, HOWEVER, THERE WAS A SUDDEN REVERSAL. AND FOR TWO HOURS THE WATER LEVEL ROSE. THEREAFTER, THE WATER LEVEL FELL AGAIN, REACHING ONE OF THE LOWEST VALUES RECORDED IN YEARS, AND CAUSING SOME PROBLEMS FOR SHIPPING. POSSIBLE CONTRIBUTING FACTORS IN THIS EVENT ARE DISCUSSED.

1279 MORITA. M.; T. MATSUBA; O. YAMADA

FIELD MEASUREMENTS OF PHOTOMETRIC TRANSMISSION COEFFICIENTS OF WATER [1974]

NATE TECH REP MATSUSHITA ELECTR IND 23(3):310-318

AN UNDERWATER TRANSMITTANCE METER WAS CONSTRUCTED, WHICH WAS EQUIPPED WITH THREE PHOTO-TUBES EACH COMBINED WITH AN INTERFERENCE FILTER WITH DIFFERENT DOMINANT WAVELENGTHS OF 45D, 550 AND 650 NM, AND A FOURTH PHOTO-TUBE WITH A LUMINOSITY CORRECTION FILTER. USING THE TRANSMITTANCE METER, A SERIES OF PHOTOMETRIC MEASUREMENTS WAS CARRIED OUT ON WATER SAMPLES AT SEVERAL LOCATIONS IN THE SEA AND A RIVER NEAR OSAKA. THE DATA OBTAINED FOR THE SAMPLES FROM THE YODO RIVER AND FROM THE KUSHIMOTO BEACH, WAKAYAMA PREFECTURE, AGREED FAIRLY WELL WITH THOSE OF THE THAMES RIVER, CT AND LONG ISLAND SOUND, RESPECTIVELY. THE TENDENCY OF THE SPECTRAL CHARACTERISTICS OBTAINED WAS FOUND TO BE SIMILAR TO THE DATA PUBLISHED IN THE IES LIGHTING HAND BOOK (5TH EDITION). ENGLISH-LANGUAGE CAPTIONS ARE PROVIDED FOR ILLUSTRATIONS, DIAGRAMS AND CURVES. REFERENCES TO ENGLISH-LANGUAGE PUBLICATIONS ARE IN ENGLISH. OTHER REFS. ARE IN JAPANESE.

1280 MORRISON, R.E.

EXPERIMENTAL STUDIES ON THE OPTICAL PROPERTIES OF SEA WATER [1970]

J GEOPHYS RES 75(3):612-28

ATTENUATION, ABSORPTION, AND TOTAL SCATTERING COEFFICIENTS FOR SEAWATER AT 5300 A WERE OBTAINED HEARLY SIMULTANEOUSLY FROM OBSERVATIONS AT THE ARGUS ISLAND TOWER IN THE NORTH ATLANTIC OCEAN AND IN LONG ISLAND SOUND AND BLOCK ISLAND SOUND. A UNIQUE IN SITU INSTRUMENT PERMITTED SCATTERING MEASUREMENTS AT A MINIMUM FORWARD ANGLE OF 0.2 DEG. DEPTH PROFILES OF THE THREE COEFFICIENTS EXHIBIT AN OVERALL AGREEMENT WITH SIMPLE THEORETICAL PREDICTION WITHIN A FACTOR OF 2. COEFFICIENTS MEASURED IN LONG ISLAND SOUND WERE ABOUT A FACTOR OF 10 LARGER THAN THOSE FROM THE NORTH ATLANTIC STATION. COEFFICIENTS FROM BLOCK ISLAND SOUND WERE ABOUT A FACTOR OF 10 LARGER THAN THOSE FROM THE NORTH ATLANTIC STATION.

1281 MORSE, J.W.; J. DE KANEL

DETERMINATION OF PHOSPHATE FLUXES ACROSS THE SEDIMENT-WATER SURFACE OF THE NEW YORK BIGHT [1977]

TM-ERL-MESA-14. NOAA, BOULDER, CO 12 PP NTIS-PB-269 637

AMONG THE GOALS OF THE MESA NEW YORK BIGHT PROJECT ARE UNDERSTANDING NUTRIENT TRANSPORT SYSTEMS RESPONSIBLE FOR SUSTAINING NEW YORK BIGHT PHYTOPLANKTON, AND FRACTIONATION OF CONTAMINANTS BETWEEN WATER AND SOLID PHASES. ONLY A SMALL PORTION OF THE TOTAL DISSOLVED PHOSPHATE CAN BE ACCOUNTED FOR AS DISTINCT SPECIES IN THE INTERSTITIAL WATERS OF THE SITE WHICH WAS INVESTIGATED. ALTHOUGH THERE IS NO DIRECT EVIDENCE IT APPEARS PROBABLE THAT THE DOMINANT MODE OF EXCHANGE OF DISSOLVED SPECIES ACROSS THE SEDIMENT—WATER INTERFACE IS BLOTURBATION. SMALL SCALE LATERAL HETEROGENEITIES EXIST WHICH INDICATE THAT MUCH MORE INTENSIVE SAMPLING IS NECESSARY TO UNDERSTAND THE DISTRIBUTION OF PHOSPHATE IN NEW YORK BIGHT SEDIMENTS.

1282 MORSE, W.W.

BIOLOGICAL AND FISHEPIES DATA ON SCUP, STENOTOMUS CHRYSOPS (LINNAEUS) [1978]

TECH REP 12. SANDY HOOK LAB. HIGHLANDS. NJ 41 PP

THIS REPORT PRESENTS BRIEF DESCRIPTIONS OF SCUP, INCLUDING TAXONOMY, REPRODUCTION, DEVELOPMENT, NUTRITION, BEHAVIOR, POPULATION DYNAMICS, DISTRIBUTION, FISHING, MANAGEMENT. NY AND NJ HAVE IMPUSED A MINIMUM SIZE LIMIT OF 7 IN. CAPTURE OR SALE OF FISH BELOW THIS SIZE IS ILLEGAL.

1283 MORSE: W.W.

MATURITY, SPAWNING, AND FECUNDITY OF ATLANTIC CROAKER, MICROPOGONIAS UNDULATUS, OCCURRING NORTH OF CAPE HATTERAS, WORTH CAROLIYA [1980]

FISH BULL 78(1):190-195

THIS PAPER PRESENTS SIZE AT MATURITY, SPAWNING TIMES AS INDICATED BY QUARIAN DEVELOPMENT, AND FECUNDITY OBSERVATIONS OF THE ATLANTIC CROAKER POPULATION NORTH OF CAPE HATTERAS.

1284 MOSELEY, E.V.

IP USES MOBILE ENVIRONMENTAL LABS FOR COMPLIANCE TESTING. EVALUATION [1979]

PULP AND PAPER 53(8):94-99

INTERNATIONAL PAPER COMPANY'S 2 MOBILE LABORATORIES ARE DESCRIBED. THE ALABAMA-BASED UNIT IS EQUIPPED FOR SOURCE TESTING AND AMBIENT AIR TESTING, WHILE THE NEW YORK UNIT WILL HAVE A WATER-TESTING CAPABILITY AND A LIMITED AIR-TESTING CAPACITY. THE LABS CAN BE POWERED BY SHORELINE OR BY 2 ONBOARD GENERATORS. ELECTRICAL DISTRIBUTION IS DIVIDED INTO A NONREGULATED SYSTEM FOR UTILITIES, E.G. AIR CONDITIONING, HEATING, COMPRESSORS, LIGHTING, OVENS, AND SAMPLE HEATERS AND A REGULATED SYSTEM WHICH FURNISHES CONSTANT VOLTAGE FOR THE INSTRUMENTS AND COMPUTER. AMBIENT AIR AND SOURCE TESTS USE GC FOR SO2, TOTAL REDUCED S. AND HYDROCARBONS. THERE ARE CHEMILUMINESCENCE INSTRUMENTS TO MEASURE AMBIENT NO2. NONDISPERSIVE IR INSTRUMENTS MEASURE CO AND CO2. INFORMATION GENERATED FROM GC IS RECORDED ON AN HP-7133 RECORDER IN ADDITION TO BEING SENT TO AN ANALOG-TO-DIGITAL CONVERTER, WHERE THE INFORMATION IS TRANSFERRED TO A COMPUTER. THE LABS ARE EXPECTED TO BE A COST-EFFECTIVE MEANS OF PROVIDING ENVIRONMENTAL PROTECTION AND IMPPOVEMENT, AS WELL AS AIDING IN DEVELOPMENT OF IMPROVED ENVIRONMENTAL AND COMMERCIAL PROCESSES. SCHEMATIC DIAGRAMS SHOW SAMPLE AND DILUTION APPARATUS FAN STOCK SAMPLING, VEHICLE DESIGN AND LAYOUT, THE SAMPLING SYSTEM, AND THE COMPUTER INFORMATION FLOW.

1285 MOSER. B.C.

AIRBORNE SEA SALT: TECHNIQUES FOR EXPERIMENTATION AND EFFECTS ON VEGETATION [1975]

PAGES 353-369 IN COOLING TOWER ENVIRON SYMP, MAR 4-6 1974. ERDA, OAK RIDGE, TN

TWO TECHNIQUES FOR MEASURING LEVELS OF AIRBORNE SEA SALT WERE DEVELOPED AND USED TO DETERMINE AMBIENT CONDITIONS AT DIFFERENT DISTANCES INLAND FROM THE NJ COAST. BOTH AIR CONCENTRATION AND SEDIMENTATION RATE DECREASED RAPIDLY WITHIN THE FIRST KILOMETER INLAND FROM THE SURF. A RELATION BETWEEN AIRBORNE SALT LEVEL AND INJURY TO COASTAL VEGETATION WAS ESTABLISHED. WIND TUNNELS AND SEDIMENTATION CHAMBERS, DESIGNED TO REPRODUCE AMBIENT CONDITIONS, WERE CONSTRUCTED TO CONDUCT CONTROLLED AND REPRODUCIBLE EXPERIMENTS. SALT UPTAKE INTO BEAN BEAVES WAS PROPORTIONAL TO THE LENGTH OF TIME PLANTS WERE EXPOSED TO SALT DRIFT.

1286 MOSKOWITZ, P.D.

ANALYSIS OF SALINITY VARIATIONS WITHIN GREAT SOUTH BAY, NEW YORK [1976]

LIMNOL OCEANOGR 21(5):740-742

A SERIES OF CORRELATION COEFFICIENTS COMPARING STREAM FLOWS WITH GREAT SOUTH BAY SALINITIES INDICATES THAT CHANGES IN SALINITY OBSERVED WITHIN THE PAY WERE STATISTICALLY ASSOCIATED WITH VARIATIONS IN STREAM FLOW. NO SIGNIFICANT CORRELATION BETWEEN SALINITY AND RAINFALL WAS OBSERVED. THE RESULTS MAY HAVE SIGNIFICANCE TO OUTFALL SEWERING ON LONG ISLAND.

1287 MOSKOWITZ, P.D.; W. HANG: J. SILBERMAN: D. ROSS: J. HIGHLAND

TROUBLED WATERS: TOXIC CHEMICALS IN THE HUDSON RIVER [1977]

ENVIRON DEFENSE FUND AND NY PUBLIC INTEREST GROUP INC. NEW YORK. NY 205 PP

THIS INVESTIGATION PROVIDES A COMPREHENSIVE STUDY OF HUDSON RIVER POLLUTION AND ITS POSSIBLE PUBLIC HEALTH AND ECOLOGICAL HAZARDS. THE HUDSON WAS CHOSEN BECAUSE IT IS A MANAGEABLE STUDY AREA AND IS ALSO ONE OF THE FEW RIVERS THAT HAS BEEN EXAMINED FOR TOXIC CONTAMINANTS. THE STUDY BEGINS WITH EXAMINATION OF THE ADEQUACY OF THE NPDES PERMIT PROGRAM WHICH REGULATES 254 INDUSTRIAL AND MUNICIPAL WASTEWATER DISCHARGERS IN THE HUDSON RIVER BASIN. THE NEXT SECTION INVESTIGATES A MAJOR LOOPHOLE IN THE NPDES PROGRAM. IF AN INDUSTRY DISCHARGES ITS JASTES THROUGH A MUNICIPAL TREATMENT SYSTEM THE PLANT IS NOT REQUIRED TO FILE A NPDES PERMIT. BECAUSE NO MUNICIPAL TREATMENT PLANTS IN THE HUDSON RIVER BASIN ARE DESIGNED TO REMOVE TOXIC CHEMICALS. THE INDUSTRIAL EFFLUENTS. LADEN WITH DANGEROUS CHEMICALS. PASS DIRECTLY INTO THE RIVER. SEWAGE FACILITIES WITH THEIR BURDEN OF INDUSTRIAL WASTES HAVE BEGOME MAJOR SOURCES OF THE HUDSON'S LUAD OF TOXIC CHEMICALS. IN ORDER TO ASSESS THE SCOPE OF TOXIC CHEMICALS THAT ENTER THE HUDSON THROUGH THESE PLANTS WE SURVEYED 29 MUNICIPAL SYSTEMS BY A QUESTIONARE TO TREATMENT PLANT OPERATORS. THE RESULTS SHOW THAT CONTRARY TO THE REQUIREMENTS OF THE FWPCAA. FEW OF THE INDUSTRIES DISCHARGING THROUGH PUBLIC FACILITIES PRETREAT THEIR WASTES. NONE OF THE PLANTS MONITOR THEIR EFFLENTS FOR THE TOXIC CHEMICALS THAT ARE PROBABLY FLOWING INTO THE HUDSON. THE NEXT SECTION DESCRIBES THE PAST, PRESENT, AND FUTURE MONITORING STUDIES CONDUCTED IN THE HUDSON RIVER BASIN TO DETECT TOXIC POLLUTANTS. EXTENSIVE MONITORING BEGAN IN 1975. SOME OF THE MONITURING EFFORTS ARE DESCRIBED AND THE RESULIS OF THESE VENTURES ARE SUMMARIZED IN THE REPORT. THE LAST CHAPTER DESCRIBES AN EFFORT TO SAMPLE HUDSON RIVER WATER FOR TRACE ORGANIC COMPOUNDS IN WASTEWATER EFFLUENTS. SAMPLES WERE TAKEN FROM FOUR DISCHARGE SITES. INCLUDING GENERAL ELECTRIC'S SELKIRK PLANT, THE HERCULES CHEMICAL PLANT IN GLEN FALLS, AND THE WASTE TREATMENT PLANTS IN ALBANY AND RENSSELAER COUNTIES. RESULTS SHOW THAT A WIDE VARIETY OF COMPOUNDS ARE PRESENT. INCLUDING CHEMICALS CAPABLE OF PRODUCING ACUTE. CHRONIC. AND CARCINOGENIC EFFECTS.

1288 MOSS. 4.L.

THE URBAN PORT: A HIDDEN RESOURCE FOR THE CITY AND COASTAL ZONE [1976]

COASTAL ZONE MANAG J 2(3):223-245

THIS PAPER IS CONCERNED WITH THE CHANGING PATTERN OF ACTIVITY ON THE URBAN WATERFRONT. IT EXAMINES DEVELOPMENTS IN MARINE TRANSPORTATION TECHNOLOGY AND IN THE ECONOMIC STRUCTURE OF THE CENTRAL CITY THAT HAVE INFLUENCED THE FUNCTION OF THE URBAN PORT. DRAWING UPON DATA RELATED TO THE WEST SIDE OF MANHATTAN, THE IMPACT OF THE CHANGES IN CARGO AND PASSENGER SHIP OPERATIONS ON THE URBAN PORT IS DESCRIBED AND ANALYZED. A TWOFOLD STRATEGY FOR PUBLIC AGENCIES TO IDENTIFY AND UNDERSTAND THE OPPORTUNITIES PRESENTED BY TECHNOLOGICAL CHANGE AND TO FORMULATE POLICIES FOR THE REDEVELOPMENT OF THE URBAN COASTAL ZONE IS DISCUSSED.

1289 MOSS. M.L.: M.P. DRENNAN

THE NEW YORK CITY WATER FOOT: AN ANALYSIS OF MUNICIPAL OWNERSHIP AND LEASING OF PUBLIC LAND [1979]

NYSG, ALBANY 72 PP NTIS-PB80-194 970

THIS ORIGINAL COMPILATION OF LOCATION, SIZE, USE, AND REVENUE OF NYC'S MUNICIPALLY-OWNED WATERFRONT PARCELS OFFERS A VALUABLE MANAGEMENT TOOL. REVENUE FROM THESE PROPERTIES IS CONSIDERABLY LESS THAN THEIR POTENTIAL REVENUE AND CONSIDERABLY LESS THAN THE REVENUE OF COMPARABLE PRIVATE-OWNED PROPERTIES. THE CITY'S LEASE PRICE PER SQUARE FOOT IS ABOUT 39% LOWER THAN THAT CHARGED FOR SIMILAR PRIVATE PARCELS. THE STUDY HIGHLIGHTS THE NEED FOR A MANAGEMENT INFORMATION SYSTEM TO BETTER USE THE MUNICIPALLY-OWNED SHORELINE. MOREOVER, IT PROPOSES A SYSTEMATIC POLICY OF LONG-TERM LEASING TO ENCOURAGE PUBLIC AND PRIVATE COOPERATION IN REVITALIZING THE URBAN WATERFRONT AND TO IMPROVE THE LIFE STYLE OF ITS PEOPLE.

1290 MOSS, 4.L.

THE LOST WATERFRONT OF NEW YORK [1979]

COASTAL ZONE MANAG J 6(2-3):167-185

NO INTEGRATED MUNICIFAL POLICY EXISTS FOR MANAGING THE NEW YORK CITY WATERFRONT. DESPITE MUCH RHETORIC AND MANY PROPOSALS TO RENEW THE CITY'S COAST, THE MUNICIPAL GOVERNMENT HAS DONE LITTLE TO IMPROVE THE CITY'S SHORELINE. EXTERNAL ORGANIZATIONS AND CITIZENS' GROUP'S HAVE BEEN LARGELY RESPONSIBLE FOR EFFORTS TO IMPROVE THE USE OF THE CITY'S COASTAL RESOURCES. THIS ARTICLE ASSESSES THE ROLE OF THE CITY GOVERNMENT AND ANALYZES THE FACTORS AFFECTING ITS PERFORMANCE IN COASTAL MANAGEMENT. IT PROPOSES NEW POLICIES TO FOSIER LOCAL INITIATIVES AND ENCOURAGES PRIVATE AND PUBLIC COOPERATION IN THE REVITALIZATION OF THE COAST. GIVEN THE SIZE AND DIVERSITY OF THE CITY'S COAST, AN INCREMENTAL STRATEGY MAY BE THE MOST FEASIBLE AND SENSIBLE APPROACH TO RECAPTURE THE CITY'S LOST WATERFRONT.

1291 MOSS, M.L.

STAGING A RENAISSANCE ON THE WATERFRONT [1980]

NEW YORK AFFAIRS 6(2) NP

THE NEW YORK CITY WATER FRONT IS A JAGGED, COMPLEX AFFAIR THAT ENCOMPASSES SIX SEPARATE RIVERS AND A GREAT MANY BAYS. FOR CENTURIES IT WAS A THRIVING CENTER OF COMMERCE. IN THE 1960S, HUMEVER, THE WATER FRONT BEGAN TO FALL INTO DISUSE. ITS PORT FACILITIES BECAME TECHNOLOGICALLY OUTMODED; ITS OCEAN LINERS COULD NO LONGER COMPETE WITH AIRPLANES FOR PASSENGERS; AND THE GENERAL ECONOMIC CRISIS OF THE CITY TOOK ITS TOLL. THE NEW YORK WATER FRONT IS IN THE EARLY STAGES OF AN ECONOMIC AND PHYSICAL RENALSSANCE. THIS REMEWED INTEREST IS NOT UNIQUE TO NEW YORK; CITIES THROUGHOUT AMERICA HAVE BEGUN TO PAY MUCH ATTENTION TO THEIR HATER FRONTS. BUT WITH THE GOADING OF THE ENTHUSIASTIC KOCH ADMINISTRATION, OUR LARGEST PORT IS FINALLY TAKING A NEW LOOK AT THIS LONG-DORMANI RESOURCE. THIS BOOKLET PROVIDES AN OVERVIEW OF THE HISTORY, PRESENT SITUATION, AND FUTURE PROSPECTS OF THE NEW YORK WATER FRONT. THE AUTHOR STRESSES THE WATER FRONT'S "ENORMOUS POTENTIAL" FOR ECONOMIC AND ENVIRONMENTAL DEVELOPMENT, AND CONCLUDES BY PROPOSING A SEVEN-POINT AGENDA FOR PUBLIC POLICY.

1292 MOSS, Y.L.

NEW PROSPECTS FOR THE NEW YORK CITY WATERFRONT [1780]

NYSG, ALBANY, NY 12 PP

CONEY ISLAND, ORCHARD BEACH, AND THE ROCKAWAYS ATTRACT MORE PEOPLE ON A PEAK DAY THAN THE YANKEES AND THE METS TOGETHER ATTRACT IN AN ENTIRE SEASON. BUT THE AVERAGE NEW YORKER IS STILL COMPLETELY CUT OFF FROM THE SHORELINE. IN THIS REPORT, THE AUTHOR OUTLINES HIS RECOMMENDATIONS FOR A "WATERFRONT RENAISSANCE," WITH THE GOAL OF MAKING THE CITY'S MOST VALUABLE NATURAL RESOURCE MORE ACCESSIBLE. TO DD THIS, HE SUGGESTS CLEARLY DELINEATED MUNICIPAL POLICIES, COMMUNITY ACTION, AND PRIVATE DEVELOPMENT GEARED TOWARD PUBLIC ENJOYMENT. HE FAVORS REQUCING REGULATORY BARRIERS TO WATERFRONT CONSTRUCTION AS AN IMPETUS TO THE PRIVATE SECTOR. THE AUTHOR ASKS THE MUNICIPALITY TO IMPROVE ACCESS TO EXISTING BEACHES AND WATERFRONT PARKS, AS WELL AS TO PROVIDE PROMOTION OF AND BETTER TRANSPORTATION TO SUCH OUTER-BOROUGH ATTRACTIONS AS THE NEW YORK AQUARIUM AT CONEY ISLAND AND THE VISTAS FROM FORT WADSWORTH ON STATEN ISLAND. HE ALSO RECOMMENDS FOSTERING MARINE RECREATION ON THE CITY'S WATERWAYS, WHICH HE FEELS IS NOW SEVERLY LIMITED. FINALLY, HE ENJOINS THE PRESENT ADMINISTRATION TO TAKE AN ACTIVE ROLE IN FEDERAL POLICIES AFFECTING THE WATERFRONT; HE SAYS THAT NEW YORK'S POSITION AS A PORT HAS BEEN HURT BY BOTH CONRAIL AND THE ICC. WE MUST, THE AUTHOR URGES, PRESS FOR A GREATER SHARE OF STATE AND FEDERAL COASTAL MANAGMENT FUNDS. THE REPORT ALSO CONTAINS A BRIEF REVIEW OF NEW YORK'S WATERFRONT AREAS, SHOWING THEIR PRESENT USES AND MAKING SUGGESTIONS FOR FUTURE USES.

1293 MOY, H.C.; K.J. SANGHANI

EXPERIMENTAL EVALUATION OF WATER SURFACE HEAT EXCHANGE [1977]

ASME PAP 77-HT 41:1-8

AN INVESTIGATION WAS CONDUCTED AT INDIAN POINT POWER STATION TO DETERMINE THE HEAT EXCHANGE RATE BETWEEN A WATER SURFACE AND THE ATMOSPHERE. EXPERIMENTAL DATA WERE OBTAINED USING TWO SETS OF EVAPORATION PANS. ONE SET OF PANS WAS LOCATED ON THE HUDSON RIVER NEAR THE POWER PLANT INTAKE STRUCTURE. TO SIMULATE THE NATURAL ENVIRONMENT, INCLUDING NORMAL WAVE ACTION. THE OTHER SET OF PANS WAS PLACED ON SHORE. THE EXPERIMENTAL HEAT TRANSFER VALUES OBTAINED WITH THE ON-RIVER PANS WERE FOUND TO BE CONSIDERABLY HIGHER THAN VALUES PREDICTED FROM CERTAIN SEMIEMPIRICAL FORMULAE AND THAN THOSE OBTAINED WITH THE ON-SHORE TESTING PANS.

1294 MOY, H.C.; L. PARETSKY; R. NAVARRETE; J. SZELIGOWSKI

THERMAL PLUME EVALUATION PROGRAM OF INDIAN POINT NUCLEAR POWER PLANT (1979)

PAGES 1249-1270 IN WASTE HEAT MANAGEMENT AND UTILITIES, PROC OF CONFERENCE, 9-11 MAY 1977. VOL 2. HEMISPHERE PUBLISHING CORP, NEW YORK, NY

A THERMAL PLUME STUDY HAS BEEN FORMULATED BY CON EDISON TO DEMONSTRATE THAT PLANT THERMAL DISCHARGES FROM THE INDIAN POINT UNIT NO. 2 STATION TO THE HUDSON RIVER WILL SATISFY ALL APPLICABLE WATER QUALITY CRITERIA. THIS PROGRAM CONSISTS OF PHYSICAL MODELING, MATHEMATICAL ANALYSIS AND FIELD SURVEYS. TWO DISTINCT PHYSICAL MODELS WERE USED: A 1/75 SCALE, UNDISTORTED MODEL FOR OBTAINING DETAILED TEMPERATURE PATTERNS IN THE VICINITY OF THE DISCHARGE STRUCTURE, AND AN OVERALL DISTORTED SCALE MODEL FOR OBTAINING FAR FIELD TEMPERATURE PATTERNS. A ONE-DIMENSIONAL TIDAL AVERAGE HYDROTHERMAL MATHEMATICAL MODEL IN WHICH THE HUDSON RIVER IS SEPARATED INTO 28 LONGITUDINAL SEGMENTS WAS DEVELOPED; THEREFORE, SPACE-VARIABLE PARAMETERS, SUCH AS RIVER GEOMETRY, DISPERSION COEFFICIENT AND THERMAL STRATIFICATION, CAN BE INTRODUCED FOR COMPUTATION.

1295 MUELLER, J.A.; W. JIN-LUNG SU

BENTHAL OXYGEN DEMANDS AND LEACHING RATES OF TREATED SLUDGES [1972]

J WATER POLLUT CONTROL FED 44(12):2303-2315

A STUDY TO DETERMINE THE EFFECT OF SLUDGE TREATMENT ON BENTHAL DEMANDS AND NUTRIENT LEACHING RATES OF SLUDGE DISPOSED IN THE NEW YORK BIGHT WAS UNDERTAKEN. RAW, DIGESTED, HEAT-TREATED, AND WET-OXIDIZED SLUDGES WERE USED IN THE EXPERIMENTS. THE SLUDGES WERE STUDIED UNDER ARTIFICIAL SEAWATER CONDITIONS AT 15 C AND WERE EXAMINED AFTER A TOTAL OF 45 DAYS RETENTION IN THE REACTORS. TEST RESULTS INDICATED THAT TREATMENT OF SLUDGES BEFORE DISPOSAL REDUCED BENTHAL DEMANDS AND NUTRIENT LEACHING RATES.

1296 MUELLER, J.A.

MAGNITUDE OF CONTAMINANT INPUTS TO THE NEW YORK BIGHT PHASE I. PRELIMINARY ESTIMATE [1975]

UNPUBL PROPOSAL. MESA, NOAA, STONY BROOK, NY NP

THE NEW YORK BIGHT, AN EXTENSIVE NATURAL RESOURCE OF GREAT ECONOMIC AND ENVIRONMENTAL VALUE, IS PRESENTLY THE RECEIVING WATER BODY FOR A MAJOR PORTION OF THE WASTES GENERATED BY THE ADJOINING POPULATION. ALTHOUGH INFORMATION ON THE CONTAMINANTS (RESIDUES) DISCHARGED TO THESE COASTAL WATERS HAS BEEN COLLECTED BY A NUMBER OF AGENCIES, IT HAS NOT YET BEEN COMPILED TO ALLOW PROPER EVALUATION. FOR FUTURE MANAGEMENT DECISIONS TO BE MADE ON A RATIONAL BASIS, A PREDICTIVE MODEL OF THE EFFECTS OF THE NATURAL AND MAN-MADE DISCHARGES ON THE BIGHT MUST EVENTUALLY BE DEVELOPED, THUS REQUIRING DETAILED INFORMATION ON THE EXISTING INPUTS. THIS INITIAL RESEARCH EFFORT IS BEING CONDUCTED TO COMPILE AND SUMMARIZE INFORMATION ON CONTAMINANT DISCHARGES TO THE NEW YORK BIGHT. ITS PURPOSE WILL BE TO OBTAIN A PRELIMINARY ESTIMATE OF THE LOCATION, FREQUENCY, MAGNITUDE, AND TYPES OF

CONTAMINANT INPUTS; IDENTIFY DATA GAPS; AND RECOMMEND DIRECTIONS FOR FUTURE RESEARCH.

1297 MUELLER, J.A.; A.R. ANDERSON; J.S. JERIS

CONTAMINANTS IN THE NEW YORK BIGHT [1)76]

J WATER POLLUT CONTROL FED 48(10):2307-2326

THIS PAPER PRESENTED AN ESTIMATE OF THE LOCATION AND MAGNITUDE OF CONTAMINANT INPUTS INTO THE NEW YORK BIGHT, INDICATED THEIR RELATIVE IMPORTANCE, AND IDENTIFIED DATA GAPS, FOUR SOURCES OF CONTAMINANT INPUTS WERE EVALUATED IN THE STUDY: BARGE DUMPS, ATMOSPHERIC FALLOUT AS DIRECT BIGHT INPUT, WASTEWATER, AND RUNOFF AS COASTAL INPUTS TO WATERS ULTIMATELY DRAINING TO THE BIGHT. FOR EACH SOURCE, IN ADDITION TO FLOW OR VOLUME, RECENT DATA ON 23 SEPARATE CONTAMINANTS OBTAINED FROM NUMEROUS AGENCIES WERE USED TO ESTIMATE THE INPUTS OF SOLIDS, ORGANIC MATTER, NUTRIENTS, HEAVY METALS, AND MIROBES. A SUMMARY OF THE CONTRIBUTION BY SOURCE AND LOCATION WAS PRESENTED AS WELL AS AN ESTIMATE OF THE ANNUAL OR SEASONAL VARIABILITY FOR SELECTED SOURCES. TO EVALUATE THE SIGNIFICANCE OF THE MASS LOADS GENERATED IN THE STUDY, THEY WERE COMPARED WITH AN ESTIMATE OF THE BACKGROUND MASS LOADS ENTERING THE BIGHT AS A RESULT OF A NET CURRENT ACROSS THE OCEAN BOUNDARIES.

1298 MUELLER, J.A.; A.R. ANDERSON; J.S. JERIS

CONTAMINANTS ENTERING THE NEW YORK BIGHT: SOURCES. MASS LOADS. SIGNIFICANCE [1976]

PAGES 162-179 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

MAJOR CONTAMINANT INPUTS TO THE NEW YORK BIGHT ORIGINATE FROM THE NEW YORK METROPOLITAN AREA AND THE HUDSON RIVER DRAINAGE BASIN, PRINCIPALLY FROM WASTEWATER, RUNOFF, AND BARGED DISCHARGES. MAJOR SOURCES OF THE MICROBIAL LOAD ARE UNCHLORINATED MUNICIPAL WASTEWATER DISCHARGES AND URBAN RUNOFF. SEWAGE SLUDGE BARGE DUMPS CONSTITUTE AN INSIGNIFICANT MICROBIAL LOAD ON BIGHT WATERS. THE SEASONAL VARIABILITY OF MUNICIPAL WASTEWATER AND GAUGED RUNOFF AND ANNUAL VARIABILITY OF BARGE DISCHARGES RANGE FROM A MAXMUM OF 1.5-2.0 TO A MINIMUM OF 0.5-0.7 TIMES THE AVERAGE MASS LOADS. BETWEEN 1960 AND 1975 THE SLUDGE VOLUME AS WELL AS FRACTION DIGESTED SHOWS A DEFINITE INCREASING TREND. FEW DATA ARE AVAILABLE ON ATMOSPHERIC AND URBAN RUNOFF INPUTS. THE MASS LOADS REACHING THE BIGHT ARE HIGHLY RELATED. POOR QUALITY OF THE DREDGED MATERIALS IS CAUSED BY CONTAMINANTS SETTLING FROM POORLY TREATED WASTEWATER AND URBAN RUNOFF. INCREASING LEVELS OF WASTEWATER TREATMENT PRODUCE MORE MUNICIPAL AND INDUSTRIAL SLUDGE FOR DISPOSAL. FOR CONSERVATIVE SUBSTANCES, SUCH AS HEAVY METALS, VARIOUS CONTROL MEASURES MAY REDISTRIBUTE THE LOAD AMONG THE SOURCES BUT CAUSE NO NET DECREASE IN THE TOTAL.

1299 MUELLER. J.A.; J.S. JERIS; A.R. ANDERSON; C.F. HUGHES

CONTAMINANT INPUTS TO THE NEW YORK BIGHT [1976]

TM-ERL-MESA-6. NOAA, BOULDER, CO 358 PP NTIS-PB-258-063

AN ESTIMATE OF THE LOCATION AND MAGNITUDE OF CONTAMINANT INPUTS INTO THE NEW YORK BIGHT IS PRESENTED, THEIR RELATIVE IMPORTANCE INDICATED, AND DATA GAPS IDENTIFIED. FOUR SOURCES OF CONTAMINANT INPUTS WERE EVALUATED IN THE STUDY: BARGE DUMPS AND ATMOSPHERIC FALLOUT. AS DIRECT BIGHT INPUTS, AND MASTEMATER AND RUNOFF AS COASTAL INPUT TO MATERS ULTIMATELY DRAINING TO THE BIGHT. THE SOURCES WERE FURTHER SUBDIVIDED INTO THEIR VARIOUS CONSTITUENTS: DREDGE SPOTLS, SEWAGE SLUDGE, ACID WASTES, CHEMICAL WASTES AND RUBBLE FOR THE BARGE DUMPS; GAGED STREAM FLOW, URBAN RUNOFF, AND GROUNDWATER OUTFLOW FOR THE RUNOFF, AND MUNICIPAL AND INDUSTRIAL WASTEWATER INPUTS. THE WASTEWATER INPUTS WERE EVALUATED ONLY DOWNSTREAM OF THE GAGED STREAM STATIONS BECAUSE ALL INPUTS AROVE THESE POINTS ARE REFLECTED IN THE GAGED RUNOFF VALUES. IN ADDITION TO FLOW OR VOLUME FOR EACH SOURCE, 23 SEPARATE CONTAMINANTS WERE INVESTIGATED TO ESTIMATE THE INPUTS OF SOLIDS, ORGANIC MATTER, NUTRIENTS, HEAVY METALS, AND MICROBES. BECAUSE OF THEIR USEFULNESS IN WATER QUALITY MODELING, THE RAW DREDGE SPOIL, WASTEWATER DISCHARGE, AND GAGED RUNOFF DATA FOR EACH

SOURCE ARE INCLUDED AS APPENDICES.

1300 MUELLER, J.A.; A.R. ANDERSON

CONTAMINANT INPUTS TO NEW YORK BIGHT PHASE II. URBAN RUNOFF [1977]

MANHATTAN COLLEGE, NEW YORK, NY 105 PP

AN INDIRECT METHOD OF ESTIMATING URBAN STORMWATER RUNOFF AND OVERFLOW LOADS AND CONCENTRATIONS FROM COMBINED SEWER SYSTEMS IS PRESENTED IN THIS REPORT. A MATHEMATICAL FRAMEWORK CONSISTING OF MASS AND FLOW BALANCES FOR THE SEWER SYSTEM AND ITS ATTENDANT TREATMENT PLANT IS USED WITH TREATMENT PLANT SAMPLING DATA AND RAINFALL DATA AS INPUT. THE MASS BALANCE MODEL IS APPLIED TO THE DRAINAGE AREA OF THE 26TH WARD WATER POLLUTION CONTROL PLANT IN BROOKLYN, NY WHICH DRAINS TO JAMAICA BAY. DATA FROM THIS PLANT ON SUSPENDED SOLIDS, VOLATILE SUSPENDED SOLIDS AND TOTAL AND SOLUBLE BOD WERE AVAILABLE FOR A 30-YEAR PERIOD (1945-1975) AND 7 OF THESE YEARS (1951, 54, 57, 60, 66, 69) WERE ANALYZED IN DEPTH. MEAN ANNUAL VALUES OF LOAD AND CONCENTRATION FOR THESE CONSTITUENTS ARE COMPARED WITH OTHERS. DIRECTLY SAMPLED RUNOFF AND OVERFLOW DATA. SENSITIVITY OF MODEL RESULTS TO VARIATIONS IN SEVERAL INPUT PARAMETERS WERE CHECKED. FOR AREAS HAVING MAINLY COMBINED SEWER SYSTEMS, THE APPROACH IS SUGGESTED AS AN ECONOMICAL AND ACCURATE ALTERNATIVE TO SAMPLING PROGRAMS OR PRESENTLY AVAILABLE DETERMINISTIC RUNOFF QUALITY MATHEMATIC MODELS FOR AREAVIDE ASSESSMENT OVER A LARGE TIME SCALE.

1301 MUELLER, J.A.; A.R. ANDERSON

INDUSTRIAL WASTES [1978]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 3D. NYSG, ALBANY, NY 39 PP

THE NEW YORK METROPOLITAN AREA, AT THE APEX OF NEW YORK BIGHT, SUPPORTS VAST INDUSTRIAL ACTIVITY. IN THE PAST TWO DECADES THE RELATIVE IMPORTANCE OF MANUFACTURING IN THE NEW YORK REGION HAS DECLINED COMPARED TO THE REST OF THE NATION, BUT THE AREA MAINTAINS ITS STATUS AS THE LARGEST CENTER OF MANUFACTURING IN THE US. SUCH INDUSTRIAL ACTIVITY GENERATES WASTE RESIDUALS THAT ARE DISCHARGED TO THE ENVIRONMENT. TO EVALUATE THE SIGNIFICANCE OF THESE INDUSTRIAL WASTES, THE LOCATION AND MASS LOADS OF INDUSTRIAL INPUTS ARE COMPARED TO THOSE FROM NONINDUSTRIAL SOURCES. IN THE BIGHT AREA, MUCH WASTEWATER IS NOW DISCHARGED THROUGH PRIMARY, AS WELL AS SECONDARY, TREATMENT PLANTS. NEW FEDERAL REGULATIONS PRESCRIBING TREATMENT LEVELS AND PHASING OUT SOME OCEAN DUMPING ARE EXPECTED TO BRING ABOUT SOME IMPROVED WATER QUALITY. INDUSTRIAL DISCHARGES CONTRIBUTE SIGNIFICANT PORTIONS OF THE CONTAMINANT INPUT LOADS TO NEW YORK BIGHT. FUTURE DECISIONS ON WASTE MANAGEMENT MUST CONSIDER INTERRELATIONSHIPS AMONG ALL CONTAMINANT SOURCES.

1302 MULCAHY, M.

NOAA'S MIAMI LABORATORY--ARCHITECTURAL AND SCIENTIFIC MASTERPIECE [1978]

SEA TECHNOL 19(11):29-33

THE SITE SELECTION, PUILDING, AND PHYSICAL SETTING OF NO AA'S ATLANTIC OCEANOGRAPHIC AND METEOROLOGICAL LABORATORIES ON MIAMI, FL'S VIRGINIA KEY ARE BRIEFLY DESCRIBED. THE AREAS OF INTEREST OF EACH LABORATORY AND ONE OR MORE PROJECTS CURRENTLY UNDER WAY ARE DISCUSSED FOR THE OCEAN CHEMISTRY LABORATORY, THE MARINE GEOLOGY AND GEOPHYSICS LABORATORY, THE SEA-AIR INTERACTION LABORATORY, AND THE PHYSICAL OCEANOGRAPHY LABORATORY. THE MARINE ECOSYSTEMS ANALYSIS PROGRAM IN THE NEW YORK BIGHT IS GIVEN AS AN EXAMPLE OF A PROJECT INTERCROSSING THE SCIENTIFIC FACILITIES AND COMPLEMENT.

1303 MULLER, R.A.

SOME EFFECTS OF URBANIZATION ON RUNOFF AS EVALUATED BY THORNTHWAITE WATER BALANCE MODELS [1967]

PAGES 127-136 IN PROC, 3RD ANN AM WATER RESOUR CONF, RUTGERS UNIV, NEW BRUNSWICK, NJ. 8-10 NOV 1967. AM WATER RESOURCE ASSOC, MINNEAPOLIS, MN

IN ORDER TO GAIN SOME UNDERSTANDING OF HYDROCLIMATOLOGICAL PROCESSES AND INTERRELATIONSHIPS ASSOCIATED WITH URBANIZATION OF DRAINAGE BASIN, WATER BALANCE METHODOLOGY INCLUDING THE THORNTHWAITE POTENTIAL EVAPOTRANSPIRATION AND WATER BALANCE MODELS ARE APPLIED TO THE RARITAN RIVER BASIN IN NJ. THE PRECISE OBJECTIVES ARE TO COMPARE AND CONTRAST SELECTED THORNTHWAITE WATER BALANCE COMPONENTS AS CALCULATED BY SEVERAL MORE OR LESS "STANDARD" TECHNIQUES, TO DEMONSTRATE THAT POTENTIAL EVAPOTRANSPIRATION AND WATER BALANCE MODELS CAN BE UTILIZED AS HYDROCLIMATOLOGICAL CONTROLS TO OBTAIN FIRST APPROXIMATIONS OF THE CONSEQUENCES OF LAND COVER TYPE CHANGE OR URBANIZATION WITHIN A RIVER BASIN, AND TO EXPLORE BRIEFLY GENERATED WATER BALANCE DATA BASED ON THE ASSUMPTION OF THE TRANSFORMATION OF A WATERSHED FROM RURAL TO URBAN. CALCULATED RUNOFF TAKES INTO ACCOUNT THE MONTHLY AND SEASONAL VARIATION OF PRECIPITATION AND SOIL MOISTURE STORAGE AS WELL AS ENERGY AVAILABILITY FOR EVAPOTRANSPIRATION LOSS. MEASURED RUNOFF NOT ONLY INCLUDES THE CLIMATIC VARIATION BUT IN ADDITION THE EFFECTS OF LAND USE CHANGE. HENCE, THE DIFFERENCES BETWEEN CALCULATED AND MEASURED RUNOFF OVER TIME SHOULD BE A MEASURE OF THE EFFECTS OF LAND USE CHANGE ON RUNOFF.

1304 MUNSON, J.A.; P.D. MOSKOWITZ; M.D. ROJE; A.G. TINGLE; D.A. DIETERLE

THE BENEFITS OF A REDUCTION IN OPERATIONAL DISCHARGES TO THE NEW YORK BIGHT [1977]

BNL, UPTON, NY 43 PP

SEGREGATED BALLAST RETROFIT IS A POLICY CURRENTLY UNDER STUDY BY DOMESTIC AND INTERNATIONAL ORGANIZATIONS. THIS ANALYSIS ATTEMPTS TO DETERMINE THE ENVIRONMENTAL AND ECONOMIC IMPLICATIONS OF A REDUCTION IN OPERATIONAL DISCHARGES TO THE NEW YORK BIGHT RESULTING FROM THIS POLICY. FOUR MAJOR FACTORS ARE ADDRESSED: THE VOLUME OF THE REDUCTION AND THE SPECIFIC AREAS IN WHICH IT WOULD OCCUR; THE FATE OF DISCHARGES MADE TO THE BIGHT AND THE PROBABILITY THAT SUCH DISCHARGES WOULD REACH SHORE; THE EFFECT OF OPERATIONAL DISCHARGES ON AQUATIC ORGANISMS AND THE COASTAL ENVIRONMENT; AND, THE INFLUENCE OF NON-OPERATIONAL PETROLEUM POLLUTANTS RELEASED TO THE BIGHT IN DETERMINING THE BENEFITS OF A REDUCTION INOPERATIONAL DISCHARGES. AS A RESULT OF THE LIMITATIONS OF AVAILABLE INFORMATION AND ANALYSIS AND THE PRESENCE OF. VOLUMES OF HYDROCARBON EFFLUENTS, SOME 10 TIMES LARGER THEN THE VOLUME OF OPERATIONAL DISCHARGES, TWO GENERAL CONCLUSIONS ARE REACHED: FIRST, SEGREGATED BALLAST RETROFIT ALONE WILL RESULT IN ONLY A SMALL VOLUME REDUCTION IN PETROLEUM POLLUTANTS RELEASED TO THE BIGHT; AND SECOND, THE ENVIRONMENTAL BENEFITS OF THIS REDUCTION CANNOT BE MEASURED.

1305 MURAWSKI, S.A.; A.L. PACHECO

BIOLOGICAL AND FISHERIES DATA ON ATLANTIC STURGEON, ACIPENSER OXYRHYNCHUS (MITCHILL) [1977]

TECH REP 10. SANDY HOOK LAB, HIGHLANDS, NJ 69 PP

THIS REPORT BRIEFLY DESCRIBES THE ATLANTIC STURGEON, INCLUDING TAXONOMY, DISTRIBUTION, REPRODUCTION AND DEVELOPMENT, NUTRITION, POPULATION DYNAMICS, EXPLOITATION AND MANAGEMENT. MINIMUM SIZE RESTRICTIONS IN NY AND NJ ARE 48" AND 42" RESPECTIVELY.

1306 MURAWSKI. S.A.; D.G. FRANK; S. CHANG

BIOLOGICAL AND FISHERIES DATA ON BUTTERFISH, PEPRILUS TRIACANTHUS (PECK) [1978]

TECH REP 6. SANDY HOOK LAB, HIGHLANDS, NJ 39 PP

THIS REPORT DESCRIBES THE BUTTERFISH, INCLUDING TAXONOMY, DISTRIBUTION, REPRODUCTION, DEVELOPMENT, NUTRITION, BEHAVIOR, POPULATION DYNAMICS, FISHING, MANAGEMENT, IN 1977, A PROVISONAL QUOTA OF 18,000 MT WAS ADOPTED.

1307 MURCHELANO, R.A.

THE HISTOPATHOLOGY OF FIN ROT DISEASE IN WINTER FLOUNDER (PSEUDOPLEURONECTES AMERICANUS) FROM THE NEW YORK BIGHT [1974]

J WILD DISEASE 74:24-37

THE HISTOPATHOLOGY OF FIN ROT DISEASE IN THE WINTER FLOUNDER, PSEUDOPLEURONECTES AMERICANUS, FROM THE NEW YORK BIGHT WAS STUDIED. FIN ROT IN. WINTER FLOUNDER WAS CHARACTERIZED BY PROGRESSIVE NECROSIS OF THE ANAL AND DORSAL FINS. MICROSCOPIC FINDINGS INCLUDED EPIDERMAL HYPERLASIA, FIBROSIS, HYPEREMIA, AND HEMORRHAGE. BACTERIA WERE NOT OBSERVED IN SITU AND A LEUKOCYTIC INFLAMMATORY RESPONSE WAS NOT APPARENI.

1308 MURCHELANO, R.A.; J.J. ZISKOWSKI

HISTOPATHOLOGY OF AN ACUTE FIN LESION IN THE SUMMER FLOUNDER, PARALICHTHYS DENTATUS, AND SOME SPECULATIONS ON THE ETIOLOGY OF FIN ROT DISEASE IN THE NEW YORK BIGHT [1977]

J WILD DISEASE 13:103-106

THE HISTOPATHOLOGY OF ACUTE FIN ROT DISEASE IN SUMMER FLOUNDER, PARALICHTHY'S DENTATUS, FROM THE NEW YORK BIGHT IS DESCRIBED.
GROSSLY, CAUDAL AND DORSAL FIN LESIONS APPEARED RAGGED OR FRAYED WITH NO EVIDENCE OF RESOLUTION. MICROSCOPICALLY, THERE WAS
EPIDERMAL AND DERMAL NECROSIS, CONGESTION, EDEMA, FOCAL AND DIFFUSE HEMORRHAGE, AND ZENKERS NECROSIS OF UNDERLYING MUSCLE.
GRAM-NEGATIVE BACTER IA WERE PRESENT IN THE FIN TISSUES AS WELL AS IN HEART MUSCLE AND LIVER PARENCHYMA. THE INFLAMMATORY
RESPONSE CONSISTED MOSTLY OF MACROPHAGES. THE SIGNIFICANCE OF THE ACUTE DISEASE IN SUMMER FLOUNDER IS DISCUSSED IN RELATION TO
THE ETIOLOGY OF FIN ROT DISEASE IN WINTER FLOUNDER FROM THE BIGHT.

1309 MURCHELANO, R.A.; J.J. ZISKOWSKI

SOME DESERVATIONS ON AN ULCER DISEASE OF RED HAKE, UROPHYCIS CHUSS, FROM THE NY BIGHT [1979]

ICES. COPENHAGEN. DENMARK NP

AN ULCER DISEASE HAS BEEN NOTED IN RED HAKE, UROPHYCIS CHUSS, FROM THE NEW YORK BIGHT. SINCE OCTOBER 1978, A TOTAL OF 888 RED HAKE FROM THE BIGHT HAVE BEEN EXAMINED FOR THE PRESENCE OF INTEGUMENTAL ULCERS; 68 (7.5%) OF THE FISH HAD LESIONS. NONE OF SEVERAL HUNDRED RED HAKE FROM OUTSIDE OF THE NEW YORK BIGHT HAD ULCERS. GROSSLY, THE LESIONS CONSISTED OF SINGLE OR MULTIPLE HEMMORRHAGIC FOCI DISTRIBUTED RANDOMLY ON THE TRUNK OF THE FISH. THE MOST CONSISTENT MICROSCOPIC FEATURE WAS ULCERATION ACCOMPANIED BY NECROSIS, EPIDERMAL AND DERMAL HYPERPLASIA, AND HEMORRHAGE. BACTERIOLOGIC CULTURES PREPARED FROM MACERATED KIDNEY TISSUE WERE STERILE AFTER 21 DAYS INCUBATION. BACTERIOLOGIC STUDIES WILL BE CONTINUED IN THE FALL OF 1979 WHEN RED HAKE RETURN TO THE BIGHT.

1310 MURDEN. W.R., JR.

THE DEVELOPMENT OF NEW DREDGING PROCEDURES [1978]

NTIS, SPRINGFIELD, VA 62 PP NTIS-AD-A 362 911

THIS REPORT DESCRIBES AND EVALUATES THREE FIELD TESTS CONDUCTED TO DETERMINE THE FEASIBILITY OF USING SEAGOING HOPPER DREDGES TO OBTAIN MATERIALS FROM THE OFFSHORE ZONE FOR DELIVERY TO ERODED BEACHES. THE TESTS WERE CONDUCTED AT SEA GIRT, NJ, JACKSONVILLE, FL AND VA BEACH, VIRGINIA. THE TESTS FOCUSED ON THE CAPABILITIES OF THE DREDGING EQUIPMENT, INCLUDING THE SYSTEMS OF EQUIPMENT USED TO DELIVER DREDGED MATERIAL TO JEACH AREAS, AND ON THE OPERATION PRACTICES EMPLOYED IN DREDGING AND DELIVERY. AS A RESULT OF THE TESTS AND THEIR EVALUATION THE AUTHOR CONCLUDES THAT ADVANCES IN THE CAPABILITIES OF DREDGING EQUIPMENT ARE

CONDUCIVE TO INCREASED USE OF SEAGOING HOPPER DREDGES FOR EXCAVATION OF MATERIAL FROM THE OFFSHORE ZONE AND DELIVERY TO BEACH AREAS. THE REPORT INCLUDES RECOMMENDATIONS FOR FURTHER TESTING OF ALTERNATIVE SYSTEMS FOR DELIVERY OF DREDGED MATERIAL TO ERODED BEACHES, INCLUDING COMPONENTS SUCH AS MOORING BUOYS, FLEXIBLE CONNECTORS AND DISCHARGE PIPELINES. THE REPORT ALSO IDENTIFIES THE NEED FOR A NATIONAL STUDY OF THE AVAILABILITY OF MATERIALS IN THE OFFSHORE ZONE FOR USE IN BEACH NOURISHMENT.

1311 MURPHY, C.

ATMOSPHERIC CONTRIBUTION TO PH, TRACE METAL, AND ANION CONTENT OF NEWARK BAY [1981]

NJSG. HIGHLANDS. NJ NP'

THE WORK DESCRIBED IN THIS REPORT WAS FUNDED RESEARCH CARRIED OUT UNDER THE NOAA SEA GRANT PROGRAM DURING THE PERIOD MARCH 1, 1978 THROUGH MAY 31, 1979. THE PROJECT WAS DESIGNED TO DETERMINE THE ROLE OF THE ATMOSPHERE IN THE FLUX OF TRACE METALS THROUGH NEWARK HAY. THE ATMOSPHERIC CONTRIBUTION OCCURS BY THE PROCESSES OF WET AND DRY DEPOSITION. ALSO TO BE EXAMINED BY THE PROJECT WAS THE PRODUCTION OF AEROSOLS FROM THE BAY SURFACE ITSELF AS A SOURCE OF MATERIAL TO THE ATMOSPHERE.

1312 MUSHACKE, F.M.

SABELLARIA VULGARIS AS A FOULING ORGANISM OF AMERICAN LUBSTER [1978]

NY FISH GAME J 25(1):82-83

SABELLARIA VULGARIS HAS BEEN IDENTIFIED AS A FOULING ORGANISM OF HOMARUS AMERICANUS SPECIMENS WHICH WERE COLLECTED ABOARD A COMMERCIAL LOBSTER BOAT IN LONG ISLAND SOUND OFF EATON'S NECK. 96% OF THOSE SPECIMENS WHICH WERE FOULED WITH S. VULGARIS WERE OVIGEROUS FEMALES.

1313 MUSICK, J.A.; L.P. MERCER

SEASONAL DISTRIBUTION OF BLACK SEA BASS, CENTROPRISTIS STRIATA IN THE MID-ATLANTIC BIGHT WITH COMMENTS ON THE ECOLOGY AND FISHERIES OF THE SPECIES [1977]

TRANS AM FISH SOC 106(1):12-25

BLACK SEA BASS IN THE MIDDLE ATLANTIC BIGHT SPAWN IN THE SUMMER, AT DEPTHS OF 18 TO 45 M, PRIMARILY FROM VA TO MONTAUK, LONG ISLAND. YOUNG OF THE YEAR BECOME DEMERSAL AT 13-24 MM TOTAL LENGTH AND ENTER ESTUARINE NURSERY GROUNDS. IN FALL BLACK SEA BASS MIGRATE SOUTH AND, OFFSHORE TO THE CHESAPEAKE BIGHT WHERE THE ENTIRE POPULATION SPENDS THE WINTER. LARGER AND OLDER FISH MOVE OFFSHORE SOONER THAN DO YOUNG OF THE YEAR AND WINTER IN DEEPER WATER (73-165 M). BLACK SEA BASS MAY TOLERATE TEMPERATURES AS LOW AS 6 C BUT ARE CAPTURED IN LARGER NUMBERS AND MORE FREQUENTLY IN WATERS 9 C AND ABOVE. IN THE SPRING SEA BASS MIGRATE INSHORE AND TO THE NORTH; ADULTS TO THEIR COASTAL SPAWNING AREAS, JUVENILES TO ESTUARINE NURSERY AREAS (INCLUDING LOWER CHESAPEAKE BAY). IN RECENT YEARS, THE COMMERCIAL CATCH PER EFFORT OF SEA BASS HAS DROPPED AND THE FISHERY LANDS FEWER LARGE AND MEDIUM SIZE FISH. CONCURRENTLY DOMESTIC TRAWLING EFFORT HAS DECREASED SOMEWHAT WHEREAS EFFORT BY THE RECREATIONAL, FOREIGN TRAWL, AND POT FISHERIES HAS INCREASED. BLACK SEA BASS APPEAR TO BE OVERHARVESTED. BECAUSE SEA BASS ARE INCOMPLETELY METAGONOUS, PROTOGYNOUS HERMAPHRODITES, HEAVY FISHING PRESSURE MAY CAUSE THE SEX RATIO OF THE POPULATION TO SO FAVOR FEMALES THAT THE NUMBER OF REMAINING MALES MAY NOT BE SUFFICIENT TO SUSTAIN ADEQUATE REPRODUCTION. CONVERSELY, BEHAVIORAL INTERACTIONS AMONG INDIVIDUALS IN THE POPULATION MAY ACT HOMEOSTATICALLY TO INITIATE SEX REVERSAL, THUS MAINTAINING A RELATIVELY CONSTANT (THOUGH SKEMED) SEX RATIO IN THE POPULATION AT HE POPULATION OF THE MECHANISMS CONTROLLING SEX REVERSAL IN BLACK SEA BASS BEFORE THE EFFECTS OF FISHING PRESSURE ON THE POPULATION CAN BE EVALUATED.

1314 MYTELKA, A.I.; L.P. CAGLIOSTRO; D.J. DEUTSCH; C.A. HAUPT

COMBINED SEWER OVERFLOW FOR THE HUDSON RIVER CONFERENCE [1973]

TECH REP R2-73-152. US EPA. NEW YORK, NY 287 PP NTIS-PB-227 341

A DETAILED EXAMINATION WAS CONDUCTED OF TEN COMBINED SEWER OVERFLOW SYSTEMS WITHIN THE PORTION OF THE HUDSON RIVER BASIN LYING WITHIN THE INTERSTATE SANITATION DISTRICT. THE WORK INCLUDED THE IDENTIFICATION AND STUDY OF THESE COMBINED SEWER SYSTEMS IN ORDER TO DETERMINE THEIR LOCATION, PHYSICAL CHARACTERISTICS, AND SERVICE AREAS. THE PROCEDURE EMPLOYED INCLUDED THE PHYSICAL EXAMINATION OF EACH SYSTEM'S REGULATORS TO DETERMINE THEIR LOCATION, TYPE, DIMENSIONS, AND CONDITION. A STUDY OF AVAILABLE RECORDS WAS MADE TO DETERMINE, WHERE POSSIBLE, TRUNK LINE FLOW, INTERCEPTOR LINE DESIGN CAPACITY, AND CHARACTERIZATION OF THE DRAINAGE AREA SERVED BY EACH REGULATOR WHICH INCLUDED POPULATION AND LAND USE. TEN SUMMARY TABLES AND FORTY REGULATOR LOCATION FIGURES ARE INCLUDED. DRY WEATHER AND WET WEATHER SAMPLING WAS ALSO CONDUCTED. BY-PASS LOADINGS FOR SEVERAL POLLUTION PARAMETERS HAVE BEEN CALCULATED DURING STORM FLOW CONDITIONS BASED UPON THIS SAMPLING. RECOMMENDATIONS FOR MINIMIZING COMBINED SEWER OVERFLOWS ARE INCLUDED.

1315 NADEAU, R.J.; R.A. DAVIS

POLYCHLORINATED BIPHENYLS IN THE HUDSON RIVER (HUDSON FALLS-FORT EDWARD NEW YORK STATE) [1976]

BULL ENVIRONM CONTAM TOXICOL 16(4):436-444

THE PRESENCE AND EXTENT OF CONTAMINATION OF WATER, SEDIMENTS, AND BIOTA OF THE HUDSON RIVER BY INDUSTRIAL USE AND DISCHARGE OF PCBS WERE DISCUSSED. PCBS WERE UBIQUITOUS IN DISTRIBUTION WITHIN THE HUDSON RIVER WITHIN A VARIETY OF SUBSTRATES. HIGHER-THAN-BACKGROUND CONCENTRATIONS IN THE SEDIMENTS AND BIOTA WERE FOUND IN THE IMMEDIATE VICINITY OF THE PCB DISCHARGE. THE ADSORBED PCBS REMAINED BIOLOGICALLY ACTIVE WITHIN THE FOOD WEB. A BIOMAGNIFICATION PATHWAY WAS INDICATED. THE PCBS REMAINED ENVIRONMENTALLY ACTIVE AND WERE NOT TAKEN OUT OF CIRCULATION BY THE GEOLOGICAL SEDIMENTATION PROCESS.

1316 NADER, R.

ARE YOUR BEACHES POLLUTED? [1977]

LADIES HOME JOURNAL AUG 1977 1PP

SEWAGE IS OBVIOUS POLLUTION TO THE PUBLIC BUT THERE ARE OTHER FORMS. A STUDY IN 1975 FOUND 13% OF US BEACHES CLOSED DUE TO HIGH BACTERIAL COUNTS. AN EXAMPLE OF A WATER CLEANUP STORY IS GIVEN, WITH A LIST OF CONTACTS TO CALL POLLUTION INFORMATION ON BEACHES.

1317 NAKAS, J.P.; C.D. LITCHFIELD

APPLICATION OF THE DIACETYL-MONOXIME THIOSEMICARBAZIDE METHOD TO THE ANALYSIS OF UREA IN ESTUARINE SEDIMENTS [1977]

ESTUARINE COASTAL MAR SCI 5(1):143-150

A NEW METHOD FOR THE ANALYSIS OF UREA IN MARINE SEDIMENTS USING DIACETYLMONOXIME AND THIOSEMICARBAZIDE IN THE PRESENCE OF STRONG ACID RESULTED IN A SENSITIVE AND HIGHLY REPRODUCIBLE ASSAY REGARDLESS OF SEDIMENT TYPE. THE OCCURRENCE AND DISTRIBUTION OF UREA IN ESTUARINE SEDIMENTS OFF NJ WERE MONITORED IN AN ATTEMPT TO DISCERN THE IMPORTANCE OF THIS COMPOUND AS A COMBINED SOURCE OF NITROGEN. FROM MID-1972 THROUGH THE END OF 1973, UREA LEVELS WERE DETECTED WHICH DID NOT EXCEED 32.8 MICROGRAM UREA N/G DRY SEDIMENT. CONTINUED SAMPLING IHROUGH 1974 REVEALED SIGNIFICANTLY HIGHER UREA CONCENTRATIONS (GREATER THAN 400 MICROGRAM UREA N/G DRY SEDIMENT), WHILE THE TOTAL NITROGEN PRESENT REMAINED CONSTANT. ALSO, A FAIRLY REGULAR SEASONAL PATTERN WAS OBSERVED, WITH HIGHER UREA LEVELS FOUND IN WINTER AND LOWER LEVELS OCCURRING IN SPRING-SUMMER. THESE RESULTS MAY INDICTE A CHANGE TO A MORE POLLUTED ECOSYSTEM.

1318 NARKUS, K.M.; S. RETICK; A. WATSON

ENVIRONMENTAL CONSEQUENCES OF ON-SHORE ACTIVITY IN FOUR NEW JERSEY COASTAL COUNTIES RESULTING FROM OFF-SHORE OIL DEVELOPMENT. FINAL REPORT, 1975-90 [1975]

US EPA, WASHINGTON, DC 46 PP NTIS-PB-249 349

INCREASES IN ONSHORE AIR AND WATER POLLUTION LEVELS FOR 4 NJ COASTAL COUNTIES RESULTING FROM THE PROPOSED MID-ATLANTIC OIL AND GAS LEASE SALE (SALE NO. 40) WERE ESTIMATED BASED ON THE PROJECTIONS OF ECONOMIC ACTIVITY FOR 1975, 1980, 1985, AND 1990.

1319 NASH, N.

SLUDGE DISPOSAL AND THE COASTAL METROPOLIS [1975]

IN PROC, 169TH NAT'L MEETING, SPEC SYMP ON MARINE CHEMISTRY IN THE COASTAL ENVIRONMENT. ACS, WASHINGTON, DC NP

OCEAN DISPOSAL IS A SERIOUS MATTER WHICH DESERVES CALM AND SCIENTIFIC STUDY, A MODICUM OF PRIVATE AND PUBLIC PRESSURE, AND A MINIMUM OF EMOTION AND SCARE TACTICS. A PROFESSIONAL STUDY OF ITS EFFECTS ON MARINE AND, PERHAPS, HUMAN LIFE AND A DISPASSIONATE EVALUATION OF THE OCEAN'S CAPACITY TO ACCEPT ITS SHARE OF MAN'S WASTES ARE NEEDED. THE LAND AND AIR, THE ONLY OTHER POSSIBLE REPOSITORIES, CANNOT RECEIVE ALL OF IT. NYC PRODUCES ABOUT 90 MILLION FT3 OF SLUDGE/YR. THAT WILL INCREASE TO 190 MILLION BY 1981, THE YEAR THAT REGION 2 OF THE US EPA HOPES WILL MARK THE END OF OCEAN DISPOSAL. IN NY'S VIEW, THAT VOLUME REPRESENTS A BADGE OF MERIT, FOR SLUDGE VOLUME IS EARNED BY LONGTERM SEWAGE COLLECTION AND TREATMENT. ONE ALTERNATE IS WET AIR OXIDATION OF SLUDGE, TO BE INCORPORATED IN A NEW PLANT ALREADY DESIGNED. ANOTHER IS HIGH-TEMPERATURE INCINERATION WITH SOLID WASTE, BUT TIME IS NEEDED TO FIELD-TEST THESE PROCESSES.

1320 NASH, N.; P.J. KRASNOFF; W.B. PRESSMAN

OXYGEN AERATION AT NEWTOWN CREEK CINCINNATI, OHIO [1979]

US EPA, WASHINGTON, DC 90 PR

A SUCCESSFUL INITIAL FEASIBILITY INVESTIGATION OF OXYGEN AERATION AT THE 0.11 M3/SEC (2.5 MGD) MUNICIPAL WASTEWATER TREATMENT PLANT IN BATAVIA, NY, PROMPTED A LARGER DEMONSTRATION AT NYC'S 13.6 M3/SEC (310 MGD) NEWTOWN CREEK PLANT. A 34 MD EVALUATION WAS PERFORMED IN A SELF-CONTAINED SET OF PLANT TANKS USING A 13.6 METRIC TON/DAY (15-TON/DAY) OXYGEN GENERATOR WITH LIQUID OXYGEN BACKUP FOR OXYGEN SUPPLY AND TURBINE MIXERS AND SPARGERS FOR OXYGEN DISSOLUTION. FOR THE 34 MO PERIOD, AT INFLUENT FLOWS OF 0.44 TO 1.53 M3/SEC (10 TO 34 MGD), EFFLUENT QUALITY AVERAGED 19 MG/L EACH OF BOD AND SUSPENDED SOLIDS FOR REMOVAL EFFICIENCIES OF 88 AND 86 %, RESPECTIVELY. REMOVALS WERE NOT IMPAIRED BY INTENTIONAL HYDRAULIC AND BOD OVERLOADING OF THE OXYGENATION SYSTEM. DURING THE WINTER MONTHS, A FUNGUS IN THE INFLUENT SEWAGE CAUSED THE OXYGENATION SYSTEM BIOMASS TO BECOME FILAMENTOUS, RESULTING IN A DETERIORATION OF SLUDGE SETTLING AND THICKENING CHARACTERISTICS TO VARYING DEGREES OVER THE THREE WINTERS OF THE TESTING PROGRAM. WHILE OPERATING DIFFICULTIES OCCURRED, THIS CONDITION HAD NO SIGNIFICANT EFFECT ON THE PLANT EFFLUENT GUALITY.

1321 NAU-RITTER, G.M.

THE DYNAMICS OF PCB TRANSFERS AMONG MARINE PHYTOPLANKTON, CLAY PARTICLES AND WATER [1980]

M.S. THESIS. SUNY, STONY BROOK, NY 117 PP

THE SORPTION OF POLYCHLORINATED BIPHENYLS (PCB, AROCLOR 1254 CONTAINING 54% CHLORINE) ONTO CLAY PARTICULATES AND SUBSEQUENT DESORPTION FROM PARTICLES TO WATER CONTAINING PHYTOPLANKTON WAS GOVERNED BY EQUILIBRIUM PARTITIONING. EQUILIBRIUM CONCENTRATION

FACTORS BETWEEN PARTICLES AND WATER RANGED FROM 1.2 X 1UEXP4 FOR ILLITE AND 1.0 X 10EXP4 FOR CHLORITE TO 4.9 X 10EXP4 FOR DETRITAL ALGAL CELLS. C-14-PCB ADSORPITON TO ILLITE WAS QUICKER THAN THAT FOR CHLORITE. PARTICLES WITH HIGHER ORGANIC CONTENTS (LIVING OR DETRITAL ALGAL CELLS) SORBED MORE PCB THAN DID INORGANIC PARTICLES. C-14-PCB TRANSFERRED FROM ILLITE PARTICLES TO SIMILARLY-SIZED THALASSIOSIRA WEISSFLOGII CELLS AND INHIBITED ALGAL PHOTOSYNTHESIS AND GROWTH. THE RATES OF C-14-PCB DESORPTION FROM PARTICLES TO WATER WAS INDEPENDENT OF PARTICLE ORGANIC OR MINERAL CONTENT. 14 C-PCB SIMILARLY DESORBED FROM ILLITE WITH AND WITHOUT ORGANIC MATTER. IN A SALT MARSH, DESORPTION RATES OF C-14-PCB FROM ILLITE AND CHLORITE TO SEAWATER CONTAINED IN DIALYSIS BAGS WERE SIMILAR. CLAY PARTICLES INCREASED THE RESIDENCE TIME OF PCB WITHIN THE DIALYSIS BAGS, SO THAT PARTICLE-SORBED PCB INHIBITED PHOTOSYNTHESIS IN NATURAL PHYTOPLANKTON MORE THAN DID PCB ADDED DIRECTLY TO THE WATER. AROCLOR 1254 (ADDED DIRECTLY TO THE WATER OR ON PARTICLES) APPEARED MORE TOXIC TO NATURAL PHYTOPLANKTON THAN WAS AROCLOR 1016 (CONTAINING 42% CHLORINE). THESE RESULTS INDICATE THAT PARTICLE-SORBED PCB MAY DESORB IN UNCONTAMINATED WATERS AND BE TRANSFERRED TO NATURAL PHYTOPLANKTON, WHERE ADVERSE EFFECTS ON PRIMARY PRODUCTION MAY RESULT.

1322 NEAFSEY, J.A.

DEVELOPING CRITERIA FOR THE EVALUATION OF WETLANDS [1974]

CORNELL UNIV, ITHACA, NY 43 PP

THE FEASIBILITY OF USING SPRING AND SUMMER FLOWN BLACK AND WHITE AERIAL PHOTOGRAPHY (1:20,000 AND 1:24,000) FOR COMPILING MAPS AND OBTAINING DETAILED INVENTORY DATA ON METLAND AREAS HAS BEEN DEMONSTRATED BY THE WETLANDS INVENTORY PILOT PROJECT OF THE NY DEC, DIV OF FISH AND WILDLIFE. IT IS FELT THAT THE INFORMATION FROM THESE PHOTOGRAPHS WILL BE SATISFACTORY FOR. THE PURPOSE OF CONDUCTING AN OBJECTIVE EVALUATION OF WETLAND AREAS WITH REGARD TO PUBLIC ACQUISITION, RESTORATION OR DEVELOPMENT. ALTHOUGH OTHER REMOTE SENSING TECHNIQUES ARE AVAILABLE, BLACK AND WHITE PHOTOGRAPHY REPRESENTS THE ONLY COMPLETE COVERAGE THAT PRESENTLY EXISTS FOR NY. TIME LAPSE COVERAGE OF THE STATE WITH COLOR, COLOR INFRA-RED, BLACK AND WHITE INFRARED AND THERMAL IMAGERY WOULD BE ECONOMICALLY FEASIBLE ONLY WHEN MULTI-DISCIPLINARY INTERESTS ARE TO BE SERVED. IMAGERY OF THIS TYPE MAY ALLOW WETLAND VEGETATION TO BE SPECIATED AND WETLAND VEGETATION ZONES TO BE DEFINED MORE ACCURATELY. WITH THE INFORMATION GAINED FROM BLACK AND WHITE PHOTOGRAPHY, AN ESTIMATE OF THE POTENTIAL FOR PRIMARY PRODUCTION CAN BE MADE BY CORRELATING THE VARIOUS VEGETATION COVER TYPES (TWELVE FRESHWATER COVER TYPES AND AN INDETERMINATE NUMBER OF MIXED TYPES) WITH EXPERIMENTAL VALUES FOR PRIMARY PRODUCTION FROM THE LITERATURE OR FIFLD WORK.

1323 NELSEN, T.A.; P.E. GADD; T.L. CLARKE

WIND-INDUCED CURRENT FLOW IN THE UPPER HUDSON SHELF VALLEY [1978]

J GEOPHYS RES 83(C12):6073-6082

DRAWING FROM WIND AND CURRENT METER DATA, AN EMPIRICAL, SEMI-QUANTITATIVE MODEL WAS DEVELOPED FOR WIND-INDUCED CURRENT FLOW IN THE NEW YORK BIGHT APEX PORTION OF THE HUDSON SHELF VALLEY. DATA SHOWED THAT WINDS FROM 270 DEG T (+/-50 DEG), BLOWING FOR AT LEAST 7 HRS AT SPEEDS OF GREATER THAN 5 M/S, CAN CAUSE NORTHWARD (UPCHANNEL) BOTTOM FLOW IN THE SHELF VALLEY AT VELOCITIES IN EXCESS OF 40 CM/S. SOUTHERN (DOWNCHANNEL) FLOW WAS INITIATED BY WINDS FROM 75 DEG T (+/-35 DEG) BLOWING FOR AT LEAST 6 HRS AT SPEEDS OF 4 M/S OR MORE. SEASONAL VARIATION IN THE WIND FIELD RESULTED IN PREDOMINANT UPCHANNEL FLOW DURING OCT-APR WITH DOWNCHANNEL FLOW THROUGHOUT THE REST OF THE YEAR.

1324 NELSEN, T.A.

SUSPENDED PARTICULATE MATTER IN THE MEW YORK BIGHT APEX: OBSERVATIONS FROM APRIL 1974 THROUGH JANUARY 1975 [1979]

TM-ERL-MESA-42. NOAA, MIAMI, FL 81 PP

SUSPENDED PARTICULATE MATTER (SPM) CONCENTRATION, DISTRIBUTION, AND COMPOSITION IN THE NEW YORK BIGHT APEX WAS STUDIED. THIS

REPORT COVERS SPM DATA FOR THE PERIOD APR 1974 THROUGH JAN 1975, AND EXTENDS THE TIME SERIES INITIATED IN 1973. SUSPENDED PARTICULATE MATTER IN THE NEW YORK BIGHT APEX CAN BE BROADLY CLASSIFIED AS NATURAL AND ANTHROPOGENIC. NATURAL SOURCES INCLUDE THE MINERAL AND BIOLOGICAL COMPONENTS OF RIVER RUNOFF, PLANKTON, ECLIAN SOURCES, RESUSPENDED BOTTOM SEDIMENTS, AND MATERIAL ADVECTED INTO THE APEX BY CONTINENTAL SHELF CURRENTS. TO THIS NATURAL PARTICULATE MATRIX MAN INTRODUCES A COMPLEX MITURE OF PARTICLES DERIVED FROM DREDGED MATERIALS, CONSTRUCTION DEBRIS, SEWAGE SLUDGE, AND INDUSTRIAL ACID MASTE MATERIAL. DBSERVATIONS REPORTED HERE WERE TAKEN ON CRUISES SEPARATED BY APPROXIMATELY ONE MONTH AND DESIGNATED AS WATER COLUMN CHARACTERIZATION (WCC) CRUISES.

1325 NELSON. R.

LEVEL B WATER RESOURCES PLANNING IN AN URBAN SETTING [1975]

WATER RESOUR BULL 11(3):605-612

THE PURPOSE OF THIS PAPER IS TO DESCRIBE HOW THE LEVEL B WATER RESOURCES PLANNING PROCESS WAS APPLIED TO LONG ISLAND SOUND AND THE LAYD AREA AROUND IT, TO SUMMARIZE THE MAJOR FINDINGS AND RECOMMENDATIONS OF THE STUDY AND TO COMMENT ON THE EFFECTIVENESS OF THAT PROCESS AND SUGGEST HOW IT MIGHT BE MADE MORE EFFECTIVE IN THE FUJURE.

1326 NELSON, W.R.; M.C. INGHAM; W.E. SCHAAF

LARVAL TRANSPORT AND YEAR-CLASS STRENGTH OF ATLANTIC MENHADEN, BREVOORTIA TYRANNUS [1977]

FISH BULL 75(1):23-41

A RICKER SPANNER-RECRUIT MODEL WAS DEVELOPED FOR ATLANTIC MENHADEN, BREVOORTIA TYRANNUS, FROM PATA ON THE 1955-70 YEAR CLASSES. THE NUMBER OF EGGS PRODUCED BY THE SPANNING STOCK WAS CALCULATED AS THE INDEPENDENT VARIABLE TO ACCOUNT FOR CHANGES IN FECUNDITY DUE TO CHANGES IN POPULATION SIZE AND AGE STRUCTURE. A SURVIVAL INDEX WAS DEVELOPED FROM DEVIATIONS AROUND THE RICKER CURVE AND WAS REGRESSED ON SEVERAL ENVIRONMENTAL PARAMETERS TO DETERMINE THEIR DENSITY-INDEPENDENT EFFECTS. THE RECRUIT-ENVIRONMENTAL MODEL ACCOUNTED FOR OVER 84% OF THE VARIATION IN THE SURVIVAL INDEX. ZONAL EKMAN TRANSPORT, WHICH ACTS AS A MECHANISM TO TRANSPORT LARVAL MENHADEN FROM OFFSHORE SPAWNING AREAS TO INSHORE NURSERY GROUNDS, WAS THE MOST SIGNIFICANT PARAMETER TESTED. RICKER FUNCTIONS FOR GOOD AND POOR ENVIRONMENTAL YEARS WERE DEVELOPED, INDICATING THE WIDE RANGE OF RECRUITMENT THAT CAN BE EXPECTED AT DIFFERENT STOCK SIZES. COMPARISONS OF SPAWNER-RECRUIT RELATIONS FOR PACIFIC SARDINE AND ATLANTIC MENHADEN INDICATED STRIKING SIMILARITIES. SURPLUS YIELD FOR THE ATLANTIC MENHADEN FISHERY WAS CALCULATED FROM OBSERVED AND PREDICTED SURVIVAL. AND COMPARED WITH THE ACTUAL PERFORMANCE OF THE FISHERY.

1327 NESE, P.A.; J. GALANDAK; J.A. FREDERICK

COMPOSTING AND DISPOSAL OF INDUSTRIAL WASTEWATER SLUDGE [1981]

WATER POLLUT CONTROL FED 52(11):183-171

THE LIVEN ROSELLE SEWERAGE AUTHORITY TREATS WASTES FROM PART OF THE HIGHLY DEVELOPED INDUSTRIAL COMPLEX OF NORTHEAST NJ. COMPOSTING, PYROLYSIS AND LAND APPLICATION WERE STUDIED FOR THE AUTHORITY AND FOR A REGIONAL GROUPING WITH 2 ADJACENT AUTHORITIES. SIGNIFICANT ASPECTS OF THE RECOMMENDED ALTERNATIVE, REGIONAL COMPOSTING, ARE PRESENTED, INCLUDING COAST, ENVIRONMENTAL IMPACT, DEVELOPMENT AND ENFORCEMENT OF STRINGENT SEWER ORDINANCE, PRETREATMENT, BETTER HOUSEKEEPING, CHANGES IN INDUSTRIAL PROCESSES TO REDUCE HEAVY METALS AND TOXIC ORGANICS, CONSIDERATION OF AGRICULTURAL LANDS AS FUTURE MARKETS FOR SLUDGE, PERMANENT INDUSTRIAL SAMPLING AND MONITORING PROGRAMS, AND IMPLEMENTATION OPTIONS.

1328 NEVES, R.J.; L. DEPRES

THE OCEANIC MIGRATION OF THE AMERICAN SHAD, ALOSA SAPIDISSIMA, ALONG THE ATLANTIC COAST [1979]

FISH BULL 77(1):199-212

THE MIGRATORY ROUTE OF AMERICAN SHAD, ALOSA SAPIDISSIMA, IN THE ATLANTIC OCEAN WAS STUDIED USING 14 YR OF CATCH DATA COLLECTED DURING BOTTOM TRAWL SURVEYS BY THE US NMFS (AND ITS PREDECESSOR) AND COOPERATING FOREIGN COUNTRIES. ALL SHAD CATCHES OCCURRED AT BOTTOM TEMPERATURES FROM 3 TO 15 C WITH THE MOST FREQUENT CATCHES BETWEEN 7 AND 13 C. WATER TEMPERATURES BETWEEN INITIAL AND PEAK ENTRY OF SHAD INTO HOME ESTUARIES ALONG THE ATLANTIC COAST ARE WITHIN THE SAME THERMAL REGIME (3-15 C). DURING THE SUMMER, ALL SHAD CATCHES OCCURRED NORTH OF LAI 40 N IN TWO PRIMARY AREAS: GULF OF MAINE AND AN AREA SOUTH OF MANTUCKET SHOULS. PREVIOUS STUDIES ON FOOD HABITS AND DIFFERENCES IN TIME OF CAPTURE DURING US NMFS SURVEYS INDICATED THAT SHAD WERE VERTICAL MIGRATORS, PROBABLY FOLLOWING THE DIEL MOVEMENTS OF LARGE ZOOPLANKTERS IN THE WATER COLUMN. SHAD WERE GENERALLY ABSENT FROM THE GULF OF MAINE BY LATE AUTUMN, AND CONCENTRATIONS WERE FOUND BETWEEN LAT 39 AND 41 N DURING THE WINTER. BASED ON PREVIOUS TAGGING STUDIES, NMFS SURVEYS, AND COASTAL TEMPERATURE DATA, MOST PRESPANNING ADULTS ENTER COASTAL WATERS ALONG THE MIDDLE ATLANTIC BIGHT FROM LAI 36 TO 40 N AND THEN PROCEED NORTH OR SOUTH TO NATAL RIVERS. COASTAL SURVEYS FOR RIVER HERRING BY NC'S ANDROMOUS FISHERY RESEARCH PROGRAM AND COMMERCIAL SHAD CATCHES REPORTED TO THE INTERNATIONAL COMMISSION FOR THE MORTHWEST ATLANTIC FISHERY RESEARCH PROGRAM AND COMMERCIAL SHAD CATCHES REPORTED TO THE INTERNATIONAL COMMISSION FOR THE MORTHWEST ATLANTIC FISHERIES BY MEMBER NATIONS CONCUR WITH OUR PROPOSED BOTTOM TEMPERATURE (3-15 C) MIGRATORY ROUTE HYPOTHESIS FOR SHAD.

1329 NEVILLE, R.A.; V. THOMSON; R.A. ONEIL; L. BUJA-BIJUNAS; L. GRAY; K. DAGG; B. HAWKINS

REMOTE SENSING OF OIL SPILLS [1979]

SPILL TECHNOLOGY NEWSLETTER 4(2):111-147

TWO OIL SPILL REMOTE SENSING MISSIONS ARE DISCUSSED: A SEPT 1978 FLIGHT TO SCOTT INLET ON BAFFIN ISLAND, CANADA, TO OBSERVE AN OIL SLICK PRODUCED BY A NATURAL SEEP; AND A NASA FLIGHT TO DUMPSITE 106 OFF THE NJ COAST TO OBSERVE TWO INTENTIONAL TEST SPILLS. REMOTE SENSING EQUIPMENT WAS USED TO DETECT THE SUPPRESSION OF CAPILLARY WAVES, INCREASED SURFACE REFLECTANCE, CHANGES IN THE THERMAL EMISSIVITY AND/OR TEMPERATURE, AND THE PRESENCE OF FLUORESCENCE RADIATION IN THE OIL SPILL AREAS. OPERATING RANGES AND SENSOR MODIFICATIONS AND FILTERS ARE SUMMARIZED. THE SENSORS INCLUDE: VINTEN 70 MM CAMERA; WILD-HEERBRUGG RD-10 CAMERA; DUAL CHANNEL LINE SCANNER; MULTISPECTRAL SCANNER; 4 CHANNEL NADIR LOOKING, PROFILING PHOTOMETER; LOW LIGHT LEVEL TELEVISION; AND AN ELECTRONICALLY SCANNED DIODE ARRAY DEVICE.

1330 NEWMAN, F.C.; J.R. PRONI; D.J. WALTER; H.M. BYRNE

ACOUSTIC IMAGING OF THE NEW ENGLAND SHELF-SLOPE WATER MASS INTERFACES [1977]

NATURE 269:790-791

PULSED HIGH FREQUENCY ACOUSTICS HAVE UNIQUE APPLICATIONS IN THE DETECTION AND MEASUREMENT OF OCEANIC PHENOMENA SUCH AS INTERNAL HAVES, AND DISPERSION OF SEWAGE SLUDGE. CURRENT INVESTIGATIONS INDICATE THAT IT MAY BE POSSIBLE TO OBSERVE ACOUSTICALLY THE SHELF-SLOPE WATER EXCHANGE PROCESS OCCURING IN THE SUMMER ON THE NEW ENGLAND CONTINENTAL SHELF. XBT AND CTD PROFILES WOULD BE NEEDED ONLY OCCASIONALLY TO CONFIRM THE SPECIFIC INTERFACES DESIRED.

1331 NEWMAN, W.S.

A VERY LATE HISCONSIN GLACIAL ADVANCE TO WESTERN LONG ISLAND [1973]

GEOL SOC AM ABSTR PROG 5(2):202

A C-14 DATE OF 13,470 +/- 380 YEARS 3.P. WAS OBTAINED ON PEAT BENEATH THE UPPERMOST TILL IN QUEENS COUNTY. THE PEAT, AT ABOUT PRESENT SEA LEVEL, OVERLAYS A SEQUENCE CONSISTING OF MORE THAN 100 FEET OF LAMINATED SILT, PRESUMABLY PROGLACIAL LACUSTRINE IN

ORIGIN. POLLEN AND SPORE CONTENT OF THE SILT IS ABOUT 70% CRETACEOUS AND 30% PLEISTOCENE NAP. THE PEAT ITSELF CONTAINS MOSTLY SPRUCE AND PINE POLLEN. THE DATE AS WELL AS LOCAL AND REGIONAL RELATIONSHIPS SUGGESTS A LAST GLACIER ADVANCE DOWN THE AXIS OF THE HUDSON VALLEY SUBSEQUENT TO THE TIME WHEN ADJACENT HIGHER AREAS WERE ALREADY DEGLACIATED. INITIALLY, RISING SEA LEVEL CAUSED RAPID CALVING OF THE HUDSON VALLEY OUTLET GLACIER. THE CALVING EVENT OF THE "WET-BASE" HUDSON GLACIER WAS FOLLOWED BY A TEMPORARY APPARENT LOWERING OF SEA LEVEL BETWEEN THE RATE OF REGIONAL DIFFERENTIAL ISOSTATIC REBOUND FOR A SHORT TIME EXCEEDED THE RATE OF SEA LEVEL RISE. THE INCREASED REGIONAL GLACIAL SLOPE, THE TEMPORARY LOWERING OF THE REGIONAL SNOW LINE SIMPLY BECAUSE OF THE EPHEMERAL INCREASE IN REGIONAL RELIEF VIS-A-VIS SEA LEVEL AND LOCAL ELEVATIONS, AND THE SHORT-LIVED RECESSION OF THE SEA FROM THE LOWER HUDSON-VALLEY CAUSED A LAST ADVANCE OF THE ICE TO MESTERN LONG ISLAND. FINALLY, WHEN SEA LEVEL RISE ONCE AGAIN HEGAN TO EXCEED THE DIFFERENTIAL REBOUND RATE, THE CALVING ICE WASTED AWAY. THE LAKE HUDSON-ALBANY AND GILBERT GULF STAGES FOLLOWED IN THE NEXT TWO MILLENIA.

- 1332 NEWMAN, W.S.; T.J. PIKE
 - LATE QUATERNARY GEOLOGY OF NORTHERN QUEENS COUNTY, LONG ISLAND, NY [1975]
 - GEOL SOC AM ABSTR PROG 7(1):99

NORTH OF THE HARBOR HILL MORAINE, SEGMENTS OF A YOUNGER END MORAINE EXTEND EAST AND NORTH FROM MIDDLE VILLAGE TO BAYSIDE IN QUEENS COUNTY, ALONG THE NORTHWEST SHORES OF GREAT AND MANHASSET NECKS AND THEN ACROSS THE EASTERN END OF LONG ISLAND SOUND FOLLOWING THE ISOBATHS MARKED BY EXECUTION ROCKS AND HEN AND CHICK SHOALS. THE CAPTAIN AND NORWALK ISLANDS OFF THE SOUTHWEST CONNECTICUT COAST APPARENTLY REPRESENT AN EASTERN EXTENSION OF THIS SAME END MORAINE. IN NORTHERN QUEENS, DEFORMED AND FAULTED LACUSTRINE SEDIMENTS ARE OVERLAIN BY A DISCONTINUOUS TILL COVER WHICH RANGES NORTH FROM THESE END MORAINE SEGMENTS. A PEAT DEPOSIT ATOP THE LAKE BLDS AND DEFORMED WITH THEM YIELDED A C-14 DATE OF 13,470 */- 380 YEARS B.P., THE OLDEST LATE GLACIAL DATE FROM LONG ISLAND. BORINGS OFF THE NORTH SHORE OF QUEENS COUNTY PROVIDED TWO BASAL PEATS YIELDING C-14 DATES OF 12,270 */- 180 AND 11,950 * 200 YEARS B.P. AT DEPTHS OF -25 AND -35 M BELOW MEAN HIGH WATER RESPECTIVELY. THE LOWER PORTIONS OF THESE BORES EXHIBIT BOREAL POLLEN SPECTRA ALTHOUGH THE FORMS, DIATOMS AND MOLLUSKS SUGGEST AN ENVIRONMENT SIMILAR TO THE PRESENT TIME. HIGHER LEVELS IN THESE SAME CORES FIND MOLLUSKS OF SOUTHERN AFFINITY IN THE B-2 AND C-1 POLLEN ZONES, AGAIN INDICATING SUBSTANTIAL TREE MIGFATION LAG.

- 1333 NICHOLS, J.
 - RICH ENVIRONMENTALISTS HELP NEW YORK BLACKOUT OPPOSING POWER PROJECT [1978]
 - IOWA REC NEWS 32:2

A BRIEF DISCUSSION IS GIVEN OF THE PROBLEMS THAT PUBLIC UTILITIES ARE HAVING WITH ENVIRONMENTAL GROUPS, IN PARTICULAR, A PUMPED STORAGE PROJECT FOR NYC BEING FOUGHT BY OWNERS OF BIG ESTATES ON THE EAST BANK OF THE HUDSON RIVER.

- 1334 NICHOLS, M.M.
 - THE PROBLEM OF MISPLACED SEDIMENT [1979]
 - PAGES 147-161 IN H.D. PALMER AND M.G. GROSS, EDS. OCEAN DUMPING AND MARINE POLLUTION: GEOLOGICAL ASPECTS OF WASTE DISPOSAL. DOWEN, HUTCHINSON & ROSS, STROUDSBURG, PA

DISPOSAL OF ESTUARINE DREDGED MATERIAL IS A MAĴOR DEPOSITIONAL PROCESS WITH IMPORTANT SEDIMENTOLOGIC AND HYDRAULIC CONSEQUENCES. LARGE-SCALE DREDGING IN US EAST COAST ESTUARIES HAS CUT CHANNELS FAR BELOW NATURAL EQUILIBRIUM DEPTHS AND INDUCED RAPID SEDIMENT ACCUMULATION. IN TUPN, THE INCREASED FREQUENCY OF DREDGING HAS CREATED A MASSIVE DISPOSAL PROBLEM AND A NEED FOR OCEAN DUMPING. AN ESTUARY CHANNEL ATTAINS MAXIMUM STABILITY BY ADJUSTING ITS BED GEOMETRY AND HYDRAULIC REGIME. WHEN A CHANNEL IS DEEPENED, TIDAL CURRENTS ARE REDUCED AND SEDIMENT DEPOSITION ACCELERATES. DEEPENING CAUSES MORE SALTY WATER TO PENETRATE

LANDWARD AND SHIFTS THE ZONE OF MAXIMUM SHOALING UPSTREAM. LANDWARD DENSITY CURRENTS ACCELERATE THE POTENTIAL FOR RETURN OF DREDGED MATERIAL FROM SEAWARD REACHES, WHILE HIGHER STRATIFICATION ENHANCES THE POTENTIAL FOR ENTRAPMENT. THEREFORE, DREDGING IS PARTLY SELF-PERPETUATING. LONG-CONTINUED OPEN MATER DISPOSAL ALONG CHANNEL SHOULDERS OF THE UPPER JAMES ESTUARY, VA, HAS BUILT UP MOUNDS CLOSE TO THE SURFACE WHERE THEY ARE SUBJECT TO WAVE EROSION AND CURRENT SCOUR. MOUNDS OF MISPLACED SEDIMENT WITH SLOPES GREATER THAN 6 DEGS ALLOW RETURN OF SEDIMENT TO THE CHANNEL AND THEY RESTRICT TIDAL FLOW. BY REDUCING THE CROSS SECTIONAL AREA, THEY SUPPESS THE TIDE RANGE AND TIDAL DISCHARGE IN LANDWARD REACHES. CONSEQUENTLY, DISPERSION OF POLLUTANTS IS REDUCED AND ACCUMULATION OF FINE-GRAINED SEDIMENT IS PROMOTED. AS A CONSEQUENCE OF DREDGING AND DISPOSAL, MANY ESTUARIES ARE LOSING THEIR CAPACITY TO ABSORD MORE MISPLACED SEDIMENT.

1335 NICHOLSON, W.R.

AGE AND SIZE COMPOSITION OF THE ATLANTIC MENHADEN, BREVOORTIA TYRANNUS, PURSE SEINE CATCH, 1963-71, WITH A BRIEF DISCUSSION OF THE FISHERY [1975]

TECH REP NMFS SSRF-684. NOAA, BOULDER, CO 28 PP

THE CATCH OF ATLANTIC MENHADEN, BREVOORTIA TYRANNUS, ESTIMATES OF NUMBERS OF FISH CAUGHT BY AGE, FISHING EFFORT, AGE AND SIZE DISTRIBUTION, AND CHANGES IN THE FISHERY ARE SUMMARIZED AND BRIEFLY DISCUSSED FOR THE FIVE AREAS OF THE ATLANTIC COAST OF THE US FOR 1963-71. APPENDED ARE TABLES OF SEASONAL LENGTH FREQUENCY DISTRIBUTIONS AND MEAN LENGTHS BY AGE AND PORT AND TABLES OF MONTHLY MEAN LENGTHS BY SEX, AGE, AND PORT. THE PURSE SEINE FISHERY DECLINED AFTER 1962. NORTH OF CHESAPEAKE BAY, PLANTS CLOSED OR REDUCED FISHING AS FISH BECAME SCARCE. OF EIGHT PLANTS THAT PROCESSED MENHADEN IN 1962 ONLY TWO OPERATED IN 1971. THE CATCH AND CATCH PER UNIT OF EFFORT IN CHESAPEAKE BAY DECLINED AS EFFORT INCREASED. SOUTH OF CAPE HATTERAS, NC THE FISHERY, WHICH HAD BEEN SMALL COMPARED TO THE FISHERY IN OTHER AREAS, SHOWED LITTLE CHANGE. THE AVERAGE AGE AND SIZE OF FISH IN THE TOTAL CATCH DECLINED AS THE FISHERY NORTH OF CHESAPEAKE BAY, WHICH MAINLY CAUGHT OLDER AND LARGER FISH, DECLINED. AGE+1 AND -2 FISH, WHICH CONSTITUTED MOST OF THE CATCH FROM FL TO CHESAPEAKE BAY, INCREASED IN AVERAGE LENGTH AND WEIGHT.

1336 NICHOLSON, W.R.

MOVEMENTS AND POPULATION STRUCTURE OF ATLANTIC MENHADEN INDICATED BY TAG RETURNS [1978]

ESTUARIES 1(3):141-150

OVER 968,000 ADULT ATLANTIC MENHADEN, BREVOORTIA TYRANNUS, WERE TAGGED FROM 1967 TO 1969 AND OVER 85,000 JUVENILE MENHADEN WERE TAGGED FROM 1969 TO 1973. RECOVERIES OF THESE TAGGED FISH THROUGH 1975 PROVIDE DIRECT EVIDENCE THAT ATLANTIC MENHADEN CONSIST OF A SINGLE POPULATION THAT OVER-WINTERS IN OFFSHORE WATERS OFF THE SOUTHEASTERN COAST OF THE US, MOVES NORTHWARD IN SPRING AND STRATIFIES ALONG THE COAST BY AGE AND SIZE DURING SUMMER. AND MOVES SOUTHWARD IN LATE AUTUMN.

1337 NICKELS, J.; E. GEER; A. PENNA

NEW YORK BIGHT DIVER OBSERVATION PROGRAM, RESULTS OF 1978 SURVEY [1979]

TECH REP 1. AM LITTORAL SOC. HIGHLANDS, NJ 34 PP

THE AMERICAN LITTORAL SOCIETY, IN COOPERATION WITH THE MESA PROJECT OF NOAA, CONDUCTED A DIVER OBSERVATION PROGRAM USING SPORT DIVERS TO MONITOR AND RECORD INFROMATION ON MATER CONDITIONS AND MARINE LIFE OVER ROUGH BOTTOMS AND MRECKS OFF NJ FROM APR TO NOV 1978. 38 DIVERS VISITED OVER 120 DIFFERENT SITES FROM THE SHORE OUT TO 18 MILES, COVERING ABOUT 680 SQ MI. THEY RECORDED PHYSICAL CONDITIONS AS WELL AS COMMENTS AND OBSERVATIONS ON UNUSUAL BEHAVIOR OF MARINE LIFE AND OTHER GENERAL INFURMATION. AVERAGE MONTHLY BOTTOM TEMPERATURES SHOWED A RISE FROM 43F TO 62F BETWEEN MAY AND OCT. DISSOLVED OXYGEN (DO) WENT FROM NEAR SATURATION VALUES IN THE SPRING DOWN TO A STRESSFULLY LOW VALUE OF 1.3 ML/L IN SEPT. OCCURRENCES OF FINROT, FLOATING GARBAGE, AND DEBRIS WERE OBSEPVED IN MANY LOCATIONS. WE CONCLUDE THAT BOTTOM DWELLING ORGANISMS IN THE NEW YORK BIGHT ARE BEING STRESSED

DURING SUMMER MONTHS BY POLLUTION TO A POINT WHERE CONTINUED LONG-TERM DEGRADATION OF THE MARINE ENVIRONMENT IS TAKING PLACE.
WINTER STORMS HAVE NOT REMOVED THE ACCUMULATION OF ORGANIC DETRITUS ON SOME PARTS OF THE BIGHT'S SAND BOTTOM. FINALLY, THE USE
OF SPORT DIVERS IN SCIENTIFIC STUDIES HAS BEEN DEMONSTRATED TO BE A PLAUSIBLE AND USEFUL TOOL FOR INVESTIGATION.

1338 NIEDORODA, A.W.

OVERVIEW OF SAND TRANSPORT PROCESSES IN THE SHALLOW OCEAN ZONE [1977]

GEOL SOC AM ABSTR PROG 9(3):304

EXPERIMENTS CONDUCTED DURING 1976 SUMMER FIELD SEASON BY THE COASTAL RESEARCH CENTER AT THE UNIV OF MA AND THE C.O.B.O.L.T. PROJECT OF BNL HAVE PROVIDED NEW INSIGHT INTO THE PARAMETERS WHICH CONTROL GRANULAR SEDIMENT TRANSPORT IN THE SHALLOW OCEAN ZONE. A TRANSECT FROM THE SURF ZONE TO THE INNER CONTINENTAL SHELF OFF TIANA BEACH, LONG ISLAND, WAS INSTRUMENTED WITH ELECTRO-MAGNETIC CURRENT METERS, WAVE STAFFS, TERMISTERS, AND CONDUCTIVITY PROBES. THIS FIELD AREA WAS SELECTED BECAUSE OF ITS RELATIVELY UNCOMPLICATED BATHYMETRY. PREDICTIONS OF NET SEDIMENT TRANSPORT WERE DETERMINED FROM MEASURES OF FLUID STRESSES THROUGH THE METHOD DEVELOPED BY SHIELDS, EINSTEIN, MATSON AND GRANT. THE RESULTS SHOW THAT THE DOMINANT TRANSPORT IS LONGSHORE IN THE SURF ZONE. SMALLER VOLUME FLUXES ARE ENCOUNTERED ON THE SHOREFACE AND INNER CONTINENTAL SHELF. THE SHOREFACE REGION SHOWS A SECONDARY MAXIMUM OF SAND VOLUME FLUXES. SEVERAL FACTORS COMBINED TO PRODUCE SIGNIFICANT ONSHORE-OFFSHORE GRANULAR SEDIMENT TRANSPORT IN THE SHOREFACE ZONE.

1339 NIEDORODA, A.W.; J.F. SCOTT

SHORE FACE SAND SEDIMENT TRANSPORT--AN EARLY LOOK [1977]

EOS: TRANS AM GEOPHYS UNION 58(6):409

FIELD EXPERIMENTS WERE CONDUCTED DURING AUG, 1976 TO MEASURE THE OCEANOGRAPHIC PARAMETRERS WHICH ARE SIGNIFICANT IN CAUSING SAND SEDIMENT TRANSPORT ON A 3 KM LONG TRANSECT OFF TIANA BEACH, LONG ISLAND. WAVES AND CURRENTS IN THE NEARSHORE ZONE WERE MEASURED WITH AN ARRAY OF FOUR INSTRUMENTED TRIPODS. CURRENTS IN THE OFFSHORE AREA WERE MEASURED AT THREE OCEANOGRAPHIC STATIONS (1, 2, AND 3 KM OFFSHORE) AND WITH A SHELTON SPAR LOCATED 3 KM OFFSHORE. THESE DATA HAVE BEEN COMBINED TO ESTIMATE THE FLUID STRESSES CAPABLE OF CAUSING SAND TRANSPORT IN THE SHORE FACE ZONE AT NINE TIMES DURING A FOUR-DAY PERIOD. THE METHOD OF COMPUTING SAND SEDIMENT TRANSPORT RESULTING FROM THE COMBINED ACTION OF WAVE ORBITAL AND MEAN CURRENTS, DEVELOPED BY MADSEN AND GRANT (1976), HAS BEEN APPLIED TO THE DATA TO ESTIMATE BOTH LONGSHORE AND SHORE-NORMAL SAND VOLUME FLUXES OVER THE TRANSECT. THE RESULTS SHOW THAT THE OSCILLATING FLUID STRESSES RESULTING FROM WAVE ORBITAL CURRENTS ARE CRITICAL IN CAUSING SAND TRANSPORT IN THE SHORE FACE ZONE. IF THE WAVE SPECTRUM CONTAINS SUFFICIENT ENERGY AT LOW FREQUENCIES, SAND TRANSPORT WILL OCCUR ACROSS THE ENTIRE SHORE FACE REGION. THE VOLUME FLUXES OF SAND TRANSPORT ARE CONTROLLED BY A NON-LINEAR INTERACTION OF MEAN CURRENTS AFFECTING THE OCEAN BOTTOM AND WAVE DERIVED FLUID STRESSES WHICH ARE VERY DEPTH DEPENDENT. THESE ESTIMATED SAND TRANSPORT FLUXES. ARE SHOWN TO HAVE LARGE SPATIAL AND TEMPORAL GRADIENTS. THE PRELIMINARY RESULTS INDICATE THAT WIND STRESSES ACTING AY BOTH LOCAL AND REGIONAL SCALES ARE THE ULTIMATE CAUSES OF THE VARIOUS PATTERNS OF SAND SEDIMENT TRANSPORT WHICH OCCUR ON THE SHORE FACE.

1340 NIEDORODA, A.W.

PATHWAYS OF SHOREFACE SAND SEDIMENT TRANSPORT [1978]

EOS: TRANS AM GEOPHYS UNION 59(12):110

FIELD EXPERIMENTS HAVE BEEN CONDUCTED OFF LONG ISLAND TO DETERMINE THE MECHANISMS WHICH ARE RESPONSIBLE FOR BEDLOAD SEDIMENT TRANSFORT. TIME SERIES WERE ACQUIRED FROM FIXED WAVE GAUGES AND ARRAYS OF CURRENT METERS. LOW FREQUENCY CURRENT AND HYDROGRAPHIC PARAMETERS WERE MEASURED AT SEVEN OCEAN STATIONS. BOTTOM SEDIMENTS WERE ALSO COLLECTED. THESE DATA HAVE BEEN

ANALYZED TO DETERMINE THE DISTRIBUTION OF THE HIGH AND LOW FREQUENCY FLUID STRESSES ACTING ON THE BOTTOM. IT HAS BEEN SHOWN THAT THE STOCHASTIC REHAVIOR OF NATURAL WAVE ORBITAL CURRENTS IN THE SHOREFACE ZONE CAUSES THE FLUID AND GRANULAR ACCELERATIONS TO BE SMALL WITH RESPECT TO THE SCALE OF THE DRAG FORCES. THUS, SEDIMENT TRANSPORT THEORIES DERIVED FROM THE EINSTEIN OR BAGNOLD APPROACHES HAVE BEEN APPLIED, IN CONJUNCTION WITH A MODIFIED SHIELD'S CRITERIA FOR THE INITIATION OF GRAIN MOTION, TO COMPUTE ESTIMATES OF BEDLOAD TRANSPORT FLUXES IN THE PRESENCE OF MEASURED AND CONSTRUCTED SHOREFACE FLUID STRESS ENVIRONMENTS. THE RESULTS SHOW THAT THE INTENSITY AND DISTRIBUTION OF WAVE ORBITAL DERIVED FLUID STRESSES ARE MOST IMPORTANT IN CONTROLLING SEDIMENT TRANSPORT. AN ONSHORE STRESS ASYMMETRY RESULTING FROM NONLINEAR BOTTOM WAVE ORBITAL BEHAVIOR DOMINATES ON-OFFSHORE SEDIMENT TRANSPORT PROCESSES IN THE UPPER PORTIONS OF THE SHOREFACE. ON-OFFSHORE SEDIMENT EXCHANGE IS DOMINATED BY LOW FREQUENCY SECONDARY CURRENTS RESULTING FROM WIND STRESS ACTING ON THE OCEAN SURFACE OVER THE LOWER PORTION OF THE SHOREFACE. SHORE-PARALLEL BEDLOAD TRANSPORT ON THE SHOREFACE IS PRIMARILY CAUSED BY WIND-DRIVEN CURRENTS BUT IS AIDED BY TIDAL CURRENTS. NET SHORE-PARALLEL BEDLOAD TRANSPORT IS STRONGLY INFLUENCED BY THE FACT THAT ONLY SOUTHWESTWAND COASTAL JETS FROM ALONG THIS COAST.

1341 NIEDRAUER, T.M.

MESA NEW YORK BIGHT PROJECT GRAPHIC PRESENTATION OF T, S, SIGMA-T, AND TRANSMISSIVITY DATA FROM THE 1975-1977 XWCC CRUISES
[1981]

TM OMP4-9. NOAA, BOULDER, CO 261 PP

TEMPERATURE, SALINITY, SIGMA-T, AND TRANSMISSIVITY DATA ARE GRAPHICALLY SHOWN FOR THE XWCC CRUISES FROM FEB 1975 TO OCT 1977.
THE DISPLAYS INCLUDE THE CRUISE TRACK, TS DIAGRAMS, VERTICAL SECTIONS, AND HORIZONTAL CHARTS AT THE SURFACE AND AT 25 M.

1342 NIESWAND, G.H.; C.W. STILLMAN; A.J. ESSER

INVENTORY OF ESTUARINE SITE DEVELOPMENT LAGOON SYSTEMS: NEW JERSEY SHORE [1972]

RUTGERS UNIV. NEW BRUNSWICK. NJ 36 PP

AN INVENTORY OF ESTUARINE SITE DEVELOPMENT LAGOON SYSTEMS ALONG THE NJ SHORE WAS DEVELOPED FOR THAT PORTION OF THE SHORELINE EXTENDING FROM SANDY HOOK TO CAPE MAY POINT, INCLUDING PARTS OF MONMOUTH, OCEAN, ATLANTIC AND CAPE MAY COUNTIES. AERIAL PHOTOGRAPHS OF THESE COUNTIES TAKEN DURING THE SPRING, 1970, WERE USED AS THE BASIS FOR THE INVENTORY. LAGOON SYSTEMS WERE IDENTIFIED BY A VISUAL INSPECTION OF AIR PHOTO INDEX SHEETS FOR THE COUNTIES INVOLVED. USING ENLARGED CONTACT PRINTS, THE FOLLOWING INFORMATION WAS SUBSEQUENTLY DEVELOPED FOR EACH OF THESE LAGOON SYSTEMS: LOCATION, AREA, LAGOON DEVELOPED SHORELINE, INLAND PENETRATION, TOTAL LENGTH OF LAGOONS, REMOTE POINT ALONG LAGOONS, TOTAL LENGTH OF ROADS, AND NUMBER OF HOUSES. SUPPLEMENTARY INFORMATION INCLUDING LAGOON DEVELOPMENT NAMES, DREDGING PERMIT DATES, DATA REGARDING THE STATUS OF SANITARY SEWERES, AND THE TOTAL NUMBER OF LOTS IN EACH LAGOON SYSTEM, WAS ALSO OBTAINED. THE DATA INDICATE THAT A SUBSTANTIAL AMOUNT OF LAGOON DEVELOPMENT EXISTS ALONG THE NJ SHORE FROM SANDY HOOK TO CAPE MAY POINT. A TOTAL OF 14.22 SM MI OF LAGOON SYSTEMS WERE IDENTIFIED ALONG THIS SHORELINE, 53.8 MI OF LAGOON DEVELOPED SHORELINE, 166.1 MI OF LAGOONS, 1888.0 MI OF LAGOON SYSTEM ROADS, 29,824 LAGOON LOTS, AND 14,591 HOUSE. OVER 90% OF THIS TOTAL DEVELOPMENT WAS DETERMINED TO BE LOCATED IN OCEAN COUNTY.

1343 NIETER. W.M.: W.S. NEWMAN: D.H. KRINSLEY

A LATE WISCONSIN LOESS DEPOSIT IN SOUTHEASTERN LONG ISLAND, NEW YORK [1975]

GEOL SOC AM ABSTR PROG 7(1):100

A SURFICIAL BLANKET OF SANDY SILT COVERS AN AREA OF AT LEAST 40 SQ MI OF OUTWASH PLAIN BETWEEN SOUTHAMPTON AND AMAGANSETT ON LONG ISLAND. THE DEPOSIT IS BELIEVED TO HAVE ACCUMULATED UNDER PERIGLACIAL CONDITIONS AFTER A PERIOD OF EOLIAN DEFLATION IMMEDIATELY FOLLOWING THE LAST GLACIAL RETREAT FROM THE AREA. SCANNING ELECTRON MICROPHOTOGRAPHS OF SAND GRAINS FROM THIS DEPOSIT FXH191T EOLIAN FEATURES SUPERIMPOSED ON GLACIAL FEATURES INDICATING A PERIOD OF WIND TRANSPORT SUBSEQUENT TO GLACIAL

ACTION. THE MEAN GRAIN SIZE AND THICKNESS OF THE DEPOSIT DECREASE FROM EAST TO WEST ACROSS THE AREA INDICATING A NEARBY SOURCE TO THE IMMEDIATE EAST AND/OR NORTHEAST. DE LAGUNA (1963) REPORTED A SIMILAR DEPOSIT COVERING PORTIONS OF THE PITTED OUTWASH PLAIN IN THE PECONIC RIVER BASIN OF EAST-CENTRAL LONG ISLAND WHILE NEWMAN AND OTHERS (1968) DESCRIBED LOESS DEPOSITS EXTENDING EAST FROM OUR AREA TO MONTAUK POINT. ON EASTERN LONG ISLAND, LOESS-COVERED AREAS ARE GENERALLY UTILIZED FOR AGRICULTURE WHILE SANDY OUTWASH OR EOLIAN SAND USUALLY REMAINS WOODED.

1344 NITKOWSKI, M.F.; S. DUDLEY; J.T. GRAIKOSKI

IDENTIFICATION AND CHARACTERIZATION OF LIPOLOYTIC AND PROTECLYTIC BACTERIA ISOLATED FROM MARINE SEDIMENTS [1977]

MAR POLLUT BULL 8(12):276-279

LIPOLYTIC AND PROTEOLYTIC BACTERIA WERE ISOLATED FROM SEDIMENTS AT TWO SAMPLING STATIONS IN THE NEW YORK BIGHT APEX AND ONE SAMPLING STATION EACH IN SANDY HOOK BAY AND GREAT BAY, NJ. THE STATIONS IN THE BIGHT APEX AND SANDY HOOK BAY HAVE RECEIVED INDUSTRIAL WASTES AND SEWAGE FOR SEVERAL DECADES, WHILE GREAT BAY HAS RECEIVED LITTLE OF SUCH MATERIALS. PROTEOLYTIC COUNTS WERE 2-4 TIMES HIGHER AND LIPOLYTIC COUNTS GENERALLY 4 TIMES HIGHER IN THE POLLUTED AREAS. OF THE ISOLATES TAKEN FROM CASEIN AND LIPID PLATES, 76% WERE GRAM-NEGATIVE RODS,80% OF THE LATTER WERE IDENTIFIED AS VIBRIO AND PSEUDOMONAS. THE VIBRIOS COMPRISED >60% OF THE ISOLATES FROM STATION 4 (GREAT BAY) AND STATION 1 (BIGHT APEX), AND WERE TESTED FOR THEIR ABILITY TO BREAK DOWN CASEIN, LIPID, STARCH, AND CHITIN. FROM STATION 1, 75% OF THE VIBRIO WERE ACTIVE IN DEGRADING ONE OR MORE SUBSTRATES IN ADDITION TO THE SUBSTRATE OF THE INITIAL ISOLATION MEDIUM. FROM STATION 4, 52% OF THE VIBRIO WERE ACTIVE.

1345 NODEN. D.

NEW YORK BOAT OWNERS: A SUMMARY OF THE 1973 SURVEY [1975]

NYSG. ALBANY, NY 5 PP NTIS-PB-247 376

NY RANKS THIRD IN THE NATION, AFTER MI AND CA. IN NUMBER OF REGISTERED PLEASURE BOATS' APPROXIMATELY 400,000 NY BOATS WERE REGISTERED IN 1971. THIS REPORT CATEGORIZES NY'S REGISTERED BOATS BY LENGTH. IT ALSO LISTS THE TOP 10 COUNTIES OF REPORTED BOAT USE, AND SHOWS BOATER MOBILITY. ALSO, THE REPORT GIVES A BREAKDOWN OF THE SOCIOECONOMIC CHARACTERISTICS OF NEW YORK BOAT OWNERS AND LISTS NUMBERS OF THOSE WHO OWN MORE THAN ONE BOAT. PLEASURE CRUISING WAS THE NUMBER ONE RECREATIONAL BOATING ACTIVITY, FOLLOWED BY SPORTFISHING AND WATERSKIING. MANY MARINE SERVICES ARE REQUIRED TO MAINTAIN AND OPERATE A PLEASURE BOAT. A TABLE DISPLAYS THE AVAILABILITY OF SOME BOATING SERVICES. ALSO, A TABLE IS SHOWN FOR EXPENDITURES FOR BOAT SERVICES IN NEW YORK IN 1973. THE MOST SIGNIFICANT BOATING PROBLEMS IN 1973, AS REPORTED IN THIS SURVEY, WERE INCONSIDERATENESS BY OTHER BOATERS, POLLUTION, CROWDED FACILITIES, AND LACK OF LAUNCHING FACILITIES.

1346 NODEN, D.; T.L. BROWN

THE NEW YORK COMMERCIAL MARINA AND BOATYARD INDUSTRY, 1972 [1975]

NYGS, ALBANY, NY 103 PP NTIS-PB-248 451

THE PURPOSE OF THE REPORT IS TO FURNISH INFORMATION ON SOME OF THE CHARACTERISTICS, PROBLEMS ASSOCIATED WITH COMMERCIAL MARINAS AND BOATYARDS IN NY. ITEMS INVESTIGATED INCLUDE INCREASE FIRMS HAVE EXPERIENCED OR PLAN IN FACILITIES AND SERVICES, TYPES OF SERVICES PROVIDED, RELATIONSHIPS BETWEEN COMMERCIAL AND PUBLIC MARINAS, INTERNAL BUSINESS CHARACTERISTICS, AND ECONOMIC CONSIDERATIONS OF THESE FIRMS. WITH ESTIMATED ANNUAL GROSS REVENUE OF \$95 MILLION, COMMERCIAL MARINAS AND BOATYARDS REPRESENT ONE OF NY'S MOST IMPORTANT RECREATIONAL INDUSTRIES. INTERVIEWS WITH 161 OF THE NEARLY 700 FIRMS IN THE STATE DISCLOSED THAT MARINAS OFFER A WIDE ARRAY OF BOATING SERVICES, BUT THESE SERVICES DIFFER WITH RESPECT TO GEOGRAPHICAL LOCATION AND SIZE OF FIRM. TYPICALLY, MARINAS ARE WELL ESTARLISHED FIRMS, WITH HIGH FIXED COSTS, OPERATING ON A SMALL PROFIT MARGIN. OPERATORS STATED THEY WERE LITTLE AFFECTED BY PUBLIC MARINAS, AND THEIR MOST SERIOUS PROBLEMS CENTERED ON ZONING REGULATIONS, DREDGING,

AND INSURANCE.

1347 NODEN, D.; T.L. BROWN

NEW YORK RECREATIONAL BOATING SURVEY [1977]

DEPT OF NATURAL RESOURCES, CORNELL UNIV, ITHACA, NY 75 PP

IN 1971, APPROXIMATELY 400,000 PLEASURE BOATS WERE REGISTERED IN NY. OF THESE, 62% WERE UNDER 16 FT IN LENGTH, 32% WERE BETWEEN 16 AND 26 FT. AND ONLY 6% WERE OVER 26 FT. 10 COUNTIES ACCOUNTED FOR 60% OF THE NY REGISTERED BOATS. NYC AND LONG ISLAND ACCOUNTED FOR 35%. TYPICALLY. THE NEW YORK BOAT OWNER WAS A 46 YEAR OLD MALE. HAD COMPLETED 14 YRS OF EDUCATION. HAD AN ANNUAL GROSS FAMILTY INCOME OF \$18.250. AND WAS MOST OFTEN EMPLOYED IN A PROFESSIONAL OR TECHNICAL OCCUPATION. OF THE RESPONDENTS. 23% OWNED A SECOND BOAT, AND 50% HAD PREVIOUSLY OWNED AT LEAST ONE OTHER BOAT BEFORE ACQUIRING THEIR PRESENT BOAT. IN 1973. THE AVERAGE ANNUAL BOAT USAGE WAS 41 DAYS. FOR NY THIS REPRESENTED APPROXIMATELY 15.6 MILLION BOAT DAYS. OR ABOUT 46 MILLION BOATER DAYS. PLEASURE CRUISING AND SPORT FISHING ACCOUNTED FOR 83% OF ALL BOATING ACTIVITIES. FREQUENCY OF BOAT USE AND TYPES OF ACTIVITIES FLUCTUATED WITH SIZE AND LOCATION THROUGHOUT THE STATE, ACCORDING TO MIGRATION PATTERNS OF BOATERS. THE NORTH COUNTRY AND FINGER LAKE REGIONS WERE THE MOST POPULAR: THESE TWO REGIONS RECEIVED 1.7 MILLION EXCESS DESTINATION BOAT DAYS. STATEWIDE, THE AVERAGE ANNUAL EXPENSE OF OPERATING AND MAINTAINING A BOAT WAS \$151 FOR BOATS UNDER 16 FT, \$482 FDR BOATS BETWEEN 16 AND 26 FT AND \$1.540 FOR BOATS OVER 26 FT. BOATS IN THE NYC-LONG ISLAND REGION HAD SIGNIFICANTLY HIGHER OPERATIONAL COSTS THAN THOSE UPSTATE, ESPECIALLY FOR REPAIRS, MARINE SUPPLIES, AND INSURANCE. BOATERS REPORTED THE HARDEST SERVICES TO OBTAIN WERE PUMPOUT FACILITIES, EMERGENCY REPAIRS, AND DOCKING SPACE. OF THE RESPONDENTS, 41% USED A MORE DISTANT DESTINATION FACILITY CHIEFLY TO AVOID CROWDING, POOR FACILITIES, OR POLLUTED WATERS. THE BIGGEST COMPLAINTS OF NEW YORK BOATERS WERE INCONSIDERATE BOATERS AND WATER SKIERS, CROWDED FACILITES, AND POLLUTED WATERS. THE MOST IMPORTANT PRIORITIES FOR THE EXPENDITURE OF PUBLIC MONIES FOR BOATING INCLUDED ADDITIONAL LAUNCHING FACILITIES, THE ENACTMENT OF WATER POLLUTION LAWS. AND THE EDUCATION AND LICENSING OF BOATERS.

1348 NORDSTROM, K.F.

THE USE OF GRAIN SIZE STATISTICS TO DISTINGUISH BETWEEN HIGH- AND MODERATE-ENERGY BEACH ENVIRONMENTS [1977]

J SEDIMENT PETROL 47(3):1287-1294

SWASH ZONE SEDIMENTS ON 2 OCEANSIDE AND 2 BAYSIDE BEACHES ON THE SANDY HOOK SPIT, NJ ARE EXAMINED TO DETERMINE WHETHER DISTINCT DIFFERENCES EXIST AMONG GRAIN SIZE PARAMETERS ON BEACHES WITH VERY DIFFERENT WAVE REGIMES. THE DIFFERENCES ARE SUBTLE DUE TO THE INHERENT SIMILARITY OF SWASH ZONE PROCESSES AND THE OVERALL SIMILARITY OF THE SOURCE SEDIMENTS. DIFFERENCES IN GRAIN SIZE STATISTICS ARE NOTICEABLE HOWEVER, AND THEY APPEAR TO BE RELATED TO DIFFERENCES IN WAVE ENERGY AND BEACH MOBILITY ON EACH BEACH. MEASURES OF DISPERSION OFFER ONE MEANS OF DISCRIMINATING AMONG BEACHES. EXAMINATION OF PLOTS OF CHANGES IN GRAIN SIZE STATISTICS THROUGH TIME ARE ALSO USEFUL. HOWEVER, BIVARIATE PLOTS APPEAR TO BE OF LIMITED VALUE.

1349 NORDSTROM, K.F.

BAYSIDE BEACH DYNAMICS: IMPLICATIONS FOR SIMULATION MODELING ON ERODING SHELTERED TIDAL BEACHES [1977]

MAR GEOL 25(4):333-342

THIS PAPER COMPARES THE DIFFERENCES BETWEEN OCEANSIDE AND BAYSIDE BEACHES. FIELD DATA ON 12 BEACH PROCESS AND RESPONSE VARIABLES WERE GATHERED FROM FEE 1972 TO APR 1973 ON SAMPLE BEACHES AT SANDY HOOK SPET, NJ, LINEAR CORRELATION IS USED TO IDENTIFY THE MOST INFLUENTIAL PROCESS VARIABLES AND DETERMINE HOW THE INTERRELATIONSHIPS AMONG VARIABLES DIFFER ON EACH BEACH. THE ANALYSIS CONFIRMS THE IMPORTANCE OF BREAKER HEIGHT, WAVE STEEPNESS AND WIND DIRECTION ON BEACH RESPONSE. DESPITE THE GREATER MAGNITUDE OF PROCESSES AND BEACH CHANGE ON THE OCEANSIDE SITES, EROSTON WAS MORE PERSISTENT ON THE BAYSIDE DURING THE

PERIOD OF STUDY.

1350 NORDSTROM, K.F.; S.F. FISHER; M.A. BURR; E.L. FRANKEL; T.C. BUDSALEW; G.A. KUCMA

THE COASTAL GEOMORPHOLOGY OF NEW JERSEY--VOLUME II: BASIS AND BACKGROUND FOR MANAGEMENT TECHNIQUES AND MANAGEMENT STRATEGIES

CENTER FOR COASTAL AND ENVIRON STUDIES, RUTGERS UNIV, NEW BRUNSWICK, NJ NP

THE PURPOSE OF THIS VOLUME IS TO DEVELOP A SYSTEM FOR DESCRIBING THE NEW JERSEY SHORELINE IN TERMS OF BEACH PROCESSES AND THEIR RELATIONSHIP TO LAND USE. THIS INFORMATION IS USED TO IDENTIFY AND CHARACTERIZE PROBLEM AREAS AND SUGGEST WHICH MANAGEMENT ALTERNATIVES MAY BE APPLIED TO PORTIONS OF THE NEW JERSEY SHORELINE. THE REPORT PRESENTS A MEANS OF BREAKING DOWN THE SHORELINE INTO SUBSECTIONS FOR ANALYSIS BASED UPON THE PROCESSES RESPONSIBLE FOR SHORT-TERM AND LONG-TERM CHANGE. A DESCRIPTION OF LAND USE AND BEACH PROTECTION METHODS EMPLOYED IN THESE SEGMENTS IS PRESENTED AS IS THE APPLICABILITY OF THESE STRATEGIES CONSIDERING THE MAGNITUDE OF BEACH AND SHORELINE CHANGE WITHIN EACH SEGMENT.

1351 NORDSIROM, K.F.

THE COASTAL GEOMORPHOLOGY OF NEW JERSEY--VOL 1, MANAGEMENT TECHNIQUES & MANAGEMENT STRATEGIES [1977]

CENTER FOR COASTAL AND ENVIRON STUDIES. RUTGERS UNIV. NEW BRUNSWICK. NJ NP

THIS REPORT PRESENTS A SET OF RECOMMENDED GUIDELINES FOR A MANAGEMENT PROGRAM DESIGNED TO ASSESS THE EFFECTS OF EROSION OF THE INJ SHOPELINE AND EVALUATE TECHNIQUES FOR ADDRESSING THIS EROSION. THIS IS AN INITIAL STEP IN THE DEVELOPMENT OF POLICY STATEMENTS FOR MANAGEMENT OF THE BEACH RESOURCES WITHIN THE STATE. AN EFFORT HAS BEEN MADE TO IDENTIFY STRATEGIES WHICH ARE COMPATIBLE WITH THE DYNAMICS OF THE SHORELINE SYSTEM AND WHICH MAXIMIZE THE RECREATIONAL AND PROTECTIVE VALUES OF THE BEACH AND DUNE AREAS. THE REPORT EXAMINES THE CONDITION OF THE BEACHES AND DUNES IN TERMS OF FUTURE NEEDS AND AVAILABLE RESOURCES. ATTENTION IS LARGELY DEVOTED TO METHODS FOR IMPROVING THE POTENTIAL OF THE BEACHFRONT FOR RECREATION AND PROTECTION BECAUSE THESE LAND USE OPTIONS ARE CLEARLY THE MOST SUITABLE, CONSIDERING THE DYNAMICS OF THE SYSTEM. THE NATURAL TRENDS OF DEVELOPMENT OF THE BEACHES AND THE MIGRATION OF BARRIER ISLANDS IS CONSIDERED ALONG WITH THE EFFECTS OF MAN. THE REPORT POINTS OUT THE IMPORTANCE OF THE DUNE AREA AND THE PROBLEMS RESULTING FROM HOUSING CONSTRUCTION ON THE NATURAL BARRIER ISLAND SYSTEM. THE MIGRATION OF INLETS DUE TO LONGSHORE TRANSPORT IS ALSO POINTED OUT BECAUSE EROSIONAL PROBLEMS ARE PARTICULARLY ACUTE AT THE NORTH FND OF THE BARRIER ISLANDS. THE POSSIBLITY OF USING BEACH FILL AND SAND BYPASS SYSTEMS TO IMPROVE CONDITIONS IS EXPLORED AS WELL AS CONSTRUCTION OR ALTERATION OF GROINS, JETTIES, SEAWALLS, AND OTHER STATIC PROTECTIVE MEASURES. BUDGETARY CONSTRAINTS AT FEDERAL, STATE, COUNTY, AND MUNICIPAL LEVELS RESTRICT THE IMPLEMENTATION OF MANY MEASURES. IT IS, THEREFORE, IMPERATIVE TO GET THE MOST USE OUT OF THE DOLLARS FOR BEACH PROTECTION. ACCORDINGLY, AREAS OF PARTICULAR CONCERN HAVE BEEN IDENTIFIED AS WELL AS AREAS WHICH SHOULD RECEIVE SPECIAL ATTENTION FOR DEVELOPMENT AS RECREATION AREAS OR FOR PRESERVATION. PLANNING STRATEGIES ARE SUGGESTED WHICH RECOGNIZE THE DYNAMIC NATURE OF THE BARRIER ISLANDS AND INLETS WHILE MAINTAINING A BALANCE BETWEEN THE OPTIMUM USE AND THE PRESERVATION OF THE NATURAL ENVIRONMENT. IT IS ACKNOWLEDGED, HOWEVER, THAT THE FORMULATION OF SPECIFIC POLICY STATEMENTS REQUIRES A THOROUGH EXAMINATION OF THE ECONOMIC AND ENVIRONMENTAL CONTROLS OPERATIVE. AS WELL AS THE INTERESTS OF LOCAL GROUPS AND THE POLICIES OF THE OTHER GOVERNMENTAL AGENCIES CHARGED WITH REGULATING LAND USE IN THE COASTAL ZONE .

1352 NORDSTROM, K.F.; J.R. ALLEN

DYNAMIC GEOMORPHOLOGY AS A HASIS FOR COASTAL LAND USE PLANNING. [1978]

PAGES 1371-1383 IN COASTAL ZONE 178, SYMP ON TECHNICAL, ENVIRONMENTAL, SOCIOECONOMIC AND REGULATORY ASPECTS OF COASTAL ZONE MANAGEMENT, SAN FRANCISCO, CA. 14-16 MAR 1978. VOL 2. ASCE, NEW YORK, NY

SANDY HOOK, A BARRIER SPIT IN NORTHERN NJ, IS PRESENTLY MANAGED AS A NATIONAL RECREATION AREA. THIS PAPER IDENTIFIES ENVIRONMENTAL CONSTRAINTS, POSSIBLE BEACH USES, AND EVALUATIONS FOR SELECTED SPIT SEGMENTS CHARACTERIZING SANDY HOOK. SINCE SANDY HOOK IS MANAGED BY THE NATIONAL PARK SERVICE, DEVELOPMENT WILL PROCED WITH LESS CONFLICT OF INTERESTS THAN OFTEN CHARACTERIZES THE DEVELOPMENT OF BEACHES UNDER STATE CONTROL. THE USE STRATEGIES IDENTIFIED HERE, THEREFORE, SERVE AS A BASIC MODEL FOR COASTAL ZONE MANAGEMENT FOR OTHER COASTAL AREAS.

1353 NORDSTROM, K.F.; J.R. ALLEN; D.J. SHERMAN; N.P. PSUTY

MANAGETENT CONSIDERATIONS FOR BEACH NOURISHMENT AT SANDY HOOK, NEW JERSEY. USA [1979]

COASTAL ENG 2(3):215-236

THE CONCEPT OF RECYCLING SAND FROM THE ACCRETING NORTHERN PORTION OF THE SPIT TO THE ERODING SOUTHERN BEACHES IS VIEWED AS A VIABLE LONG-TERM MANAGEMENT STRATEGY. THE DETAILS OF TWO RECENT BEACH-FILL OPERATIONS CONDUCTED AT SANDY HOOK ARE PRESENTED AS CASE STUDIES TO DETERMINE THE PROBABLE SUCCESS OF FUTURE SAND REPLENTSHMENT PROGRAMS. IF RECYCLING IS TO BE SUCCESSFUL, IT SHOULD BE COMBINED WITH THE ON-GOING MAINTENANCE DREDGING PROJECT AT THE NORTHERN TOP OF SANDY HOOK. SHORT-TERM, SMALL-SCALE BACCH FILL SOLUTIONS ARE CONSIDERED TO BE IMPRACTICAL DUE TO THE HIGH UNIT COSTS INVOLVED AND THE RAPID RATE OF REMOVAL OF THE FILL MATERIALS.

1354 NORDSTROM, K.F.

AN ENERGY-MOBILITY BEACH CLASSIFICATION SYSTEM AS A BASIS FOR THE MANAGEMENT OF BEACH RESOURCES [1979]

COASTAL ZONE MANAG J 5(4):333-351

THE SUCCESSFUL IMPLEMENTATION OF STRUCTURAL AND NONSTRUCTURAL SOLUTION TO PROBLEMS OF SHORELINE EROSION IS GREATLY FACILITATED IF THE ACCUMULATION AND ANALYSIS OF DATA SETS ARE ACCOMPLISHED WITHIN A DESIGN FRAMEWORK WHICH HAS THEORETICAL VALIDITY AND PRACTICAL APPLICATION. AN INVENTORY OF BEACH RESOURCES BASED ON BREAKING WAVE ENERGY AND BEACH MOBILITY IS PRESENTED AS A BASIS FOR A BEACH CLASSIFICATION SYSTEM. THIS METHOD SHOULD BE USED WITH EXISTING INVENTORIES COMPILED BY THE ACE. A SIMPLIFIED MEANS OF DETERMINING CHANGES IN BEACH POSITION AND SLOPE IS SUGGESTED WHICH WILL FACILITATE GATHERING DATA IN A DAILY TIME SERIES AT NUMBER OF PEOPLE. EXAMPLES OF HOW THE INVENTORIES MAY BE CONDUCTED AND A SAMPLE CLASSIFICATION SYSTEM ARE PRESENTED FOR SELECTED PORTIONS OF THE SHORELINE OF NJ.

1355 NORMAN, T.P. (EDITOR)

NEW JERSEY TRENDS--POPULATION AND ECONOMY, NATURAL RESOURCES, HOUSING, TRANSPORTATION, ENERGY [1974]

INSTITUTE FOR ENVIRONMENTAL STUDIES, RUTGERS UNIV, NEW BRUNSWICK, NJ 633 PP

THIS REPORT SUPPLIES INFORMATION GATHERED IN SUPPORT OF THE GOVERNOR'S STATE PLANNING TASK FORCE. THE AREAS REPORTED ARE POPULATION AND ECONOMY, NATURAL RESOURCES, TRANSPORTATION, HOUSING AND ENERGY. THIS VOLUME CONTAINS THE RESEARCH REPORTED BY SOME 43 EXPERTS FOR THE TASK FORCE AND ITS STAFF. THIS MATERIAL SHOULD BE OF SUBSTANTIAL VALUE TO ALL WHO DESIRE INFORMATION CONCERNING THE MANY PROBLEMS RELATING TO THE PLANNING FOR THE FUTURE OF NEW JERSEY.

1356 NOWATZKI, E.A.; G.S. SALZMAN

NATIONAL DAM SAFETY FROGRAM. JEROME PARK RESERVOIR DAM (NY64), LOWER HUDSON RIVER WATERSHED, BRONX COUNTY, NY. PHASE I INSPECTION REPORT [1978] NTIS. SPRINGFIELD. VA 98 PP NTISTADTA 364 870

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. THE JEROME PARK RESERVOIR DAM WAS JUDGED TO BE SAFE.

1357 NOWATZKI, E.A.; G.S. SALZMAN

NATIONAL DAM SAFETY PROGRAM. LOWER LAKE NIMHAM DAM (NY137), LOWER HUDSON RIVER WATERSHED, BAILEY BROOK BASIN, NY. PHASE I INSPECTION REPORT [1978]

NTIS. SPRINGFIELD, VA 182 PP NTIS-AD-A068 446

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. LOWER LAKE NIMHAM DAM WAS JUDGED TO BE SAFE, ALTHOUGH THE SPILLWAY IS CONSIDERED TO BE INADEQUATE ADDITIONAL INVESTIGATION AND MAINTENANCE ACTIONS WERE RECOMMENDED.

1358 NOWATZKI, E.A.; G.S. SALZMAN

NATIONAL DAM SAFETY PROGRAM. DIAMOND MILLS PAPER COMPANY DAM (NYB9), LOWER HUDSON RIVER WATERSHED, ESOPUS CREEK BASIN, ULSTER COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 123 PP NTIS-AD-A073 607

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. DIAMOND MILLS PAPER COMPANY DAM WAS FOUND TO BE UNSAFE-EMERGENCY. DUE TO SERIOUS STRUCTURAL DEFICIENCIES. LOWERING OF THE RESERVOIR WAS RECOMMENDED SO AS TO ALLOW FURTHER EVALUATION OF THE DAM TO BE MADE.

1359 NUZZI. R.

EFFECTS OF WATER SOLUBLE EXTRACTS OF OIL ON PHYTOPLANKTON [1973]

PAGES 309-813 IN PROC OF JOINT CONFERENCE, PREVENTION AND CONTROL OF OIL SPILLS, WASHINGTON, DC, 13-15 MAR 1973

METHODS ROUTINELY EMPLOYED IN THE CLEANUP OF OIL SPILLS GENERALLY ARE INTENDED TO REMOVE THE OIL TO THE LEVEL OF INVISIBILITY, AT WHICH POINT IT HAS BEEN CONSIDERED BY MANY TO BE HARMLESS OR ITS EFFECTS NEGLIGIBLE. THIS PAPER PRESENTS EVIDENCE INDICATING THAT SOLUBLE CONSTITUENTS OF NO. 2 FUEL OIL ARE TOXIC TO PHYTOPLANKTON CULTURED AXENICALLY AND ALSO EXERT AN EFFECT ON NATURAL PHYTOPLANKTON POPULATIONS. ALTHOUGH THERE HAS BEEN A GOOD DEAL OF WORK INVESTIGATING THE EFFECTS OF OIL AND OIL PRODUCTS ON ORGANISMS SUCH AS BENTHIC INVERTEBRATES, FINFISH AND BIRDS, THERE HAVE BEEN FEW PAPERS DEALING WITH THE EFFECTS OF OIL ON PHYTOPLANKTON. MOST PAPERS ON THIS TOPIC REFER TO THE COMBINED EFFECTS OF OIL AND OIL DISPERSING AGENTS. WITH THIS IN MIND, THE AUTHOR ATTEMPTED TO DETERMINE THE EFFECTS OF WATER SOLUBLE MATERIALS FROM VARIOUS TYPES OF OIL ON THE GROWTH OF MARINE PHYTOPLANKTON, WITHOUT THE ADDITION OF EMULSIFYING AGENTS.

1360 NUZZI, R.

AQUATIC DISPOSAL FIELD INVESTIGATIONS, EATONS NECK DISPOSAL SITE, LONG ISLAND SOUND. APPENDIX F. PREDISPOSAL BASELINE CONDITIONS OF PHYTOPLANKTON ASSEMBLAGES [1977]

NYOSL, MONTAUK, NY 60 PP NTIS-AD-A045 313

THE MAJOR GOAL OF THE EATONS NECK DISPOSAL SITE FIELD INVESTIGATION WAS TO EVALUATE THE EFFECTS OF AQUATIC DISPOSAL OF DREDGED MATERIAL ON ORGANISMS AND WATER QUALITY, INCLUDING THE SIGNIFICANCE OF PHYSICAL, CHEMICAL, AND BIOLOGICAL FACTORS THAT INFLUENCE THE RATE OF DISPOSAL SITE RECOLONIZATION BY BENTHIC ANIMALS. A COMPREHENSIVE RESEARCH PROGRAM WAS PLANNED AND CONDUCTED AT EATONS NECK IN ORDER TO EVALUATE AND EFFECT RELATIONSHIPS ASSOCIATED WITH THE IMPACTS OF OPEN-WATER DISPOSAL. THIS VOLUME PRESENTS THE RESULTS OF AN INVESTIGATION TO DETERMINE THE BASELINE CONDITIONS OF THE PHYTOPLANKTON POPULATION AT THE DISPOSAL SITE FOR FUTURE COMPARISON WITH SIMILAR DATA COLLECTED AFTER THE DISPOSAL OF DREDGED MATERIAL. THE ULTIMATE OBJECTIVE IS TO DETERMINE THE EFFECTS OF THE OPENWATER DISPOSAL OF DREDGED MATERIAL ON THE PHYTOPLANKTON POPULATION LOCATED WITHIN THE AREA OF THE EATONS NECK DISPOSAL SITE. THE STUDY CONCLUDES THAT, ALTHOUGH IT IS DIFFICULT TO DRAW ANY CONCLUSIONS PRIOR TO A MORE THOROUGH STATISTICAL ANALYSIS, IT APPEARS THAT THERE IS LITTLE DIFFERENCE IN THE COMPOSITION AND ABUNDANCE OF THE PHYTOPLANKTON FOUND AT THE THREE STATIONS.

1361 OCCHIOGROSSO, T.J.; W.T. WALLER; G.J. LAUER

EFFECTS OF HEAVY METALS ON BENTHIC MACROINVERTEBRATE DENSITIES IN FOUNDRY COVE ON THE HUDSON RIVER [1979]

BULL ENVIRONM CONTAM TOXICOL 22:230-237

THE SEDIMENTS OF FOUNDRY COVE, NY, ARE CONTAMINATED WITH A NUMBER OF HEAVY METALS, PARTICULARLY CADMIUM AND NICKEL. THIS REPORT EXAMINED THE RELATIONSHIP OF THE SEDIMENT AND THE NUMBERS AND/OR KINDS OF MACROINVERTEBRATE ORGANISMS OBSERVED IN THE SEDIMENTS. 10 SITES WERE SAMPLED IN 1973 AND 1974. BOTTOM SEDIMENTS WERE FOUND TO CONTAIN SIGNIFICANT LEVELS OF MANGANESE, IRON, ZINC, COBALT, CADMIUM AND NICKEL. CD LEVELS UP TO 48,100 PPM AND NI LEVELS OF 11,400 PPM WERE DETECTED. THE STATIONS WITH THE HIGHEST CONTAMINATION LEVELS HAD THE LOWEST DENSITIES OF MACROINVERTEBRATES. THE ABILITY OF FISH FOOD ORGANISMS TO SURVIVE IN HIGHLY CONTAMINATED SEDIMENTS GREATLY INCREASES THE POTENTIAL FOR BIOLOGICAL MAGNIFICATION.

1362 OFFICER, C.B.; J.H. RYTHER

SECONDARY SEWAGE TREATMENT VERSUS OCEAN OUTFALLS: AN ASSESSMENT [1977]

SCIENCE 197(4308):1056-1060

SIMPLIFIED MATHEMATICAL MODELS WERE DEVELOPED TO OBTAIN ORDER OF MAGNITUDE ESTIMATES OF THE OXYGEN DEMAND OF MUNICIPAL AND INDUSTRIAL WASTES AND THEIR POTENTIAL EUTROPHICATION EFFECTS IN THE MARINE ENVIRONMENT. FLUSHING TIMES, VOLUMES, AND DILUTION POTENTIALS FOR VARIOUS RIVERS, ESTUARIES, AND COASTAL REGIONS ARE TABULATED FOR ESTIMATING THE EFFECTS OF ALTERATIONS IN THE WASTE LOADING, OUTFALL LOCATION, OR OTHER ENVIRONMENTAL FACTORS. WASTE OXIDATION POTENTIAL AND EUTROPHICATION OXIDATION POTENTIAL ARE PLOTTED IN TERMS OF WASTE LOADING AGAINST FLUSHING TIME. THE RESULTS FOR WASTE OXIDATION ARE COMPARED WITH OBSERVATIONS FOR THE HOUSTON SHIP CHARNEL, THE DELAWARE RIVER, AND BOSTON HARBOR. EUTROPHICATION OXIDATION RESULTS ARE COMPARED WITH OBSERVATIONS FOR THE HUDSON RIVER PLUME OFF NJ. SECONDARY SEWAGE TREATMENT HAS NO DIRECT BENEFICIAL EFFECT ON EUTROPHICATION POTENTIAL; POTENTIAL MAY BE ENHANCED AND ACCELERATED BECAUSE INORGANIC NUTRIENTS ARE MORE RAPIDLY AND HORE COMPLETELY AVAILABLE TO THE PHYTOPLANKTON THAN THEY ARE WHEN PROVIDED BY THE NATURAL DECOMPOSITION OF WASTEWATER IN THE SEA. THE ORIGINAL CONDITION IS UNCHANGED BY SECONDARY SEWAGE TREATMENT. THE INSTALLATION OF OCEAN OUTFALLS, HOWEVER, CAN VIRTUALLY ELIMINATE THE EUTROPHICATION POTENTIAL AND SEWAGE NUTRIENTS CAN HAVE THE BENEFICIAL EFFECT OF SERVING AS FERTILIZERS FOR THE AUGUST FOOD CHAIN. THE ADVANTAGE IN THE REDUCTION OF AVERAGE CONCENTRATION OF TRACE CONTAMINANTS AND PATHOGENS APPEARS TO LIE WITH THE OCEAN OUTFALL.

1363 OKULEWICZ, S.; D. VONDERHEIDE

THE PROBLEM OF EROSION AT GREAT KILLS BEACH, STATEN ISLAND, NEW YORK [1978]

GEOL SOC AM ABSTR PROG 10(2):78

GREAT KILLS BEACH, WHICH IS PART OF THE GATEMAY NATIONAL RECREATION AREA, IS LOCATED ALONG AN EXTENDED SAND SPIT ON THE SOUTHEASTERN COAST OF STATEN ISLAND. EROSION AT THIS BEACH HAS BEEN EXTENSIVE DUE TO THE EXISTENCE OF A NATURAL CLAY AND PEAT GROIN THAT LIES TO THE NORTH. A FEDERAL PARK ADMINISTRATION BUILDING IS DIRECTLY UPDRIFT TO THIS EROSION AND IS IN DANGER OF ITS FOUNDATION BEING UNDERMINED. IN 1975, A BEACH NOURISHMENT PROGRAM WAS BEGUN, BUT SINCE THEN EROSION HAS CREATED A 4 M HIGH CLIFF THAT IS PROGRESSING TOWARD THE BUILDING AT AN AVENAGE RATE OF 7 M/YR. ABOUT 38,200 CU M OF FILL HAS BEEN REMOVED BY EROSION TO DATE AND THE CLIFF IS NOW WITHIN 6 M OF THE BUILDING. 5 SOLUTIONS ARE PROPOSED: 1) TO CONTINUE THE COSTLY AND LOSING PROPOSITION OF THE LANDFILL PROGRAM; 2) BUILD A ROCK GROIN FARTHER TO THE SOUTH THUS ACCUMULATING SAND IN FRONT OF THE STRUCTURE; 3) TO REMOVE THE GROIN, WHICH WAS TRIED UNSUCCESSFULLY AND ALSO OPPOSED BY ENVIRONMENTALISTS SINCE IT IS A FEEDING GROUND FOR MIGRATING BIRDS; 4) BUILD A CONCRETE WALL IN FRONT OF THE CLIFF TO ACT AS A BARRIER TO FURTHER EROSION; AND 5) TO REESTABLISH THE SALT GRASS AND PEAT THAT ORIGINALLY FORMED THE GROIN THUS EXTENDING ITS SIZE TO MATCH THE LENGTH OF THE BUILDING WHILE SHIFTING THE EROSION TO THE SOUTH WHERE IT CAN BE ACCOMMODATED UNTIL AN EQUILIBRIUM IS REACHED.

1364 OLCOTT, E.S.

PORT DEVELOPMENT PLANNING IN THE NEW YORK AREA [1978]

PAGES 452-459 IN PROC, 2ND INTERNAT'L WATERBORNE TRANSP CONFERENCE, ASCE URBAN TRANSP DIV SPECIAL CONFERENCE, NEW YORK, NY, OCT 5-7 1977. ASCE, NEW YORK, NY

THE PORT IS A GEOGRAPHIC AREA WITHIN THE STATES OF NY AND NJ, WITH ITS BOUNDARIES ESTABLISHED BY THE PORT DISTRICT. A 1,500 SQ MI AREA WITHIN A RADIUS OF ABOUT 25 MI FROM THE STATUE OF LIBERTY. THE REGION IS POPULATED BY MORE THAN 13 MILLION PEOPLE. THE HARBOR HAS A SHORELINE FRONTAGE TOTALING 750 MI. THE PAPER EMPHASIZES THE CHANGES WHICH HAVE AFFECTED THE BI-STATE PORT OF NY AND NJ IN THE PAST 10 OR 15 YEARS, AND OUTLOOK ON CHANGES WHICH ARE LIKELY TO INFLUENCE THE DEVELOPMENT OF THE PORT IN FUTURE YEARS. THESE PAST AND FUTURE DEVELOPMENTS ARE RELATED TO THE ECONOMY OF THIS REGION AND TO MULTI-MODAL CONSIDERATION.

1365 OLENIK, T.J.

NITRIFICATION EFFECTS IN WASTE TREATMENT PROCESSES [1974]

OWRT, JASHINGTON, DC 213 PP NTIS-PB-240 278

NITRIFICATION OR SECOND-STAGE BIOCHEMICAL OXYGEN DEMAND EFFECTS WERE INVESTIGATED IN TWO WAS TEWATER TREATMENT PLANTS ALONG THE PASS ALC RIVER, NJ. THE TWO PLANTS, BERKELEY HEIGHTS AND MADISON-CHATHAM, WERE ANALYZED BY SIMULTANEOUSLY PERFORMING LONG-TERM DISSOLVED OXYGEN (DO) AND INORGANIC NITROGEN TESTS OF INTERNAL AND EXTERNAL FLOWS. THE RESULTS SHOWED THAT NITRIFICATION DOES NOT TAKE PLACE ON AN OVERALL BASIS AT EITHER PLANT. THE DISAPPEARANCE OF AMMONIA NITROGEN NOTICED IN THE LONG-TERM DO TEST WAS CONSIDERED TO BE CAUSED MAINLY BY THE HETEROTROPHIC BACTERIA, AND TO A SMALL EXTENT, BY THE NITRIFYING AUTOTROPHIC BACTERIA. KINETIC RATE CONSTANTS WERE DETERMINED FOR ALL EFFLUENTS AT EACH PLANT. A TRACER STUDY WAS PERFORMED USING LITHIUM CHLORIDE ON THE MECHANICAL AERATION UNIT AT THE MADISON-CHATHAM PLANT. THE PURPOSE OF THIS TRACER STUDY WAS TO DETERMINE THE AMOUNT OF DEAD SPACE IN THE TANK THAT MAY ALLOW NITRIFYING ORGANISMS SUFFICIENT GENERATION TIME TO MULTIPLY. A DIRECT RESULT OF THIS TESTING WAS A MATHEMATICAL MODEL OF THE SYSTEM BASED ON WILSON'S "BLACK-BOX" APPROACH.

1366 OLENIK, T.J.

TIME SERIES ANALYSIS OF AMMONIA IN THE PASSAIC RIVER [1975]

IN PROC, INTERNAT'L ASSUC ON WATER POLLUT RESEARCH, SPECIAL CONFERENCE ON NITROGEN AS A WATER POLLUTANT, COPENHAGEN, DENMARK, 18-20 AUG 1975. VOL 2

RECENT YEARS HAVE WITHESSED THE GROWING CONCERN OVER NITROGEN IN RECEIVING WATERS BECAUSE OF THE EUTROPHIC AND SECOND STATE BIOCHEVICAL OXYGEN DEMAND EFFECTS. UNFORTUNATELY, THERE IS A DISTINCT LACK OF DIRECT NITROGEN DATA IN THE NATION'S RECEIVING WATERS. FURTHERMORE, THE LACK OF DATA HAS FORCED THE USE OF SPECIAL MATHEMATICAL TECHNIQUES SUCH AS TIME SERIES ANALYSIS TO ANALYZE THE EXISTING DATA. THE PAPER DESCRIBES A STUDY THAT APPLIES ONE SUCH TECHNIQUE TO THE PROBLEM.

1367 OLLA, B.L.

DAILY ACTIVITY, MOVEMENTS, FEEDING, AND SEASONAL OCCURRENCE IN THE TAUTOG, TAUTOGA ONITIS [1974]

FISH BULL 72(1):27-35

OBSERVATIONS WERE MADE ON THE ACTIVITY AND MOVEMENTS OF T. ONITIS ADULTS IN THEIR NATURAL HABITAT. THE ADULTS ARE ACTIVE IN THE DAY AND INACTIVE AT NIGHT. FISH >30 C4 IN LENGTH MOVED OUT FROM THE NIGHT RESTING PLACE (HOME SITE) EACH DAY TO FEED, WHILE YOUNGER FISH <25 CM REMAINED AND FED IN CLOSE PROXIMITY TO THE HOME SITE. THE BLUE MUSSEL, MYTILUS EDULIS, IS THE PRINCIPAL FOOD FOR THE POPULATION. WHILE OLDER FISH APPEARED TO MOVE OFFSHORE FOR THE WINTER, THE YOUNGER FISH REMAINED INSHORE, OVERWINTERING IN A TORPID STATE. THE SIGNIFICANCE OF THE TAUTOG'S DIFFERENTIAL RESPONSIVENESS, FOOD HABITS, AND DAILY AND SEASONAL MOVEMENTS ARE DISCUSSED.

1368 OLLA, B.L.; A.L. STUDHOLME; A.J. BEJDA; C. SAMET; A.D. MARTIN

EFFECT OF TEMPERATURE ON THE BEHAVIOUR OF MARINE FISHES [1975]

PAGES 299-308 IN COMBINED EFFECTS OF RADIOACTIVE, CHEMICAL, AND THERMAL RELEASES TO THE ENVIRONMENT, PROC OF SYMP, STOCKHOLM, SWEDEN, 2-5 JUNE 1975. IAEA, VIENNA, AUSTRIA

THIS PAPER COMPARES THE BEHAVIORAL RESPONSES OF ATLANTIC MACKEREL, SCOMBER SCOMBRUS, BLUEFISH, POMATOMUS SALTATRIX, AND TAUTOG, TAUTOGA ONITIS, HELD CONTROLLED LABORATORY CONDITIONS TO TEMPERATURE, WHEN THE TEMPERATURE WAS EITHER RAISED OR LOWERED FROM NORMAL LEVELS, JUVENILE AND ADULT BLUEFISH AND ADULT ATLANTIC MACKEREL, ALL PELAGIC SPECIES, RESPONDED SIMILARLY BY INCREASING SWIMMING SPEED AS MUCH AS 16-19%. THIS RESPONSE WAS INTERPRETED AS A MANIFESTATION OF BEHAVIORAL AVOIDANCE OF A PARTICULAR LEVEL JF TEMPERATURE, INDICATIVE OF CAPABILITY FOR DIRECTIVE MOVEMENTS RELATIVE TO AMBIENT THERMAL CONDITIONS. COMPARING THE RESPONSE OF PELAGIC SPECIES TO EARLIER WORK ON TAUTOG, A DEMERSAL SPECIES, IT WAS CLEAR THAT AVOIDANCE CAPABILITY IS DEPENDENT UPON THE BEHAVIORAL REPERTOIRE OF THE INDIVIDUAL SPECIES. THE SIGNIFICANCE OF THE RESULTS, REGARDING DISTRIBUTION OF FISH AND RESPONSE POTENTIAL UNDER THERMAL STRESS, IS DISCUSSED.

1369 OLLA, B.L.; 4.J. BEJDA; A.D. MARTIN

ACTIVITY, MOVEMENTS, AND FEEDING BEHAVIOR OF THE CUNNER, TAUTOGOLABRUS ADSPERSUS, AND COMPARISON OF FOOD HABITS WITH YOUNG TAUTOG, TAUTOGA ONITIS, OFF LONG ISLAND, NEW YORK [1975]

FISH BULL 73(4):895-900

FIELD DESERVATIONS OFF LONG ISLAND, USING SCUBA AND ULTRASDNIC TRACKING, SHOWED THE CUNNER, TAUTOGOLABRUS ADSPERSUS, TO BE ACTIVE DURING THE DAY AND INACTIVELY LYING IN SHELTER AT NIGHT. FISH RESTRICTED THEIR MOVEMENTS DURING THE DAY, REMAINING WITHIN 2 M OF THE STRUCTURE PROVIDING THE NIGHTIME SHELTER. THE FISH OVERWINTER WITHIN THEIR HOME TERRITORY IN A TORPID, NONFEEDING STATE. CUNNER FED PRIMARILY ON INVERTEBRATES, FORAGING BOTH BENTHICALLY AND IN THE WATER COLUMN. COMPETITION BETWEEN CUNNER AND YOUNG TAUTOG, TAUTOGA ONITIS, FOR MYTILUS EDULIS WAS APPARENT DURING MAY-JUNE WHEN IT IS THE MAJOR FOOD ITEM FOR BOTH SPECIES. BUT BEGINNING IN JULY AND EXTENDING THROUGH OCTOBER, WHILE TAUTOG CONTINUED TO FEED PRIMARILY ON MUSSELS, CUNNER SHIFTED TO A DIET CONSISTING MAINLY OF THE ISOPOD, IDOTEA BALTICA.

1370 OLLA, 9.L.: C. SAMET

. EFFECTS OF ELEVATED TEMPERATURE ON EARLY EMBRYONIC DEVELOPMENT OF THE TAUTOG, TAUTOGA ONITIS [1978]

TRANS AM FISH SOC 107(6):820-824

THE EFFECT OF ELEVATED TEMPERATURE ON EARLY EMBRYONIC DEVELOPMENT OF TAUTOG, TAUTOGA ONITIS, WAS THE SUBJECT OF A STUDY IN WHICH BOTH SPAWNING ADULTS AND DEVELOPING EGGS WERE EXPOSED TO SIMILAR TEMPERATURES. WHEN INCUBATION TEMPERATURE WAS GRADUALLY RAISED FROM 20.0 C, ANATOMICAL DEFORMITIES, INCLUDING STUNTED EMBRYOS AND/OR ABNORMAL BODY CURVATURES, AS WELL AS INCREASED MORTALITY OCCURRED BETWEEN 24.2 AND 25.3 C. NORMAL DEVELOPMENT WAS EVIDENT AFTER THE TEMPERATURE RETURNED TO 20.0 C.

1371 OLLA, 3.L.; A.J. BEJDA; A.D. MARTIN

SEASONAL DISPERSAL AND HABITAT SELECTION OF CUNNER, TAUTOGOLABRUS ADSPERSUS, AND YOUNG TAUTOG, TAUTOGA ONITIS, IN FIRE ISLAND INLET, LONG ISLAND, NEW YORK [1979]

FISH BULL 77(1):255-261 NTIS-PB-300 741

RESULTS OF FIELD OBSERVATIONS EXAMINING SEASONAL MOVEMENTS IN THE CUNNER, TAUTOGOLABRUS ADSPERSUS, AND YOUNG TAUTOG, TAUTOGA ONITIS, SHOWED A SMALL PORTION OF A RESIDENT POPULATION LOCATED OFF FIRE ISLAND, NY TO DISPERSE SEASONALLY. DISPERSAL WAS FROM HABITATS WHICH PROVIDE COVER FOR BOTH SPECIES THROUGHOUT THE YEAR TO SEASONAL HABITATS OCCUPIED PRIMARILY DURING SUMMER. WHILE BOTH SPECIES EXHIBIT A HIGH DEGREE OF ASSOCIATION WITH COVER, RESULTS OF EXPERIMENTAL TRANSFERS OF YOUNG TAUTOG, MONITORED EITHER ULTRASONICALLY OR DIRECTLY BY DIVERS WITH SELF CONTAINED UNDERWATER BREATHING APPARATUS, SHOWED THAT FISH WILL LEAVE A SUBOPTIMAL HABITAT EVEN THOUGH COVER IS PRESENT. DISPERSAL AND HABITAT SELECTION ARE DISCUSSED IN RELATION TO SEASONAL CHANGES IN THE ENVIRONMENT AND ECOLOGICAL REQUIREMENTS OF THE FISH.

1372 OLLA, B.L.; J. ATEMA; R. FORWARD; J. KITTREDGE; R.J. LIVINGSTON; D.W. MCLEESE; D.C. MILLER; W.B. VERNBERG; P.G. WELLS; K. WILSO

THE ROLE OF BEHAVIOR IN MARINE POLLUTION MONITORING-BEHAVIOR PANEL REPORT [1980]

REUN CONS INT EXPLOR MER 179:174-181

WHILE BEHAVIORAL BIOASSAYS HAVE PROVIDED SOMETIMES EXQUISITELY SENSITIVE MEASURES OF POLLUTION EFFECTS ON MARINE ORGANISMS, THE APPLICABILITY OF BEHAVIOR FOR BIOMONIFORING HAS YET TO BE TESTED. IT IS OUR CONCERTED OPINION THAT BEHAVIOR, IF APPLIED PROPERLY, AND IN CONCERT WITH OTHER MONITORING TECHNIQUES, E.G., PHYSIOLOGICAL AND BIOCHEMICAL, CAN BE A SUITABLE AND POWERFUL TOOL FOR MONITORING. IT IS CLEAR, HOWEVER, THAT MAXIMUM EFFECTIVENESS WILL NOT COME FROM ONE BEHAVIORAL TECHNIQUE PERFORMED ON ONE INDICATOR SPECIES, BUT RATHER FROM A SUITE OF DIFFERENT BEHAVIORS AND ORGANISMS, THE CHOICE OF WHICH WILL DEPEND UPON THE PARTICULAR ECOSYSTEM AND THE CLASSES OF DOMINANT POLLUTANTS.

1373 OLNEY, J.E.; A. NAPLIN

EGGS OF THE SCALLOPED RIBBONFISH, ZU CRISTATUS, (PISCES: TRACHIPTERIDAE) IN THE WESTERN NORTH ATLANTIC [1980]

COPEIA 1:165-166

THIS REPORT ON 3 EGGS OF 2U CRISTATUS FOUND IN THE MIDDLE ATLANTIC BIGHT PRESENTS NEW DESCRIPTIVE DATA ON PREFLEXION LARVAE OF THE SPECIES. IT IS RELIEVED THAT THIS COLLECTION OF EGGS WAS SPAWNED IN WARM OCEANIC WATERS SOUTH OF CAPE HATTERAS, NC.

1374 OLSEN, C.R.; H.J. SIMPSON; R.M. TRIER

ANTHROPOGENIC RADIONUCLIDES AS TRACERS FOR RECENT SEDIMENT DEPOSITION IN THE HUDSON ESTUARY [1977]

EOS: TRANS AM GEOPHYS UNION 58(6):406 ABS ONLY

CS-137, CS-134 AND CO-60 ARE ANTHROPOGENIC RADIONUCLIDES WITH HALF-LIVES OF APPROXIMATELY 30, 2 AND 5 YRS, RESPECTIVELY. THEY HAVE BEEN INTRODUCED INTO THE HUDSON ESTUARY VIA GLOBAL FALLOUT FROM NUCLEAR MEAPONS TESTING AND THROUGH LOW-LEVEL RELEASES FROM A NUCLEAR REACTOR, SITUATED APPROX 70 KM UPSTREAM FROM THE SOUTHERN TIP OF MANHATTAN. THESE RADIONUCLIDES ARE ADSORBED TO FINE-GRAINED PARTICLES AND CONSEQUENTLY PROVIDE EXCELLENT TRACERS FOR SEDIMENT TRANSPORT AND ARE USEFUL IN DISTINGUISHING AREAS OF RAPID DEPOSITION FROM AREAS UNDERGOING EROSION OR AFFECTED BY DREDGING ACTIVITIES. RADIOCHEMICAL STUDIES HAVE BEEN CONDUCTED ON A SERIES OF 0.5 TO 3 M CORES TAKEN OVER 100 KM OF THE HUDSON ESTUARY. IN MOST AREAS, ANTHROPOGENIC RADIONUCLIDES WERE CONFINED TO THE UPPER TO 10 CM OF SEDIMENT INDICATING SEDIMENTATION RATES <1 CM/YR. IN MARGINAL COVES, HOWEVER, MEASUREABLE CS-137 ACTIVITIES WERE FREQUENTLY OBSERVED TO DEPTHS OF 20 TO 30 CM, INDICATING HIGHER RATES OF SEDIMENTATION IN THESE AREAS. IN NEW YORK HARBOR, MEASUREABLE CS-137 ACTIVITIES HAVE BEEN OBSERVED TO 250 CM AND THE CORRELATION OF PEAK CONCENTRATIONS WITH REACTOR RELEASE DATA INDICATE DEPOSITION RATES OF 10 TO 20 CM/YR. CONSEQUENTLY, IT APPEARS THAT THERE IS A LARGE VARIATION IN PATTERNS AND RATES OF SEDIMENT DEPOSITION IN THE HUDSON ESTUARY AND THAT THE FINE-GRAINED MATERIAL RESPONSIBLE FOR THE RAPID SHOULTED.

1375 OLSEN, C.R.; H.J. SIMPSON; R.F. BOPP; R.M. TRIER; S.C. WILLIAMS

POLLUTION HISTORY AND SEDIMENT ACCUMULATION PATTERNS IN THE HUDSON ESTUARY [1978]

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY 26 PP

NET MOIION AND ACCUMULATION OF PARTICLES AND POLLUTANTS ASSOCIATED WITH PARTICLES ARE OBSERVED BY MEASURING THE ANTHROPOGENIC RADIONUCLIDES (CS-137). AREAS BEING STUDIED IN THE HUDSON ARE INNER NEW YORK HARBOR AND ESTUARINE COVES UPSTREAM. HIGH ACCUMULATION WITH CS-137 CORRELATES WITH DISTRIBUTION OF PLUTONIUM, PCBS, CU, ZN, AND PB. HARBOR SEDIMENTS CONTAIN TWICE AS MUCH ORGANIC MATTER. TEN TIMES AS MUCH TRACE METALS AND ARE SEVERELY CONTAMINATED WITH PCBS COMPARED WITH OLDER SEDIMENTS.

1376 OLSEN, C.R.; H.J. SIMPSON; R.F. BOPP; S.C. WILLIAMS; T.H. PENG; B.L. DECK

A GEOCHEMICAL ANALYSIS OF THE SEDIMENTS AND SEDIMENTATION IN THE HUDSON ESTUARY [1978]

J SEDIMENT PETROL 48(2): 401-418

GEOCHEMICAL AND SEDIMENTOLOGICAL STUDIES HAVE BEEN CONDUCTED ON ONE 6 M CORE AND ON A SERIES OF 1-3 M CORES TAKEN OVER ABOUT 100 KM OF THE HUDSON ESTUARY. EACH GRAM (DRY-WEIGHT BASIS) OF ESTUARINE SILT CONTAINS: ORGANIC MATTER 30-100 MG. CARBONATE GENERALLY <30 MG, QUARTZ 250-400 MG, POTASSIUM 18-24 MG, ZINC 50-550 MICRO G, COPPER 15-400 MICRO G, AND LEAD 20-800 MICRO G. IN MOST LOCALITIES, THE HIGHER TRACE METAL LEVELS, AS WELL AS ANTHROPOGENIC DETRITUS (E.G., METALLIFEROUS SLAGS, FLY ASH AND COAL), AND REACTOR- AND BOMB-PRODUCED RADIONUCLIDES (E.G., CS-137, CS-134 AND CO-60) ARE CONFINED TO THE UPPER 10 CM OF THE SEDIMENT BUT IN THE INNER HARBOR AREA OF NEW YORK THEY HAVE BEEN OBSERVED TO SEDIMENT DEPTHS OF 250 CM. IN SOME AREAS OF THE INNER HARBOR THE VERTICAL DISTRIBUTION OF ANTHROPOGENIC RADIONUCLIDES INDICATES SEDIMENTATION RATES OF 5-20 CM/YR. THE TOP THE TOP 10 CM OF THE INNER HARBOR SEDIMENT IS HIGHLY LIQUEFIED AND THE TOP METER SHOWS EXTENSIVE TURBATION, ALTHOUGH DISTINCT SAND LAYERS AND LAMINATED ZONES ARE PRESENT. C-14 ANALYSES OF ORGANIC MATTER IN INNER HARBOR SURFACE SEDIMENTS INDICATE THAT THE MAJOR SOURCE OF CARBON IS RECENT SEWAGE, NEARLY ALL OF WHICH IS DISCHARGED IN THIS AREA OF THE ESTUARY. THE FINE-GRAINED SEDIMENTS OF THE NATURAL CHANNEL AND SUBTIDAL BANK, UPSTREAM OF THE INNER HARBOR, ARE CHARACTERIZED BY ALTERNATING LAYERS OF FINE SANDY SILTS AND CLAY-RICH SILTS ON A MM TO CM SCALE. DOWNSTREAM FROM THE TAPPAN ZEE, SAND-SHELL LAYERS. 1-2D CM THICK. OCCUR AT THE CHANNEL SURFACE AND ARE INTERLAYERED WITH JONES OF LAMINATED. FINE-GRAINED SEDIMENT AT DEPTH. ONE POSSIBLE INTERPRETATION OF THE SEDIMENTARY STRUCTURES IS: (1) THE LAMINATED, FINE-GRAINED SEDIMENTS ARE DEPOSITED WHEN THE HUDSON TRANSPORTS RELATIVELY HIGH CONCENTRATIONS OF SEDIMENT. SUCH AS DURING AND AFTER SEVERE STORMS OR OTHER SHORT TERM EVENTS OF LARGE SCALE RESUSPENSION; 2) THE SAND-SHELL LAYERS RESULT FROM INCREASED SAND TRANSPORT DURING HIGH-ENERGY (STORM) CONDITIONS OR FRUM TIDAL SCOUR UNDER NORMAL FLOW CONDITIONS AND (3) THE TURBATE ZONES REPRESENT PERIODS OF SLOWER OR NO DEPOSITION DURING NORMAL FLOW CONDITIONS. CONSEQUENTLY: IT APPEARS THAT EVERYDAY TIDAL AND ESTUARINE PROCESSES ARE CAUSING THE RAPID ACCUMULATION OF RECENT "POLLUTED" SEDIMENT IN SPECIFIC AREAS, SUCH AS THE INNER HARBOR, WHEREAS STORM DEPOSITS CHARACTERIZE THE SEDIMENTARY RECORD IN THE CHANNEL AND SUBTIDAL BANK ENVIRONMENTS OF THE RIVER ESTUARY, UPSTREAM OF NEW YORK CITY.

1377 OLSEN, P.; M.S. COHN

PHYTOPLANKTON IN LOWER NEW YORK BAY AND ADJACENT NEW JERSEY ESTUARINE AND COASTAL AREAS [1979]

REP 80050208. NOAA, BOULDER, CO 14 PP NTIS-PB80-195 894

A YEAR-ROUND PHYTOPLANKTON SURVEY FROM 1975 THROUGH 1978, AT ESTUARINE AND COASTAL LOCATIONS IN THE NJ NORTHERN SHORE AND LOWER NEW YORK BAY, REVEALED 332 SPECIES REPRESENTING NINE CLASSES OF ALGAE. BACILLARIOPHYCEAE COMPRISED 51% OF THIS TOTAL; DINOPHYCEAE, 28%; SIX OTHER CLASSES OF PHYTOFLAGELLATES, 18%; AND CHLDROPHYCEAE, 3%. OVERALL, SEVEN SPECIES WERE CONSIDERED SEASONAL DOMINANTS, WHILE 63 OTHERS WERE RELATIVELY NUMEROUS. OF THE 332 LISTED SPECIES, 208 ARE NEWLY RECORDED FROM THE PLANKTON OF THIS AREA.

1378 OLSON, R.L.

SPATIAL AND TEMPORAL VARIATIONS IN THE ABUNDANCE AND DISTRIBUTION OF NUTRIENTS AND PHYTOPLANKTON IN WESTERN LONG ISLAND SOUND

M.S. THESIS. SUNY, STONY BROOK, NY 85 PP

THE IMPACT OF HUMAN POPULATION GROWTH, AROUND THE SHORES OF LONG ISLAND SOUND, ON THE SOURCES AND SEASONAL CYCLES OF NITROGEN NUTRIENTS AND PHYTOPLANKTON WAS INVESTIGATED. THIS IMPACT WAS INFERRED FROM DIFFERENCES BETWEEN MEASUREMENTS OF TEMPERATURE, SALINITY, DISSOLVED OXYGEN, NH4, NO3, CHLOROPHYLL A, AND THE ABUNDANCE AND SPECIES COMPOSITION OF NETPLANKTON IN THE WESTERN SOUND, BETWEEN OCT 1974 AND MAY 1975, AND SIMILAR MEASUREMENTS MADE AS LONG AGO AS 20 YRS. THIS COMPARISON SHOWED NO SIGNIFICANT CHANGES IN THE SOURCES AND TEMPORAL VARIATIONS OF NITROGEN NUTRIENTS AND PHYTOPLANKTON CHLOROPHYLL A. ADDITIONALLY, NO IMPORTANT DIFFERENCES INVOLVING THE SEASONAL CYCLE AND IDENTITY OF THE MAJOR NETPLANKTON SPECIES WERE REVEALED BY THIS COMPARISON. HOWEVER, COMPARED TO THE NUMBERS OF PHYTOPLANKTON CELLS PREVIOUSLY RECORDED, THE NETPLANKTON CELLS PREVIOUSLY RECORDED, THE NETPLANKTON CELL CONCENTRATIONS OBSERVED WERE SUBSTANTIALLY LOWER. THIS OBSERVATION AND THE ESTIMATION OF THE PHYTOPLANKTON CHLOROPHYLL A FRACTIONATION SUGGESTED THAT, OVER THE PAST 20 YRS IN THE WESTERN SOUND, NANNOPLANKTON MAY HAVE GREATLY INCREASED IN NUMBER.

1379 OLUFEAGBA, B.J.; R.H. FLAKE

MODELLING AND WATER QUALITY MANAGEMENT IN AN ESTUARY [1975]

PROC. 5TH ANNUAL MEETING. MODEL SIMULATION CONFERENCE, UNIV OF PITTSBURGH, PA, APR 1975. 6(2):861-865

A LONG-TERM MODEL FOR THE SPATIAL DISTRIBUTIONS OF BIOCHEMICAL OXYGEN DEMAND AND DISSOLVED OXYGEN CONCENTRATIONS IN JAMAICA BAY, NY, IS PRESENTED. THE MODEL, WHICH ILLUSTRATES A SHOOTING APPROACH TO MODELLING ACHIEVES HIGH-ORDER NUMERICAL ACCURACY AND IS USED TO CALCULATE AN ECONOMICAL MANAGEMENT POLICY.

1380 OLUFEASBA, B.J.; R.H. FLAKE

SHOOTING MODELS FOR SALINITY AND COLIFORM [1976]

J ENVIRON ENG 102 (1):95-109

A METHOD FOR SOLVING THE WATER QUALITY MODELS BY A SHOOTING TECHNIQUE WAS PRESENTED FOR JAMAICA BAY. THE TECHNIQUE EXHIBITS EXCELLENT CONVERGENCE RATES FOR LINEAR PROBLEMS AND GENERALLY INVOLVES THE SOLUTION OF MUCH SMALLER LINEAR SYSTEMS THAN MODELS UTILIZING DIRECT FINITE DIFFERENCE METHODS. THE METHOD, WHICH HAS BEEN EXTENDED TO MULTICONSTITUENT WATER QUALITY PROBLEMS. HAS ALSO BEEN EMPLOYED IN THE DETERMINATION OF WATER QUALITY MANAGEMENT POLICIES IN JAMAICA BAY. A RECENT STUDY HAS SHOWN THAT THESE SHOOTING TECHNIQUES MAY ALSO BE EMPLOYED IN SOLVING BOUNDARY VALUE PROBLEMS IN WHICH THE ELLIPTIC OPERATOR IS APPROXIMATED WITH SPARSE TWO-DIMENSIONAL FINITE DIFFERENCE EQUATIONS WITH A CONSIDERABLE REDUCTION IN THE SIZE OF THE LINEAR SYSTEMS TO BE SOLVED.

1381 OLUFEAGBA, B.J.; H.R. FLAKE

PARAMETER ESTIMATION FOR AN ESTUARINE PHOSPHORUS MODEL [1977]

IEEE TRANS SYST MAN CYBERN SMC-7(1):35-42

THE SYNTHESIS OF A PHOSPHORUS MODEL FOR JAMAICA BAY, NY, IS REDUCED TO A PARAMETER ESTIMATION PROBLEM. IT IS SHOWN THAT FOR A QUADRATIC LEAST SQUARED ERROR ESTIMATOR, THE SENSITIVITY FUNCTION DEPENDS MONOTONICALLY ON THE REACTION RATE, AND THE OPTIMUM REACTION RATE IS UNIQUE. THE RESULTING MODEL, WHICH INCORPDRATES THE OPTIMUM REACTION RATE AND AN EFFECTIVE PHOSPHORUS SOURCE, IS BASED ON A SHOOTING SOLUTION OF THE DISPERSION-ADVECTION EQUATION AND YIELDS A GOOD REPRESENTATION OF LONG-TERM PHOSPHORUS DISTRIBUTION IN THE PAY.

1382 OMHOLT, T.

SMALL GROINS ON THE SHORES OF LONG ISLAND SOUND [1974]

SHORE BEACH 42 (1):11-13

AERIAL PHOTOGRAPHS WERE USED IN ASSESSING THE EFFECTS OF COASTAL STRUCTURES ON SHORELINE CHANGES IN THE LONG-TERM SHORELINE TREND ON THE NORTH SHORE OF SUFFOLK COUNTY, NY. 51 GROINS CONSTRUCTED IN 14 AREAS WERE SURVEYED. THE STUDY AREA IS EXPOSED TO WAVES GENERATED OVER LIMITED FETCHES AT FETCH DISTANCES OF <30 MI. THE AREA IS SUBJECTED TO A PREDOMINANT NW WIND AND A NET W TO E LITTORAL DRIFT. AERIAL PHOTOGRAPHS FROM 1940, 1964, AND 1970 WERE USED TO SHOW SHORELINE CHANGES BETWEEN THE INTERVENING YEARS. VISIBLE CHANGES REVEAL EXTENSIVE EROSION IN THE WESTERN SECTION EXCEPT FOR AREAS NEAR THE GROINS. THE LONG-TERM SHORELINE TREND FOR MOST OF LONG ISLAND'S NORTH SHORE IS EROSION. THE ENTIRE NORTH SHORE OF SUFFOLK COUNTY HAS BEEN DESIGNATED AS CRITICAL BY THE ACE, REQUIRING \$92 MILLION IN SHORELINE IMPROVEMENTS (SAND FILL). THE ORDER OF CHANGE WAS GENERALLY 3D-5D FT OVER THE 30-YR PERIOD 1940-70. THE LONG-TERM EROSION IS CAUSED, NOT BY A SLOW ACCUMULATIVE PROCESS. BUT BY ABRUPT STEPS DURING SEVERE STORMS. THE MAXIMUM BENEFIT ATTRIBUTABLE TO THE GROINS IS A DECREASE IN NET EROSION ON THE ORDER OF 10-30 FT. IN 30X-40X OF THE CASES, INCREASED EROSION (> 39 FT) OCCURRED DOWNDRIFT OF THE LAST GROIN.

1383 OMHOLT, T.

EFFECTS OF SMALL GROINS ON SHORELINE CHANGES ON THE NORTH SHORE OF SUFFOLK COUNTY, NY [1974]

TECH REP 0023. NYOSL, MONTAUK, NY 50 PP

AERIAL PHOTOGRAPHS WERE USED TO STUDY THE EFFECTS OF 51 SMALL GROINS ON SHORELINE CHANGES IN 14 AREAS OF THE NORTH SHORE OF SUFFOLK COUNTY, NY. COASTAL PROCESSES AND GROIN CHARACTERISTICS AFFECTING SHORELINE CHANGES WERE REVIEWED. THE LONG-TERM TREND OF SHORELINE EROSION WAS CONFIRMED. CHANGES DURING 1940-70 VARIED GREATLY; THE ORDER OF CHANGE WAS GENERALLY 30-50 FT. TWO EXCEPTIONS TO THE GENERAL TREND WERE CEDAR BEACH AND TRUMAN BEACH WHICH EXPERIENCED A NET ACCRETION. EFFECTIVENESS OF GROINS WAS DIFFICULT TO ASSESS. IN THE ARSHAMONAQUE-HASHAMONMUCK BEACH REGION, MOST GROINS WERE INEFFECTIVE. IN OTHER AREAS, MAXIMUM BENEFIT ATTRIBUTABLE TO GROINS WAS A DECREASE IN NET EROSION IN THE ORDER OF 10-30 FT. BENEFITS, HOWEVER, WERE NOT ACHIEVE WITHOUT MAJOR ADVERSE EFFECTS. IN 307-40% OF THE CASES. INCREASED EROSION (>30 FT) OCCURED DOWNDRIFT OF THE LAST GROIN.

1384 OMOHUNDRO, J.T.

OIL SPILLS: A COASTAL RESIDENT'S HANDBOOK [1980]

INFO BULL. COOPERATIVE EXTENSION, CORNELL UNIV, ITHACA, NY 15 PP

PEOPLE LIVING ON OR USING THE WATER BODIES WITHIN AND BORDERING NY WILL FIND THIS BULLETIN VALUABLE IN CASE OF A SPILL EMERGENCY. KNOWLEDGE OF WHAT CAN HAPPEN AND WHAT CAN BE DONE IN CASE OF A SPILL EMERGENCY MAY SAVE NEEDLESS CONFUSION, ANXIETY, AND LOSS OR DAMAGE. THE FIRST HALF OF THIS BULLETIN EXPLAINS WHAT HAPPENS IN A SPILL AND WHAT OFFICIAL PARTIES WILL DO. THE SELF-HELP ADVICE IN THE SECOND HALF OF THIS BULLETIN MAY REDUCE LOSS AND DAMAGE TO PROPERTY OWNERS OR SPORTSMEN ON LAKE ERIE, LAKE ONTARIO, THE SAINT LAWRENCE SEAWAY, LAKE CHAMPLAIN, THE HUDSON RIVER, THE BARGE CANAL SYSTEM, NEW YORK HARBOR, LONG ISLAND SOUND OR THE ATLANTIC OCEAN. THE BULLETIN SHOULD BE KEPT HANDY AS A REFERENCE IN TIME OF EMERGENCY.

1385 OMOHUNDRO. J.T.

OIL SPILLS: A PUBLIC OFFICIAL'S HANDBOOK [1980]

NYS COLLEGE OF AGRICUL & LIFE SCI, CORNELL UNIV, ITHACA, NY 22 PP NTIS-PB80-187 351

THIS HANDBOOK EXPLAINS THE SOCIAL RESPONSE TO AN OIL OR HAZARDOUS SUBSTANCE SPILL, PARTICULARLY IN WATER. THE REACTIONS OF THE VICTIMS AND COASTAL RESIDENTS OF THE IMPACTED AREA ARE IDENTIFIED, AND ACTIONS THAT MAY REDUCE SOCIAL PROBLEMS ARE SUGGESTED. THE LAST SECTION, "SUGGESTIONS FOR PLANNING AND RESPONSE", MAY BE CONSULTED IMMEDIATELY IN THE EVENT OF A SPILL. AN EMERGENCY CHECKLIST ON THE BACK COVER ADDRESSES SPECIFIC ACTIONS AND GUIDES THE READER TO APPROPRIATE SECTIONS OF THIS HANDBOOK. THE GUICK REFERENCE CHARTS 1, 2, AND 3 MAY SERVE AS MEMORY AIDS TO THE SOCIAL CONTEXT OF PARTICULAR PROBLEMS. OFFICIALS SHOULD FIND THIS HANDBOOK USEFUL IN PREPARING FOR PUBLIC MEETINGS AND NEWS CONFERENCES, IN CONDUCTING PERSONAL INTERVIEWS WHILE RECONNOITERING OR ADMINISTERING IN THE IMPACTED AREA. AND IN HANDLING TELEPHONE AND WRITTEN REQUESTS FOR INFORMATION OR HELP.

1386 OTT. A.N.: S.J. TOTH

COMPOSITION OF SURFACE WATERS OF NEW JERSEY IN RELATION TO SOIL SERIES: 11. WATERS OF THE SOUTH BRANCH: RARITAN RIVER, STONY BROOK, NESHANIC RIVER AND ASSUMPINK CREEK [1970]

BULL NJ ACAD SCI 15(1/2):13-19

WATERS OF 4 STREAMS IN CENTRAL NJ--SOJTH BRANCH OF THE RARITAN RIVER, STONY BROOK, NESHANIC RIVER, AND ASSUMPINK CREEK--WERE ANALYZED DURING THE SPRING AND SUMMER FLOW PERIODS IN AN ATTEMPT TO RELATE WATER COMPOSITION TO SOIL SERIES VARIATIONS. THE INFLUENCE OF SOIL SERIES VARIATIONS WAS MARKED TO A LARGE EXTENT BY CONTRIBUTIONS FROM SOIL LIMING AND FERTILIZATION PRACTICES AS WELL AS BY DOMESTIC AND INDUSTRIAL POLLUTION. WATERS OF CENTRAL NJ WERE FOUND TO BE LOWER IN CA AND MG AND HIGHER IN NA, K, AND HEAVY METAL CONTENTS THAN WATERS OF NORTHERN NJ. THE CA CONTENTS RANGED FROM 5.4 TO 17.5 PPM AND THE K CONTENTS RANGED FROM 0.9 TO 2.1 PPM. EXAMINATION OF THE WATERSHED AREA OF ASSUMPINK CREEK INDICATED THAT THE WATERS OF THE TRIBUTARIES ARE LOW IN BASES AND HIGH IN HEAVY METALS EXCEPT WHEN HEAVILY POLLUTED. THE ESTABLISHMENT OF IMPOUNDMENTS IN THE UPPER REACHES OF THIS STREAM WILL REQUIRE LIMING AND PHOSPHATING OF THE WATERS TO INSURE SATISFACTORY WATER QUALITY FOR FISH PRODUCTION.

1387 OTTINGER. R.L.

LEGISLATION AND THE ENVIRONMENT: INDIVIDUAL RIGHTS AND GOVERNMENT ACCOUNTABILITY [1970]

CORNELL LR 55(5):666-673

MAN HAS VIEWED HIS ENVIRONMENT AS A HORN OF PLENTY. HOWEVER, THE RELATIONSHIP BETWEEN MAN AND THE ENVIRONMENT HAS REACHED A

CRITICAL STAGE, AND PUBLIC CONCERN WITH THE POLLUTION THREAT HAS GENERATED A RASH OF PROPOSED SOLUTIONS. WHETHER THE PROPOSALS WILL ULTIMATELY ABATE POLLUTION IS QUESTIONABLE, BECAUSE THE REAL PROBLEM IS THAT OUR INSTITUTIONS ARE ROOTED IN NOTIONS OF INEXHAUSTIBLE SUPPLY OF NATURAL RESOURCES. A NEAR-CATASTROPHIC EXAMPLE OF THE FAILURE OF OUR INSTITUTIONS TO ACT IS THE "DEAD SEA" AT THE MOUTH OF NEW YORK HARBOR. THE 20 SQ MI AREA IS TOTALLY DEVOID OF MARINE LIFE BECAUSE THE AREA LACKS SUFFICIENT OXYGEN. THIS CONDITION IS THE DIRECT RESULT OF SEWAGE AND INDUSTRIAL WASTE BEING DUMPED INTO THE SEA AND THE HUBON RIVER. ALTHOUGH FEDERAL LAWS EXIST TO AVERT ECOLOGICAL CATASTROPHES SUCH AS THAT OF NEW YORK HARBOR, THE FAILURE OF OUR AGENCIES TO ACT UNDER THE LAW RESULTS FROM THE PUBLIC'S FAILURE TO ESTABLISH A CLEAR SOCIAL POLICY FOR A CONSTITUTIONAL AMENDMENT IS NECESSARY TO PROTECT THE JUDICIAL REVIEW OF AGENCY ACTION, AND INDIVIDUAL CONCERN FOR THE ENVIRONMENT.

1388 OVERLAND, J.E.

A MODEL OF SALT INTRUSION IN A PARTIALLY MIXED ESTUARY [1973]

TECH REP 73-1. NEW YORK. INST OF OCEAN RESOURCES. NEW YORK NY 72 PP

A MODEL IS DEVELOPED FOR SALT INTRUSION IN PARTIALLY MIXED ESTUARIES THAT SPECIFIES THE VERTICAL AND HORIZONTAL DISTRIBUTION OF SALINITY AND VOLUME TRANSPORT IN RESPONSE TO RUN-OFF AND MIXING ASSUMPTIONS. AN ESTIMATE IS MADE OF THE DISPERSION OF A POLLUTANT BY THE CALCULATED VELOCITY DISTRIBUTION IN THE INTRUSION REGION. THE SALT FLUX THROUGH ANY CROSS SECTION IS COMPOSED OF A FRESHWATER COMPONENT, A DISPERSIVE MODE RESULTING FROM DENSITY-INDUCED FLOW, A DISPERSIVE MODE OF TIDAL MIXING, AND A DIFFUSIVE MODE RESULTING FROM TURBULENT MIXING. THE COUPLED SALT AND MOMENTUM EQUATIONS IN A VORTICITY-STREAM FUNCTION FORMULATION ARE SOLVED ON A NUMERICAL GRID THAT RESOLVES ONE M IN THE VERTICAL AND SEX KM IN THE HORIZONTAL. THE MAJOR DYNAMIC SIMPLIFICATION IS SPECIFICATION OF THE CHANNEL IS NARROW. 13 EXAMPLES WERE RUN TO ASSESS THE EFFECTS OF RIVER DISCHARGE, WIND, AND VARIOUS ASSUMPTIONS OF VERTICAL TURBULENT MIXING. THE CHARACTERISTIC ESTUARY DIMENSIONS AND PARAMETERS ARE FROM THE HUDSON RIVER. VARIABLE COEFFICIENTS WERE ALSO INVESTIGATED. THE COEFFICIENTS CONSISTED OF AN ADIABATIC MIXING COEFFICIENT WITH A MAXIMUM, KM, THAT DECREASED TOWARD THE BOTTOM AND SURFACE, MODIFIED BY A SEPARATE RICHARSON NUMBER DEPENDENCE FOR THE EDDY VISCOSITY AND THE EDDY DIFFUSIVITY. THE USE OF STABILITY DEPENDENCE MAKES A QUALITATIVE IMPROVEMENT OVER CONSTANT COEFFICIENT CASES BY TENDING TO FORM A STRONGER HALOCLINE NEAR MID-DEPTH. THE RESULTS SUGGEST THAT THE HORIZONTAL DISTRIBUTION OF SALINITY IN THE HUDSON RIVER, UNDER SUMMER RUN-OFF CONDITIONS, IS ASSOCIATED WITH HIGH VALUES OF KM IN AGREEMENT WITH THE STRONG TIDAL CURRENTS OF THE HUDSON. THE DISPERSION OF A SLUG LOAD AND CONTINUOUSLY RELEASED POLLUTANT WAS CALCULATED USING THE VELOCITIES AND EDDY DIFFUSIVITIES DERIVED BY THE INTRUSION MODEL FOR SUMMER CONDITIONS. THE CIRCULATION SPREADS THE POLLUTANT INITIALLY. THEN THE POLLUTANTS RECIRCULATE SEAWARD IN THE SURFACE LAYER AND RETURN LANDWARD IN THE BOTTOM LAYER.

1389 OVERLAND, J.E.; W.H. GEMMILL

PREDICTION OF MARINE WINDS IN THE NEW YORK BIGHT [1977]

M WEATHER REV 105(8):1003-1308

COMPARISON IS MADE BETWEEN WIND VELOCITY MEASUREMENTS AT TWO NOAA BUOYS, EB34 AND EB41, LOCATED IN THE NEW YORK BIGHT, AND WINDS EXTRAPOLATED FROM NEARBY COASTAL STATIONS AND INFERRED FROM SEA LEVEL PRESSURE AVALYSIS AT THE NATIONAL METEOROLOGICAL CENTER. THE COMPARISON COVERS 0000- AND 1200-HR GMT OBSERVATIONS FOR NOV 1975-MAR 1976. SURFACE WINDS ARE OBTAINED FROM GRADIENT WINDS BY THE ANALYTIC SINGLE-POINT BOUNDARY LAYER MODEL PROPOSED BY CARDONE (1969) AND SIMPLE EMPIRICAL RELATIONS. BUOY WIND SPEEDS IN EXCESS OF 10 M/SEC ACCOUNTED FOR 28% OF THE OBSERVATIONS. FOR THESE STRONG WINDS, PRESSURE GRADIENT-BASED ESTIMATES PROVIDED ADEQUATE SPECIFICATIONS OF SURFACE WINDS FOR 81% OF THE CASES, DEFINED BY A VECTOR ERROR < 5 M/SEC, AND WERE IN GENERAL SUPERIOR TO ESTIMATES EXTRAPOLATED FROM SINGLE COASTAL STATIONS. RAPID CHANGES IN WIND SPEED AND DIRECTION RECORDED IN HOURLY BUDY DATA INDICATE THAT THE RESOLUTION OF WINTER STORMS REQUIRES PRESSURE ANALYSES ON AT LEAST A 6-HR CYCLE. THE PRESENCE OF MOVING STORM SYSTEMS ALSO SUGGESTS THAT THE USE OF COASTAL STATION REPORTS CAN BE IMPROVED BY EXTRAPOLATION IN TIME AND IN SPACE.

1390 OWENS, J.P.; K. STEFANSSON; L.A. SIRKIN

CHEMICAL, MINERALOGIC, AND PALYNOLOGIC CHARACTER OF THE UPPER WISCONSINAN-LOWER HOLOCENE FILL IN PARTS OF HUDSON, DELAWARE, AND CHESAPEAKE ESTUARIES [1974]

J SEDIMENT PETROL 44(2):390-408

STUDIES OF CORES FROM THREE MAJOR ESTUARIES IN THE MIDDLE ATLANTIC REGION (HUDSON RIVER, DELAWARE BAY, AND CHESAPEAKE BAY) REVEAL THE FOLLOWING: (1) MUCH OF THE UPPER WISCONSINAN-HOLOCENE ESTUARINE FACIES CONSIST OF ORGANIC-RICH FINE-GRAINED CLASTS; (2) MAJOR AGGRADATION OF THESE FACIES BEGAN ABOUT 11,000 RADIOCARBON YEARS B.P. AND POSSIBLY SOMEWHAT EARLIER; (3) CHEMICAL AND SEMI-QUANTITATIVE ANALYSES OF ESTUARINE FACIES SAMPLES FROM THE THREE AREAS SHOW THE FACIES ARE VERY SIMILAR, WHEREAS A LACUSIRINE FACIES IN THE HUDSON ESTUARY HAS A SIGNIFICANTLY DIFFERENT CHEMICAL COMPOSITION THAN THE ESTUARINE FACIES; (4) THE CLAY MINERALOGY IN THE ESTUARINE FACIES IN ALL THREE AREAS IS SIMILAR (ALL CLAY-TYPES ARE PRESENT--KAOLINITE, ILLITE, MONTMODILLONITE, AND CHLORITE); AND (5) PALYNOLOGIC STUDIES INDICATE THAT THE FORESTS BORDERING THE ESTUARIES WERE PROGRESSIVELY MORE AFOREAL FROM SOUTH TO NORTH DURING THE PERIOD OF AGGRADATION OF THE ESTUARIES.

1391 OZERKIS, D.

SOLID-VASTE VACUUM SYSTEM SPECIFIED FOR ISLAND CITY [1974]

ACTUAL SPECIF ENG 32 (3) 118-120

A PNEUMATIC VACUUM REFUSE-DISPOSAL SYSTEM IS BEING CONSTRUCTED FOR THE ENTIRE FRANKLIN DELAND ROOSEVELT ISLAND (FORMERLY WELFARE ISLAND) IN NYC'S EAST RIVER. THE COMPUTER-PROGRAMMED SYSTEM HAS A DAILY DISPOSAL CAPACITY OF MORE THAN 75 TOWS AND WILL SERVE THE CITY BEING BUILT BY THE NEW YORK STATE URBAN DEVELOPMENT CORP. AND ITS SUBSIDIARY, ROOSEVELT ISLAND DEVELOPMENT CORP. SOLID WASTE IS PULLED THROUGH A 60-MPH AIRSTREAM ALONG A NETWORK OF UNDERGROUND TRANSPORT PIPES CIRCUITING THE ISLAND. THE WASTE GOES TO A CENTRAL TRANSFER STATION, WHERE AT IS COMPACTED, PUT IN CONTAINERS AND THEN HAULED AWAY. THIS ARTICLE TELLS HOW THE SYSTEM WAS DESIGNED, WHAT EQUIPMENT WAS SPECIFIED AND THE MONEY AND HEADACHES IT WILL SAVE.

1392 O'RRIEN, B.

NATIONAL DAM SAFETY PROGRAM. WATERVLIET RESERVOIR DAM (NY 88), HUDSON RIVER BASIN, ALBANY COUNTY, NY. PHASE I INSPECTION REPORT

NTIS, SPRINGFIELD, VA'62 PP NTIS-AD-AC69 841

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. WATERVLIET RESERVOIR DAM WAS JUDGED TO BE UNSAFE-EMERGENCY. IMMEDIATE REPLACEMENT OF THE PENSTOCK RECOMMENDED.

1393 O'BRIEY, E.; C.N. FREEMAN; J.H. DIXON

WATER AND POWER IN THE NORTHEAST [1976]

ASCE J POWER DIV 102(2):195-208

WATER HAS BECOME AN INCREASINGLY CRITICAL FACTOR IN THE SITING AND DEVELOPMENT OF POWER GENERATING FACILTIES IN THE NORTHEASTERN US. A COMBINATION OF NATURAL EVENTS, GOVERNMENTAL ACTIONS, AND PUBLIC RESISTANCE TO ENVIRONMENTAL CHANGE HAS PLACED SERIOUS CONSTRAINTS ON THE CONSTRUCTION OF NEW POWER PLANTS OF ALL TYPES. THIS IS PARTICULARLY ACUTE IN THE NORTHEAST WHERE THE HIGHLY CONCENTRATED POPULATION PLACES SEVERE DEMANDS ON AVAILABLE LAND AND WATER RESOURCES. RECENT EXPERIENCE IN THE HUDSON, DELAWARE, AND SUSQUEHANNA RIVER BASINS PROVIDES CASE HISTORIES OF THIS TREND. AMONG POSSIBLE SOLUTIONS ARE OFFSHORE PLANTS, INLAND PLANTS WITH STORAGE RESERVOIRS, UPGRADING OF CONVENTIONAL HYDROELECTRIC CAPACITY, DEVELOPMENT OF PUMPED STORAGE

HyDROELECTRIC GENERATION, AND CONSTRUCTION OF ENERGY COMPLEXES. ENERGY COMPLEXES THAT COMBINE IN A SINGLE SITE PUMPED STORAGE HYDRO, COOLING PONDS FOR ON-SITE THERMAL PLANTS, WATER SUPPLY FOR DOWNSTREAM THERMAL PLANTS, AND OTHER FUNCTIONS REPRESENT AN ATTRACTIVE SOLUTION.

1394 O'BRIEN, E.

NATIONAL DAM SAFETY PROGRAM. ASHOKAN DAM (NY41), HUDSON RIVER BASIN, ULSTER COUNTY, NY. PHASE I INSPECTION REPORT [1978]

TIPPETTS-ABBETT-MCCARTHY-STRATTON, NEW YORK, NY 137 PP NTIS-AD-A064 085

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. ASHOKAN DAM WAS JUDGED TO BE SAFE.

1395 O'BRIEN, E.

NATIONAL DAM SAFETY PROGRAM. NEW CROTON RESERVOIR DAM (NY46), HUDSON RIVER BASIN, WESTCHESTER COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 92 PP NTIS-AD-AJ64 020

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. NEW CROTON RESERVOIR DAM WAS JUDGED TO BE SAFE ALTHOUGH FURTHER INVESTIGATION AND OBSERVATION OF THE SPILLWAY SHOULD BE MADE.

1396 O'BRIEN. E.

NATIONAL DAM SAFETY PROGRAM. SODOM DAM (NY31), CROTON RIVER BASIN, PUTNAM COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 97 PP NTIS-AD-A366 564

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. SODOM DAM WAS JUDGED TO BE SAFE, NO REMEDIAL ACTION WAS REQUIRED.

1397 O'BRIEN. E.

NATIONAL DAM SAFETY PROGRAM. CAMP HARRIMAN DAM (NY552), HUDSON RIVER BASIN, EAST KILL, SCHOHARIE CREEK, GREENE COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 136 PP NTIS-AD-A065 560

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAY BY THE PERFORMING ORGANIZATION. CAMP HARRIMAN DAM WAS JUDGED TO BE SAFE.

1398 O'BRIEN, J.E.; R.A. OLSEN

EVALUATION OF AN AUTOMATIC CHEMICAL AVALYSIS MONITOR FOR WATER QUALITY PARAMETERS [1970]

J WATER POLLUT CONTROL FED 42(3):380-390

THE EFFECTIVENESS WAS EVALUATED OF A MONITOR TO COLLECT SAMPLES FROM A CONTINUOUSLY PUMPED STREAM REPRESENTATIVE OF SURFACE WATER AND ANALYZE THEM AUTOMATICALLY ON A CONTINUOUS OR INTERMITTENT BASIS FOR 12 SPECIFIC PARAMETERS OF WATER QUALITY; AND TO EVALUATE THE EQUIPMENT WHEN USED IN CONJUNCTION WITH AN ELECTRONIC DATA PROCESSING SYSTEM AND COMPUTER. AFTER OVER A YEAR'S USAGE IT WAS CONCLUDED THE PARTICULAR EQUIPMENT WAS NOT SATISFACTORY FOR THE DESIGNED PURPOSE FOR THE FOLLOWING REASONS: NO PROVISION IS MADE WITHIN THE ANALYTICAL SYSTEM TO COMPENSATE FOR INTERFERENCE OF COLOR AND SUSPENDED MATTER IN DETERMINING CERTAIN PARAMETERS; NO SATISFACTORY METHOD WAS PROVIDED TO PREVENT OR COMPENSATE FOR BASELINE DRIFT; AND, IN THE ABSENCE OF COMPUTER CONTROL, THERE COULD BE NO EXTERNAL COMPENSATION. MECHANICAL AND ELECTRICAL SOLENOID VALVE FAILURE PREVENTED ACCEPTABLE RESULTS FOR FIVE MONTHS; THEIR REPLACEMENTS ALSO FAILED. NO PRACTICAL METHOD WAS PROVIDED TO PREVENT ALGAE AND SLIME GROWTHS. FRICTION-FITTING CONNECTORS FREQUENTLY FAILED; LEAKAGE REQUIRED CLEANING OPERATIONS. WITHOUT EXTENSIVE INSTRUMENT MODIFICATION CORRECTING THESE DEFICIENCIES IT WOULD BE FUTILE TO EVALUATE THE EQUIPMENT IN CONJUNCTION WITH AN ELECTRONIC DATA PROCESSING SYSTEM AND COMPUTER.

1399 O'ERIEN, N.R.; S.A. ALI

CLAY MINERAL COMPOSITION OF BOTTOM SEDIMENTS: WESTERN GREAT SOUTH BAY AND SOUTH DYSTER BAY, LONG ISLAND, NEW YORK [1974]

MARITIME SEDIMENTS 10(3):107-109

AS PART OF AN INTEGRATED STUDY OF THE OCEANOGRAPHIC AND BIOLOGICAL ENVIRONMENTS OF THE WESTERN GREAT SOUTH BAY AND SOUTH OYSTER BAY, BOTTOM SEDIMENT SAMPLES WERE OBTAINED FROM 37 STATIONS. SINCE OTHER PORTIONS OF THIS STUDY (BAYLOR, 1973), INCLUDED DETAILED INVESTIGATIONS OF PHYSICAL, CHEMICAL AND BIOLOGICAL ASPECTS OF THE REGION, A UNIQUE OPPORTUNITY WAS ESTABLISHED FOR STUDYING THE SEDIMENTS IN RELATION TO THEIR DEPOSITIONAL REGIMES. THE PURPOSE OF THIS PAPER IS TO DESCRIBE THE DISTRIBUTION AND MINERALOGY OF THE CLAY-SIZE PORTION OF THE BOTTOM SEDIMENTS OF WESTERN GREAT SOUTH BAY AND SOUTH OYSTER BAY, AND TO DETERMINE THEIR SOURCE.

1400 O'CONNOR, D.J.

WATER QUALITY ANALYSIS FOR THE NEW YORK HARBOR COMPLEX [1970]

PAGES 121-144 IN WATER POLLUTION IN THE GREATER NEW YORK AREA-- SYMPOSIUM. GORDON AND BREACH, NEW YORK, NY

A MATHEMATICAL MODEL OF THE NEW YORK HARBOR COMPLEX INCLUDES THE GEOMORPHOLOGICAL, HYDRAULIC, AND TIDAL FACTORS OF THE WATERWAYS, AND THE PHYSICAL, CHEMICAL, AND BIOLOGICAL CHARACTERISTICS OF THE WASTEWATERS. A COMPARISON OF RESULTS OBTAINED USING THE MODEL WITH MEASUREMENTS RECORDED OVER THE PAST FEW DECADES SHOWS THAT THE CALCULATIONS AND MEASUREMENTS AGREE QUITE WELL. THE VERIFIED MODEL HAS BEEN USED TO PREDICT THE EFFECTS ON WATER QUALITY OF PROPOSED NEW WATER TREATMENT FACILITIES. THE EFFECT OF FRESH WATER FLOW FROM THE HUDSON RIVER DOES NOT APPEAR TO BE SIGNIFICANT DURING THE SUMMER AND EARLY FALL SEASONS, AT LEAST WITH RESPECT TO THE CONCENTRATION OF DISSOLVED OXYGEN AND OXYGEN-DEMANDING MATERIAL. THE INFLUENCE OF A SINGLE TREATMENT FACILITY ON WATER QUALITY IS RELATIVELY SMALL AND MAY BE OBSCURED BY THE VARIABILITY OF OTHER FACTORS. THE IMPROVEMENT IN WATER QUALITY IS APPARENT WHEN THE COMBINED EFFECT OF A NUMBER OF FACILITIES IS CONSIDERED.

1401 O'CONNOR. D.J.; J.L. MANCINI

WATER QUALITY ANALYSIS OF THE NEW YORK HARBOR COMPLEX [1972]

J WATER POLLUT CONTROL FED 44(11):2127-2139

THE NEW YORK HARBOR COMPLEX WAS SELECIED AS THE STUDY SITE FOR APPLYING A MATHEMATICAL MODELING CONCEPT DESIGNED TO PREDICT THE DISSOLVED DXYGEN DEFICIT IN BODIES OF WATER. THE MATHEMATICAL MODEL USED HAS TERMS FOR DXYGEN SOURCES AND SINKS INCLUDING

ATMOSPHERIC REAERATION, CARBONACEOUS DXYGEN DEMAND, NITROGENOUS OXYGEN DEMAND, BACKGROUND BIOCHEMICAL OXYGEN DEMAND, AND OXYGEN DEMAND ATTRIBUTED TO BENTHAL ALGAL POPULATION.

1402 O'CONNOR. D.J.; R.V. THOMANN; D.M. DIIORO

DYNAMIC WATER QUALITY FORECASTING AND MANAGEMENT [1973]

MANHATTAN COLLEGE, BRONX, NY NP

THIS REPORT DESCRIBES THE FORMULATION AND INITIAL VERIFICATION OF TWO MODELING FRAMEWORKS. THE FIRST IS DIRECTED TOWARD AN ANALYSIS OF THE IMPACT OF THE CARBONACEOUS AND NITROGENOUS COMPONENTS AND WASTEWATER ON THE DISSOLVED OXYGEN RESOURCES OF A NATURAL WATER SYSTEM. THE SECOND MODELING FRAMEWORK CONCENTRATES ON THE INTERACTIONS BETWEEN THE DISCHARGE OF NUTRIENT, BOTH NITROGEN AND PHOSPHORUS, AND THE BIOMASS OF THE PHYTOPLANKTON AND ZOOPLANKTON POPULATIONS WHICH RESULT, AS WELL AS INCORPORATING THE OVERALL IMPACT ON DISSOLVED OXYGEN. THE MODELS ARE FORMULATED IN TERMS OF COUPLED DIFFERENTIAL EQUATIONS WHICH INCORPORATE BOTH THE EFFECT OF TRANSPORT DUE TO TIDAL MOTION AND TURBULENCE, AND THE KINETICS WHICH DESCRIBE THE BIOLOGICAL AND CHEMICAL TRANSFORMATIONS THAT CAN OCCUR. THE MODELING FRAMEWORKS ARE APPLIED TO THE DELAWARE AND POTOMAC ESTUARIES IN ORDER TO ESTIMATE THE ABILITY OF SUCH MODELS TO DESCRIBE THE WATER QUALITY EFFECTS OF CARBON, NITROGEN, AND PHOSPHOROUS DISCHARGES. THE AGREEMENT ACHIEVED BETWEEN OBSERVATION AND CALCULATION INDICATE THAT THE MAJOR FEATURES OF THE IMPACT OF WASTEWATER COMPONENTS ON EUTROPHICATION PHENOMENA CAN BE SUCCESSFULLY ANALYZED WITHIN THE CONTEXT OF THE MODELS PRESENTED HEREIN.

1403 O'CONNOR, D.J.; J.L. MANCINI

EVALUATION OF FACTORS INFLUENCING THE TEMPORAL VARIATION OF DISSOLVED DXYGEN IN THE NEW YORK BIGHT. PHASE 11 [1973]

MANHATTAN COLLEGE. NEW YORK. NY NP

THE PURPOSE OF THIS PROJECT IS TO EVALUATE THE MECHANISMS INFLUENCING DISSOLVED OXYGEN LEVELS IN THE NEW YORK BIGHT AND PROVIDE AN ENGINEERING EVALUATION OF ALTERNATIVE REMEDIAL ACTIONS SUCH AS: NUTRIENT REMOVAL AT POINT SOURCE DISCHARGES, ELIMINATION OF SLUDGE DUMPING, DREDGE SPOIL DISPOSAL, ETC. MORE SPECIFICALLY, MANHATTAN COLLEGE IS DEVELOPING A WATER QUALITY MODEL DESCRIBING CARBON, NITROGEN AND OXYGEN DISTRIBUTION WITHIN THE NEW YORK BIGHT. THE NUTRIENT INPUTS ARE DERIVED PRINCIPALLY FROM NEW YORK HARBOR METROPOLITAN AREA AND FROM COASTAL TOWNS IN NEW JERSEY AND LONG ISLAND. TWO SIMILAR BUT SEPARATE APPROACHES ARE BEING TAKEN FOR THIS PROJECT. A TIME VARIABLE COMPUTATION SIMULATING PHYTOPLANKTON-DISSOLVED DXYGEN DYNAMICS IS BEING DEVELOPED FOR THE APEX AREA OF THE BIGHT. THE MODEL CALCULATES CONCENTRATIONS OF PHYTOPLANKTON, DISSOLVED OXYGEN AND NUTRIENTS IN BOTH HORIZONTAL AND VERTICAL SPACE. INITIAL EFFORTS ARE CONCENTRATED ON A 90-DAY MODEL TO EXAMINE SUMMER CONDITIONS. THE FLOW REGIME AND SEGMENTATION DEVELOPED DURING PHASE I OF THIS PROJECT WAS USED FOR THE MODEL. AT PRESENT, A YEAR COMPUTATION IS BEING DEVELOPED TO SIMULATE THE SEASONAL PROFILES FOUND IN THE BIGHT. ALSO, A STEADY-STATE MODEL IS BEING RUN WITH FOUR VERTICAL SEGMENTS, TO EXAMINE, MORE CLOSELY, MECHANISMS THAT MAY AFFECT VERTICAL PROFILES OF THE CONSTITUENTS IN QUESTION.

1404 O'CONNOR, D.J.; R.V. THOMANN

SIGNIFICANT TIME AND SPACE SCALES IN WATER QUALITY MODELLING [1976]

EOS: TRANS AM GEOPHYS UNION 57(4):244

DATA REQUIREMENTS FOR WATER QUALITY MODELS ARE RELATED TO THE TIME AND SPACE SCALES OF THE RELEVANT WATER QUALITY PROBLEM, AS DEFINED BY THE VARIOUS PHYSICAL, CHEMICAL AND BIOLOGICAL REACTIONS AND THE TRANSPORT THROUGH THE PARTICULAR NATURAL SYSTEM UNDER CONSIDERATION. THESE SYSTEMS MAY BE CONVENIENTLY CLASSIFIED AS STREAMS, ESTUARIES, LAKES AND NEAR-SHORE OCEANS, IN WHICH THE RELATIVE INFLUENCE OF THE ADVECTIVE AND DISPERSIVE COMPONENTS OF THE TRANSPORT IS THE IMPORTANT FEATURE. FOR EACH TYPE OF SYSTEM, ANALYSIS OF VARIOUS WATER QUALITY PROBLEMS ARE PRESENTED--VIZ. TOTAL DISSOLVED SOLIDS, BACTERIAL DENSITIES, DISSOLVED

OXYGEN AND NUTRIENT-ALGAL INTERACTIONS. THE EXAMPLES RELATING TO WATER QUALITY CONTROL AND MANAGEMENT PRACTICES IN THE GREAT LAKES, NEW YORK AN POTOMAC ESTUARIES, OHIO AND MOHAWK RIVERS; NEAR-SHORE OCEANS IN THE VICINITY OF BOSTON, MASSACHUSETTS AND NASSAU COUNTY, LONG ISLAND. THE TIME AND SPACE SCALES OF THE PARTICULAR WATER QUALITY PROBLEM IN EACH OF THESE AREAS DETERMINE THE DATA COLLECTION REQUIREMENTS AND THE MODELLING FRAMEWORK, WHICH IS APPLIED TO THE EVALUATION OF VARIOUS ALTERNATES.

1405 O'CONNOR', D.J.; R.V. THOMANN; D.M. DITORO

WATER-QUALITY ANALYSES OF ESTUARINE SYSTEMS [1977]

PAGES 71-83 IN ESTUARIES, GEOPHYSICS, AND ENVIRONMENT. NAT ACAD SCI, WASHINGTON, DC

THE USE OF VARIOUS ANALYTIC AND MATHEMATICAL METHODS IN ADDRESSING WATER QUALITY ANALYSIS OF ESTUARINE SYSTEMS IS DEMONSTRATED. A BRIEF DESCRIPTION OF THE GENERAL PRINCIPLES THAT ARE USED IN STRUCTURING ESTUARINE MODELS AND A BRIEF DESCRIPTION OF THE VALIDATION PROCEDURE AND OF THE APPLICATION OF THE ANALYSIS FOR PROJECTION AND PLANNING ARE INCLUDED. THIS IS FOLLOWED BY A SERIES OF EXAMPLES OF WATER QUALITY ANALYSES IN VARIOUS ESTUARINE SYSTEMS THROUGHOUT THE COUNTRY. SOME GENERAL RECOMMENDATIONS CONCERNING THE DEVELOPMENT AND DIRECTION OF THESE MODELS ARE PRESENTED.

1406 O'CONNOR, D.J.; R.V. THOMANN; H.J. SALAS

WATER QUALITY [1977]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 27. NYSG. ALBANY. NY 103 PP

THE WATER QUALITY OF NEW YORK BIGHT AS MEASURED BY TEMPERATURE, LIGHT, SALINITY, DISSOLVED OXYGEN, VARIOUS NITROGEN AND PHOSPHORUS FORMS, PH, HEAVY METALS, COLIFORM BACTERIA, AND PHYTOPLANKTON CHLOROPHYLL IS DESCRIBED. BOTTOM DISSOLVED OXYGEN PERCENI SATURATION LEVELS IN THE DISPOSAL AREAS OF THE APEX HAVE DECREASED FROM 67% IN 1949 TO 30% IN 1974. SURFACE TOTAL IRON CONCENTRATIONS IN THE APEX HAVE INCREASED AND ARE HIGHER THAN BACKGROUND OPEN OCEAN LEVELS. COLIFORM BACTERIAL INFLUENCE APPEARS TO BE CONFINED TO AN AREA OF 3.2 TO 4.8 KM (2 TO 3 MI) RADIUS FROM THE DISCHARGE POINT OF A SEMAGE SLUDGE BARGE DUMP. NITROGEN IS GENERALLY THE MORE IMPORTANT NUTRIENT RELATIVE TO PHOSPHORUS WITH RESPECT TO LIMITING PHYTOPLANKTON GROWTH IN THE BIGHT. MAN'S IMPACT ON THE WATER QUALITY OF THE REGION APPEARS TO BE SIGNIFICANT WITH MORE THAN 50% OF THE TOTAL 14PUT OF FE, CU, CD, CR, SUSPENDED SOLIDS, AND TOTAL PHOSPHORUS ATTRIBUTED TO BARGE DISCHARGES ALONE.

1407 O'CONNOR, J.M.; S.A. SCHAFFER

THE EFFECTS OF SAMPLING GEAR ON THE SURVIVAL OF STRIPED BASS ICHTHYOPLANKTON [1977]

CHESAPEAKE SCI 18 (3):312-315

HATCHERY SPAWNED AND REARED EGGS, YOLK SAG LARVAE AND LARVAE FROM HUDSON RIVER STRIPED BASS (MORONE SAXATILIS) WERE RELEASED INTO ICHTHYOPLANKTON NETS IN AN EXPERIMENTAL FLUME AT VELOCITIES OF 0.5, 1.5 AND 3.0 FPS. PERCENT SURVIVAL WAS DETERMINED IMMEDIATELY AFTER EXPOSURE AND, FOR 14-DAY-OLD LARVAE, AFTER 72 H TO ASSESS LATENT MORTALITY EFFECTS. IMMEDIATE AND LATENT MORTALITY WAS FOUND TO BE VELOCITY-DEPENDENT. YOLK-SAC LARVAE WERE MOST SENSITIVE TO VELOCITY DURING NET CAPTURE, FOLLOWED BY POST-YOLK-SAC LARVAE AND EGGS, IN DECREASING ORDER OF SENSITIVITY. ATTEMPTS TO DETERMINE SURVIVAL OF STRIPED BASS ICHTHYOPLANKTON USING NET-CAPTURED ORGANISMS AT STEAM ELECTRIC STATIONS MAY BE AFFECTED PROFOUNDLY BY DIFFERENCES IN WATER VELOCITY AT INTAKES AND DISCHARGES.

1408 O'CONNOR, J.M.; G.V. POJE

POWER PLANT ENTRAINMENT SIMULATION UTILIZING A CONDENSER TUBE SIMULATOR ANNUAL REPORT, DECEMBER 1977-NOVEMBER 1978 [1979]

INST OF ENVIRON MEDICINE, NYU MEDICAL CENTER, TUXEDO PARK, NY 116 PP

STRIPED BASS, GAMMARUS, AND NEOMYSIS FROM THE HUDSON RIVER ESTUARY WERE SUBJECTED TO PASSAGE THROUGH A CONDENSER TUBE SIMULATOR AT VARIOUS COMBINATIONS OF TEMPERATURES, FLOW RATE, AND BIOCIDE CONCENTRATION. STRIPED BASS YOLK SAC STAGES WERE MORE SUSCEPTIBLE TO ALL STRESSORS THAN OLDER LARVAL FISH. THE YDUNGEST LARVAE EXHIBITED 50% MORTALITY IMMEDIATELY AFTER 10 MIN EXPOSURES TO TEMPERATURES ABOVE 31 C; FOR OLDER LARVAE THIS WAS OBSERVED AT TEMPERATURES ABOVE 33 C. FLOW RATES ABOVE 2 MPS THROUGH THE CONDENSER TUBE RESULTED IN AN INITIAL 3% MORTALITY OF YOLK SAC LARVAE. WHILE 16 DAY OLD LARVAE DISPLAYED NO INITIAL MORTALITY AT FLOW RATES AS HIGH AS 3. J MPS. AT BIOCIDE CONCENTRATIONS GREATER THAN 1.0 PPM OF RESIDUAL CHLORINE. MORE THAN HALF THE YOLK SAC LARVAE DIED IMMEDIATELY AFTER A 10 MIN EXPOSURE. AT CHLORINE DOSES AS HIGH AS 2.7 PPM. 31 DAY OLD FISH SURVIVED AT A RATE OF AT LEAST 70%; AMONG CERTAIN GROUPS. 100% SURVIVAL WAS OBSERVED. HOWEVER, LATENT SURVIVAL OF THESE FISH WAS REDUCED TO 9% AT 4 DOSE OF 1.57 PPM. FOR MIXED POPULATIONS OF G. TIGRINUS AND G. DAIBERI, THERMAL DOSES ABOVE 39 C FOR BOTH 10 AND 30 MIN EXPOSURE WERE LETHAL. WHEN NEOMYSIS AMERICANA WAS SUBJECTED TO 10 AND 30 MIN TO TEMPERATURES ABOVE 34 C. 24 H MORTALITIES WERE GREATER THAN 50%. FLOW RATES OF 1.0, 2.0, AND 3.0 MPS HAD NO DETECTABLE EFFECT UPON EITHER GAMMARUS OR NEOMYSIS. TEN MINUTE EXPOSURES TO RESIDUAL CHLORINE CONCENTRATIONS ABOVE 1.4 PPM RESULTED IN GREATER THAN 60% LATENT MORTALITY FOR THE AMPHIPOD. NEOMYSIS AMERICANA DISPLAYED LATENT MORTALITY AS HIGH AS 90% AFTER A 10 MIN EXPOSURE TO RESIDUAL CHLORINE DOSES AS LOW AS 0.75 PPM. LARVAL FISH AND MACROINVERTEBRATES EXPOSED TO CONDENSOR TUBE PASSAGE HAD LOWER SURVIVAL THAN THOSE WHICH WERE ONLY PLUME ENTRAINED. IN EXPERIMENTS WHERE FLOW RATE AND BIOCIDE CONCENTRATIONS VARIED, THE ADDITION OF A SUBLETHAL THERMAL EXPOSURE INCREASED THE MORTALITY.

1409 O'CONNOR, J.M.; J.B. KLOTZ; T.J. KNEIP

SOURCES, SINKS AND DISTRIBUTION OF ORGANIC CONTAMINANTS IN THE NEW YORK BIGHT ECOSYSTEM [1980]

INST OF ENVIRON MEDICINE, NYU MEDICAL CENTER, TUXEDO, NY NP

DATA ARE GIVEN ON THE CONCENTRATIONS OF CHLORINATED PESTICIDES, POLYCHLORINATED BIPHENYLS, AND POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS) IN THE SEDIMENTS, WATER, AND BIOTA OF THE HUDSON RIVER, NEW YORK HARBOR, AND NEW YORK BIGHT REGION. MAJOR SOURCES OF ORGANIC CONTAMINANTS TO THE ESTUARINE/COASTAL SYSTEM ARE: FOR PESTICIDES, HUDSON RIVER TRANSPORT AND MUNICIPAL WASTE WATER; FOR PCBS, HUDSON RIVER TRANSPORT, ATMOSPHERIC FALLOUT, AND SURFACE RUNOFF; FOR PAHS, ATMOSPHERIC FALLOUT, SURFACE RUNOFF, AND OIL SPILLS. THE MAJOR SINK FOR ALL CONTAMINANTS IS THE SEDIMENTS OF THE HARBOR, LOWER BAY, AND THE BIGHT. OF THE 3 CLASSES OF COMPOUNDS, THE MOST COMMON CONTAMINANTS IN MARINE AND ESTUARINE BIOTA ARE THE PCBS. PESTICIDES AND PAHS, ALTHOUGH PRESENT IN MANY ORGANISMS, OCCURRED AT RELATIVELY LOW LEVELS. EXCEPT FOR PCBS IN STRIPED BASS FROM THE HUDSON RIVER, NO INSTANCES OF CONTAMINANTS EXCEEDING FOA ACTION LEVELS WERE RECORDED. THE IMPLICATIONS OF THESE DATA FOR ECOSYSTEM MANAGEMENT AND RECLAMATION ARE DISCUSSED.

1410 O'CONNOR, J.M.; J.W. RACHLIN

PERSPECTIVES ON METALS IN NEW YORK BIGHT ORGANISMS: I. FACTORS CONTROLLING ACCUMULATION AND BODY BURDENS [1980]

INST OF ENVIRON MEDICINE, NYU MEDICAL CENTER, TUXEDO, NY NP

THIS PAPER PROVIDES A PERSPECTIVE ON THE APPLICATION OF ENVIRONMENTAL METALS DATA TO THE PROBLEMS OF METALS CONTAMINATION IN COASTAL MARINE ECOSYSTEMS. DESPITE THE VAST ARRAY OF DATA DN METALS BIOCONCENTRATION FACTORS (BCFS) AND LEVELS OF TOXIC METALS IN MARINE ORGANISMS, THE DATA, IN GENERAL, ARE NOT APPLICABLE TO IMPACT ASSESSMENT. THIS IS DUE TO THE FACT THAT 1) INADEQUATE DATA ARE AVAILABLE FOR DEFINING METAL SPECIES IN SEAWATER AND MARINE SEDIMENTS, AND 2) LABORATORY-DERIVED DATA FOR BCFS AND TOXIC EFFECTS GENERALLY RELATE TO METALS SPECIES NOT MEASURED IN FIELD STUDIES. METALS PARTITIONING FROM FOOD AND SEDIMENT AND THE POTENTIAL FOR METALS REGULATION IN MARINE ORGANISMS WAS EVALUATED USING SELECTED DATA FROM NY BIGHT AND OTHER COASTAL SYSTEMS. IT WAS CONCLUDED FROM THESE DATA THAT MARINE ORGANISMS REGULATE ESSENTIAL AND NON-ESSENTIAL METALS, ALTHOUGH REGULATION BY VARIOUS SPECIES DIFFERED. METALS REGULATION IS ACCOMPLISHED BY SEVERAL MECHANISMS, RANGING FROM SELECTIVE UPTAKE AND SELECTIVE ELIMINATION, TO SEQUESTRATION BY METALS BINDING PROTEINS. A GENERAL SCHEME FOR INTERNAL METALS REGULATION IS PROVIDED. ALONG WITH RECOMMENDATIONS FOR FUTURE FIELD AND LABORATORY RESEARCH.

1411 O'CONNOR. J.M.: T.J. KNEIP; R.A. GREIG; F.P. THURBERG; J.S. O'CONNOR; H.M. STANFORD; L.S. RAMOS

ORGANIC CONTAMINANTS IN NEW YORK HARBOR AND NEW YORK BIGHT [1981]

INST OF ENVIRONMENTAL MEDICINE, NYU MEDICAL CENTER, TUXEDO PARK, NY NP

THIS REPORT PRESENTS THE PRELIMINARY RESULTS OF A STUDY CONDUCTED TO SCAN THE TYPES AND QUANTITIES OF CHLORINATED HYDROCARBONS AND PAHS IN SAMPLES OF WATER AND SEDIMENTS FROM THE NEW YORK BIGHT AND ADJACENT ESTUARINE WATERS. THE STUDY WAS CONCEIVED AS AN INITIAL CHECK FOR ORGANIC CONTAMINANTS IN THE BIGHT REGION IN ORDER TO ASSESS: 1) THE NEED FOR FURTHER STUDY TO DETERMINE EFFECTS ON AQUATIC ECOSYSTEMS; AND 2) POTENTIAL HUMAN HEALTH EFFECTS. THE SAMPLING AND ANALYSIS PROGRAM DEVELOPED STEPWISE FROM A LIMITED ORIGINAL STUDY DESIGN; THEREFORE, OVERALL SYSTEMATIC CONCEPTS AND EXECUTION ARE LACKING. THE STUDY PROVIDES AN EXTENSIVE SAMPLING OF WATER AND SEDIMENTS. GIVING A DIVERSE BACKGROUND OF INFORMATION AS A BASIS FOR FURTHER WORK.

1412 O'CONNOR, J.M.; V.J. CABELLI; M. EISENBUD

ENVIRONMENTAL HEALTH [1981]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 32. NYSG, ALBANY, NY NP

THIS MONOGRAPH DEALS WITH THE DIRECT CONSEQUENCES OF WATERBORNE BACTERIAL AND VIRAL EXPOSURE ON HUMAN HEALTH, AND PROVIDES AN OVERVIEW AND ASSESSMENT OF THE POTENTIAL FOR HUMAN HEALTH EFFECTS DUE TO CHEMICAL WASTES.

1413 O'CONNOR, J.S. .

DREDGING AND SPOILING ON LONG ISLAND [1973]

TECH REP 19. MSRC, SUNY, STONY BROOK, NY 34 PP

DREDGING AND SPOILING ACTIVITY IN THE SHORE ZONE OF NASSAU AND SUFFOLK COUNTIES, NY, IS SUMMARIZED FOR THE YEARS 1961 THROUGH 1971. STATISTICS ON DREDGE/SPOIL ACTIVITY (VOLUME DREDGED AND AREA SPOILED) ARE COMPILED AND REVIEWED IN TERMS OF PRIVATE AND GOVERNMENTAL ACTIONS, GEOGRAPHIC DISTRIBUTION, AND TEMPORAL TRENDS. MOST OF THE DREDGE/SPOIL ACTIVITY HAS BEEN CONDUCTED AT THE MARGINS OF GREAT SOUTH AND PECONIC BAYS, PRINCIPALLY FOR MAINTENANCE DREDGING OF NAVIGATION CHANNELS AND DEVELOPMENT OF THE SHORE ZONE FOR RESIDENTIAL AND COMMERCIAL PURPOSES. A MARKED REDUCTION IN DREDGE/SPOIL ACTIVITY OCCURRED IN 1968. THE GOVERNMENT OF SUFFOLK COUNTY HAS INITIATED MOST OF THE DREDGE/SPOIL ACTIVITY. THE ENVIRONMENTAL IMPACTS OF LARGE-SCALE SPOIL ACTIONS ARE DESCRIBED AS MAJOR AND PERSISTENT. SPOIL SITES ARE TYPICALLY DEVELOPED RATHER QUICKLY WHEREVER POPULATION PRESSURES AND LAND VALUES ARE HIGH. THE EXISTING PERMIT SYSTEM FOR DREDGING AND SPOILING IS DISCUSSED. RECOMMENDATIONS FOR IMPROVING THE PLANNING AND MONITORING OF DREDGE/SPOIL ACTIVITY ARE MADE IN THE CONTEXT OF ENVIRONMENTAL IMPACT AND EXISTING REGULATIONS BY VARIOUS LEVELS OF GOVERNMENT.

1414 0 CONNOR, J.S.

MERCURY CONCENTRATIONS IN THE TOP 3.8 CM OF SEDIMENTS FROM THE NEW YORK BIGHT-FROM THE CRUISE OF THE DELAWARE, D-74-9 [1974]

MESA, YOAA, SUNY, STONY BROOK, NY 4 PP

RAW DATA FROM 103 STATIONS LISTING MERCURY CONCENTRATION IN PPM, DRY WEIGHT IS PRESENTED. TAR BALL ANALYSES FROM SAMPLES COLLECTED ON 6/2/77 ARE INCLUDED.

1415 O'CONNOR, J.S.

CONTAMINANT EFFECTS ON BIOTA OF THE NEW YORK BIGHT [1976]

PAGES 50-63 IN PROC, 28TH ANN CONFERENCE, GULF AND CARRIBEAN INSTITUTE, BAL HARBOUR, FL. OCT 1975

THE MESA PROJECT OF NOAA WAS INITIATED IN 1973 TO ASSESS THE IMPACTS OF MAN'S ACTIVITIES AND THE NATURAL INFLUENCES ON THE NEW YORK BIGHT. SEVERAL EXAMPLES OF CONTAMINANT IMPACTS ON MARINE RESOURCES HAVE BEEN IDENTIFIED RATHER QUICKLY: (1) HIGH PREVALENCE OF DISEASES IN SEVERAL SPECIES OF FINFISH AND SHELLFISH; (2) MAJOR ALTERATIONS IN THE DISTRIBUTION AND ABUNDANCE OF BOTTOM LIVING ORGANISMS; (3) WIDESPREAD DISTRIBUTION IN EXCEPTIONALLY HIGH NUMBERS OF COLIFORM AND FECAL COLIFORM BACTERIA. INDICATIVE OF PATHOGENIC BACTERIA (WHICH FINDINGS HAVE LED TO CLOSURE OF CLAM FISHING OPERATIONS IN EXTENSIVE AREAS AROUND AND LANDWARD OF OCEAN DUMPING SITES); (4) PRESENCE OF TRANSFER-RESISTANT (R+) BACTERIA WHICH ARE RESISTANT TO BROAD SPECTRA OF HEAVY METALS AND ANTIBIOTICS; AND (5) NOXIOUS CONCENTRATIONS OF SUSPENDED PARTICULATE MATERIAL, FLOTSAM AND SURFACE SLICKS, PARTICULARLY ON BEACHES USED WERY INTENSIVELY FOR BATHING AND SPORTFISHING.

1416 0 CONNOR. J.S.

EVALUATING THE SIGNIFICANCE OF DEGRADATION IN A LARGE ECOSYSTEM -- THE NEW YORK BIGHT EXPERIENCE [1976]

MESA, SUNY, STONY BROOK, NY 30 PP

THIS PAPER DISCUSSES PROBLEMS OF WASTE DISPOSAL MANAGEMENT AND THEN PROVIDES SUGGESTIONS FOR EVALUATING THE SCIENTIFIC SIGNIFICANCE OF ENVIRONMENTAL IMPACTS. EVALUATING THE SIGNIFICANCE OF SUCH IMPACTS REQUIRES A WIDE PERSPECTIVE OF VIEWS. INCLUDING INPUTS FROM ECOLOGISTS, OTHER SCIENTISTS, PUBLIC DECISION MAKERS, AND THE GENERAL PUBLIC.

1417 O'CONNOR, J.S.; H.M. STANFORD (EDITORS)

CHEMICAL POLLUTANTS OF THE NEW YORK DIGHT: PRIORITIES FOR RESEARCH [1979]

ERL, NOAA, BOULDER, CO 227 PP

THE NEW YORK BIGHT MESA PROJECT OF THE NOAM IS AN 8-YR INTERDISCIPLINARY FIELD PROGRAM INVOLVING STUDIES OF THE NEW YORK BIGHT AND OF THE EFFECTS OF HUMAN INFLUENCES ON THIS ECOSYSTEM. THE SPECIFIC OBJECTIVE OF THE PROJECT IS TO DETERMINE THE FATES AND EFFECTS OF CONTAMINANTS IN THE NEW YORK BIGHT. THE MESA PROJECT SOUGHT GUIDANCE FROM A PANEL OF EXPERTS TO IDENTIFY THE CONTAMINANTS THAT ARE, OR MAY BECOME, THE MOST SERIOUS PROBLEMS IN THE BIGHT. THIS REPORT PRESENTS THE FINDINGS OF THE INVESTIGATION. THE MAIN TEXT PRESENTS THE CONCLUSIONS OF THE SEVERAL SUBPANELS, AND APPENDICES PRESENT DETAILED DATA. A SINGLE LIST OF REFERENCES DIRECTS THE READER TO THE LITERATURE ON WHICH THE PANEL BASED ITS FINDINGS. THE CONCLUSIONS OF THE PANEL WITH RESPECT TO CONTAMINANTS OF THE NEW YORK BIGHT ARE BASED ON INFORMATION AVAILABLE IN JUNE 1977. THE REPORT IS INTENDED TO ENCOURAGE OTHER RESEARCHERS TO HELP QUANTIFY THE DISTRIBUTION OF THE CONTAMINANTS.

1418 O'CONNORS, H.B., JR.; I.W. DUEDALL

THE SEASONAL VARIATION IN SOURCES, CONCENTRATIONS, AND IMPACTS OF AMMONIUM IN THE NEW YORK BIGHT APEX [1975]

PAGES 536-663 IN MARINE CHEMISTRY IN THE COASTAL ENVIRONMENT. ACS SYMP SERIES 18. ACS, WASHINGTON, DC

TWO SOURCES OF NH4+ INPUT TO THE NEW YORK BIGHT HAVE BEEN IDENTIFIED: (1) HUDSON RIVER-RARITAN BAY DISCHARGE INTO THE APEX OF THE BIGHT THROUGH THE ROCKAMAY POINT, NEW YORK-SANDY HOOK, NJ, TRANSECT AND (2) BARGE-DUMPED SEMAGE SLUDGE FROM THE GREATER NEW YORK METROPOLITAN REGION. THE BIGHT-WARD FLUX OF AMMONIUM THROUGH THE TRANSECT HAS BEEN CALCULATED FOR ONE 24-HOUR PERIOD IN JUNE AND WAS FOUND TO BE 5 TO 10 TIMES GREATER THAN THE AMMONIUM INPUT FROM BARGE-DUMPED SLUDGE FROM A TYPICAL THO-DAY PERIOD IN JULY. DURING THE APRIL BLOOM, THE RATE OF PHYTOPLANKTON UPTAKE AND THE EFFECT OF FRESHMATER DILUTION WERE FOUND TO DECREASE THE NH4+ CONCENTRATION A SIMILAR AMOUNT IN THE TRANSECT. THE HUDSON RIVER PLUME WAS OBSERVED TO BE A PERSISTENT YEAR-ROUND

FEATURE NEAR THE NJ SHORE AND WAS RESPONSIBLE FOR THE ADVECTION OF LARGE AMOUNTS OF CHLOROPHYLL A INTO THE BIGHT.

1419 O'CONNORS, H.B., JR.; C.F. WURSTER; C.D. POWERS; D.C. BIGGS; R.G. ROWLAND

POLYCHLORINATED BIPHENYLS MAY ALTER MARINE TROPHIC PATHWAYS BY REDUCING PHYTOPLANKTON SIZE AND PRODUCTION [1978]

SCIENCE 201(4357):737-739

POLYCHLORINATED BIPHENYLS AT CONCENTRATIONS OF 1 TO 10 MICRCO G/L REDUCED PHYTOPLANKTON BIOMASS AND SIZE IN NATURAL ESTUARINE PHYTOPLANKTON COMMUNITIES GROWN WITHIN DIALYSIS BAGS IN SITU IN AN ESTUARY MARSH. IN POLYCHLORINATED BIPHENYLS-CONTAMINATED WATERS, THESE CHANGES COULD INCREASE THE NUMBER OF TROPHIC LEVELS AND DIVERT THE FLOW OF BIOMASS FROM HARVESTABLE FISH TO JELLYFISH AND OTHER GELATINOUS PREDATORS.

1420 O'NEILL, T.M.

OCEAN DISPOSAL OF WASTE OFF NEW JERSEY [1974]

NJ DEP COMMENTARY 1(2):32 PP

OCEAN DISPOSAL OF WASTE PREVENTS MORE PRODUCTIVE USE OF THE DISPOSAL AREAS AND ELIMINATES THE POSSIBLITY OF REUSE OF THE WASTE MATERIALS. THE ECOLOGY OF THE CONTINENTAL SHELF, THE CONTINENTAL SLOPE, AND THE DEEP OCEAN IS DESCRIBED. SPECIAL GEOLOGIC FEATURES OF THE NJ COAST ARE INCLUDED. AMOUNTS AND TYPES OF WASTES DISPOSED OF IN THE NEW YORK BIGHT ARE LISTED. THE EFFECTS ON THE MARINE ENVIRONMENT OF OCEAN DUMPING OF SEWAGE SLUDGE, DREDGE SPOIL, PESTICIDES, PETROLEUM PRODUCTS, HG, AND RADIOACTIVE MATERIALS ARE DISCUSSED. ALTERNATIVES TO OCEAN DISPOSAL ARE CONSIDERED FOR EACH TYPE OF WASTE. ACTIONS TO REGULATE OCEAN DUMPING ARE COVERED.

1421 O'REILLY, J.E.; J.P. THOMAS; C.A. EVANS

ANNUAL PRIMARY PRODUCTION (NANNOPLANKTON, NETPLANKTON, DISSOLVED ORGANIC MATTER) IN THE LOWER NEW YORK BAY [1976]

IN W.H. MCKEON AND G.J. LAUER, EDS. PROC 4TH SYMP HUDSON RIVER ECOLOGY. 39 PP

BETWEEN NOV 73 AND MAR 75 NETPLANKTON-NANNOPLANKTON PRODUCTIVITIES. RATES OF PHYTOPLANKTON RELEASE OF DISSOLVED DRGANIC MATTER. AND RELATED WATER COLUMN VARIABLES WERE MEASURED FOR A STATION LOCATED IN THE LOWER NEW YORK BAY. BELOW NYC. PHYTOPLANKTON WERE HIGHLY CONCENTRATED THROUGHOUT THE SUMMER MONTHS (11-30 MG CHLOROPHYLL A/M3) AND SPARSE DURING LATE FALL AND EARLY WINTER (2-6 MG CHL A/M3). LIKEWISE. TOTAL DAILY INTEGRAL PRODUCTIVITY WAS HIGH DURING THE SUMMER (3.6-6.8 GC/M2/DAY) AND LOW DURING LATE FALL AND EARLY WINTER (0.13-0.49 GC/M2/DAY). DESPITE THE VERY THIN EUPHOTIC LAYER (2.3-7 M) RESULTING FROM TERRIGENOUS-. SEWAGE-, AND PHYTOPLANKION-DERIVED SOURCES OF PARTICULATES. THE ANNUAL PRIMARY PRODUCTION IN THIS SEWAGE-POLLUTED SECTION OF THE ESTUARY IS 817 GC/M2/YEAR. THIS ANNUAL VALUE SURPASSES ALL PREVIOUSLY REPORTED MEASUREMENTS IN ESTUARINE AND MARINE ECOSYSTEMS WHERE THE DOMINANT FORM OF PLANT LIFE IS PHYTOPLANKTON. MAJOR INORGANIC PLANT NUTRIENTS (NITRATE. AMMONIUM. PHOSPHATE, SILICATE) ARE SUPERFLUOUS YEAR-ROUND. LIGHT INTENSITY, AND NOT NUTRIENT CONCENTRATIONS PRIMARILY REGULATES GROWTH RATES OF PHYTOPLANKTON AND INTEGRAL DAILY PRODUCTIVITY. NANNOPLANKTON AND NETPLANKTON SYNTHESIZE 66.7% AND 17.9% OF THE ANNUAL PRODUCTION, WHILE THE PHYTOPLANKTON COMMUNITY RELEASES 15.4% OF THE TOTAL ANNUAL PHOTOASSIMILATED CARBON AS DISSOLVED ORGANIC MATTER. ANNUAL PHYTOPLANKION RELEASE OF DISSOLVED ORGANIC MATTER IS NEARLY EQUAL IN MAGNITUDE TO NETPLANKION SYNTHESIS. THE PERCENT OF TOTAL PHOTOSYNTHESIS RELEASED AS DISSOLVED ORGANIC MATTER DURING 16 CRUISES RANGED BETWEEN 2.5 AND 31.6%. LOWER BAY HAS SIGNIFICANTLY GREATER CONCENTRATIONS OF CHLOROPHYLL A AND GREATER RATES OF PHOTOSYNTHESIS (DW A CUBIC BASIS [MGC/M3/HR] AND ON AN INTEGRATED HASIS (GC/M2/D) THAN ADJACENT UPSTREAM WATER IN UPPER NEW YORK BAY. EVIDENCE IS PRESENTED THAT THE RELATIVELY MORE PRODUCTIVE PORTIONS OF THE ESTUARY (RARITAN BAY) ARE PARTLY RESPONSIBLE FOR THE DENSE CONCENTRATIONS OF PHYTOPLANKION AND FAST RATES OF PRIMARY PRODUCTIVITY FOUND JUST SOUTH OF THE NARROWS IN LOWER BAY.

1422 O'TOOLE. T.

AEC ORDERS CON ED TO HALT THERMAL POLLUTION OF RIVER [1972]

WASHINGTON POST NO 3:A3

THE AEC TOLD CONSOLIDATED EDISON CO. IT MUST STOP REMOVING LARGE VOLUMES OF WATER FROM THE HUDSON RIVER TO COOL ITS TWO ATOMIC POWER PLANTS AT INDIAN POINT. NY. IT WAS THE FIRST TIME THE AEC HAS ACTED TO REGULATE THE WAY A POWER PLANT IS COOLED.

1423 PACE, C.E.

ENGINEERING CONDITION SURVEY AND EVALUATION OF TROY LOCK AND DAM, HUDSON RIVER, NEW YORK. REPORT I: ENGINEERING CONDITION SURVEY [1978]

US ARMY CORPS ENG WES, VICKSBURG, MS 84 PP NTIS-AD-A055 871

IN PHASE I OF THIS STUDY, A CONDITION SURVEY WAS MADE OF TROY LOCK AND DAM. ANALYSIS OF THE CONDITION SURVEY GIVES ADEQUATE INFORMATION FOR SOUND ENGINEERING DECISIONS NEEDED FOR DEVELOPING A PROPOSAL FOR THE TOTAL EVALUATION OF THE LOCK AND DAM, WHICH IS TO BE ACCOMPLISHED IN PHASE 11. INITIAL DESERVATIONS OF TROY LOCK AND DAM GAVE MISLEADING IMPRESSIONS OF STRUCTURAL DEFICIENCIES. THE PHASE I STUDY REVEALED THAT THE INTERIOR CONCRETE OF THE LOCK IS SOUND AND OF SUFFICIENT STRENGTH. THE CRACKING OF THE CONCRETE IN THE LOCK IS NEGLIGIBLE AND IS INSIGNIFICANT IN THE DAM AND GATED SPILLWAY EXCEPT FOR (A) THE PIER WHERE THE ACCESS TO THE DAM TUNNEL ON THE POWERHOUSE SIDE OF THE RIVER IS LOCATED AND (B) THE PIERS OF THE GATED SECTION. IF IT IS ASSUMED THAT THE STRUCTURAL EVALUATIONS IN THE PHASE II STUDY REVEAL NO SERIOUS DEFICIENCIES AND THAT THE CONCRETE IN THE DAM AND GATED SPILLWAY CAN BE EFFECTIVELY REPAIRED AND PREVENTATIVE MEASURES IMPLEMENTED, THE LOCK, DAM, AND GATED SPILLWAY ARE STRUCTURALLY ADEQUATE AND CAN BE REPAIRED. THE PHASE I STUDY INDICATES THAT REPAIR IS HIGHLY FEASIBLE IF THE DEFICIENCIES LISTED CAN BE ECONOMICALLY CORRECTED.

1424 PACE, J.C., JR.; F.W. LIPFERT; T.F. LAVERY

COMPARISON OF OBSERVED AND CALCULATED CONCENTRATIONS IN THE VICINITY OF TWO LARGE POINT SOURCES ON LONG ISLAND, YEW YORK [1977]

IN PROC, 70TH ANNUAL MEETING, 20-24 JUN 1977, AIR POLLUTION CONTROL ASSOC, TORONTO, CANADA

THE SOZ IMPACIS OF TWO ELECTRIC GENERATING PLANTS, AS ASSESSED BY A REAL-TIME SOZ AND METEOROLOGICAL MONITORING NETWORK, WERE COMPARED WITH MODELING PREDICTIONS THAT INVOLVED SIMULATION OF ATMOSPHERIC TURBULENCE THROUGH USE OF VARIOUS DIFFUSION COEFFICIENTS. THE DIFFUSION COEFFICIENTS INCLUDED THE ASME, BRIGGS AND PASQUILL-GIFFORD VALUES. NONE OF THE COEFFICIENTS ADEQUATELY MODELED THE SOZ IMPACT, AND SIGNIFICANT MODELING OVERPREDICTION WAS THE RULE.

1425 PACHECO, A.L.

ICHTHYOPLANKTON, FINFISH, AND SHELLFISH SURVEYS [1975]

PAGES 291-269 IN PROC OF A WORKSHOP ON MARINE ENVIRONMENTAL IMPLICATIONS OF OFFSHORE OIL AND GAS DEVELOPMENT IN THE BALTIMORE CANYON REGION OF THE MID-ATLANTIC COAST, DEC 1974, COLLEGE PARK, MD

NEW YORK BIGHT ICHTHYOPLANKTON, FINFISH, AND SHELLFISH SURVEYS ARE BRIEFLY DESCRIBED IN THIS PAPER. SURVEYS CONDUCTED INCLUDED SEMI-ANNUAL MONITORING OF ICHTHYOPLANKTON AND MONTHLY SAMPLES TO DETERMINE DISTRIBUTIONS OF SPAWNING FISHES AND GROUNDFISH. DIEL MOVEMENTS OF YELLOWTAIL FLOUNDER, ATLANTIC MACKEREL, AND BLUEFISH WERE ALSO MONITORED. STOCK ASSESSMENTS WERE ALSO MADE FOR FOUR MOLLUSCAN SHELLFISH.

1426 PACHECO. A.L.

THE BAUMAN REPORT [1978]

PAGES 34-46 IN PROC OF NORTHEAST CLAM INDUSTRIES: MANAGEMENT FOR THE FUTURE. APRIL 27-28. 1978. HYANNIS. MA

THE BAUMAN AMENDMENT OF THE COASTAL ZONE MANAGEMENT ACT REQUIRED A REVIEW OF THE SHELLFISH INDUSTRY AND A REPORT TO CONGRESS. THE REPORT SUMMARIZES FINDINGS OF NUMEROUS GOVERNMENT PROGRAMS TO IMPROVE WATER QUALITY, ENHANCE THE QUALITY OF COASTAL RESOURCES, AND ASSIST THE INDUSTRY. WHILE THOSE PROGRAMS HAVE PROVIDED BENEFITS, THIS STUDY IDENTIFIES CERTAIN GOVERNMENT EFFORTS THAT CAN BE MADE MORE EFFECTIVE AND EFFICIENT. SPECIFIC RECOMMENDATIONS, HOWEVER, WHICH MAY RELATE TO PROGRAMS OF SEVERAL AGENCIES MUST BE FURTHER ANALYZED FOR BETTER PROGRAM COORDINATION TO ACHIEVE THE RECOGNIZED GOALS.

1427 PACHECO, A.L. (EDITOR)

PROCEEDINGS OF A WORKSHOP ON EGG. LARVAL. AND JUVENILE STAGES OF FISH IN ATLANTIC COAST ESTUARIES [1973]

TECH PUB. NMFS. MACFC. HIGHLANDS. NJ 337 PP

THESE WORKSHOP PROCEEDINGS RECORD A CONSENSUS OF KNOWLEDGE ON EGGS, LARVAE AND FISH OF THE ATLANTIC COAST ESTUARIES.

1428 PAEQUIN, P.C.; J.J. FITZPATRICK; R.V. THOMANN

MODELING OF PCB FATE IN THE HUDSON RIVER SYSTEM [1980]

PRE-PRINTS ASCE, NAT'L ENVIRONMENTAL ENG CONFERENCE, JULY 1980, NEW YORK, NY. ASCE, NEW YORK, NY NP

THIS WORK REPORTS QUA MODEL CONSTRUCTED TO ESTIMATE THE CHANGE OF PCB CONCENTRATION IN THE HUDSON RIVER SYSTEM UNDER VARYING LEVELS OF ENVIRONMENTAL CONTROL. PARTICULAR EMPHASIS IS PLACED ON DESCRIBING THE PCB BODY BURDEN OF THE STRIPED BASS.

1429 PAKKALA, I.S.; W.H. GUTENMANN; D.J. LISK; G.E. BURDICK; E.J. HARRIS

A SURVEY OF THE SELENIUM CONTENT OF FISH FROM 49 NEW YORK STATE WATERS [1972]

PEST MONIT J 6(2):107-114

A SURVEY WAS MADE OF THE SELENIUM CONTENT OF 438 FISH OF VARIOUS SPECIES COLLECTED IN 1969 FROM 49 NEW YORK STATE WATERS AND A GROUP OF LAKE TROUT SAMPLED IN 1970 FROM CAYUGA LAKE ONLY. DECAPITATED, EVISCERATED FISH WERE CHOPPED, MIXED, AND FROZEN IN POLYETHYLENE BAGS PRIOR TO ANALYSIS. SELENIUM WAS DETERMINED BY AN ADAPTATION OF THE ALLAWAY AND CORY METHOD INVOLVING OXYGEN-FLASK COMBUSTION OF DRIED FISH AND THE DETERMINATION OF THE FLUORESCENCE OF THE SELENIUM 2,3-DIANINONAPHTHALENE COMPLEX. THE METHOD WAS SENSITIVE TO ABOUT 0.1 PPM OF SE IN FISH. CONCENTRATIONS OF SELENIUM ON A FRESHWEIGHT BASIS WERE USUALLY BELOW 1 PPM. THERE WAS LITTLE APPARENT CORRELATION BETWEEN SELENIUM CONCENTRATIONS AND SPECIES OR SAMPLING LOCATIONS EXCEPT THAT STURGEON FROM THE HUDSON RIVER, LAKE IROUT FROM LAKES GEORGE AND WEST CANADA, WHITEFISH FROM RAQUETTE LAKE, AND SEVERAL SPECIES FROM LAKE PLEASANT HAD CONSISTENTLY HIGHER LEVELS OF SELENIUM THAN OTHER SAMPLES; ALL FISH FROM LAKES BUTTERFIELD AND CHAMPLAIN AND THE CHENANGO AND SALMON RIVERS HAD CONSISTENTLY LOWER LEVELS. NO CORRELATION WAS APPARENT BETWEEN SELENIUM LEVELS AND SIZE OR SEX OF FISH. SELENIUM DID NOT APPEAR TO BE CUMULATIVE IN LAKE TROUT OF KNOWN AGE UP TO 12 YEARS FROM CAYUGA LAKE.

1430 PALMER, H.D.

BALTIMORE CANYON HAZARDS AND POTENTIAL [1976]

PETROLEUM ENGINEER 48(13):12.14

THE ARTICLE DISCUSSES OFFSHORE LEASE SALE OF DOMESTIC CONTINENTAL SHELF BLOCKS.

1431 PALMER. H.D.; M.G. GROSS

OCEAN DUMPING AND MARINE POLLUTION: GEOLOGICAL ASPECTS OF WASTE DISPOSAL [1979]

IN PROC, 51ST ANNUAL MEETING OF THE SOC OF ECON PALEONTOLOGISTS & MINERALOLGISTS, JUNE 1977, WASHINGTON, DC. DOWDEN, HUTCHINSON & ROSS. STROUDGBURG. PA

13 PAPERS-MOST GIVEN AT A 1977 SYMPOSIUM OF THE SOCIETY OF ECONOMIC PALEONTOLOGISTS AND MINERALOGISTS IN WASHINGTON, DC-ON THE FATE AND GEOLOGICAL TIME SCALE OF WASTES DUMPED AT SEA ARE PRESENTED. EMPHASIS IS ON DREDGE SPOIL, ALTHOUGH INDUSTRIAL WASTES AND MUNICIPAL SLUDGE ARE ALSO INCLUDED. SITE-SPECIFIC EFFECTS ARE STUDIED FOR HIGH-, MODERATE-, AND LOW-ENERGY ENVIRONMENTS. THE FOLLOWING TOPICS ARE INCLUDED: WASTE DISPOSAL AND DREDGING ACTIVITIES-THE GEOLOGICAL PERSPECTIVE; SHELF-SEDIMENT DYNAMICS AND SOLID-WASTE DISPOSAL; GEOLOGIC EFFECTS OF OCEAN DUMPING ON THE NEW YORK BIGHT INNER SHELF; MUD DEPOSITS NEAR THE NEW YORK BIGHT DUMPSITES; ORIGIN AND BEHAVIOR; CONTAINMENT OF PARTICULATE WASTES AT OPEN-WATER DISPOSAL SITES; THE PROBLEM OF MISPLACED SEDIMENT; 2 WASTE DISPOSAL SITES ON THE CONTINENTAL SHELF OFF THE MIDDLE ATLANTIC STATES--OBSERVATIONS MADE FROM SUBMERSIBLES; MATHEMATICAL MODELING PREDICTIONS OF THE GEOLOGICAL EFFECTS OF SEWAGE SLUDGE DUMPING ON THE CONTINENTAL SHELF; AND DREDGED MATERIAL, OCEAN DISPOSAL, AND THE REGULATORY MAZE.

1432 PANAGISTAKOPOULOS, D.

A SOLUTION PROCEDURE FOR THE DESIGN PROBLEM OF A MULTIPLE TREATMENT PLANT SYSTEM ALONG A STREAM [1976]

WORKING PAPER UESE 76-12. DEPT OF CIVIL ENGINEER AND APPLIED MECHANICS. MCGILL UNIV. MONTREAL. CANADA NP

THE DESIGN PROBLEM OF LIQUID WASTE TREATMENT PLANTS IN A MULTI-PLANT SYSTEM ALONG A STREAM ENTAILS THE SELECTION OF A SEQUENCE OF UNIT OPERATIONS FOR EACH PLANT, AS WELL AS THE DETERMINATION OF EACH OPERATION'S WASTE REMOVING EFFICIENCY, SO THAT THE DISSOLVED OXYGEN STANDARDS ALONG THE STREAM ARE MET AT MINIMUM COST. THE SUGGESTED SOLUTIONS HAVE SO FAR BEEN PARTIAL AND SUBOPTIMAL SINCE THEY CONSIDER ONLY THE EFFICIENCIES ON A FIXED SEQUENCE OF UNIT OPERATIONS, NEGLECTING THE QUESTION OF CHOICE AMONG THEM. THIS PAPER OUTLINES AN EFFICIENT TWO-PHASE PROCEDURE FOR COMPLETELY SOLVING THIS MULTI-PLANT SYSTEM PROBLEM BY DETERMINING FOR EACH PLANT BOTH THE BEST SET OF OPERATIONS AND THEIR EFFICIENCIES. FIRST, A NETWORK ALGORITHM IS DEVELOPED FOR GENERATING CONCAVE COST-EFFICIENCY CURVES FOR EACH PLANT SUCH THAT EACH PLANT EFFICIENCY LEVEL CORRESPONDS TO THE OPTIMAL RATHER THAN TO A PRE-SPECIFIED FIXED SEQUENCE OF OPERATIONS. SECOND, A LINEAR PROGRAMMING MODEL WITH CONCAVE AND SEPARABLE OBJECTIVE FUNCTION IS EMPLOYED FOR ALLOCATING TREATMENT REQUIREMENTS AMONG THE PLANTS. THE PROCEDURE IS COMPARED WITH EXISTING ONES THROUGH AN APPLICATION TO A REAL CASE.

1433 PANCIROV, R.J.; R.A. BROWN

POLYNUCLEAR AROMATIC HYDROCARBONS IN MARINE TISSUES [1977]

ENVIRON SCI TECHNOL 11(10):989-991

C-14 LABELED BENZ (A) ANTHRACENE (BAA) AND BENZU (A) PYRENE (BAP) WERE EMPLOYED AS INTERNAL STANDARDS IN THE ANALYSIS OF THE EDIBLE PORTIONS OF SHELL- AND FINFISH. AFTER ADDING THESE STANDARDS 10 THE SAMPLE, A PAH CONCENTRATION WAS PREPARED THAT WAS IN TURN ANALYZED BY A COMBINED GC/UV PROCEDURE. BY COMPARISON WITH OTHER FOUDSTUFFS, NEITHER SHELL-NOR FINFISH SHOW UNUSUALLY HIGH AMOUNTS OF POLYNUCLEAR AROMATICS. A SUMMARY IS PRESENTED OF BAP, BAA, PYRENE, METHYLPYRENE, AND 6 OTHER POLYNUCLEAR AROMATICS, POUND IN THE FOLLOHING MARINE TISSUES: OYSTER (LONG ISLAND SOUND AND CHINCOTEAGUE, VA); CLAM (CHINCOTEAGUE, DARIEN, CT, AND LIYDEN, NJ); CRAP (CHESAPEAKE BAY AND RARITAN BAY); MENHADEN (RARITAN BAY); FLOUNDER (OFF LONG BRANCH, NJ AND S OF LONG

ISLAND); MUSSEL (FALMOUTH, MA); SHRIMP (PALACIOS, TX); CODFISH (ATLANTIC OCEAN, 25 MI OFF TOMS RIVER, NJ); AND LAKE TROUT (LAKE MASKINONGE, ONTARIO, CANADA). ONLY THE OYSTERS FROM LONG ISLAND SOUND AND RARITAN BAY CRABS SHOWED BAA OR BAP CONCENTRATIONS >2 PPB. UNIFORMLY LOW VALUES WERE OBTAINED FOR THE OTHER 6 PNAS. AN APPROXIMATELY CONSTANT VALUE OF 0.26 WAS OBSERVED FOR THE RATIO OF METHYLPYRENE TO PYRENE. PREDOMINANCE OF THE PARENT COMPOUND, PYRENE, INDICATES THAT THE HYDROCARBONS ARE NOT OF PETROLEUM ORIGIN AND PROBABLY ORIGINATE FROM THE COMBUSTION OF FOSSIL FUEL OR WOOD.

1434 PANCIROV, R.J.; T.D. SEARL; R.A. BROWN

METHODS OF ANALYSIS FOR POLYNUCLEAR AROMATIC HYDROCARBONS IN ENVIRONMENTAL SAMPLES [1980]

PAGES 123-142 IN 176TH MEETING OF THE ACS, MIAMI BEACH, FL, SEP 13-14, 1978. ACS, WASHINGTON, DC

THE MEASUREMENT OF POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS) IN THE ENVIRONMENT HAS BEEN A CONTINUING CHALLENGE TO ANALYTICAL CHEMISTS FOR THE PAST 30 YRS. A REVIEW IS PRESENTED OF THIS EFFORT WITH PARTICULAR EMPHASIS UPON METHODS OF THE PAST 10 YRS. THE METHOD OF EXXON RESEARCH AND ENGINEERING COMPANY IS ALSO DESCRIBED. IN THIS PROCEDURE, C-14 LABELLED INTERNAL STANDARDS, BENZ (A) ANTHRACENE AND BENZO (A) PYRENE, ARE ADDED TO THE STARTING SAMPLE, SOLVENT EXTRACTION AND COLUMN CHROMATOGRAPHY ARE EMPLOYED TO PREPARE A PAH CONCENTRATE FOR INJECTION TO A GAS CHROMATOGRAPH. GC PEAKS ARE TRAPPED AND MEASURED FOR C-14 RADIOACTIVITY AND THEIR UV SPECTRA. UV SPECTRA SERVE TO IDENTIFY AND QUANTITATE INDIVIDUAL PAH'S WITH FINAL QUANTITATION DEPENDING UPON THE RATIO TO RECOVERED C-14 RADIOACTIVITY. THE EXXON METHOD HAS BEEN SUCCESSFULLY APPLIED TO A VARIETY OF ENVIRONMENTAL SAMPLES. DATA WILL BE PRESENTED COVERING A RANGE OF SAMPLES INCLUDING AIR, WAS TEWATER EFFLUENTS, SELECTED MARINE TISSUES, SEDIMENTS, AND VARIOUS FOODS.

1435 PAPDAKIS, J.S.; S.B. SAILA

BENTHIC COLONIZATION PROCESSES--A REVIEW AND A PROPOSED NEW MODEL [1976]

PAGES 337-382 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

THE NEW MODEL PROPOSED HERE IS BASED ON THE ASSUMPTION OF A CONSTANT ENVIRONMENT OR A PRIORI KNOWLEDGE OF ITS DEPENDENCE ON TIME AND RECRUITMENT INTO THE AREA BY MOTILE JUVENILE FORMS. THE MODEL CAN ACCOMMODATE ANY NUMBER OF SPECIES FOR WHICH DATA ARE AVAILABLE. THE ABOVE ASSUMPTIONS ARE FORMULATED INTO A LINEAR IMMIGRATION DEATH PROCESS. TO MODEL SPECIES INTERACTIONS, THE IMMIGRATION RATE OF EACH SPECIES IS ASSUMED TO BE A FUNCTION OF THE TOTAL BIOMASS IN THE AREA AT TIME T AND THE CARRYING CAPACITY. THE DISTRIBUTION OF THE NUMBER OF INDIVIDUALS IN A SPECIES IS ASSUMED TO BE APPROXIMATED BY A POISSON DISTRIBUTION. THE MODEL WAS IMPLEMENTED ON A DIGITAL COMPUTER. THE REQUIRED INPUT PARAMETERS ARE THE INITIAL NUMBER, IMMIGRATION RATE, DEATH RATE, AND AVERAGE BIOMASS OF ORGANISMS BY SPECIES. AN ESTIMATE OF THE ENVIRONMENTAL CARRYING CAPACITY IS ALSO REQUIRED. THE RELATIVELY GREAT DATA REQUIREMENTS HAVE LIMITED FURTHER EMPIRICAL TESTING, NEVERTHELESS, IT IS THE BEST AVAILABLE TOOL FOR BETTER UNDERSTANDING AND PREDICTING RECOVERY FROM CATASTROPHIC EVENTS.

1436 PAPP, 9.

NEW PIER IN JAMAICA BAY [1972]

CIVIL ENG 42(8):52-54

THE EXPANSION OF THE 26TH WARD SEWAGE TREATMENT PLANT AT JAMAICA BAY NECESSITATED THE CONSTRUCTION OF A MODERN PIER ACCESSIBLE TO THE LARGEST OF NEW YORK CITY'S SLUDGE VESSELS AT LOW TIDE. THIS EXPANSION FURTHER REQUIRED AN EXTENSION OF THE FILLING PIPE, CONSTRUCTION OF AN ACCESS ROAD TO THE PIER AND DREDGING IN FRONT OF THE PIER FOR THE REQUIRED DRAFT. MATERIALS FOR THE PIER WERE REQUIRED TO BE CORROSION AND EROSION RESISTANT, AND NONFLAMMABLE. TO MEET THESE REQUIREMENTS CONCRETE WAS CHOSEN AS THE BUILDING MATERIAL.

1437 PAPP, 9.

NEW PIER IN NEW YORK'S JAMAICA BAY [1972]

DOCK HARB AUTH 53 (621):88-94

DESIGN CRITERIA AND CONSTRUCTION OF THE PIER ARE DESCRIBED. THE PIER IS COMPOSED OF 10 SPANS, THE PILE CAPS ARE 36 FT ON CENTER. THE PILE CAPS ARE 6 FT WIDE AID THE CHANNEL SLABS HAVE THE SAME LENGTH AS THE CHANNEL SLABS OF THE TRESTLE, 31 FT 6 IN. THE MAIN ENDEAVOR OF THE DESIGN WAS TO HAVE THE SAME DIMENSIONS FOR ALL CHANNEL SLABS SO THAT ONLY ONE TYPE OF STEEL FORMS WAS NEEDED. THE SAME SIZE OF CHANNEL SLABS WAS USED FOR THE TRESTLE, FOR THE PIER AND EVEN FOR THE CATWALKS TO THE MOORING PLATFORMS.

1438 PARARAS-CARAYANNIS. G.

OCEAN DUMPING IN THE NEW YORK BIGHT: AN ASSESSMENT OF ENVIRONMENTAL STUDIES [1973]

TECH MEM 39. CERC, FORT BELVOIR, VA 158 PP

THE STUDIES INCLUDED HYDROGRAPHIC, GEOLOGICAL, CHEMICAL, BIOLOGICAL INVESTIGATIONS, AND A FEASIBILITY STUDY FOR A REMOTE-CONTROLLED ELECTRONIC SENSING SYSTEM THAT COULD ASSIST REGULATING AGENCIES IN DETECTING THE LOCATION AND DUMP STATUS OF WASTE DISPOSAL VESSELS OPERATING IN THE BIGHT. CIRCULATION PATTERNS WERE ESTIMATED FROM DATA OBTAINED BY CURRENT METERS AND BY SEABED AND SURFACE DRIFTERS. CHEMICAL ANALYSES WERE MADE OF THE CONCENTRATION OF PROSPHORUS (ORTHO, ORGANIC, META, AND TOTAL), NITRATE, TOTAL IRON, DISSOLVED OXYGEN, AND CHLOROPHYLL A IN WATER SAMPLES. TEMPERATURE, SALINITY, TURBIDITY AND PH WERE MEASURED. SEDIMENT SAMPLES WERE ANALYZED FOR ORGANIC CONTENT AND THE HEAVY METALS, CU, CR, PB, AG, NI AND ZN. SELECTED BIOLOGICAL SAMPLES WERE ANALYZED FOR HEAVY METALS AND HG. BIOLOGICAL INVESTIGATIONS INCLUDED STUDIES OF BENTHIC MEIOFAUNA AND MACROFAUNA, ZOOPLANKTON, FINFISH AND BACTERIA. THE STUDIES INCLUDE BASIC DATA RELATED TO THE DISPOSAL OF SEWAGE SLUGGE, DREDGE SPOILS AND ACID-IRON WASTES, AND HAVE HELPED PROVIDE A MORE DETAILED ENVIRONMENTAL DESCRIPTION OF THE BIGHT DUMPING GROUNDS AND ADJACENT AREAS. THE FINDINGS OF THESE AND OTHER RELATED STUDIES ARE PRESENTED AND ANALYZED IN THIS REPORT IN TERMS OF IMPACT ON ECOLOGY, WATER QUALITY, AND TOTAL ENVIRONMENTAL EFFECTS.

1439 PARKER, C.A. (EDITOR)

ANNUAL INFORMAL WORKSHOP ON PHYSICAL DECANOGRAPHY AND METEOROLOGY OF THE MIDDLE ATLANTIC AND NEW YORK BIGHTS, LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY, 15-16 NOV 1977 [1978]

ERL-MESA-27. NOAA, BOULDER, CO.78 PP NTIS-PB-286 732

21 SCIENTIFIC PRESENTATIONS WERE GIVEN OVER THE COURSE OF THE TWO-DAY WORKSHOP HELD AT PALISADES, NY ON 15-16 NOV 1977. THESE WERE: LONG TERM CURRENT VARIABILITY IN A MIDSHELF REGION ABOVE THE HUDSON SHELF VALLEY; DIAGNOSTIC MODEL OF WATER AND OXYGEN TRANSPORT IN THE NEW YORK BIGHT; REMOTE ACOUSTIC SENSING OF PHYSICAL PROCESSES IN THE OCEAN SHELF-SLOPE EXCHANGE; DISTRIBUTIONS OF DISSOLVED RN-222 AND SUSPENDED PARTICULATES; TIME AND SPACE VARIABILITY OF INTERLEAVING STRUCTURE AT THE SHELF BREAK IN THE NEW YORK BIGHT; OCEANOGRAPHIC ANALYSES FROM DATA IN THE NATIONAL ARCHIVES; SYNOPTIC STUDY OF THE SHELF WATER/SLOPE WATER FRONT'S MESOSCALE STRUCTURE; HYDROGRAPHIC RECONNAISSANCE OF THE WILMINGTON CANYON'S IMPACT ON THE SHELF WATER/SLOPE WATER FRONT'S SMALL SCALE STUDY OF THE SHELF WATER/SLOPE WATER FRONT'S CONVERGENCE ZONE; FORCING MECHANISMS OF THE SHELF-SLOPE FRONT FROM THE CHESAPEAKE BAY THROUGH GEORGES BANK; EFFORTS OF THE ATLANTIC ENVIRONMENTAL GROUP TO CONSTRUCT AN ENVIRONMENTAL DATA BASE FOR FISHERY CLIMATOLOGY STUDIES IN THE CAPE COD-CAPE HATTERAS AREA; OPERATIONAL MARINE ENVIPONMENTAL PREDICTION PROGRAMS OF THE TECHNIQUES DEVELOPMENT LABORATORY.

1440 PARKER, J.H.; I.W. DUEDALL; H.B. O'CONNORS, JR.; R.E. WILSON

RARITAN BAY AS A SOURCE OF AMMONIUM AND CHLOROPHYLL A FOR THE NEW YORK BIGHT APEX [1976]

PAGES 212-219 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG. ALLEN PRESS. LAWRENCE. KS

MEASUREMENTS IN JUNE 1974 AND 1976 IN RARITAN, SANDY HOOK, AND LOWER NEW YORK BAYS SHOWED THAT WATER NEAREST SANDY HOOK HAD LOW SALINITY AND HIGH CHLOROPHYLL A AND NH4+ CONCENTRATIONS. SANDY HOOK BAY HAD THE HIGHEST CHLOROPHYLL A VALUES AND LOW NH4+ CONCENTRATIONS. HIGH CHLOROPHYLL A CONCENTRATIONS WERE ALSO FOUND AT THE CENTER OF RARITAN BAY ACCOMPANIED BY HIGH NH4+ CONCENTRATIONS. NEAR ROCKAWAY INLET, NH4+ CONCENTRATIONS WERE HIGH WHILE CHLOROPHYLL A VALUES WERE MINIMAL. THE NARROWS ALSO SHOWED HIGH NH4+ AND LOW CHLOROPHYLL A CONCENTRATIONS. BY COMPARING THE SALINITY, AMMONIUM, AND CHLOROPHYLL A DISTRIBUTIONS AT THE SANDY HOOK-ROCKAWAY POINT TRANSECT WITH THE CHARACTERISTICS OF THE DIFFERENT SOURCES OF WATER FLOWING OUT TO THE BIGHT, AN IDENTIFICATION OF WATER MASSES AT THE TRANSECT IS POSSIBLE.

1441 PARKER, J.H.; I.W. DUEDALL; H.B. O'CONNORS, JR.; W. MILOSKI; G. HULSE; G.E. CARROLL

SANDY HOOK/ROCKAWAY POINT TRANSECT STUDY: DATA REPORT OF CRUISES FROM NOVEMBER 1973 TO JUNE 1974 [1976]

FINAL REPORT, PART II. MSRC. SUNY, STONY BROOK, NY NP

DURING THE PERIOD FROM NOVEMBER, 1973 TO JUNE, 1974, SEVERAL OCEANOGRAPHIC CRUISES WERE CONDUCTED IN THE NEW YORK BIGHT APEX. THE STUDY AREA INCLUDED A TRANSECT BEIVEN SANDY HOOK, NJ AND ROCKAMAY POINT, LONG ISLAND, NY AND THE LOWER BAY OF NEW YORK HARBOR. THE OBJECTIVE OF THE WORK WAS (1) TO DETERMINE THE TIDAL AND SEASONAL DISTRIBUTION OF PLANT NUTRIENTS AND CHLOROPHYLL A IN THE TRANSECT AND (2) TO CALCULATE, BASED ON PREVIOUSLY OBTAINED CURRENT METER DATA, THE FLUX OF NUTRIENTS INTO THE APEX. THE FOLLOWING VARIABLES WERE MEASURED: SALINITY, TEMPERATURE, DISSOLVED OXYGEN, TURBIDITY, WEIGHT OF SUSPENDED SOLIDS, CHLOROPHYLL A FLUORESCENCE AND EXTRACTED CHLOROPHYLL A, PLUS THE NUTRIENTS NH4, NO2, NO3, PO4, AND SI(OH)4. THIS REPORT PRESENTS THESE DATA IN TABULATED FORM ALONG WITH SURFACE CURRENT, WEATHER AND SEA CONDITIONS. ALSO INCLUDED ARE COMPUTED VALUES OF SIGMA-T AND DEGREE OF DISSOLVED OXYGEN SATURATION. ROCKAWAY POINT, NUTRIENT AND CHLOROPHYLL A CONCENTRATIONS ARE GENERALLY LOWER AND SALINITIES HIGHER THAN THOSE OBSERVED NEAR SANDY HOOK BECAUSE OF THE INFLOW OF BIGHT WATER BY NON-TIDAL CURRENTS. DURING THE SPRING FRESHET NUTRIENT CONCENTRATIONS, ESPECIALLY AMMONIUM, ARE LOW ALONG THE TRANSECT DUE TO (1) DILUTION BY THE SPRING FRESHET AND (2) UTILIZATION BY THE ABUNDANT PHYTOPLANKTON. FLUX CALCULATIONS FOR THE JUNE OBSERVATIONS INDICATE THAT MOST OF THE NUTRIENTS AND CHLOROPHYLL A ARE BEING TRANSPORTED FROM THE LOWER HUDSON ESTUARY INTO THE NEW YORK BIGHT.

1442 PARKETSKY, L.C.

TRIAXIAL TEMPERATURE MEASUREMENTS OF IHERMAL PLUMES FROM MOBILE VESSELS: ENERGY FOR THE ENVIRONMENT [1975]

PAGES 160-172 IN C. CATALDO AND E.J. ROLINSKI, EDS. NAT'L CONFERENCE ON ENERGY AND ENVIRONMENT, 29 SEPT 1975, OXFORD, OH. AM INST OF CHEMICAL ENG., DAYTON, OH

THREE DIMENSIONAL TEMPERATURE INFORMATION ON THE THERMAL PLUME OF THE INDIAN POINT NUCLEAR POWER PLANT WAS ACQUIRED BY UTILIZING BOTH MOBILE SCANNING TECHNIQUES, WHEREBY A BOAT TOWED A THERMISTOR STRING IN THE HUDSON RIVER ESTUARY, AND PROFILING TECHNIQUES, WHEREBY VERTICAL TEMPERATURE PROFILES WERE OBTAINED AT SELECTED HORIZONTAL LOCATIONS. FROM FIELD EXPERIENCE DURING A ONE-YEAR PERIOD IT WAS FOUND THAT BOTH TECHNIQUES ARE DESIRABLE. PROBLEMS OF SCANNING A THERMAL PLUME IN AN ESTUARY CAUSED BY ALTERATION IN THE PLUME SHAPE BY TIDAL CHANGES ARE DISCUSSED.

1443 PASCHOA, A.S.; M.E. WRENN; M. EISENBUD

NATURAL RADIATION DOSE TO GAMMARUS FROM HUDSON RIVER [1979]

RADIOPROTECTION 14(2):99-115

THE PURPOSE OF THIS INVESTIGATION IS TO EVALUATE THE NATURAL RADIATION DOSE RATE TO WHOLE BODY AND COMPONENTS OF THE GAMMARUS SPECIES, A ZOOPLANKTON WHICH OCCURS IN THE HUDSON RIVER AMONG OTHER PLACES, AND TO COMPARE THE RESULTS WITH THE UPPER LIMITS OF DOSE RATES FROM MAN-MADE SOURCES. THE ALPHA DOSE RATES TO THE EXOSKELETON AND SOFT THISSUES ARE ABOUT 10 TIMES THE AVERAGE ALPHA DOSE RATE TO THE WHOLE BODY, ASSUMING UNIFORM DISTRIBUTION OF RN-226. THE NATURAL ALPHA RADIATION DOSE RATE TO GAMMARUS REPRESENTS ONLY ABOUT 5% OF THE TOTAL NATURAL DOSE TO THE DRGANISM, I.E. 492 MRAD/YR. THE EXTERNAL DOSE RATE DUE TO K-40. U-238 PLUS DAUGHTERS AND TH-232 PLUS DAUGHTERS ACCUMULATED IN THE SEDIMENTS COMPRISE 91% OF THAT TOTAL NATURAL DOSE RATE, THE REMAINING PERCENTAGE BEING DUE TO NATURAL INTERNAL BETA EMITTERS AND COSMIC RADIATION. MAN-MADE SOURCES CAN CAUSE AN EXTERNAL DOSE RATE UP TO 224 MRAD/YR, WHICH COMPRISES ROUGHLY 1/3 OF THE TOTAL DOSE RATE (UP TO 716 MRAD/YR; NATURAL PLUS MAN-MADE) TO THE GAMMARUS OF HUDSON RIVER IN FRONT OF INDIAN POINT NUCLEAR POWER STATION. HOWEVER, IN TERMS OF DOSE-EQUIVALENT THE NATURAL SOURCES OF RADIATION WOULD CONTRIBUTE MORE THAN 75% OF THE TOTAL DOSE TO GAMMARUS.

1444 PASKAUSKY, D.F.; A.J. NALWALK; D.L. MURPHY; R.C. KOLLMEYER

HELICOPTER LAUNCHING OF SURFACE AND SEA-BED DRIFTERS [1974]

GEOPHYS R L 1(1):55-57

THE SEMI-ENCLOSED NATURE OF LONG ISLAND SOUND MAKES IT IDEAL FOR SURFACE AND SEA-BED DRIFTER STUDIES. A USCG H-3 HELICOPTER PROVIDED A "SYNOPTIC" LAUNCH WITHIN A HALF TIDAL CYCLE. DRIFTER RELEASES WERE CONDUCTED ON 18 JUNE 1973 AT A TOTAL OF 50 STATIONS IN LONG ISLAND AND BLOCK ISLAND SOUNDS. DROPS WERE MADE AT VARIOUS ALTITUDES AND SPEEDS IN ORDER TO DETERMINE OPTIMUM RELEASE CONDITIONS. AS OF 18 AUG 1973 AT LEAST ONE DRIFTER HAS BEEN RETURNED FROM 28 OF THE 50 STATIONS (56%). SURFACE DRIFTERS (ONE TO A STATION) HAVE BEEN RETURNED FROM 18 OF 50 STATIONS (36%). TOTAL RETURN OF 52 OF 250 BOTTOM DRIFTERS (20.8%) HAS BEEN LOGGED. THE HELICOPTER SEEMS EMINENTLY SUITABLE FOR NEAR-SHORE LAUNCHING OF DRIFTERS WHERE ITS LIMITED RANGE IS NOT A PROBLEM AND SYNOPTIC DEPLOYMENT IS DESIRABLE.

1445 PASKAUSKY. D.F.; D.L. MURPHY

SEASONAL VARIATION OF RESIDUAL DRIFT IN LONG ISLAND SOUND [1976]

ESTUARINE COASTAL MAR SCI 4(5):513-522

RESIDUAL DRIFT IN LONG ISLAND SOUND WAS ANALYZED BASED ON THE RECOVERY OF 346 OUT OF 951 SURFACE AND BOTTOM DRIFTERS RELEASED AT 86 LOCATIONS IN 1973 AND 1974. TWO PERIODS OF DISTINCTLY DIFFERING DRIFT CORRELATED WITH WIND AND FRESHWATER DISCHARGE VARIATION. THE SUMMER PERIOD (JUNE TO EARLY NOV 1973) WAS CHARACTERIZED BY RELATIVELY WEAK SOUTHWEST WINDS AND LOW FRESHWATER DISCHARGE. IN THE WINTER PERIOD (AFTER EARLY NOV 1973), THERE WERE STRONG NORTHWEST WINDS AND RELATIVELY HIGH FRESHWATER DISCHARGE. AN ESTUARINE CIRCULATION (SURFACE OUTFLOW AND BOTTOM INFLOW) EXISTS IN EASTERN LIS THROUGHOUT THE YEAR. BOTTOM DRIFTER RETURNS RECEIVED IN THE SUMMER PERIOD INDICATED THAT THE WESTWARD FLUX OF NEAR BOTTOM WATERS DOES NOT EXTEND INTO CENTRAL LIS PAST MATTITUCK SILL. DURING THE WINTER SEASON, NEAR BOTTOM WATERS MOVE WELL INTO CENTRAL LIS, AND UPWELLING AGAINST THE CONNECTICUT COAST IS APPARENT. THERE WAS LITTLE EVIDENCE FOR SIGNIFICANT NEAR BOTTOM EXCHANGE BETWEEN WESTERN AND CENTRAL LIS.

1446 PASKAUSKY, D.F.

NET DRIFT IN AN ATYPICAL ESTUARY, LONG ISLAND SOUND [1977]

ENVIRON MANAGE 1(4):331-342

A SUMMARY OF THE DESCRIPTIVE NEAR-SHORE OCEANOGRAPHY OF LONG ISLAND SOUND WAS PREPARED TO ASSIST IN AN ANALYSIS OF THE ENVIRONMENTAL IMPACT FROM THE DUMPING, IN 1974, OF DREDGE MATERIAL FROM NEW HAVEN HARBOR AT A SITE 5 MI SOUTH OF THE HARBOR. LONG ISLAND SOUND IS AN ESTUARY BY DEFINITION SINCE IT IS A SEMI-ENCLOSED BODY OF WATER HAVING A FREE CONNECTION WITH THE OPEN

OCEAN. IT HAS A TWO LAYERED FLOW AT THE EASTERN OPENING (THE RACE) AND A SALINITY GRADIENT OF ABOUT FIVE PPT IS MAINTAINED BETWEEN THE EASTERN AND WESTERN EXTREMES. TIDAL CURRENTS. WIDE-DRIVEN CIRCULATION, AND RIVER INFLOW AND FRESHWATER INFLUX ARE INVESTIGATED AS FACTORS AFFECTING THE NET DRIFT. CURRENT MEASUREMENTS IN EASTERN LONG ISLAND SOUND INDICATE THAT THE TIDAL CIRCULATION FEATURES THAT PREDOMINATE THERE DO NOT NORMALLY AFFECT THE NET DRIFT AT THE NEW HAVEN DUMP SITE. DRIFTER RETURNS AND A YUMERICAL MODEL INDICATE THAT SEASONAL PREVAILING WINDS SEEM TO BE THE PRIMARY CAUSE OF THE NET DRIFT IN CENTRAL LONG ISLAND SOUND.

1447 PASTEL. M.; B. BUSH; J.S. KIN

ACCUMULATION OF POLYCHLORINATED BIPHYENLS IN AMERICAN SHAD DURING THEIR MIGRATION IN THE HUDSON RIVER, SPRING 1977 [1980]

PEST MONIT J 14(1):11-22

52 FEMALE AMERICAN SHAD (ALOSA SAPIDISSIMA) WERE COLLECTED DURING THE SPRING OF 1977 AT 2 SITES ON THE LOWER HUDSON RIVER, 27 MI AND 75 MI FROM THE RIVER MOUTH. THE FISH WERE EXTRACTED WITH HEXANE, AND THE EXTRACTS WERE ANALYZED BY ELECTRON CAPTURE GC (EC-GC) AND GC-MS. PCBS WERE QUANTITATED BY EC-GC, AND THE CONCENTRATIONS WERE COMPARED BY FISH LENGTH AND BY SITE. FISH COLLECTED FROM THE DOWNSTREAM SITE CONTAINED A MEAN PCB CONCENTRATION OF 2.0+/-1.0 MICROGRAMS/G, WET WT; FISH FROM THE UPSTREAM SITE CONTAINED A MEAN PCB CONCENTRATION OF 6.1+/-2.6 MICROGRAMS/G, WET WT. ALIQUOTS OF THE HEXANE EXTRACTS WERE FRACTIONED BEFORE ANALYSIS BY GC-MS. THE PRESENCE OF PCBS WAS CONFIRMED, AND DDE AND THE ALKANE SERIES FROM C22 THROUGH C26 WERE DETECTED.

1448 PATCHEN, R.C.; E.E. LONG; B.B. PARKER

ANALYSIS OF CURRENT METER OBSERVATIONS IN THE NEW YORK BIGHT APEX AUGUST 1973-JUNE 1974 [1976]

TR-ERL-368. YOAA, BOULDER, CO 31 PP NIIS-PB-263 928

THE TIDAL CONSTITUENTS OF PRIMARY IMPORTANCE IN THE NEW YORK BIGHT APEX ARE THE M2 AND K1 CONSTITUENTS. CALCULATIONS OF THE ELLIPSE PARAMETERS FOR THE SEMIDIURNAL CONSTITUENTS ARE RELATIVELY CONSISTENT THROUGHOUT THE OBSERVATIONAL PERIOD. THE DIRECTION OF PROGRESS FOR THE M2 CONSTITUENT IS WEST ALONG THE NEW YORK COAST, TURNING NORTHWEST TOWARD THE MOUTH OF THE HUDSON RIVER, AND NORTH ALONG THE NEW JERSEY COAST. LARGE INCONSISTENCIES OCCURRED IN THE CALCULATION OF THE ELLIPSE PARAMETERS FOR THE DIURNAL CONSTITUENTS, ESPECIALLY THE PHASE LAG. DIRECTION OF THE PROGRESS FOR THE K1 CONSTITUENT WAS RELATIVELY CONSISTENT; THIS DIRECTION IS SOUTHWEST ALONG THE NEW YORK COAST, TURNING NORTHWEST TOWARD THE MOUTH OF THE HUDSON RIVER, AND SOUTH-SOUTHWEST ALONG THE NEW JERSEY COAST. FOR THE FALL SEASON, A STATISTICAL CLOCKWISE CIRCULATION PREVAILS, BUT A SIGNIFICANT PERCENTAGE OF THE OBSERVATIONS INDICATES A COUNTERCLOCKWISE CIRCULATION. FOR THE SPRING SEASON, THE DEVELOPMENT OF STRATIFICATION AND THE DEPTH OF THE THERMOCLINE APPEAR TO DETERMINE THE MEAN CIRCULATION.

1449 PEARCE, J.B.; E. WALDHAUER; M. TRAFFORD

BIGLIOGRAPHY TO STUDIES IN THE NEW YORK BIGHT: INCLUDING REFERENCES TO EFFECTS OF SEWAGE SLUDGE [1971]

NOAA, WES, HIGHLANDS, NJ 51 PP

THIS BIBLIOGRAPHY, ARRANGED ALPHABETICALLY ACCORDING TO AUTHOR, CONTAINS CITATIONS REGARDING THE NY BIGHT AND THE EFFECTS OF SEWAGE SLUDGE DUMPING.

1450 PEARCE, J.B.

BASIC YEW YORK BIGHT QUESTIONS TO BE ADDRESSED BY MESA [1973]

SANDY HOOK LAB. NOAA, HIGHLANDS, NJ 5 PP

THIS PUBLICATION PROVIDES A NUMBER OF GENERAL QUESTIONS WHICH ARE CONSIDERED TO BE MOST IMPORTANT IN REGARD TO THE NEW YORK BIGHT. A COMBINED EFFORT BY BIOLOGISTS AND PHYSICAL RESEARCHERS IN ANSWERING THESE QUESTIONS IS SUGGESTED.

1451 PEARCE, J.B.

BENTHIC ASSEMBLAGES IN THE DEEPER CONTINENTAL SHELF WATERS OF THE MIDDLE ATLANTIC BIGHT [1974]

PAGES 297-317 IN PROC. ESTUARINE RESEARCH FEDERATION OUTER CONTINENTAL SHELF CONFERENCE AND WORKSHOP. CENTER OF ADULT EDUCATION. UNIV OF MARYLAND. COLLEGE PARK. MD

MANY OF THE TAXA IDENTIFIED FROM DEEPER SHELF WATERS ARE FORMS IMPORTANT TO THE DIET OF DEMERSAL FINFISH. AMPHIPODS AND POLYCHAETES ARE IMPORTANT TO MANY FISHES. PETROLEUM BASED CONTAMINANTS MAY ELIMINATE IMPORTANT SENSITIVE SPECIES AND BE REPLACED BY LESS DESIROUS FISH. THE IMPACT OF ANY CONTAMINANT ON DEEP WATER ASSEMBLAGES IS MUCH GREATER THAN ON SIMILAR SHALLOW ASSEMBLAGES BECAUSE DEEP WATER ASSEMBLAGES BECAUSE DEEP WATER ASSEMBLAGES EXIST IN STABLE AND PREDICTABLE ENVIRONMENTS.

1452 PEARCE, J.B.

ENVIRONMENTAL IMPACT OF THE CONSTRUCTION PHASE OF OFFSHORE FLOATING OR BARGE MOUNTED NUCLEAR POWER PLANTS TO BE SITED BETWEEN SANDY HOOK AND ATLANTIC CITY. NEW JERSEY [1974]

PAGES 395-408 IN BIOLOGICAL BALANCE AND THERMAL MUDIFICATIONS. AMERICAN ELSEVIER PUBLISHING CO., INC., NEW YORK, NY

THE CONSTRUCTION PHASE WILL HAVE SOME EFFECTS ON LIVING MARINE RESOURCES. THE EXTENT OF THESE EFFECTS DEPENDS ON THE TIME OF YEAR THE FLOATING NUCLEAR PLANTS ARE BUILT, THE LENGTH OF TIME INVOLVED AND THE NUMBER OF UNITS BUILT. MORE ADVERSE EFFECTS WILL RESULT IN THE PLACEMENT OF TRANSMISSION LINES AND SITING OF ONSHORE SUPPORT FACELITIES.

1453 PEARCE, J.B.

REGIONAL COASTAL ENVIRONMENTAL CONSIDERATION FOR OFFSHORE POWER PLANTS; SANDY HOOK TO ATLANTIC CITY, NEW JERSEY [1974]

PAGES 17-165 IN J. PERES, ED. MODIFICATIONS. THERMIQUES ET EQUILIBRES BIOLOGIQUES. INST DE LA VIE, PARIS, FRANCE

DASED ON PRESENT PROPOSALS FOR SITING OF OFFSHORE FLOATING NUCLEAR POWER PLANTS (CONSOLIDATED EDISON, 1971 AND PUBLIC SERVICE ELECTRIC AND GAS COMPANY, 1971), THE GREATEST IMPACT IS LIKELY TO IMPINGE UPON BENTHIC INFAUNAL INVERTEBRATES FOUND IN WATER DEPTHS OF 40-90 FT AND PELAGIC AND DEMERSAL FINFISH WHICH ARE INDIGENOUS TO THIS ZONE OR MIGRATE SEASONALLY THROUGH IT. A FEW SPECIES OF MOTILE INVERTEBRATES SUCH AS THE CONCROID CRABS, AMERICAN LOBSTER, MOON SNAIL AND SEASTARS MIGHT ALSO BE AFFECTED BY THE SITING AND OPERATION OF NUCLEAR POWER PLANTS. MANY OF THE FINFISH ARE OF COMMERCIAL IMPORTANCE OR HAVE VALUE AS GAME FISH. SEVERAL OF THE LARGER INVERTEBRATES, INCLUDING THE SURF CLAM AND AMERICAN LOBSTER, ARE COMMERCIALLY VALUABLE SPECIES. FINALLY, ALMOST ALL OF THE BENTHIC AND PLANKIONIC INVERTEBRATES ARE INTEGRAL PARTS OF COMPLEX FOOD WEBS WHICH SUPPORT THE MORE CONSPICUOUS SPECIES SOUGHT BY MAN FOR FOOD OR RECREATION. THE FOLLOWING SECTIONS DETAIL THE PHYSICAL ENVIRONMENT IN WHICH PLANTS MIGHT BE SITED AS WELL AS THE BIOLOGICAL COMPONENTS OF THE ECOSYSTEM WHICH MAY BE IMPINGED UPON BY THE CONSTRUCTION AND OPERATION OF THESE FACILITIES.

1454 PEARCE, J.B.

HEAVY NETAL CONTENT OF CERTAIN FREEZE-DRIED SLUDGE SAMPLES [1974]

SANDY HOOK LABS. NOAA/NMFS. HIGHLANDS. NJ 1 PP

THIS REPORT CONTAINS MISCELLANEOUS RAW DATA ON HEAVY METAL CONCENTRATIONS OF CD, CR, CU, MN, NI, PB, AND ZN, FROM WARDS ISLAND AND NEJTOWN CREEK, NY.

1455 PEARCE, J.B.

INVERTEBRATES OF THE HUDSON RIVER ESTUARY [1974]

NY ACAD SCI ANN 250:130-143

THIS PAPER EXAMINES CHANGES IN INVERTEBRATE DISTRIBUTIONS ALONG THE HUDSON RIVER, WHICH RESULT FROM SPATIAL AND TEMPORAL CHANGES AND FROM POLLUTION INPUTS. OCEAN DUMPING HAS SIGNIFICANT EFFECTS ON BENTHIC ORGANISMS. SAMPLES FROM WASTE DISPOSAL AREAS REVEAL THE PRESENCE OF PETROCHEMICALS, HEAVY METALS, AND OTHER TOXICANTS. REDUCED DIVERSITY OF BENTHOS HAS BEEN FOUND AT THESE SITES.

1456 PEARCE, J.B.; J.P. THOMAS; R.A. GREIG

PRELIMINARY INVESTIGATION OF BENTHIC RESOURCES AT DEEPWATER DUMPS ITE 106 [1975]

PAGES 217-228 IN MAY 1974 BASELINE INVESTIGATION OF DEEPWATER DUMPSITE 106. NOAA, ROCKVILLE, MD

FURTHER SAMPLING AND STATISTICAL ANALYSES ARE REQUIRED TO DETERMINE THE EXTENT OF VARIATION IN THE INFAUNA AND SEDIMENT CHARACTERISTICS, INCLUDING HEAVY METAL CONTENTS, BETWEEN STATIONS. IT IS APPARENT, HOWEVER, THAT THE ABUNDANCE OF INFAUNA AT EACH STATION FALLS WITHIN THE SAME ORDER-OF-MAGNITUDE AS NOTED FOR ABYSSAL SITES BY PREVIOUS INVESTIGATIONS. DIVERSITY ALSO IS QUITE SIMILAR AT ALL STATIONS. AT THE PRESENT TIME THERE IS NO REASON TO ASSUME THAT THE TOXIC WASTES DISPOSED OF AT SITE 106 HAVE, IN ANY WAY, IMPINGED UPON THE SEDIMENTS OR FAUNA COLLECTED AT THE SEVERAL BENTHIC SAMPLING STATIONS IN THE VICINITY OF SITE 106. THE MAKEUP OF THE BENTHIC ASSEMBLAGES IS VERY SIMILAR TO WHAT HAS BEEN REPORTED FOR DEEP-SEA BENTHIC FAUNAL ASSEMBLAGES FOUND AT SIMILAR DEPTHS ALONG THE GAY HEAD TO BERMUDA TRANSECT.

1457 PEARCE, J.B.; J.S. YOUNG

SHELL DISEASE IN CRABS AND LOBSTERS FROM NEW YORK BIGHT [1975]

MAR POLLUT BULL 6(7):101-105

DUMPING GROUNDS IN NEW YORK BIGHT RECEIVE VERY LARGE QUANTITIES OF SEWAGE SLUDGE. LOBSTERS AND ROCK CRABS COLLECTED IN OR NEAR THE DUMPING GROUNDS SOMETIMES SHOW VARIOUS PATHOLOGICAL CONDITIONS OF THE SHELL AND GILLS. IN THIS STUDY THE HISTOPATHOLOGY OF SHELL DISEASE, THE CAUSATIVE AGENTS AND ITS EFFECTS ON RESPIRATION ARE DISCUSSED IN CONNECTION WITH A POSSIBLE ASSOCIATION WITH THE DISPOSAL OF SOLID WASTES INTO THE OCEAN.

1458 PEARCE, J.B.; J.V. CARACCIOLO; A.B. FRAME; L.H. ROGERS; M.B. HALSEY; J.P. THOMAS

DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS IN THE NEW YORK BIGHT, AUGUST 1968-DECEMBER 1971 [1976]

DR-ERL-MESA-7. NOAA, BOULDER, CO 114 PP NTIS-PB-271 343

THIS REPORT WAS PREPARED IN ORDER TO PROVIDE MACHINE LISTED DATA AND CERTAIN STATISTICAL CALCULATIONS (DIVERSITY AND EQUITABILITY) CONCERNED WITH THE DISTRIBUTION AND ABUNDANCE OF BENTHIC INVERTEBRATES AT 26 STATIONS IN THE NEW YORK BIGHT APEX.

THESE DATA ARE LISTED BY LATITUDE AND LONGITUDE AS WELL AS BY STATION NUMBER AND THEY CAN THEREFORE PROVIDE A BASELINE FOR THE DISTRIBUTION AND ABUNDANCE OF BENTHIC INVERTEBRATES PRIOR (1968-1971) TO THE MORE RECENT INTENSIVE BENTHIC STUDIES BEING CONDUCTED. THE BENTHIC SAMPLES WERE COLLECTED AT VARIOUS TIMES OF THE YEAR AND SEASONAL DATA ARE AVAILABLE FOR MOST STATIONS.

1459 PEARCE, J.B.; J.P. THOMAS; J.V. CARACCIOLO; M.B. HALSEY; L.H. ROGERS

DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS IN THE NEW YORK BIGHT APEX, 2-6 AUGUST 1973 [1976]

DR-ERL-MESA-8. NOAA, BOULDER, CO 131 PP NTIS-PB-271 344

DURING THE PERIOD 2-6 AUGUST 1973 A SERIES OF BENTHIC GRAB SAMPLES WERE COLLECTED AT STANDARD SAMPLING STATIONS LOCATED ON THE NEW YORK BIGHT APEX MESA GRID. THE CRUISE WAS DESIGNED SO THAT FIVE REPLICATE SMITH-MCINTYRE GRAB SAMPLES COULD BE TAKEN AT EACH STATION. IN ADDITION TO THE BENTHIC MACROFAUNA, SAMPLES WERE COLLECTED FOR: SEDIMENT GRAIN SIZE ANALYSES AND SEDIMENT HEAVY NETAL BURDENS; BENTHIC MEIOFAUNAL STUDIES INCLUDING THE NEMATODES, HARPACTICOID COPEPODS AND CILIATE PROTOZOANS; AND SEABED OXYGEN CONSUMPTION RATES. THE DATA ARE LISTED BY LATITUDE AND LONGITUDE AS WELL AS BY STATION NUMBER AND THEY CAN THEREFORE PROVIDE A SEASONAL BASELINE FOR THE DISTRIBUTION AND ABUNDANCE OF BENTHIC INVERTEBRATES USEFUL FOR COMPARISON WITH SIMILAR DATA COLLECTED IN OCTOBER 1973, JANUARY 1974, MARCH 1974 AND AUGUST 1974 AT THE SAME MESA GRID STATIONS. THIS REPORT PROVIDES LISTS OF DATA AND CERTAIN STATISTICAL CALCULATIONS (DIVERSITY AND EQUITABILITY) CONCERNED WITH THE SEASONAL DISTRIBUTION AND ABUNDANCE OF BENTHIC INVERTEBRATES.

1460 PEARCE, J.B.; J.V. CARACCIOLO; M.B. HALSEY; L.H. ROGERS

TEMPORAL AND SPATIAL DISTRIBUTIONS OF BENTHIC MACROINVERTEBRATES IN THE NEW YORK BIGHT [1976]

PAGES 394-403 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG. ALLEN PRESS. LAWRENCE. KS

BENTHIC BIOTA IN THE NEW YORK BIGHT APEX IS CHARACTERIZED BY HIGH SPATIAL AND TEMPORAL VARIABILITY. A CONSIDERABLE REDUCTION IN NUMBERS OF INDIVIDUALS PER SAMPLE WAS OBSERVED BETWEEN AUGUST 1973 AND AUGUST 1974; ON AN AVERAGE, NUMBERS OF INDIVIDUALS PER STATION DECREASED FROM 417 TO 174. LOW SPECIES DIVERSITY WAS OBSERVED AT SOME STATIONS INSIDE THE CHRISTIAENSEN BASIN. AM AREA CHARACTERIZED BY HIGH ORGANIC CARBON VALUES IN SEDIMENT. CERTAIN SPECIES, APPARENTLY TOLERANT OF CARBON-RICH DEPOSITS OF THE CHRISTIAENSEN BASIN, WERE EXTREMELY ADUDANT AT SOME STATIONS LOCATED IN THE BASIN. THESE INCLUDED THE ANEMONE CERTAINTHUS, FOUR SPECIES OF POLYCHAETE, AND THE BIVALVE NUCULA.

1461 PEARCE, J.B.

OUR COASTAL WATERS: AN ENDANGERED ZONE [1976]

SCI TEACH 43(9) 4PP

WETLANDS AND ESTUARTES ARE IMPORTANT FOR MARINE PRODUCTIVITY, SPAWNING AND NURSERY GROUNDS. 2/3 OF THE WORLD'S POPULATION LIVE ALONG THE COASTAL ZONE. NEW YORK WATERS RECEIVE MILLIONS OF LITERS OF ACIDS, HEAVY METALS AND OTHER TOXIC WASTES. POLLUTION IS CLOSING THOUSANDS OF ACRES OF SHELLFISH BEDS EACH YEAR IN NJ. A DISCUSSION OF PETROLEUM AND POWER PLANTS AND A PLEA FOR SOUND MANAGEMENT OF COASTAL RESOURCES IS OFFERED.

1462 PEARCE, J.B.; J.P. THOMAS; J.V. CARACCIOLO; M.B. HALSEY; L.H. ROGERS

DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS IN THE NEW YORK BIGHT APEX, 26 AUGUST-6 SEPTEMBER 1974 [1976]

DR-ERL-MESA-9. ECOSYSTEMS ANAL PROG OFFICE, US ERL, BOULDER, CO 91 PP

DURING THE PERIOD 26 AUG-6 SEPT 1974 A SERIES OF BENTHIC GRAB SAMPLES WERE COLLECTED AT STANDARD SAMPLING STATIONS LOCATED ON THE NEW YORK BIGHT APEX MESA GRID. THESE SAMPLES WERE COLLECTED FROM THE R/V DELAWARE II. THIS DATA REPORT WAS PREPARED TO PROVIDE MACHINE LISTED DATA AND CERTAIN STATISTICAL CALCULATIONS (DIVERSITY AND EQUITABILITY.) CONCERNED WITH THE SEASONAL DISTRIBUTION AND ABUNDANCE OF BENTHIC INVERTEBRATES. THESE DATA ARE LISTED BY LATITUDE AND LONGITUDE BASELINE FOR THE DISTRIBUTION AND ABUNDANCE OF BENTHIC INVERTEBRATES USEFUL FOR COMPARISON WITH SIMILAR SEASONAL DATA COLLECTED IN AUG 1973, OCT 1973, JAN 1974 AND MAR 1974 AT THE SAME MESA GRID STATION.

1463 PEARCE, J.B.; L.H. ROGERS; J.P. THOMAS; J.V. CARACCIOLO; M.B. HALSEY; K. MCNULTY

DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS IN THE OUTER NEW YORK BIGHT AND PROPOSED ALTERNATE DISPOSAL SITES, JUNE 1974-FEBRUARY 1975 [1976]

DR-ERL-MESA-10. ECOSYSTEMS ANAL PROG OFFICE, US ERL, BOULDER, CO 69 PP

IN THE PERIODS 21-30 JUNE 1974 AND 22-23 FEB 1975, A SERIES OF BENTHIC GRAB SAMPLES WERE COLLECTED AT STATIONS LOCATED WITHIN THE TWO PROPOSED INTERIM ALTERNATE DISPOSAL SITES WHICH MIGHT BE UTILIZED BY MUNICIPALITIES. WHICH PRESENTLY BARGE SEWER SLUDGE TO A DUMPING SITE IN THE NEW YORK BIGHT APEX. THE PRESENT DATA REPORT WAS PREPARED IN ORDER TO PROVIDE MACHINE LISTED DATA AND CERTAIN STATISTICAL CALCULATIONS (DIVERSITY AND EQUITABILITY) CONCERNED WITH THE DISTRIBUTION AND ABUNDANCE OF BENTHIC INVERTEBRATES AT 69 STATIONS. THESE DATA ARE LISTED BY LATITUDE AND LONGITUDE AS WELL AS BY STATION NUMBER AND THEY CAN THEREFORE PROVIDE A BASELINE FOR THE DISTRIBUTION AND ABUNDANCE OF BENTHIC INVERTEBRATES USEFUL FOR COMPARING FUTURE CHANGE IN BENTHIC ASSEMBLAGES IN THE OUTER NEW YORK BIGHT WHICH MIGHT OCCUR AS A RESULT OF DUMPING SEWER SLUDGE, OTHER SOLID WASTES AND OFFSHORE MINERAL EXPLORATION AND DEVELOPMENT.

1464 PEARCE, J.B.; J.V. CARACCIOLO; M.B. HALSEY; L.H. ROGERS

DISTRIBUTION AND ABUNDANCE OF BENTHIC MACROFAUNA IN THE SEWAGE SLUDGE DISPOSAL AREA, NEW YORK BIGHT APEX, FEBRUARY 1975 [1977]

DR-ERL-MESA-36. NOAA, BOULDER, CO 34 PP NTIS-PB-283 867

SANDY HOOK LABORATORY HAS BEEN EXAMINING THE IMPACT OF OCEAN WASTES DISPOSAL ON THE ECOSYSTEM OF THE NEW YORK BIGHT APEX SINCE 1968. THE BENTHIC COMMUNITY IN THE APEX HAS BEEN USED TO INDICATE IMPACTS BECAUSE CERTAIN BOTTOM-DWELLING ORGANISMS ARE OFTEN THE FIRST TO BE DEMONSTRABLY AFFECTED BY POLLUTANTS. THE PRESENT DATA REPORT WAS PREPARED IN ORDER TO PROVIDE MACHINE LISTED DATA AND CERTAIN STATISTICAL CALCULATIONS, DIVERSITY AND EQUITABILITY CONCERNED WITH THE DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS FOUND AT 24 STATIONS "NESTED" WITHIN THE SEWAGE SLUDGE DISPOSAL AREA OF THE STANDARD NY BIGHT MESA SAMPLING GRID. THESE "NESTED" SAMPLES WILL YIELD ADDITIONAL INFORMATION ON THE IMPACT OF DUMPING IN THE NEW YORK BIGHT BY PROVIDING A BETTER DISTRIBUTIONAL STATISTICAL BASE AND WILL BE USED IN COMPARISONS WITH EARLIER DATA COLLECTED FROM THE SAME AREA. PORTIONS OF THIS DOCUMENT ARE NOT FULLY LEGIBLE.

1465 PEARCE, J.B.; L.H. ROGERS; J.V. CARACCIOLO; M.B. HALSEY

DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS IN THE NEW YORK BIGHT APEX, FIVE SEASONAL CRUISES, AUGUST 1973 THROUGH SEPTEMBER 1974 [1977]

DR-ERL-MESA-32. NOAA, BUULDER, CO, 803 PP NTIS-PB-282 679

BETWEEN AUG 1973 AND SEPT 1974, PERSONNEL OF THE DIVISION OF ENVIRONMENTAL ASSESSMENT, CONDUCTED A SERIES OF FIVE SEASONAL CRUISES TO STATIONS WITHIN THE NEW YORK BIGHT APEX IN ORDER TO ASSESS THE IMPACTS OF CONTAMINANTS IN SEDIMENTS ON THE ECOSYSTEM IN THIS AREA. THE PRESENT DATA REPORT WAS PREPARED TO PROVIDE MACHINE LISTED DATA, AND CERTAIN STATISTICAL CALCULATIONS

CONCERNED WITH THE DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS FOUND DURING THESE FIVE CRUISES.

1466 PEARCE, J.B.; J.V. CARACCIOLO; M.B. HALSEY; L.H. ROGERS

DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS IN THE NEW YORK-NEW JERSEY OUTER CONTINENTAL SHELF [1977]

DR-ERL-MESA-30. NOAA, BOULDER, CO 75 PP NTIS-PB-284 117

THE OUTER CONTINENTAL SHELF SURVEY WAS UNDERTAKEN TO PROVIDE INFORMATION ON A LARGE AREA OF THE CONTINENTAL SHELF BEYOND THE 20 FM CONTOUR. THE INFORMATION OBTAINED FROM BENTHIC SAMPLES TAKEN FROM THIS AREA WILL BE USEFUL AS A BASIS AGAINST WHICH FUTURE CHANGES IN THE ECOSYSTEM, DUE TO NATURAL OR MAN-INDUCED PHENOMENA, CAN BE EVALUATED. THE FIVE REPLICATE GRAB SAMPLES FROM EACH STATION WILL PROVIDE A MEASURE OF WITHIN STATION VARIABILITY. THIS DATA REPORT WAS PREPARED IN ORDER TO PROVIDE MACHINE LISTED DATA AND CERTAIN STATISTICAL CALCULATIONS, DIVERSITY AND EQUITABILITY CONCERNED WITH THE DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS COLLECTED DURING THIS CRUISE.

1467 PEARCE, J.B.; J.V. CARACCIOLO: F.W. STEIMLE, JR.

FINAL REPORT ON BENTHIC INFAUNA OF DEEPWATER DUMPSITE 106 AND ADJACENT AREAS [1977]

PAGES 465-480 IN NOAA DUMPSITE EVALUATION REPORT 77-1, BASELINE REPORT OF ENVIRON CONDITIONS IN DWD 106. VOL II. NOAA, BOULDER, CO

THE DATA SHOW NO SIGNIFICANT DIFFERENCES IN NUMBERS OF INDIVIDUALS, NUMBERS OF SPECIES OR DIVERSITY IN COMPARISONS OF STATIONS WITHIN DWD 106 WITH CONTROL STATIONS. BOTTOM DISSOLVED OXYGEN MEASUREMENTS ARE NOT DEPRESSED AND ARE SIMILAR WITHIN THE DUMPSITE AND IN CONTROL AREAS. SINCE STRESSED ENVIRONMENTS ARE OFTEN CHARACTERIZED BOTH BY LOW DIVERSITY AND LOW CONCENTRATIONS OF DISSOLVED OXYGEN, THERE IS, AT THIS TIME, NO REASON TO BELIEVE THAT TOXIC WASTES DISPOSED OF AT SITE 106 HAVE IMPINGED UPON THE FAUNA COLLECTED AT OUR SAMPLING SITES. HOWEVER, IT IS KNOWN THAT DEGRADATION OF CERTAIN CATEGORIES OF ORGANIC MATERIAL IS VERY SLOW IN GREAT DEPTHS OF WATER AND THE SAME MAY BE TRUE OF TOXICANTS. THEREFORE, WITH CONTINUED DUMPING AND DEGRADATION OF THIS TOX MATERIAL, THERE IS A POSSIBILITY OF DEVELOPMENT OF A STRESS SITUATION IN THE FUTURE. BECAUSE OF THIS, IT IS SUGGESTED THAT MONITORING OF THIS AREA BE CONTINUED IN ORDER TO DETECT ANY SUCH CHANGES.

1468 PEARCE, J.B.; C.L. MACKENZIE; J.V. CARACCIOLO: L.H. ROGERS

RECONNAISSANCE SURVEY OF THE DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS IN THE NEW YORK BIGHT APEX 5-14 JUNE 1973 [1978]

DR-ERL-MESA-41. NOAA, BOULDER, CO, 9 PP NTIS-PB-277 333

A RECONNAISSANCE CRUISE TO STATIONS WITHIN THE NEW YORK BIGHT APEX WAS CONDUCTED BETWEEN 5 AND 14 JUNE 1973 TO PROVIDE A BASELINE TO BE USED IN ASSESSING THE IMPACTS OF CONTAMINANTS FROM ALL SOURCES, PARTICULARLY OCEAN DUMPING, ON THE SEDIMENTS IN THIS AREA. MACHINE LISTED DATA AND CERTAIN STATISTICAL CALCULATIONS, DIVERSITY AND EQUITABILITY CONCERNED WITH THE DISTRIBUTION AND ABUNDANCE OF BENTHIC INVERTEBRATE ORGANISMS FOUND IN THE NEW YORK BIGHT APEX IS PROVIDED. DATA FROM THESE SAMPLES, WHEN COMPARED WITH DATA COLLECTED AT LATER DATES, WILL PROVIDE A BASELINE AGAINST WHICH SEASONAL AND TEMPORAL CHANGES IN THE BIGHT MAY HE ASSESSED.

1469 PEARCE, J.B.

A PRELIMINARY OIL SPILL RESPONSE PLAN FOR COASTAL AND OCEANIC WATERS OFF THE NORTHEASTERN UNITED STATES [1979]

ICES. COPENHAGEN, DENMARK 42 PP

THIS PAPER SETS FORTH A PRELIMINARY STRATEGY FOR DEALING WITH MAJOR OIL SPILLS AND SPILLS OF OTHER HAZARDOUS SUBSTANCES. IT OUTLINES THE USE OF PERSONNEL, THE IMPLEMENTATION OF PERSONNEL AND EQUIPMENT AT THE TIME OF THE SPILL AND MEASUREMENTS AND INFORMATION THAT SHOULD BE ON HAND PRIOR TO A SPILL. FINALLY, THE PAPER OUTLINES THE SCIENTIFIC RESPONSES THAT CAN BE MADE IN A "TIERED" FASHION, I.E., FIRST ORDER, SECOND ORDER, AND THIRD ORDER RESPONSES. A PROPOSED APPENDIX WILL INCLUDE TITLES TO PAPERS ON STANDARD METHODS TO BE USED IN OIL SPILL RESPONSES.

1470 PEARCE, J.B.

MARINE SAND AND GRAVEL PRODUCTION IN AREAS OFF THE NORTHEAST COAST OF THE UNITED STATES [1979]

MAR POLLUT BULL 10(1):14-18

AGENCIES RESPONSIBLE FOR ISSUING PERMITS AUTHORIZING EXCAVATION OF MARINE SANDS AND GRAVELS HAVE PROVIDED INFORMATION ON THE AMOUNTS OF AGGREGATES REMOVED FROM COASTAL WATERS OFF THE NEW ENGLAND AND MIDDLE ATLANTIC STATES. THIS INFORMATION IS REPORTED HEREIN. MAJOR INCREASES IN MARINE MINING ARE PROJECTED. THE SIGNIFICANCE TO FISHERIES OF MINING MARINE AGGREGATES IS DISCUSSED.

1471 PEARCE, J.B.

TRACE METALS IN LIVING MARINE RESOURCES TAKEN FROM NORTH ATLANTIC WATERS [1979]

PAGES 505-515 IN N.P. LUEPKE, ED. MONITORING ENVIRONMENTAL MATERIALS AND SPECIMENS BANKING, PROC OF THE INTERNAT'L WORKSHOP. BERLIN. GERMANY. 23-28 OCT 1978. MARTINUS NIJHOFF. BOSTON. MA

THIS PAPER DISCUSSES SEVERAL PUBLISHED STUDIES CONCERNING TRACE METALS, INCLUDING HEAVY METALS IN THE PHYSICAL ENVIRONMENT, METHODOLOGIES FOR SAMPLE ANALYSIS, HANDLING OF SAMPLES, AND HEAVY METALS IN BIOTA.

1472 PEARCE, J.B.; J.V. CARACCIOLO; R.A. GREIG; D.R. WENZLOFF; F.W. STEIMLE, JR.

BENTHIC FAUNA AND HEAVY METAL BURDENS IN MARINE ORGANISMS AND SEDIMENTS OF A CONTINENTAL SLOPE DUMPSITE OFF THE WORTHEAST COAST OF THE UNITED STATES (DEEPWATER DUMPSITE 106) [1979]

PAGES 109-114 IN E. DAHL, ED. THE DEEP SEA-ECOLOGY AND EXPLOITATION. AMBIO SPEC REP 6

THIS PAPER EXAMINES THE IMPACT OF 6-8 YRS OF INDUSTRIAL DUMPING AT A DEEPWATER (2500 M) DUMPSITE OFF THE EAST COAST OF THE US. DATA FROM SMITH-MCINTYRE GRAB SAMPLES (SEDIMENT AND MACROFAUNA), WATER AND NEKTON SAMPLES WITHIN AND OUTSIDE THE DUMPSITE WERE EXAMINED. IT IS CONCLUDED THAT PAST DUIPING ACTIVITIES AT DEEPWATER DUMPSITE 106, LOCATED 222 KM SOUTHEAST OF NYC, HAVE NOT PRODUCED ANY OBVIOUS IMPACT ON THE COMMUNITY STRUCTURE OR HEAVY METAL BODY BURDENS IN BENTHIC MACROFAUNA OR NEKTON.

1473 PEARCE, J.B.

RARITAN BAY--A HIGHLY POLLUTED ESTUARINE SYSTEM [1979]

ICES, COPENHAGEN, DENMARK 16 PP

THIS INVESTIGATION REPORTS THE CURRENT STATUS OF RARITAN BAY WHICH RECEIVES POLLUTED INPUT FROM THE RARITAN, PASSAIC AND HUDSON RIVERS. DOMESTIC SEWAGE AND INDUSTRIAL DISCHARGE OF TOXIC WASTES HAVE DISRUPTED COMMERCIALLY IMPORTANT RESOURCES. PC9 POLLUTION FROM DISTANT SOURCES AFFECT SEVERAL IMPORTANT COMMERCIAL FISH SPECIES.

1474 PEARCE, J.B.

ESTUARIES [1979]

BULL AT LIFT SOC 12(1):29-35, SPECIAL ISSUE

THIS PAPER DISCUSSES BRIEFLY THE CURRENT EFFORTS AND GROWING CONCERNS OVER ESTUARINE SYSTEMS. IT ALSO DISCUSSES THE PROCEEDINGS VOLUME FROM TH ATLANTIC ESTUARINE RESEARCH SOCIETY (AERS). IT EXPLAINS THE NEED FOR FUTURE STUDIES TO BE DEVELOPED WITH CONTINUITY, CONTINUEM, COUPLING, PREDICTION. RARITAN BAY IS USED TO ILLUSTRATE SEVERAL ESTUARINE PROBLEMS.

1475 PEARCE, J.B.

OCEAN PULSE -- A COASTAL ENVIRONMENTAL ASSESSMENT AND MONITORING PROGRAM [1979]

PAGES 7-12 IN J. ZINN AND R. PAYNE, EDS. BULLETIN--THE COASTAL SOCIETY

THIS PAPER DISCUSSES PROGRAMS NEEDED TO PROVIDE INFORMATION ON CONTAMINANTS IN THE ECOSYSTEM. OCEAN PULSE IS A PROGRAM DESIGNED TO MONITOR COASTAL AND CONTINENTAL SHELF HABITATS AND INVOLVES CHEMICAL/BACTERIOLOGICAL MEASUREMENTS, COLLECTING LIVE SPECIMENS, AND BOTTOM GRAB SAMPLES. THIS PAPER IS PURELY DESCRIPTIVE IN NATURE; NO DATA ARE PRESENTED.

1476 PEARCE, J.B.; F.W. STEIMLE, JR.

ONGOING ENVIRONMENTAL ASSESSMENT, MONITORING AND RESEARCH UNDER THE OCEAN PULSE PROGRAM [1980]

PAGES 108-122 IN J.K. ADAMS, R.F. LEAHY, P.R. LYNCH AND R.L. MILLER, EDS. MAN AND THE SEA. TEMPLE UNIV. PHILADELPHIA. PA

THIS PAPER DISCUSSES THE EFFORTS OF THE OCEAN PULSE PROGRAM INCLUDING PREVIOUS MARINE POLLUTION RESEARCH, THE ANDXIC EVENT IN 1976, EARLIER MONITORING PROGRAMS AND THE NEED FOR SUCH PROGRAMS AND BASELINE INVESTIGATIONS, DETAILED DESCRIPTION OF THE OCEAN PULSE MONITORING AND THE RESULTS THAT HAVE BEEN DETERMINED.

1477 PEARCE. J.B.

PROBLETS IN THE MIDDLE ATLANTIC COASTAL ENVIRONMENT [1980]

PAGES 123-134 IN J.K. ADAMS, R.F. LEAHY, P.R. LYNCH AND R.L. MILLER, EDS. MAN AND THE SEA. TEMPLE UNIV. PHILADELPHIA. PA

THIS DESCRIPTION OF THE CONTAMINATED 4ATERS OFF LONG ISLAND, NY, NJ, AND DE DISCUSSES THE EFFECT ON ALGAL PRODUCTION AND TURBIDITY, FISHERY PRODUCTION, AND RECREATIONAL ACTIVITIES. IT BRIEFLY DISCUSSES PCBS AND THE 1976 FISH KILL. IT DESCRIBES THE PUBLIC AND SCIENTIFIC INVOLVEMENT AND THE TREND TOWARDS NEGLECT WHILE PUBLIC CONCERN AND ATTENTION ARE PAID ONLY TO LARGE INCIDENTS SUCH AS FISH KILLS AND OIL SPILLS.

1478 PEARCE, J.B.

STATUS OF ESTUARIES AND COASTAL WATERS BETWEEN CAPE HATTERAS AND MAINE: A REVIEW [1980]

ICES, COPENHAGEN, DENMARK NP

THIS PAPER REVIEWS THE CURRENT STATUS OF THE HEALTH OF ESTUARINE AND COASTAL WATERS OFF THE EASTERN SEABOARD OF THE US BETWEEN CAPE HATTERAS AND THE COAST OF MAINE. IT PROVIDES AN UPDATE FOR SEVERAL PAPERS PRESENTED AT THE ICES STATUATORY MEETINGS HELD

IN 1979.

1479 PEARCE, J.B.

THE EFFECTS OF POLLUTION AND THE NEED FOR LONG-TERM MONITORING [1980]

HELG W MEER 34(1980):207-220

THE GENERAL DETERIORATION OF COASTAL MATER QUALITY AND PHYSICAL DESPOILATION OF HABITATS ALONG THE EASTERN US COASTLINE HAS HAD A MAJOR IMPACT ON ESTUARINE AND COASTAL FISHERIES. TO UNDERSTAND THE FULL EXTENT OF THESE EFFECTS, AND TO PROVIDE DATA ON THE RATE AT WHICH THEY ARE SPREADING GEOGRAPHICALLY, A NEW MONITORING PROGRAM CALLED OCEAN PULSE HAS BEEN IMPLEMENTED. AMBIENT LEVELS OF CONTAMINANTS IN WATERS AND SEDIMENTS OF THE COASTAL ZONE ARE DOCUMENTED, AND BIOLOGICAL EFFECTS ARE MONITORED IN HABITATS OVER THE CONTINENTAL SHELF AS FAR SEAWARD AS HIGH LEVELS OF CONTAMINANTS CAN BE MEASURED. SAMPLES AND EXPERIMENTAL MEASUREMENTS ARE TAKEN AT CONTAMINATED AND UNCONTAMINATED SITES BETWEEN THE CANADIAN BOUNDARY AND CAPE HATTERAS. THE PRIMARY AIM OF THE OCEAN PULSE PROGRAM IS TO USE CHANGES IN PHYSIOLOGICAL/BIOCHEMICAL RESPONSES AS INDICATORS OF BIOLOGICAL CHANGE DUE TO CONTAMINANT LOADING. PHYSIOLOGICAL, BEHAVIORAL, ECOLOGICAL AND OTHER RESPONSES ARE MEASURED SO AS TO RELATE, ULTIMATELY, CHANGE IN COMMUNITY STRUCTURE. POPULATION RESPONSES AND PATHOLOGY TO VARIATION IN THE QUALITY OF HABITAT.

1480 PEARCE, J.B.

THE MUSSEL--A DIVALVE FOR ALL SEASONS [1980]

BULL AY LITT SOC 12(3):4-7

A NON-TECHNICAL DISCUSSION OF THE BLUE MUSSEL INCLUDING ITS DISTRIBUTION, RELATIONSHIP TO OTHER ORGANISMS AS FOOD OR HABITAT, POISONING, PHYTOPLANKTON, ECOLOGICAL REQUIREMENTS, AND USES AS A HUMAN FOOD ITEM.

1481 PECK, B.B.; R.S. WARREN

NITRATE REDUCTASE ACTIVITY AND PRIMARY PRODUCTIVITY OF PHYTOPLANKTON ENTRAINED THROUGH A NUCLEAR POWER STATION ON NORTHEASTERN LONG ISLAND SOUND. [1978]

PAGES 392-407 IN J.H, THORPE AND J.W. GIBBONS, EDS. ENERGY AND ENVIRONMENTAL STRESS &N AQUATIC SYSTEMS. TECH INFO CENTER, US DOE, OAK RIDGE, TN

THE EFFECTS OF TEMPERATURE AND VARIOUS CONCENTRATIONS OF CHLORINE ON NITRATE REDUCTASE ACTIVITY AND PRIMARY PRODUCTIVITY OF PHYTOPLANKTON WERE STUDIED AT THE MILLSTONE NUCLEAR POWER STATION ON NORTHEAST LONG ISLAND SOUND. DURING AUG THE AMBIENT TEMPERATURE AT THE COOLING WATER INTAKE RANGED 19.5-20 C. POWER GENERATION DURING THIS PERIOD RESULTED IN TEMPERATURE INCREASES OF 11 AND 14 C AT THE DISCHARGE AND DEPRESSED PHYTOPLANKTON NITRATE REDUCTASE ACTIVITY BY 88-89% AND PHYTOPLANKION PRIMARY PRODUCTIVITY BY 42-52%. THE DECREASE OCCURRED DURING THE 6- TO 9-H TRANSIT THROUGH THE COOLING POND. NITRATE REDUCTASE ACTIVITY, MAXIMALLY DEPRESSED AFTER EXPOSURE TO A MEAN INCREASE OF 13 C ABOVE AMBIENT TEMPERATURE ON 7 DAYS IN AUG, DID NOT RECOVER TO INTAKE CONTROL LEVELS AFTER 24 H OF INCUBATION AT AMBIENT INTAKE TEMPERATURE. IN MARCH AND APRIL. WHEN THE AMBIENT TEMPERATURE OF LONG ISLAND SOUND WATER WAS 4.3-9.9 C, PHYTOPLANKTONIC NITRATE REDUCTASE ACTIVITY WAS STIMULATED 25% ABOVE THAT OF CONTROLS AFTER 6-9 H OF EXPOSURE AT 11.5-18.1 C ABOVE AMBIENT TEMPERATURE. THE NITRATE REDUCTASE ACTIVITY FINDINGS SUPPORT THE HYPOTHESIS THAT NITRATE REDUCTASE IS A HEAT-LABILE ENZYME. CHLORINE CONCENTATIONS DELOW AND ABOVE THOSE REQUIRED TO ELIMINATE FOULING ORGANISMS (0.50 PPM) PRODUCED LARGE DECREASES IN THE PHOTOSYNTHETIC RATE OF ENTRAINED PHYTOPLANKTON. NITRATE REDUCTASE ACTIVITY DECREASED 15% AT 1.0 PPM AND 1.2 PPM, THE 2 HIGHEST CHLORINE DOSAGES APPLIED.

1482 PELLENBARG, R.

SILICONES AS TRACERS FOR ANTHROPOGENIC ADDITIONS TO SEDIMENTS (1979)

MAR POLLUT BULL 10(9):267-279

POLYORGANOSILOXANES (SILICONES) HAVE BEEN MEASURED IN THE SEDIMENTS OF THE NEW YORK BIGHT. THEY RANGE FROM 50 PPM ORGANIC SILICON, DRY WEIGHT BASIS, TO BELOW DETECTION LIMIT. SILICONES ARE 37.9% SILICON. SILICONES CORRELATED WELL (R >0.90) WITH OTHER ORGANIC CONSTITUENTS IN THE SAME SEDIMENT SAMPLES WHICH HAVE BEEN USED TO CHARACTERIZE SEWAGE INPUTS TO THE SEDIMENTS. SILICONES ARE OFFERED AS A FOTALLY SYNTHETIC. SPECIFIC. CHEMICAL TRACER FOR ANTHROPOGENIC ADDITIONS TO THE ENVIRONMENT.

1483 PENELLO, W.F.; B.H. PRINKHUIS

THE IMPACT OF EELGRASS ON HEAVY METAL MOBILIZATION [1979]

SPEC REP 23. MSRC, SUNY, STONY BROOK, NY 83 PP

RELEASE OF CADMIUM AND MANGANESE RADIONUCLIDES FROM EELGRASS LEAVES AND ROOT-RHIZOMES INTO SEAWATER AND SEAWATER PLUS 1 X 10EXP4 MOLE DISODIUM ETHYLENEDIAMINETETRACETATE (EDTA) WAS MONITORED OVER PERIODS OF 6 HRS FOLLOWING INCUBATIONS OF 1 TO 98 HRS. FLUX OF BOTH ISOTOPES FROM TISSUES IS INITIALLY RAPID. AND ENHANCED BY THE ADDITION OF EDTA. THE INITIAL RELEASE RATE IS INDEPENDENT OF INCUBATION TIME, INDICATING DESORPTION OF METALS FROM EXTERIOR TISSUE SURFACES. HIGH INITIAL RELEASE RATES BECOME RAPIDLY ATTENUATED. FITTING A POWER (Y = A XEXPB) TO THE DATA PROVED VALUABLE TO INFERRING UPTAKE CAPACITY OF TISSUES FROM OBSERVED METAL RELEASE CHARACTERISTICS. IN ADDITION TO DESORPTION, AND DIFFUSION FROM INTERCELLULAR SPACES AND CELLS, AND BIOLOGICALLY CONTROLLED RELEASE COULD BE DESCRIBED WITH THE AID OF CURVE FITS. MN APPARENTLY IS RELEASED MORE SLOWLY DURING LATTER PHASES OF RELEASE, POINTING TO GREATER BIOLOGICAL ACCUMULATION POTENTIAL. CD AND MN RADIONUCLIDE UPTAKE BY JOSTERA MARINA L. TISSUES AND TRANSLOCATION SETWER ROOT-RHIZOMES AND LEAVES WAS EXAMINED. CD CONCENTRATIONS IN ROOT-RHIZOMES INCREASED WITH INCUBATION TIME BUT APPEARED TO REACH SATURATION LEVELS AT 24 HR DF EXPOSURE. TRANSLOCATION OF CD BETWEEN ROOT-RHIZOMES APPEAR TO BE A CD SINK. CD FLUX IN TITHER DIRECTION COULD BE ENHANCED BY A SALT GRADIENT. CD APPEARS TO MOVE THROUGH EELGRASS BY DIFFUSION OR MASS FLOW THROUGH VASCULAR TISSUES AND APPARENT FREE SPACES. MN IS LESS MOBILE BUT IS MORE READILY FIXED BY LEAVES. MN MOBILITY IS NOT ENHANCED BY SALT GRADIENTS. INCORPORATION OF CD INTO ROOT-RHIZOMES FROM LABELLED ANOXIC SEDIMENTS WAS NOT EQUAL TO THAT FROM LABELLED ANOXIC SEDIMENTS WAS NOT EQUAL TO THAT FROM LABELLED ANOXIC SEDIMENTS WAS NOT EQUAL TO THAT FROM LABELLED ANOXIC SEAMATER MEDIA. LONG-TERM DEPURATION OF CD LABELLED ELGRASS TRANSPLANTED TO THE FIELD IS DISCUSSED.

1484 PENELLO, W.F.

CHARACTERISTICS OF METAL UPTAKE AND RELEASE BY EELGRASS (ZOSTERA MARINA L.) [1979]

M.S. THESIS. SUNY, STONY BROOK, NY 83 PP

RELEASE OF CADMIUM AND MANGANESE RADIONUCLIDES FROM EELGRASS LEAVES AND ROOT-RHIZOMES INTO SEAWATER AND SEAWATER PLUS 1 x 10 EXP4 MOLE DISODIUM ETHYLENEDIAMINETETRACETATE (EDTA) WAS MONITORED OVER PERIODS OF 6 HRS FOLLDWING INCUBATIONS OF 1 TO 98 HRS. FLUX OF BOTH ISOTOPES FROM TISSUES IS INITIALLY RAPID, AND ENHANCED BY THE ADDITION OF EDTA. THE INITIAL RELEASE RATE IS INDEPENDENT OF INCUBATION TIME, INDICATING DESORPTION OF METALS FROM EXTERIOR TISSUE SURFACES. HIGH INITIAL RELEASE RATES BECOME RAPIDLY ATTENUATED. FITTING A POWER (Y = A XEXPB) TO THE DATA PROVED VALUABLE TO INFERRING UPTAKE CAPACITY OF TISSUES FROM OBSERVED METAL RELEASE CHARACTERISTICS. IN ADDITION TO DESORPTION, AND DIFFUSION FROM INTERCELLULAR SPACES AND CELLS, AND BIOLOGICALLY CONTROLLED RELEASE COULD BE DESCRIBED WITH THE AID OF CURVE FITS. MN APPARENTLY IS RELEASED MORE SLOWLY DURING LATTER PHASES OF RELEASE, POINTING TO GREATER BIOLOGICAL ACCUMULATION POTENTIAL. CD AND MN RADIONUCLIDE UPTAKE BY ZOSTERA MARINA L. TISSUES AND TRANSLOCATION DETWEEN ROOT-RHIZOMES AND LEAVES WAS EXAMINED. CD CONCENTRATIONS IN ROOT-RHIZOMES INCREASED WITH INCUBATION TIME BUT APPEARED TO REACH SATURATIONS. A GREATER FLUX OF CD DOWNWARD WAS NOTED AND ROOT-RHIZOMES APPEAR TO BE A CD SINK. CD FLUX IN EITHER DIRECTION COULD BE ENHANCED BY A SALI GRADIENT. CD APPEARS TO MOVE THROUGH EELGRASS BY DIFFUSION OR

MASS FLOW THROUGH VASCULAR TISSUES AND APPARENT FREE SPACES. MN IS LESS MOBILE BUT IS MORE READILY FIXED BY LEAVES. MN MOBILITY IS NOT ENHANCED BY SALT GRADIENTS. INCORPORATION OF CD INTO ROOT-RHIZOMES FROM LABELLED ANOXIC SEDIMENTS WAS NOT EQUAL TO THAT FROM LABELLED ANOXIC SEAWATER MEDIA. LONG-TERM DEPURATION OF CD LABELLED EELGRASS TRANSPLANTED TO THE FIELD IS DISCUSSED.

1485 PENELLO, W.F.; B.H. BRINKHUIS

CADMIUM AND MANGANESE FLUX IN EELGRASS ZOSTERA MARINA. I: MODELLING DYNAMICS OF METAL RELEASE FROM LABELLED TISSUES [1980]

MAR BIOL 58(3):181-186

THE AUTHORS FOCUS ON RELEASE OF TWO METALS, CADMIUM AND MANGANESE, FROM THE LEAVES AND ROOT-RHIZOMES OF EELGRASS (ZOSTERA MARINA) INTO TWO ENVIRONMENTS: A) SEAWATER; AND B) SEAWATER PLUS 1 x 10 DISODIUM ETHYLENEDIAMINETETRACETATE (EDTA). THE AUTHORS DESCRIBE THE MECHANISM OF UPTAKE BY WHICH ROOTED PLANTS CAN ABSORD SOLUTES FROM THE EXTERIOR OF THE THE AUTHORS GIVE A DETAILED CONSIDERATION OF THEIR WORK WITH WHOLE-PLANT SPECIMENS OF EELGRASS OBRAINED FROM GREAT SOUTH BAY, NY IN 1977 AND 1978. THE ADDITION OF EDTA TO SEAWATER WAS FOUND TO INCREASE INITIAL RATES OF CADMIUM AND MANGANESE RELEASE. HOWEVER, INITIAL RELEASE RATES WERE FOUND TO PE INDEPENDENT OF INCUBATION TIME.

1486 PERLMUTTER, N.M.; E. KOCH

HYDROGEOCHEMICAL DATA FROM INVESTIGATION OF WATER QUALITY IN SEWERED AND UNSEWERED AREAS, SOUTHERN NASSAU COUNTY, LONG ISLAND, NEW YORK [1975]

LI WATER RESOURCES BULL L1WR-4. NASSAU COUNTY DEPT OF PUBLIC WORKS, MINEOLA, NY 37 PP

ABOUT 1,000 CHEMICAL ANALYSES OF GROUNDWATER AND SURFACE WATER SAMPLES COLLECTED FROM 1948 TO 1972 IN A 180-SQ MI AREA OF SOUTHERN NASSAU COUNTY ARE TABULATED IN THIS REPORT. THE ANALYSES ARE USEFUL IN PLANNING AND STUDYING THE DEVELOPMENT OF WATER RESOURCES IN THE COUNTY. OBTAINED IN A COOPERATIVE STUDY OF CHEMICAL QUALITY OF WATER (1966-72) BY THE USGS AND THE NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS, THEY REPRESENT WATER SAMPLES FROM GROUNDWATER-WATER-FED STREAMS AND CONFINED AND UNCONFINED UNCONSOLIDATED AQUIFERS COMPOSED OF GRAVEL, SAND, SILT, AND CLAY OF PLEISTOCENE AND LATE CRETACEOUS AGE. THE ANALYSES ALSO REPRESENT ONE OF THE FEW MODERN REGIONAL COMPILATIONS OF HYDROGEOCHEMICAL DATA THAT SHOW A SIDE-BY-SIDE COMPARISON OF WATER QUALITY BEFORE AND AFTER REPLACEMENT OF SEVERAL HUNDRED THOUSAND CESSPOOLS BY PUBLIC SEMERS. THE SEMERED PART OF THE STUDY AREA CONSISTS OF NASSAU COUNTY SEWER DISTRICT 2 AND THE VILLAGE OF FREEPORT. THE PRESENTLY (1972) UNSEMERED PART OF THE STUDY AREA CONSISTS OF NASSAU COUNTY SEWER DISTRICT 3, WHERE SEWER CONSTITUCTION, NOW IN PROGRESS, IS SCHEDULED FOR COMPLETION IN 1983.

1487 PERMENTER, R.W.; W.L. STUBBLEFIELD; D.J.P. SWIFT

SUBSTRATE MAPPING BY SIDESCAN SONAR. [1975]

FLORIDA SCIENCES 38(SUPPL 1):13-14 ABS ONLY

SONOGRAPHS (SIDESCAN SONAR RECORDS) OF THE CONTINENTAL SHELF FLOOR OFF NEW YORK WERE USED TO DETERMINE THE TEXTURE OF BOTTOM SEDIMENT. 9 SITES IN THE NEW YORK BIGHT APEX, EACH APPROX 150 BY 300 M, WERE SELECTED FOR STUDY. THE SITES PICKED WERE EITHER CHARACTERISTIC OF IMPORTANT BOTTOM SEDIMENT TYPES, OR STRADDLED FACLES BOUNDARIES. SONOGRAPHS WERE MADE OF EACH STUDY AREA AND GRAB SAMPLES COLLECTED EVERY 15 M ALONG A TRANSECT DOWN THE CENTER OF EACH AREA. RAYDIST NAVIGATION WAS USED. COMPARISON OF SONOGRAPHS AND GRAB SAMPLE DATA INDICATES THAT IN SOME CASES, CHANGES IN BOTTOM TEXTURE FINER THAN THE STANDARD WENTHORTH SIZE CLASSES MAY BE RESOLVED ON THE SONOGRAPH AS VARIATIONS IN THE INTENSITY AND CHARACTER OF THE RECORD. IN AREAS WHERE TEXTURE CHANGES ABRUPTLY, THE FACIES BOUNDARY IS READILY DISCERNABLE ON THE SONOGRAPH. SUCH SIDE SCAN SONAR RECORDS CALIBRATED BY GRAB SAMPLES ARE EFFICIENT TOOLS FOR QUICKLY MAPPING BOTTOM SEDIMENT TEXTURES OVER LARGE AREAS OF THE SEA FLOOR.

1488 PERRON, F.E. R.D. TURNER

DEVELOPMENT, METAMORPHOSIS, AND NATURAL HISTORY OF THE NUDIBRANCH DORIDELLA OBSCURA VERRILL (CDRAMBIDAE: OPISTHOBRANCHIA)

J EXP MAR BIOL ECOL 27:171-185

THE NUDIBRANCH DEPOSITED EGG MASSES THROUGHOUT THE YEAR IN BARNEGAT BAY, AND THE LARVAE REMAINED VIABLE AT TEMPERATURES RANGING FROM 1.5 TO 28 C. AT 25 C THE EGGS HATCH 4 DAYS AFTER OVIPOSITON, AND THE PLANKTOTROPHIC VELIGER LARVAE SWIM AND FEED FOR 9 DAYS BEFORE THEY METAMORPHOSE. SETTLEMENT OCCURS SPECIFICALLY ON THE BRYOZOAN ELECTRA CRUSTULENTA (PALLAS). THE SPIRALLY COILED LARVAL SHELL GROWS RAPIDLY UNTIL THE DORSAL MANTLE FOLD IS RETRACTED FROM THE APERTURE 5-6 DAYS AFTER HATCHING. ALTHOUGH STARVED LARVAE GROW ONLY SLIGHTLY AND DO NOT METAMORPHOSE, THEY RESUME NORMAL DEVELOPMENT ON INTRODUCTION OF SUITABLE FOOD. NEWLY METAMORPHOSED JUVENILES CONSUME ALGAE AND DEBRIS ON THE SURFACE OF THE BRYOZOANA UNTIL THEY GROW LARGE ENOUGH TO ATTACK THE LIVING ZOOIDS OF E. CRUSTULENTA. THE LIFE CYCLE OF DORIDELLA OBSCURA IS SHORT (26 DAYS AT 25 C), ALLOWING THE NUDIBRANCHS TO TAKE ADVANTAGE OF SHORT-LIVED ELECTRA CRUSTULENTA COLONIES IN UNSTABLE HABITATS IN BAYS AND ESTUARIES.

1489 PERRY, W.W.; W.P. ARTICOLA

STUDY TO MODIFY THE VULNERABILITY MODEL OF THE RISK MANAGEMENT SYSTEM [1980]

USCG, WASHINGTON, DC 212 PP NTIS-AD-AJB4 214

THE VULNERABILITY MODEL (VM) IS A COMPUTER MODEL WHICH SIMULATES HAZARDOUS MATERIALS SPILLS AND COMPUTES THE CONSEQUENCES TO PEOPLE AND PROPERTY FROM RESULTING FIRES, EXPLOSIONS, OR TOXIC VAPORS. THIS REPORT DESCRIBES RECENT WORK PERFORMED TO PREPARE THE VM FOR OPERATIONAL USE. FOUR SPECIFIC TASKS OR DEVELOPMENTS ARE DESCRIBED: (1) DEVELOPMENT OF THE USER INTERFACE MODULE (UIM), AND £ASY-TO-USE CONVERSATIONAL PROGRAM WHICH ENABLES INEXPERIENCED OR OCCASIONAL USERS TO SET UP AND RUN VM SIMULATIONS EASILY AND RELIABLY WITH LITTLE OR NO TRAINING, (2) DEVELOPMENT OF A SERIES OF VM OUTPUT DISPLAY ROUTINES WHICH DISPLAY THE RESULTS OF VM SIMULATIONS ON CRI TERMINALS OR HARD COPY PLOTTERS, (3) DEVELOPMENT OF READY-TO-USE GEOGRAPHICAL/DEMOGRAPHIC FILES FOR LOS ANGELES AND NEW YORK HARDORS (A FILE FOR NEW ORLEANS ALREADY EXISTS), AND (4) PERFORMANCE OF A NUMBER OF VM SPILL SIMULATIONS FOR SELECTED CHEMICALS IN LOS ANGELES AND NEW YORK HARBORS TO OPERATIONALLY TEST THE UIM/VM SYSTEM AND TO PROVIDE A HAZARD RANKING OF THE SELECTED CHEMICALS.

1490 PETER, W.G., 111

NEW YORK BIGHT: A CASE STUDY, PART II [1970]

BIOSCIENCE 20(11):669-671

AFTER CONDUCTING A PRELIMINARY INQUIRY INTO THE CONFLICT BETWEEN CONGRESSMAN OTTINGER AND THE CORPS OF ENGINEERS AND A BRIEF EXAMINATION OF THE SANDY HOOK PRELIMINARY REPORT, A NUMBER OF QUESTIONS WERE HAISED BY THE BIOSCIENCE NEWS STAFF. FOR INSTANCE, WHAT AUTHORITY DOES THE CORPS HAVE FOR THE ISSUANCE OF PERMITS TO PUMP SOLID WASTES INTO COASTAL MATERS? WHAT ARE THE CRITERIA FOR GRANTING THESE PERMITS AND THE SELECTION OF DISPOSAL SITES? HOW MANY DISPOSAL SITES ARE IN USE AT THE PRESENT TIME? WHAT OTHER DISPOSAL SITES ARE BEING CONTEMPLATED OR CONSIDERED? HOW MANY PERMITS HAVE BEEN ISSUED? WHAT CONTROLS EXIST TO PROTECT THE MARINE LIFE AND PUBLIC HEALTH? WHAT CHANGES, IF ANY, ARE ANTICIPATED IN CORPS POLICY AS A RESULT OF THE SANDY HOOK REPORT? ALTHOUGH WE WERE DEEPLY CONCERNED WITH DISPOSAL OPERATIONS IN THE NEW YORK BIGHT AND ELSEWHERE, WE WERE PARTICULARLY ALARMED AT THE DISTINCT POSSIBILITY THAT THE CORPS WAS NOT ACTING ALONE, BUT IN COMPLICITY WITH FEDERAL AND STATE AGENCIES WHOSE SOLE MISSION IS TO PROTECT AND SAFEGUARD MARINE LIFE AND PUBLIC HEALTH. SUBSEQUENT INVESTIGATION PROVED THIS TO BE THE CASE.

1491 PETERS, L.S.; J.M. O'CONNOR

FACTORS AFFECTING PCB AND DDT UPTAKE BY ZOOPLANKTON AND FISH FROM THE HUDSON ESTUARY [1980]

INST OF ENVIRON MEDICINE, NYU MEDICAL CENTER, TUXEDO, NY NP

GAMMARUS TIGRINUS, NEOMYSIS AMERICANA, AND STRIPED BASS (MORONE SAXATILIS) WERE EXPOSED TO C-14-LABELED PCB AND DDT IN FOOD AND IN WATER TO DETERMINE RATES OF CONTAMINANT UPTAKE AND CLEARANCE UNDER DIFFERENT CONDITIONS. THE ORGANISMS ACCUMULATED BOTH CONTAMINANTS RAPIDLY FROM THE WATER. PCB UPTAKE FROM FOOD AND IN THE PRESENCE OF SUSPENDED PARTICULATES WAS LOWER THAN THAT DETERMINED FOR DIRECT WATER UPTAKE. IN GENERAL, BIOCONCENTRATION FACTORS FOR PCBS RANGED FROM 10EXP5 (WATER UPTAKE) TO 10EXP4 (FOOD UPTAKE). RATES OF CLEARANCE FOR DDT IN GAMMARUS WERE MORE RAPID THAN FOR PCBS, ALTHOUGH RATES OF UPTAKE FOR THE TWO COMPOUNDS WERE SIMILAR DURING 48-HOUR EXPOSURE. BIOACCUMULATION OF CHLORINATED ORGANICS BY ESTUARINE ORGANISMS IS DEPENDENT UPON A VARIETY OF FACTORS, INCLUDING OCTANOL-WATER PARTITION COEFFICIENTS, ADSORPTION TO PARTICULATES IN THE WATER COLUMN. AND THE ROUTE OF ENTRY INTO THE ORGANISM; I.E., VIA DIRECT WATER UPTAKE OR WITH THE FOOD. EACH OF THESE FACTORS IS DISCUSSED WITH REGARD TO CONTAMINANT LEVELS COMMON IN THE HUDSON ESTUARY AND THE COASTAL MARINE ENVIRONMENT OF THE NEW YORK METROPOLITAN REGION.

1492 PETERSON, B.J.; W.S. OVERTON

ANALYSIS OF DATA FROM NY BIGHT SAMPLING PROGRAM [1978]

OSU, CORVALLIS, OR 23 PP

33 SITES IN THE NY BIGHT WERE SAMPLED FOR BIOLOGICAL AND ENVIRONMENTAL DATA. THE OBJECTIVE WAS TO FIND WHAT ASSOCIATIONS EXISTED BETWEEN THE BIOLOGICAL AND ENVIRONMENTAL FACTORS. PLANKTON SAMPLES WERE TAKEN FROM SURFACE AND SUBSURFACE WATERS. ENVIRONMENTAL FACTORS SUCH AS SALINITY, TEMPERATURE, HEAVY METALS CONCENTRATIONS AND HYDROCARBON CONCENTRATIONS WERE SAMPLED ONLY FROM SURFACE WATERS. HEAVY METALS CONCENTRATIONS IN THE PLANKTON AND DEVELOPMENTAL STAGES OF THE EGGS COLLECTED WERE ALSO ANALYZED. DATA ANALYSIS INDICATED AN ASSOCIATION BETWEEN LEVELS OF METALLIC AND HYDROGARBON POLLUTANTS AND MEASURES OF EMBRYO HEALTH.

1493 PETTERSEN, P.

THE BATTLE TO SAVE OUR BEACHES [1978]

LONG ISLAND MAG AUG: 17-21

THIS NON-TECHNICAL REPORT DESCRIBES THE STEPS BEING TAKEN AND THE PLANS TO SAVE LONG ISLAND BEACHES AND WATER QUALITY. IT DESCRIBES THE EFFECTS OF POLLUTION, EROSION, OIL SPILLS, SEWAGE INFESTATION AND PUBLIC NEGLECT AND ABUSE. A LIST OF THE CONDITIONS OF 16 TOWNS IS INCLUDED.

1494 PHILBIN, T.W.; H.D. PHILLIPP

THERMAL EFFECTS STUDIES IN NEW YORK STATE [1970]

IN PROC OF SYMPOSIUM ON ENVIRON ASPECTS OF NUCLEAR POWER STATIONS, AUG 12, 1970. STOLLER ASSOC, NEW YORK, NY 13 PP

SEVERAL THERMAL EFFECTS STUDIES HAVE BEEN AND ARE PRESENTLY UNDERWAY TO DETERMINE WHAT THE EFFECTS OF THERMAL DISCHARGES ARE ON THE WATER ENVIRONMENT OF NEW YORK STATE. AT PRESENT, THE RESULTS ARE INCOMPLETE; BUT THEY DO YIELD ENOUGH INFORMATION TO ALLOW SOME INITIAL CONCLUSIONS. ON LAKE ONTARIO, THE GINNA AND NINE MILE POINT STUDIES SHOWED THAT FISH TENDED TO GATHER AROUND BOTH INTAKE AND DISCHARGE STRUCTURES, SLIGHTLY ALTERING THE LOCAL FISH AND BENTHIC DISTRIBUTIONS. ON LAKE CAYUGA, THE BELL NUCLEAR STATION HAS BEEN POSTPONED WITH NO IMMEDIATE PLANS FOR RESUMPTION. PHYSICAL EFFECTS STUDIES ON THE LAKE, IF THE BELL STATION PLANT WERE OPERATING, HAVE YIELDED A PROBABLE 0.7 F RISE IN THE AVERAGE SURFACE TEMPERATURE ALONG WITH AN EIGHT TO TEN DAY

LONGER STRATIFICATION PERIOD. MOREOVER, IN OCTOBER, WATER COULD POSSIBLY BE DRAWN FROM THE PILIMNION, INCREASING DISCHARGED WATER ANOTHER 5 F. HOWEVER, IF NEW YORK STATE DISCHARGE STANDARDS ARE ADHERED TO, NO ACUTE EFFECTS ARE ANTICIPATED EVEN CLOSE TO THE OUTFALL. ON THE HUDSON RIVER, ON THE OTHER HAND, INCREASED WATER TEMPERATURES AS HIGH AS 91 F DO NOT APPEAR TO INFLUENCE THE ABUNDANCE OF FISH.

1495 PHILLIPS, S.W.; L.H. WEISS; M.C. COLEN

THE DEVELOPMENT OF WATERBORNE ALCOHOL FUEL PLANTS. VOL 3: SUMMARY OF FINDINGS/PRESENTATION [1980]

NMRC. GALVESTON. TX 60 PP NTIS-PB81-105 561

THE CHARTER OF THE PROJECT WAS TO REVIEW ALCOHOL PRODUCTION PROCESSES AND FEEDBACK, STUDY THEIR APPLICATION TO FLOATING PLANT TECHNOLOGY AND PERFORM CASE STUDIES THAT WOULD SHOW THE NEAR TERM POTENTIAL FOR THESE TYPES OF PLANTS. THE FOUR CASE STUDIES DEALT WITH PRODUCTION OF METHANOL FROM NATURAL GAS IN COOK INLET, AK; METHANOL FROM NATURAL GAS IN BALTIMORE CANYON, ATLANTIC OCEAN; ETHANOL AND METHANOL FROM CODISPOSED REFUSE AND SLUDGE--LONG RANGE PLAN FOR NYC; ETHANOL FROM AGRICULTURAL FEEDSTOCK AND MEN, STATE OF LA. TWO PLANTS WERE USED IN DESIGN AND ECONOMIC STUDIES--1000 TPD METHANOL PLANT AND 250 TPD ETHANOL PLANT. THIS DOCUMENT PROVIDES HIGHLIGHTS OF THE FIRST TWO VOLUMES AND COPIES OF PRESENTATION MATERIAL.

1496 PHILLIPS, S.W.; L.H. WEISS; M.C. COLEN

THE DEVELOPMENT OF WATERBORNE ALCOHOL FUEL PLANTS. VOL 2: CASE STUDIES [1980]

NMRC, GALVESTON, TX 148 PP NTIS-PB81-105 553

THE CHARTER OF THE PROJECT WAS TO REVIEW ALCOHOL PRODUCTION PROCESSES AND FEEDSTOCK, STUDY THEIR APPLICATION TO FLOATING PLANT TECHNOLOGY AND PERFORM CASE STUDIES FHAT WOULD SHOW THE NEAR TERM POTENTIAL FOR THESE TYPES OF PLANTS. THE FOUR CASE STUDIES DEALT JITH PRODUCTION OF METHANOL FROM NATURAL GAS IN COOK INLET, AK; METHANOL FROM NATURAL GAS IN BALTIMORE CANYON, ATLANTIC OCEAN; ETHANOL AND METHANOL FROM CODISPOSED REFUSE AND SLUDGE--LONG RANGE PLAN FOR NYC; ETHANOL FROM AGRICULTURAL FEEDSTOCKS AND MSW. STATE OF LA. TWO PLANTS WERE USED IN DESIGN AND ECONOMIC STUDIES--1000 TPD METHANOL PLANT AND 250 TPD ETHANOL PLANT.

1497 PHILLIPS, S.W.; L.H. WEISS; M.C. COLEN

THE DEVELOPMENT OF WATERBORNE ALCOHOL FUEL PLANTS. VOL 1: FINAL REPORT [1980]

NMRC, GALVESTON, TX 167 PP NTIS-PB81-106 546

THE CHARTER OF THE PROJECT WAS TO REVIEW ALCOHOL PRODUCTION PROCESSES AND FEEDSTOCK, STUDY THEIR APPLICATION TO FLOATING PLANT TECHNOLOGY AND PERFORM CASE STUDIES THAT WOULD SHOW THE NEAR TERM POTENTIAL FOR THESE TYPES OF PLANTS. THE FOUR CASE STUDIES DEALT JITH PRODUCTION OF METHANOL FROM NATURAL GAS IN COOK INLET, AK; METHANOL FROM NATURAL GAS IN BALTIMORE CANYON, ATLANTIC OCEAN; ETHANOL AND METHANOL FROM CODISPOSED REFUSE AND SLUDGE--LONG RANGE PLAN FOR NYC; ETHANOL FROM AGRICULTURAL FEEDSTOCKS AND MSJ, STATE OF LA. TWO PLANTS WERE USED IN DESIGN AND ECONOMIC STUDIES--1000 TPD METHANOL PLANT AND 250 TPD ETHANOL PLANT.

1498 PHILPOT, W.; V. KLEMAS

DETECTION OF OCEAN WASTE IN THE NEW YORK BIGHT [1979]

NTIS. SPRINGFIELD, VA 43 PP NTIS-N79-21637

THE APPLICATION OF REMOTE SENSING TO DETECTION AND MONITORING OF OCEAN WASTE DISPUSAL IN THE NEW YORK BIGHT IS DISCUSSED.

ATTENTION IS FOCUSED ON THE TWO MAJOR POLLUTANTS IN THIS AREA--SEWAGE SLUDGE AND IRON-ACID WASTE--AND ON DETECTING AND IDENTIFYING THESE POLLUTANTS. THE EMPHASIS IS ON THE USE OF LANDSAT MULTISPECTRAL DATA IN IDENTIFYING THESE POLLUTANTS AND DISTINGUISHING THEM FROM OTHER SUBSTANCES. THE ANALYSIS TECHNIQUE APPLIED TO THE LANDSAT DATA IS THE EIGENVECTOR. THIS APPROACH PROVED TO BE QUITE SUCCESSFUL IN DETECTING IRON-ACID WASTE OFF THE COAST OF DELAWARE AND IS APPLIED HERE WITH RELATIVELY MINOR MODIFICATIONS. THE RESULTS OF THE NEW YORK BIGHT WORK ARE COMPARED TO THE DELAWARE RESULTS. FINALLY, OTHER REMOTE SENSING SYSTEMS (NIMBUS G, AIRCRAFT PHOTOGRAPHY AND MULTISPECTRAL SCANNER SYSTEMS) ARE DISCUSSED AS POSSIBLE COMPLEMENTS OF OR REPLACEMENTS FOR THE LANDSAT OBSERVATIONS.

1499 PHRANER. S.D.

WATERBORNE ACCESS TO RECREATION BY BARGE/TUGBOAT [1978]

PAGES 39-99 IN PROC, 2ND INTERNAT'L WATERBORNE TRANSPORTATION CONFERENCE, ASCE URBAN TRANSP DIV SPEC CONF, NEW YORK, OCT 1977.
ASCE. NEW YORK, NY

IN SPITE OF FORMIDABLE OBSTACLES, THE NOTION PERSISTS THAT ACCESS TO THE GATEWAY NATIONAL RECREATION AREA IN NEW YORK HARBOR BY WATER IS AN APPEALING, ATTRACTIVE ALTERNATIVE FOR THE FOLLOWING REASONS: ALL SIX OF THE GATEWAY UNITS ARE LOCATED ON LAND SPECIFICALLY, NAVIGABLE CHANNELS; FIVE OF THE UNITS ARE OR HAD ONCE BEEN SERVED BY WATER TRANSPORTATION FROM URBAN LOCATIONS SUCH AS HARLEM, LOWER MANHATTAN, JERSEY CITY, BROOKLYN AND NEWARK; A DEMONSTRATION WAS CONDUCTED DURING THE SUMMER OF 1976 WHICH CONFIRMED THE POPULARITY OF MATERBORNE ACCESS OF RECREATION; ALL UNITS OF GATEWAY ARE BASED ON WATERFRONT THEMES; PROPOSALS FOR ACCESS TO GATEWAY BY LAYD ROUTES HAVE PROVEN UNPOPULAR WITH THE COMMUNITIES THROUGH WHICH ACCESS IS FURNISHED. THE PAPER DISCUSSES AN INVESTIGATION OF THE FEASIBILITY OF APPLYING NEW TECHNOLOGY HIGH CAPACITY TUG BARGE COMBINATIONS TO PROVIDE MASS TRANSPORTATION TO WATERSIDE RECREATION FROM WATERSIDE CONCENTRATIONS OF POPULATION.

1500 PIERSON, G.; F.E. HAMPF

HARBOR DEBRIS CAN BE SALVAGED [1971]

FOREST PROD J 21(9):79-81

THROUGH TECHNICAL DEVELOPMENT OF METAL DETECTION, SAWING, AND CHIPPING EQUIPMENT, IT HAS BEEN DEMONSTRATED THAT A LARGE PART OF THE ESTIMATED 21 TO 29 MILLION CU FT OF WOOD DEBRIS PRESENT IN NEW YORK HARBOR CAN BE CONVERTED INTO LUMBER AND RELATED PRODUCTS. THE ARTICLE DESCRIBES THE OPERATIONS OF A SMALL SAWMILL CURRENTLY SALVAGING NEW YORK HARBOR DEBRIS.

1501 PLAGE. P.

UPLAND WILDLIFE HABITATS: UPLAND LIVING RESOURCES--A STAFF WORKING PAPER [1976]

OFFICE OF CZM, DTV OF MARINE SCIENCE, NJ DEP, TRENTON, NJ NP

WITHIN THE UPLANDS OF THE COASTAL ZONE COUNTIES (THOSE AREAS NOT DIRECTLY INFLUENCED BY TIDAL WATERS) EXISTS AN ABUNDANCE AND DIVERSITY OF WILDLIFE. THIS RESOURCE IS AN ASSET NOT ONLY TO HUNTERS, FISHERMEN, AND NATURE LOVERS, BUT ALSO IN TERMS OF AESTHETIC AND INTRINSIC ECOLOGICAL VALUES TO THE PEOPLE OF THE STATE. THIS REPORT DEALS WITH MAMMALS, BIRDS, REPTILES, AMPHIBIANS, AND FISH FOUND IN THE UPLAND SECTIONS OF THE NEW JERSEY COASTAL ZONE, AND PROBLEMS RELATED TO MAN'S DESTRUCTION OF WILDLIFE HABITAT AND USE OF THE WILDLIFE RESOURCE.

1502 PLUHOWSKI, E.J.

HYDROLOGIC INTERPRETATIONS BASED ON INFRARED IMAGERY OF LONG ISLAND, NEW YORK [1972]

WATER SUPPLY PAP 2009-B. USGS. HARTFORD. CT 20 PP

SIX REMOTE SENSING FLIGHTS OVER LONG ISLAND'S NORTH AND SOUTH SHORES WERE MADE DURING THE PERIOD 13 JUL 1967 TO 25 FEB 1970. IR
IMAGERY IN THE 8-14 MICRON RANGE WAS OBTAINED; RESULTS VARIED FROM POOR TO EXCELLENT IN QUALITY. THE ABILITY OF THE RS-7 AND
RECONDFAX-4 IMAGERS TO DISCERN THERMAL CONTRASTS OF AS LITTLE AS 1 TO 2 C PERMITTED IDENTIFICATION OF AREAS OF HEAVY
GROUNDWATER DISCHARGE. THESE AREAS WERE CONCENTRATED PRIMARILY ALONG THE ERODED HEADLANDS OF THE NORTH SHORE AND IN THE LOWER
REACHES OF WATER-COURSES DRAINING INTO THE GREAT SOUTH BAY. ONLY A FEW HIGHLY LOCALIZED EXAMPLES OF DIRECT GROUNDWATER
DISCHARGE INTO THE EMBAYMENTS ALONG LONG ISLAND'S SOUTH SHORE WERE DETECTED IN THE IMAGERY. THERMAL LOADING EMANATING FROM A
POWER PLANT NEAR OCEANSIDE IS SHOWN TO BE QUICKLY DISSIPATED IN MIDDLE BAY. SPECIFIC EXAMPLES SHOW THAT IR IMAGERY MAY ALSO BY
USED TO IDENTIFY SEWER OUTFALLS. OPTIMAL TIME FOR THE COLLECTION OF IR IMAGERY FOR HYDROLOGIC STUDIES ON LONG ISLAND IS IN
SUMMER AND IN WINTER, WHEN SURFACE WATER THERMAL DIFFERENCES ARE RELATIVELY LARGE.

1503 POJASEK, R.B.

METALS MOBILIZATION IN AQUATIC SYSTEMS [1975]

AM CHEY SOC DIV ENVIRON CHEM PREP 15(2):57-59

A REFINED DESCRIPTION MODELING APPROACH WAS DEVELOPED PREVIOUSLY BY THE AUTHOR TO DETERMINE TRACE METAL TRANSFORMATIONS AND TRANSPORT IN LACUSTRINE IMPOUNDMENT SYSTEMS. THIS WORK HAS SINCE BEEN APPLIED TO RIVERINE AND ESTUARINE SYSTEMS. THE ULTIMATE GOAL IS TO BE ABLE TO MAKE PREDICTIVE STATEMENTS AND RECOMMENDATIONS REGARDING PERTURBATIONS ON THE NATURAL CYCLING OF TRACE METALS. BROUGHT ABOUT BY POLLUTION. THIS MODELING TECHNIQUE INVOLVES THE USE OF A SIMPLE SYSTEMS APPROACH. THE AQUATIC STUDY DESIGN SHOULD INVOLVE THE FOLLOWING STEPS: SYSTEMS MONITORING, HYPOTHESES BASED ON PREVIOUS STUDIES, EXPERIMENTAL DESIGN, PHYSICAL AND CHEMICAL EXPERIMENTATION (LABORATORY AND IN SITU), STATISTICAL ANALYSIS, AND SYSTEMS MODELING. THE MODEL DEVELOPMENT IS DIVIDED INTO FIVE DISTINCT STUDY REGIONS IN MOST AQUATIC SYSTEMS: INPUT, OUTPUT, AIR/WATER INTERFACE, VERTICAL WATER COLUMN, AND WATER/SEDIMENT INTERFACE. THE CYCLING COMPARTMENTS WHICH NEED TO BE CONSIDERED ARE OUTLINED. USING THIS MODELING APPROACH ALL AQUATIC SYSTEMS ARE TREATED AS NATURAL SYSTEMS FOR A FIRST APPROXIMATION IN MANY INSTANCES, A NUMBER OF PERTURBATIONS MUST BE APPLIED TO THE NATURAL MODEL TO MAKE IT CORRESPOND TO THE REAL SYSTEM. SOME COMMONLY ENCOUNTERED PERTURBATIONS INCLUDE POLLUTIONAL LOADS, SALINITY INTRUSION AND THERMAL ÉNRICHMENT OF THE WATER. THE HUDSON RIVER AND THE QUABBLY RESERVOIR ARE USED AS EXAMPLES FOR DEMONSTRATING THE USE OF THE MODEL.

1504 POLCYN, F.C.; D.K. CLARK; J.B. ZAITZEFF

MAPPING DIURNAL VARIATIONS IN CHLOROPHYLL "A", TRANSPARENCY, AND SURFACE TEMPERATURES IN THE NEW YORK BIGHT [1977]

IN PROC, 11TH INTERNAT'L SYMP ON REMOTE SENSING OF ENVIRONMENT, ANN ARBOR, MI, 25-29 APR 1977, VOLS 1 AND 2. ENVIRONMENTAL RESEARCH INST OF MI, ANN ARBOR, MI

AN AIRCRAFT MULTISPECTRAL IMAGING SENSOR WAS USED TO MAP SEVERAL WATER PARAMETERS IN THE NEW YORK BIGHT DURING DIFFERENT TIMES OF THE DIURNAL TIDAL CYCLE. BY A SUITABLE OPERATION ON 2 CHANNELS OF SPECTRAL DATA, IN THE VISIBLE REGION, BOTH TRANSPARENCY AND CHLOROPHYLL A VARIATIONS CAN BE QUANTITATIVELY MAPPED. SURFACE CHLOROPHYLL A VARIATIONS BETWEEN 1 AND 30 MG/M3 WERE SUCCESSFULLY MAPPED AS VERIFIED BY INDEPENDENT SHIP MEASUREMENTS. REMOTELY SENSED TRANSPARENCY MEASUREMENTS WITHIN THE BIGHT WERE REFERENCED TO SECCHI DISK DEPTHS ON THE BASIS OF CONTROL STATIONS. SINCE THE MULTISPECTRAL SCANNER CONTAINS DATA IN THE VISIBLE, NEAR IR, AND THERMAL IR IN COMPLETE REGISTRATION SURFACE TEMPERATURES WERE ALSO AVAILABLE FROM THE SAME DATA SET. EIGHT PASSES AT 10,000 FT WERE FLOWN IN RADIAL LINES TO COVER THE NEW YORK BIGHT AREA AT TIMES CORRESPONDING TO AN INCOMING TIDE AND OUTGOING TIDE. COMPLEX CIRCULATION PATTERNS IN THE DISTRIBUTIONS WERE EASILY RECOGNIZED. DYE DROPS WERE ALSO MAPPED TO SUPPORT SHIP MEASUREMENTS AND MODEL PREDICTIONS OF CIRCULATION. LARGE AREA DEMONSTRATION OF THE MULTIPLE PARAMETER MAPPING WITH MULTISPECTRAL IMAGERS FORETELL THE POTENTIAL OF SIMILAR SATELLITE SENSORS FOR MONITORING LARGE COASTAL CIRCULATION SYSTEMS AND UNDERSTANDING EFFECTS OF LOCAL DISCHARGES ON ENVIRONMENTAL HUBLITY IN NEIGHBORING COASTAL ZONES.

1505 PONTECORVO. G.: M. WILKINSON; R. ANDERSON: M. HOLDOWSKY

CONTRIBUTION OF THE OCEAN SECTOR TO THE UNITED STATES ECONOMY [1980]

SCIENCE 208(4447):1000-1006

THE OCEAN IS PLAYING AN EVER GREATER ROLE IN THE US ECONOMY. TODAY, THE CONTRIBUTION OF THE OCEAN SECTOR TO THE GNP IS COMPARABLE TO THAT OF SUCH SECTORS AS AGRICULTURE, MINING, CONSTRUCTION, AND TRANSPORTATION. IN THIS STUDY, THE AUTHORS FOCUSED ON SOME OF THE PROSPECTS AND PROBLEMS OF THIS NEW "SECTOR." GOVERNMENT REGULATION IS GROWING, AND OCEAN INDUSTRIES ARE NO EXCEPTION.—IN FACT, GOVERNMENT ACTUALLY COMPRISES 1/3 OF THE OCEAN SECTOR. YET THE NATIONAL INCOME ACCOUNTING SYSTEM (NIAS), WHICH CALCULATES OUR GNP, HAS ALWAYS WORKED UNDER THE ASSUMPTION THAT THE PRIVATE SECTOR ONLY IS PRODUCTIVE. HOW IS THE EFFECT OF GOVERNMENT PARTICIPATION ON OCEAN INDUSTRIES TO BE MEASURED WITHIN THIS FRAMEWORK? THE AUTHORS ALSO POINT OUT THAT THE OCEAN SECTOR IS THE FIRST TO BE DEFINED ON A GEOGRAPHICAL RATHER THAN PRODUCTIVE BASIS. THE ENTIRE ACCOUNTING SYSTEM OF THE NIAS, HOWEVER, IS ORIENTED TOWARD PRODUCTION AND NOT GEOGRAPHY. CAN THE ROLE OF A PORT AUTHORITY OR THE CONTRIBUTION OF TOURISM BE MEASURED IN TRADITIONAL, PRODUCTION—ORIENTED TERMS? THESE AND MANY OTHER ISSUES RELATING TO THE OCEAN SECTOR RECEIVE A DETAILED EXAMINATION IN THIS STUDY. THE AIM IS TO "SUGGEST A BASIS ON WHICH RESEARCH AND POLICY PRIORITIES MAY BE ESTABLISHED."

1506 POPPE, C.J.

EZRA SENSIBAR COMPLETES MAJOR SAND FILL PROJECTS [1976]

WORLD DREDGING MAR CONSTR 12(6):27-29

THIS ARTICLE DISCUSSES THE COMPLETION OF PROCUREMENT, CLASSIFICATION, TRANSPORTATION, AND PLACEMENT OF SPECIFICATION FILL SAND IN LAST 5 YRS. IT ALSO DISCUSSES THE DREDGE-BARGE OPERATION.

1507 PORE, N.A.

MARINE CONDITIONS AND AUTOMATED FORECASTS FOR THE ATLANTIC COASTAL STORM OF FEBRUARY 18-20. 1972 [1973]

M WEATHER REV 101 (4):363-370

THE STORM SURGE AND OCEAN WAVES ASSOCIATED WITH THE ATLANTIC COASTAL STORM OF FEB 18-20, 1972, CAUSED EXTENSIVE DAMAGE ALONG BEACHES OF LONG ISLAND AND NEW ENGLAND. METEOROLOGICAL CONDITIONS OF THE STORM, ALONG WITH RESULTING TIDES, SURGES, AND WAVES, ARE DESCRIBED. COMPARISON IS MADE WITH FORECASTS OF THE STORM PRODUCED BY THE PRIMITIVE-EQUATION MODEL OF THE NATI) NAL METEOROLOGICAL CENTER, AS WELL AS WITH AUJONATED FORECASTS OF STORM SURGE AND WAVE HEIGHT. IT IS CONCLUDED THAT THE METEOROLOGICAL FORECASTS AND THE RESULTING STORM SURGE AND WAVE FORECASTS WERE QUITE GOOD.

1508 PORE, N.A.; C.S. BARRIENTOS

STORM SURGE [1976]

MESA NEW YORK BIGHT ATLAS MUNOGRAPH 6. NYSG, ALBANY, NY 44 PP NTIS-PB-253 137

STORM SURGES, WHICH ARE DEPARTURES OF SEA LEVEL FROM NORMAL, ARE OF GREAT CONCERN IN THE NEW YORK BIGHT AREA WHENEVER HURRICANES OR EXTRATROPICAL STORMS APPROACH OR CROSS THE COASTLINE. DURING SUCH STORMS, SEA LEVEL CAN INCREASE TO MORE THAN 10 FEET (3.1 M) ABOVE NORMAL. ESPECIALLY DAMAGING TO THE BIGHT REGION WERE THE HURRICANES OF SEPT 1938 AND SEPT 1960 AND THE EXTRAIROPICAL STORMS OF NOV 1950 AND MAR 1962. FACTORS SIGNIFICANT IN STORM SURGE GENERATION ARE DIRECT WIND, ATMOSPHERIC PRESSURE, WATER TRANSPORT BY WAVES, THE EARTH'S ROTATION, RAINFALL, AND COASTAL CONFIGURATION. KNOWLEDGE OF THE FREQUENCY AND INTENSITY OF COASTAL STORMS LIKELY TO OCCUR IS IMPORTANT FOR PROTECTING HUMAN LIFE AND PROPERTY. THE NATIONAL WEATHER SERVICE

HAS DEVELOPED A NUMERICAL MODEL FOR FORECASTING HURRICANE STORM SURGES AND A STATISTICAL MODEL FOR FORECASTING EXTRATROPICAL STORM SURGES.

1509 POSCH. A.G.

NATIONAL DAM SAFETY PROGRAM. MILLHURST LAKE DAM, (NJ00296), RARITAN RIVER BASIN, MANALAPAN BROOK, MONMOUTH COUNTY, NJ. PHASE 1 INSPECTION REPORT [1979]

NJ DEP, TRENTON, NJ 95 PP NTIS-AD-AD73 995

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

1510 POSCH, A.G.

NATIONAL DAM SAFETY PROGRAM. LAKE TOPANEMUS DAM (NJOO219), RARITAN RIVER BASIN, MCGELLAIRDS BROOK, MONMOUTH COUNTY, NJ. PHASE I INSPECTION REPORT [1979]

NJ DEP. TRENTON, NJ 90 PP NTIS-AD-A074 025

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

1511 POSEY, C.A.

WHAT LIES AHEAD? THE NEW YORK BIGHT: NATURE UNDER STRESS [1975]

NOAA MAGAZINE 5(3):3PP

THIS IS AN OVERVIEW OF MESA PROJECT AND STUDIES ON NEW YORK BIGHT WATER CIRCULATION AND RIVER DISCHARGES. THERE HAS BEEN NO MAJOR BUILDUP OF SEWAGE SLUDGE AT THE DUMPSITE BEYOND AMBROSE LIGHT. AT THE DREDGE SPOIL DUMPSITE A 30 FT MOUND HAS ACCUMULATED WITHIN ONE GENERATION. UNCERTAINTY WITH DETERMINING PRESENCE AND SOURCE OF SEWAGE SLUDGE IN BIGHT SAMPLES IS DISCUSSED.

1512 POSMENTIER, E.S.; J.W. RACHLIN

DISTRIBUTION OF SALINITY AND TEMPERATURE IN THE HUDSON ESTUARY [1976]

J PHYS OCEANOG 6(5):775-777

VERTICAL SALINITY PROFILES IN THE HUDSON ESTUARY ARE EXTREMELY VARIABLE AND OFTEN CONTAIN FINE STRUCTURE SIMILAR TO THAT IN OCEANIC STRATIFICATION. THIS FINE STRUCTURE MAY BE CAUSED BY THE STABILITY-DEPENDENT VERTICAL DIFFUSION OF SALT. THE INTERPRETATION OF T-S DIAGRAMS INDICATED THAT, TO A FIRST ORDER, TEMPERATURE AND SALINITY ARE CONTROLLED BY CONSERVATIVE MIXING PROCESSES AND THAT RESIDENCE TIME IN THE ESTUARY IS APPROXIMATELY ONE OR TWO WEEKS.

1513 POSMENTIER, E.S.

GENERATION OF SALINITY FINE STRUCTURE BY VERTICAL DIFFUSION [1977]

J PHYS OCEANOG 7(2):298-300

THE NONLINEAR DIFFERENTIAL EQUATION FOR THE VERTICAL DIFFUSION OF SALT (OR HEAT) HAS INITIALLY UNSTABLE SOLUTIONS UNDER CONDITIONS OF HIGH GRAVITATIONAL STABILITY. THESE SOLUTIONS STABILIZE AS THEY APPROACH ALTERNATING LAYERS OF HIGH AND LOW SALINITY GRADIENT. A NUMERICALLY COMPUTED EXAMPLE OF THIS PHENOMENON RESEMBLES SALINITY FINE STRUCTURE OBSERVED IN THE HUDSON ESTUARY. HOWEVER, SIMILAR COMPUTATIONS MAY RESULT IN THE GENERATION OF MATHEMATICALLY ARTIFICIAL FINE STRUCTURE IF THE DIFFUSION COEFFICIENT IS NOT ADEQUATELY SMOOTHED OR IF UNREALISTIC INITIAL CONDITIONS ARE USED.

1514 POSMENTIER. E.S.; R.W. HOUGHTON

FINE STRUCTURE INSTABILITIES INDUCED BY DOUBLE DIFFUSION IN THE SHELF/SLOPE WATER FRONT [1978]

J GEOPHYS RES 83(10):5135-5138

INTERVALS OF NEGATIVE STABILITY WERE OBSERVED WHICH APPEAR AS PART OF DISTINCT LOOPS IN THE T-S DIAGRAM OF CTD HYDROGRAPHIC STATIONS NEAR THE SHELF BREAK IN THE JEW YORK BIGHT. THESE FEATURES OCCUR WITHIN THE SHELF BREAK FRONTAL ZONE, WHICH IS ASSOCIATED WITH ACTIVE INTERWEAVING BETWEEN WARM, SALTY SLOPE WATER AND COOLER, FRESHER SHELF WATER. DOUBLE-DIFFUSIVE MIXING WAS PROPOSED AS THE MECHANISM RESPONSIBLE FOR THE OBSERVED T-S CORRELATIONS.

1515 POSMENTIER, E.S.; J.H. RAYMONT

VARIATIONS OF LONGITUDINAL DIFFUSIVITY IN THE HUDSON ESTUARY [1979]

ESTUARINE COASTAL MAP SCI 8(6):555-554

THE COEFFICIENT OF LONGITUDINAL DIFFUSION FOR SALT HAS BEEN CALCULATED FROM THE DISTRIBUTION OF SALINITY OBSERVED IN THE HUDSON ESTUARY AT 9 DIFFERENT TIMES DURING 1974. THE SALINITY DISTRIBUTION APPEARS TO BE QUASI-STEADY-STATE, AND THE DIFFUSION COEFFICIENT IS SPATIALLY CONSTANT BETHER THE UPPER BAY AND VERPLANCK. THE DIFFUSION COEFFICIENT VARIED IN TIME BY A FACTOR OF THREE. IT WAS NOT WELL CORRELATED WITH THE STRATIFICATION PARAMETER. IT WAS SLIGHTLY LESS DEPENDENT ON THE FRESHWATER DISCHARGE IN THE ESTUARY THAN ON THE TIDAL AMPLITUDE, WHICH VARIED BY A FACTOR OF NEARLY TWO BETWEEN SPRING AND NEAP TIDES. SALINITIES PREDICTED BY A MODEL ARE SLIGHTLY LESS ACCURATE IF THE DIFFUSION COEFFICIENT DEPENDS ON THE STRATIFICATION PARAMETER, THAN IF THE DIFFUSION COEFFICIENT IS A POWER FUNCTION OF BOTH FRESH WATER DISCHARGE AND TIDAL AMPLITUDE, SALINITY PREDICTIONS ARE SIGNIFICANTLY IMPROVED. THESE RESULTS SUGGEST THAT DENSITY-INDUCED, GRAVITATIONAL, VERTICAL CIRCULATION DOES NOT DOMINATE THE LONGITUDINAL DIFFUSION OF SALT IN THE HUDSON ESTUARY. TRANSVERSE CIRCULATION MAY BE AT LEAST AS SIGNIFICANT A SALT TRANSPORT MECHANISM AS VERTICAL CIRCULATION. THE PREDICTIVE RELIABILITY OF A ONE-DIMENSIONAL, ADVECTIVE-DIFFUSIVE MODEL OF THE SALINITY DISTRIBUTION IN THE HUDSON ESTUARY DEPENDS ON A REALISTIC, VARIABLE COEFFICIENT OF LONGITUDINAL DIFFUSION FOR SALT. FURTHERMORE, SUCH A MODEL CANNOT USE THE SAME COEFFICIENT TO PREDICT THE DISTRIBUTION OF OTHER PROPERTIES UNLESS THE COMBINATION OF TRANSPORT MECHANISMS FOR THESE OTHER PROPERTIES IS THE SAME AS THAT FOR SALT.

1516 POWELL, M.D.; S. SETHURAMAN

SEA SURFACE TEMPERATURES NEAR A BAY INLET ZONE [1979].

J GEOPHYS RES 84(11):7012-7016

RESULTS OF AN INVESTIGATION OF THE RADIOMETRIC SEA SURFACE TEMPERATURE DISTRIBUTION NEAR SHINNECOCK INLET OFF LONG ISLAND ARE

PRESENTED. THE DATA WERE GATHERED BY 10 INDIVIDUAL AIRCRAFT FLIGHTS DURING THE SUMMER OF 1975. INFLOW INTO OR OUTFLOW FROM THE INLET COULD BE EASILY IDENTIFIED WITH SEA SURFACE TEMPERATURE MEASUREMENTS.

1517 POWERS, C.D.; R.G. ROWLAND; C.F. WURSTER

DIALYSIS MEMBRANE CHAMBERS AS A DEVICE FOR EVALUATING IMPACTS OF POLLUTANTS ON PLANKTON UNDER NATURAL CONDITIONS [1976]

WATER RES 10:991-994

GROWTH RATES OF A MARINE DINOFLAGELLAIE, TREATED WITH DDE AT 1,5 OR 10 PARTS PER THOUSAND MILLION AND CULTURED IN DIALYSIS MEMBRANE BAGS SUSPENDED IN THE TIDAL CHANNEL OF AN ESTUARINE MARSH, WERE COMPARED WITH GROWTH RATES OF UNTREATED ORGANISMS CULTURED UNDER THE SAME CONDITIONS OR AS LABORATORY (BATCH) CULTURES IN NATURAL WATER OR NUTRIENT-ENRICHED ARTIFICIAL SEAWATER. DDE-TREATED CELLS WERE INHIBITED (RELATIVE TO CONTROLS) FOR 2-4 DAYS, CONSISTENT WITH PREVIOUS LABORATORY TESTS WHICH REVEALED THE HIGH SENSITIVITY OF THIS ORGANISM TO LOW CONCENTRATIONS OF DDE. UNTREATED CELLS &N DIALYSIS BAGS IN THE ESTUARY GREW AT A FASTER RATE AFTER THE FIRST FEW HOURS THAN EITHER TYPE OF BATCH CULTURE, AND YIELDED A HIGHER FINAL CELL DENSITY THAN LABORATORY CULTURES UTILIZING THE SAME NATURAL WATER.

1518 POWERS, C.D.; R.G. ROWLAND; H.B. O'CONNORS, JR.; C.F. WURSTER

RESPONSE TO POLYCHLORINATED BIPHENYLS OF MARINE PHYTOPLANKTON ISOLATES CULTURED UNDER NATURAL CONDITIONS [1977]

APPL ENVIRON MICROBIOL 34(6):760-764

POLYCHLORINATED BIPHENYLS AT A CONCENTRATION OF 10 MICROG/L SUBSTANTIALLY BUT TEMPORARILY SUPPRESSED THE GROWTH RATE AND PHOTOSYNTHESIS OF 2 SPECIES OF THALASSIOSIRA RECENTLY ISOLATED FROM LONG ISLAND SOUND AND GROWN IN DIALYSIS MEMBRANE BAGS SUSPENDED IN THE TIDAL CHANNEL OF AN ESTUARINE MARSH. INHIBITION OF CARBON FIXATION WAS APPARENTLY DUE TO REDUCED LEVELS OF CHLOROPHYLL A PER PCR-TREATED CELL, BUT NO SIGNIFICANT LOSS OF FUNCTION PER UNIT OF EXISTING CHLOROPHYLL A WAS OBSERVED. CELL CONCENTRATIONS IN ALL SIZE CLASSES (3.2-18.6 MICRONS EQUIVALENT SPHERICAL DIAMETER) WERE MARKEDLY LOWER IN PCB-TREATED CULTURES. WITH TOTAL BIOMASS EQUALING ONLY 30% OF THAT IN CONTROL CULTURES THROUGHOUT THE EXPERIMENT.

1519 POWERS, C.D.; C.F. WURSTER; R.G. ROWLAND

DDE INHIBITION OF MARINE ALGAL CELL DIVISION AND PHOTOSYNTHESIS PER CELL [1979]

PEST 610CH 13:306-312

ORGANOCHLORINE COMPOUNDS SUCH AS DDT MAY BE HARMFUL TO THE MARINE ENVIRONMENT. THEY ARE KNOWN TO SUPPRESS THE GROWTH OF ALGAL CELLS BUT THEIR EFFECT ON PHOTOSYNTHESIS OF THESE CELLS IS MORE CONTROVERSIAL. THE AUTHORS POINT OUT IN THE INTRODUCTION TO THIS STUDY THAT WHEREAS DDT HAS BEEN FOUND BY SOME RESEARCHERS TO INHIBIT ALGAL PHOTOSYNTHESIS, OTHER RESEARCHERS CLAIM THAT THIS EFFECT IS DUE ONLY TO THE REDUCTION IN PHOTOSYNTHESIZING CELLS. TO INVESTIGATE THIS QUESTION, THE AUTHORS EXPOSED THE MARINE ALGA EXUVIELLA BALTICA TO A CONCENTRATION OF DDE, THE MAJOR METABOLITE OF DDT. IN A DEPARTURE FROM PREVIOUS RESEARCH, THE CELLS WERE EXPOSED TO THE POLLUTANT FOR LIMITED PERIODS AND THEN INCUBATED IN A NONTOXIC ENVIRONMENT FOR SEVERAL DAYS.—A PROCEDURE THAT MORE CLOSELY APPROXIMATES ACTUAL, INTERMITTENT EXPOSURES IN NATURE. THE CELLS GROWTH AND PHOTOSYNTHESIS AFTER REMOVAL FROM THE DDE CONCENTRATION WERE CLOSELY MONITORED. A VERY DEFINITE CONCLUSION WAS REACHED: BOTH GROWTH AND PHOTOSYNTHESIS WERE INHIBITED BY DDE. A CAREFULLY DETAILED PRESENTATION OF METHODS AND DATA REVEALS HOW THE AUTHORS ARRIVED AT THIS RESULT.

1520 POWERS, C.F.; E.E. DEUBLER, JR.; R.H. BACKUS

THE TRANSPARENCY BY BLACK AND WHITE SECCHI DISC OF THE WATERS OF NEW YORK AND NEWPORT BIGHTS; CRUISE STIRNI I. JULY-SEPTEMBER 1951 [1952]

ONR, ARLINGTON, VA 12 PP NTIS-AD-494 920

THIS REPORT INCLUDES TRANSPARENCY DATA OVER BLACK AS WELL AS WHITE SECCHI DISCS AND GIVES COVERAGE FOR THE WATERS OF THE NEW YORK BIGHT AND NEWPORT BIGHT AREAS. THESE DATA WERE GATHERED DURING THE COURSE OF CRUISE STIRNI I, JUL-SEPT 1951. TRANSPARENCY IN FEET WAS OBSERVED OVER BLACK AND WHITE SECCHI DISCS AT EACH OF 228 STATIONS DISTRIBUTED THROUGHOUT THE AREA.

1521 PRELL, W.J.; D. HILL; W. MCILROY; S.G. O'CONNOR

SUITABILITY OF AN AREA IN THE NEW YORK BIGHT FOR OFFSHORE NUCLEAR POWER PLANT SITING [1975]

PROC, IEEE CONFERENCE ON ENG IN THE OCEAN ENVIRON AND MAR TECHNOL SOC, 11TH ANN MEET, SAN DIEGO, CA, SEP 22-25, 1975. IEEE, NEW YORK, NY NP

AN EVALUATION IS MADE OF THE MARINE ENVIRONMENTAL CONSIDERATIONS AFFECTING THE SITING OF OFFSHORE NUCLEAR POWER FACILITIES IN AN 800 SQ MI AREA.

1522 PRIANO, M.P., JR.

DISTRIBUTION AND NUMERICAL TAXONOMY OF HETEROTROPHIC BACTERIA IN THE NEW YORK BIGHT, APRIL AND AUGUST, 1971 [1972]

M.S. THESIS. ADELPHI UNIV, GARDEN CITY, NY 70 PP

HETEROTROPHIC BACTERIA'S MOST SIGNIFICANT ROLE IN ANY ECOSYSTEM IS MINERALIZATION. OR THE CONVERSION OF ORGANIC MATTER TO THE INORGANIC STATE. THE ACCUMULATION OF ORGANIC WASTES AND ENTERIC BACTERIA IN THE WATER COLUMN IN THE BIGHT MIGHT BE DUE TO CHANGES IN BIOCHEMICAL AND MINERALIZATION ACTIVITIES DUE TO CHANGES IN AEROBIC HETEROTROPH POPULATION. NUMERICAL TAKONOMY WAS USED TO SHOW THE DISTRIBUTION OF AEROBIC HETEROTROPHS IN THE NY BIGHT. THE DATA OBTAINED IS INTENDED TO ADD TO THE INFORMATION OF THE BIGHT AND IS TOO LIMITED IN SCOPE TO SHOW CHANGES IN THE BIGHT'S MICRO-ECOLOGY.

1523 PRILL, R.C.; E.T. OAKSFORD; J.E. POTORTI

A FACILITY DESIGNED TO MONITOR THE UNSATURATED ZONE DURING INFILTRATION OF TERTIARY-TREATED SEWAGE, LONG ISLAND, NEW YORK [1979]

USGS, ILBANY, NY 14 PP

A FACILITY CONSISTING OF A CIRCULAR RECHARGE BASIN 6.10 M IN DIAMETER WITH A CENTRAL OBSERVATION MANHOLE WAS DEVELOPED ON LONG ISLAND TO STUDY THE ROLE OF THE UNSATURATED ZONE DURING AQUIFER RECHARGE WITH TERTIARY-TREATED SEMAGE. THE MANHOLE EXTENDS THROUGH MOST OF THE 7.5 M THICK UNSATURATED ZONE, WHICH IS COMPOSED OF GLACIAL OUTWASH SAND AND GRAVEL, AND ENABLES COLLECTION OF WATER SAMPLES AND MONITORING OF DYNAMIC CHARACTERISTICS OF THE UNSATURATED ZONE DURING RECHARGE EXPERIMENTS. THE SYSTEM CONTAINS INSTRUMENTATION FOR MONITORING INFILTRATION RATE, PRESSURE-HEAD DISTRIBUTION, SOIL-MOISTURE CONTENT, GROUNDWATER LEVELS, AND SOIL GASES. THE 24.55 SQ 4 RECHARGE BASIN HAS OPERATED IN ALL SEASONS INTERMITTENTLY SINCE APR 1975 AND, AS OF APR 1978, HAS TRANSMITTED 62 MILLION LITERS OF TERTIARY-TREATED EFFLUENT TO THE WATER-TABLE AQUIFER. OVERALL PERFORMANCE OF THE FACILITY INDICATED THAT IT IS SUITABLY DESIGNED FOR MONITORING THE UNSATURATED ZONE DURING ARTIFICIAL RECHARGE EXPERIMENTS.

1524 PRINGLE, L.

THE UPPER HUDSON WHITEWATER OR WASHWATER [1971]

AUDUBON 73(2):88-100

INCREASED WATER DEMANDS BY NYC HAVE SPAWNED THE IDEA OF CONSTRUCTING A DAM ON THE UPPER HUDSON RIVER. CONSERVATIONISTS HAVE STUDIED THE PROBABLY EFFECTS ON THE ADIRONDACK FOREST PRESERVE. THESE EFFECTS INCLUDE DESTRUCTION OF UNBROKEN FORESTS AS WELL AS THE HABITAT OF MANY ADIRONDACK ANIMALS. ALSO DESTROYED WOULD BE SCORES OF RAPIDS, WHICH PROVIDE WHITEWATER CANOEING FOR PEOPLE IN THE NORTHEAST. ALTERNATIVES TO THE DAM CONSTRUCTION INVOLVE BETTER USE AND REUSE OF NY'S EXISTING WATER SUPPLIES. METERING AND REVISION OF FREE SCHEDULES WHICH FAVOR HEAVY USERS WOULD HELP REDUCE DEMAND ON SUCH SUPPLIES. IN ADDITION, MILLIONS OF GALLONS OF WATER COULD BE SAVED BY ELIMINATING WASTES IN PLUMBING FACILITIES. WHILE CONSERVATIONISTS ARGUE FOR RECYCLING OF WATER, SOME WATER ENGINEERS CONTEND THAT PRESENT FACILITIES ARE INADEQUATE TO REMOVE SOME VIRUSES AND OTHER PATHOGENS. DESALINATION PLANTS ARE ANOTHER ALTERNATIVE, BUT THE LARGEST PLANT IN OPERATION, LOCATED IN KEY WEST, FL. PRODUCES 2.6 MILLION GALLONS OF FRESH WATER/DAY, COMPARED WITH NY'S APPROXIMATE CONSUMPTION OF OVER 2 BILLION GALLONS/DAY.

1525 PROBSI. B. (EDITOR)

THE NEW YORK CITY WATERFRONT: COMPREHENSIVE PLANNING WORKSHOP [1974]

NYC PLANNING COMMISSION. NEW YORK, NY 159 PP

THIS PAPER DISCUSSES THE MANY USES OF CITY WATERFRONT: ECONOMIC, HOUSING, RECREATION, TRANSPORTATION, USES BY INSTITUTIONS SUCH AS MEDICAL FACILITIES, EDUCATIONAL PROGRAMS, POLICE AND FIRE DEPARTMENTS, MILITARY TERMINALS AND FORTS.

1526 PRONI, J.R.; F.C. NEWMAN; R.L. SELLERS; C.A. PARKER

ACOUSTIC TRACKING OF OCEAN-DUMPED SEWAGE SLUDGE [1976]

SCIENCE 193(4257):1005-1007

WITH A MODIFIED 200-KHZ ACOUSTIC ECHO SOUNDER. IT HAS BEEN POSSIBLE TO DETECT AND MAP SEWAGE DUMPED INTO THE OCEAN OVER SEVERAL HOURS. THE THREE-DIMENSIONAL DISTRIBUTION OF SUSPENDED MATERIAL AND ITS RATE OF DIFFUSION ARE INDICATED AFTER DIGITAL PROCESSING OF THE DATA.

1527 PRONT, J.R.; J.R. APEL; H.M. BYRNE; R.L. SELLERS; F.C. NEWMAN

OCEANIC INTERNAL WAVES FROM SHIP, AIRCRAFT, AND SPACECRAFT: A REPORT ON THE NEW YORK-TO-BERMUDA REMOTE SENSING EXPERIMENT [1978]

NOAA, SEATTLE, WA 151 PP NTIS-AD-AOS7 372

THE OCEAN REMOTE SENSING LABORATORY (ORSL) HAS BEEN STUDYING INTERNAL WAVES USING REMOTE SENSING TECHNIQUES EMPLOYING THREE DIFFERENT TYPES OF OBSERVATIONAL PLATFORMS: SHIPS, AIRCRAFT, AND SPACECRAFT. INTERNAL WAVES AND THEIR MANIFESTATIONS HAVE BEEN OBSERVED USING THE FOLLOWING TECHNIQUES: SATELLITE MULTISPECTRAL SCANNING IMAGERS (PRINCIPALLY IN THE VISIBLE AND NEAR-INFRARED); RADAR-BOTH COHERENT IMAGING RADAR AND STANDARD METEOROLOGICAL RADAR (ALL FROM AIRCRAFT); HAND-HELD VISIBLE PHOTOGRAPHY (FROM SPACECRAFT, AIRCRAFT, AND SHIP); SHIP-TOWED THERMISTORS: AND STD AND XBT CASTS.

1528 PRONI, J.R.

ACOUSTICAL OBSERVATIONS OF OCEANIC BOITOM BOUNDARY LAYER PARTICULATES [1979]

ACOUS SOC J 66(SUPPL):558 ABS ONLY

STUDIES HAVE BEEN CARRIED OUT ON THE OCEANIC BOTTOM BOUNDARY LAYER USING 20kHz and 3 MHz Sound Systems. Data will be presented on the generation of a suspended layer of sediment, essentially confined within the bottom boundary layer, by nonlinear internal wave groups on the ny continental shelf in 120 m of water. Data will also be presented on the existence of a large underwater "cloud" of material found on the continental slope (water depth typically 600-300 m) which has been observed consistently over the last several years and which is highly acoustically reflective. Some data from 2 high resolution (approx 1 cm) 3 mHz-acoustical system on particulate concentration estimation will be presented.

1529 PROVASOLI. L.

RELATIONSHIPS BETWEEN MARINE ORGANISMS [1974]

NY ACAD SCI ANN 250:136

THIS PAPER DISCUSSES CHEMICAL INTERACTIONS BETWEEN SPECIES. ALGAL BLOOMS PRECONDITION WATERS AND ENRICH THEM WITH VITAMINS IT CAN SYNTHESIZE. PHYTOPLANKTERS PRODUCE AND RELEASE A PROTEIN THAT BINDS VITAMIN B 12 MAKING IT AVAILABLE. SEVERAL SEAWEED SPECIES LOSE THEIR NORMAL MORPHOLOGY WHEN GROWN UNDER BACTERIA-FREE CONDITIONS BUT ACQUIRE NORMAL ORGANIZATION IF GROWN SYMBIOTICALLY WITH SINGLE SPECIES-SPECIFIC BACTERIA, OR WITH A VARIETY OF BACTERIAL FLORA.

1530 PSUTY, N.P.; K.F. NORDSTROM; R.W. HASTINGS; S. BONSALL

DREDGED SPOIL DISPOSAL ON THE NEW JERSEY WETLANDS: THE PROBLEM OF ENVIRONMENTAL IMPACT ASSESSMENT [1974]

SHORE BEACH 42(1):25-30

THE ADVANTAGES AND DISADVANTAGES OF MAINTENANCE DREDGING ALONG PARTS OF THE NJ INTRACOASTAL WATERWAY ARE CONTRASTED AND DISCUSSED. CONTINUED MAINTENANCE DREDGING CANNOT BE ACCOMPLISHED WITHOUT SOME ENVIRONMENTAL DESTRUCTION. THE MAJOR ENVIRONMENTAL PROBLEMS ARE ASSOCIATED WITH THE DISPOSAL OF DREDGED SPOIL, THE DESTRUCTION OF BENTHIC ORGANISMS CAUGHT IN THE DREDGING OPERATION, CHANGES IN THE QUALITY OF WATER AND BOTTOM SEDIMENTS, AND THE BURIAL OF ORGANISMS BY DUMPING OF DREDGED SPOIL. CONTINUED DREDGING PRACTICES SHOULD BE BASED ON A RESTRUCTURED COST-BENEFIT RATIO. RECREATION, COMMERCIAL, AND ENVIRONMENTAL VARIABLES ALSO SHOULD BE CONSIDERED. ALTERNATIVES TO DREDGE SPOIL DISPOSAL ON THE MARSH INCLUDE CREATION OF TIDAL MARSHLANDS, DEVELOPMENT OF SHOALS FOR SHELLFISH, BEACH NOURISHMENT, AND AN IMPROVEMENT OF THE SANDY SOILS OF THE ADJACENT COASTAL UPLANDS. RECOMMENDED STUDIES INCLUDE ANALYSES OF THE LONG-TERM EFFECTS OF SUBAQUEOUS DISPOSAL ON BENTHIC ORGANISMS; THE RECOLONIZATION AND SUCCESSION OF SPOIL AREAS FOLLOWING SUBAERIAL DUMPING; USES OF DREDGED SPOILS INCLUDING BEACH FILL, SOIL ENHANCEMENT, AND CONSTRUCTION; AND ENVIRONMENTAL IMPACTS RELATED TO AESTHETICS.

1531 PSUTY, N.P.; L. NAKASHIMA; G. THEOKRITOFF

COASTAL DYNAMICS AND ENVIRONMENTS ON SANDY HOOK. NEW JERSEY [1980]

PAGES 132-143 IN W. MANSPEIZER, ED. FIELD STUDIES OF NJ GEOLOGY AND GUIDE TO FIELD TRIPS: 52ND ANN MEETING, NYS GEOL ASSOCIATION, RUTGERS UNIV. NEWARK. NJ

THE SHORELINE OF SANDY HOOK CONSISTS OF SEVERAL DISTINCT SEGMENTS WITH DIFFERENT RATES AND FORMS OF DEVELOPMENT. THE SPIT SYSTEM IS BROKEN DOWN INTO A SET OF SUB-SYSTEMS, EACH WITH DIFFERING SHORELINE ORIENTATIONS TO THE APPROACH OF OCEAN SHELL AND EACH EXPERIENCING DIFFERENT EQUILIBRIUM CONDITIONS.

1532 PURRETT-CARROLL. L.

NEW LIGHT ON THE NEW YORK BIGHT [1979]

NOAA REPRINT 9(2). NOAA. BOULDER. CO 4 PP

THIS PAPER IS A REPORT OF THE 1978 NEW YORK BIGHT PROJECT CONFERENCE WHICH WAS ATTENDED BY SCIENTISTS, MATHEMATICIANS, ENGINEERS, ECONOMISTS, AND ADMINISTRATORS. THE OBJECT OF THIS CONFERENCE WAS TO GATHER VARIOUS INFORMATION, IDEAS, AND PERSPECTIVES ON THE PAST, PRESENT, AND FUTURE STATUS OF THE BIGHT. AN EFFORT TO CREATE A GREATER PUBLIC AWARENESS OF THE AREA WAS ALSO MADE.

1533 RACHLIN, J.W.; A.P. BECK; J.M. O'CONNOR

KARYOTYPIC ANALYSIS OF THE HUDSON RIVER STRIPED BASS, MORONE SAXATILIS [1978]

COPEIA 2:343-345

HUDSON RIVER STRIPED BASS LARVAE, JUVENILES AND YOUNG-OF-THE-YEAR WERE USED FOR KARYOTYPE ANALYSIS. THE AUTHORS DESCRIBE THE TECHNIQUES USED AND LIST THE ORIGINS OF THE GROUPS OF SPECIMENS EXAMINED. CHROMOSOMES IN INTACT CELLS CONSISTENTLY NUMBERED 48, AND THIS RESULT TAKEN WITH PREVIOUS FINDINGS SUGGESTS THAT 48 CHROMOSOMES MAY REPRESENT THE ANCENTRAL DIPLOID COMPLEMENT OF THE DIFFERENT POPULATIONS OF M. SAXATILIS. THE DOMINANT KARYOTYPE CONSISTED OF 38 ACROCENTRIC, 8 SUBTELOCENTRIC AND 2 SUBMETACENTRIC CHROMOSOMES. A SECOND KARYOTYPE CONSISTING OF 40 ACROCENTRIC, 6 SUBTELOCENTRIC AND 2 SUBMETACENTRIC CHROMOSOMES WAS OCCASIONALLY FOUND. THE MEASUREMENTS OF THESE CHROMOSOMES ARE GIVEN.

1534 RAGONE, S.E.; H.F.H..KU; J. VECCHIOLI

MOBILIZATION OF IRON IN WATER IN THE MAGOTHY AQUIFER DURING LONG-TERM RECHARGE WITH TERTJARY-TREATED SEWAGE, BAY PARK, NEW YORK [1975]

J RES US GEOL SURVEY 3(1):93-98

TERTIARY-TREATED SEWAGE (RECLAIMED WATER) HAS BEEN RECHARGED BY WELL INTO THE MAGOTHY AQUIFER AT BAY PARK, NY, INTERMITTENTLY SINCE 1968. THE LONGEST OF 13 RECHARGE TESTS, THE SUBJECT OF THIS REPORT, LASTED 84.5 DAYS. THIS WAS SUFFICIENT TIME FOR THE RECLAIMED WATER TO REACH AN OBSERVATION WELL 200 FT (61 M) FROM THE RECHARGE WELL. ALTHOUGH THE FE CONCENTRATIONS OF THE RECLAIMED WATER AND THE NATIVE WATER WERE LESS THAN 0.4 Mg/1, THE FE CONCENTRATIONS OF SAMPLES FROM OBSERVATION WELLS 20, 100, AND 200 FT (6, 30, AND 61 M) FROM THE RECHARGE WELL AT TIMES APPROACHED 3 Mg/1. THE SOURCE OF THE FE IS PYRITE THAT IS NATIVE TO THE AQUIFER.

1535 RAGONE, S.E.; B.G. KATZ; G.E. KIMMEL; J.B. LINDER

NITROGEN IN GROUND WATER AND SURFACE WATER IN SEWERED AND UNSEWERED AREAS, NASSAU COUNTY, LONG ISLAND, NY [1980]

WATER RESOURCES DIV, USGS, ALBANY, NY 72 PP

ANALYSES OF MORE THAN 1,400 WATER SAMPLES COLLECTED FROM THE UPPER GLACIAL AQUIFER FROM 1952-76 INDICATED THE MEDIAN CONCENTRATION OF NITRATE IN THE SEWERED AREA OF THE COUNTY TO BE SIMILAR TO THAT IN THE UNSEWERED AREA. IN CONTRAST, STREAMS DRAINING THE SEWERED AREA HAVE SIGNIFICANTLY LOWER TOTAL NITROGEN CONCENTRATIONS THAN THOSE DRAINING THE UNSEWERED AREA; B OF 10 WELLS IN THE UPPER GLACIAL AQUIFER IN THE SEWERED AREA SHOW SIGNIFICANT DECREASING NITRATE CONCENTRATION WITH TIME, AND MEDIAN NITRATE CONCENTRATIONS IN THE UPPER 3 M OF THE UPPER GLACIAL AQUIFER ARE SIGNIFICANTLY LOWER IN THE SEWERED AREA. THIS DIFFERENCE MAY REFLECT (1) A BIAS IN THE DATA BASE; (2) THE SLOW RATE AT WHICH THE UPPER GLACIAL AQUIFER CAN "FLUSH OUT" DOMESTIC NITRATES THAT WERE INTRODUCED BEFORE SEWERING OR AGRICULTURAL NITRATES THAT WERE INTRODUCED BEFORE URBANIZATION; OR (3) THE PRESENCE OF NITROGEN FROM MODERN SOURCES SUCH AS LAWN FERTILIZERS, WHICH MAY MASK THE DECREASES RESULTING FROM

SEWERAGE. NITRATE ANALYSES OF WATER SAMPLES FROM THE MAGOTHY AQUIFER COLLECTED FROM 1952-76 INDICATE NITRATE TO BE PRESENT AT ALL DEPTHS BUT TO DECREASE WITH DEPTH. ALL MAGOTHY WELLS AT WHICH SIGNIFICANT CHANGES IN NITRATE CONCENTRATION WITH TIME WERE NOTED SHOW INCREASING NITRATE TRENDS.

1536 RAINES, G.E.

ENVIRONMENTAL IMPACT ASSESSMENT OF NUCLEAR POWER GENERATION FACILITIES: A CASE EXAMPLE [1973]

PAGES 123-127 IN INST OF ENVIRON SCI, PROC OF 19TH ANNUAL TECHNICAL MEETING, ANAHEIM, CA, 2-5 APR 1973. INST OF ENVIRON SCI, MT. PROSPECT, IL

THE PROCEDURE FOR ENVIRONMENTAL IMPACT ASSESSMENT IS TO PERFORM A "TOTAL" BENEFIT-COST ANALYSIS FOR THE PLANNED INSTALLATION. THIS ANALYSIS MUST CONSIDER THE ENVIRONMENTAL, SOCIAL, AND ECONOMIC EFFECTS, AND ATTENTION SHOULD BE DIRECTED TOWARD OBTAINING A BALANCE AMONG THESE EFFECTS BY CONSIDERING: ALTERNATIVE BASIC PROCESSES, ALTERNATIVE SITES, CONSTRUCTION IMPACT, OPERATIONAL IMPACT AND PROCESS MODIFICATIONS TO REDUCE IMPACT. THE EVALUATION OF ENVIRONMENTAL IMPACT, WHICH IS MORE LOCAL IN SCOPE, IS STRUCTURED AROUND A MATRIX APPROACH IN WHICH THE EFFECTS OF PLANT OPERATION ON THE SURROUNDING ENVIRONMENTAL CONDITIONS AND COMPONENTS TABULATED IN A SYSTEMATIC MANNER. THE NUMERICAL VALUES FOR INSERTION IN THE MATRIX ARE OBTAINED BY DEVELOPING WEIGHTED VALUE FUNCTIONS FOR EACH CATEGORY. ILLUSTRATIVE RESULTS WILL BE PRESENTED FOR THE ANTICIPATED OPERATIONAL ENVIRONMENTAL IMPACT ANALYSIS OF THE INDIAN POINT-2 (IP-2) NUCLEAR POWER PLANT, A NEW CONSOLIDATED EDISON FACILITY ON THE HUDSON RIVER.

1537 RAMONDETTA, P.J.; W.H. HARRIS

HEAVY TETALS DISTRIBUTION IN JAMAICA BAY SEDIMENTS [1978]

ENVIRON GEOL 2(3):145-149

92 SEDIMENT SAMPLES COLLECTED AT 53 STATIONS IN JAMAICA BAY WERE ANALYZED FOR PB, CR, V, CU, CD, ZN, NI, CO, AND PERCENT ORGANIC CARBON (ORC). SELECTED SAMPLES WERE ANALYZED FOR HG. THE CONCENTRATIONS OF ALL METALS CORRELATE WITH EACH OTHER AND WITH ORGANIC CARBON. VANADIUM, COBALT, AND NICKEL STAND OUT AS A SEPARATE COMPONENT AND ARE ENRICHED RELATIVE TO OTHER METALS IN AREAS AFFECTED BY PETROLIFEROUS POLLUTION. THE METAL CONCENTRATIONS ARE STRONGLY INFLUENCED BY THE STRENGTH OF TIDAL CURRENIS AND PROXIMITY TO POLLUTION SOURCES. AMOUNT OF RAINFALL AND/OR SEASON AFFECTS METAL CONCENTRATIONS IN GRASSY BAY, A DEEP RESTRICTED BODY OF WATER WITHIN JAMAICA BAY.

1538 RAMPING. M.R.

QUATERNARY HISTORY OF SOUTH-CENTRAL LING ISLAND, NEW YORK [1978]

PH.D. THESIS. COLUMBIA UNIV. NEW YORK, NY NP

DETAILED STUDY OF MORE THAN 500 BORINGS AND CORES, AND OF SEISMIC-REFLECTION PROFILES FROM SOUTH-CENTRAL LONG ISLAND AND THE ADJACENT INNER CONTINENTAL SHELF HAS ESTABLISHED A NEW STRATIGRAPHIC FRAMEWORK FOR THE PLEISTOCENE OF SOUTHERN LONG ISLAND. THE STUDY HAS ALSO SHED LIGHT ON THE HOLOCENE HISTORY OF SOUTHERN LONG ISLAND PARTICULARLY WITH REGARDS TO THE LOCAL HISTORY OF THE FLANDRIAN TRANSGRESSION, AND THE ORIGIN AND DEVELOPMENT OF BARRIER ISLANDS.

1539 RAMPING, M.R.

HISTORY OF RELATIVE SEA-LEVEL RISE, 3,000 YBP TO PRESENT, SOUTHERN LONG ISLAND, NEW YORK [1978]

GEOL SOC AM ABSTR PROGR 10(2):81

RADIOCARBON DATING OF BASAL PEAT AND ORGANIC SILTY CLAY FROM SOUTHERN LONG ISLAND AND THE ADJACENT INNER CONTINENTAL SHELF HAS ALLOWED THE CONSTRUCTION OF A CURVE OF LOCAL RELATIVE SEA-LEVEL FOR THE PAST 8,000 YEARS. USING THE SEA-LEVEL RISE CURVE CONSTRUCTED FROM THESE DATA, IT CAN BE DETERMINED THAT THE SEA WAS RISING AT ABOUT 25 CM/100 YRS BETWEEN 7,000 AND 3,000 YBP, AND SLOWED MARKEDLY DURING THE PAST 3,000 YEARS TO ABOUT 10 CM/100 YRS. RATES OF LOCAL SEA-LEVEL RISE PRIOR TO 7,000 YEARS ARE SOMEWHAT UNCERTAIN, BUT THE SEA MAY HAVE BEEN RISING RAPIDLY, AT APPROXIMATELY 50 CM/100 YRS. BETWEEN 9,000 AND 7,000 YBP. THE CURVE OF RELATIVE SEA-LEVEL RISE THUS SHOWS TWO MARKED REDUCTIONS IN THE SUBMERGENCE RATE, FIRST AT 7,000 YBP AND LATER AT 3,000 YBP. CURVES OF RELATIVE SEA-LEVEL RISE ARE USUALLY PRESENTED AS SMOOTHLY AVERAGED POINT PLOTS. HOWEVER, CURVES OF FLUCTUATING SEA LEVEL HAVE ALSO BEEN POSTULATED. THE DATA PRESENTED HERE COULD BE INTERPRETED IN EITHER WAY. THIS POINTS UP THE NEED FOR DETAILED STRATIGRAPHIC ANALYSES TO RESOLVE THE QUESTION OF SEA-LEVEL FLUCTUATIONS. THE EXTENSIVE PRESERVATION OF BACKBARRIER SEDIMENTS, DATED BETWEEN 7,000 AND 8,000 YBP, ON THE INNER SHELF OF SOUTHERN LONG ISLAND SUGGESTS THAT THE SURF ZONE "JUMPED" LANDWARD FROM A POSITION 7 KM OFFSHORE AT 7,000 YBP, AT THAT TIME THE MODERN BARRIERS WERE INTITATED. THE INTITATION OF THE BARRIERS MAY HAVE BEEN RELATED TO A NEGATIVE FLUCTUATION OF SEA LEVEL AT 7,000 YBP WHICH ALLOWED THE BARRIERS TO BECOME ESTABLISHED AND GROW UPWARDS. SUBSEQUENTLY. THE BARRIERS HAVE RETREATED 2 KM TO THEIR PRESENT POSITIONS.

1540 RAMPING, M.R.

HOLOCENE SUBMERGENCE OF SOUTHERN LONG ISLAND, NEW YORK [1979]

NATURE 28J(5718):132-134

SAMPLES OF BASAL PEAT FROM SOUTH-CENTRAL LONG ISLAND WERE DATED BY THE RADIOCARBON METHOD AND A LOCAL CURVE OF SUBMERGENCE WAS CONSTRUCTED FOR THE PAST 8,000 YR. CHANGING RATES OF SUBMERGENCE APPARENTLY HAVE BEEN AN IMPORTANT FACTOR IN THE INITIATION AND CONTINUED DEVELOPMENT OF THE AREA'S SALT MARSHES. SUBMERGENCE CURVE DATA SUGGEST THAT BETWEEN 7,000 AND 3,000 YBP THE COAST WAS BEING SUBMERGED AT A RATE OF 25 CM/YR. THIS RATE HAS NOW SLOWED TO APPROX 10 CM/YR. THIS CHANGING RATE MAY HAVE BEEN AN IMPORTANT FACTOR IN THE DEVELOPMENT AND MAINTENANCE OF BACK-BARRIER SALT MARSHES. THE BACK-BARRIER ENVIRONMENT MAY HAVE EXISTED BEFORE THE MORE RECENT SALT MARSH DEVELOPMENT. WITH DECREASING SUBMERGENCE, THESE LAGOON-LIKE AREAS MAY HAVE BEEN COLONIZED BY MARSH GRASSES. ONCE THE MARSH BUILDING WAS ESTABLISHED, IT HAS CONTINUED TO KEEP PACE WITH SUBMERGENCE.

1541 RAMSDELL, R.C.

THE STRATIGRAPHIC SECTION AND MEGAFAUNA FROM THE NAVESINK FORMATION AT A SITE AT ATLANTIC HIGHLANDS, NJ--A PRELIMINARY STATEMENT [1977]

SPEC SCIENTIFIC REP 1. NJ MARINE SCIENCES CONSORTIUM. HIGHLANDS. NJ NP

OF THE THREE LATE TRETACEOUS FROMATIONS PRESENT AT A SITE AT ATLANTIC HIGHLANDS, NJ, ONLY THE NAVESINK HAS AN ABUNDANT INVERTEBRATE MEGAFAUNA. TYPICALLY, MOLLUSCS PREDOMINATE. THE STRATIGRAPHIC AND GEOGRAPHIC RANGES OF SOME SPECIES ARE EXTENDED.

1542 RAMUS. J.S.

STUDIES DIRECTED TOWARD METHODS FOR CONTROL OF "CODIUM FRAGILE" IN LONG ISLAND SOUND [1974]

JF-3-6. NMFS, WASHINGTON, DC 10 PP NTIS-COM-75-104 59

THE SEAWEED CODIUM FRAGILE IS A SERIOUS PEST IN THE OYSTER FISHERIES OF LONG ISLAND SOUND, AND HAS ADVERSELY AFFECTED COMMERCIAL BOTTOM CULTURE OF OYSTERS. CODIUM FRAGILE, A LARGE GREEN MARINE ALGA, REPRODUCES RAPIDLY BY PERENNATION, FRAGMENTATION, AND SWARMERS. IT BECOMES ESTABLISHED ON ANY STABLE OBJECT, INCLUDING SHELLFISH. THE NET EFFECT OF EXTENSIVE GROWTH OF CODIUM IS TO PRODUCE MANY DEAD, MORIBUND, AND STUNTED OYSTERS WHICH REQUIRES AN ECONOMICALLY UNPROFITABLE AMOUNT OF

LABOR TO EITHER HARVEST OR PREPARE FOR MARKET. DATA INDICATES THAT QUICKLIME TREATMENT WILL ERADICATE CODIUM, ESPECIALLY WHEN THE SEAWEED IS IN ITS JUVENILE FORM. OTHER FORMS OF CONTROL INCLUDE THE CULTURING OF DYSTERS AT OR BELOW THE COMPENSATION DEPTH; WINTER REMOVAL OF CODIUM BY CHAIN DRAG; BIOLOGICAL CONTROL; AND CHEMICAL CONTROL.

1543 RAMUS, J.S.; F. LEMONS; C. ZIMMERMAN

ADAPTATION OF LIGHT-HARVESTING PIGMENTS TO DOWNWELLING LIGHT AND THE CONSEQUENT PHOTOSYNTHETIC PERFORMANCE OF THE EULITTORAL ROCKWEEDS ASCOPHYLLUM NODOSUM AND FUCUS VESICULOSUS [1977]

MAR BIOL 42(4):293-303

THE AUTHORS COMPARED THE EFFECT OF HABITAT AND WATER DEPTH ON THE LIGHT-HARVESTING PIGMENT CONTENT FOR A. NODOSUM AND F. VESICULOSUS AT TWO NEAR-SHORE STATIONS IN LONG ISLAND SOUND. EXCISED PIECES OF SEAWEDS WERE ATTACHED AT DEPTH INTERVALS TO A VERTICALLY BUOYED LINE, AND LEFT IN SITU FOR 7 DAYS. FOR COMPARISON, FRONDS WERE COLLECTED FROM SUN AND SHADE HABITATS IN THE LITTORAL ZONE. THE IHREE MAJOR ANTENNA (LIGHT-HARVESTING) PIGMENTS INCREASED IN CONCENTRATION WITH DEPTH OR SHADE. CHLOROPHYLL C TO A RATIOS REMAINED STABLE AT ABOUT 0.2. FUCOXANTHIN TO CHLOROPHYLL A RATIOS DECREASED BY 20 TO 30% WITH DEPTH OR SHADE. ALTHOUGH PIGMENT COMPOSITION FOR THE TWO ROCKWEED SPECIES WAS EQUIVALENT, THE MAXIMUM PHOTOSYNTHETIC PERFORMANCE OF F. VESICULOSUS EXCEEDED THAT OF A. NODOSUM BY A FACTOR OF 2, WHILE THE COMPENSATION DEPTHS FOR 4 M-ADAPTED A. NODOSUM AND F. VESICULOSUS UNDER NATURAL LIMITING LIGHT CONDITIONS WERE EQUIVALENT. PLANTS HELD AT 4 M HAD HIGHER PHOTOSYNTHETIC RATES COMPARED WITH PLANTS HELD AT 0 M, NO MATTER THE DEPTH OF MEASUREMENT. INDIRECT EVIDENCE INDICATES THAT THE ENHANCED PHOTOSYNTHESIS OF 4 M-ADAPTED PLANTS IS DUE NOT ONLY TO HIGHER CONCENTRATIONS OF ANTENNA PIGMENTS BUT TO OTHER PHYSIOLOGICAL FACTORS AS WELL. IT IS CONCLUDED THAT THE CLEARLY DELINEATED VERTICAL DISTRIBUTION OF THESE TWO CANOPY SPECIES, THE F. VESICULOSUS ZONE OVER THE A. NODOSUM ZONE, IS NOT DETERMINED BY LIGHT QUANTITY OR QUALITY, BUT BY BIOTIC FACTORS AS EVIDENCED BY THE EXPERIMENTS OF MENGE WHICH ARE CITED HEREIN.

1544 RAMUS . J.S.

SEAWEED ANATOMY AND PHOTOSYNTHECTIC PERFORMANCE: THE ECOLOGICAL SIGNIFICANCE OF LIGHT GUIDES. HETEROGENEOUS ABSORPTION AND MULTIPLE SCATTER [1978]

J PHYCOL 14(3):352-362

LIGHT ABSORPTION BY 2 GREEN SEAWEEDS AITH SIMILAR PHOTOPHYSIOLOGY BUT DIFFERENT ANATOMIES ARE COMPARED: ULVA LACTUCA VARRIGIDA, AN OPTICALLY TRANSLUCENT SPECIES OF 2 CELL LAYERS-BOTH BEARING CHLOROPLASTS; AND CODIUM FRAGILE SUBSP. TOMENTOSOIDES,
AN OPTICALLY OPAQUE SPECIES WITH A COLORLESS MEDULLA SURROUNDED BY A CORTEX OF CHLORPLAST-BEARING UTRICLES. THALLUS ABSORPTANCE
(FRACTION OF INCIDENT LIGHT ABSORBED) WAS MEASURED FOR VARIOUS PIGMENT CONTENTS. ABSORPTANCE BY U. LACTUCA WAS DEPENDENT ON
PIGMENT CONCENTRATION IN AN EXPONENTIAL MANNER AND NEVER EXCEEDED 0.6. WHEREAS ABSORPTANCE BY U. LACTUCA WAS INDEPENDENT OF
PIGMENT CONCENTRATION AND ALWAYS APPROACHED A VALUE OF 1.0. WATER IN THE MEDULLARY TISSUE OF C. FRAGILE IS OFTEN REPLACED BY
AIR, PRODUCING A REPLECTIVE SURFACE AT THE BASE OF THE UTRICLES. THE UTRICLES APPEAR TO BE "INTEGRATING SPHERE" ENHANCING THE
CAPTURE OF INCIDENT LIGHT, AIDED BY THE WAVE-GUIDE FUNCTION OF THE THIN PERIPHERAL LAYER OF CYTOPLASM AND A REFLECTOR FUNCTION
AT THEIR BASE. PHOTOSYNTHETIC PERFORMANCE FOR U. LACTUCA SATURATES AT HIGH LIGHT INTENSITIES AND ATTENUATES RAPIDLY WITH
DECREASING INTENSITIES. IN CONTRAST, PHOTOSYNTHETIC PERFORMANCE FOR C. FRAGILE SATURATES AT LOW LIGHT INTENSITIES AND
ATTENUATES SLOWLY WITH DIMINISHING RADIATION. EXTRAPOLATED DIEL VARIATION IN PHOTOSYNTHESIS SHOWS THAT U. LACTUCA'S ANATOMY IS
ADAPTIVE FOR HIGH LIGHT INTENSITY ENVIRONMENTS, WHEREAS C. FRAGILE'S ANATOMY IS ADAPTIVE FOR LOW LIGHT INTENSITY ENVIRONMENTS.
HOTH SEAWEEDS FIT INTO THE ECOLOGICAL CATEGORY OF "FUGITIVE" SPECIES AND COMPETE IN THE LONG ISLAND SOUND (ATLANTIC OCEAN)
ROCKY INTERTIDAL FOR FREE-SPACE. PREDICTIONS ARE PRESENTED FOR RELATIVE SPECIES ABUNDANCES ALONG A MONOTONIC GRADIENT OF LIGHT
INTENSITY.

CHELSEA STOLPORT: THE AIRLINE VIEW [1376]

SAE PREP 760523. UNIV OF VA. CHARLOTTESVILLE. VA 11 PP

AMERICAN AIRLINES" 1970 TECHNICAL FEASIBILITY STUDY OF A FLOATING INTERIM MANHATTAN STOLPORT (FIMS) IN THE HUDSON RIVER ADJACENT TO THE RESIDENTIAL COMMUNITY OF CHELSEA MET WITH STRONG, WELL ORGANIZED EFFECTIVE OPPOSITION. THE NATURE OF THESE CONFRONTATIONS, THE INTERACTIONS OF THE PRINCIPLES, AND THE LESSONS LEARNED AS VIEWED BY THE AIRLINE ARE OF VALUE TO ANY PROJECT WHERE TECHNOLOGICAL IMPLEMENTATION IS PERCEIVED BY THE PUBLIC AS A THREAT TO THEIR QUALITY OF LIFE.

1546 RAWINSKI, T.; R. MALECKI; L. MUDRAK

A GUIDE TO PLANTS COMMONLY FOUND IN THE FRESHWATER WETLANDS OF NEW YORK STATE [1979]

DEPT OF NATURAL RESOURCES, CORNELL UNIV, ITHACA, NY 29 PP

THIS BOOKLET WAS CREATED TO HELP PEOPLE WHO ARE NOT FORMALLY TRAINED IN BOTANY TO IDENTIFY PLANTS COMMONLY FOUND IN THE FRESHWATER WETLAND AREAS OF NY. IT IS NOT MEANT TO TAKE THE PLACE OF MORE COMPLETE PLANT KEYS. THE PLANTS CHOSEN FOR DESCRIPTION HERE ARE LISTED IN THE NEW YORK STATE FRESHWATER WETLANDS ACT. AS SUCH, THEY ARE INTENDED TO BE REPRESENTATIVE OF THE VEGETATION FOUND IN MOST TYPES OF WETLAND AREAS THROUGHOUT THE STATE.

1547 RAYNOR, G.S.; S. SETHURAMAN; R.M. BROWN

FORMATION AND CHARACTERISTICS OF COASTAL INTERNAL BOUNDARY LAYERS DURING ONSHORE FLOWS [1979]

BOUNDARY-LAYER METEOR 16(4):487-514

28 TESTS MADE AT ALL SEASONS AND IN GRADIENT AND SEA-BREEZE FLOWS BUT ONLY DURING MID-DAY PERIODS WERE PERFORMED. MEASUREMENTS OF TURBULENCE AND TEMPERATURE WERE TAKEN FROM A LIGHT AIRCRAFT WHICH FLEW TRAVERSES ACROSS LONG ISLAND AT SUCCESSIVE ALTITUDES PARALLEL TO THE WIND DIRECTION. THESE WERE USED TO LOCATE THE BOUNDARY BETWEEN MODIFIED AND UNMODIFIED AIR AS A FUNCTION OF HEIGHT AND DISTANCE FROM THE COAST. THE SAME MEASUREMENTS PLUS TOWER MEASUREMENTS OF WIND, TURBULENCE AND TEMPERATURE, PILOT BALLOON SOUNDINGS, AND MEASUREMENTS OF LAND AND WATER SURFACE TEMPERATURES BY A REMOTE SENSING IR THEMOMETER WERE USED TO QUANTIFY THE CHARACTERISTICS OF THE MODIFIED AND UNMODIFIED AIR. THE BOUNDARY LAYER SLOPE WAS STEEP CLOSE TO THE LAND-WATER INTERFACE AND BECAME SHALLOWER WITH DOWNWIND DISTANCE. GROWTH OF THE BOUNDARY LAYER WAS INITIALLY SLOWER WITH STABLE LAPSE RATES UPWIND THAN WITH NEUTRAL OR UNSTABLE CONDITIONS OVER THE WATER. AN EQUILIBRIUM HEIGHT WAS FOUND IN MANY TESTS EXCEPT UNDER CONDITIONS OF FREE CONVECTION WHEN THE INTERNAL BOUNDARY LAYER MERGED INTO THE MIXED LAYER INLAND AND WITH SEA-BREEZE CONDITIONS. THE EQUILIBRIUM HEIGHT DEPENDED ON DOWNWIND CONDITIONS AND WAS GREATER WITH LOW WIND SPEEDS AND STRONG LAND SURFACE HEATING THAN WITH STRONGER WINDS AND SMALL LAND-WATER TEMPERATURE DIFFERENCES. THE HEIGHT OF THE BOUNDARY LAYER AT THE ALTITUDES AND DISTANCES STUDIED WAS PREDICTED BY AN EMPIRICAL MODEL DEVELOPED EARLIER. WIND SPEED IN THE MODIFIED AIR AVERAGED TOX OF THAT AT THE CCAST BUT TURBULENCE LEVELS WERE SEVERAL TIMES HIGHER BOTH NEAR THE SURFACE AND ALOFT. THESE FINDINGS HAVE IMPORTANT IMPLICATIONS FOR DIFFUSION FROM COASTAL SITES.

1548 RAYNOR. G.S.; J.V. HAYES

TRANSFORT AND DIFFUSION CLIMATOLOGY OF THE US ATLANTIC AND GULF COASTS [1980]

TECH INFO CENTER, ERDA, OAK RIDGE, TN 4 PP

THIS STUDY IS PART OF A LARGER STUDY OF COASTAL METEOROLOGY AND DIFFUSION AND WAS PLANNED TO ASSIST IN SITE SELECTION OF ENERGY FACILITIES BY DESCRIPING THE TRANSPORT AND DIFFUSION CLIMATOLOGY OF THE US EAST AND GULF COASTS IN AS MUCH DETAIL AS CAN BE EXTRACTED FROM READILY AVAILABLE METEOROLOGICAL DATA. THE REGION STUDIED IS ALL WITHIN THE COASTAL PLAIN AND IS GENERALLY

CHARACTERIZED BY FLAT BEACHES AND VERY GENTLE SLOPES INLAND EXCEPT IN NEW ENGLAND, WHERE THE COAST IS MORE RUGGED AND THE TERRAIN HILLY CLOSE TO THE SEA. METEOLOGICAL VARIABLES OF PRIMARY CONCERN IN THIS STUDY ARE THOSE WHICH GOVERN OR INFLUENCE TRANSPORT AND DIFFUSION OF AIRBORNE GASES AND PARTICLES. THE MOST IMPORTANT ARE WIND DIRECTION AND SPEED AND SOME MEASURE OF DIFFUSIVE CAPACITY SUCH AS TURBULENCE, GUSTINESS OR LAPSE RATE. 8 STATIONS WERE CHOSEN TO GIVE FOUR PAIRS FOR COMPARISON BETWEEN A COASTAL STATION AND ANOTHER SOMEWHAT FARTHER INLAND. THE PAIRS ARE BOSTON AND BEDFORD, MA; BELMAR AND LAKEHURST, NJ; CAPE KENNEDY AND ORLANDO, FL; AND GALVESTON AND HOUSTON, TX. THE SAME YEARS OF DATA WERE OBTAINED FOR BOTH STATIONS IN EACH PAIR. RESULTS OF SELECTED EXAMPLES ARE PRESENTED. THE FREQUENCY OF CALMS AND OF WINDS IN THE THREE SECTORS RELATIVE TO THE COASTLINE IS REPORTED FOR THE 25 COASTAL STATIONS FROM PORTLAND, ME TO BROWNSVILLE, TX. DIFFERENCES BETWEEN DAY AND NIGHT IN WIND DIRECTION DISTRIBUTION ARE SHOWN FOR 6 SELECTED STATIONS. THE FREQUENCY OF THE 5 DIFFUSION RATING CLASSES AT THE SAME COASTAL STATIONS DURING ONSHORE WINDS IS ALSO SHOWN. DIFFERENCES IN DIFFUSION CONDITIONS BETWEEN DAY AND NIGHT AT 6 SELECTED STATIONS ARE GIVEN. THE RESULTS OBTAINED WERE ARRANGED FOR EASY USE WITH DIFFUSION MODELS IN WHICH THE PRIMARY METEOROLOGICAL INPUTS ARE WIND SPEED AND MEASURES OF LATERAL AND VERTICAL DIFFUSION.

1549 RAYNOR, G.S.; J.V. HAYES

ACIDITY AND CONDUCTIVITY OF PRECIPITATION ON CENTRAL LONG ISLAND, NEW YORK IN RELATION TO METEOROLOGICAL VARIABLES [1981]

WATER 418 SOIL POLL 15:229-245

3 YRS OF HOURLY SEQUENTIAL PRECIPITATION SAMPLES FROM CENTRAL LONG ISLAND WERE ANALYZED TO DETERMINE THE RELATIONSHIPS BETWEEN ACIDITY AND CONDUCTIVITY AND CONCENTRATIONS OF SULFATE, NITRATE PLUS NITRITE, NITROGEN IN AMMONIUM, SODIUM, AND CHLORIDE IONS. RELATIONSHIPS BETWEEN PRECIPITATION ACIDITY AND METEOROLOGICAL CONDITIONS WERE ALSO STUDIED. HYDROGEN ION CONCENTRATIONS ARE SIMILAR TO THOSE ELSEWHERE IN THE NORTHEASTERN US. THEY ARE BEST CORRELATED WITH SULFATE CONCENTRATIONS BUT ALSO CORRELATE WITH CONCENTRATIONS OF NITRATE PLUS NITRITE AND NITROGEN IN AMMONIUM IUN. CONCENTRATIONS ARE HIGHEST IN THE SUMMER, WITH COLD FRONT AND SQUALL LINE PRECIPITATION AND WITH RAIN SHOWERS AND THUNDERSHOWERS. ALL IONS MEASURED CONTRIBUTED TO SAMPLE CONDUCTIVITY BUT HYDROGEN ION CONTRIBUTED THE MOST WITH SULFATE ION SECOND. CONDUCTIVITY CALCULATED FROM CONCENTRATIONS OF THE SEPARATE IONS AGREED WELL WITH MEASURED CONDUCTIVITY. CONDUCTIVITY SHOWED RELATIONSHIPS TO METEOROLOGICAL CONDITIONS SIMILAR TO THOSE OF HYDROGEN ION CONCENTRATION EXCEPT WHE SODIUM AND CHLORIDE IONS PREDOMINATED IN THE SAMPLE.

1550 REDFIELD, A.C.

THE TIDE IN COASTAL WATERS [1978]

J MAR RES 36(2):255-294

THE TIDE IN MANY STRAITS AND EMBAYMENTS BETWEEN NEW YORK AND THE BAY OF FUNDY MAY BE DESCRIBED BY THEORETICAL EQUATIONS BASED ON THE INTERFERENCE OF A PROGRESSIVE JAVE ENTERING AT ONE END OF THE REACH WITH (IN THE CASE OF STRAITS) A 2ND WAVE ENTERING AT THE OPPOSITE END OR, IN THE CASE OF EMBAYMENTS, A 2ND WAVE ARISING FROM THE REFLECTION OF THIS WAVE FROM A BARRIER AT THE HEAD OF THE EMBAYMENT. THE CONSTANTS WHICH MUST BE INTRODUCED INTO THE EQUATIONS ARE FOUND BY A METHOD OF NOMOGRAPHIC ANALYSIS. EXCEPTIONS ARE FOUND IN A FEW CASES IN WHICH THE TOPOGRAPHY IS COMPLEX OR THE REACH IS ONE OF TRANSITION. THE FOLLOWING SUDDIVIDUAL PASSAGES ARE CONSIDERED: THE HARLEM RIVER, THE ARTHUR KILL, THE CAPE COD CANAL, QUICKS HOLE, NANTUCKET AND VINEYARD SOUNDS, HEMPSTEAD BAY, THE EAST RIVER, THE LONG ISLAND SOUND SYSTEM, THE PECONIC BAY SYSTEM, JAMAICA BAY, GREAT SOUTH BAY, BUZZARDS BAY, PENOBSCOT BAY, THE PENOBSCOT RIVER, THE BAY OF FUNDY, MINAS BASIN, AND THE HUDSON RIVER.

1551 REDMAN, J.

OPERATION OF MOBILE LABORATORIES FOR SHELLFISH SANITATION CONTROL [1979]

PAP NO 19121101. NOAA, BOULDER, CO 38 PP NTIS-PB8 J-134 794

FROM APR 1, 1976 THROUGH MAR 31, 1979, TWO MOBILE BACIERIOLOGY LABORATORY VANS, EACH EQUIPPED WITH A TRAILER-MOUNTED BOAT AND STAFFED WITH A SENIOR LABORATORY TECHNICIAN, WERE USED TO CONDUCT SANITARY EXAMINATIONS OF SHELLFISH LANDS AND SANITARY SURVEILLANCE OF SHELLFISH PROCESSING PLANTS IN NY. PORTIONS OF TWO SHELLFISH LANDS WERE DEMONSTRATED TO HAVE IMPROVED SANITARY QUALITY. ACCORDINGLY, THE LANDS WERE RECERTIFIED AND THUS MADE AVAILABLE FOR FOR SHELLFISH HARVESTING FOR USE AS FOOD. SEVERAL INCIDENTS OF POLLUTION OF SHELLFISH LANDS WERE DETECTED AND MONITORED, INCLUDING SEWAGE TREATMENT PLANT FAILURES AND A SUMMER-LONG CONTAMINATION OF FIRE ISLAND BEACHES WITH PLASTICS, TAR BALLS AND GREASE BALLS. A PROGRAM WAS DEVELOPED TO ALLOW HARVESTING IN OCCASIONALLY POLLUTED SHELLFISH LANDS WHEN THE LANDS WERE POLLUTION FREE. TWO PLANTS DESIGNED TO MICROBIOLOGICALLY CLEANSE SHELLFISH FROM UNCERTIFIED SHELLFISH LANDS WERE EVALUATED AND SUBSEQUENTLY LICENSED TO OPERATE.

1552 REED, A.W.

OCEAN MASTE DISPOSAL PRACTICES [1975]

NOYES DATA CORP, PARK RIDGE, NJ NP

THIS REPORT ON OCEAN DISPOSAL INCLUDES SECTION ON NEW YORK AND THE MID-ATLANTIC BIGHT.

1553 REESE, H.; S. JACKSON

THE NEW YORK CITY WATER FRONT: AN INTERDISCIPLINARY DISCOVERY CURRICULUM [1978]

NYSG. ALBANY, NY 134 PP

OVER 134 INTERDISCIPLINARY ACTIVITIES ARE DESCRIBED IN THE CONTEXT OF AWAKENING NEW YORK CITY'S CHILDREN'S AWARENESS OF THE MATERFRONT. THE EMPHASIS IS ON ON-SITE LEARNING ACTIVITIES WHERE STUDENTS DISCOVER FOR THEMSELVES PROBLEMS AND SOLUTIONS.

INTENDED FOR TEACHERS, THE GUIDE IS WELL ILLUSTRATED AND INCLUDES A SEPARATE REFERENCE SECTION.

1554 REETZ, G.R.

WATER RESOURCES DEVELOPMENT AND WILDERNESS VALUES: A STUDY OF THE UPPER HUDSON RIVER (1975)

WATER AND MARINE RESOURCES SCIENCES CENTER, CORNELL UNIV, ITHACA, NY 140 PP NTIS-PB-243 736

CONFLICTS BETWEEN WATER RESOURCES DEVELOPMENT PROPOSALS AND DESIRES TO PRESERVE NATURAL ENVIRONMENTS HAVE OCCURRED IN MANY AREAS OF THE US, THE DEGATES OFTEN REACHING THE HIGHEST LEVELS OF GOVERNMENT. GROWING DEMANDS FOR BOTH WATER AND WILDERNESS SUGGEST A POTENTIAL FOR INCREASED COMPETITION IN THE FUTURE. THE CONTROVERSY OVER THE PROPOSED GOOLEY DAM, ON THE UPPER HUDSON RIVER, PROVIDED A CASE STUDY TO EXAMINE THE PLANNING-EVALUATION-DECISON MAKING PROCESSES AS THEY RELATE TO PRESERVATION-DEVELOPMENT CONFLICTS. THE HUDSON RIVER GORGE, FOCAL POINT OF THE GOOLEY CONFLICT, WAS VISITED BY A TOTAL OF 3900 PEOPLE DURING THE SUMMERS OF 1972 AND 1973. QUESTIONNAIRES, WITH RESPONSE RATES FROM 85 TO 87 %, INDICATE AN OVERWHELMING DESIRE TO MAINTAIN THE GORGE IN ITS NATURAL STATE. MAJOR WATER RESOURCES PLANNING PROGRAMS WERE PRECIPITATED BY THE DROUGHT OF THE MID-1-260'S. BOTH FEDERAL AND STATE EFFORTS IDENTIFIED THE GOOLEY RESERVOIR AS THE MOST DESIRABLE ALTERNATIVE FOR MEETING THE WATER SUPPLY NEEDS OF THE GREATER NEW YORK METROPOLITAN AREA. ENVIRONMENTAL PARAMETERS WERE EXAMINED BUT NOT GIVEN SUFFICIENT EMPHASIS IN INITIAL PLANNING EFFORTS. PRESERVATION INTERESTS, WORKING THROUGH POLITICAL PROCESSES, APPEAR TO HAVE BEEN MORE INSTRUMENTAL PRESERVING THE UPPER HUDSON THAT WERE THE PLANNING AGENCIES" ATTEMPTS AT ENVIRONMENTAL ANALYSIS.

1555 REHWOLDI, R.E.; G. BIDA

FISH AVOIDANCE REACTIONS [1970]

BULL ENVIRONM CONTAM TOXICOL 5(3):205-206

MANY INVESTIGATORS HAVE SHOWN THAT SALMONOID AND CENTRARCHID FISH EXHIBIT A STATISICAL AVOIDANCE TO POLLUTED AREAS WHEN GIVEN AN ALTERNATE PATH. THESE OBSERVATIONS BECOME IMPORTANT FROM A NUMBER OF ASPECTS: THE MECHANISM BY WHICH THE FISH DETECT THE POLLUTION, AND EFFECT OF CONCENTRATION, FISH TYPE AND NATURE OF THE POLLUTANT UPON THE AVOIDANCE AND REACTION ARE IMPORTANT TO THE ENVIRONMENTALIST AND THE DISAPPEARANCE OF FISH SPECIES FROM SECTIONS OF THE RIVER ARE IMPORTANT TO THE ECONOMY OF THE RIVER. WE FEEL STRONGLY THAT AT THIS TIME THE HUDSON IS STILL A HEALTHY RIVER AND THAT WE ARE DEALING WITH LOCAL POLLUTION INPUTS WHICH ARE NOT KILLING THE FISH LIFE AS MUCH AS ALTERING THEIR HABITS. AVOIDANCE REACTION INFORMATION WOULD FIELD DATA THAT WOULD FIELD INFORMATION THAT WOULD BE PERTINENT TO POLLUTION LEGISLATION.

1556 REHWOLDT, R.E.; G. BIDA; B. NERRIE

ACUTE TOXICITY OF COPPER, NICKEL AND ZINC IONS TO SOME HUDSON RIVER FISH SPECIES [1971]

BULL ENVIRONM CONTAM TOXICOL 6(5):445-448

THE DISCHARGE OF HEAVY METAL IONS INTO WATERWAYS ROSES A SERIOUS WATER POLLUTION PROBLEM. THESE DISCHARGES CAN BE TOXIC TO AQUATIC LIFE AND CAUSE OTHER SECONDARY EFFECTS UPON WATER QUALITY. THE PURPOSE OF THIS INVESTIGATION WAS TO STUDY THE EFFECT OF SOME COMMON INDUSTRIAL INPUTS UPON THE LIFE EXPECTANCY OF HUDSON RIVER FISH SPECIES. THE FISH STUDIED WERE CAUGHT IN THE ESTUARY ITSELF AND MAINTAINED IN AN ENVIRONMENT SIMILAR TO THEIR NATURAL ENVIRONMENT PRIOR TO BIOASSAY. THE TOXICITY RESULTS ARE EXPRESSED IN TERMS OF CONCENTRATION OF ION IN PPM, AND MULTIPLES OF THE BACKGROUND CONCENTRATIONS OF THESE IONS NORMALLY FOUND IN THE ESTUARY.

1557 REHWOLDT, R.E.; L. LASKO; C. SHAW; E. WIRHOWSKI

THE ACUTE TOXICITY OF SOME HEAVY METAL IONS TOWARD BENTHIC ORGANISMS [1973]

BULL EYVIRON CONTAM TOXICOL 50(5):291-294

A STUDY WAS CONDUCTED TO DETERMINE THE TOXICITY OF SOME HEAVY METAL IONS TOWARD BENTHIC FAUNA IN A FRESHWATER REGION OF THE HUDSON RIVER. METAL IONS EVALUATED WERE CU, ZN, NI, CD, HG, AND CR. WATER QUALITY DURING THE EXPERIMENT WAS MAINTAINED AT 17 C. 50 MG/L HARDNESS, 7.6 PH, AND 6.2 MG/L DISSOLVED OXYGEN. MERCURY WAS THE MOST TOXIC ION TOWARD THE TEST ORGANISMS (BRISTLE WORMS, SCUD, CADDISFLIES, DAMSELFLIES, MIDGES, AND SNAILS) AND WAS MORE TOXIC TOWARD THESE ORGANISMS THAT TOWARD FISH STUDIES EARLIER IN THE SAME AREA. HOWEVER, WITH THE EXCEPTION OF THE SCUD AND MIDGE, BENTHIC ORGANISMS TEND TO BE MORE ABLE TO WITHSTAND HEAVY METAL INPUTS THAN FISH.

1558 REHWOLDT, R.E.; L. LASKO; C. SHAW; E. WIRHOWSKI

TOXICITY STUDY OF TWO OIL SPILL REAGE ITS TOWARD HUDSON RIVER FISH SPECIES [1974]

BULL ENVIRON CONTAM TOXICOL 11(2):159-162

THE MEDIAN TOXICITY OF NO. 2 AND NO. 4 OILS WAS DETERMINED IN LABORATORY TESTS, AS WELL AS THE EFFECTS OF DISPERSANTS AND COLLECTING AGENTS ON THIS TOXICITY. LINEAR ALKYLATE SULFONATE (LAS) WAS THE DISPERSANT USED AND THE COLLECTING AGENT WAS HERDER. RESULTS SHOWED THAT THE DISPERSANT IS FAR MORE TOXIC FOR ALL SPECIES OF FISH TESTED THAN THE OIL, THAT THE TOXICITY OF OILS INCREASED IN TANKS CONTAINING SUBLETHAL AMOUNTS OF LAS, AND THAT HERDER WAS BOTH NONTOXIC AND HAS LITTLE EFFECT ON THE TOXICITY OF OIL TO THE SPECIES TESTED.

1559 REHWOLDT, R.E.; E. KELLEY; M. MAHONEY

INVESTIGATIONS INTO THE ACUTE TOXICITY AND SOME CHRONIC EFFECTS OF SELECTED HERBICIDES AND PESTICIDES ON SEVERAL FRESH WATER FISH SPECIES [1977]

BULL ENVIRON CONTAM TOXICOL 18(3):361-365

THE POSSIBLE EFFECTS OF THE HERBICIDES 2,4-DICHLOROPHENOXY ACETIC ACID (2,4-D) AND 2,4,5-TRICHLOROPHENOXY ACETIC ACID (2,4,5-T) WERE EVALUATED AND COMPARED WITH ALDRIN, MALATHION AND METHYL PARATHION. TOXIC STUDY VALUES WERE DETERMINED FOR HUDSON RIVER FISH SPECIMENS. (MORONE SAXATILIS, FUNDULUS DIAPHANUS, ROCCUS AMERICANUS, ANGUILLA ROSTRATA, CYPRINUS CARPIO, LIBISTES RETICULATUS). LONG-TERM 10-MONTH EXPOSURE STUDIES WERE PERFROMED WITH FISH SUBJECTED SEPARATELY TO CONCENTRATIONS OF 0.1 PPM 2,4-D, 2,4,5-T, METHYL PARATHION, OR 1.01 PPM MALTHION. ACUTE TOXICITY VARIED WITH FISH SPECIES, BUT 2,4-D AND 2,4,5-T WERE LEAST TOXIC. CHRONIC EXPOSURE TO 2,4-D, 2,4,5-T OR ORGANOPHOSPHORUS PESTICIDES DID NOT CAUSE ANY NOTICEABLE OVERT PHYSIOLOGICAL EFFECTS. HOWEVER, BRAIN ACETYLCHOLINESTERASE LEVELS AFTER 10-MONTH EXPOSURE TO ORGANOPHOSPHATES SHOWED A REDUCTION IN ACTIVITY. THE EXPOSURE LEVELS FOR CHRONIC STUDIES WERE FAR IN EXCESS OF THOSE LEVELS IN RUNOFF OR IN SURFACE WATERS.

1560 REHWOLDT, R.E.; W. MASTRIANNI; E. KELLEY; J. STALL

HISTORICAL AND CURRENT HEAVY METAL RESIDUES IN HUDSON RIVER FISH [1978]

BULL ENVIRON CONTAM TOXICOL 19(3):335-339

THE METALS, PB, HG, AND CD ARE KNOWN TO BE TOXINS AND ARE OF GREAT CONCERN WHEN ONE CONSIDERS THE POSSIBLE CONTAMINATION OF FISH AND JILDLIFE. THESE METALS TEND TO ACCUMULATE IN VARIOUS ORGANS OF HUMANS AND ANIMALS AND HAVE BEEN IDENTIFIED AS THE CAUSES OF SEVERAL CLINICAL PROBLEMS. SINCE METALS MAY BE USED AS AN INDICATOR OF INDUSTRIAL DEVELOPMENT, IT IS DESIRABLE TO INVESTIGATE HISTORICAL PRESENCE OF THESE METALS IF OLDER SAMPLES ARE AVAILABLE. THIS INVESTIGATION DEALS WITH FISH TAKEN FROM THE HUDSON RIVER DURING 1976 AND 1977 AND SAMPLE'S FROM THE SAME WATER SYSTEM SUPPLIED BY NEW YORK STATE MUSEUM AND SCIENCE SERVICE, AMERICAN MUSEUM OF NATURAL HISTORY AND VASSAR COLLEGE. THE SAMPLE'S WERE ORIGINALLY CAPTURED IN A TIME PERIOD RANGING FROM 1734 AND 1973.

1561 REID, R.N.; A.B. FRAME; A.F.J. DRAXLER

ENVIRONMENTAL BASELINES IN LONG ISLAND SOUND. 1972-73 [1979]

NOAA/NMFS, SEATTLE, WA 35 PP

QUASI-SYNOPTIC SURVEYS OF WATER COLUMN TEMPERATURE, SALINITY, NUTRIENTS AND DISSOLVED OXYGEN, SEDIMENT GRAIN SIZES AND ORGANIC CONTENT, AND BENTHIC MACROFAUNA WERE CONDUCTED THROUGHOUT LONG ISLAND SOUND IN JUL-AUG 1972 AND APR AND SEPT 1973. TEMPERATURES MERE FAIRLY UNIFORM POTH VERTICALLY AID HORIZONTALLY EXCEPT FOR SOME VERTICAL STRATIFICATION IN JUL-AUG 1972. SALINITIES INCREASED GRADUALLY FROM EAST TO WEST, WHILE DEPTH-RELATED DIFFERENCES WERE MINOR. CONCENTRATIONS OF ALL NUTRIENTS MEASURED INDICATED THAT INPUTS AT THE WESTERN END DOMINATED NUTRIENT DISTRIBUTIONS FOR THE SOUND. DISSOLVED OXYGEN DECREASED FROM EAST TO WEST AND WITH INCREASING WATER TEMPERATURE. BOTTOM DISSOLVED OXYGEN VALUES BELOW 2 MG/1 WERE RECORDED AT SEVERAL STATIONS IN THE WESTERN SOUND IN SUMMER 1972. AS A RULE, SEDIMENTS OF DEEP WATERS IN THE CENTRAL AND WESTERN SOUND CONSISTED OF SILTS AND CLAYS. WHEREAS SANDS PREDOMINATED ALONG THE LONG ISLAND SHORELINE AND IN THE EASTERN BASIN. SEDIMENT ORGANIC MATTER REACHED HIGHEST VALUES (TO 10%) IN THE WESTERNMOST SOUND. THREE ASSEMBLAGES OF BENTHIC MACROFAUNA WERE IDENTIFIED VIA CLUSTER ANALYSES OF 1972 DATA: A BIVALVE (ESPECIALLY MULINIA LATERALIS) DOMINATED THE GROUP IN MUDDY DEEPWATER REGIONS: A SHALLOW SANDY ASSEMBLAGE IN WHICH THE BIVALVES SPISULA SOLIDISSIMA, TELLINA AGILIS, AND ENSIS DIRECTUS PREDOMINATED AND A THIRD ASSEMBLAGE TRANSITION IN BOTH SFDIMENT CHARACTERISTICS AND SPECIES COMPOSITION, BUT WITH INCREASED DOMINANCE BY SEVERAL POLYCHAETE SPECIES. THE MUD-BOTTOM AND TRANSITIONAL FAUNA UNDERWENT LARGE DECREASES IN NUMBERS OF SPECIES AND INDIVIDUALS FROM 1972 TO 1973.

CONTAMINANT CONCENTRATIONS AND EFFECTS IN LONG ISLAND SOUND [1979]

NOAA, HIGHLANDS, NJ '15 PP

ON THE WHOLE, LIS APPEARS TO BE LOWER IN CONCENTRATIONS OF CONTAMINANTS, AND IN CONTAMINANT EFFECTS, THAN ARE OTHER HIGHLY URRANIZED NORTHEASTEPN US ESTUARIES SUCH AS RARITAN BAY AND DELAWARE BAY. THE EASTERN BASIN OF LIS IS RELATIVELY PRISTINE, AND MUCH OF THE CENTRAL BASIN HAS CONTAMINANT CONCENTRATIONS ONLY SLIGHTLY ABOVE THOSE OF "UNPOLLUTED" COASTAL WATERS. MOST OF THE POLLUTANT LOADING IS FOUND IN THE WESTERN END AND ALONG PORTIONS OF THE CONNECTICUT COAST. EVEN IN THSE AREAS, CONTAMINANT LEVELS ARE RARLY SUFFICENT TO HAVE A DEMONSTRABLE EFFECT ON FLORAL AND FAUNAL POPULATION DENSITIES. THIS MAY BE BECAUSE INPUTS OF CONTAMINANTS SUCH AS HEAVY METALS ARE ACTUALLY LESS THAN IN RARITAN BAY OR DELAWARE BAY. THERE IS UNDOUBTEDLY SOME PETROLEUM HYDROCARBON CONTAMINATION IN LIS, BUT IT IS REASONABLE TO ASSUME THAT CONCENTRATIONS ARE LOWER THAN IN RARITAN BAY, WHOSE ENVIRONS SUPPORT VAST OIL INDUSTRY-RELATED ACTIVITIES.

1563 RETDER, R.H.

OCCURRENCE OF THE SILVER LAMPREY IN THE HUDSON RIVER [1979]

NY FISH GAME J 26(1):93

DURING ECOLOGICAL STUDIES ON THE HUDSON RIVER IN 1974, TWO SILVER LAMPREYS (ICHTHYOMZON UNICUSPIS) WERE COLLECTED FROM TRAVELING SCREENS AT THE STEAM STATION OF THE NIAGARA MOHAMK POWER CORPORATION AT MILE 142 NEAR ALBANY, NY, ONE 3N JUNE 1D AND THE OTHER ON DECEMBER 13. WATER TEMPERATURES ON THESE DATES WERE 23 C AND 3 C, RESPECTIVELY. LENGTHS OF THE SPECIMENS WERE 260 AND 270 MM, AND WEIGHTS WERE 33.5 AND 47.8 G, RESPECTIVELY. THE PROBABLE ORIGIN OF THE SPECIMENS REPORTED HERE WAS LAKE CHAMPLAIN WHICH IS CONNECTED WITH THE HUDSON RIVER THROUGH THE CHAMPLAIN CANAL.

1564 REIDER, R.H.

OCCURRENCE OF A KOKANEE IN THE HUDSON RIVER [1979]

NY FISH GAME J 26(1):94

ON DECEMBER 17, 1974 A KOKANEE (ONCORHYNCHUS NERKA), THE LACUSTRINE FORM OF THE SOCKEYE SALMON, WAS RECORDED FROM THE HUDSON RIVER AT MILE 66 NEAR ROSETON, NY. THE FISH WAS COLLECTED OFF THE TRAVELING SCREENS AT THE DANSKAMMER POINT GENERATING STATION OF THE CENTRAL HUDSON GAS AND ELECTRIC CORPORATION. THE WATER TEMPERATURE WAS 3.D C AND DISSOLVED OXYGEN WAS 14.D PPM. THE SPECIMEN WAS A MALE MEASURING 261 MM IN TOTAL LENGTH AND WEIGHING 161.5 G. EXTENSIVE DETERIORATION OF THE MARGINS OF THE SCALES PREVENTED ACCURATE AGE DETERMINATION BY THE SCALE METHOD (DNLY ONE ANNULUS WAS DISCERNIBLE). IT IS POSSIBLE THAT THE SCALES HAD BEEN PARTIALLY RESORDED AS GENERALLY OCCURS IN MATURE INDIVIDUALS. HOWEVER, SINCE KOKANEE STOCKED IN CONNECTICUT LAKES ATTAINED A TOTAL LENGTH OF 25P MM AT AGE II AND 309 MM AT AGE III. IT IS PROBABLE THAT THE PRESENT SPECIMEN WAS A 2 YEAR OLD. THE KOKANEE IS INDIGENOUS TO JAPAN, THE USSR AND WESTERN NORTH AMERICA FROM OREGON TO ALASKA AND IT HAS BEEN INTRODUCED IN THE GREAT LAKES, THE ROCKY MOUNTAIN REGION AND A NUMBER OF LOCALITIES IN THE EASTERN UNITED STATES. POSSIBLE SOURCES OF THE PRESENT SPECIMEN ARE CONSIDERED.

1565 REIFENSTEIN, E.C., III; R.J. HORN, III; M.J. KEEFE

HACKENSACK MEADOWLANDS AIR POLLUTION STUDY: AQUIP SOFTWARE SYSTEM USER'S MANUAL [1974]

NJ DEP, TRENTON, NJ NP

THIS REPORT IS THE FIFTH OF THE 5 TASK REPORTS. ITS PURPOSE IS TO DESCRIBE THE OPERATIONAL CHARACTERISTICS AND REQUIREMENTS OF THE AQUIP SOFTWARE SYSTEM DEVELOPED AND IMPLEMENTED IN THE COURSE OF THIS STUDY. THE REPORT CONCENTRATES ON PROCEDURES FOR

USING THE SOFTWARE COMPONENTS OF THE SYSTEM. SUPPLEMENTARY MATERIAL CONSISTS OF THE FORTRAN IN SOURCE LISTINGS OF THE COMPUTER PROGRAMS AS IMPLEMENTED.

1566 REILLY, T.E.; A.W. HARBAUGH

A COMPARISON OF ANALOG AND DIGITAL MODELING TECHNIQUES FOR SIMULATING THREE-DIMENSIONAL GROUND WATER FLOW ON LONG ISLAND, NEW YORK [1980]

WATER RESOURCES DIV. USGS, HARTFORD, CT 42 PP

A THREE-DIMENSIONAL FLECTRIC-ANALOG MODEL OF THE LONG ISLAND GROUNDWATER SYSTEM CONSTRUCTED BY THE USGS IN THE EARLY 1970'S WAS USED AS THE BASIS FOR DEVELOPING A DIGITAL, THREE-DIMENSIONAL FINITE-DIFFERENCE MODEL. THE DIGITAL MODEL WAS NEEDED TO PROVIDE FASTER MODIFICATIONS AND MORE RAPID SOLUTIONS TO WATER MANAGEMENT QUESTIONS. RESULTS GENERATED BY THE TWO MODELS ARE DEPICTED AS POTENTIOMETRIC-SURFACE MAPS OF THE UPPER GLACIAL AND MAGOTHY AQUIFERS. RESULTS COMPARE FAVORABLY FOR ALL PARTS OF LONG ISLAND EXCEPT THE NORTHWESTERN PART, WHERE HYDROLOGIC DISCONTINUITIES ARE MOST PREVALENT AND WHICH THE TWO MODELS REPRESENT SOMEWHAT DIFFERENTLY. THE MATHEMATICAL AND HYDROLOGIC PRINCIPLES USED IN DEVELOPMENT OF GROUND-MATER MODELS, AND THE PROCEDURES FOR CALIBRATION AND ACCEPTANCE, ARE PRESENTED IN NONTECHNICAL TERMS.

1567 REINERT, R.L.

NEAR-SURFACE OCEANIC DIFFUSION FROM A CONTINUOUS POINT SOURCE [1965]

PAGES 19-27 IN T. ICHIYE, ED. SYMP ON DIFFUSION IN OCEANS AND FRESH WATERS, LAMONT DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, NY, AUG/SEPT 1964

RESULTS AND DISCUSSION OF A DYE EXPERIMENT IN LONG ISLAND SOUND ARE PRESENTED. SPECIAL ATTENTION IS PAID TO CONDITIONS THAT AFFECT SMALL SCALE DIFFUSION. THE EXPERIMENT IS PERFORMED DURING A TIME OF CONSTANT TIDAL CURRENT AND STEADY WINDS. CROSS-PLUME CONCENTRATION DATA AND AERIAL PHOTOGRAPHS ARE INCLUDED. THESE DATA SHOW INTERESTING PATTERNS THROUGHT TO BE DUE TO THE EFFECTS OF WIND AND JAVES.

1568 REIS, R.I. (EDITOR)

COASTAL ZONE LEGAL REFERENCES 1976 [1976]

NYSG LAW CENTER, SUNY, BUFFALO, NY 382 PP

SELECTED LEGAL REFERENCES FOR THE COASTAL ZONE INCLUDE COMPONENTS OF THE COASTAL ZONE, COMPETING INTERESTS, IMPACT ON COASTAL ZONE DYNAMICS, COASTAL ZONE REGULATION, COASTAL ZONE STATES AND THEIR CONFLICTS OF LAWS.

1569 REISNER, M.

TROUBLE AHEAD FOR CLEAN WATER [1977]

NRDC NEWSLETTER 6(4):7-10

THE NATURAL RESOURCES DEFENSE COUNCIL'S PROJECT ON CLEAN WATER WAS ESTABLISHED SHORTLY AFTER PASSAGE OF THE FEDERAL WATER POLLUTION CONTROL ACT OF 1972 (FWPCA). TO ILLUSTRATE THE ALLEGED FAILURE OF THE FEDERAL WATER POLLUTION CONTROL EFFORT, THE AUTHOR TPACES THE PATH OF THE HUDSON RIVER FROM ITS TRIBUTARY SOURCES TO WHERE IT EMPTIES INTO THE ATLANTIC OCEAN. SOURCES AND TYPES OF POLLUTANTS WHICH ENTER THE RIVER ARE IDENTIFIED AND RELATED TO SPECIFIC PROVISIONS OF THE FWPCA DESIGNED TO REMEDY OR

AMELIORATE THE PROBLEM. SEWAGE ENTERING THE RIVER COULD BE TREATED THROUGH IMPLEMENTATION OF THE SEWAGE TREATMENT CONSTRUCTION PROGRAM. OTHER SECTIONS OF THE FWPCA WERE WRITTEN TO: (1) RESTRICT THE DUMPING OF DREDGED OR FILL MATERIAL INTO NAVIGABLE WATERS; (2) CONTROL RUNOFF OF ORGANIC NUTRIENTS, CHEMICAL POISONS, AND SEDIMENTS FROM THE LAND; AND (3) REGULATE TOXIC AND HAZARDOUS POLLUTANTS. FWPCA SECTIONS CONCERNING IMPLEMENTATION OF POLLUTION CONTROL TECHNOLOGY, STATE AND FEDERAL PERMITS SYSTEM, AND ENFORCEMENT ARE ALSO IDENTIFIED. FOCUSING ON THE PROBLEMS OF TOXIC POLLUTANTS, SAVING METLANDS, ENFORCEMENT AND RUNOFF, THE AUTHOR THE INTERACTION OF THE LEGISLATIVE AND LITIGATION EFFORTS OF THE PROJECT GOVERNMENTAL AGENCIES, AND PRIVATE INDUSTRY. THE AUTHOR ADVOCATES VIGOROUS CITIZEN EFFORTS TO PREVENT WEAKENING OF THE FWPCA.

1570 REMSEN. C.C.

THE DISTRIBUTION OF UREA IN COASTAL AND OCEANIC WATERS [1971]

LIMNOL OCEANOGR 16(5):732-740

IT HAS BEEN SUGGESTED THAT UREA SHOULD BE CONSIDERED A PART OF THE NITROGEN RESERVE IN COASTAL WATERS AND PERHAPS IN OCEANIC WATERS AS WELL. THE DISTRIBUTION WAS DETERMINED FOR CERTAIN COASTAL AND OCEANIC WATERS, AS FOLLOWS: UREA-NITROGEN IN SURFACE WATERS OFF THE CONTINENTAL SHELF BETWEEN PANAMA AND CALLAD, PERU, WAS EXTREMELY PATCHY AND VARIED IN CONCENTRATION FROM 0.54 TO 5.00 MICROG-ATOM UREA-N/L. HIGHER VALUES WERE GENERALLY FROM SAMPLES COLLECTED WITHIN A FOAM SLICK OR WINDROW. SURFACE WATERS IN NONUPWELLING WATERS NORTH OF CALLAD AVERAGED 1.83 MICROG-ATOM UREA-N/L WHILE SURFACE WATERS IN UPWELLING WATERS SOUTH OF CALLAD AVERAGED 3.46. ALONG THE CONTINENTAL SHELF OF THE NORTHEAST US BETWEEN CAPE COD AND CAPE MAY, THE CONCENTRATION OF UREA RANGED FROM J.25 MICROG-ATOM UREA-N/L ON THE 1000 FATHOM (1830 METER) LINE TO A HIGH OF 11.20 WITHIN NEW YORK HARBOR. THE VERTICAL DISTRIBUTION OF UREA IN PERUVIAN WATERS, ALONG THE NORTHEAST US, AND SARGASSO SEA FLUCTUATED CONSIDERABLY WITH DEPTH BUT THERE WERE INDICATIONS OF PEAKS. THE SUGGESTION THAT UREA MAY SERVE AS AN AVAILABLE SOURCE OF NITROGEN FOR PHYTOPLANKTON GROWTH IS SUPPORTED.

1571 RETZCH. W.C.

A LEGISLATIVE AND MANAGEMENT PLAN FOR THE RECREATIONAL AND COMMERICAL STRIPED BASS FISHERIES OF NEW YORK STATE [1975]

M.S. THESIS. SUNY, STONY BROOK, NY 128 PP

AVAILABLE COMMERCIAL AND RECREATIONAL FISHERY LANDINGS STATISTICS AND SCIENTIFIC EVIDENCE SHOW THAT THE ATLANTIC COAST STRIPED BASS RESOURCE HAS BEEN INCREASING IN ABUNDANCE FOR 40 YRS. THERE IS NO EVIDENCE THAT COMMERCIAL FISHING HAS BEEN DESTRUCTIVE OR THAT THE RESOURCE HAS BEEN OVERFISHED. THE CONTROVERSY BETWEEN RECREATIONAL AND COMMERCIAL FISHERMEN IS BASED ON MISUNDERSTANDING AND PARADOX. THE DISTINCTION BETWEEN MANAGEMENT OF THE RESOURCE AND WHO SHOULD GET THE CATCH HAS BEEN ALMOST TOTALLY IGNORED. THERE IS NO COMPREHENSIVE RESEARCH AND MANAGEMENT PLAN FOR THE ENTIRE ATLANTIC COAST STRIPED BASS FISHERY. A SCIENTIFIC BASIS FOR MANAGEMENT DOES NOT YET EXIST. MINIMUM NEEDS ARE ACCURATE ESTIMATES OF BIRTH AND RECRUITMENT RATES, STOCK SIZE, AND NATURAL AND FISHING MORIALITY. DATA MUST BE DERIVED FROM RECREATIONAL AS WELL AS COMMERCIAL FISHERIES. AN EMPIRICAL MANAGEMENT SCHEME, IF DESIRED, MIGHT BE DEVELOPED FROM INCOMPLETE EXISTING DATA, TO BE EXTENDED AND REVISED AS NEW INFORMATION ACCUMULATES. NY COULD BEST CONTRIBUTE TO MANAGEMENT BY MAKING A CLEAR STATEMENT OF POLICY AND BY ASSUMING A POSITION OF LEADERSHIP TO GET THINGS DONE.

1572 RHOADS, D.C.

CONTAINMENT SPOILING IN CENTRAL LONG ISLAND SOUND: AN EXAMPLE OF SHORT-TERM BIOLOGICAL ENHANCEMENT [1976]

PAGES 56-69 IN TIME-STRESSED COASTAL ENVIRONMENTS: ASSESSMENT AND FUTURE ACTION, PROC OF 2ND ANN CONFERENCE, COASTAL SOCIETY, NEW ORLEANS, LA, 17-20 NOV 1976

19 ACTIVE SPOILING SITES LOCATED IN LONG ISLAND SOUND REGULARLY RECEIVE DREDGE SPOILS FROM HARBOR MAINTENANCE PROJECTS

PRINCIPALLY FROM THE CT COAST. THE SHORT-TERM EFFECTS OF CONTAINMENT SPOILING APPEARS TO FAVOR A PIONEERING ASSEMBLAGE OF NEAR SURFACE LIVING INVERTEBRATES WHICH FEED AT, OR ABOVE, THE BOTTOM. THEIR LIFE HISTORY FEATURES RESULT IN EXPONENTIAL RATES OF RECRUITMENT, CULMINATING IN A DENSE ALBEIT TRANSIENT ASSEMBLAGE OF HIGH SPECIES RICHNESS. SECONDARY PRODUCTIVITY IS HIGH RELATIVE TO THE AMBIENT (UNDISTURBED) SEAFLOOR ASSEMBLAGE. IN THE ABSENCE OF FURTHER DISTURBANCE, THIS BIOLOGICAL ENHANCEMENT IS SHORT LIVED. BECAUSE THE SURVIVORSHIP OF GROUP I COLONIZERS IS SHORT AND GROUP I SPECIES TEND TO OVER-EXPLOIT RESOURCES, THE PIONEERING SERE IS UNPREDICTABLE IN 95TH SPACE AND TIME. ON THE TIME SCALE OF SEVERAL YEARS THE DENSITY OF ORGANISMS AT THE DUMP. AS WELL AS SPECIES NUMBER. IS EXPECTED TO HAVE HIGH VARIANCE RELATIVE TO THE AMBIENT COMMUNITY.

1573 RHOADS, D.C.; R.C. ALLER; M.B. GOLDHABER

THE INFLUENCE OF COLONIZING BENTHOS ON PHYSICAL PROPERTIES AND CHEMICAL DIAGENESIS OF THE ESTUARINE SEAFLOOR [1977]

PAGES 113-133 IN B.C. COULL, ED. ECOLJGY OF MARINE BENTHOS. UNIV OF SOUTH CAROLINA PRESS, COLUMBIA, SC

DIVER-TAKEN BOX CORES FROM A DREDGE-SPOIL DUMP AND CONTROL STATION WERE USED TO DOCUMENT CHANGES IN: BENTHOS, SEAFLOOR STABILITY, SEDIMENTARY STRUCTURES, REDOX DEPTH, WATER CONTENT, AND PORE WATER PROFILES. THE COLONIZATION OF THE DUMP SURFACE MAY BE DIVIDED INTO THREE STAGES: STAGE I (JUN-JUL) REPRESENTED INITIAL RECRUITMENT OF SHALLOW BURROWING SURFACE DEPOSIT FEEDERS, SUSPENSION FEEDERS, AND MEJOFAUNA. STAGE II (AUG-NOV) WAS A PHASE OF EXPONENTIAL RECRUITMENT OF STAGE I POPULATIONS AND NEW RECRUITMENT OF DEEPER-FEEDING INFAUNA. STAGE III (DEC-APR) WAS A PERIOD OF LEVELING OFF IN POPULATION DENSITIES. THE CONTROL STATION SHOWED RELATIVELY CONSTANT STANDING CROPS OF DEEP-FEEDING DEPOSIT FEEDERS OVER THE SAMPLING PERIOD. LATE STAGE II ABUNDANCES AND DIVERSITIES ON THE DUMP EXCEEDED THOSE AT THE CONTROL STATION. HABIT MODIFICATION RELATED TO THE THREE COLONIZATION STAGES ARE: STAGE I (SUMMER)--FECAL PELLET PRODUCTION STARTS AND THE REDOX POTENTIAL DISCONTINUITY (RPD) IS DEPRESSED TO ABOUT ONE CM BY BIOTURBATION AND RESPIRATION ACTIVITIES. STAGE II (FALL)--THE SURFICIAL LAYER OF PELLETS EXPERIENCES SOME DESTRUCTION BY METOFAUNAL GRAZING. THE RPD IS DEPRESSED TO 2-3 CM AND PORE WATER PROFILES IN SO4, NH4+ APPROACH CONSTANT VALUES TO A DEPTH OF 3-6 CM. THE SEAFLOOR IS BOUND BY MICROBIAL EXUDATES. STAGE III (WINTER)--THE PELLETAL SURFACE DECAYS, THE PPD REBOUNDS TO A DEPTH OF 1-2 CM. PORE WATER PROFILES BECOME PREDOMINATELY DIFFUSION CONTROLLED. MICROBIAL BUNDING DECREASES. SEVERAL HYPOTHESES ARE STATED REGARDING THE POTENTIAL IMPORTANCE OF THESE HABITAT MODIFICATIONS TO THE COLONIZATION SEQUENCE.

1574 RHOADS, D.C.; P.L. MCCALL; J.Y. YINGSI

CATED AND PRODUCTION ON THE ESTUARINE SEAFLOOR [1978]

AM SCI 66(5):577-586

AT THE PRESENT TIME, ONE OF THE MOST PRESSING ESTUARINE MANAGEMENT PROBLEMS IS RELATED TO THE DISPOSAL OF DREDGED SEDIMENT AND SLUDGE. ONSHORE DISPOSAL IS NOT ALWAYS POSSIBLE OR DESIRABLE WHILE DUMPING IN DEEP WATER IS VERY EXPENSIVE AND MAY HAVE ADVERSE ECOLOGICAL EFFECTS. IN THIS ARTICLE THE PROPOSAL THAT THE DUMPING OF DREDGED SEDIMENT IN ESTUARIES CAN BE MANAGED SO THAT PRODUCTION OF ANIMALS ON THE SEAFLOOR IS ENHANCED RATHER THAN JEOPARDIZED IS EXPLORED BY EXAMINING THE RESPONSE OF BOTTOM COMMUNITIES IN CENTRAL LONG ISLAND SOUND TO PHYSICAL DISTURBANCES. COLONIZING SPECIES CAN BE CLASSIFIED ACCORDING TO THE 3 MODES OF COLONIZATION: GROUP 1 COLONIZERS ARRIVE WITHIN A FEW DAYS AND REACH PEAK ABUNDANCE WITHIN A RELATIVELY SHORT PERIOD OF TIME. IN THE ABSENCE OF FURTHER DISTURBANCE, GROUP 1 SPECIES, EXPERIENCE HIGH MORTALITY AND MAY DISAPPEAR LOCALLY AS A RESULT OF COMPETITION AND/OR PREDATION. GROUP 3 COLONIZERS MAY APPEAR EARLY IN SUCCESSION, BUT THEY MAINTAIN MORE OR LESS CONSTANT RELATIVELY LOW POPULATION DENSITIES. INDIVIDUALS OF THESE SPECIES PERSIST OVER LONG PERIODS OF TIME. GROUP 2 SPECIES REPRESENT A MODE OF COLONIZATION INTERMEDIATE TO GROUP 3. THESE SPECIES PERSIST OVER LONG PERIODS OF TIME. GROUP 2 SPECIES REPRESENT AND THE PRODUCTIVE THAN THE PIONEERING STAGE, BUT IT IS MORE PREDICTABLE IN TIME AND SPACE, AND ITS ECOLOGICAL ROLE MAY BE TO RECYCLE BURIED NUTRIENTS BACK INTO THE WATER COLUMN. THESE ATTRIBUTES OF A MATURE COMMUNITY ARE DESERVING OF CONSERVATION AND PROTECTION BY MAN.

1575 RICH, C.A.; Y.K. COCH; L. MCCORNICK

EFFECTS OF STORMS AND CONSTRUCTION ACTIVITIES ON BEACH ACCRETION AND RECESSION RATES FROM MORICHES INLET TO AMAGANSETT, LONG ISLAND, NY [1978]

GEOL SOC AM ABSTR PROG 10(2):82

MEASUREMENTS OF GRASS LINE, DUNE BASE LINE, AND HIGH WATER LINE DISTANCES WERE MADE AT 400 FT INTERVALS ON AERIAL PHOTOGRAPHS OF THE SOUTH SHORE OF EASTERN LONG ISLAND. TEN SETS OF THESE PHOTOGRAPHS (SCALE 1 IN = 200 FT) FROM 1938 TO 1972 PROVIDED THE DATA FOR BEACH AND DUNE CHANGES. INFORMATION FROM THE PHOTOS WAS SUPPLEMENTED BY FIELD SURVEYS AND HISTORICAL REPORTS. A COMPUTER STORAGE-RETRIEVAL SYSTEM WAS DESIGNED TO ANALYZE AND QUANTITATIVELY INTERPRET BEACH EROSION DATA. THIS TECHNIQUE WAS THEN USED TO CALCULATE CHANGES IN RATES OF BEACH EROSION AND ACCRETION FOR THE LAST 35 YR, PREDICT FUTURE RATE CHANGES, AND MONITOR EFFECTS OF STORMS AND CONSTRUCTION ACTIVITIES ON THESE RATES. THE ENTIRE COASTAL SEGMENT STUDIED IS PRESENTLY ERODING LANDWARD AT AN AVERAGE RATE OF 0.8 FT/YR. HURRICANES CAUSED 65 % OF THIS BEACH RECESSION, WHILE THE REMAINING 35 % RESULTS FROM SMALLER STORMS, CONSTRUCTION ACTIVITIES, AND COMMERCIAL DEVELOPMENT. PERIODIC STORM BREACHING CREATES INLETS THROUGH THE BARRIER ISLAND AND CARRIES LARGE QUANTITIES OF SEDIMENT ONTO TIDAL DELTAS THROUGH BREACHES IN THE NATURAL DUNE RIDGE. GROIN FIELDS CONSTRUCTED TO STABILIZE THE BEACH ARE EFFECTIVE ONLY WITHIN LIMITED DISTANCES. OVER THE LONG TERM, THERE IS A NET EROSIONAL EFFECT FROM THEIR EMPLACEMENT, WITH RECESSION RATES INCREASING DOWNDRIFT.

1576 RICHARD, G.A.

SEASONAL AND ENVIRONMENTAL PATTERNS OF SHORT-TERM SEDIMENT ACLRETION IN A SALT MARSH [1976]

GEOL SOC AM ABSTR PROG 8(2):255-266

FLAX POND, A SMALL TIDAL MARSH ON THE NORTH SHORE OF LONG ISLAND, NY, CONTAINS DEPOSITIONAL ENVIRONMENTS WHICH DIFFER IN ELEVATION AND DENSITY OF VEGETATION. IN OCT, 1974, THREE SEDIMENTARY ENVIRONMENTS IN THE WESTERN PART OF THE MARSH WERE CHOSEN FOR A STUDY OF SHORT-TERM SEDIMENT ACCRETION: 1) BARE MUD FLATS, 2) AREAS WHERE SPARTINA ALTERNIFLORA HAS RECENTLY COLONIZED THE MUD FLATS, AND 3) AREAS WHERE A DENSE STAND OF S. ALTERNIFLORA IS ESTABLISHED AND A LAYER OF PEAT HAS ACCUMULATED. THO 1 M2 PLOTS JITHIN EACH ENVIRONMENT WERE COVERED WITH A MARKER BED OF EITHER BRICK DUST OR ALUMINUM GLITTER. CORES WERE TAKEN MONTHLY AND THE AMOUNT OF SEDIMENT ADDED TO THE MARKER BEDS WAS MEASURED. IN THE AREA OF ESTABLISHED S. ALTERNIFLORA, THE PEAT SURFACE HAS A SEDIMENTATION RATE OF 4.25 MM/YA. AREAS NEWLY COLONIZED BY S. ALTERNIFLORA ARE CHARACTERIZED BY AN ACCRETION RATE OF 49 MM/YR. THE SEDIMENTATION RATE ON BARE MUD FLATS IS 57.5 MM/YR. REPLICATE PLOTS INDICATE THAT VARIATION WITHIN EACH DEPOSITIONAL ENVIRONMENT IS MINIMAL. NO SEASONAL PATTERN OF SEDIMENTATION WAS DETECTED. SEDIMENTATION RATES INCREASE WITH DECREASING ELEVATIONS ARE SUBJECT TO SEDIMENTATION FOR A GREATER PORTION OF THE TIDAL CYCLE, AND THE HEIGHT OF THE OVERLYING WATER COLUMN IS GREATER AT LOWER ELEVATIONS. ALTHOUGH S. ALTERNIFLORA AIDS IN THE TRAPPING AND BINDING OF SEDIMENT, THE EFFECTS OF ELEVATION ARE MORE IMPORTANT THAN YESETATION DENSITY IN GOVERNING SEDIMENTATION RATES.

1577 RICHARD, G.A.

SEASONAL AND ENVIRONMENTAL VARIATIONS IN SEDIMENT ACCRETION IN A LONG ISLAND SALT MARSH [1978]

ESTUARIES 1(1):29-35

FLAX POND IS A SMALL (0.5 KM2) SALT MARSH ON THE NORTH SHORE OF LONG ISLAND, NY. TWO 1 M2 PLOTS WITHIN EACH OF THE FOLLOWING ENVIRONMENTS WERE COVERED WITH A MARKER LAYER OF EITHER BRICK DUST OR ALUMINUM GLITTER: 1) BARE MUD FLATS; 2) AREAS NEWLY COLONIZED BY SPARTINA ALTERNIFLORA; AID 3) HIGH INTERTIDAL S. ALTERNIFLORA PEAT SURFACES. MONTHLY CORES REVEALED THE AMOUNT OF SEDIMENT THAT ACCUMULATED SINCE PLACEAENT OF THE MARKER. ACCRETION RATES FROM OCT 1974 TO FER 1976 WERE AS FOLLOWS: BARE MUD FLATS--20.5 TO 45.5 MM/YR; RECENTLY VEGETATED MUD FLATS--9.5 TO 37.0 MM/YR; AND HIGH INTERTIDAL PEAT SURFACES--2.0 TO 4.25 MM/YR. SEDIMENTATION RATES DECREASE WITH INCREASING ELEVATION BECAUSE OF THE REDUCED TIDAL SUBMERGENCE TIME AND DECREASED HEIGHT OF THE OVERLYING MATER COLUMN. IN AREAS OF LOW ELEVATION, ICE AND STORMS CAUSE EITHER EROSION OR A REDUCED RATE OF ACCRETION DURING THE WINTER MONTHS. THE AVERAGE MUD ACCRETION RATE OVER THE PAST 173 YR IS 3.4 MM/YR. DIFFERENCES BETWEEN THE SHORT-TERM RATE AND THE LONG-TERM RATE INDICATE SUBSTANTIAL ANNUAL VARIATION IN THE ACCUMULATION OF MUD IN SALT MARSHES.

SHORT_TERM RATES OF PEAT ACCRETION ARE SIMILAR TO LONG-TERM ESTIMATES, INDICATING THAT RATES OF PEAT ACCRETION ARE RELATIVELY CONSTANT OVER LONG INTERVALS.

1578 RICHARDS, S.W.; A.W. KENDALL, JR.

DISTRIBUTION OF SAND LANCE, AMMODYTES SP., LARVAE ON THE CONTINENTAL SHELF FROM CAPE COD TO CAPE HATTERAS FROM RV DOLPHIN SURVEYS IN 1966 [1973]

FISH BULL 71(2):371-386

POSTLARVAE OF ONE SPECIES OF SAND LANCE, WHICH RESEMBLED AMMODYTES MARINUS EXACTLY, WERE COLLECTED ALONG THE EAST COAST OF THE US BETHEN MARTHA'S VINEYARD, MA AND CAPE HATTERAS, NC (LAT 41 TO 35 N), IN JAN-FEB, APR, MAY, AND DEC 1966. THEY WERE MORE ABUNDANT IN TOWS TAKEN AT NIGHT THAN IN TOWS TAKEN DURING THE DAY. RECENTLY HATCHED SPECIMENS (4-8 MM) WERE MORE ABUNDANT IN SHALLOW WATER. DIURNAL MIGRATIONS ARE PROBABLY RELATED TO FEEDING IN ALL LARGER SIZE GROUPS. THE GREATEST ABUNDANCE OF SAND LANCE LARVAE OCCURRED IN WINTER OFF THE MOUTHS OF THE PRINCIPAL ESTUARIES (SOUTHERN NEW ENGLAND, DELAWARE, AND THE CHESAPEAKE BAYS). DISPERSING RAPIDLY OFFSHORE, THEY WERE TAKEN ALL THE WAY TO THE EDGE OF THE CONTINENTAL SHELF. AS THEY GREW, ABUNDANCE APPEARED TO BE DIRECTLY RELATED TO THAT OF PLANKTON ORGANISMS, WHICH IN TURN WERE SOMEWHAT AFFECTED BY THE PRESENCE OF ESTUARIES ALONG THE COAST. BY MID-MAY, LARVAE WERE NOT AVAILABLE IN THIS REGION, PROBABLY MOVING TO COASTAL BEACHES, UP INTO THE ESTUARIES, OR ONTO THE BOTTOM.

1579 RICHARDS, S.W.; J.M. MANN; J.A. WALKER

COMPARISON OF SPANNING SEASONS, AGE, GROWTH RATES, AND FOOD OF TWO SYMPATRIC SPECIES OF SEAROBINS, PRIONOTUS CAROLINUS, AND PRIONOTUS EVOLANS, FROM LONG ISLAND SOUND [1977]

ESTUARIES 2(4):255-268

BOTH SPECIES ENTERED THE GOUND IN APRIL AND SPAWNED DURING JUNE AND JULY. P. EVOLANS APPEARED TO SPAWN SLIGHTLY EARLIER IN SUMMER THAN P. CAROLINUS. ADULTS BEGAN TO LEAVE THE SOUND AFTER SPAWNING AND WERE USUALLY ABSENT AFTER NOV. YOUNG-OF-THE-YEAR WERE TAKEN REGULARLY FROM AUG TO NOV AND, OCCASIONALLY IN WATER OVER 20 M DEEP, INTO FEB WHEN THE BOTTOM WATER TEMPERATURE WAS 1.4 C. AT THE END OF THE FIRST GROWING SEASONS BOTH SPECIES EXHIBITED LARGE VARIATIONS IN STANDARD LENGTHS. BACK-CALCULATIONS FROM SCALE ANNULI MEASUREMENTS INDICATED THAT LINEAR GROWTH RATES DURING THE JUVENILE YEARS WERE SIMILAR IN BOTH SPECIES. HOWEVER, P. EVOLANS WAS CONSIDERABLY HEAVIER THAN P. CAROLINUS. DURING ADULTHOOD, P. EVOLANS WAS NOT ONLY LONGER AND HEAVIER THAN P. CAROLINUS, BUT LIVED LONGER. BOTH SPECIES WERE OPPORTUNISTIC FEEDERS, AND CRUSTACEANS WERE CLEARLY THE DOMINANT GROUP OF PREY. PARTITIONING OF THE RESOURCES OF LONG ISLAND SOUND BY THESE TWO SPECIES APPEARED TO BE BY PREY SIZE. P. EVOLANS ATE PREY THAT, ON THE AVERAGE, WERE SLIGHTLY LARGER THAT THOSE EATEN BY P. CAROLINUS. FURTHERMORE, P. EVOLANS, ATE GREATER AMOUNT OF NEKTONIC SPECIES THAN P. CAROLINUS, WHICH APPEARED TO PREFER BENTHIC INVERTEBRATES.

1580 RICHARDSON, D.K.

THE COST OF ENVIRONMENTAL PROTECTION -- REGULATING HOUSING DEVELOPMENT IN THE COASTAL ZONE 1976]

CENTER FOR URBAN POLICY RESEARCH, RUTGERS UNIV. NEW BRUNSWICK, NJ 219 PP

21 RESIDENTIAL DEVELOPMENTS IN THE DOVER TOWNSHIP, NJ AREA WERE MONITORED FROM ACQUISITION OF LAND TO FINAL APPROVAL OF THE DEVELOPMENT PROPOSAL. THE COSTS OF OBTAINING EACH REGULATORY APPROVAL, INCLUDING CONSULTING, ENGINEERING, LEGAL, GOVERNMENTAL FEES, AND HOLDING COSTS INCURRED BY THE DEVELOPER, WERE ITEMIZED. THE COSTS OF THE REGULATORY PROCESS WERE THEN BROKEN DOWN ACCORDING TO COSTS INCURRED DURING THE LOCAL REGULATORY PROCESS AND THOSES COSTS RESULTING FROM STATE INTERVENTION IN THAT PROCESS. OF THE \$4,700 TOTAL COSTS FOR SINGLE-FAMILY DEVELOPMENTS, THE INTIAL COST OF THE LAND CONSTITUTES APPROXIMATELY \$2,300 AND REGULATORY COSTS \$1,600 OF THE REMAINDER. THUS, THE ORIGINAL LAND INVESTMENT OF THE DEVELOPER IS NEARLY DOUGLED AS A RESULT

OF THE REGULATORY PROCESS. A SLIGHTLY LOWER RATIO OF LAND TO REGULATORY COSTS APPLIES FOR MULTIFAMILY DEVELOPMENTS. AMONG THE 30 SOME REGULATORY COSTS INCURRED BY THE DEVELOPER, THE COSTS RELATED TO THE CAFRA REVIEW RANGE AMONG THE LARGEST. THIS STUDY FOCUSES ON THE RELATIVE SIGNIFICANCE OF REGULATORY COSTS, WITH THE IDEA THAT SOME OF THESE COSTS MIGHT BE MINIMIZED BY COMBINING OR COORDINATING VARIOUS REGULATORY PROCEDURES. THE METHODOLOGY FOR ASSESSING PROCESSING TIME AND COSTS. AS WELL AS A BREAKDOWN OF THESE FACTORS, IS INCLUDED IN THE DISCUSSION. THE DOVER TOWNSHIP COASTAL AREA LYING, AS IT DOES, SO CLOSE TO THE OUTER RING OF THE NEW YORK METROPOLITAN REGION IS SUBJECT TO EXTREME DEVELOPMENT PRESSURES AND PROVIDES A REALISTIC TEST-AREA FOR MECHANISMS INTENDED TO COPE WITH MULTIPLE LAND USE CONFLICTS IN AN AREA OF FRAGILE AND LIMITED NATURAL RESOURCES.

1581 RICHARDSON, F.; O.W. TERRY

NEW YORK SEA GRANT INSTITUTE ANNUAL REPORT 1973-1974 - A REPORT ON THE NEW YORK STATE SEA GRANT PROGRAM FROM OCTOBER 1973 TO NOVEMBER 1974 [1974]

PAPER NO 75102406. NOAA, BOULDER, CO. 52 PP NTIS-P8-247 403

THE ANNUAL REPORT COVERS THE 3RD SUCCESSIVE YEAR OF INSTITUTIONAL SUPPORT TO THE SUNY/CORNELL UNIVERSITY CONSORTIUM UNDER THE NY SEA GRANT PROGRAM. ACCORDING TO THE REPORT, THE NY SEA GRANT PROGRAM "MATURED" IN THREE DIFFERENT WAYS: (1) EXPANDING PRODUCTIVITY OF THE RESEARCH PROGRAM WAS DEMONSTRATED BY INCREASING NUMBERS OF PUBLICATIONS IMPORTANT TO GOVERNMENTAL AGENCIES AND INDUSTRY; (2) THE ADVISORY SERVICE PROGRAM BROADENED ITS BASE AND NOW HAS A FULL COMPLEMENT OF REGIONAL OFFICES; (3) THE SUCCESS OF THE CONSORTIAL RELATIONSHIP BETWEEN THE CAMPUSES OF THE SUNY SYSTEM AND CORNELL UNIVERSITY WAS MARKED BY THE AUTHORIZATION OF THE BOARDS OF TRUSTEES OF BOTH INSTITUTIONS TO CREATE THE NEW YORK SEA GRANT INSTITUTE. THE PRIMARY THEME OF SEA GRANT IN NEW YORK HAS BEEN MAKING PEOPLE AWARE OF THEIR COASTAL ZONE AND HELPING STATE GOVERNMENT DEVELOP A COASTAL ZONE MANAGEMENT PLAN.

1582 RICHARDSON, F.; O.W. TERRY

SEA GRANT IN 1975--NEW YORK SEA GRANT INSTITUTE ANNUAL REPORT NOVEMBER 1974-OCTOBER 1975 [1976]

NYSG, 4LBANY, NY 26 PP NTIS-PB-263-887

THIS REPORT SUMMARIZES THE ACTIVITIES AND PLANS MADE IN 1975 IN THE AREAS OF MARINE FOODS AND TECHNOLOGY, COASTAL PLANNING AND THE USE AND MANAGEMENT OF COASTAL RESOURCES, AND IN PARTICULAR IT DEALS WITH THE RECREATION BUSINESS.

1583 RICHARDSON, R.W.; G. TAUBER (EDITORS)

THE HUDSON RIVER BASIN: ENVIRONMENTAL PROBLEMS AND INSTITUTIONAL RESPONSE [1979]

ACADEMIC PRESS, NEW YORK, NY NP 2 VOL

THESE TWO VOLUMES ARE BASED ON REPORTS OF THE HUDSON BASIN PROJECT, CONDUCTED BY MID-HUDSON PATTERN, INC., ORIGINALLY PUBLISHED IN 1976 AND 1977. CASE STUDIES OF LAND USE, TRANSPORTATION, ENVIRONMENTAL SERVICE SYSTEMS, ENERGY SYSTEMS, RESOURCE MANAGEMENT ARE INCLUDED. MANY PPOBLEMS WERE CAUSED BY HEAVY POPULATION AND INDUSTRY GROWTH FOLLOWING WORLD WAR II. INADEQUECIES OF LEGISLATION AND COST/BENEFIT ASSESSMENTS ARE DISCUSSED. VOL. 1: ANATOMY OF AN ENVIRONMENT; LAND USE/HUMAN SETTLEMENT; TRANSFORTATION; ENVIRONMENTAL SERVICE SYSTEMS; ENERGY SYSTEMS; LAND USE/ NATURAL RESOURCE MANAGEMENT VOL. II: WATER RESOURCES; AIR RESOURCES; BIOLOGICAL COMMUNITIES; HUMAN HEALIH; LEISURE TIME AND RECREATION; PROJECT HISTORY AND PROCESS.

1584 RICKLES, R.N.

ENERGY IN THE CITY ENVIRONMENT [1973]

NOYES PRESS, PARK RIDGE, NJ 173 PP

THIS REPORT CONSIDERS THE ENERGY PROBLEMS OF THE NEW YORK METROPOLITAN AREA. A WORKSHOP MEETING BY THE NEW YORK BOARD OF TRADE'S BUSINESS COUNCIL ON ENVIRONMENT FOCUSED ON IMMEDIATE AND LONG RANGE ASPECTS OF THE ENERGY CRISIS, INVOLVING ELECTRIC UTILITIES. INDUSTRY. TRANSPORTATION. RESIDENTIAL/COMMERCIAL ENERGY NEEDS.

1585 RIND . D.

HEATING OF THE LOWER THERMOSPHERE BY THE DISSIPATION OF ACOUSTIC WAVES [1977]

J ATM TER P 39:445-456

INFRASOUND OF 0.2 HZ KNOWN AS MICROBAROMS, GENERATED BY INTERFERING OCEAN WAVES, PROPAGATES INTO THE LOWER THERMOSPHERE WHERE IT IS DISSIPATED BETWEEN 110 AND 140 KM. IT IS SHOWN HERE THAT UNDER AVERAGE CONDITIONS IN WINTER THE ENERGY INPUT INTO THIS REGION IS OF THE ORDER OF 0.33 W/KG, THE SAME AS THAT ESTIMATED FOR GRAVITY WAVE DISSIPATION, AND CAPABLE OF PRODUCING A HEATING OF AT LEAST 30 K/DAY. TO ARRIVE AT THIS RESULT DIFFERENT DISSIPATION MECHANISMS ARE DISCUSSED, WITH THE CALCULATED ATTENUATION COMPARED TO PREVIOUSLY PUBLISHED OBSERVATIONS AND OBSERVATIONS OF NATURAL INFRASOUND AT PALISADES, NY. INCREASED ACOUSTIC ATTENUATION DUE TO THE PRESENCE OF TURBULENCE IS NOT, IN GENERAL, IN EVIDENCE.

1586 RINER. M.I.

A STUDY ON METHOD, TECHNIQUES AND GROWTH CHARACTERISTICS FOR TRANSPLANTED PORTIONS OF EELGRASS (ZOSTERA MARINA) [1976]

M.S. THESIS. ADELPHI UNIV. GARDEN CITY. NY 107 PP

COMPARISON WAS MADE FOR THE SURVIVAL AND GROWTH OF THREE TRANSPLANT TECHNIQUES USING VEGETATIVE PORTIONS OF Z. MARINA. THIS WAS DONE BY MANUALLY PLANTING, ON A 1 FOOT SPACING PATTERN, MORE THAN 2,000 PORTIONS OF PLUGS, MINIPLUGS AND INDIVIDUAL SHOOTS COVERING AN AREA OF 0.05 HECTARES (0.02 ACRES). SURVIVAL WAS FOUND TO BE TECHNIQUE DEPENDENT AND RANGED IN VALUE FROM 100% FOR PLUGS TO 36% FOR INDIVIDUAL SHOOTS, AFTER A PERIOD OF Z MO. MINIPLUGS, HOWEVER, WITH A SURVIVAL RATE OF 71%, REPRESENT THE BEST TRANSPLANT TECHNIQUE DUE TO EASE IN HARVESTING, TRANSPORTING AND PLANTING. GROWTH VALUES INDICATE THAT LARGER INITIAL TRANSPLANT SIZE RESULTS IN GREATER PRODUCTION OF MATERIAL/UNIT TIME, ALTHOUGH SMALLER PORTIONS ARE MORE PROLIFIC WHEN EVALUATED WITH RESPECT TO THEIR STARTING QUANTITY. WHILE TREATMENT OF SINGLE SHOOTS WITH THE HORMONE, NAPTHTHALENE ACETIC ACID, WAS NOT ADVANTAGEOUS IN PROMOTING GROWTH, THE USE OF A SLOW RELEASE FERTILIZER RESULTED IN GREATER DRY WEIGHT VALUES FOR THE SHOOT AND RHIZOME MATERIAL IN TRANSPLANTS. EVIDENCE FROM A YEARLY STUDY WITHIN A NATURAL POPULATION OF ZOSTERA INDICATES THAT TRANSPLANTS ALSO SHOW A DIFFERENCE IN GROWTH RESPONSE, ONCE REMOVED FROM THE ESTABLISHED COMMUNITY.

1587 RISTICH, S.S.: M.E. CRANDALL: J. FORTIER

BENTHIC AND EPIBENTHIC MACROINVERTEBRATES OF THE HUDSON RIVER I. DISTRIBUTION, NATURAL HISTORY AND COMMUNITY STRUCTURE (1977)

ESTUARINE COASTAL MAP SCI 5:255-266

A 1972 BENTHIC SURVEY OF THE INVERTEBRATE FAUNA REPRESENTED THE FIRST SPATIAL AND TEMPORAL INVESTIGATION OVER A LARGE PORTION OF THE HUDSON RIVER FSTUARY. THE BENTHIC INVESTIGATION WAS ONE SEGMENT OF A TEAM EFFORT WHICH INCLUDED PHYTOPLANKION, 200PLANKION, ICHTHYOPLANKION AND ROOTED AQUATIC PLANTS. THE 55 STATIONS THAT SPANNED AN 80-MILE AREA FROM NEW YORK HARBOR TO POUGHKEEPSIE WERE SAMPLED FOUR TIMES 411H A MODIFIED PETERSEN DREDGE. 105 TAXA WERE IDENTIFIED. 10 GROUPS ACCOUNTED FOR 95% OF THE ORGANISMS FOUND. THESE INCLUDED 1) SPECIES OF POLYCHAETES, 13 GENERA OF CHIRONOMIDS, 10 SPECIES EACH OF BIVALVES AND GASTROPODS, 3 SPECIES EACH OF AMPHIPODS AND DECAPODS AND 6 SPECIES OF ISOPODS. SALINITY WAS ONE OF THE MOST IMPORTANT MEASURABLE FACTORS CONTROLLING SPECIES RANGE AND COMMUNITY BOUNDARIES. THE NUMBER OF SPECIES WAS HIGHEST IN THE POLYMESOHALINE ZONES AND LOVEST IN FRESH WATER. STATIONS WITH THE HIGHEST NUMBERS OF ANIMALS WERE LOCATED SOUTH OF THE TAPPAN ZEE BRIDGE. MANY

OF THESE STATIONS CONTAINED AN AVERAGE OF 10,000 ORGANISMS/M2 OR A PEAK TOTAL OF 60,000/M2. IN STATIONS SOUTH OF HAVERSTRAW BAY, THE POPULATIONS OF BENTHIC FAUNA EQUALLED OR EXCEEDED THOSE POPULATIONS FOUND IN OTHER ESTUARIES THROUGHOUT THE WORLD. THE HIGHEST DENSITIES REFLECTED THE PRESENCE OF 4 SPECIES, E.G. 2 POLYCHAETES, STREBLOSPIO BENEDICTI AND SCOLECOLEPIDES VIRIDIS, THE ISOPOD, CYATHURA POLITA, AND THE BIVALVE, MYA ARENARIA. FAUNAL HOMOGENEITY ANALYSIS BY SANDERS. AFFINITY INDEX SYSTEM INDICATES THE PRESENCE OF BROAD COMMUNITIES WITHIN THE 80-MILE SAMPLING AREA. THIS CONCLUSION MAY BE OBSCURED, HOWEVER, BY THE PRESENCE OF TWO LARGE COMPLEXES, THE JLIGOCHAETES AND THE CHIRONOMIDS, WHICH WERE NOT IDENTIFIED TO SPECIES.

1588 RIVKIN, R.B.

EFFECTS OF LEAD ON GROWTH OF THE MARINE DIATOM SKELETONEMA COSTATUM [1979]

MAR BIOL 50:239-247

THE GROWTH RATE AND MAXIMUM YIELD OF SKELETONEMA COSTATUM (GREV.) CLEVE IN BATCH CULTURE WERE INHIBITED BY DISSOLVED LEAD AT CONCENTRATIONS OF 0.05 TO 10.0 MICROG PB/L. GROWTH RATE, MAXIMUM YIELD, AND RESPIRATION/CELL DECREASED AND PHOTOSYNTHESIS/CELL AND CELL VOLUME INCREASED IN RESPONSE TO INCREASED LEAD CONCENTRATION IN THE MEDIUM. AT 0.1 AND 1.0 MICROG PB/L, THE CHLOROPHYLL A:CARBON AND PROTEIN: CARBON RATIOS DID NOT SIGNIFICANTLY DIFFER FROM THE CONTROL AND THE INCREASED CELLULAR CHLOROPHYLL A, CARBON AND PROTEIN OBSERVED AT THESE CONCENTRATIONS REFLECT AN INCREASED CELL VOLUME. HOWEVER, AT 10.0 MICRO G PB/L, ASSOCIATED WITH AN INCREASE IN CELL VOLUME, THE CHLOROPHYLL A:CARBON RATIO WAS SIGNIFICANTLY LOWER AND THE PROTEIN:CARBON RATIO WAS SIGNIFICANTLY LOWER AND THE RATES OF CELL DIVISION AND DARK RESPIRATION DECREASED RELATIVE TO PHOTOSYNTHESIS AND TO CARBON AND PROTEIN PRODUCTION, RESULTING IN AN ALTERATION OF THE CELLULAR CHEMICAL COMPOSITION.

1589 ROPBINS, F.

MARINE MONITORING UNDER THE FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972 [1976]

TECH REP 24. MSRC, SUNY, STONY BROOK, NY 47 PP

STATE ACTIVITIES INVOLVING MARINE MONITORING UNDER THE FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972 INCLUDE REPORTING, PLANNING, PERMIT ISSUANCE AND ENFORCEMENT. THE REPORTING FUNCTION UNDER SECTION 305(B), AND TO SOME EXTENT, ENFORCEMENT UNDER SECTION 402, ARE SUPPORTED BY DATA FROM THE STATE'S "PRIMARY MONITORING NETWORK" (1.E. A LIMITED NUMBER OF FIXED STATIONS AT WHICH WATER QUALITY TRENDS ARE MONITORED). PLANNING UNDER SECTIONS 303(E), 201 AND 208, AND IN SOME CASES, PERMIT ISSUANCE UNDER SECTION 402 ARE SUPPORTED BY DATA COLLECTED DURING "INTENSIVE SURVEYS." HOWEVER, THE LAW AND REGULATIONS DO NOT SPECIFY THE FORMAT OF THE PRIMARY MONITORING NETWORK OR OF INTENSIVE SURVEYS, AND THUS CONSIDERABLE LEEWAY IS PROVIDED FOR THE DESIGN OF MONITORING PROGRAMS UNDER THE ACT. ALTHOUGH ONLY LIMITED MARINE MONITORING HAS BEEN CONDUCTED IN LONG ISLAND WATERS BY NY DIRECTLY IN SUPPORT OF PROGRAM ELEMENTS UNDER THE FWPCAAS OF 1972. THERE DO EXIST OTHER STATE (E.G. SHELLFISH SANITATION) AND LOCAL MUNITORING PROGRAMS WHICH CAN HELP SUPPORT STATE ACTIVITIES UNDER THE ACT. THE STATE'S REPORTING FUNCTION UNDER SECTION 305(B) HAS NOT BEEN ADEQUATELY SUPPORTED BY THE STATE'S FIVE PRIMARY MONITORING NETWORK STATIONS OF LONG ISLAND AND HAS NOT UTILIZED DATA AVAILABLE FROM THESE OTHER PROGRAMS. STATE BASIN PLANNING FOR LONG ISLAND UNDER SECTION 303(E) WILL RELY ON DATA COLLECTED BY LOCAL AGENCIES AS PART OF THEIR OWN MONITORING PROGRAMS AND AS PART OF SECTION 208 AREA WIDE STUDIES. EFFLUENT PERMITS UNDER SECTION 402 ARE PRESENTLY BEING ISSUED BY EPA IN NY, AND EFFLUENT MONITORING, RATHER THAN AMBIENT WATER QUALITY MONITORING. HAS BEEN PRIMARILY UTILIZED BY THE STATE FOR ENFORCEMENT PURPOSES. THE DESIGN OF A MONITORING PROGRAM UNDER THE ACT MUST TAKE INTO ACCOUNT THE SPATIAL AND TEMPORAL VARIATIONS OF COASTAL MARINE SYSTEMS. PRIMARY NETWORKS CONSISTING OF A LIMITED NUMBER OF FIXED STATIONS MAY NOT BE PRACTICAL FOR MARINE WATERS. INTENSIVE SURVEYS FOR MARINE WATERS SHOULD BE DESIGNED TO FACILITATE THE FORMULATION OF PREDICTIVE MODELS USED IN PLANNING PROCESSES. FOR LONG ISLAND. AN OVERALL MONITORING PROGRAM MUST ALSO BE DESIGNED TO COORDINATE LOCAL MONITORING ACTIVITIES WITH STATE NEEDS UNDER THE ACT.

1590 ROBBING, S.K.

STONY BROOK HARBOR: AN INTERDISCIPLINARY ANALYSIS [1977]

SPEC REP 8. MSRC, SUNY, STONY BROOK, NY 106 PP

AN INVENTORY OF AVAILABLE DATA AND KNOWLEDGE CONCERNING STONY BROOK HARBOR, AN EMBAYMENT ON THE MORTH SHORE OF LONG ISLAND, NY, IS PRESENTED AS AN EXAMPLE OF A COMPREHENSIVE AND WELL-ORGANIZED INFORMATION BASE FOR USE IN THE DEVELOPMENT OF A MANAGEMENT PLAN. THE FRAMEWORK WITHIN WHICH INFORMATION IS COLLECTED AND ORGANIZED CONSISTS OF THE FOLLOWING; DEFINITION OF THE RESOURCE (GENERAL DESCRIPTION, GEOLOGICAL STRUCTURE AND HISTORY, PHYSICAL DESCRIPTION, WETLANDS, UPLAND, SHORELINE DEVELOPMENT, SHORELINE STABILITY, WATER QUALITY, BIOTA, HYDROGRAPHY, AND SEDIMENTS); PAST, PRESENT, AND ALTERNATIVE PATTERNS OF USE (RECREATION, SHELLFISH INDUSTRY, CONSERVATION AND EDUCATION, HOUSING); CONFLICTS BETWEEN USERS OF THE HARBOR AND BETWEEN VARIOUS PLANS FOR ALTERATION; DISTRIBUTION OF GOVERNMENT AUTHORITY; AND MANAGEMENT AND PLANNING POLICIES (RESOLUTIONS OF THE CONFLICTS). INFORMATION IS GATHERED FROM INTERVIEWS, INFORMAL REPORTS, AND INTERNAL DOCUMENTS. STONY BROOK HARBOR IS WELL-SUITED TO RESIDENTIAL AND RECREATIONAL ACTIVITIES, 2 MAJOR USES OF THE RESOURCE. A HISTORY OF THE HARBOR PROVIDES AN UNDERSTANDING OF HOW DEVELOPMENT OF THE HARBOR INFLUENCED DEVELOPMENT IN THE AREA AND VICE VERSA, WITH SPECIAL EMPHASIS PLACED ON THE DREDGING ISSUE, THE GREATEST SOURCE OF PAST AND PRESENT CONFLICTS BETWEEN HARBOR USERS. OVERLAPPING JURISDICTIONS AND LACK OF COOPERATION INHIBIT DEVELOPMENT OF AN OFFICIAL PLAN OR POLICY TO GUIDE PRESENT AND FUTURE USE OF THE RESOURCE. AN INFORMATION BASE SUCH AS THIS HOULD BE USEFUL IN THE DEVELOPMENT OF MANAGEMENT PLANS FOR OTHER LONG ISLAND HARBORS AND BAYS; IT CAN BE USED TO GENERATE GUIDELINES FOR MAKING MANAGEMENT AND PLANNING DECISIONS AT ALL LEVELS OF GOVERNMENT.

1591 ROBERTS, S.C.

BIOLOGICAL AND FISHERIES DATA ON NORTHERN SEAROBIN. PRIONOTUS CAROLINUS (L'INNAEUS) [1978]

TECH REP 13. SANDY HOOK LAB. HIGHLANDS, NJ 53 PP

BRIEF DESCRIPTIONS OF THE NORTHERN SEAROBIN, INCLUDING TAXONOMY, MORPHOLOGY, DISTRIBUTION, REPRODUCTION AND DEVELOPMENT, NUTRIVION, BEHAVIOR, POPULATION DYNAMICS, FISHING, MANAGEMENT AND AQUACULTURE CAPABILITIES. SEAROBINS PRESENTLY FALL INTO THE CATEGORY "OTHER FINFISH" ON WHICH THE TOTAL ALLOWABLE CATCH RECOMMENDED IS 150,000 TONS.

1592 ROBINSON, F.C.; W.N. EMBILL; B. DUNN

FLOODS IN NEW YORK, 1973 AND 1974 [1976]

USGS, ALRANY, NY NP

WIDESPREAD FLOODING AND FLOOD DAMAGE IN NY OCCURRED IN 1973 AND 1974. A DISCUSSION OF SPECIFIC FLOODS INCLUDES A DESCRIPTION OF THE PRECIPITATION EVENTS AND FLOOD DAMAGES, LOCATION MAPS, AND TABLES LISTING PEAK STAGES AND DISCHARGES. THE GREATEST FLOODING DAMAGE IN NY IN 1973 WAS CAUSED BY LAKESHORE FLOODING OF LAKE ONTARIO ON MARCH 18 AND 19 AND BY HEAVY RAINFALL IN THE EASTERN AND SOJTHEASTERN REGIONS JUNE 28-30. GALE-FORCE WINDS ON LAKE ONTARIO CREATED WAVES THAT CAUSED CONSIDERABLE SHORELINE DAMAGE FROM NIAGARA COUNTY TO JEFFERSON COUNTY ON MARCH 18 AND 19. 1973. ON JUNE 28-30, 1973. A HEAVY RAINFALL DRENCHED SULLIVAN AND DELAWARE COUNTIES AND CAUSED THE MOST SERIOUS FLOODING SINCE 1947, THEN MOVED THROUGH THE REST OF THE CATSKILLS AND LOWER HUDSON VALLEY. RAINFALL AVERAGED BETWEEN 4 AND 7 IN (100 AND 180 MM). AT CLAVERACK, IN COLUMBIA COUNTY, CLAVERACK CREEK HAD THE HIGHEST DISCHARGE OF RECORD (4,960 CU FT/SEC OR 14] CU M/SEC) ON JUNE 30. ON MAY 16 AND 17. 1974. A NEARLY STATIONARY WEATHER FRONT OVER MOST OF CENTRAL AND WESTERN NEW YORK STATE PRODUCED WIDESPREAD SHOWERS AND THUNDERSTORMS. ALBION IN ORLEANS COUNTY AND ROCHESTER IN MONROE COUNTY WERE THE HARDEST HIT COMMUNITIES. THUNDERSTORMS JULY 2 AND 3. 1974 CAUSED MUCH FLOODING FROM THE EASTERN FINGER LAKES THROUGH THE MOHAWK RIVER TO THE SCHOHARIE VALLEY. RAINFALL EXCEEDED 4 IN (100 MM) IN 12 HRS AT MANY REPORTING STATIONS. CONSIDERABLE FLOODING OCCURRED IN SYRACUSE, UTICA, AND OTHER COMMUNITIES IN ONONDAGA AND ONEIDA COUNTIES. ON JULY 5, A SERIES OF BRIEF, VIOLENT STORMS OCCURRED IN COLUMBIA COUNTY. ABOUT 4 IN (100 MM) CAUSED AS MUCH FLOODING AND DAMAGE AS IN THE FLOOD OF JUNE 1972. ON OCTOBER 27, 1974, THE FLOOR OF AN ELEVATED SECTION OF THE BARGE CANAL COLLAPSED INTO A SEWER PROJECT TUNNEL BEING BORED UNDER IT NEAR BUSHNELLS BASIN IN MONROE COUNTY. MINOR FLOODS WITHIN THE STATE ARE REPORTED BY REGION FOR EACH YEAR.

1593 ROBOHM, R.A.; R.A. MURCHELANO; C. BROJN

COMPARISON OF ANTIBODIES IN MARINE FISH FROM CLEAN AND POLLUTED WATERS OF THE NEW YORK BIGHT: RELATIVE LEVELS AGAINST 36 BACTERIA [1979]

APPL ENVIRON MICROBIOL 38(2):248-257

FISH FROM POLLUTED WATERS ARE SUBJECT TO INCREASED PREVALENCE OF DISEASE. BECAUSE THEY RESPOND TO BACTERIAL PATHOGENS BY PRODUCING SERUM ANTIPODIES, A SEASONAL SEROLOGICAL RECORD IN 3 FISH SPECIES FROM CLEAN AND POLLUTED WATERS OF THE NEW YORK BIGHT COULD BE CONSTRUCTED. ANTIBODY LEVELS WERE DETERMINED BY TESTING SERA FOR AGGLUTINATING ACTIVITY AGAINST 36 STRAINS OF BACTERIA. RESULTS OF EVALUATIONS OF 5,100 ANTIBODY TITRATIONS ARE GIVEN. DURING WARM MONTHS, SUMMER FLOUNDER (PARALICHTHYS DENTATUS) FROM THE POLLUTED AREA HAD SIGNIFICANTLY HIGHER ANTIBODY LEVELS AND A GREATER DIVERSITY OF BACTERIA THAN FISH FROM THE UNPOLLUTED AREA. WEAKFISH (CYNOSCION REGALIS) FROM THE SAME POLLUTED AREA SHARED WITH SUMMER FLOUNDER RAISED TITERS TO MANY BACTERIA. THE GREATEST PROPORTION OF HAISED TITERS WAS AGAINST VIBRIO SPECIES, ALTHOUGH PROMINENT TITERS WERE ALSO SEEN AGAINST AEROMONAS SALMONICIDA AND HAEMOPHILUS PISCIUM. BACTERIA USUALLY ASSOCIATED WITH DISEASES IN FRESHWATER BUT NOT MARINE FISH. DIFFERENCES BETWEEN POLLUTED AND CLEAT WATERS WERE NOT AS EVIDENT IN WINTER FLOUNDER (PSEUDOPLEURONECTES AMERICANUS) DURING COLD MONTHS. THIS COULD BE DUE, IN PART, TO REDUCED ANTIBODY PRODUCTION AT COLDER TEMPERATURES. THE USEFULNESS OF THE SERUM ANTIBODY RECORD IN IDENTIFYING ENVIRONMENTAL EXPOSURE TO BACTERIA IN MARINE FISH IS ILLUSTRATED. THE POLLUTED NEW YORK BIGHT APEX HAS INCREASED LEVELS AND DIVERSITY OF BACTERIA DURING WARM MONTHS.

1594 ROCKWELL, C.

RECENT SEDIMENTATION IN GREAT SOUTH BAY, LONG ISLAND, NEW YORK [1974]

PH.D. THESIS. CORNELL UNIV, ITHACA, NY 177 PP

GREAT SOUTH BAY RECEIVES SEDIMENT FROM THE LAND, ATMOSPHERE, AND OCEAN. TIDAL CURRENTS THROUGH FIRE ISLAND INLET TRANSPORT THE BULK OF THE SEDIMENT INTO THE BAY. SEDIMENTS ARE DERIVED FROM GLACIAL DEBRIS OF HARBOR HILL AND RONKONKOMA MORAINES. CLOSE CORRELATION EXISTS BETWEEN SEDIMENT SIZE AND VELOCITY OF TIDAL CURRENTS. SEDIMENT PATTERNS CAN BE INFERRED BY TRACING THE WATER FLOW PATTERNS AND VICE VERSA.

1595 RODRICK, G.E.

SELECTED ENZYME ACTIVITIES IN MYA ARENARIA HEMOLYMPH [1979]

COMP BIOCHEM PHYSIOL 628(4):313-316

THE ACTIVITIES OF LYSOZYME, ACID, AND ALKALINE PHOSPHATASES, B-GLUCURONIDASE, AMYLASE, LIPASE, GLUTAMATE-OXALACETATE TRANSAMINASE, AND GLUTAMATE PYRUVATE TRANSAMINASE IN THE WHOLE HEMOLYMPH AND 4,000 G PELLETS AND SUPERNATANTS OF MYA ARENARIA WERE DETERMINED. SPECIMENS WERE OBTAINED FROM SANDY HOOK, NJ AND WERE MAINTAINED 90 D IN RECIRCULATING SEAWATER TANKS AT 25 PPT SALINITY AND 20 C. ALL OF THE ENZYMES, EXCEPT FOR AMYLASE, OCCURRED IN WHOLE HEMOLYMPH AND IN THE 4,000 G PELLET AND SUPERNATANT. BASED ON EARLIER OBSERVATIONS, THESE ENZYMES ARE BELIEVED TO BE OF CELLULAR ORIGIN WITHIN HEMOLYMPH CELLS. AMYLASE ONLY OCCURRED IN THE WHOLE HEMOLYMPH AND/OR SERUM AND IS BELIEVED TO HAVE ORIGINATED FROM THE CRYSTALLINE STYLE.

1596 RODZENKO, G.

EFFECTS OF NORMAL VS. STORM PROCESSES ON A BARRIER BEACH, FIRE ISLAND, NEW YORK [1979]

GEOL SOC AM ABSTR PROG 11(6):300

A FIFTY MILE STRETCH OF A BARRIER BEACH (FIRE ISLAND) SOUTH OF LONG ISLAND, NY WAS STUDIED DURING A 10 MO PERIOD. BEACH PROFILES WERE SURVEYED SIX TIMES AT 25 DIFFERENT LOCATIONS. WAVE ACTION, REGULATED BY DAILY AND FORTNIGHTLY TIDAL CYCLES ALONG WITH PREVAILING WINDS, IS RESPONSIBLE FOR MOST ONSHORE-OFFSHORE SEDIMENT TRANSPORT. THE PREVAILING WAVE TRAIN TO THE WEST PRODUCES LITTORAL DRIFT IN THE SAME DIRECTION. SEASONAL WEATHER VARIATIONS PRODUCE HIGHER ENERGY CONDITIONS IN THE WINTER THAN IN THE SUMMER. INCLUDED IN THE SURVEY WERE THE EFFECTS OF HURRICAN BELLE (AUG, 1976). TWO CYCLES OF EROSION AND ACCRETION WERE OBSERVED ON THE BEACHES. IN THE FIRST CYCLE, EROSION WAS PRODUCED BY HURRICANE BELLE; THE SUBSEQUENT ACCRETION WAS DUE TO NORMAL SUMMER PROCESSES. IN THE SECOND CYCLE, THE EROSION CAUSED BY NORMAL WINTER PROCESSES EXCEEDED THAT DUE TO HURRICANE BELLE BY OVER 50%. ACCRETION OF SEDIMENT ON THE BEACH DURING THE SPRING WAS CAUSED BY A RETURN TO LOWER ENERGY "SUMMER" CONDITIONS. DURING THE 10 MO STUDY PERIOD, A NET LOSS IN THE VOLUME OF SEDIMENT ON THE BEACH WAS OBSERVED. THE LOSS RANGED FROM 1.2 TO 4.5 CU YDS/LINEAR FT OF SHORELINE.

1597 ROELS, O.A. (EDITOR)

HUDSON RIVER COLLOQUIUM [1974]

NY ACAD SCI ANN 250:185 PP

THE VOLUME IS A COMPILATION OF PAPERS PERTAINING TO THE HUDSON ESTUARY, COVERING SUCH TOPICS AS: GEOMORPHOLOGY, CIRCULATION, SEDIMENT AND WASTE DEPOSITION, EUTROPHICATION, INVERTEBRATES, POPULATION IMPACTS, THERMAL BALANCE, POWER PLANTS, POLLUTION, AND LEGAL APPROACHES TO ENVIRONMENTAL CONTROL.

1598 ROETHEL, F.J.; J.H. PARKER; I.W. DUEDALL

COAL WASTE DISPOSAL IN THE OCEAN. II: CONSTRUCTION OF AN ARTIFICIAL REEF FROM STABILIZED SCRUBBER SLUDGE AND FLY ASH [1977]

EOS: TRANS AM GEOPHYS UNION 58(12):1176

9 PLOCKS OF STABILIZED SCRUBBER SLUDGE, ONE CU FT IN VOLUME, WERE PLACED IN APPROXIMATELY 20 FT OF WATER (MEAN HIGH TIDE) IN AN AREA KNOWN AS CONSCIENCE BAY IN LONG ISLAND SOUND. THESE BLOCKS WERE ARRANGED TO MAXIMIZE THE SURFACE AREA IN CONTACT WITH THE SEAWATER AND ALSO PRODUCE LITTLE HOLES AND CREVICES. A DUPLICATE HABITAT WAS CONSTRUCTED OF THE SAME SIZE AND SHAPE CONCRETE BLOCKS. WITHIN THREE WEEKS AFTER PLACEMENT OF THESE BLOCKS, A HEAVY CROP OF ATTACHED PLANTS AND ANIMALS WERE OBSERVED GROWING ON BOTH THE CONCRETE AND SCRUBBER SLUDGE BLOCKS. MEASUREMENT OF COMMUNITY RESPIRATION WAS CONDUCTED BI-WEEKLY AND SAMPLES OF THE ATTACHED ORGANISMS WERE ASSAYED FOR LEAD, ZINC, CADMIUM, MERCURY, SELENIUM, SILVER, ARSENIC AND COPPER. DETAILED PHOTOGRAPHIC SURVEYS REVEAL NO MOVEMENT OF THE SCRUBBER BLOCKS, HOWEVER, SOME SLIGHT BURIAL OF THESE BLOCKS DUE TO THE STRONG TIDAL CURRENTS IN THE BAY APPEARS EVIDENT. THIS CONTINUING RESEARCH IS THE FIRST PHASE IN DETERMINING WHETHER DISPOSAL OF STABILIZED SCRUBBER SLUDGE IN THE MARINE ENVIRONMENT IS AN ACCEPTABLE ALTERNATIVE TO LAND DISPOSAL.

1599 ROETHEL, F.J.; I.W. DUEDALL; H.B. O"CONNORS, JR.; J.H. PARKER; P.M.J. WOODHEAD

THE INTERACTIONS OF STABILIZED SCRUBBER SLUDGE AND FLY ASH WITH THE MARINE ENVIRONMENT [1980]

J TEST EVAL 8(5):240-244

WITH THE NATIONAL ENERGY PLAN CALLING FOR INCREASED USE OF COAL TO HELP ACHIEVE OUR COUNTRY'S ENERGY INDEPENDENCE. SAFE DISPOSAL OF JASTE PRODUCTS PRODUCED BY COAL-BURNING POWER PLANTS HAS BECOME A PRESSING ENVIRONMENTAL PROBLEM. THIS PAPER PRESENTS THE RESULTS OF A TWO-YEAR STUDY TO SEE IF STABILIZED BLOCKS OF SCRUBGER SLUDGE AND FLY ASH, TWO MAJOR WASTE PRODUCTS OF COAL COMBUSTION, CAN BE PLACED IN A MARINE ENVIRONMENT WITHOUT ADVERSELY AFFECTING SURROUNDING MARINE LIFE. THE VERDICT: A TENTATIVE "YES." SCRUBBER SLUDGE IS A SUBSTANCE PRODUCED BY THE FLUE GAS DESULFURIZATION SCRUBBERS WHICH WILL BE REQUIRED IN ALL NEW COAL-FUELED POWER PLANTS TO REMOVE THE HARMFUL SULFUR OXIDES PRODUCED WHEN COAL IS BURNED; IT IS COMPOSED MAINLY OF CALCIUM SULFATE AND CALCIUM SULFITE. COAL COMBUSTION ALSO GIVES OFF FLY ASH IN LARGE VOLUMES. IN THIS STUDY, THESE WASTES WERE

STABILIZED INTO BRICK-LIKE BLOCKS AND SUBMERGED IN AN ESTUARINE ENVIRONMENT ON THE NORTH SHORE OF LONG ISLAND. AFTER TWO YEARS, THE BLOCKS MAINTAINED THEIR STRUCTURAL INTEGRITY AND WERE COLONIZED BY A DIVERSE AQUATIC COMMUNITY. THE UPTAKE OF TRACE METALS BY MARINE ORGANISMS LIVING ON THE COAL-WASTE BLOCKS WAS NO GREATER THAN IN THOSE FOUND LIVING ON CONCRETE REFERENCE BLOCKS NEARBY. THE AUTHORS CONCLUDE THAT THESE COAL-WASTE BLOCKS CAN MAINTAIN THEIR STRUCTURE IN A MARINE ENVIRONMENT FOR LONG PERIODS OF TIME, IN SPITE OF THE PRESENCE OF STRONG TIDAL CURRENTS WHICH CAN HASTEN EROSION. THEY RECOMMEND FURTHER STUDY INTO BIOLOGICAL EROSION OF THESE BLOCKS WHICH MAY BE CAUSED BY THE BORING CLAM BARNEA TRUNCATA.

1600 ROGERS, B.A.; D.T. WESTIN; S.B. SAILA

LIFE STAGE DURATION STUDIES ON HUDSON RIVER STRIPED BASS, MORONE SAXATILIS (WALBAUM) [1977]

MARINE TECH REP. SEA GRANT PROGRAM, UNIV OF RI, KINGSTON, RI, 118 PP

LABORATORY EXPERIMENTS WERE UNDERTAKEN TO DETERMINE THE EFFECT OF REARING TEMPERATURE ON THE TIME DURATION OF THE EGG, YOLK SAC, AND POST-YOLK SAC LARVAL STAGES OF THE STRIPED BASS, M. SAXATILIS. FIVE FIXED TEXT TEMPERATURES WERE USED BETWEEN 12 AND 24 C. IN ALL THE STAGES EXAMINED, STAGE DURATION WAS REDUCED AT HIGHER TEMPERATURES WITHIN THIS RANGE, WHICH SPANS THAT NORMALLY ENCOUNTERED BY DEVELOPING STRIPED BASS IN THEIR NATURAL ENVIRONMENT. EVIDENCE SUPPORTING THE OCCURRENCE OF A TEMPERATURE OPTIMUM FOR DEVELOPMENT WITHIN EACH STAGE IS PRESENTED. NUTRITIONAL FACTORS WERE FOUND TO BE AT LEAST AS IMPORTANT AS TEMPERATURE IN DETERMINING STAGE DURATION AMONG FEEDING LARVAE.

1601 ROGERS, W.B.; R.H. FAKUNDINY; W.L. KREIDLER

PETROLEUM EXPLORATION OFFSHORE FROM NEW YORK [1973]

NYS MUS AND SCI SERV CIRC 46. DEPT OF EDUCATION, SUNY, ALBANY, NY 25 PP

A SERIOUS SHORTAGE OF NATURAL GAS AND LOW-SULFUR FUEL OIL WILL PROBABLY DEVELOP WITHIN A FEW YEARS IN THE US IF PRESENT TRENDS CONTINUE UNCHANGED. THE AREA OFFSHORE FROM THE EASTERN US IS A POTENTIAL SOURCE FOR LARGE AMOUNTS OF PETROLEUM AND NATURAL GAS, AND IS ONE OF THE FEW AREAS REMAINING ON THIS CONTINENT THAT IS UNEXPLORED BY DRILLING. THE GEOLOGY OFFSHORE FROM THE EASTERN US SUGGESTS THAT: AREAS WITH GOOD POTENTIAL FOR PETROLEUM OR NATURAL GAS DEPOSITS ARE MORE THAN 20 MI OFFSHORE EXCEPT IN SOUTHERN FL, HENCE LONG ISLAND SOUND, LONG ISLAND, AND A 20-MI STRIP SOUTH OF LONG ISLAND ARE OUTSIDE THE AREAS WITH GOOD POTENTIAL; AND GEOLOGIC CIRCUMSTANCES SUCH AS THE SPECIAL CONDITIONS THAT INCREASED THE DANGER OF THE OIL SPILL IN THE SANTA BARBARA CHANNEL PROBABLY ARE NOT PRESENT ALONG THE EASTERN SEABOARD. IF PETROLEUM DEPOSITS EXIST OFFSHORE FROM THE EASTERN US. THEIR DEVELOPMENT AND THE DELIVERY OF PETROLEUM TO THE EASTERN SEABOARD BY PIPELINE MAY ENTAIL LESS RISK OF ACCIDENTAL SPILLAGE THAN SUPPLYING AN EQUIVALENT AMOUNT BY TANKER.

1602 RONEY, J.R.

ENVIRONMENTAL STUDIES FOR AN OFFSHORE NUCLEAR POWER PLANT [1973]

PAGES 29-31 IN ENGINFERING BULLETIN. DAMES AND MOORE, LOS ANGELES, CA

THE COMMITMENT TO GO TO THE OCEAN FOR A NUCLEAR POWER PLANT SITE INCLUDED A COMMITMENT TO INTENSIVELY STUDY THE OCEAN AREA. THERE IS EVERY REASON TO EXPECT THAT THE KNOWLEDGE GAINED WILL NOT ONLY BENEFIT THIS PROJECT, BUT WILL BE OF VALUE TO ANY FUTURE OFFSHORE SITING STUDY. MEASUREMENTS WERE MADE OF TIDAL MAGNITUDE, CURRENTS, TEMPERATURE. STUDIES OF METEOROLOGY AND THERMAL RELEASE EFFECTS.

1603 ROONEY, J.P.; S.C. CHAPRA

WATER GUALITY ANALYSIS OF THE RARITAN LOWER BAY SYSTEM [1974]

US EPA. NEW YORK. NY NP

THIS PAPER IS AN EFFORT TO DESCRIBE THE CONCEPTUALIZATION OF THE RARITAN BAY SYSTEM AS A UNIQUE MATHEMATICAL ENTITY WHEREIN THE OBSERVED NATURALLY OCCURRING HYDRODYNAMIC AND WATER QUALITY PHENOMENA CAN BE REPRODUCED. THE ANALYSIS HOPEFULLY WILL PROVIDE GREATER UNDERSTANDING AND INSIGHT INTO BOTH THE TRANSPORT AND PHYSICAL PHENOMENA WHICH DOMINATE THE SYSTEM. SUCH THAT THE MODEL CAN BE UTILIZED ULTIMATELY AS A PREDICTIVE TOOL FOR SUBSEQUENT EVALUATION OF PROPOSED POLLUTION ABATEMENT ALTERNATIVES.

1604 ROPES, J.W.; A.S. MERRILL

HISTORICAL CRUISE DATA ON SURF CLAMS AND OCEAN QUAHOGS £1976]

DR-ERL-MESA-17. NOAA, BOULDER, CO 103 PP

THE OCCURRENCE OF TWO BIVALVE MOLLUSKS WERE RECORDED DURING BOTTOM SAMPLING CRUISES FROM 1965 TO 1974. SAMPLES WERE TAKEN ON THE CONTINENTAL SHELF FROM BLOCK ISLAND, NY TO CAPE HATTERAS, NC. ASSOCIATED HYDROGRAPHIC AND RELATED DATA ARE PRESENTED IN ADPPREPARED TABLES. PRELIMINARY ANALYSIS INDICATE GREATER NUMBERS OF SURF CLAMS OFF THE DELMARVA PENINSULA AND VIRGINIA COAST, WHICH IS OPPOSITE TO RESULTS OF EARLIER SURVEYS.

1605 ROPES, J.H.

THE ATLANTIC COAST SURF CLAM FISHERY--1974 [1977]

MAR FISH REV 39(5):18-23

THE 1972 SURF CLAM FISHERY PRODUCED LANDINGS OF 63.0 MILLION LB OF MEATS--11 % MORE THAN IN 1971. THE ENTIRE INCREASE WAS LIMITED TO VIRGINIA PORTS. LANDINGS AT VIRGINIA PORTS WERE 420 PERCENT HIGHER THAN IN 1971, RESULTING FROM CATCH/EFFORT RECORDS OF ABOUT A TON OF CLAM MEATS PER H. THESE VALUES ARE HIGHER THAN HAS EVER BEEN OBSERVED FOR THIS FISHERY.

1606 ROPES, J.W.

BIOLOGY AND DISTRIBUTION OF SURF CLAMS (SPISULA SOLIDISSIMA) AND OCEAN QUAHOGS (ARCTICA ISLANDICA) OFF THE NORTHEAST COAST OF THE UNITED STATES [1978]

PAGES 47-66 IN MANAGEMENT OF THE FUTURE, PROC OF NORTHEAST CLAM INDUSTRIES, 27-28 APR 1978, HYANNIS, MA

THIS PAPER REPORTS THE BIOLOGY AND DISTRIBUTION OF SURF CLAM AND OCEAN GUARD AS THEY RELATE OF THE PROBLEM OF MINISTRIBUTIONS OF RESOURCES. LIFE HISTORIES AND SPANNING HABITS OF BOTH SPECIES, AGE AND GROWTH RELATIONSHIPS ARE GIVEN. MAPS AND DESCRIPTIONS OF DISTRIBUTIONS ALONG THE EAST COAST ARE INCLUDED.

1607 ROFES, J.W.

BIOLOGICAL AND FISHEPIES DATA ON THE ATLANTIC SURF CLAM, SPISULA SOLIDISSIMA (DILLWYN) (1980)

WHOI, WOODS HOLE, MA 88 PP

THIS DESCRIPTION OF THE SURF CLAM INCLUDES TAXONOMY, MORPHOLOGY, DISTRIBUTION, REPRODUCTION AND DEVELOPMENT, NUTRITION, PEHAVIOR, POPULATION DYNAMICS, EXPLOITATION (FISHING) AND MANAGEMENT.

16U8 ROSENBLATT, L.; F.K. SERIM; S.H. GROSSMAN

UNUSUAL LITTLE SHIP: THE PILOT BOAT NEW YORK [1973]

MAR TECHNOL 10(3):221-235

THE FIRST PILOT BOAT IN APPROXIMATELY 75 YEARS TO BE BUILT SPECIFICALLY FOR NEW YORK AREA PILOT SERVICE WAS DELIVERED TO THE NEW YORK AND NEW JERSEY SANDY HOOK PILOTS" ASSOCIATIONS IN MAY OF 1972. THE NEW BOAT IS ON STATION 24 HOURS IN ALL KINDS OF WEATHER, READY TO DELIVER PILOTS TO INBOUND SHIPS AND TAKE THEM OFF ON THE OUTBOUND LEG. THE PILOT BOAT "NEW YORK" HAS A LENGTH OF 182 FT 6 IN, A BEAM UF 24 FT, A DRAFT (MAX) OF 12 FT 6 IN AND IS POWERED BY TWO GEARED DIESEL ENGINES EACH RATED AT 850 BHP AT 1225 RPM. DESIGN SPEED IS 14 KNOTS.

1609 ROSENFELD, J.K.

AMINO ACID DIAGENESIS AND ADSORPTION IN NEARSHORE ANOXIC SEDIMENTS [1979]

LIMNOL OCEANOGR 24(6):1014-1021

AMINO ACID DIAGENESIS AND FREE AMINO ACID ADSORPTION BY SEDIMENTS WERE STUDIED IN CORES OF NEARSHORE ANOXIC SEDIMENTS FROM LONG ISLAND SOUND, FLORIDA BAY, AND PEITAGUAMSCUTT RIVER, RI. BOTH ORGANIC N AND AMINO ACID CONTENT DECREASED BY A FACTOR OF 2 IN THE TOP METER OF THE SEDIMENT. INDIVIDUAL AMINO ACID PROFILES SHOWED THAT THE ACIDIC AND NEUTRAL AMINO ACIDS, DESPITE THEIR DIFFERENT CHEMICAL COMPOSITION, WERE PROBABLY EQUALLY UTILIZED IN BOTH CLASTIC AND CARBONATE SEDIMENTS. THIS RESULT DIFFERS FROM THE PREFERENTIAL UTILIZATION OF CERTAIN AMINO ACIDS GENERALLY FOUND IN DEEP-SEA SEDIMENTS. IN CLAY SEDIMENTS, FREE AMINO ACIDS ARE PREDOMINANTLY ADSORBED BY THE ORGANIC MATTER IN THE SEDIMENT RATHER THAN BY THE CLAY MINERALS. HOWEVER, IN THE CARBONATE SEDIMENTS, THE ORGANIC MATTER SEEMS TO INHIBIT THE ADSORPTION OF FREE AMINO ACIDS ON THE CARBONATE GRAINS.

1610 ROSENFELD. J.K.

AMMONIUM ADSORPTION IN NEARSHORE ANOXIC SEDIMENTS [1979]

LIMNOL OCEANOGR 24(2):356-364

THE DISTRIBUTIONS OF DISSOLVED, EXCHANGEABLE, AND FIXED AMMONIUM WERE MEASURED IN SEDIMENT CORES FROM LONG ISLAND SOUND, FLORIDA BAY, AND PETTAQUAMSCUTT RIVER, RI, AND IN LABORATORY EXPERIMENTS TO DETERMINE THE IMPORTANCE OF AMMONIUM ADSORPTION IN ANOXIC SEDIMENTS. APPARENTLY, A DYNAMIC EQUILIBRIUM EXISTS BETWEEN DISSOLVED EXCHANGEABLE, AND FIXED AMMONIUM IN SEDIMENTS. THE CONCENTRATION OF EXCHANGEABLE AMMONIUM INCREASED LINEARLY WITH INCREASING CONCENTRATIONS OF DISSOLVED AMMONIUM. EXCHANGEABLE AMMONIUM ADSORPTION WAS RAPID, REVERSIBLE, AND PREDOMINANTLY ASSOCIATED WITH THE ORGANIC MATTER RATHER THAN THE CLAY MINERALS. THE CONCENTRATION OF FIXED AMMONIUM ALSO INCREASED WITH INCREASING CONCENTRATIONS OF DISSOLVED AMMONIUM, BUT THIS CHANGE, DUE TO DIAGENESIS, IS SMALL COMPARED TO THE TOTAL FIXED AMMONIUM IN SEDIMENTS AND IS ALSO SMALLER THAN THE CORRESPONDING INCREASE IN EXCHANGEABLE AMMONIUM. THE AMMONIUM ADSORPTION COEFFICIENT FOR LONG ISLAND SOUND SEDIMENT WAS BETWEEN ONE AND TWO; OF THE AMMONIUM PRODUCED BY ORGANIC MATTER DECOMPOSITION, AS MUCH OR TWICE AS MUCH IS ASSOCIATED WITH THE SEDIMENT AS IS DISSOLVED IN THE INTERSTITIAL WATER. THEREFORE, AMMONIUM ADSORPTION BY SEDIMENTS IS AN IMPORTANT PROCESS IN THE DIAGENESIS OF NITROGEN IN NEARSHORE ANOXIC SEDIMENTS.

1611 ROSENFIELD, A.

INFECTIOUS DISEASES IN COMMERCIAL SHELLFISH ON THE MIDDLE ATLANTIC COAST [1976]

PAGES 414-423 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOGR, ALLEN PRESS, LAWRENCE, KS

PROLIFERATIVE CELL CONDITIONS IN MARINE SHELLFISH HAVE BEEN REPORTED WITH INCREASED FREQUENCY RECENTLY AND NEOPLASIAS OF MOLLUSCS IN EPIZOOTIC PROPORTIONS HAVE BEEN REPORTED FROM BOTH US COASTS. GONADAL NEOPLASMS IN SOFT-SHELL CLAMS (MYA ARENARIA) HAVE BEEN FOUND IN AREAS ASSOCIATED MITH OIL SPILLS. STUDIES OF BENTHIC CRUSTACEANS FROM SANDY HOOK BAY AND THE NEW YORK BIGHT SHOW THAT THE PARASITIC AMOEBA, PARAMOEBA PERNISIOSA, OCCURS IN ROCK CRABS, CANCER IRRORATUS, AND AMERICAN LOBSTERS, HOMARUS AMERICANUS. LOBSTERS, SHRIMP, AND ROCK CRABS NEAR SLUDGE AND SPOIL DISPOSAL GROUNDS IN THE NEW YORK BIGHT HAD SHELL EROSION AND ULCERS. NATURALLY OCCURRING BACTEREMIAS IN LOBSTERS AND BLUE CRABS HAVE BEEN REPORTED AND MAY PLAY A ROLE IN CRUSTACEAN EPIZOOTICS. VIRUS-LIKE INFECTIONS IN BLUE CRABS FROM CHINCOTEAGUE BAY HAVE RECENTLY BEEN NOTED. POLYCHLORINATED BIPHYENYLS MAY ACTIVATE PRODUCTION OF A BACULOVIRUS IN SHRIMP EXPOSED TO SUBLETHAL LEVELS OF THESE COMPOUNDS. VIRUSES MAY BE LATENT IN SHELLFISH AND ACTIVATED BY THE PRESENCE OF CERTAIN CHEMICALS.

1612 ROUNSEFELL, G.A.

ECOLOGICAL EFFECTS OF OFFSHORE CONSTRUCTION [1972]

J MAR SCI 2(1) NTIS-AD-739 704

AN EVALUATION OF CURRENT KNOWLEDGE OF THE PROBABLE ECOLOGICAL EFFECTS OF VARIOUS TYPES OF OFFSHORE CONSTRUCTION REVEALS SLIGHT DANGER FROM THE MAJORITY OF CONSTRUCTION PROGRAMS. THE GREATEST DANGERS LIE IN THE PLACEMENT OF ARTIFICIAL ISLANDS WITHIN OR TOO CLOSELY ADJACENT TO ESTUARIES WHERE THEY CAN SIGNIFICANTLY AFFECT WATER EXCHANGE, AND IN THE PROLIFERATION OF WATER COOLED NUCLEAR POWER PLANTS. PERHAPS THE MOST PRESSING NEED FOR ULTIMATE HUMAN SURVIVAL IS THE FURTHER DEVELOPMENT OF POWER FROM NATURAL FORCES TO REPLACE POWER FROM NUCLEAR AND FOSSIL FUEL SOURCES.

1613 ROW, T.H.

ENVIRONMENTAL IMPACT SECTION. ENERGY DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING SEPTEMBER 30, 1977 [1978]

ORNL. JAK RIDGE. IN 36 PP

THE ENVIRONMENTAL IMPACT SECTION HELPS NRC, DOE, AND OTHER FEDERAL AGENCIES PREPARE HIGH-QUALITY ENVIRONMENTAL STATEMENTS AND ASSESSMENTS FOR ENERGY FACILITIES. THE SECTION ALSO DOES RESEARCH NEEDED TO IMPROVE THE METHODOLOGIES USED IN STATEMENT AND ASSESSMENT PREPARATION. DURING THE YEAR, THE WORK CONCERNED MANY DIFFERENT ENERGY TECHNOLOGIES, INCLUDING (1) VARIOUS NUCLEAR OPERATIONS (25 POHER PLANTS, 5 FUEL FABRICATION FACILITIES, 1 URANIUM ENRICHMENT PLANT, 2 IN SITU URANIUM MINES, 2 MINING AND MILLING OPERATIONS, AND 1 EXPERIMENTAL FUEL REPROCESSING FACILITY); (2) CONVENTIONAL COAL- AND OIL-FIRED POWER PLANTS ON THE OHIO AND HUDSON RIVERS; (3) TWO DEMONSTRATION PLANTS FOR MAKING PIPELINE GAS FROM COAL; (4) A VARIETY OF GEOTHERMAL PROJECTS (5) A PROPOSED OIL-FIRED TOTAL ENERGY COMMUNITY SYSTEM; AND (6) TWO SMALL EXPERIMENTAL SOLAR PHOTOVOLTAIC INSTALLATIONS. THESE FACILITIES WERE LOCATED IN 25 STATES, PUERTO RICO, AND BERMUDA.

1614 RONE, G.T.; K.L. SMITH, JR.; C.H. CLIFFORD

BENTHIC-PELAGIC COUPLING IN THE NEW YORK BIGHT [1975]

PAGES 370-376 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOGR, ALLEN PRESS, LAWRENCE, KS

BOTTOM SEDIMENT OXYGEN CONSUMPTION CAN BE USED TO ESTIMATE HOW MUCH OF THE ENERGY INCORPORATED BY THE PHYTOPLANKTON IS UTILIZED BY THE BENTHOS, AND SUCH RATES ARE DIRECTLY RELATED TO LEMPERATURE, ORGANIC MATTER IN THE SEDIMENT, AVAILABILITY OF DISSOLVED OXYGEN, AND PRIMARY PRODUCTION IN THE WATER COLUMN. NUTRIENT FLUX OUT OF SEDIMENTS HAS BEEN MEASURED DIRECTLY BY INCUBATING AREAS OF BOTTOM UNDEP BELL JARLIKE CHAMBERS. FLUXES OF MAJOR INORGANIC PLANT NUTRIENTS ARE OFTEN HIGH, INDICATING THAT IN MOST NEARSHORE ENVIRONMENTS MOST REGENERATION OCCURS ON THE BOTTOM. IN THE NEW YORK BIGHT, OXYGEN CONSUMPTION BY THE BOTTOM HAS MEASURED IN FOUR DIFFERENT SEASONS; WE CONCLUDED IT WAS HIGH ENOUGH TO OXIDIZE A LARGE FRACTION OF THE DAILY INPUT OF SLUBGE.

BOTTOM WATER AMMONIA GRADIENTS SUGGESIED TOO THAT REMINERALIZATION RATES WERE HIGH ON THE BOTTOM IN THE BIGHT. SAMPLES TAKEN IN AUGUST 1975, IN CHRISTIAENSEN BASIN, ALONG WITH MEASUREMENTS IN SITU OF AMMONIA FLUX FROM THE BOTTOM, CONFIRTED THAT THE SEDIMENTS ENRICHED BY SEWAGE SLUDGE ARE REGENERATING NUTRIENTS BUT AT THAT TIME NOT AT RATES AS HIGH AS OUR EARLIER PREDICTED RATES FOR THE MID-ATLANTIC BIGHT.

1615 ROWE, G.T.: C.H. CLIFFORD: K.L. SMITH, JR.

BENTHIC NUTRIENT REGENERATION AND 1TS COUPLING TO PRIMARY PRODUCTIVITY IN COASTAL WATERS [1975]

NATURE 225:215-217

THE HIGH PRIMARY PRODUCTIVITY OF COASTAL OCEAN WATERS IS ATTRIBUTED TO NITROGEN REGENERATION FROM CONTINENTAL SHELF SEDIMENTS. IN SITU MEASUREMENTS IN THE NEW YORK DIGHT OF THE RATE AT WHICH AMMONIA AND NITRATE DIFFUSE INTO THE WATER COLUMN FROM SEDIMENTS WERE BASED ON THE ASSUMPTION THAT THE BREAKDOWN OF ORGANIC MATTER IN SEDIMENTS IS PROPORTIONAL TO THE AMOUNT OF OXYGEN REQUIRED. THUS FOR EACH MILLILITER OF OXYGEN CONSUMED, 0.412 MG ORGANIC CARBON IS OXIDIZED TO CARBON DIOXIDE. BECAUSE THE ORGANIC CARBON-NITROGEN RATIO IN SEDIMENTS IS ABOUT 10:1 OR GREATER, IT WAS CONSTRUED THAT 0.041 MG ORGANIC NITROGEN WOULD BE REMINERALIZED TO AMMONIA FOR EACH MILLILITER OF OXYGEN CONSUMED. BOTH THE SEDIMENT OXYGEN DEMAND AND AMMONIA PRODUCTION WERE HIGHLY DEPENDENT ON TEMPERATURE. MOST OF THE NITROGEN AT WARMER TEMPERATURES WAS IN AMMONIA FORM; AT LOWER TEMPERATURES NITROGEN MAY BE LOST BY DENITRIFICATION TO ELEMENTAL NITROGEN. WHEN THE BOTTOM RESPIRATION ON THE CONTINENTAL SHELF IS APPROXIMATELY 10-20 ML/SQ M/HR 4.12 MG ORGANIC CARBON AND 0.412 MG ORGANIC NITROGEN HOULD BE OXIDIZED TO CARBON DIOXIDE OR DEAMINATED TO AMMONIA. IF ABOUT 80% OF THE AMMONIA WERE RELEASED FROM THE SEDIMENT THE AVERAGE FEEDBACK WOULD BE ABOUT 23.5 MICROGRAM—ATOM NITROGEN/M2/HR. THE HIGH AMMONIA CONCENTRATIONS WERE NOT DUE TO ADVECTION FROM OFFSHORE WATERS OR FROM HUDSON RIVER EFFLUENT.

1616 ROVE, G.T.; K.L. SMITH, JR.

BENTHIC-PELAGIC COUPLING IN THE MID-ATLANTIC BIGHT [1977]

WHOI REPRINTS PART I. WHOI, WOODS HOLE, MA 10 PP

THE HYPOTHESIS THAT THE CONTINENTAL SHELF IS AN IMPORTANT SITE OF NUTRIENT REGENERATION IS SUPPORTED BY HYDROGRAPHIC DATA COLLECTED IN MID-ATLANTIC BIGHT AND A THEORETICAL RELATIONSHIP BETWEEN BOTTOM OXYGEN DEMAND AND THE BREAKDOWN OF SEDIMENT ORGANIC MATTER. NUTRIENT FLUX OUT OF THE BOTTOM IS ESTIMATED FROM NEAR-BOTTOM AMMONIA GRADIENTS IN A FINITE DIFFERENCE EQUATION.

1617 ROWE, G.T.; W.D. GARDNER

SEDIMENTATION RATES IN THE SLOPE WATER OF THE NORTHWEST ATLANTIC OCEAN MEASURED DIRECTLY WITH SEDIMENT TRAPS [1979]

J MAR RES 3773):581-600

FOUR SEDIMENT TRAP ARRAYS WERE DEPLOYED IN THE SLOPE WATER OFF THE NORTHEAST US FOR PERIODS OF 5.8 TO 15.8 DAYS FROM MAY TO AUGUST 1976. THREE TRAPS, EACH A PVC CYLINDER 25 CM IN DIAMETER AND 76 CM TALL, WERE ATTACHED AT VARIOUS DISTANCES ABOVE THE BOTTOM ALONG BOTTOM-ANCHORED MOORINGS. CLOSURE OF THE INDIVIDUAL TRAPS AND RELEASE OF EACH ARRAY FROM ITS EXPENDABLE ANCHOR WAS CONTROLLED BY A WILLIAMS TIMED RELEASE OR AN AMF ACOUSTIC RELEASE. DSRV ALVIN, MAKING OBSERVATIONS OF ONE ARRAY, CLOSED THOSE TRAPS AND RELEASED. THAT ARRAY FROM THE BOTTOM. WATER DEPTHS RANGED FROM 2200 M-3650 M, BUT THE TRAPS WERE PUT AS HIGH AS 518 M OFF BOTTOM, AS WELL AS NEAR BOTTON. TO DIFFERENTIATE BETWEEN PRIMARY PELAGIC SEDIMENTING MATTER AND RESUSPENDED MATERIAL IN THE NEPHEL)TD ZONE. AVERAGE ORGANIC CARBON SEDIMENTATION RATE FOR ALL TRAPS WAS 12.8 MG/MZ/DAY, WHILE CARBONATE AVERAGED 105 MG/MZ/DAY. ORGANIC CARBON RANGED FROM 3.8 TO 6% OF THE TOTAL MATERIAL CAUGHT, SOMEWHAT HIGHER THAN THAT IN BOTTOM SEDIMENTS BELOW THE TRAPS, HAVING CONCENTRATIONS OF 1.2-1.3%. SIZE FRACTIONATION OF SUME OF THE MATERIAL INDICATED THAT ABOUT 20% OF THE

ORGANIC CARBON FLUX WAS CARRIED IN LARGER, OFTEN PELLETIZED PARTICLES (>63 MICRONS), WITH THE REMAINING BOX BEING IN SMALLER PARTICLES. FECAL PELLETS WERE LARGER AND MORE ABUNDANT NEAR BOTTOM IN THE NEPHELOID ZONE THAN IN THE PRIMARY SEDIMENTING MATERIAL ABUVE IT, SUGGESTING THAT THE FAUNA ON AND NEAR (500 M ABOVE) BOTTOM IS CONSUMING RESUSPENDED MATERIAL AND MATTER OF RECENT PELAGIC ORIGIN BEFORE IT IS DEPOSITED. CARBON BUDGETS FOR THE THREE LOCATIONS, BASED ON COMMUNITY METABOLISM, THE TRAP MEASUREMENTS AND CARPON ACCUMULATION IN THE BOTTOM, SUGGEST THAT THE INFÉRRED ASSEMBLAGE OF ORGANISMS FEEDING JUST ABOVE THE BOTTOM COULD BE UTILIZING A RELATIVELY LARGE FRACTION OF THE SEDIMENTING ORGANIC CARBON.

1618 RUDOLFS, W.; H. HEUKELEKIAN

EFFECT OF SUNLIGHT AND GREEN ORGANISMS ON RE-AERATION OF STREAMS [1967]

PAGES 52-56 IN L.E. KEUP, W.M. INGRAM, AND K.M. MACKENTHUM, EDS. BIOLOGY OF WATER POLLUTION. FED WATER POLLUT CONTROL ADMIN, WASHINGTON, DC

ANALYSES OF POLLUTED WATER IN THE AFTERNOON-DURING THE HIGH LEVEL ALGAL PHOTOSYNTHESIS--MAY YIELD MISLEADING INFORMATION ON DISSOLVED OXYGEN CONCENTRATION. THIS IS PARTICULARLY TRUE OF SLOWLY FLOWING STREAMS ANALYZED DURING HOT DAYS OF THE ALGAL GROWING SEASON. BECAUSE THE PH VALUES FLUCTUATE IN DIRECT RELATION WITH DISSOLVED OXYGEN, UNSYSTEMATIC DETERMINATION MAY SUGGEST AN ERRONEOUS CONCLUSION THAT THE WATER HAS A STRONGLY ALKALINE REACTION, OR THAT IT RECEIVES ALKALINE POLLUTANTS.

1619 RUGGIERO, D.D.; R. AUSUBEL

REMOVAL OF ORGANIC CONTAMINANTS FROM DRINKING WATER SUPPLY AT GLEN COVE, NEW YORK, PHASE I [1980]

US EPA, NEW YORK, NY 87 PP NTIS-PB81-115 040

THIS RESEARCH PROGRAM WAS INITIATED WITH THE OVERALL OBJECTIVE OF OBTAINING RELEVANT DESIGN PARAMETERS AND CAPITAL AND OPERATING COSTS OF BOTH ADSORPTION AND AERATION TECHNIQUES FOR THE REMOVAL OF SPECIFIC ORGANIC CONTAMINANTS FROM THE CITY OF GLEN COVE'S DRINKING WATER SUPPLY. MAJOR CONTAMINANTS PRESENT ARE TRICHLOROETHYLENE, TETRACHLOROETHYLENE,

CIS-1,2-DICHLOROETHYLENE, AND 1,1,1-TRICHLOROETHANE. A PILOT PLANT WAS CONSTRUCTED AND OPERATED BY USING WATER FROM ONE OF THE CITY'S CONTAMINATED WELLS AND TREATING A PORTION OF IT VIA SYNTHETIC RESIN (AMBERSORD XE-340) AND DIFFUSED AERATION. RESIN DEPTHS OF ONE FOOT, TWO FEET, AND FOUR FEET WERE USED, AND IN MUST CASES, VIRGIN RESIN LOWERED THE CONCENTRATION OF ALL CONTAMINANTS OF CONCERN TO BELOW 1 MICROGRAM/L. STEAM REGENERATION OF THE EXHAUSTED RESIN TOOK PLACE, BUT, ALTHQUEH PROMISING, THE RESULTS ACHIEVED IN THE LABORATORY BY THE RESIN MANUFACTURER COULD NOT BE DUPLICATED UNDER PILOT PLANT CONDITIONS. AERATION TESTS WERE CONDUCTED AT AIR TO WATER RATIOS OF 30:1.20:1.15:1 AND 5:1 AND 60-95 PERCENT REMOVALS WERE OBTAINED.

1520 RUGGLES, F.H., JR.

PLUME DEVELOPMENT IN LONG ISLAND SOUND OBSERVED BY REMOTE SENSING (ERTS-1) [1973]

PAGES 1299-1303 IN GODDARD SPACE FLIGHT CENTER SYMP ON SIGNIFICANT RESULTS OBTAINED FROM THE ERTS-1, VOL 1, SEC A AND B. NASA, CREENBELT, MD

AS THE CONNECTICUT RIVER FLOWS INTO LONG ISLAND SOUND, LARGE PLUMES ARE DEVELOPED DURING THE MIXING OF OCEAN AND ESTUARINE WATERS. PLUMES WERE DELINEATED FOR JUL 28, OCT 8, OCT 27, AND DEC 2, 1972, BY ANALYZING ERTS-1 IMAGERY WITH THE SRI ELECTRONIC SATELLITE IMAGE ANALYSIS CONSOLE (ESIAC). INSERTION OF MSS BAND 5 INTO THE ESIAC PRODUCED THE BEST RESULT IN THIS ANALYSIS. THE FOUR PLUMES THAT HAVE BEEN DELINEATED PROVIDE THE FIRST INPUT TO A TIME-LAPSE ANALYSIS OF CIRCULATION PATTERNS AT THE EASTERN END OF LONG ISLAND SOUND.

ESTUARINE AND COASTAL WATER DYNAMICS CONTROLLING SEDIMENT MOVEMENT AND PLUME DEVELOPMENT IN LONG ISLAND SOUND [1973]

USGS, HARTFORD, CT 2 PP

AS THE CONNECTICUT RIVER FLOWS INTO LONG ISLAND SOUND, LARGE PLUMES DEVELOP DURING THE MIXING OF OCEAN AND ESTUARINE WATERS. PLUMES WERE DELINEATED FOR JUL 28, OCT 8, OCT 27, AND DEC 2, 1972, BY ANALYZING ERTS-1 IMAGERY WITH THE SRI ELECTRONIC SATELLITE IMAGE ANALYSIS CONSOLE (ESIAC). BECAUSE THE CHEMICAL AND PHYSICAL COMPOSITION OF THE PLUME AND OCEAN WATER WERE NOT TOO DIFFERENT, THE ESIAC WAS UTILIZED TO EXPAND THE SCENES AND SUBJECT THE TRANSPARENCIES TO VARYING COMBINATIONS OF VIEWING TECHNIQUES TO IDENTIFY AND DELINEATE THE PLUMES. BEST RESULTS WERE OBTAINED WHEN BAND 5 TRANSPARENCIES WERE USED. INDICATIONS ARE, WHEN THE SCENE BEING ANALYZED IS PREDOMINANTLY IN THE FIRST TWO STEPS OF THE GRAY SCALE, IT IS BEST TO USE THE NEGATIVE TRANSPARENCIES. WHEN THE ANALYSIS IS BEING DONE ABOVE THE FIRST TWO STEPS OF THE GRAY SCALE, IT IS BEST TO USE THE POSITIVE TRANSPARENCIES.

1622 RUGGLES, F.H., JR.

ESTUARINE AND COASTAL WATER DYNAMICS CONTROLLING SEDIMENT MOVEMENT AND PLUME DEVELOPMENT IN LONG ISLAND SOUND--ABSTRACT [1973]

GOVERNMENT REP ANNOUNC 73(13):85 ABS ONLY NTIS-373-10378

THE AUTHOR HAS IDENTIFIED THE FOLLOWING SIGNIFICANT RESULTS. AS THE CONNECTICUT RIVER FLOWS INTO LONG ISLAND SOUND, LARGE PLUMES DEVELOP DURING THE MIXING OF OCEAN AND ESTUARINE WATERS. PLUMES WERE DELINEATED FOR JUL 28, OCT 8, OCT 27, AND DEC 2, 1972, BY ANALYZING EPTS-1 IMAGERY WITH THE SRI ELECTRONIC SATELLITE IMAGE ANALYSIS CONSOLE (ESIAC). BECAUSE THE CHEMICAL AND PHYSICAL COMPOSITION OF THE PLUME AND OCEAN WATER WERE NOT TOO DIFFERENT, THE ESIAC WAS UTILIZED TO EXPAND THE SCENES AND SUBJECT THE TRANSPARENCIES TO VARYING COMBINATION OF VIEWING TECHNIQUES TO IDENTIFY AND DELINEATE THE PLUMES. BEST RESULTS WERE OBTAINED WHEN BAND S TRANSPARENCIES WERE USED. INDICATIONS ARE, WHEN THE SCENE BEING ANALYZED IS PREDOMINANTLY IN THE FIRST TWO STEPS OF THE GRAY SCALE, IT IS BEST TO USE THE NEGATIVE TRANSPARENCIES. WHEN THE ANALYSIS IS BEING DONE ABOVE THE FIRST TWO STEPS OF THE GRAY SCALE, IT IS BEST TO USE THE POSITIVE TRANSPARENCIES.

1623 RUSSELL, C.S. (EDITOR)

ECOLOGICAL MODELING IN A RESOURCE MANAGEMENT FRAMEWORK [1975]

PROCEEDINGS OF THE SYMPOSIUM. RESOURCES FOR THE FUTURE, INC., WASHINGTON, DC 394 PP

THIS SYMPOSIUM WAS AN OUTGROWTH OF THE CONSULTANT WORK THAT RESOURCES FOR THE FUTURE PERFORMED FOR NO AA FOR THE MESA NEW YORK BIGHT PROJECT. 25 EXPERTS PARTICIPATED AND 10 PAPERS, WITH DISCUSSIONS, ARE PRESENTED. PAPERS GO BEYOND ENVIRONMENTAL MODELS (FOR MARINE OR LAKE ENVIRONMENTS) AND MANAGEMENT MODELS THAT EXTEND TECHNICAL MODELS TO INCLUDE ECONOMIC AND SOCIAL CRITERIA AND DECISION OR MANAGEMENT (POLICY) ALTERNATIVES. IN ADDITION TO FISH OR PHYTOPLANKTON MODELS AND CONSIDERATIONS, MUCH ATTENTION IS GIVEN TO PHYSICAL MODELS FOR LAKE GEORGE, NY; LAKE ERIE; SAN FRANCISCO BAY; LAKE WASHINGTON (SEATTLE); THE DELAWARE ESTUARY; THE LOWER PART OF THE NORTH SEA; AND THE POTOMAC ESTUARY. TEMPERATURE, RUNOFF, AND SOLAR RADIATION ARE AMONG THE MANY VARIABLES CONSIDERED IN SOME OF THE MODELS.

1624 SAILA, S.B.; R.A. PIKANOWSKI; D.S. VAUGHAN

OPTIMUM ALLOCATION STRATEGIES FOR SAMPLING BENTHOS IN THE NEW YORK BIGHT [1976]

ESTUARINE COASTAL MAR SCI 4(2):119-123

SAMPLING PLANS BASED ON HISTORICAL DATA AVAILABLE FROM THE MESA NEW YORK BIGHT PROJECT ARE DESCRIBED AND ILLUSTRATED. THESE PLANS PROVIDE THE REQUISITE LEVELS OF PRECISION FOR THE MINIMUM EXPENDITURE OF TIME AND EFFORT. SAMPLING FOR A SINGLE VARIABLE

SUCH AS SELECTED TRACE ELEMENTS IS OPTIMIZED DIRECTLY. SAMPLING FOR SEVERAL VARIABLE SIMULTANEOUSLY IN A TWO-STAGE SCHEME CAN ALSO BE OPTIMIZED. THE OPTIMIZATION PROCEDURE IS EXPLAINED AND ILLUSTRATED IN DETAIL AND RESULTS FOR A REALISTIC CASE ARE GIVEN. RELATIVELY FEW REPLICATES (APPROXIMATELY FIVE) ARE SHOWN TO BE REQUIRED TO TEST REASONABLY DEFINED HYPOTHESES CONCERNING DIFFERENCES IN TRACE ELEMENTS BETWEEN TWO STATIONS. SAMPLE SIZES FOR SEVEN SPECIES WERE DETERMINED AND A COMPROMISING ALLOCATION IS DISCUSSED.

1625 SAILA, S.B.

SEDIMENTATION AND FOOD RESOURCES: ANIMAL-SEDIMENT RELATIONSHIFS [1976]

PAGES 479-492 IN D.J. STANLEY AND D.J.P. SWIFT, EDS. MARINE SEDIMENT TRANSPORT AND ENVIRONMENTAL MANAGEMENT. JOHN WILEY AND SONS. NEW YORK, NY

BENTHIC COMMUNITIES AND VARIOUS CLASSIFICATION SCHEMES FOR THEM ARE BRIEFLY REVIEWED. IT IS SHOWN THAT THE UNIMODAL NEGATIVE BINDMIAL MODEL DESCRIBES THE OBSERVED FREQUENCY DISTRIBUTION OF BENTHIC INVERTEBRATES FROM THE NEW YORK BIGHT, AND SUGGESTIONS FOR SAMPLING BASED ON THIS INFORMATION ARE MADE. A RE-ANALYSIS OF SOME BENTHIC SAMPLE DATA IS UTILIZED TO DEMONSTRATE A RELATIONSHIP BETWEEN BENTHIC BIOMASS AND SEDIMENT PARTICLE SIZE ON THE ATLANTIC CONTINENTAL SHELF. A REVIEW IS MADE OF SOME OF THE IMPACTS OF MAN'S ACTIVITIES, SUCH AS DREDGING AND OCEAN WASTE DISPOSAL, ON ANIMAL-SEDIMENT RELATIONSHIPS. AN IMPORTANT PROBLEM AREA IS CONSIDERED TO BE PREDICTING THE RATE OF RECOLONIZATION OF BENTHIC ORGANISMS FROM DISTURBED SEDIMENTS AND ESTIMATING THE NATURE OF THE NEW EQUILIBRIUM NUMBER OF SPECIFS ON THESE DISTURBED AREAS. A BENTHIC RECOLONIZATION MODEL IS ADAPTED FROM PREVIOUS WORK ON ISLAND BIOGEOGRAPHY. EMPIRICAL DATA FROM DREDGE SPOIL STUDIES IN RHODE ISLAND SOUND ARE APPLIED TO THIS MODEL. RESULTS SUGGEST THAT THE BENTHIC RECOLONIZATION PROCESS IN THIS AREA IS RELATIVELY SLOW. AN EXTENSION OF THE MODEL IS SUGGESTED WHICH INCORPORATES DELAY TERMS TO PROVIDE A MORE REALISTIC PORTRAYAL OF THE RECOLONIZATION PROCESS.

1626 SAILA, S.H.; E. LORDA

SENSITIVITY ANALYSIS APPLIED TO A MATRIX MODEL OF THE HUDSON RIVER STRIPED BASS POPULATION [1977]

PAGES 311-332 IN PROC OF THE CONFERENCE ON ASSESSING THE EFFECTS OF POWER PLANT-INDUCED MORTALITY ON FISH POPULATIONS, GATLINGURG, TN. 3-6 MAY 1977

THE LESLIE MATRIX MODEL WAS USED TO EXAMINE THE DYNAMICS OF THE HUDSON RIVER STRIPED BASS PUPULATION. THE RESULTS OF THE SIMULATIONS SUGGESTED THAT THE DOMINANT LATENT ROOT OF THE POPULATION MATRIX IS RELATIVELY INSENSITIVE TO INCREASED MORTALITY IN AGE CLASS O. THE DERIVED POPULATION PARAMETERS AND MEASURES OF PERTURBATION (CONSISTING OF THE MEAN REPRODUCTIVE VALUE, THE STABLE POPULATION UNIT, THE STABLE GROWTH RATE, THE PERTURBATION INDEX, AND THE RELATIVE ADULT POPULATION SIZE AFIER A FINITE PERIOD), ARE MORE DESCRIPTIVE OF POPULATION EFFECTS RESULTING FROM PERTURBATIONS THAN IS THE DOMINANT LATENT ROOT. IF ONLY ONE OF THE FIVE LIFE STAGES IN AGE CLASS I IS SUBJECTED TO INCREASED MORTALITY, THE POPULATION CAN TOLERATE LOSSES UP TO 20% BEFORE REING REDUCED TO 50% OF ITS INITIAL SIZE IN 20 YEARS BUT IF EACH OF THE STAGES IN AGE CLASS O IS SUBJECTED TO INCREASED MORTALITY, THE % LOSS/LIFE STAGE MUST BE LESS THAN 5% TO NOT HAVE THE SIZE OF THE POPULATION REDUCED BY 50% IN 20 YEARS. ANY REDUCTION IN FISHING MORTALITY IN ONE OR SEVERAL OF THE AGE CLASSES 3 TO 20 WILL PERMIT A HIGHER TOLERANCE FOR ADDITIONAL MORTALITY IN THE Y-O-Y LIFE STAGES.

1627 SAILA, S.B.; E.L. ANDERSON; H.A. WALKER

SAMPLING DESIGN FOR SOME TRACE ELEMENTAL DISTRIBUTIONS IN NEW YORK DIGHT SEDIMENTS [1978]

PAGES 166-177 IN SYMP ON BIOL DATA AND WATER POLLUT ASSESS: QUANT AND STAT ANALYSIS, MINNEAPOLIS, MN, 20-21 JUNE 1977. ASIM SPEC TECH PUB 652. ASIM. PHILADELPHIA, PA

THE PAPER OUTLINES A MODEL TO DESCRIBE THE SPATIAL DISTRIBUTION OF SELECTED TRACE ELEMENTS (CR. CU. NI. PB. AND IN) IN NEW YORK

BIGHT SEDIMENT. EMPIRICAL TESTS OF THE FIT OF EXISTING DATA BY MEANS OF CUMULATIVE PROBABILITY PLOTS ON LOG-NORMAL PROBABILITY PAPER AND GOODNESS-OF-FIT TESTS DEMONSTRATE CONFORMITY TO THE LOG NORMAL DISTRIBUTION PREDICTED BY THE MODEL. AN ADAPTIVE SAMPLING STRATEGY FOR DESCRIBING THE SPATIAL DISTRIBUTION OF THE TRACE ELEMENTS IS DEVELOPED, BASED ON A KNOWLEDGE OF THE SAMPLING DISTRIBUTIONS OF THE ELEMENTS. THE SPATIAL DISTRIBUTION OF THE SAMPLING STATIONS CONFORMS TO THE EXPECTED NONUNIFORMITY OF THE TRACE METAL CONCENTRATIONS OF INTEREST, PROVIDING FOR A MORE EFFICIENT ALLOCATION OF SAMPLING EFFORT.

1628 SAILA, S.B.; D.A. SEGAR

METALS SUBPANEL REPORT [1979]

PAGES 10-19 IN J.S. O'CONNER AND H.M. STANFORD, EDS. CHEMICAL POLLUTANTS OF THE NEW YORK BIGHT: PRIORITIES FOR RESEARCH. US ERL, NGAA, BOULDER, CO

CYANIDES AND THE METALS AND METALLIC COMPOUNDS OF ANTIMONY, ARSENIC, BERYLLIUM, CADMIUM, CHROMIUM, COPPER, LEAD, MERCURY, NICKEL, SELENIUM, SILVER, THALLIUM, AND ZINC ARE CONSIDERED IN THIS REPORT. THE LIST WAS DEVELOPED BY THE NEW YORK BIGHT CHEMICAL CONTAMINANTS PANEL FROM SEVERAL AVAILABLE LISTS OF HAZARDOUS CHEMICALS. THE MAJOR SELECTION WAS FROM THE US EPA PRIORITY LIST FOR POINT SOURCE DISCHARGES. MANY REACTIVE HEAVY METALS ARE RAPIDLY REMOVED FROM COASTAL WATERS TO THE UNDERLYING SEDIMENTS WITH BIOLOGICAL AND INORGANIC SOLIDS. THUS, SEDIMENTS MAY CONCENTRATE HEAVY METAL CONTAMINANTS. THE AMOUNT OF RESEARCH WHICH HAS BEEN DONE TO DATE ON THE CHEMICAL FORMS OF METALS IN SEDIMENTS, THE DIRECT TOXICITY AND BIOACCUMULATION OF THESE METALS, AND THEIR FLUXES FROM THE SEDIMENTS, IS VERY LIMITED IN ITS USEFULNESS FOR RATIONAL DECISION MAKING.

1629 SAKAGAHA, G.T.

THE PURSE-SEINE FISHERY FOR BLUEFIN TUNA IN THE NORTHWESTERN ATLANTIC OCEAN [1975]

MAR FISH REV 37(3):1-8

THE HISTORY OF THE PURSE-SEINE FISHERY FOR BLUEFIN TUNA IN THE NORTHWESTERN ATLANTIC OCEAN IS REVIEWED. AND EVENTS THAT CONTRIBUTED TO FLUCTUATION OF THE CATCH ARE DISCUSSED. THE FISHERY BEGAN IN 1958 AND PRODUCED 5,770 MT (METRIC TONS) AT ITS PEAK IN 1963. THE CATCH DECLINES FROM 4,290 MT IN 1970 TO ABOUT 1,780 MT IN 1973. THE 1973 CATCH WAS LANDED BY A FLEET WITH ABOUT 4,900 MT CARRYING CAPACITY, WHICH WAS IN EXCESS OF THE CATCH. AVERAGE LENGTH OF BLUEFIN TUNA IN THE PURSE-SEINE CATCH DECREASED FROM ABOUT 140 CM IN 1960 TO ABOUT 89 CM IN 1973, OWING IN PART TO A SOUTHWARD EXPANSION OF THE FISHING GROUNDS INTO AREAS WHERE SMALL BLUEFIN TUNA ARE MORE AVAILABLE. PRIOR TO 1962, THE FISHING GROUNDS WERE CENTERED IN CAPE COD BAY. CURRENTLY IT IS CENTERED OFF NEW JERSEY-NEW YORK.

1630 SALERNO, R.A.

TRANSITION IN THE URBAN BEACH COMMUNITY: A STUDY OF ROCKAWAY, NEW YORK [1975]

NYU, NEW YORK, NY 63 PP

THIS PAPER EXAMINES FOCKAWAY, A BEACH COMMUNITY IN QUEENS COUNTY, NY. THE ENVIRONMENTAL, ECONOMIC, AND SOCIAL CHANGES WHICH HAVE OCCURRED IN THIS BEACH COMMUNITY ARE DESCRIBED AND ANALYZED. THE PROCESSES OF BEACH EROSION AND WATER POLLUTION AND THEIR EFFECTS ON BEACH USE ARE DISCUSSED. THE SOCIO-ECONOMIC CHARACTER OF THE POPULATION AND THE RELATIONSHIP OF THIS POPULATION TO PUBLIC SERVICES IS DESCRIBED. THE PATTERN OF TRANSPORTATION ACCESS TO ROCKAWAY IS ALSO IDENTIFIED. FINALLY, A MORE DETAILED SURVEY OF LAND-USE PATTERNS WITHIN THE ROCKAWAY BEACH CURRIDOR IS PRESENTED. IT PROVIDES AN IN-DEPTH ANALYSIS OF THE TRENDS OF THE PHYSICAL AND SOCIO-ECONOMIC CHARACTERISTICS THAT COMPRISE THE ROCKAWAY OCEANFRONT.

1631 SAMUELS, 4.8.

BIOASSAY OF NEW YORK HARBOR WATERS USING THE MARINE DIATOM SKELETONEMA COSTATUM (GEVILLE) CLEVE AS TEST ORGANISM [1979]

PH.D. THESIS. FORDHAM UNIV. NEW YURK. NY 161 PP

FIELD TEASUREMENTS OF SKELETONEMA COSTATUM STANDING CROP AND LABORATORY BIOASSAYS OF GROWTH RATE AS A FUNCTION OF HARBOR WATER CONCENTRATION AND TREATMENT WERE MADE FOR A 15 MO PERIOD (JAN 1977 TO MAR 1978) AT ONE STATION IN NEW YORK HARBOR. THE SEASONAL GROWTH CYCLE OF S. COSTATUM WAS: MAXIUMUM STANDING CROP IN THE LATE WINTER-EARLY SPRING, A DECLINE IN THE LATE SPRING TO A MINIMUM DURING THE SUMMER, AND A SUBSEQUENT RECOVERY OF THE CROP WITH A RECURRENT MAXIMUM IN THE LATE WINTER-EARLY SPRING. GROWTH RATES FOLLOWED THE SAME PATTERN. LABORATORY ANALYSIS SHOWED NUTRIENT SATURATION THROUGHOUT THE YEAR.

1632 SANDERS. J.E.

COASTAL-ZONE GEOLOGY AND ITS RELATIONSHIP TO WATER POLLUTION PROBLEMS [1971]

PAGES 23-36 IN WATER POLLUTION IN THE GREATER NEW YORK AREA-- SYMPOSIUM. GORDON AND BREACH. NEW YORK. NY

COASTAL-70NE GEOLOGY RELATES WATER POLLUTION PROBLEMS THROUGH VARIOUS ASPECTS OF SEDIMENTOLOGY. THE SEDIMENTS AND WATERS INTERACI CHEMICALLY FOTH WHILE THE SEDIMENTS ARE BEING TRANSPORTED AND AFTER THEY COME TO REST ON THE BOTTOM. TODAY'S COASTAL SEDIMENTS OF THE NEW YORK METROPOLITAN AREA REFLECT LATE CENOZOIC GEOLOGIC HISTORY. GREAT OSCILLATIONS OF CLIMATE AND PROFOUND CHANGES OF SEA LEVEL OCCURRED AND LEFT THEIR IMPRINT ON THE MORPHOLOGY AND SURFICIAL SEDIMENTS. ALONG EXPOSED COASTS WAVES SHIFT SANDY SEDIMENTS LATERALLY. ROCKAWAY SPIT, WHICH IS BUILDING INTO JAMAICA BAY, AND SANDY HOOK SPIT. WHICH IS GROWING INTO RARLTAN BAY, HAVE BEEN MAPPED FOR MORE THAN A CENTURY. ACCORDINGLY, LATERAL POSITION ALONG THE SPIT CAN BE USED TO DATE THE TIME WHEN FORMER BAY-BOTTOM SEDIMENTS BECAME BURIED BY SAND. IN THESE BURIED BAY-BOTTOM SEDIMENTS MAY BE A RECORD OF THE INTRODUCTION OF VARIOUS POLLUTANTS INTO NEW YORK HARBOR. THE VERTICAL ACCRETION OF TIDAL MARSHES. EQUALLING THE 1-MM/YR RATES OF REGIONAL SUBSIDENCE. IS STORING VAST TONNAGES OF FINE PARTICLES SHIFTED BY THE TIDES LANDWARD FROM SUSPENSION IN THE OPEN WATERS OF THE NEW YORK BIGHT

1633 SANDERS, J.E.

GEOMORPHOLOGY OF THE HUDSON ESTUARY [1974]

NY ACAD SCI ANN 250:5-38

FROM JUST NORTH OF BEAR MOUNTAIN TO THE NARROWS, THE HUDSON ESTUARY FLOWS IN, ACROSS OR ALONG SIX MAJOR REGIONAL MORPHOLOGICAL PROVINCES OF FEATURES. FROM NORTH TO SOUTH THESE ARE: (1) THE GREAT VALLEY OF THE APPALACHIANS, (2) THE NEW JERSEY-HUDSON HIGHLANDS, (3) THE MANHATTAN PRONG OF THE NEW ENGLAND UPLAND, (4) THE NEWARK LOWLAND (WHICH IS RIMMED AT ITS NORTHEAST END BY THE PALISADES RIDGE), (5) THE ATLANTIC COASTAL PLAIN, AND (6) THE HARBOR HILL TERMINAL MORAINE.

1634 SANDERS, J.E.; N. KUMAR

EVIDENCE OF SHOREFACE RETREAT AND IN-PLACE "DROWNING" DURING HOLOCENE SUBMERGENCE OF BARRIERS, SHELF OFF FIRE ISLAND, NEW YORK [1975]

GEOL SOC AM BULL 86:65-76

AT DIFFERENT TIMES WITHIN THE HOLOCENE PERIOD, THE BARRIERS ON THE SHELF OFF FIRE ISLAND, LONG ISLAND, NY, HAVE RESPONDED TO SUBMERGENCE THROUGH THE CONTRASTING PROCESSES OF IN-PLACE DROWNING AND LANDWARD RETREAT. IN-PLACE DROWNING IS INDICATED BY EVIDENCE OF A RELICT SHORELINE 7 KM SEAWARD OF THE PRESENT BEACH AT A DEPTH OF -24 M. SEDIMENTOLOGIC CRITERIA FOR LOCATING THIS INFERRED RELICT SHORELINE CONSIST OF CHARACTERISTIC RELICT SHOREFACE SEDIMENTS ON THE SEAWARD SIDE AND OF CHARACTERISTIC RELICT BACKBARRIER SEDIMENTS ON THE LANDWARD SIDE OF A LENTICULAR BELT OF SAND FROM WHICH NO SAMPLES AREA AVAILABLE. BASED ON

PUHLISHED SUPMERGENCE CURVES, THIS INFERRED RELICT SHORELINE IS TENTATIVELY DATED AT 8,500 TO 9,000 YR B.P. AT ABOUT 7,500 YR B.P., THE BREAKER ZONE IS INFERRED TO HAVE "JUMPED" 5 KM LANDWARD FROM THIS RELICT BARRIER TO FORM A NEW CHAIN OF BARRIERS 2 KM SEAWARD OF THE MODERN SHORE AT A DEPTH OF -16 M. TWO CORES COLLECTED SEAWARD OF THE PRESENT BEACH IN 14 TO 16 M OF WATER CONTAIN BACKBARRIER SALTMARSH PEAT WHICH HAS BEEN DATED AT 7,750 + 125 AND 7,585 + 125 RADIOCARBON YEARS. THE PEAT UNDERLIES OFFSHOTE SAND WHICH FORMS PART OF THE SHOREFACE OF THE MODERN BARRIER. THESE CORES ARE EVIDENCE THAT THE - 16 M BARRIER MIGRATED CONTINUOUSLY LANDWARD AND EVENTUALLY BECAME THE MODERN BARRIER. INLET-FILLING SANDS CAN SERVE AS INDICATORS OF FORMER LOCATIONS OF BARRIERS AND AS CRITERIA FOR DETERMINING WHETHER BARRIERS HAVE BEEN DROWNED IN PLACE OR HAVE MIGRATED LANDWARD. IF A BARRIER MIGRATES CONTINUOUSLY LANDWARD, IT SHOULD LEAVE BEHIND A BLANKET OF INLET-FILLING SANDS. IF A BARRIER DROWNS IN PLACE. INLET-FILLING SANDS SHOULD FORM ONLY NARROW, LINEAR LENSES PARALLEL TO THE SHORE.

1635 SANDERS, J.E.; D.J. FORNARI; W. WILCOX

SYMMETRICAL BEACH CUSPS ON TWO MODERN BEACHES: DEPOSITIONAL ORIGIN PROVED BY STRATIGRAPHIC EVIDENCE [1976]

GEOL SOC AM ABSTR PROG 8(6):1085

EXCAVATION OF SQUARE U-SHAPED TRENCHES IN TWO SETS OF SYMMETRICAL BEACH CUSPS, ON GREAT SOUTH BEACH, MARTHA'S VINEYARD, MA. AND AT ROBERT MOSES STATE PARK, FIRE ISLAND, LONG ISLAND, NY, HAS PROVIDED NEW EVIDENCE WHICH SUPPORTS AND MODIFIES THE THEORY OF DEPOSITIONAL ORIGIN FOR SYMMETRICAL BEACH CUSPS. THE TWO PARALLEL SIDES OF THE U WERE DUG PERPENDICULAR TO THE SHORE, ONE ALONG THE MEDIAN LINE OF A CUSP BAY AND THE OTHER ALONG THE MEDIAN LINE OF AN ADJACENT CUSP HEADLAND. THE CONNECTING PART OF THE U WAS DUG PARALLEL TO SHORE ALONG THE INNER SIDE OF THE CUSPS. IN BOTH TRENCHES, INTERNAL STRATA WERE CONCORDANT THROUGHOUT. LAYERS OF SEDIMENT, READTLY APPARENT FROM THEIR CONTENTS OF HEAVY MINERALS, PINCHED AND SWELLED SYSTEMATICALLY. MAXIMUM THICKNESSES UNDERLAY CUSP HEADLANDS, AND MINIMUM THICKNESSES, CUSP BAYS. VERTICAL STACKING OF LAYERS, THICK OVER THICK AND THIN OVER THIN, HAS CREATED THE DIAGNOSTIC MORPHOLOGY OF SYMMETRICAL CUSPS. THESE STRATIGRAPHIC RELATIONSHIPS IMPLY PROGRESSIVELY GREATER NON-DEPOSITION BY THE BACKWASH AS ITS SPEED AND CAPACITY INCREASE DOWN THE FLANKS OF THE CUSP HEADLANDS. THE CONCENTRATED BACKWASH FROM THE CENTERS OF THE CUSP BAYS DEFLECTS THE BORE OF THE INCOMING SWASH, CAUSING IT TO DIVIDE INTO PAIRS OF REFRACTED WAVES THAT MOVE PARALLEL TO SHORE AWAY FROM THE BORE OF THE INCOMING SWASH, CAUSING IT TO DIVIDE INTO PAIRS OF REFRACTED WAVES THAT MOVE PARALLEL TO SHORE AWAY FROM THE BAYS. AT HEADLANDS, REFRACTED WAVES, MOVING IN OPPOSITE DIRECTIONS FROM ADJOINING BAYS, CROSS AND THUS DEPOSIT SEDIMENT. THE WAVE PATTERN IS A SMALL-SCALE ANALOGUE OF THAT WHICH FORMS TOMBOLOS IN THE LEE OF ISLANDS. WE ARE UNAWARE THAT SUCH CUSP STRATIFICATION HAS BEEN FOUND IN ANCIENT BEACHES, BUT IT SHOULD BE SOUGHT IN THE GEOLOGIC RECORD AS IT IS DIAGNOSTIC OF PROGRADING BEACHES.

1636 SANDERS, J.E.

BEACHES AND SPITS: NEW OBSERVATIONS ON LONGSHORE SAND TRANSPORT AT THREE DYNAMIC LEVELS--SUBTIDAL, INTERTIDAL, AND SUPRATIDAL [1978]

GEOL SOC AM ABSTR PROG 10(2):84

DURING 1970-1976, AT DEMOCRAT POINT, NE SHORE OF FIRE ISLAND INLET, SW END OF FIRE ISLAND BARRIER, LONG ISLAND, NY, A SUCCESSION OF SPITS FORMED, ELONGATED, AND DISAPPEARED. THESE SPITS ILLUSTRATE MEISTRELL'S (1972) CONCEPT OF THE DISTINCTION BETWEEN A SPIT PLATFORM AND A SUBAERIAL SPIT. THE SUBAQUEOUS SPIT PLATFORM ENLARGED STEADILY BY ADDITIONS OF VERY FINE SAND FROM THE SUBTIDAL TRANSPORT SYSTEM LYING SEAWARD OF THE BREAKER ZONE ON THE ADJACENT UPDRIFT OPEN-OCEAN BEACH. WHEN LARGE VOLUMES OF SAND WERE TRANSPORTED ALONGSHORE FROM THE SUPRATIDAL ZONE OF THE UPDRIFT OPEN-OCEAN BEACH. THE SUBAERIAL SPIT GREW EXTREMELY RAPIDLY (TENS OF METERS DURING A SINGLE HIGH TIDE). HONEVER, WHEN THE SUPRATIDAL TRANSPORT SYSTEM BECAME INACTIVE, THE SUBAERIAL SPITS WERE DRIVEN LANDWARD ACROSS THE SPIT PLATFORM. EVENTUALLY, MUCH OF THE SAND THAT FORMED THE SUBAERIAL SPITS WAS STRIPPED FROM THE SPIT PLATFORM AND WAS DELIVERED INTO FIRE ISLAND INLET, WHERE TIDAL CURRENTS MOVED THIS SAND BOTH INWARD AND OUTWARD. LONGSHORE TRANSPORT OF SAND IN THE INTERTIDAL ZONE REACHED MAXIMUM VALUES WHEN BEACH SCARPS WERE OUT AND RETREATED LANDWARD UNDER THE INFLUENCE OF GRAZING SWASHES. A SUBAERIAL SPIT IS BEST VISUALIZED AS AN EPHEMERAL LANDFORM THROUGH WHICH LARGE AMOUNTS OF SEDIMENT MAY BE FLUXING. THE IMPORTANCE OF THE SEDIMENT FLUX THROUGH THE SUBAERIAL SPITS AT DEMOCRAT POINT WAS ONLY APPRECIATED AS A RESULT OF CLOSELY SPACED OBSERVATIONS. THE SAME GENERAL SPIT (ONFIGURATIONS TENDED TO REAPPEAR REPEATEDLY, BUT EACH TIME, THE SUBAERIAL SPITS WERE COMPOSED OF A COMPLETELY DIFFERENT BODY OF SAND FROM THOSE THAT FORMED ITS

PREDESSORS .

1637 SANDHUM, R.S.; C.T. HWANG; N.R. MORGENSTERN; D.W. MURRAY; R.L. LYTTON; W.A. DUNLAP; C.S. DESAI; D.C. BANKS; J.B. PALMERTON; L.D. JOHNSON; H.B. SFED; J. LYSMER; J.M. FERRITTO; L.W. HELLER

APPLICATIONS OF THE FINITE ELEMENT METHOD IN GEOTECHNICAL ENGINEERING [1972]

PROC OF SYMP, VICKSBURG, MS. MAY, 1972. US ARMY CORPS ENG WES, VICKSBURG, MS 1227 PP

THIS IS A COLLECTION OF PAPERS DEALING WITH APPLICATIONS OF THE FINITE ELEMENT METHOD, INCLUDING A FINITE ELEMENT SEEPAGE ANALYSIS OF THE JAMAICA BAY, NY HURRICANE BARRIER.

1638 SANFILLIPPO, M.L.

'A STUDY OF THE QUALITY AND SENSITIVITY OF THE SEDIMENTS AND WATER OF A SELECTED AREA OF WESTERN GREAT SOUTH BAY AS A FUNCTION OF HEAVY METAL ACCUMULATION [1978]

M.S. THESIS. ADELPHI UNIV. GARDEN CITY, NY 130 PP

THE PHYSICAL AND CHEMICAL PROPERTIES OF THE SEDIMENTS OF A SELECTED AREA OF GREAT SOUTH BAY, LONG ISLAND, NY WERE STUDIED FOR ENVIRONMENTAL QUALITY AND SENSITIVITY TO THE ACTIVITIES OF MAN. TECHNIQUES EMPLOYED TO EVALUATE THE SEDIMENT INCLUDE RSA ANALYSIS, PIPETTE ANALYSIS, X-RAY DIFFRACTION, AND ATOMIC ABSORPTION SPECTROMETRY. RESTRICTED CIRCULATION AND LOW LEVELS OF ENERGY AVAILABLE FOR SEDIMENT TRANSPORT OF THE BAY ARE REFLECTED IN THE FINE GRAINED TEXTURE OF THE SEDIMENT. THE MAJORITY OF SURFACE DEPOSITS ARE DOMINATED BY FINE AND VERY FINE SAND WITH SUBSTANTIAL SILT AND CLAY ACCUMULATIONS. SIGNIFICANT ORGANIC MATTER ACCUMULATIONS WERE OBSERVED IN BOTTOM SEDIMENTS THROUGHOUT THE STUDY AREA, ASSOCIATED WITH ANOXIC CONDITIONS. THE CHARACTERISTICS OF THE CHEMISTRY, CIRCULATION, GRAIN SIZE AND ORGANIC MATTER CONTENT OF THE SEDIMENTS PROVIDE A MECHANISM FOR ACCUMULATION OF HEAVY METALS IN THESE SEDIMENTS. A RELATIONSHIP WAS OBSERVED BETWEEN DECREASING METAL CONTENT AND INCREASING DISTANCE FROM THE MAINLAND. THIS SUGGESTS ANTHROPOGENIC FLUXES OF HEAVY METALS ARE DERIVED FROM THE SUFFOLK COUNTY MAINLAND. MARKED ENRICHMENT OF HEAVY METALS IN RECENT SEDIMENTS IS REFLECTIVE OF SIGNIFICANT INCREASES IN ANTHROPOGENIC FLUXES IN RECENT YEARS. BECAUSE OF THE RESTRICTED CIRCULATION, THE FINE GRAINED TEXTURE, AND HIGH CONTENT OF ORGANIC MATTER, THE SEDIMENTS OF THIS SECTION OF GREAT SOUTH BAY APPEAR TO BE SENSITIVE TO HIGH ANTHROPOGENIC FLUXES OF HEAVY METALS. CARE SHOULD BE TAKEN TO PREVENT EXPOSURE OF THESE ANOXIC SEDIMENTS TO OXIDIZING ZONES OF THE SYSTEM. SUCH DISTURBANCE COULD FACILITATE SIGNIFICANT RELEASES OF POTENTIALLY TOXIC METALS INTO THE WATER COLUMN.

1639 SANKO, P.

NEW YORK HARBOR -- A MAJOR SAND PIT [1976]

WORLD DREDGING MAR CONSTR 12(6):36-37

THE ARTICLE DISCUSSES SAND DEPOSITS IN THE LOWER BAY OF NEW YORK HARBOR AS A SOURCE OF SAND FOR NEW YORK CITY SINCE 1963.

1640 SANTSCHI, P.H.; Y.H. LI; J.J. BELL; R.M. TRIER; K. KAWTALUK

PU IN COASTAL MARINE ENVIRONMENTS [1780]

EARTH PLANET 51:248-265

ANALYSIS OF WATER SAMPLES FROM THE NEW YORK BIGHT AREA AND NARRAGANSETT BAY REVEALS THAT A SMALL FRACTION OF THE TOTAL PU

(PROBABLY PU III + IV SPECIES) IS CONTINUOUSLY REMOVED TO THE SEDIMENTS AT A RATE SIMILAR TO THAT OF THE PARTICLE-REACTIVE ISOTOPE TH-228. A MOPE "SOLUBLE" PU SPECIES APPEARS TO BE RELEASED AT TIMES FROM THE SEDIMENTS TO THE WATER COLUMN IN THESE NEARSHORE REGIONS. SEDIMENTS IN SHALLJW AREAS OF THE NEW YORK BIGHT SOUTH OF RHODE ISLAND AND NARRAGANSETT BAY HAVE HIGH PU INVENTORIES AND RELATIVELY DEEP PENETRATION OF THIS ELEMENT, ALTHOUGH THE NET SEDIMENT ACCUMULATION RATE IS GENERALLY LOW (<0.03 G/CM2 YR). THE HIGH PU INVENTORIES CAN BE EXPLAINED IF BOTH SEDIMENT RESUSPENSION AND SEDIMENT MIXING ARE ASSUMED TO BE THE MAJOR CONTROLLING FACTORS FOR THE EFFECTIVE TRANSFER OF PU FROM THE WATER COLUMN TO THE SEDIMENTS. BY SIMULTANEOUS MODELING OF THE DEPTH DISTRIBUTION OF THREE TRACERS WHICH OPERATE ON VASTLY DIFFERENT TIME SCALES: TH-234 (HALF-LIFE 24 DAYS), PB-210 (HALF-LIFE 22 YEARS) AND PU-239/240 (INTRODUCED INTO THE ENVIRONMENT DURING THE PAST 30 YEARS), BIOTURBATION RATES RANGING FROM 4 TO 32 CM2/YR IN THE SURFACE MIXED LAYER (5-10 CM THICK) AND FROM 0.3 TO 2.5 CM2/YR IN THE SURFACE MIXED LAYER (5-10 CM THICK) AND FROM 0.3 TO 2.5 CM2/YR IN THE SURFACE MIXED LAYER (5-10 CM THICK) AND FROM 0.3 TO 2.5 CM2/YR IN THE SEDIMENT ACCUMULATION RATES OF APPROXIMATELY ZERO TO 0.14 G/CM2 YR WERE CALCULATED FOR THESE AREAS.

1641 SAWHNEY, B.L.; C.R. FRINK

CLAY MINERALS AS INDICATORS OF SEDIMENT SOURCE IN TIDAL ESTUARIES OF LONG ISLAND SOUND [1978]

CLAYS CLAY MINER 26(3):227-230

CLAY MINERALS WERE USED AS INDICATORS FOR DETERMINING THE SOURCE OF SEDIMENT IN RECENTLY DREDGED HARBORS ALONG THE NORTH SHORE OF LONG ISLAND SOUND BETWEEN NY AND CT. AMOUNT AND CHARACTERISTICS OF CLAY MINERALS IN SEDIMENTS FROM THE DREDGED CHANNELS WERE COMPARED TO THEIR AMOUNT AND CHARACTERISTICS IN THE SURROUNDING SOILS AND IN SEDIMENTS FROM LONG ISLAND SOUND. CLAY MINERALS IN SEDIMENTS FROM THE CHANNELS WERE SIMILAR IN AMOUNT AND CHARACTERISTICS TO CLAY MINERALS IN SEDIMENTS FROM LONG ISLAND SOUND BUT DIFFERED FROM THOSE IN THE SURROUNDING SOILS IN THE WATERSHED. THUS, THE MAIN SOURCE OF DEPOSITS IN THE CHANNELS IS THE BOTTOM SEDIMENT OF LONG ISLAND SOUND WHICH IS TRANSPORTED TO THE CHANNELS BY TIDAL ACTION. THESE CONCLUSIONS ARE SUPPORTED BY RECENT STUDIES OF THE BOTTOM CURRENTS IN THE SOUND.

1642 SAWYER, T.K.; S.A. MACLEAN; J.E. BODAMMER; B.A. HARKE

GROSS AND MICROSCOPICAL OBSERVATIONS ON GILLS OF ROCK CRABS (CANCER IRRORATUS) AND LOBSTERS (HOMARUS AMERICANUS) FROM NEARSHORE WATERS OF THE EASTERN UNITED STATES [1977]

PAGES 58-91 IN PROC, 2ND ANN BIENNIAL CRUSTACEAN HEALTH WORKSHOP, GALVESTON, TX 20-22 APR 1977. TEXAS SEA GRANT, COLLEGE STATION, TX

ROCK CRARS, CANCER IRRORATUS, WERE COLLECTED FROM SANDY HOOK AND RARITAN BAYS, NJ, THE NEW YORK BIGHT APEX NEAR AMBROSE LIGHT, AND FROM COASTAL WATERS OF THE EASTERN US, RANGING FROM ME TO NC. AMERICAN LOBSTERS, HOMARUS AMERICANUS, WERE COLLECTED ONLY FROM THE NJ-NY STATIONS. VISUAL EXAMINATIONS OF GILLS WERE MADE TO RECORD THEIR CONDITION AS CLEAN, DISCOLORED, OR BLACK, AND HISTOLOGICAL STUDIES WERE MADE TO STUDY GILL-FOULING MICROORGANISMS AND INTERNAL PARASITES. FOULING ORGANISMS INCLUDED BACTERIA, DIATOMS, PERITRICH AND SUCTORIAN SESSILE CILIATES, AMOEBAE, AND COPEPODS. INTERNAL PARASITES INCLUDED AMOEBAE, DINOFLAGELLATES, PROPABLE MICROSPORIDANS, GREGARINES, ACANTHOCEPHALANS, AND LARVAL CESTODES, TREMATODES, AND NEMATODES. EVIDENCE OF BACTERIAL PHAGOCYTOSIS AND CELLULAR NODULE FORMATION WITH MELANIZATION WAS EXTENSIVE IN GILL, HEPATOPANCREAS, AND HINDGUT HEMOLYMPH CHANNELS. GROSS OBSERVATIONS ON OVER 3,000 SPECIMENS AND HISTOLOGICAL FINDINGS IN OVER 1,000 OF THEM ARE SUMMARIZED.

1643 SAWYER, T.K.

SPECIES DIVERSITY AMONG MARINE PROTOZOA IN SEDIMENT FROM A SEWAGE DISPOSAL SITE [1979]

J PROTOZOOL 26(3):22A ABSTR ONLY

SEA-BOTTOM SEDIMENTS WERE COLLECTED FROM 19 STATIONS LOCATED IN OR NEAR A NEW YORK SEWAGE DISPOSAL SITE. WATER DEPTH RANGED

FROM 31 TO 107 FT, AND SEDIMENTS RANGED FROM CLEAN SAND TO FOUL BLACK SILTY MUD. MOST OF THE STUDY AREA HAS BEEN CLOSED TO SHELLFISHING AND IS KNOWN TO HAVE PERSISTENTLY HIGH NUMBERS OF FECAL AND TOTAL COLIFORM CONTAMINANTS. EACH SAMPLE WAS CULTURED IN TRIPLICATE (3 SUBSAMPLES) ON AGAR PREPARED IN DISTILLED WATER, BRACKISH WATER, OR SEAWATER TO WHICH BACTERIA WERE ADDED AS A FOOD SOURCE. FIVE OF THE STATIONS YIELDED ONE OR MORE SPECIES OF ACANTHOAMOEBA (CASTELLANII, RHYSODES, POLYPHAGA, CULBERTSONI, HATCHETTI). UPON SUBCULTURE ALL 5 WERE FOUND TO GROW THROUGHOUT THE RANGE OF DISTILLED-WATER TO SEAWATER. ACANTHAMOEBA USUALLY DID NOT APPEAR. ON PARENT CULTURES MADE WITH SEAWATER BECAUSE MARINE SPECIES USUALLY CLEARED BACTERIAL FOOD BEFORE SLOWER GROWING SPECIES BECAME ESTABLISHED. SINCE THE ACANTHAMOEBA SPECIES ALL ARE WELL-KNOWN SOIL OR FRESHWATER AMOEBAE, IT IS POSSIBLE THAT THEY ARE INTRODUCED IN THE DISPOSAL WASTES OR ARE NATIVE SPECIES WHICH FLOURISH WHEREVER BACTERIAL FOOD IS ABUNDANT. FULL-STRENGTH SEAWATER-AGAR PLATES YIELDED: PARAMOEBA PEMAGUIDENSIS, P. AESTURINA, VEXILLIFERA OTTOI, FLABELLULA SP., CLYDONELLA VIVAX, C. WARDI, C. ROSENFIELDI, PLATYAMOEBA FLABELLATA, P. LANGAE, P. MURCHELANDI, LINGULAMOEBA LEET, HYALODISCUS ANGELOVICA, STYGAMOEPA POLYMORPHA, AND UNIDENTIFIED SMALL LIMAX AMOEBAE. ALL OF THE MARINE SPECIES PREVIOUSLY WERE IDENTIFIED FROM SURFACE WATERS OF CHINCOTEAGUE BAY, VIRGINIA. OTHER INCOMPLETELY IDENTIFIED SPECIES INCLUDED A MINUTE HELIOZOAN, A SMALL TESTACEAN OF ABOUT 30 MICRONS IN DIAMETER, A COLORLESS LABBRINTHULA WITH DISTINCT SLIME TRACKS, AND A SPECIES WITH RETICULATE FILOSE PSEUDOPODIA WHICH RESEMBLED LIEBERKUHNIA AND A LARGE PLASMODIAL FORM WHICH RESEMBLED PROTEOMYXANS BELONGING TO THE ORDER LEPTOMYXIDA. THE LAST TWO FORMS WERE ISOLATED ONLY FROM BLACK SEWAGE-SLUDGE SEDIMENT.

1644 SAYLER, G.S.; R.F. THOMAS; R.R. COLWELL

POLYCHLORINATED BIPHYENYL (PCB)-DEGRADING BACTERIA AND PCB IN ESTUARINE AND MARINE ENVIRONMENT [1976]

ESTUARINE COASTAL MAR SCI 6(6):553-567

SURFACE WATER AND SEDIMENT SAMPLES COLLECTED THROUGHOUT THE CHESAPEAKE BAY AND ALONG THE SOUTHEAST ATLANTIC COAST, EXTENDING FROM MIAMI, FL TO CAPE HATTERAS, NC, JERE ANALYZED FOR THE PRESENCE OF POLYCHLORINATED BIPHENYL (PCB)-DEGRADING BACTERIA AND PCB. PCB-DEGRADING BACTERIA WERE RECOVERED FROM ALL SAMPLES FOR WHICH ENUMERATION WAS ATTEMPTED. IN ADDITION, THE OCCURRENCE OF PCP WAS DETECTED IN ALL SAMPLES ANALYZED FOR PCB. BOTH PCB-DEGRADING BACTERIA AND PCB WERE FOUND IN HIGHER CONCENTRATIONS IN ESTUARINE WATERS AND SEDIMENT, COMPARED WITH MARINE SAMPLES. THE DATA OBTAINED INDICATED A GREATER CORRELATION BETWEEN PCB CONCENTRATIONS AND NUMBERS OF PCB DEGRADING BACTERIA IN AREAS OF URBANIZATION AS OPPOSED TO AREAS DISTANT FROM LAND. THESE RESULTS SUGGEST ASSESSMENT OF EXISTING PCB-DEGRADING BACTERIA PROVIDES A POTENTIAL INDICATOR OF PCB CONTAMINATION. BECAUSE PCB-DEGRADING BACTERIAL POPULATIONS WERE MUCH MORE HIGHLY CORRELATED WITH NUTRITIONAL FACTORS GOVERNING MICROBIAL GROWTH, THE EXTENT OF MICROBIAL PCB DEGRADATION BY NATURAL MICROBIAL POPULATIONS REMAINS UNDETERMINED.

1645 SBAR, M.L.; L.B. SYKES

SEISMICITY AND LITHOSPHERIC STRESS IN NEW YORK AND ADJACENT AREAS [1977]

J GEOPHYS RES 82(36):5771-5786

THE EARTHQUAKE DISTRIBUTION OBTAINED BY A RELATIVELY DENSE NETWORK OF SHORT-PERIOD HIGH-GAIN STATIONS IN NEW YORK AND ADJACENT AREAS FROM 1971 TO MID-1976 SHOWS NEARLY ALL OF THE FEATURES OF SEISMICITY MAPS FROM STANDARD LISTINGS FROM 1928 TO 1975. IN ADDITION, THE NETWORK DATA SHOW A REGION OF SIGNIFICANT ACTIVITY IN THE ADIRONDACK MOUNTAINS OF NORTHERN NEW YORK AND SEVERAL SIZEABLE EARTHQUAKES IN WESTERN LAKE ONTARIO. IN BOTH AREAS, FEW OR NO EARTHQUAKES WERE PREVIOUSLY REPORTED. BOTH EPICENTRAL MAPS SHOW A REGION OF LOW SEISMICITY IN THE VERMONT SECTION OF THE CONTROVERSIAL BOSTON-OTTAWA SEISMIC ZONE. WELL-LOCATED EARTHQUAKES IN THE NORTHEASTERN US AND SOUTHEASTERN CANADA RANGE IN DEPTH FROM NEAR SURFACE TO ABOUT 25 KM. DEEPER EARTHQUAKES (>10 KM) HAVE NOT BEEN FOUND THROUGHOUT THE REGION BUT MAY BE LUCALIZED IN THOSE AREAS WHERE LARGE EARTHQUAKES HAVE OCCURRED. THEY MAY ALSO BE INDICATIVE OF DEEP FAULT ZONES WHICH HAVE A GREATER POTENTIAL FOR THE OCCURRENCE OF FUTURE LARGE EARTHQUAKES. SINGLE EVENTS, MAIN SHOCK-AFTERSHOCK SEQUENCES, AND SWARMS ARE FOUND IN THIS REGION. WE DO NOT YET UNDERSTAND WHY PARTICULAR TYPES OF EARTHQUAKE SEQUENCES OCCUR IN SPECIFIC AREAS. IN MANY CASES, AFTERSHOCK SEQUENCES OR EARTHQUAKE SWARMS CAN BE RELATED TO MAPPED FAULTS OR INFERRED EXTENSIONS OF FAULTS. RECENT STRESS INDICATORS IN NY AND ADJACENT AREAS SUPPORT THE PRESENCE OF AN ENE-TRENDING MAXIMUM COMPRESSIVE STRESS IN THE LITHOSPHERE WEST OF THE APPALACHIAN MOUNTAINS IN NY, OH, AND SOUTHERN ONTARIO. THE EASTERN BOUNDARY OF THIS STRESS DOMAIN IS SUGGESTED BY LIMITED DATA IN NORTHERN NEW ENGLAND, SOUTHEASTERN NY, AND NJ. WE

POSTULATE THAT VARIATIONS IN THE STRESS FIELD, WHICH MAY EXIST NEAR THE EASTERN BOUNDARY OF THIS STRESS DOMAIN, AND THE GENERAL LACK OF SUITABLY ORIENTED FAULTS IN VERMONT MAY EXPLAIN THE REGION OF LOW SEISMICITY IN VERMONT ALONG THE PROPISED BOSTON-OTTAWA SEISMIC ZONE.

1646 SCHACHTER, E.R.

ENFORCING AIR POLLUTION CONTROL-CASE STUDY OF NEW YORK CITY [1974]

PRAEGE? PUBLISHERS, NEW YORK, NY 104 PP

LOCAL LAWS CAN AND SHOULD PLAY A DECISIVE ROLE IN BRINGING ABOUT CLEANER AIR. DIRECT FEDERAL ENFORCEMENT WILL NOT BE NECESSARY IF NEW YORK CITY, AND OTHER LOCAL AND STATE GOVERNMENTS, TREAT THE PROBLEM OF ENFORCING AIR POLLUTION CONTROL LAWS AS SERIOUSLY, REALISTICALLY, AND COURAGEOUSLY AS THEY HAVE TREATED THE SUBSTANTIVE ASPECT OF THE LAW. TOUGH BUT UNENFORCABLE LAWS ARE USELESS, EXCEPT TO TEMPORARILY PLACATE THE PUBLIC WITH THE ILLUSION THAT SOMEONE IS DOING SOMETHING ABOUT POLLUTION. MEANWHILE, AIR POLLUTION LEVELS REMAIN UNHEALTHY. WE HAVEN'T MUCH TIME LEFT TO RESTORE THE AIR TO THE MINIMUM FEDERAL STANDARDS REQUIRED BY 1975. WE NEED TOUGH AND ENFORCABLE LAWS.

1647 SCHAEFER, R.A.

A LARGE SNAPPER (LUTJANIDAE) FROM LONG ISLAND WATERS [1973]

NY FISH GAME J 20(2):166-167

ON SEPT 27, 1966 A LARGE SNAPPER (LUTJANUS SP.) WAS TAKEN IN 10 FATHOMS OF WATER OFF SHINNECOCK INLET BY A COMMERCIAL TRAWLER. WITH FEW DISCREPANCIES, THE MORPHOLOGICAL DATA SEEM TO CONFORM BEST TO DESCRIPTIONS OF EITHER THE CUBERA SNAPPER (L. CYANOPTERUS) OR THE DOG SNAPPER (L. JOCU). IF THE FORMER INDENTIFICATION IS CORRECT THEN THIS IS THE FIRST RECORD OF THE SPECIES IN NEW YORK WATERS AND REPRESENTS A NORTHWARD RANGE EXTENSION OF APPROXIMATELY 500 MILES.

1648 SCHAEFFER. O.A.

ANTHROPOGENIC FLUXES OF CARBON INTO THE SEDIMENTS OF THE NEW YORK BIGHT [1977]

FINAL REP TO MESA. DEPT EARTH & SPACE SCIENCES, SUNY, STONY BROOK, NY 16 PP

IN ORDER TO EVALUATE THE INFLUENCE OF HUMAN ACTIVITY ON THE ORGANIC CARBON IN THE NEW YORK BIGHT, A STUDY OF ISOTOPIC CARBON VARIATIONS IN SURFACE SEDIMENTS AND ONE 63 CM LONG SEDIMENT CORE HAS BEEN COMPLETED. ON THE BASIS OF OUR C-13/C-12 MEASUREMENTS, IT APPEARS THAT: (1) SELAGE IS DEPLETED IN C-13 AS COMPARED TO AVERAGE ORGANIC SEDIMENTARY CARBON, AND (2) DELTA C-13 VALUES FROM SEDIMENTS OF THE NEW YORK BIGHT SHOW SYSTEMATIC VARIATIONS AND ARE LOWEST NEAR THE SEWAGE DUMPSITE. BASED ON ASSUMPTIONS REGARDING INPUTS OF SEDIMENTARY CARBON TO THE SEA FLOOR IN THIS AREA, WE HAVE MODELED THESE C-13/C-12 VARIATIONS IN TERMS OF PROGRESSIVE DILUTION OF NORMAL MARINE CARBON WITH CARBON DERIVED FROM THE OCEAN DUMPING OF WASTEWATER SLUDGES. THE CARBON ISOTOPIC COMPOSITION APPEARS TO HAVE THE POTENTIAL AS A QUANTITATIVE "TRACER" OF ANTHROPOGENIC COMPONENTS IN NEAR-SHORE SEDIMENTS.

1649 SCHAFTEL. S.

RECONSTRUCTION OF LATE GLACIAL AND POST GLACIAL EVENTS IN LONG ISLAND SOUND, NEW YORK [1971]

PH.D. THESIS. NYU, NEW YORK, NY 161 PP

SPLIT-SPOON CORES WERE TAKEN AT 14 SITES IN THE WESTERN END OF LONG ISLAND SOUND. ANALYSES OF POLLEN, DIATOMS, AND SEDIMENTS RECOVERED FROM THESE CORES PERMIT A RECONSTRUCTION OF EVENTS DURING THE CLOSING STAGES OF LATE-GLACIAL AND POSTGLACIAL TIME. THESE CORES. WHICH REPRESENT THE DEEPEST PENETRATION OF BOTTOM SEDIMENTS IN THE SOUND TO DATE, SHOW THAT THE MAJOR WORLD-WIDE EUSTATIC RISE IN SEA LEVEL THAT BEGAN APPROXIMATELY 11.000 YEARS B.P. (BEFORE PRESENT = 1950) FLOODED THE LONG ISLAND SOUND BASIN SUBSEQUENT TO 10,200 +/-400 B.P. THIS RADIOCARBON DATE, DETERMINED FROM A PEAT SAMPLE TAKEN AT 130 FT BELOW WHW IN THE CENTRAL PART OF THE SOUND, IS CONSIDERED LATE-GLACIAL RATHER THAN POSTGLACIAL IN AGE. THE TOP OF THE PEAT DEPOSIT AT 120 FT BELOW NHW MARKS A CHANGE FROM A FRESHWATER TO MARINE OR BRACKISH ENVIRONMENT. DIATOMS ARE FOUND TO BE CRITICAL AND SENSITIVE INDICATORS OF THESE DIVERSE ENVIRONMENTS. DROWNING OF THE BASIN OF LONG ISLAND SOUND FOLLOWED DROWNING OF THE CONTINENTAL SHELF OFF LONG ISLAND BUT PRECEDED THE DROWNING OF NEW ENGLAND SHORE AREAS THAT BORDER LONG ISLAND SOUND. THE RISING SEA MAY HAVE TRANSGRESSED INTO THE BASIN ACROSS THE EASTERN BOUNDARY STRETCHING FROM THE NORTHEASTERNMOST TIP OF LONG ISLAND NORTHEASTWARD TO RHODE ISLAND. FRESHWATER DIATOMS AND THE LIMNIC NATURE OF THE PEAT IN ONE CORE SUPPORT EARLIER WORK (HOLLICK 1893, 1898; ANTEVS 1926, 1928, 1932; LOUGEE 1953) INDICATING THAT A FRESHWATER POND OR LAKE ENVIRONMENT PREVAILED AT LEAST LOCALLY IN THE BASIN OF LONG ISLAND SOUND PRIOR TO MARINE TRANSGRESSION IN LATE GLACIAL TIME. ACCORDING TO A NUMBER OF INVESTIGATORS. DROWNING OF THE MAJOR PORTION OF THE CONTINENTAL SHELF IN THE REGION OCCURRED WITHIN THE TIME INTERVAL REPRESENTED BY POLLEN ZONE A. SUBSEQUENT INUNDATION OF THE NEW ENGLAND SHORE LINE AND SHORE AREAS HAS BEEN FIXED WITHIN THE TIME SPAN OF POLLEN ZONE C. IN THE THESIS AREA OF LONG ISLAND SOUND, WHICH IS SITUATED BETWEEN THE NEW ENGLAND SHORE AREAS AND THE CONTINENTAL SHELF. DROWNING TOOK PLACE WITHIN THE TIME SPAN REPRESENTED BY A MIXED A-B POLLEN ZONE.

1650 SCHERASA, M.; M. MESKILL ; C.D. LITCHFIELD

ANALYSIS OF METHODS FOR THE QUANTITATIVE RECOVERY OF BACTERIA SORBED ONTO MARINE SEDIMENTS [1979]

SPEC TECH PUB 673. ASTM, PHILADELPHIA, PA 18 PP

ADSORPTION AND DESORPTION STUDIES USING BOTH MOTILE AND NONMOTILE BACTERIAL STRAINS WERE PERFORMED WITH SEDIMENTARY SLUDGE, CLAY, AND SAND IN ORDER TO DETERMINE THE MOST REPRODUCIBLE MEANS FOR THE RECOVERY OF VIABLE BACTERIA FROM PARTICLES. THE ORGANISMS USED WERE FLAVOBACTERIUM OCEANOSEDIMENTUM, AEROMONAS PROTEOLYTICA, AND ESCHERICHIA COLI, EPA 104. VIABLE CELL NUMBERS WERE DETERMINED USING SURFACE SPEAD PLATE COUNTS, DIRECT COUNTS VIA EPIFLUORESCENCE MICROSCOPY AND ADENOSINE TRIPHOSPHATE ANALYSIS (ATP). ADSORPTION OF THE ORGANISMS ONTO SEDIMENTARY MATERIALS OBTAINED FROM THE NEW YORK BIGHT FOLLOWED THE LANGMUIR ADSORPTION ISOTHERM REGARDLESS OF THE LENGTH OF TIME THE CULTURES WERE IN CONTACT WITH THE SEDIMENT. THIS IMPLIES THAT THE INITIAL EVENTS IN THE ATTACHMENT OF BOTH NONMOTILE AND MOTILE BACTERIA TO THESE TYPES OF SEDIMENT ARE PRIMARILY DUE TO PHYSICAL CHEMICAL FORCES. DESORPTION STUDIES EMPLOYED ACIDIC, NEUTRAL, AND BASIC SURFACE-ACTIVE AGENTS; ACID AND BASIC PH TREATMENTS; OSMOTIC SHOCK, AND PEPTONE-WATER TREATMENTS. PHYSICAL MANIPULATION OF THE SEDIMENT VIA SHAKING OR AGITATION IN THE PRESENCE OF 0.00001 % CETYL TRIMETHYLAMMONIUM BROMIDE APPEARS TO BE THE MOST EFFECTIVE AND LEAST TOXIC PROCEDURE FOR THE RECOVERY OF VIABLE MICROORGANISMS.

1651 SCHERER, C.R.

COMMENT ON 'AN OPTIMIZATION MODEL FOR REGIONAL WATER QUALITY MANAGEMENT' BY JOHN R. MCNAMARA [1977]

WATER RESOURCE RES 13(1):221-222

THE AUTHOR HERE COMMENTS ON AND CRITICIZES ASPECTS OF MCNAMARA'S RECENT (1976) PAPER WHICH CONSIDERS THE USE OF A GEOMETRIC PROGRAMMING MODEL FOR REGIONAL WATER QUALITY MANAGEMENT. THE MODEL IS CONCERNED WITH THE MINIMIZATION OF INVESTMENT AND OPERATING COSTS IN WASTE WATER TREATMENT PLANTS SUBJECT TO MULTIPLE DISSOLVED OXYGEN CONSTRAINTS IN A RIVER BASIN. MCNAMARA'S CONTRIBUTION IS THE COMBINATION OF MULTIPLE MANAGEMENT OPTIONS IN ONE MODEL. THE APPLICATION OF GEOMETRIC PROGRAMMING IS A PROMISING LINE OF RESEARCH SINCE THE METHOD EASILY ACCOMPANTES THE MULTIPLICATIVE DECISION VARIABLES ASSOCIATED WITH UNIT TREATMENT PROCESSES IN SERIES. HOWEVER, ALTHOUGH THE INTENT OF MCNAMARA WAS TO DEVELOP, AND INDEED HE DID DEVELOP, SUCH A MODEL CAPABLE OF ASSESSING A VARIETY OF POLLUTION ABATEMENT TECHNIQUES, AS WELL AS BEING COMPATIBLE WITH AN EFFICIENT SOLUTION PROCEDURE, HE HAS NOT SHOWN THAT THIS ANALYTICAL TECHNIQUE CAN IN FACT BE APPLIED IN THIS GENERAL CASE. THE NATURE OF THE SHORTFALL IS OUTLINED: THE AUTHOR CRITICIZES MCNAMARA'S USE IN HIS ILLUSTRATIVE EXAMPLES OF NOT MORE THAN TWO STANDARD

TREATMENT OPTIONS, AND HE QUESTIONS MCNAMARA'S CHOICE OF THE UPPER HUDSON RIVER AS AN APPLICATION AREA, SINCE THE PROBLEM THERE REQUIRES ONLY ONE OPTION AND THIS DOES NOT DEMONSTRATE THE METHOD AS A TOOL FOR CONSIDERING MULTIPLE WATER QUALITY CONTROL OPTIONS, FOLLOWING THIS REVIEW ARTICLE IS MCNAMARA'S REPLY TO SCHERER, WHEREIN HE CLARIFIES AND DEFENDS HIS PAPER IN QUESTION.

1652 SCHINDLER. D.W.; D.R.S. LEAN

BIOLOGICAL AND CHEMICAL MECHANISMS IN EUTROPHICATION OF FRESHWATER LAKES [1974]

NY ACAD SCI ANN 250:129-135

NO METHODOLOGY HAS BEEN DEVELOPED TO STUDY ESTUARINE EUTROPHICATION. ERRORS IN ACCEPTED LIMNOLOGICAL METHODS AND BELIEFS AFFECT INTERPRETATIONS OF RESULTS. PHOSPHORUS IS THE ELEMENT MOST RESPONSIBLE FOR EUTROPHICATION BUT NO TECHNIQUE POSITIVELY IDENTIFIED ANY FORM OF PHOSPHORUS IN NATURAL WATERS AS DIFFERENT METHODS PROVIDE DIFFERING RESULTS. HIGH PHOSPHORUS CONCENTRATIONS IN THE LOWER HYPOLIMNION OF LAKES MAY NOT BE DUE TO FEEDBACK FROM SEDIMENT BUT TO PHOSPHORUS—CONTAINING SESTON SEDIMENTATION; LITTLE PHOSPHORUS THAT REACHES SEDIMENTS IS RETURNED TO THE EUPHOTIC ZONE. UNDER OXIC CONDITIONS PHOSPHORUS SHOULD PRECIPITATE AS FERRIC PHOSPHATE OR COPPECIPITATE WITH FERRIC HYDROXIDE; UNDER ANOXIC CONDITIONS REDUCTION TO IRON SHOULD PRECIPITATE IRON SULFIDE AND RELEASE PHOSPHATE IONS, BUT LITTLE PHOSPHORUS RELEASE IS OBSERVED. BIOASSAYS INDICATE NUTRIENTS LIMITING PRODUCTIVITY BUT DO NOT IDENTIFY NUTRIENTS WHICH CAUSED EARLIER PRODUCTIVITY INCREASES. STANDING CROP DETERMINATIONS ARE MORE RELEVANT THAN PRIMARY PRODUCTION RESULTS AND ARE DETERMINED BY PHOSPHORUS AND NITROGEN SUPPLIES (CARBON INFLUENCES GROWTH RATE); STANDING CROPS ARE ALSO AFFECTED BY BOTH DEATH AND BIRTH RATES. PRIMARY PRODUCTION IS DEPENDENT ON LIGHT; BUT SILL LIADDS MAY REDUCE PHOTOSYNTHESIS AND PREVENT ALGAL GROWTH. ATTEMPTS TO ALLEVIATE EUTROPHICATION OF HUDSON ESTUARY SHOULD NOT BE BASED ON SINGLE FACTORS WITH SIMPLISTIC SOLUTIONS WHICH COULD BE COSTLY OR DANGEROUS.

1653 SCHLEE, J.; P. SANKO

SAND AND GRAVEL [1975]

MONOGRAPH 21. MESA NEW YORK BIGHT ATLAS, NYSG, ALBANY, NY 30 PP NTIS-PB-249 757

THE MONOGRAPH PRESENTS WHAT IS KNOWN ABOUT THE AREAL DISTRIBUTION OF SAND AND GRAVEL IN NEW YORK BIGHT AND SUMMARIZES DATA ON COMMERCIAL SAND MINING IN NEW YORK HARBOR. SAND AND GRAVEL DEPOSITS ON THE CONTINENTAL SHELF IN NEW YORK BIGHT COVER A WIDE AREA. SAND IS FOUND OVER THE ENTIRE SHELF; GRAVEL IS DISTRIBUTED IN PATCHES EAST OF NORTHERN NJ. THE SAND EXISTS AS A VENEER UP TO SEVERAL METERS THICK, COVERING OLDER SHELF DEPOSITS. ACCURATE ESTIMATE OF THE THICKNESS OF THE SAND COVER WILL HAVE TO AWAIT DETAILED ACOUSTIC SURVEYS COUPLED TO CORE DATA. A ROUGH ESTIMATE SHOWS THAT 26,446 MILLION SHORT TONS OF SAND PLUS GRAVEL OCCUR IN A 15,112 SQ KM (9,385 SQ MI) AREA OF THE INNER SHELF OFF NJ. CURRENTLY AND IN THE NEAR FUTURE, OFFSHORE SAND AND GRAVEL MINING CANNOT COMPETE ECONOMICALLY WITH TERRESTRIAL SOURCES FOR CONSTRUCTION AGGREGATE AND INLAND FILL; IT WOULD REQUIRE SIGNIFICANT NEW INVESTMENT OF INDUSTRIAL CAPITAL. AN AVERAGE OF 5.5 MILLION CU YD/YR OF SAND WAS DREDGED FROM THE LOWER BAY OF NEW YORK HARBOR FROM 1966 THROUGH 1974. MOST OF THE MINED SAND WAS USED AS FILL AND SUBGRADE MATERIAL IN PUBLIC CONSTRUCTION PROJECTS AND BEACH REPLENISHMENT.

1654 SCHMID, E.M.; J.K. ADAMS

THE BASAL CONTACT OF THE HORNERSTOWN FORMATION IN NEW JERSEY [1973]

GEOL SOC AM ABSTR PROG 5(2):216-217

THE HORNERSTOWN GREENSAND IN NEW JERSEY UNCONFORMABLY OVERLIES THE TINTON, RED BANK, NAVESINK, AND MOUNT LAUREL FORMATIONS. THE AMOUNT OF MISSING TIME REPRESENTED BY THIS UNCONFORMABLE CONTACT IS GREATER IN SOUTHERN NJ THAN IN THE NORTHERN SECTION OF THE COASTAL PLAIN. AVAILABLE EVIDENCE SUGGESTS THAT A LONG DURATION OF NONDEPOSITION IN THE NERITIC ENVIRONMENT WAS RESPONSIBLE FOR THE UNCONFORMITY SOUTH OF 40 DEGREES NORTH. HOWEVER, THE DIAGENETIC MINERALOGY AND REPORTED SPHEROIDAL WEATHERING OF THE TINTON

SUGGEST THAT SUBAERIAL WEATHERING WAS OCCURRING DURING THE HIATUS IN THE NORTH. CALCULATION OF SEDIMENTATION RATES USING PALEONIOLOGIC AND RADIOMETRIC DATA SHOW THAT IN SOUTHERN NJ THE RATE WAS APPROXIMATELY 2.8 BUBNOFF UNITS WHILE TO THE NORTH THE RATE WAS 12.1 BUBNOFF UNITS. CLAY MINERALOGY, RELATIVE ABUNDANCE OF GLAUCONITE, AND ORDERING OF THE CRYSTAL LATTICE OF GLAUCONITE ARE BELIEVED TO BE INDICATORS OF RATES OF SEDIMENTATION WHICH VARY WITH RESPECT TO DISTANCE FROM THE CONTACT AND LOCATION ALONG STRIKE. ILLITIC CLAYS, LARGE AMOUNTS OF GLAUCONITE AND CRYSTALLOGRAPHICALLY WELL-ORDERED GLAUCONITE GRAINS ARE FOUND ADJACENT TO AND ON EITHER SIDE OF THE CONTACT IN SOUTHERN NJ. FURTHER AWAY FROM THE CONTACT, SEDIMENTS SHOW INCREASING AMOUNTS OF MONTMORILLONITE, DECREASING GLAUCONITE ABUNDANCES AND LESS WELL ORDERED GLAUCONITE GRAINS. TO THE NORTH KAOLINITIC CLAYS AND REWORKED GLAUCONITE ARE FOUND IN THE UNDERLYING SEDIMENTS. IT IS SUGGESTED THAT IN SOUTHERN NJ SEDIMENTATION RATES DECREASED DURING EARLY MAESTRICHTIAN TIME AND EVENTUALLY CEASED ALL TOGETHER, WHILE TO THE NORTH LARGE AMOUNTS OF DETRITAL MATERIAL WERE BEING RAPIDLY DEPOSITED.

1655 SCHNITZER. M.B.

VERTICAL STABILITY AND THE DISTRIBUTION OF PHYTOPLANKTON IN LONG ISLAND SOUND [1979]

M.S. THESIS. SUNY, STONY BROOK, NY 103 PP

TIDAL STIRRING IN LONG ISLAND SOUND CAN PRODUCE CHANGES FROM STRATIFIED TO WELL MIXED CONDITIONS OVER HORIZONTAL DISTANCES LESS THAN ONE KM. THESE TIDAL MIXING VARIATIONS ARE IMPORTANT TO PHYTOPLANKTON GROWTH SINCE THESE VARIATIONS DETERMINE THE AVAILABILITY OF BOTH LIGHT AND NUTRIENTS. MEASUREMENTS ON PHYTOPLANKTON DISTRIBUTIONS WERE MADE IN JULY, 1978 IN LONG ISLAND SOUND AND DURING SEPTEMBER, 1978 IN LONG ISLAND AND BLOCK ISLAND SOUNDS. THESE DATA ARE INTERPRETED IN TERMS OF BULK STRATIFICATION, NUTRIENT CONCENTRATIONS AND SUBMARINE LIGHT LEVELS. IN JULY AND SEPTEMBER, DIATOMS WERE DOMINANT IN SHALLOW, WELL-MIXED ENVIRONMENTS WITH HIGH LIGHT LEVELS. IN STRATIFIED WATERS, DINOFLAGELLATES WERE SUBDOMINANT TO MICROFLAGELLATES. MICROFLAGELLATES ALSO DOMINATED LOW LIGHT, WELL MIXED WATERS. TEMPORAL VARIATIONS WERE OBSERVED IN JULY IN NEARSHORE REGIONS WHEN IIDALLY DRIVEN NEAP-SPRING CYCLES OF STRATIFICATION AND DESTRATIFICATION CAUSED THE PHYTOPLANKTON COMMUNITY TO BE ALTERNATELY DOMINATED BY MICROFLAGELLATES AND DIATOMS. SUCH VARIATIONS IN PHYTOPLANKTON TAXA DISTRIBUTIONS ARE EXPLAINED BY THEIR DIFFERENTIAL LIGHT, NUTRIENT. AND SUSPENSION REQUIREMENTS.

1656 SCHOTT, J.R.; D.W. GAUCHER

AQUATIC AND TERRESTRIAL SURVEYS IN THE VICINITY OF POWER PLANTS USING REMOTE SENSING: FINAL REPORT [1977]

CALSPAN CORP, BUFFALO, NY 66PP NTIS-P8-273 463

THIS REPORT DISCUSSES A PROGRAM TO ASSESS THE POTENTIALS OF AERIAL "PHOTOMETRIC" INTERPRETATION IN EVALUATING IMPACT. THE INTENT OF THE PROGRAM WAS TO SEE TO WHAT EXTENT THE REFLECTANCE PROPERTIES OF ELEMENTS IN THE ENVIRONMENT AS MEASURED FROM AERIAL PHOTOGRAPHY COULD BE RELATED TO THE CONDITION OF THE ENVIRONMENT. IN STUDIES AROUND FOSSIL FUELED POWER PLANTS, SELECTED SITES HERE RANKED TO LEVELS OF AIR POLLUTION INDUCED STRESS BASED ON FIELD OBSERVATION OF FOLIAGE. THE REFLECTANCES OF THESE SAME AREAS WERE MEASURED USING CALSPAY'S AERIAL PHOTOMETRIC ANALYSIS TECHNIQUES. RESULTS OF THIS PROGRAM INDICATE THAT VEGETATIVE STRESS IN A FORESTED ENVIRONMENT AS DEFINED BY FIELD OBSERVATIONS CAN BE RELATED TO REFLECTANCE SIGNATURES AS MEASURED FROM AERIAL IMAGERY.

1657 SCHREIBER, R.A.

THE FISHES OF THE GREAT SOUTH BAY [1973]

M.S. THESIS. SUNY, STONY BROOK, NY 199 PP

ESTUARIES ARE ONE OF THE MOST PRODUCTIVE AREAS OF THE OCEAN. WATER CIRCULATION AND MIXING PATTERNS IN ESTUARIES ARE SUCH THAT NUTRIENT MATERIALS TEND TO BECOME CONCENTRATED AT THE INTERFACE BETWEEN FRESH AND SALT WATER. MANY ESTUARIES FORM "NUTRIENT

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TRAPS" WHERE MUCH HIGHER CONCENTRATIONS OF SUSPENDED MATERIALS AND DISSOLVED SALTS ARE HELD IN CIRCULATION LONGER THAN IN EITHER THE SOURCE OF THE FRESH WATER (A RIVER) OR THE OPEN SEA. THE LENGTH OF TIME SUSPENDED DETRITAL MATERIAL IS HELD IN CIRCULATION DETERMINES TO WHAT EXTENT IT CAN BE DECOMPOSED BY BACTERIA. TOTAL DECOMPOSITION RESULTS IN THE RELEASE OF NUTRIENT SALTS THAT CAN BE USED BY GREEN PLANTS. WHILE PARTIAL DECOMPOSITION RENDERS DETRITUS MORE SUITABLE FOR DIRECT ANIMAL CONSUMPTION. IN MANY ESTUARIES. THE MOST IMPORTANT DETRITUS FEEDING ANIMALS ARE BIVALVE MOLLUSKS. GREAT SOUTH BAY IS ONE OF THE LEADING HARD CLAM PRODUCING AREAS IN THE STATE. MANY OTHER MOLLUSKS AND CRUSTACEANS FEED ON DETRITAL MATTER. ONE OF THE CHARACTERISTICS THAT MAKES AN ESTUARY LIKE GREAT SOUTH BAY SUCH A FAVORABLE AREA FOR MARINE FISHES IS THE ABUNDANCE OF FOOD ORGANISMS FOUND THERE. THE WIDE VARIETY OF SMALL VERTEBRATES AND INVERTEBRATES THAT MAKE THEIR HOME AMONG VEGETATION AND ON OR IN THE HOTTOM ALLOW FOR THE SUPPORT OF MANY FISH SPECIES WITHIN THE BAY. THE FISHES EXAMINED HAD FED HEAVILY UPON DECAPOD CRUSTACEANS, BIVALVE MOLLUSKS, AND SMALL FISHES. APPROXIMATELY 33% OF THE STOMACHS EXAMINED CONTAINED SHRIMP (CRANGON SEPTEMSPINOSA, HIPPOLYTE ZOSTERICOLA), AND CRABS (CANCER SP, OVALIPES OCELLATUS, NEOPANOPE TEXANA, PANOPEUS HERBSTII); ABOUT 17% CONTAINED BIVALVE MOLLUSKS SUCH AS BLUE MUSSELS (MYTILUS EDULIS), RAZOR CLAMS (ENSIS DIRECTUS), AND SOFT CLAMS (MYA ARENARIA); AND SLIGHTLY MORE THAN 15% CONTAINED FISH REMAINS--SAND LANCES (AMMODYTES AMERICANUS), SILVERSIDES (MENIDIA SP.). AND FLOUNDER (PSEUDOPLEURONECTES AMERICANUS). TAUTOG, CUNNER, AND NORTHERN PUFFER FED HEAVILY ON DECAPOD CRUSTACEANS, PRIMARILY O. OCCELLATUS. THE ROCK CRABS. OTHER FISH SPECIES HAD A WIDE RANGE OF FOOD PREFERENCES AND DID NOT CONCENTRATE ON ANY ONE TYPE OF PREY. 20 % OF THE SPECIMENS EXAMINED HAD EMPTY STOMACHS.

1658 SCHUBEL, J.R.

ZONING: A RATIONAL APPROACH TO ESTUARINE REHABILITATION AND MANAGEMENT [1975]

SPEC REP 1. MSRC, SUNY, STONY BROOK, NY 7 PP

IN THIS ESSAY IT IS RECOGNIZED THAT THE MAJOR PROBLEM FACING THE ESTUARINE MANAGER IS THE DEVELOPMENT AND IMPLEMENTATION OF A COMPROMISE THAT WILL PRESERVE WATER QUALITY, AS IS ESSENTIAL FOR FISHING, RETREATION, AND AESTHETICS, WHILE ALLOWING INDUSTRY, COMMERCE, AND UTILITIES TO OPERATE WITHOUT EXCESSIVE RESTRICTION. THE OUTLINE OF A ZONING PLAN, SIMILAR TO THE ONE USED ROUTINELY IN THE TERRESTRIAL ENVIRONMENT, IS PRESENTED AS A RATIONAL ATLERNATIVE TO THE BASICALLY INEFFECTIVE MANAGEMENT PRACTICES THAT ARE IN GENERAL USE.

1659 SCHUBEL, J.R.; H.J. BOKUNIEWICZ; R.B. GORDON

TRANSPORTATION AND ACCUMULATION OF FINE-GRAINED SEDIMENTS IN THE ESTUARINE ENVIRONMENT: RECOMMENDATIONS FOR RESEARCH [1978]

SPEC REP 14. MSRC. SUNY, STONY BROOK, NY 13 PP

THE RESULTS FROM WORKSHOP DISCUSSIONS ON TRANSPORTS OF WATER, SALT AND FINE-GRAINED SUSPENDED SEDIMENT ARE GIVEN. A CLASSIFICATION SCHEME DESCRIBES ESTUARIES AND OTHER HYDRAULIC REGIMES BASED ON: (1) RATE OF SEDIMENT SUPPLY; (2) SEDIMENT CONCENTRATION IN WATER COLUMN; (3) TRANSPORT RATES; (4) RESIDENCE TIMES; AND (5) PARTITIONING OF MATERIAL BETWEEN THE OCEAN AND PERMANENT ESTUARINE DEPOSITS. RECOMMENDED STUDIES OF DRASTIC OR CATASTROPHIC EVENTS.

1660 SCHUBEL, J.R.; H.H. CARTER; J.M. O'CONNOR

EFFECTS OF INCREASING DELTA T ON POWER PLANT ENTRAINMENT MORTALITY AT INDIAN POINT, NEW YORK [1979]

SPEC REP 19. MSRC, SUNY, STONY BROOK, NY 16 PP

IN THIS REPORT WE HAVE ANALYZED THE EFFECT OF INCREASING DELTA T, THE TEMPERATURE RISE ACROSS THE CONDENSERS, BY DECREASING Q THE COOLING WATER FLOW RATE, ON THE EATRAINMENT MORTALITY RATE/UNIT CONCENTRATION, R/N, OF PUMP ENTRAINED ORGANISMS AT INDIAN POINT UNITS 2 AND 3. WE SHOW THAT R/N = QF WHERE F IS THE RATIO OF THE NUMBER OF ORGANISMS KILLED 24 HOURS AFTER PASSAGE THROUGH A CONDENSER TUBE TO THE NUMBER ENTRAINED. USING DATA COLLECTED ON THE NYU CONDENSER TUBE SIMULATOR BY ONE OF US

(o'connor). WE ESTIMATED F FOR STRIPED BASS POST YOLK SAC LARVAE AS A FUNCTION OF TEMPERATURE. WE THEN ASSUMED THAT INDIAN POINT UNITS 2 AND 3 WERE BOTH OPERATING AT 873 MWE AT A DELTA T OF 8.5 C AND A Q OF 409.77 M3/S AND CALCULATED R/N OVER A RANGE OF RIVER TEMPERATURES (13-27 C) AND DELTA TS (8.5 - 24.5 C) TO SEE WHAT CHANGES WOULD OCCUR. UNEXPECTEDLY, WE FOUND THAT THERE WAS LITTLE ADVANTAGE TO INCREASING DELTA T (DECREASING Q) FOR RIVER TEMPERATURE </EXAMPLE ADVANTAGE TO THE MARKED SYNERGISM BETWEEN THERMAL AND FHYSICAL STRESSES IN THE SIMULATOR DATA.

1661 SCHUBEL, J.R.; W.M. WISE; J. SCHOOF (EDITORS)

QUESTIONS ABOUT DREDGING AND DREDGED MATERIAL DISPOSAL IN LONG ISLAND SOUND [1979]

SPEC REP 28. MSRC. SUNY. STONY BROOK. NY 143 PP

THIS BOOKLET WAS DESIGNED TO PROVIDE, WHEN READ FROM START TO FINISH, AN OVER VIEW OF THE MISTORY OF DREDGING AND DREDGED MATERIAL DISPOSAL IN THE LONG ISLAND SOUND, AS ASSESSMENT OF HOW THESE ACTIVITIES HAVE AFFECTED THE SOUND AND ITS BIOTA, AN EXAMINATION OF ALTERNATIVE MODES OF DISPOSAL, AND A GENERAL DISCUSSION OF RESEARCH PRIORITIES. IT WAS ALSO DESIGNED TO PROVIDE ANSWERS TO SPECIFIC QUESTIONS ABOUT THESE TOPICS WITHOUT HAVING TO READ THE ENTIRE VOLUME.

1662 SCHULTZ, D.T.; C.C. SCHNETZLER

ENVIRONMENTAL APPLICATION OF THE EARTH RESOURCES TECHNOLOGY SATELLITE [1973]

PAGES 11-26 IN PROC OF 2ND CONFERENCE ON ENVIRONMENTAL QUALITY SENSORS, NAT'L ENVIRON RESEARCH CENTER, LAS VEGAS, NV. 10-11 OCT

THE FIRST EARTH RESOURCES TECHNOLOGY SATELLITE (ERTS-1), LAUNCHED JULY 23, 1972 BY NASA, CARRIES A MULTISPECTRAL SCANNER (MSS). A SECOND IMAGING SYSTEM, THE RETURN BEAM VIDICON (RBV), MALFUNCTIONED SOON AFTER LAUNCH AND WAS DEACTIVATED. ERTS-1 DRBITS AT AN ALTITUDE OF 920 KM, AND REOCCUPIES THE SAME ORBITAL PATH EVERY 18 DAYS. THE MSS RECORDS A SCENE SIMULTANEOUSLY ON FOUR BANDS (IN MICROMETERS): 0.5-0.6 (GREEN), 0.6-0.7 (RED), 0.7-0.8 (NEAR INFRARED), AND 0.8-1.1 (NEAR INFRARED). A 185-KM-SQUARE IMAGE IS PRODUCED, WHICH IS CONVERTED TO DIGITAL DATA AND TELEMETERED TO AN EARTH-BASED RECEIVING STATION. THE FINAL DATA PHODUCTS ARE DIGITAL TAPES, BLACK AND WHITE IMAGES OF INDIVIDUAL BANDS, AND FALSE COLOR COMPOSITES OF SEVERAL BANDS. ERTS IMAGERY IS ABOUT 7U-80 %. ABOUT 330 PROJECTS CURRENTLY USE ERTS DATA, OF WHICH ABOUT 27 ARE DIRECTLY RELATED TO ENVIRONMENTAL PROBLEMS. AIR POLLUTION, FRESH WATER AND OCEAN WATER POLLUTION, DISRUPTED LAND SURFACES, AND REGIONAL AND LOCAL ENVIRONMENTAL MANAGEMENT PLANNING ARE SOME OF THE ENVIRONMENTAL USES MADE OF THE DATA. ERTS IMAGES WERE USED TO PRODUCE AN ECOZONE MAP OF NEW JERSEY, AS WELL AS A VEGETATION CLASSIFICATION MAP OF THE NANTICOKE RIVER MARSH ON CHESAPEAKE BAY. WEATHER EFFECTS OF AIRBORNE PARTICULATE PLUMES FROM CHICAGO AND GARY, IN, WERE STUDIED. OTHER PROJECTS ON THE POTOMAC RIVER AND NEW YORK BIGHT ARE ALSO DISCUSSED.

1663 SCOTT, J.T.; G.T. CSANADY

NEARSHORE CURRENTS OFF LONG ISLAND [1)76]

J GEOPHYS RES 81(30):5401-5439

CURRENTS WERE OBSERVED FOR A 25 DAY PERIOD IN SEPT 1975 AT 11 KM SOUTH OF LONG ISLAND, WHERE THE WATER IS 32 M DEEP, AT 3 LEVELS BY USING ELECTROMAGNETIC CURRENT METERS. TIDAL CURRENTS WERE FOUND TO BE MODERATELY STRONG, OF THE ORDER OF 20 CM/S. NONTIDAL FLOW IS CAUSED BY WIND STRESS, HORIZONTAL DENSITY CONTRASTS DUE TO FRESH WATER INFLUX, AND A LONGSHORE SURFACE LEVEL GRADIE IT SLOPING DOWN SOUTHWESTWARD. THE TIME-AVERAGED FLOW HAS SIMPLE CHARACTERISTICS, ADEQUATELY DESCRIBED BY CLASSICAL EKMAN MODELS IN FRICTIONAL EQUILIBRIUM. BY SUITABLE CHANGES IN THE AVERAGING PERIOD, QUANTITATIVE ESTIMATES OF A BOTTOM FRICTION COEFFICIENT AND A LONGSHORE PRESSURE GRADIENT ARE DEDUCED FROM THE DATA. THE BOTTOM FRICTION COEFFICIENT AGREES WITH WHAT ONE WOULD ESTIMATE FROM POUNDARY LAYER THEORY FOR ROUGHNESS ELEMENTS OF ABOUT 70 CM HEIGHT. THE LONGSHORE PRESSURE GRADIENT DEDUCED FROM THE BEHAVIOR OF CURRENTS AGREES AITH THE EVIDENCE OF GEODETIC LEVELING.

1664 SCOTTI, J.

NEW YORK COMMERCIAL FISHERIES UPDATE [1980]

NYSG EXTENSION PROGRAM, CORNELL UNIV LAB. RIVERHEAD. NY NP

THIS SHORT BI-MONTHLY PUBLICATION OF CURRENT INFORMATION IS INTENDED FOR THE NEW YORK COMMERCIAL FISHING INDUSTRY.

1665 SEARL, T.D.; H.L. HUFFMAN, JR.; J.P. THOMAS

EXTRACTABLE ORGANICS AND NONVOLATILE HYDROCARBONS IN NEW YORK HARBOR WATERS [1977]

PAGES 583-588 IN PROC, 5TH CONFERENCE ON PREVENTION, BEHAVIOR, CONTROL AND CLEAN-UP OF UIL POLLUT, 8-10 MAR 1977, NEW ORLEANS, LA. API, WASHINGTON, DC

IN CONJUNCTION WITH THE MESA PROGRAM IN THE NEW YORK BIGHT, SELECTED STATIONS IN NEW YORK HARBOR WERE SAMPLED DURING NOV 1974, AND MAR AND JUN 1975, FOR CARBON TETRACHLORIDE-EXTRACTABLE ORGANICS AND NONVOLATILE HYDROCARBONS. THE EXTRACTABLE ORGANICS RANGED FROM 64 TO 840 MICROGRAMS/L WITH A MEAN VALUE FOR THE HARBOR OF 158 MICROGRAMS/L. THE STANDARD DEVIATION, 2 SIGMA, OF THE TEST METHOD, BASED ON DUPLICATE SAMPLES, WAS 26 MICROGRAMS/L. THE NONVOLATILE HYDROCARBONS RANGED FROM 14 TO 270 MICROGRAMS/L WITH A MEAN OF 39 MICROGRAMS/L. STANDARD DEVIATION, 2 SIGMA, WAS 5 MICROGRAMS/L. THE HIGHEST CONCENTRATION OF ORGANICS AND HYDROCARBONS WAS FOUND IN NEWTOWN CREEK; THE LOWEST AT THE ENTRANCE TO AMBROSE CHANNEL. THE AVERAGE CONCENTRATIONS ARF ABOUT A FACTOR OF TEN ABOVE THOSE REPORTED FOR THE OPEN OCEAN. THE CONCENTRATIONS OBTAINED ON THE THREE SAMPLING DATES DID NOT DIFFER WIDELY. TO HELP ESTABLISH DISTRIBUTION PATTERNS, AMMONIA, SALINITY, TURBIDITY, AND OTHER MEASUREMENTS WERE MADE. IN ARTHUR KILL, AMMONIA WAS CONSTANT AT 50 MICROGRAM-ATOMS N/L WHILE THE RATIO OF HYDROCARBONS TO ORGANICS DROPPED FROM U.29 AT NEWARK BAY TO 0.12 AT RARITAN BAY. THIS SUGGESTS THAT OXIDATION AND/OR ADSORPTION OF HYDROCARBONS ONTO PARTICULATES WITH SURSEQUENT SETTLING TOOK PLACE.

. 1666 SEELIGER, U.; P. EDWARDS

CORRELATION COEFFICIENTS AND CONCENTRATION FACTORS OF COPPER AND LEAD IN SEAWATER AND BENTHIC ALGAE [1977]

MAR POLLUT BULL 8(1):396-400

THE STUDY WAS CONDUCTED ALONG THE SOUTH SHORE OF RARITAN BAY ADJACENT TO THE NEW YORK METROPOLITAN REGION. CORRELATION COEFFICIENTS OF 0.98 WERE FOUND FOR COPPER AND 0.97 FOR LEAD. THESE FIGURES INDICATE A HIGH DEGREE OF CORRESPONDENCE BETWEEN LEVELS OF BOTH METALS IN WATER AND IN ALGAL TISSUE. THE DATA INDICATE THAT RARITAN BAY IS A HIGHLY POLLUTED COASTAL ENVIRONMENT.

1667 SEGAR, D.A.; P.G. HATCHER; G.A. BERBERIAN; L.E. KEISTER; M.A. WEISELBERG

THE CHEMICAL AND GEOLOGICAL OCEANOGRAPHY OF THE NEW YORK BIGHT APEX REGION AS IT PERTAINS TO THE PROBLEM OF SEWAGE SLUDGE DISPOSAL [1974]

AOML, MIAMI, FL 33 PP

LARGE QUANTITIES OF CONTAMINANTS ARE BEING INTRODUCED INTO THE NEW YORK BIGHT FROM SOURCES SUCH AS THE HUDSON RIVER, ACID-IRON WASTE DUMPING, DREDGE SPOIL DUMPING, SEWAGE-SLUDGE DUMPING, AND THE VARIOUS OUTFALLS ALONG THE NEW JERSEY AND LONG ISLAND SHORELINES. THIS REPORT IS PRIMARILY CONCERNED WITH THE SEWAGE-SLUDGE DUMPING AS IT AFFECTS THE CHEMICAL QUALITIES OF THE NEW YORK BIGHT ECOSYSTEM. ONGOING STUDIES TO IDENTIFY AND TRACE THE VARIOUS SEWAGE CONTAMINANTS ARE AT THE INITIAL STAGE OF INVESTIGATION. HOWEVER AT THIS TIME IT APPEARS THAT THE CARBOHYDRATE-TOTAL ORGANIC CARBON (TOC) RATIO IN SEDIMENTS TOGETHER

WITH THE TOC VALUE ITSELF MAY PROVIDE AN INDICATION OF THE GEOGRAPHICAL AND QUANTITATIVE EXTENT OF SEWAGE DERIVED CONTAMINANTS.

1668 SEGAR. D.A.

EVALUATION OF CHEMICAL CHARACTERISTICS OF DESIGNATED ALTERNATE DUMP SITES [1974]

AOML, MIAMI, FL 8 PP

NUTRIENT CHEMISTRY OF WATER AT ALTERNATE DUMPSITES IS LESS AFFECTED BY COASTAL RUNOFF THAN AT THE PRESENT DUMPSITES. ALTERNATE DUMPSITES HAVE LOWER DISSOLVED AND SUSPENDED TRACE METAL AND ORGANIC CONCENTRATIONS. COARSE GRAINED SEDIMENTS AT THE BOTTOM OF ALTERNATE DUMPSITES INDICATE THAT LOW DENSITY SLUDGE WILL NOT REMAIN AT ITS DEPOSITION SITE BUT WILL BE RESUSPENDED AND FURTHER DISPERSED.

1669 SEGAR, D.A.; A.Y. CANTILLO

TRACE METALS IN THE NEW YORK BIGHT [1976]

PAGES 171-198 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOGR, ALLEN PRESS, LAWRENCE, KS

LARGE QUANTITIES OF TRACE METALS ARE INTRODUCED TO THE NEW YORK BIGHT APEX FROM MANY SOURCES. DISTRIBUTION OF DISSOLVED MN, FE, CD, CU, AND ZN ARE EXTREMELY NONUNIFORM IN THE WATERS OF THE APEX DUE TO THE MANY SOURCES AND COMPLEX REACTIONS TAKING PLACE. ESTUARINE DISCHARGE AND DREDGE SPOIL DUMPING ARE MAJOR SOURCES, WHILE SEWAGE SLUDGE AND ACID WASTE DUMPING ARE MINOR SOURCES FOR MOST ELEMENTS STUDIED. MUCH OF THE DISSOLVED CU AND FE OCCURS IN A CHEMICAL FORM THAT IS NOT EXTRACTABLE BY CHELATION/SOLVENT EXTRACTION, EVEN AFTER ACIDIFICATION. THE QUANTITY OF THIS METAL FRACTION INCREASES WITH DISTANCE FROM THE HUDSON-RARITAN ESTUARY. LOSS FROM SOLUTION OF SOME ELEMENTS, NOTABLY MN, OCCURS WHEN ESTUARINE WATER MIXES WITH DECANIC WATER. METALS, PARTICULARLY ZN, ARE RELEASED TO SOLUTION DURING OCEAN DUMPING OF SEWAGE SLUDGE AND OTHER MATERIALS. CONCENTRATIONS OF DISSOLVED METALS IN THE APEX ARE HIGHER THAN ON THE OPEN SHELF AND HIGHER IN SUMMER THAN IN SPRING AND FALL. THIS SUGGESTS THAT THE APEX FLUSHES SLOWER IN SUMMER, AS INPUTS DO NOT VARY SIGNIFICANTLY WITH SEASON. BUDGET CALCULATIONS SHOW THAT CONTAMINANT METALS, EXEMPLIFIED BY CU AND ZN, DO NOT ACCUMULATE IN THE APEX BUT ARE RAPIDLY REMOVED EITHER TO THE ESTUARIES OR THE SURROUNDING SHELF WATERS. MEAN RESIDENCE TIMES OF CONTAMINANT METALS IN THE APEX WATERS ARE LESS THAN 6 MONTHS, PERHAPS CONSIDERABLY LESS.

1670 SEGAR. D.A.; G.A. BERBERIAN

OXYGEN DEPLETION IN THE NEW YORK BIGHT APEX: CAUSES AND CONSEQUENCES [1976]

PAGES 220-239 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOGR, ALLEN PRESS, LAWRENCE, KS

DISSOLVED OXYGEN CONCENTRATIONS IN WATERS OF THE NEW YORK BIGHT APEX ARE NEAR SATURATION EXCEPT IN SUMMER WHEN A STABLE THERMOCLINE EXISTS AND CONCENTRATIONS IN THE LOWER LAYER CAN DROP TO 10% OF SATURATION. MASS BALANCES OF OXYGEN AND CARBON CYCLES IN THE APEX WERE EXAMINED. PHOTOSYNTHETICALLY PRODUCED CARBON ACCOUNTS FOR MOST OF THE OXYGEN DEMAND, PARTICULARLY IN SUMMER. OXYGEN DEMAND DUE TO SEWAGE SLUDGE AND DREDGE SPOILS IS SMALL COMPARED TO THAT FROM ORGANIC CARBON PRODUCED IN SITU. OXYGEN DEMAND OF PARTICULATE AND DISSOLVED ORGANICS IN THE ESTUARINE DISCHARGE MAY BE AS GREAT AS THE SEWAGE SLUDGE AND DREDGE SPOILS TOGETHER. MIDSUMMER PRIMARY PRODUCTIVITY IN THE APEX IS HIGH DUE TO NUTRIENT INPUTS, PARTICULARLY NITROGEN. MOST NITROGEN, SUPPLIED TO THE APEX IN FORMS SUITABLE TO SUPPORT PHOTOSYNTHETIC PRODUCTION. COMES FROM THE DISCHARGE OF THE HUDSON-RARITAN-PASSAIC SYSTEMS. MOST OF THIS NITROGEN COMES FROM LIQUID EFFLUENTS OF SEWAGE TREATMENT PLANTS DISCHARGED TO THE RIVERS. OCEAN DUMPING IN THE BIGHT APEX DOES NOT CAUSE THE LOW OXYGEN CONCENTRATIONS FOUND IN SUMMER. THESE ARE CAUSED PRIMARILY BY NITROGEN SUPPLY FROM RIVERS. IMPROVEMENT IN DISSOLVED OXYGEN CONCENTRATIONS COULD BE ACHIEVED BY REMOVING NITROGEN

FROM SEWAGE TREATMENT PLANT EFFLUENTS.

1671 SEGAR. D.A.; A.Y. CANTILLO

SOME CONSIDERATIONS ON MONITORING OF TRACE METALS IN ESTUARIES AND OCEANS [1976]

IN INTERNAT'L CONFERENCE ON ENVIRON SENSING AND ASSESS, JOINT CONF OF THE INTERNAT'L SYMP ON ENVIRON MONIT AND THE 3RD JOINT CONF ON SENSING ENVIRON POLLUTION. LAS VEGAS. NV. SEP 14-19, 1975. VOL 1. PAP 6-5. IEEE. NEW YORK. NY

THE TRACE METAL CHEMISTRY OF THE COASTAL WATERS OF NY AND NJ IN THE VICINITY OF THE HUDSON-RARITAN RIVER DISCHARGE HAS BEEN STUDIED. SAMPLING AND ANALYSIS PROCEDURES WHICH MINIMIZE CONTAMINATION AND ANALYSIS TIME WERE DEVELOPED FOR THE DETERMINATION OF SEVERAL DISSOLVED TRACE METALS. THE GEOGRAPHICAL AND SHORT TERM TEMPORAL VARIATIONS OF TRACE METAL CONTENT APPEAR TO BE LARGE. HOWEVER, INTENSIVE SAMPLING IN A RESTRICTED GEOGRAPHICAL AREA DOES REVEAL THE EXISTENCE OF COHERENT CELLS OF WATER WHICH CONTAIN ANOMALOUSLY HIGH METAL CONCENTRATIONS. THE GEOGRAPHICAL LOCATION OF THESE CELLS SUGGESTS THEY ARE CAUSED BY THE RIVER DISCHARGE INFLUENCE AND BY THE SEWAGE SLUDGE OF DREDGE SPOIL DUMPING.

1672 SEGAR. D.A.

A REVIEW OF THE IMPACT OF DREDGED MATERIAL DISPOSAL IN THE NEW YORK BIGHT APEX, WITH EMPHASIS ON CHEMICAL PROCESSES [1977]

UNPUBL DRAFT. NOAA. MESA. STONY BROOK. NY 115 PP

THE OXYGEN DEMAND OF DREDGED MATERIAL DOES NOT CAUSE THE SERIOUS OXYGEN DEPLETION IN THE BOTTOM WATERS BUT IT CAN AGGRAVATE THE CONDITIONS. NH4+ CONCENTRATION MAY REACH TOXIC LEVELS BUT IS DILUTED RAPIDLY. MANGANESE AND CADMIUM ARE RELEASED FROM DREDGED MATERIAL. SULPHIDE IONS (HIGHLY TOXIC) ARE RELEASED FROM ANOXIC DREDGED MATERIAL AND IS A HAZARD TO THE BIOTA. IT APPEARS THAT CONTAMINANT RICH FINE GRAINED PARTICLES ARE PREFERENTIALLY DISPERSED AND A SIGNIFICANT PORTION OF THE CONTAMINANTS IS NOT RETAINED WITHIN THE DUMPSITE MOUND.

1673 SENFILE, F.E.; A.B. TANNER; T.W. PHILBIN; J.E. NOAKES; J.D. SPAULDING; J.L. HARDING

IN SITU CAPTURE GAMMA RAY ANALYSES FOR SEA-BED EXPLORATION: A FEASIBILITY STUDY. [1976]

PAGES 75-91 IN NUCLEAR TECHNIQUES IN GEOCHEMISTRY AND GEOPHYSICS. PROC OF A PANEL ORGANIZED BY THE IAEA, VIENNA, 25-29 NOV 1974. IAEA. VIENNA. AUSTRIA

IN SITU NEUTRON CAPTURE GAMMA RAY SPECTRA OF BOTTOM SEDIMENTS WERE TAKEN AT 5 STATIONS IN WESTERN LONG ISLAND SOUND USING A CALIFORNIUM-252 NEUTRON SOURCE AND A 3E(LI) DETECTOR. CHLORINE, IN ADDITION TO BEING A MAJOR SOURCE OF INTERFERENCE, DID NOT YIELD THE SAME SPECTRUM WHEN MEASURED IN SEAWATER AND IN THE BOTTOM SEDIMENTS. OTHER ANOMALOUS RESULTS WERE OBSERVED WHEN THE SPECTRA OF THE BOTTOM SEDIMENTS FROM THE VARIOUS STATIONS WERE COMPARED. AFTER ANALYSIS OF THESE RESULTS IN THE LIGHT OF THE SPECTRAL DISTRIBUTION OF NEUTRONS OCTAINED FROM MONTE CARLO CALCULATIONS, IT APPEARS THAT THE MEASURED CAPTURE GAMMA-RAY SPECTRA ARE THE RESULT OF BOTH THERMAL AND EPITHERMAL RESONANCE CAPTURE. THE RESULTS OF LABORATORY EXPERIMENTS TEND TO CONFIRM THIS HYPOTHESIS. SUBSTANTIAL EPITHERMAL CAPTURE POSES A SERIOUS PROBLEM OF IDENTIFICATION AND CALIBRATION FOR QUANTITATIVE ANALYSIS. THE USE OF MANY SMALL SOURCES ARRANGED AROUND A CENTRAL DETECTOR SHOULD IMPROVE THE COUNTING STATISTICS AND REDUCE THE SERIOUSNESS OF THE PROBLEM.

1674 SERAFY, D.K.; D.J. HARTZHAND; M. BOWEN

AQUATIC DISPOSAL FIELD INVESTIGATIONS, EATONS NECK DISPOSAL SITE, LONG ISLAND SOUND. APPENDIX C. PREDISPOSAL BASELINE COMDITIONS OF BENTHIC ASSEMBLAGES [1977]

NYOSL, MONTAUK, NY 245 PP NTIS-AD-A050 046

A BASELINE SURVEY OF MACROBENTHIC AND MEIOBENTHIC ASSEMBLAGES INHABITING THE EATONS NECK DISPOSAL SITE AND IMMEDIATE VICINITY OF MESTERN LONG ISLAND SOUND WAS CONDUCTED FROM OCTOBER 1974 THROUGH JUNE 1975. THE DATA WERE USED TO DESCRIBE THE BENTHIC ASSEMBLAGES OF A DISPOSAL SITE THAT HAD RECEIVED PREDGED MATERIAL AND OTHER SUBSTANCES FOR A PERIOD OF ABOUT 71 YEARS, 1902 TO 1973. NO DUMPING HAD TAKEN PLACE AT THE SITE FOR ABOUT ONE YEAR PRIOR TO COLLECTION OF THE BASELINE DATA.

1675 SERIAY. S.A.

THE PRODUCTIVITY OF MID-FALL FLOATING ZOSTERA MARINA AND ITS CONTRIBUTION TO GREAT SOUTH BAY [1975]

M.S. THESIS. CW POST CAMPUS, LONG ISLAND UNIV. BRENTWOOD, NY NP

THE RESULTS OF THE C-14 METHOD IN STUDYING THE PRODUCTIVITY OF FLOATING ZOSTERA ARE DISCUSSED. NET PRODUCTIVITY MEASUREMENTS OF FLOATING ZOSTERA IN AMITYVILLE CREEK GAVE VALUES FROM 0 TO 2215 MG C/M3/HR/GMS OF FLOATING ZOSTERA OVER A 12-HOUR PERIOD. THESE OBSERVATIONS MAY HAVE BEEN ATTRIBUTED TO TEMPERATURE, SOLAR RADIATION, SALINITY AND GENERAL METEOROLOGICAL CONDITIONS. FLOATING EELGRASS WAS PRODUCTIVE AND CONTRIBUTED TO THE FOOD WEB AS A PRIMARY PRODUCER OF ORGANIC MATTER.

1676 SETHURAMAN, S.; G.S. RAYNOR

SURFACE DRAG COEFFICIENT DEPENDENCE ON THE AERODYNAMIC ROUGHNESS OF THE SEA [1975]

J GEOPHYS RES 80(36):4983-4988

ANALYSIS OF LOGARITHMIC WIND PROFILES MEASURED TO A HEIGHT OF 10 M ON THE SOUTH SHORE OF LONG ISLAND INDICATES 3 DISTINCT CLASSES OF AERODYNAMIC ROUGHNESS OF THE SEA SURFACE. ON THE BASIS OF THE ROUGHNESS REYNOLDS NUMBER. DEFINED AS U*Z O/V, WHERE U* IS THE SURFACE FRICTION VELOCITY, Z O THE ROUGHNESS LENGTH, AND V THE KINEMATIC VISCOSITY, THE SEA SURFACE IS AERODYNAMICALLY SMOOTH FOR U*Z O/V < 0.15. THERE IS A MODERATELY ROUGH TRANSITION REGIME FOR 0.15 < U*Z O/V <4, THE SURFACE BECOMING FULLY ROUGH FOR THE ROUGHNESS REYNOLDS NUMBERS EXCEEDING 4. THE SURFACE DRAG COEFFICIENT CD OBTAINED FROM THE MEAN WIND SPEED AT A HEIGHT OF 6 M IS FOUND TO VARY FROM 0.75 X 10EXP-3 FOR AN AERODYNAMICALLY SMOOTH SEA SURFACE TO 1.9 X 10EXP-3 FOR A FULLY ROUGH SURFACE. MODERATELY ROUGH FLOW CONDITIONS YIELDED A CD OF 1.15 X 10EXP-3. WIND PROFILE MEASUREMENTS FROM TWO OTHER OFFSHORE OR COASTAL SITES SHOWED GOOD AGREEMENT. MEAN WIND SPEEDS RANGED FROM 3.5 TO 10 M/S. THE DRAG COEFFICIENT DID NOT VARY WITH MEAN WIND SPEED BUT WAS WEAKLY DEPENDENT ON THE ATMOSPHERIC STABILITY. CHARNOCK S CONSTANT A IN Z O = AU 3/G, WHERE G IS THE GRAVITATIONAL ACCELERATION, WAS FOUND TO HAVE A MEAN VALUE OF 0.016 FOR MODERATELY ROUGH CONDITIONS AND 0.072 FOR FULLY ROUGH CONDITIONS.

1677 SETHURAMAN. S.

SOME MICRO-METEOROLOGICAL OBSERVATIONS DURING THE APPROACH AND PASSAGE OF HURRICANE BELLE (1976) [1977]

BNL. UPTON. NY 4 PP

HURRICANE BELLE STARTED AS A TROPICAL DEPRESSION AND BECAME ORGANIZED ON AUG 6, 1976 ABOUT 400 MILES EAST OF PALM BEACH, FLORIDA. THE DISTURBANCE DEEPENED THROUGH THE TROPICAL STORM PHASE TO BECOME A HURRICANE BY AUG 8. IT THEN MOVED NORTHWARD AND MADE LANDFALL ON LONG ISLAND NEAR JONES BEACH AROUND 2200 EST, AUG 9 (03007, AUG 10). STORM TRACK OF HURRICANE BELLE INDICATES A NEAR-NORTHERLY MOVEMENT AT A RATE OF ABOUT 20 MI/HR. A SERIES OF SATELLITE PICTURES WAS TAKEN ON AUG 9 AND 10. AN UNDERSTANDING OF THE MICROSTRUCTURE OF SEVERE STORMS LIKE HURRICANES IN THE SURFACE LAYER IS IMPORTANT DUE TO A VARIETY OF APPLICATIONS—DESIGN OF BUILDINGS AND STRUCTURES, PREDICTION OF DAMAGES, EVACUATION OF PEOPLE, ETC. THE STUDY OF THE STRUCTURE OF HURRICANES WITHIN THE FIRST 100 M OVER WATER GETS LOGISTICALLY DIFFICULT DUE TO THE ROUGH SEAS AND LACK OF STABLE PLATFORMS. THE ENVIRONMENTAL DATA BUOYS OPERATED BY NOAA MONITOR THE MEAN QUANTITIES OF THE STORM AS IT PASSES BY, AND THE NATIONAL

HURRICANE LABORATORY OF NOAA STUDIES THE HIGHER ALTITUDES OF HURRICANES WITH AIRCRAFTS. THIS PAPER DISCUSSES THE STRUCTURE OF TURBULENCE IN THE ATMOSPHERIC SURFACE LAYER AND THE VARIATION OF WIND ACROSS THE ISLAND AS THE HURRICANE APPROACHED AND THEN MOVED OVER LONG ISLAND.

1678 SETHURAMAN, S.

INFLUENCE OF MEAN WIND DIRECTION ON SEA SURFACE WAVE DEVELOPMENT [1978]

J PHYS OCEANOG 8(5):926-929

MOMENTUM FLUX MEASUREMENTS MADE FROM AN INSTRUMENTED OCEAN BUOY INDICATE THAT THE SURFACE DRAG COEFFICIENT CD IS STRONGLY DEPENDENT ON CHANGES IN MEAN WIND DIRECTION. A CHANGE IN MEAN WIND DIRECTION IS ACCOMPANIED BY A CHANGE IN WAVE PROPAGATION DIRECTION AND ASSOCIATED VARIATIONS IN WAVE STEEPNESS AND STAGE OF WAVE DEVELOPMENT. FROM SIMULTANEOUS WIND-STRESS AND WAVE MEASUREMENTS. A CRITICAL VALUE FOR THE RELATIVE MOTION OF AIR AND SURFACE WAVES IS SUGGESTED BEYOND WHICH THE DOMINANT WAVES REACH THE FULLY DEVELOPED STAGE AND THE DRAG DECREASES.

1679 SETHURAMAN, S.; G.S. RAYNOR

COMPARISON OF MEAN WIND SPEEDS AND TURBULENCE AT A COASTAL SITE AND AN OFFSHORE LOCATION [1980]

J APPL METEOROL 19(1):15-21

OBSERVATIONS OF MEAN WIND SPEED AND LONGITUDINAL TURBULENCE AT A HEIGHT OF 8 M OVER THE ATLANTIC OCEAN, 5 KM OFF LONG ISLAND, NY, WERE COMPARED WITH SIMULTANEOUS OBSERVATIONS AT THE BEACH. RESULTS WERE GROUPED INTO WIND DIRECTION CLASSES CHARACTERISTIC OF CHARGES IN ROUGHNESS AND FETCH. MEAN WINDS OVER THE OCEAN WERE 15-100% HIGHER THAN THOSE AT THE BEACH. CHANGES IN TURBULENCE PROBABLY DEPEND ON VARIATIONS IN THE AERODYNAMIC ROUGHNESS OF THE SEA SURFACE AND THE THERMAL PROCESSES THAT OCCUR OVER THE WATER. DECREASE IN TURBULENCE OVER THE OCEAN RELATIVE TO THAT AT THE BEACH DUE TO A DECREASE IN SEA SURFACE ROUGHNESS FOR ALONGSHORE FLOWS COULD BE PREDICTED REASONABLY WELL WITH A SIMPLE LOGARITHMIC WIND PROFILE RELATIONSHIP.

1680 SETHURAMAN, S.

CARBON DIOXIDE FLUXES OVER THE ATLANTIC OCEAN ESTIMATED FROM MEASUREMENTS AT TIANA BEACH, LONG ISLAND, NEW YORK [1981]

BOUNDARY LAYER METEOROL 20:17-26

MEAN CARBON DIOXIDE CONCENTRATION GRADIENTS WERE MEASURED CONTINUOUSLY FOR A PERIOD OF THREE WEEKS DURING DECEMBER 1978 AT TIANA BEACH, LONG ISLAND, WITH ONSHORE ATMOSPHERIC FLOWS. THE HEIGHT INTERVAL WAS 20 M AND THE FETCH OVER THE SANDY BEACH FOR ONSHORE FLOWS WAS ABOUT 20 M FOR LOW TIDES AND NEAR ZERO FOR HIGH TIDES. MEASUREMENTS AT THE BEACH WERE THUS APPROXIMATELY REPRESENTATIVE OF OVER-OCEAN FLOWS. CONCENTRATION DIFFERENCES FOR THIS HEIGHT INTERVAL WERE FOUND TO VARY FROM 0.75 TO 2 PPM. APPROXIMATE COMPUTATIONS INDICATED THIS LOCAL GRADIENT TO BE ABOUT TWO ORDERS OF MAGNITUDE GREATER THAN THE VALUES ESTIMATED FROM GLOBAL MEANS.

1681 SEWARD, M.

THE SUFFOCATING SEA [1977]

OCEANS 10(3):60-62

OFF NEW JERSEY'S COAST FROM SANDY HOOK TO ATLANTIC CITY THE SEA IS THE COLOUR OF COFFEE AND CONTAINS ONLY DEAD AND ROTTING

FISH. IN THE AFFECTED AREA THE OXYGEN CONTENT OF THE WATER HAS BEEN MEASURED AND IS BETWEEN O AND 1 PPM. THIS OXYGEN DEFICIENCY MOST LIKELY RESULTS FROM THE METABOLISM OF BACTERIA INVOLVED IN ALGAL DEGAY. THE MOST LIKELY CONTROLLING NUTRIENT FOR ALGAL BLOOMS IS NITROGEN. THOUGH THERE ARE NATURAL SUPPLIES IN THE WATER, MAN'S CONTRIBUTION HAS BEEN SIGNIFICANT. MOST OF THE NITROGEN COMES FROM WASTES (MOSTLY SEWAGE) DUMPED IN RIVERS AND ALONG THE COAST. THE FEDERAL GOVERNMENT HAS ORDERED NEW YORK CITY AND PHILADELPHIA TO BEGIN PHASING OUT SLUDGE DUMPING. THE FINAL DEADLINE IS DEC 1981. THE ALTERNATIVES TO OCEAN DUMPING MAY BE EXPENSIVE BUT LAST SUMMER'S FISH KILL WAS ONLY THE BEGINNING. THE EVENTS ARE LIKELY TO RECUR UNLESS THE DUMPING OF SLUDGE AT SEA IS STOPPED.

1682 SHARP. J.H.

ANOXIA ON THE MIDDLE ATLANTIC SHELF DIRING THE SUMMER OF 1976 [1976]

REPORT OF A WORKSHOP, WASHINGTON, DC, 15-16 OCT 1976. IDDE, NSF, WASHINGTON, DC NP NTIS-264 602

FROM JUNE THROUGH OCTOBER OF 1976, LOWER THAN NORMAL OXYGEN CONTENTS AND EXTENSIVE FAUNAL MORTALITY WERE OBSERVED IN A BROAD AREA SOUTH OF LONG ISLAND AND EAST OF NEW JERSEY ALSO REFERRED TO AS THE NEW YORK BIGHT. THIS PHENOMENON HAS BEEN CALLED ANOXIA AND A FISH-KILL WHERE REFERENCE HAS DESCRIBED LOW (LESS THAN 2 PPM) TO ZERO MEASURED DISSOLVED OXYGEN AND DEAD OR PHYSIOLOGICALLY STRESSED INVERTEBRATES AS WELL AS FINFISH. SO UNIVERSITY, STATE AND FEDERAL SCIENTISTS ATTENDED THE OCTOBER 15-16 MORKSHOP HELD IN WASHINGTON, DC SPONSORED BY THE NSF'S OFFICE FOR THE INTERNATIONAL DECADE OF OCEAN EXPLORATION. THEY AGREED THAT THE ANOXIC CONDITION HAT EXISTED DURING THE SUMMER AND FALL OF 1976 WAS THE COMBINED RESULT OF METEOROLOGICAL CONDITIONS, SHELF WATER CIRCULATION, AND THE DEGRADATION OF ORGANIC MATTER, INCLUDING AN EXTENSIVE ALGAL BLOOM. THE ALGAL BLOOM, DOMINATED BY THE ORGANISM CERATIUM TRIPOS, CONTRIBUTED SIGNIFICANTLY TO THE ORGANIC MATTER ON THE SHELF. PROBABLY CONTRIBUTING FACTORS WERE A RELATIVE DEARTH OF STORM ACTIVITY, ANOMALOUS SURFACE WIND CONDITIONS, AND UNUSUALLY WARM SEA SURFACE TEMPERATURES.

1683 SHERIF, N.; L.J. CHARLESWORTH, JR.; J.T. WILBRAND

MODAL ANALYSIS OF HEAVY MINERALS OF NEW JERSEY BEACH SANDS BY X-RAY DIFFRACTION [1973]

GEOL SOC AM ABSTR PROG 5(2):219

HEAVY MINERALS FROM PEACH SANDS WERE MAGNETICALLY SEPARATED INTO THREE GROUPS: THOSE OF HIGH SUSCEPTIBILITY

(ILMENITE-MAGNETITE), MUDERATE (E.G. IRON SILICATES), AND LOW SUSCEPTIBILITY (E.G. ZIRCON AND TIO2). CONCENTRATION BY

SEPARATION INCREASES X-RAY DETECTION LIMITS, REDUCES PEAK OVERLAP, AND ELIMINATES SAMPLE FLUORESCENCE IN THE LOW SUSCEPTIBILITY

GROUP IN CUKALPHA RADIATION IS USED. THE ILMENITE-MAGNETITE FRACTION WAS CALCULATED DIRECTLY AS A WEIGHT PERCENTAGE OF THE

TOTAL HEAVY MINERAL CONCENTRATE. WEIGHT PERCENTAGES OF MINERALS IN THE LATTER TWO GROUPS WERE DETERMINED BY COMPARISON OF THE

RATIO OF PEAK HEIGHTS OF MINERAL PAIRS TO PREPARED STANDARDS. DIFFRACTION PATTERNS OF THE MODERATE AND LOW SUSCEPTIBILITY

MINERALS, TOGETHER WITH MODAL ANALYSIS DATA, SERVE TO CHARACTERIZE AND GROUP BEACH SANDS ACCORDING TO THEIR HEAVY MINERAL

ASSEMBLAGES. NEW JERSEY BEACH SANDS CAN BE DIVIDED INTO THREE HEAVY MINERAL ZONES: A GLAUCONITE ZONE WHICH EXTENDS SOUTH FROM

SANDY HOOK TO SHARK RIVER INLET; A ZIRCON-OPAQUE MINERAL (BROWN AND BLACK ILMENITE) ZONE FROM SHARK RIVER INLET TO LITTLE EGG

INLET; AND A HORNBLENDE-APATITE-CHLORITE ZONE FROM LITTLE EGG INLET TO CAPE MAY POINT. THESE ZONES BASICALLY COMPARE,

MINERALOGICALLY AND GEOGRAPHICALLY, TO THOSE DEFINED BY MCMASTER (1954) USING PETROGRAPHIC METHODS.

1684 SHILESKY, D.M.; M.W. MCLAUGHLIN

TRACKING TOXICS BY COMPUTER [1980]

WASTE AGE 11(10):52-54

THE EPA MANIFEST REQUIREMENT OF THE HAZARDOUS WASTE MANAGEMENT REGULATIONS IS EXAMINED. ALONG WITH THE POTENTIAL OF SATISFYING

THAT REQUIREMENT ECONOMICALLY, THROUGH THE USE OF A COMPUTERIZED MANIFEST TRACKING SYSTEM. COMPUTER—CENTERED DATA BASES ARE WELL-SUITED TO THE NEEDS OF MANIFEST PREPARATION AND TRACKING. MODERN MINICOMPUTER SYSTEMS, WITH THEIR RELIABLE, ACCURATE, RAPID, AND SECURE DATA BASE MANAGEMENT CAPABILITIES, ARE NOW ECONOMICALLY AVAILABLE FROM SEVERAL VENDORS ON A TIME-SHARING BASIS. WHEN EPA PROMULGATED ITS REGULATIONS, IT RECOGNIZED THAT SOME FORM OF AUTOMATED DATA PROCESSING WOULD BE THE METHOD OF CHOICE FOR MANY INVOLVED IN THE MANIFEST CYCLE. ILLINOIS HAS USED A MODEL COMPUTERIZED SYSTEM FOR MONITORING HAZARDOUS WASTE ACTIVITY FOR SEVERAL YEARS, AND NEW YORK AND GEORGIA ARE DESIGNING COMPUTERIZED MANIFEST TRACKING AND REPORTING SYSTEMS. AT LEAST 1 COMMERCIAL VENDOR IS OFFERING A COMPUTER SYSTEM WHICH PROVIDES SUCH TRACKING AND QUALITY ASSURANCE FEATURES. HAZ-TRACK, OF NORTHERN VIRGINIA, UTILIZES AN HP-3000 MINICOMPUTER TO ISSUE AND/OR TRACK MANIFESTS, FOLLOW UP "MISSING" WASTE SHIPMENTS, PREPARE EPA EXCEPTION REPORTS. AND PREPARE EPA ANNUAL REPORTS FOR INDUSTRIAL HAZARDOUS WASTE GENERATORS.

1685 SHISLER, J.K.

TIDAL VARIATIONS IN THE MOVEMENT OF DAGANIC CARBON IN NEW JERSEY SALT MARSHES [1977]

MAR BIJL 40(2):127-134

THE MOVEMENT OF ORGANIC CARBON WAS ASSESSED BY STATISTICAL AND SIMULATION MODELING ANALYSES IN TWO MARSH TYPES IN NJ; EACH MARSH CONTAINED THREE WATER-DRAINAGE SYSTEMS IN WHICH THREE TIDAL CYCLES WERE SAMPLED IN MAY AND JUNE 1973. HOURLY WATER SAMPLES WERE OBTAINED AND FILTERED THROUGH A GELMAN TYPE A GLASS FILTER FOR SEPARATION INTO DISSOLVED (DOC) AND PARTICULATE (POC) ORGANIC CARBON COMPONENTS OF THE TOTAL ORGANIC CARBON (TOC). SIMULATION DATA SHOWED THAT INDIVIDUAL CREEKS AND MARSHES FUNCTIONED DIFFERENTLY ON THE SAMPLED TIDAL CYCLES IN REGARD TO NET MOVEMENT OF WATER AND ORGANIC CARBON COMPONENTS. ORGANIC CARBON COMPONENTS EXHIBITED SIMILAR TIDAL VARIATIONS, WITH SIGNIFICANTLY LOWER CONCENTRATIONS AT FLOOD SLACK THAN AT EBB SLACK. MID-EBB CONCENTRATIONS WERE SIGNIFICANTLY HIGHER THAN MID-FLOOD CONCENTRATIONS FOR TOC AND POC. INDIVIDUAL MARSHES SHOWED SIGNIFICANTLY DIFFERENT CONCENTRATIONS IN THE LATTER SEGMENTS OF THE TIDAL CYCLE FOR TOC'S AND POC'S. RESULTS INDICATE THAT INDIVIDUAL CREEKS, MARSHES AND TIDAL CYCLES ARE NOT REPRESENTATIVE OF THE TOTAL MOVEMENT OF ORGANIC CARBON IN ESTUARIES.

1686 SHISLER, J.K.; T.L. SCHULZE; B.L. HOWES

THE EFFECT OF THE MARSH ELDER (IVA FRUTESCENS) ON THE STANDING CROP BIOMASS OF SPARTINA PATENS AND ASSOCIATED WILDLIFE [1978]

BIOL CONSERV 14:159-166

A FOPULATION OF IVA FRUTESCENS L. ASSOCIATED WITH SPARTINA PATENS MUHL ON DREDGED MATERIAL PILES IN A NEW JERSEY SALTMARSH PREVIOUSLY MANAGED FOR MOSQUITO CONTROL WAS STUDIED TO ASSESS ITS EFFECT ON THE STANDING CROP BIOMASS OF THE GRASS. BOTH LEAF AND WOOD BIOMASSES OF I. FRUTESCENS WERE HIGHLY CORRELATED WITH AGE. LIVING BIOMASS OF S. PATENS ON THE MARSH SURFACE, ON DREDGED MATERIAL PILES AND ON DREDGED MATERIAL PILES WITH I. FRUTESCENS GROWTH WERE NOT STATISCALLY DIFFERENT. STANDING DEAD BIOMASS OF S. PATENS ON THE DREDGED MATERIAL PILES WITH I. FRUTESCENS WAS SIGNIFICANTLY LOWER THAN DEAD S. PATENS BIOMASS ON THE MARSH SURFACE AND DREDGED MATERIAL PILES WITHOUT I. FRUTESCENS. THIS WAS PROBABLY A RESULT OF INCREASED TIDAL CIRCULATION IN THE MANAGED MARSH. IN ADDITION TO CONTRIBUTING ORGANIC MATERIAL TO THE SALT MARSH-ESTUARINE ECOSYSTEM WITHOUT CAUSING ANY DETRIMENTAL EFFECT ON THE STANDING CROP BIOMASS OF S. PATENS, I. FRUTESCENS WAS SHOWN TO PROVIDE NESTING AND FORAGING SITES FOR VARIOUS SPECIES OF BIRDS, AND ISLANDS OF REFUGE FOR SMALL MAMMALS AND BIRDS.

1687 SHUBA, P.J.; H.E. TATEM; J.H. CARROLL

BIOLOGICAL ASSESSMENT METHODS TO PREDICT THE IMPACT OF OPEN-WATER DISPOSAL OF DREDGED MATERIAL [1978]

US ARMY CORPS ENG WES, VICKSBURG, MS 167 PP NTIS-AD-AU6U 502

THIS REPORT DESCRIBES NUMEROUS BLOASSAY EXPERIMENTS WHERE REPRESENTATIVE AQUATIC INVERTEBRATES WERE EXPOSED TO HEAVILY CONTAMINATED SEDIMENTS AND STANDARD LIQUID (ELUTRIATE) AND SUSPENDED PARTICULATE PHASES OF THE SEDIMENTS. THE PURPOSE OF THE

WORK WAS TO DEVELOP BIOLOGICAL METHODS FOR ASSESSING THE EFFECTS OF OPEN-WATER DISPOSAL OF DREDGED MATERIAL ON WATER COLUMN AND BENTHIC ANIMALS, PRIOR TO ACTUAL DISPOSAL. SEDIMENTS AND LIQUID PHASES WERE ANALYZED FOR SELECTED CHEMICAL CONSTITUENTS IN CONJUNCTION WITH THE BIOASSAYS. SEDIMENT SAMPLES WERE COLLECTED FROM THE VICKSBURG AREA AS WELL AS FROM THE DUWAMISH RIVER AT SEATTLE, THE JAMES RIVER IN VA, AND SHIPPING CHANNELS IN NEW YORK HARBOR. THESE MATERIALS CONTAINED A WIDE VARIETY OF ENVIRONMENTAL CONTAMINANTS. ANIMALS AND CONTROL OR REFERENCE SEDIMENTS WERE OBTAINED FROM RELATIVELY CLEAN GULF COAST AREAS OR FROM THE MISSISSIPPI RIVER SYSTEM NEAR VICKSBURG. SOME ORGANISMS WERE OBTAINED FROM OTHER WORKERS AND CULTURED IN THE LABORATORY. MARINE TEST ANIMALS INCLUDED ACARTIA, MYSIDOPSIS, PALAEMONETES, NEANTHES, RANGIA, MERCENARIA, AND BENTHIC AMPHIPODS AND ISOPODS. FRESHWATER ANIMALS INCLUDED PALAEMONETES (FRESHWATER SPECIES), DAPHNIA, CORBICULA, MUSCULIUM, AND THE ISOPOD LIRCEUS. SURVIVAL OF EXPOSED ANIMALS AS COMPARED TO CONTROL SURVIVAL USING STATISTICAL METHODS TO DETERMINE A SIGNFICANT ADVERSE EFFECT. PRELIMINARY SUBLETHAL BIOASSAYS USING LARVAL GROWTH AS THE CRITICAL PARAMETER WERE ALSO ACCOMPLISHED.

1688 SHUMWAY. F.M.

SEAPORT CITY NEW YORK IN 1775 [1975]

SOUTH STREET SEAPORT MUSEUM, NEW YORK, NY NP

THIS DRIFF HISTORY OF NEW YORK CITY HIGHLIGHTS THE DEVELOPMENT OF THE PORT.

1689 SIRLEY, V.E.

AN EVALUATION OF A CORE AREA INDUSTRIAL LINKAGE TO WATER RESOURCE -- THE CASE OF LOWER HUDSON [1970]

PH.D. THESIS. NYU. NEW YORK, NY 140 PP

A CASE STUDY OF A PUBLIC ADMINISTRATION ANALYSIS OF THE INDUSTRIES RESIDENT IN MANHATTAN, BERGEN AND HUDSON COUNTIES BETWEEN 1958-1763. THE RELATIONSHIP OF THE AREA'S INDUSTRIAL OUTPUT IN TERMS OF VALUE-ADDED AND EMPLOYMENT IS ANALYZED BY A MULTIPLE CORRELATION MODEL TO SPECIFIC WATER RESOURCE PARAMETERS.

1690 SIBUNKA, J.D.; A.L. PACHECO

BIOLOGICAL AND FISHERIES DATA ON NORTHERN PUFFER, SPHOEROIDES MACULATUS (BLOCH AND SCHNEIDER) [1981]

TECH REP 26. SANDY HOOK LAB, HIGHLANDS, NJ 59 PP

THIS REPORT INCLUDES TAXONOMY AND MORPHOLOGY, DISTRIBUTION OF LARVAE, JUVENILES, AND ADULTS, REPRODUCTION AND DEVELOPMENT, NUTRITION, BEHAVIOR, POPULATION DYNAMICS, FISHING EXPLOITATION, PROTECTION AND MANAGEMENT AND AQUACULTURE CAPABILITIES OF THE NORTHERN PUFFER. COMMERCIAL LANDINGS FOR MIDDLE ATLANTIC REGION (NY, NJ, DELAWARE) RANGE FROM 1,116,000 LBS IN 1963 TO 4000 LBS IN 1973.

1691 SILBAJORIS, R.A.

UNDERUTILIZED MARINE FISHERY RESOURCES OF NEW YORK STATE [1975]

M.S. THESIS. SUNY, STONY BROOK, NY 143 PP

COMMERCIAL FISHERIES OF NY HAVE BEEN DECLINING FOR MANY YEARS DUE TO OVERFISHING OF TRADITIONAL STOCKS BY DOMESTIC AND FOREIGN FISHERMEN, LACK OF ADEQUATE DOMESTIC ANAGEMENT, AND NATURAL FLUCTUATIONS IN ABUNDANCE. THE MOST EFFECTIVE INTERIM EFFORT TO COPE WITH FLUCTUATING STOCKS OF FISH AND SHELLFISH WOULD BE TO ENCOURAGE MORE ECONOMIC UTILIZATION OF PRESENT CAICHES AND

DIVERSIFICATION OF FISHING EFFORT TO HARVEST STOCKS PREVIOUSLY UNUTILIZED. THE STUDY IDENTIFIES SPECIES THAT MIGHT SUPPORT NEW FISHERIES, AND COLLATES AVAILABLE INFORMATION ON THEIR ABUNDANCE, DISTRIBUTION, MIGRATION, FEEDING, REPRODUCTION AND GROWTH PATTERNS; IT EXAMINES VARIOUS METHODS AVAILABLE TO CATCH AND PROCESS THESE SPECIES, PROVIDES ESTIMATES OF POTENTIAL CATCHES, AND EVALUATES THE POTENTIAL MARKETABILITY OF THESE SPECIES. THE STUDY WAS PURPOSELY RESTRICTED TO A RELATIVELY SMALL NUMBER (16) OF SPECIES. THE GEOGRAPHIC DISTRIBUTION AND LIFE HISTORIES OF THESE RESOURCES ARE REASONABLY WELL KNOWN AND THEY ARE SIMILAR IN HABITAT AND POTENTIAL USE TO RESOURCES NOW BEING HARVESTED. THESE RESOURCES ARE ABUNDANT AND COULD BE TAKEN WITH GEARS NOW IN USE, PERHAPS WITH ONLY MINOR MODIFICATION. GAINS TO NEW YORK STATE FISHERMEN FROM WILDER UTILIZATION OF AVAILABLE RESOURCES AND MARKETING OF A GREATER VARIETY OF QUALITY PRODUCTS WOULD BE TWOFOLD. FIRST, THE DIFFUSION OF FISHING EFFORT OVER MORE SPECIES WOULD HELP ALLEVIATE THE INTENSITY OF THE DRAIN ON TRADITIONAL STOCKS. SECONDLY, FULL UTILIZATION OF FISH PRESENTLY CAUGHT COULD ADD SIGNIFICANTLY TO VESSEL AND FISHERMEN EARNINGS, INCREASING THEIR ECONOMIC SECURITY.

1692 SILVERMAN, M.J.

TRAGEDY AT NORTHPORT [1971]

BULL AT LITT SOC 7(2):15-18

THE EFFECT OF THE NORTHPORT, LONG ISLAND, POWER PLANT DISCHARGE ON THE BLUEFISH, POMATOMUS SALTATRIX, IS REPORTED. YOUNG BLUEFISH MIGRATING FROM LONG ISLAND SOUND TO WARMER ATLANTIC WATERS ENCOUNTERED WATER WARMED BY THE POWER PLANT DISCHARGE. THE FISH WINTERED IN THIS ARTIFICALLY WARMED HABITAT UNTIL GUSTING WINDS MIXED THE COLD SOUND WATER INTO THE WARMER WATER IN THE PLANT'S DISCHARGE BASIN. IT HAS BEEN ESTIMATED THAT AS MANY AS 10,000 BLUEFISH DIED FROM COLD SHOCK. THE KILL WAS THE LARGEST ONE KNOWN TO HAVE OCCURRED AT THE POWER PLANT.

1693 SILVERMAN, M.J.

SCALE DEVELOPMENT IN THE BLUEFISH. POMATOMUS SALTATRIX [1975]

TRANS AM FISH SOC 104:773-774

A TOTAL OF 100 LARVAL AND JUVENILE BLUEFISH CAUGHT BETWEEN NEW JERSEY AND NORTH CAROLINA WERE EXAMINED. SCALES FIRST APPEARED ON FISH RANGING FROM 12.5-14.0 MM STANDARD LENGTH. UPON ATTAINMENT OF 36 MM IN LENGTH, BLUEFISH HAD BECOME FULLY SCALED IN THE ADULT PATTERN.

1694 SILVERMAN, M.J.; A.W. KENDALL, JR.

NEW YORK BIGHT ICHTHYOPLANKTON SURVEY--PROCEDURES AND TEMPERATURE AND SALINITY OBSERVATIONS [1978]

TECH REP. NOAA, NMFS, HIGHLANDS, NJ 90 PP

A SUMMARY OF PROCEDURES FROM A SERIES OF 15 ICHTHYOPLANKTON CRUISES FROM JULY 1974 TO JUNE 1976 IS PRESENTED. SURFACE AND BOTTOM TEMPERATURE AND SALINITY DISTRIBUTIONS AND SEVERAL VERTICAL SECTIONS OF TEMPERATURES AND SALINITIES FROM EACH OF THESE CRUISES ARE INCLUDED.

1695 SIMEONE, C.

A PRELIMINARY SURVEY OF THE INTERTIDAL BENTHIC MACROFAUNA OF SANDY HOOK BAY [1977]

BULL NJ ACAD SCI 22(2):0-12

18 SAMPLES FROM 6 INTERTIDAL STATIONS ALONG SANDY HOOK BAY WERE TAKEN BETWEEN NOV 5 AND NOV 11, 1975 TO DETERMINE THE NUMBERS AND SPECIES OF BENTHIC MACROFAUNA WERE COLLECTED. WITH DIFFERENT COMMUNITY COMPOSITION NOTED BETWEEN THE PROTECTED AND THE EXPOSED BEACHES. LOW SPECIES NUMBERS AND DIVERSITY MAY BE AN INDICATION OF THE POOR WATER QUALITY OF SANDY HOOK AND BARITAN BAYS.

1696 SIMMONS, H.B.; W.H. POBB

POLLUTION STUDIES FOR INTERSTATE SANIFATION COMMISSION, NEW YORK HARBOR MODEL [1963]

US ARMY CORPS WES. VICKSBURG. MS. NP NTIS-AD-733 746

DATA FROM HYDROLOGIC MODEL STUDIES INCLUDE THE DISPERSION CHARACTERISTICS OF EFFLUENTS DISCHARGED FROM SEVERAL OF THE MAJOR SEWAGE TREATMENT PLANTS CONTRIBUTING TO POLLUTION IN NEW YORK HARBOR. THE MODEL IS OF THE MIXED BED TYPE CONSTRUCTED TO LINEAR SCALE RATIOS, MODEL TO PROTOTYPE, OF 1:1000 HORIZONTALLY AND 1:100 VERTICALLY. TIDES AND TIDAL CURRENTS WERE REPRODUCED IN THE MODEL BY MEANS OF A PRIMARY TIDE GENERATOR, LOCATED AT THE LOWER NEW YORK BAY MODEL LIMIT, AND BY SEPARATE BUT SYNCHRONIZED, SECONDARY, TWO-MAY FLOW-CONTROL DEVICES LOCATED AT THE MODEL LIMITS OF THE HUDSON RIVER AND LONG ISLAND SOUND. THE SALINITY OF THE MODEL OCEAN WAS MAINTAINED AT THE SAME SALINITY AS THE PROTOTYPE, AND THE FRESHWATER DISCHARGES OF THE HUDSON AND RARITAN RIVERS WERE INTRODUCED AT HYDE PARK, NEW YORK, AND FIELDVILLE, NJ. THE HIGH DISCHARGES IN THE HUDSON AND RARITAN RIVERS WERE 24,000 AND 3,530 CFS., RESPECTIVELY, AND THE LOW DISCHARGES WERE 4,500 AND 665 CFS., RESPECTIVELY. THE USE OF TWO FLUORESCENT DYES MADE IT POSSIBLE TO TEST THE EFFLUENTS FROM TWO TREATMENT PLANTS SIMULTANEOUSLY. THE TWO DYES, BRILLIANT PINK AND URANINE, WERE USED PECAUSE THE LIGHT GENERATED BY THESE DYES IS VISIBLE AT OPPOSITE ENDS OF THE SPECTRUM.

1697 SIMMONS, H.B.; W.H. BOBB

HUDSON RIVER CHANNEL, NEW YORK AND NEW JERSEY PLANS TO REDUCE SHOALING IN HUDSON RIVER CHANNELS AND ADJACENT PIER SLIPS, HYDRAULIC MODEL INVESTIGATION [1965]

US ARMY CORPS OF ENG WES, VICKSBURG, MS NP NTIS-AD-720 971

A COMPREHENSIVE MODEL WHICH CORRECTLY REPRODUCED TIDES, TIPAL CURRENTS, DENSITY CURRENTS, AND SHOALING IN THE ENTIRE NEW YORK HARBOR COMPLEX WAS USED TO STUDY PLANS FOR REDUCING MAINTENANCE DREDGING IN THE LOWER 11 MI OF THE HUDSON RIVER WHICH ANNUALLY AMOUNTS TO ABOUT 1.6 MILLION CU YDS FOR THE FEDERALLY MAINTAINED NAVIGATION CHANNELS AND 3.0 MILLION CU YDS FOR THE PRIVATELY OWNED PIER SLIPS. THE PLANS STUDIED INVOLVED CHANNEL REALIGNEMENTS, SEDIMENT BASINS, DIKES, CLOSURE GATES, AND CROSS-SECTION ENLARGEMENTS, AND TESTS WERE MADE TO DETERMINE PLAN EFFECTS ON HYDRAULIC CONDITIONS, SALINITY CONDITIONS, AND SHOALING.

1698 SIMMONS, H.B.

THE POTENTIAL OF PHYSICAL MODELS TO INVESTIGATE ESTUARINE WATER QUALITY PROBLEMS (1972)

PAGES 4-28 IN TECH CONFERENCE ON ESTUARIES OF THE PACIFIC NORTHWEST 1971. ENG EXPERIMENT STATION CIRC 42. OREGON STATE UNIV. CORVALLIS, OR

PHYSICAL MODELS FOR WATER QUALITY INVESTIGATIONS ARE DESCRIBED AND ILLUSTRATED. POSSIBLY BECAUSE THE PACIFIC NORTHWEST WAS DEVELOPED AND EXPLOITED AT A MUCH LATER DATE THAN WERE THE ATLANTIC AND GULF COASTS AND CONSEQUENTLY HAS BEEN EXPOSED TO MAN-MADE POLLUTANTS FOR A LESSER PERIOD OF TIME, GREATER USE WAS MADE OF PHYSICAL MODELS FOR WATER QUALITY STUDIES IN THE ATLANTIC AND GULF REGIONS THAN IN THE PACIFIC NORTHWEST. THUS EMPHASIZING THAT MORE INVESTIGATIONS SHOULD BE CONDUCTED BEFORE ESTUARINE POLLUTION BECOMES CRITICAL IN THIS AREA ALSO. THE FUNCTIONS OF FOUR PHYSICAL MODELS OF THE COLUMBIA RIVER, THE UMPQUA RIVER, GRAY'S HARBOR, AND TILLAMOOK BAY ARE DISCUSSED. THEY HAVE BEEN VERIFIED TO REPRODUCE TIDES, TIDAL AND RIVER CURRENTS, AND SALINIFIES FOR PPOTOTYPE CONDITIONS. TESTS OF POLLUTANT RELEASE AND DISPERSION HAVE BEEN CONDUCTED TO SIMULATE FLUSHING CAPABILITIES. SALINITY INTRUSION, NAVIGATION, DREDGING, AND SHOALING PROBLEMS ARE TYPICAL OF THE STUDIES CONDUCTED ON THESE

MODELS. SCOPE OF UTILIZATION OF THESE AND THE MODELS OF SAN FRANCISCO BAY, SAN DIEGO BAY, AND NEW YORK BAY ARE POINTED OUT.

1699 SIMPSON, H.J.; D.E. HAMMOND; B.L. DECK; S.C. WILLIAMS

NUTRIENT BUDGETS IN THE HUDSON RIVER ESTUARY [1975]

PAGES 618-635 IN T. CHURCH, ED. MARINE CHEMISTRY IN THE COASTAL ENVIRONMENT. ACS, WASHINGTON, DC

THE DOMINANT SOURCE OF DISSOLVED INORGANIC PHOSPHATE TO THE LOWER HUDSON ESTUARY IS SEWAGE FROM THE NYC AREA. ESSENTIALLY LINEAR PHOSPHATE SALINITY RELATIONSHIPS ARE OBSERVED OVER TENS OF MILES BOTH UPSTREAM AND DOWNSTREAM OF THE MAJOR SEWAGE LOADING, INDICATING CONSERVATIVE PHOSPHATE BEHAVIOR ON THE TIME SCALE OF REMOVAL FROM THE SYSTEM, WHICH IS A FEW DAYS DURING HIGH FRESH WATER FLOW AND A WEEK OR MORE DURING LOW FLOW. ADDITIONAL PHOSPHATE SOURCES AND SINKS, INCLUDING RELEASE OF PHOSPHATE FROM PARTICULATES AND NET PHYTOPLANKTON UPTAKE, ARE MINOR COMPARED WITH DIRECT SEWAGE DISCHARGE. LITTLE IMMEDIATE IMPROVEMENT IN WATER QUALITY WOULD BE EXPECTED FROM THE INTRODUCTION TO CURRENTLY OPERATING SECONDARY PLANTS OF TERTIARY SEWAGE TREATMENT FOR PHOSPHATE REMOVAL. SILICATE DISTRIBUTIONS IN THE HUDSON ARE ALSO QUITE UNUSUAL, SHOWING SUBSTANTIAL SILICATE REMOVAL DURING LOW FLOW IN THE TIDAL FRESH WATER HUDSON. THIS SUGGESTS THAT BIOLOGICAL UPTAKE RATHER THAN A CHANGE IN IONIC STRENGTH IS PRIMARILY RESPONSIBLE FOR NEGATIVE DEVIATIONS FROM CONSERVATIVE BEHAVIOR IN SOME ESTUARIES. SILICATE—RICH SEWAGE MAY PRODUCE A POSITIVE DEVIATION FROM A CONSERVATIVE MIXING LINE ON A PLOT OF SILICATE VS. SALINITY DURING SOME PERIODS IN THE LOWER HUDSON ESTUARY.

1700 SIMPSON, H.J.; C.R. OLSEN; R.M. TRIER; S.C. WILLIAMS

MAN-MADE RADIONUCLIDES AND SEDIMENTATION IN THE HUDSON RIVER ESTUARY [1976]

SCIENCE 194(4261):179-183

RECENTLY DEPOSITED FINE-GRAINED SEDIMENTS IN THE HUDSON RIVER ESTUARY CONTAIN RADIONUCLIDES FROM GLOBAL FALLOUT PRODUCED BY ATMOSPHERIC BOMB TESTS AS WELL AS FROM LOW-LEVEL RELEASES OF A LOCAL NUCLEAR REACTOR. ACCUMULATION RATES OF THESE NUCLIDES ARE DEPENDENT ON RATES OF SEDIMENT DEPOSITION AND VARY WITH LOCATION IN THE ESTUARY BY MORE THAN TWO ORDERS OF MAGNITUDE. WITHIN THE HUDSON ESTUARY, NEW YORK HARBOR IS CURRENTLY THE ZONE OF MOST RAPID DEPOSITION OF SEDIMENTS CONTAINING RADIONUCLIDES, SOME OF WHICH WERE RELEASED FROM A NUCLEAR REACTOR ABOUT 60 KM UPSTREAM OF THE HARBOR.

1701 SIMPSON, H.J.; S.C. WILLIAMS

PLUTONIUM AND CESIUM RADIONUCLIDES IN THE HUDSON RIVER ESTUARY [1976]

ANN TECH PROGREP, 1 DEC 1975-30 NOV 1976. LAMONT-DOHERTY GEOL OBSERVATORY. PALISADES. NY 127 PP

WE HAVE OBTAINED A LARGE SET OF CORES FROM THE HUDSON ESTUARY COVERING NEARLY ALL OF THE AMBIENT SALINITY RANGE. A NUMBER OF CORE SECTIONS HAVE BEEN ANALYZED FOR CS-137, CS-134, CO-60 AND K-40 BY DIRECT GAMMA COUNTING AND FOR PU-239/240 AND PU-238 BY ALPHA-SPECTROMETRY. RAPID ACCUMULATION, UP TO 20 CM/YEAR, OF SEDIMENTS CONTAINING PU-239/240, CS-137, CS-134 AND CO-60 OCCURS IN NEW YORK HARBOR. MARGINAL COVES UPSTREAM FROM THE HARBOR ALSO SERVE AS DEPOSITIONAL ENVIRONMENTS. THE RATIO OF SEDIMENT PU-239/240, TO CS-137 IS HIGHER THAN THE FALLOUT RATIO IN THE SEAWARD END OF NEW YORK HARBOR, DESPITE THE PRESENCE OF A SIGNIFICANT COMPONENT OF REACTOR CS-137 IN THE SEDIMENTS, BUT LOWER THAN THE RANGE OF RATIOS OBSERVED BY OTHERS FOR NEARSHORE ENVIRONMENTS WITH LOW SEDIMENT DEPOSITION RATES. A SUBSTANTIAL PORTION OF GAMMA EMITTING FISSION PRODUCT AND ACTIVATION NUCLIDES RELEASED FROM THE INDIAN POINT NUCLEAR FACILITY HAVE ACCUMULATED IN NEW YORK HARBOR, MORE THAN 60 KM DOWNSTREAM FROM THE RELEASE AREA. WE HAVE NOT YET ESTABLISHED WHETHER LOCAL TRANSURANIC RELEASES TO THE HUDSON HAVE OCCURRED.

1702 SIMPSON, H.J.; T.H. PENG; C.R. OLSEN; S.C. WILLIAMS

RADIOCARBON DATING OF ESTUARINE CARBONATE MATERIALS [1976]

AM ASSOC PET GEOL BULL 60(4):723-724 ABS ONLY

IDEAL MATERIALS FOR PADIOCARBON DATING ARE WELL-PRESERVED WOOD SAMPLES AND MARINE-CARBONATE MATERIALS. THE CARBON FIXED IN BOTH IS DERIVED FROM RESERVOIRS ABOUT WHICH THE TIME HISTORY AND HOMOGENEITY OF RADIOCARBON CONCENTRATIONS ARE REASONABLY WELL UNDERSTOOD. THE RADIOCARBON CONCENTRATION OF DISSOLVED BICARBONATE IN MANY FRESHWATER AND ESTUARINE ENVIRONMENTS IS SUBSTANTIALLY LOWER THAN ATMOSPHERIC AND SURFACE-OCEAN INORGANIC CARBON BECAUSE OF THE INTRODUCTION OF C-14 FREE CARBON FROM THE WEATHERING OF LIMESTONE. THE MAGNITUDE OF THIS EFFECT ON THE ORIGINAL RADIOCARBON CONCENTRATION OF FOSSIL CARBONATE MATERIALS FROM FRESHWATER AND ESTUARINE ENVIRONMENTS CANNOT BE DIRECTLY ESTABLISHED BY COLLECTION OF CURRENTLY FORMING SAMPLES FROM THE SAME ENVIRONMENTS BECAUSE OF THE PRESENCE OF BOMB RADIOCARBON. DESPITE THE AMBIGUITIES, INTERPRETATION OF RADIOCARBON DATES FROM ESTUARINE SEDIMENTARY ENVIRONMENTS IS COMMONLY VERY DESIRABLE FOR PALEOCLIMATIC PURPOSES. THE MOST DIRECT PROCEDURE FOR ESTABLISHING THE ORIGINAL RADIOCARBON CONCENTRATION OF WELL-DOCUMENTED CARBONATE SHELLS WHICH WERE COLLECTED PRIOR TO THE EFFECTS OF BOMB RADIOCARBON. WE HAVE DATED 19TH CENTURY FRESH WATER CARBONATE MATERIAL FROM THE HUDSON RIVER AND ESTABLISHED THE INHERITED AGE OF ESTUARINE CARBONATE SHELLS IN THE HUDSON ESTUARY TO BE A MAXIMUM OF 8JQ YRS. THE ACTUAL CORRECTION APPLIED IS BASED ON MEASUREMENTS OF THE C-13 CONTENT OF CARBONATE SHELLS TO ESTIMATE THE FRACTION OF MARINE CARBONATE MATERIAL PRESENT IN THE SAMPLE, AND TO INCORPORATE THE EFFECT OF GAS EXCHANGE BETWEEN THE ORIGINAL AQUEOUS BICARBONATE AND ATMOSPHERIC CARBON DIOXIDE, BOTH OF WHICH REDUCE THE AGE CORRECTION TO LESS THAN THE MAXIMUM OF 8OQ YRS.

1703 SIMPSON, H.J.; R.R. PAYNE

DREDGE SPOILS AND SEMAGE SLUDGE IN THE TRACE METAL BUDGET OF ESTUARINE COASTAL WATERS [1977]

US EPA, NARRAGANSETT, RI 206 PP

MANY REACTIVE POLLUTANTS/SUCH AS ZN. CU. PB. CS-137, PU-239. 240 AND PCBS APPEAR TO BE TRANSPORTED AND ACCUMULATED TOGETHER IN ASSOCIATION WITH FINE-GRAINED PARTICLES IN THE HUDSON RIVER ESTUARY. ANTHROPOGENIC INCREASES OF 3-6 TIMES NATURAL LEVELS OF ZN. CU, AND PB WERE FOUND FOR HUDSON SEDIMENTS. MOBILIZATION OF CD AND NI IN THE SEDIMENTS OF A SMALL EMBAYMENT OF THE HUDSON WITH VERY HIGH CONTAMINATION LEVELS APPEARS TO BE PRIMARILY BY RESUSPENSION OF FINE PARTICLES, ALTHOUGH ELEVATED CONCENTRATIONS OF CD IN PORE WATERS WERE ALSO OBSERVED. RADIOCARBON MEASUREMENTS INDICATE THE PREDOMINANT SOURCE OF ORGANIC CARBON IN YEW YORK HARBOR SEDIMENTS IS RECENT SEWAGE AND NOT PETROLEUM HYDROCARBON CONTAMINATION. A NEW ENZYMATIC TECHNIQUE WAS DEVELOPED TO TRACE THE DISTRIBUTION OF CELLULOSE, A SIGNIFICANT COMPONENT OF SEWAGE SLUDGE, IN COASTAL SEDIMENT. RADON-222, A NATURAL RADIOACTIVE GAS DISSOLVED IN THE HUDSON, IS SUPPLIED PRIMARILY FROM THE SEDIMENTS AT APPROXIMATELY TWICE THE RATE PREDICTED BY MOLECULAR DIFFUSION. METHANE MEASUREMENTS PROVIDED ADDITIONAL INFORMATION ON THE FLUX OF MATERIALS FROM SEDIMENTS. THE BEHAVIOR OF PHOSPHATE AND TRACE METALS DERIVED FROM SEWAGE WAS EXAMINED ON THE BASTS OF FIELD DATA AND THE USE OF SIMPLE MODELS TO EXAMINE MANAGEMENT ALTERNATIVES. THE MOST REASONABLE COURSE APPEARS TO BE COMPLETION OF SECONDARY SEWAGE TREATMENT PLANTS IN NEW YORK CITY AND MAJOR UPGRADING OF PRIMARY TREATMENT IN NJ. TERTIARY TREATMENT FOR NUTRIENT REMOVAL DOES NOT APPEAR TO OFFER AT PRESENT THE LIKELIHOOD OF SIGNIFICANT IMPROVEMENTS OF RECEIVING WATER QUALITY IN THE HUDSON ESTUARY. DISCHARGE FROM THE HUDSON ESTUARY APPEARS TO BE THE DOMINANT SOURCE OF SOLUBLE METALS TO THE ADJACENT COASTAL ZONE AND IF SOLUBLE TRACE METAL FLUXES WERE THE ONLY CRITERION FOR PLACEMENT OF DISCHARGE SITES FOR DREDGE SPOILS AND SEWAGE SLUDGE. THE PRESENT SETE WOULD APPEAR TO BE A REASONABLE ONE, SINCE ESTUARY DISCHARGE WILL PROBABLY DOMINATE SOLUBLE METAL TRANSPORT BUDGETS WHETHER OR NOT DUMPING IS CONTINUED AT THAT SITE.

1704 SIMPSON, H.J.; S.C. WILLIAMS; C.R. OLSEN; D.E. HAMMOND

NUTRIENT AND PARTICULATE MATTER BUDGETS IN URBAN ESTUARIES [1977]

PAGES 94-103 IN ESTUARIES, GEOPHYSICS, AND THE ENVIRONMENT. NAT'L ACAD OF SCI. WASHINGTON. DC

THE DISTRIBUTION OF PHOSPHATE IN THE HUDSON ESTUARY AND THE RATE OF LOADING FROM SEWAGE OUTFALLS IS DESCRIBED IN TERMS OF A

VERY SIMPLIFIED DESCRIPTION OF WATER CIRCULATION AND PHOSPHATE BEHAVIOR IN THE HARBOR REGION ADJACENT TO NEW YORK CITY.
PHOSPHATE IS THE NUTRIENT MOST FREQUENTLY CONSIDERED FOR NUTRIENT REMOVAL FROM SEWAGE EFFLUENT AND IS SOMEWHAT SIMPLER TO TREAT
IN ESTUARINE BUDGETS THAN NITROGEN. NUTRIENT DISTRIBUTIONS IN THE HUDSON ARE COMPARED WITH THOSE IN SAN FRANCISCO BAY TO
INDICATE THE FIRST-ORDER SIMILARITIES OF NUTRIENT-ALGAE REALTIONSHIPS IN THESE TWO SYSTEMS.

- 1705 SIMPSON, H.J.; C.R. OLSEN; R.F. BOPP; P.M. BOWER; R.M. TRIER; S.C. WILLIAMS
 - CESIUM-137 AS A TRACER FOR REACTIVE POLLUTANTS IN ESTUARINE SEDIMENTS [1978]
 - PAGES 102-113 IN 1ST AM-SOVIET SYMP ON CHEMICAL POLLUTANTS OF THE MARINE ENVIRON. US EPA. GULF BREEZE, FL

MANY REACTIVE POLLUTANTS DISCHARGED TO NATURAL WATERS BECOME ASSOCIATED WITH FINE-GRAINED PARTICLES. ACCUMULATION AND TRANSPORT PATTERNS OF FINE PARTICLES IN ESTUARIES AND OTHER NATURAL WATER SYSTEMS CAN BE QUITE COMPLEX AND DIFFICULT TO PREDICT. CS-137, A FISSION PRODUCT WITH A 30-YR HALF LIFE, HAS BEEN ADDED IN READILY MEASUREABLE QUANTITIES TO NATURAL WATERS THROUGHOUT THE GLOBE AS A RESULT OF FALLOUT FROM ATMOSPHERIC NUCLEAR WEAPONS TESTING. MEASUREMENT OF CS-137 IN ESTUARINE SEDIMENTS CAN BE USED TO RAPIDLY ESTABLISH THE DISTRIBUTION OF RECENT (LAST TWO DECADES) FINE-GRAINED SEDIMENTS. IN THE SEDIMENTS OF THE HUDSON RIVER ESTUARY THE AMOUNT OF CS-137 HAS BEEN FOUND TO CORRELATE WITH THE DISTRIBUTION OF A WIDE RANGE OF REACTIVE POLLUTANTS IN SEDIMENT DEPTH PROFILES AS WELL AS IN SURFACE SEDIMENT CONCENTRATIONS. THE POLLUTANTS FOR WHICH WE HAVE FOUND SUCH A COVARIANCE WITH CS-137 INCLUDE PU-239/240, PCBS, ZN, CU, PB, CD AND NI.

- 1706 SIMPSON, H.J.
 - DREDGE SPUILS AND SEWAGE SLUDGE IN THE TRACE METAL BUDGET OF ESTUARINE AND COASTAL WATERS [1979]
 - ECOLOGY RESEARCH SERIES. US EPA, NARRAGANSETT, RI 223 PP

MANY REACTIVE POLLUTANTS, SUCH AS ZN, CU, PB. CS-137, PU-239/240 AND PCBS APPEAR TO BE TRANSPORTED AND ACCUMULATED TOGETHER IN ASSOCIATION WITH FINE-GRAINED PARTICLES IN THE HUDSON RIVER ESTUARY. ANTHROPOGENIC INCREASES OF 3-6 TIMES NATURAL LEVELS OF ZN, CU, AND PB WERE FOUND FOR HUDSON SEDIMENTS. MOBILIZATION OF CD AND NI IN THE SEDIMENTS OF A SMALL EMBAYMENT OF THE HUDSON WITH VERY HIGH CONTAMINATION LEVELS APPEARS TO BE PRIMARILY BY RESUSPENSION OF FINE PARTICLES, ALTHOUGH ELEVATED CONCENTRATIONS OF CD IN PORE WATERS WERE ALSO OBSERVED. RADIOCARBON MEASUREMENTS INDICATE THE PREDOMINANT SOURCE OF ORGANIC CARBON IN NEW YORK HARBOR SEDIMENTS IS RECENT SEWAGE AND NOT PETROLEUM HYDROCARBON CONTAMINATION. A NEW ENZYMATIC TECHNIQUE WAS DEVELOPED TO TRACE THE DISTRIBUTION OF CELLULOSE, A SIGNIFICANT COMPONENT OF SEWAGE SLUDGE, IN COASTAL SEDIMENTS. RADON-222, A NATURAL RADIOACTIVE GAS DISSOLVED IN THE HUDSON, IS SUPPLIED PRIMARILY FROM THE SEDIMENTS AT APPROXIMATELY TWICE THE RATE PREDICTED BY MOLECULAR DIFFUSION. METHANE MEASUREMENTS PROVIDED ADDITIONAL INFORMATION ON THE FLUX OF MATERIALS FROM SEDIMENTS. THE BEHAVIOR OF PHOSPHATE AND TRACE METALS DERIVED FROM SEWAGE WAS EXAMINED ON THE BASIS OF FIELD DATA AND THE USE OF SIMPLE MODELS TO EXAMINE MANAGEMENT ALTERNATIVES. THE MOST REASONABLE COURSE APPEARS TO BE COMPLETION OF SECONDARY SEWAGE TREATMENT PLANTS IN NEW YORK CITY AND MAJOR UPGRADING OF PRIMARY TREATMENT IN NEW JERSEY.

- 1707 SIMPSON, H.J.; R.M. TRIER; C.R. OLSEN
 - TRANSPORT OF PLUTONIUM BY RIVERS [1983]
 - PAGES 684-690 IN W.C. HANSON, ED. TRANSURANIC ELEMENTS IN THE ENVIRONMENT. US DOE, WASHINGTON, DC

A NUMBER OF NUCLEAR FACILITIES ARE LOCATED ON RIVERS AND ESTUARIES, AND THUS IT IS IMPORTANT TO UNDERSTAND THE PRIMARY TRANSPORT PATHWAYS OF TRANSURANIC ELEMENTS IN SUCH SYSTEMS. RELATIVELY FEW FIELD STUDIES OF POINT-SOURCE RELEASES OF PLUTONIUM TO RIVER SYSTEMS HAVE BEEN MADE UP TO NOW. INFORMATION FROM RESEARCH ON THE BEHAVIOR OF FALLOUT PLUTONIUM IN RIVERS CAN, HOWEVER, PROVIDE SOME USEFUL INSIGHTS. THE RANGE OF VARIATION OF SOLUBLE-PHASE FALLOUT PU-239/240, IN FRESHWATERS AND ESTUARIES IS RELATIVELY SMALL (0.3 +/- 0.2 FCI/L) AND APPEARS TO BE "BUFFERED" TO SOME EXTENT BY THE LARGE RESERVOIR OF FALLOUT

PU-239/240 IN SOILS AND THE RELATIVE UNIFORMITY OF THE SPECIFIC ACTIVITY ON SOIL PARTICLES (APPROXIMATELY 20 PCI/KG). THE HUDSON RIVER, HUDSON ESTUARY, NEW YORK CITY TAP WATER, NEW YORK BIGHT, AND GREAT LAKES ALL HAVE REASONABLY SIMILAR CONCENTRATIONS OF SOLUBLE-PHASE PU-23)/240 DESPITE THE LARGE RANGE OF CHEMICAL AND OTHER CHARACTERISTICS. THE DISTRIBUTION OF FALLOUT PU-239/24D BETWEEN SOLUBLE PHASES AND PARTICLES IN RIVERS CAN BE APPROXIMATED BY A PARTITION COEFFICIENT OF ABOUT 10EXP-5. FOR SUSPENDED PARTICLE LOADS OF ABOUT 10AG/L. WHICH ARE REASONABLY TYPICAL OF LOW-FLOW SUMMER CONDITIONS FOR RIVERS IN THE NOTTHEASTERN US. PU-239/24D IS TRANSPORTED BY BOTH SOLUBLE PHASES AND PARTICLES IN APPROXIMATELY EQUAL AMOUNTS. FOR HIGHER SUSPENDED LOADS. TYPICAL OF NORTHEASTERN RIVERS DURING GREATER FRESHWATER DISCHARGE AND OF MOST OTHER LARGE. NONTROPICAL RIVERS, THE TRANSPORT OF FALLOUT PU-239/247 IS CLEARLY DOMINATED BY PARTICLES (BY ABOUT AN ORDER OF MAGNITUDE). FOR ADD THE SUSPENDED BY OF BUILDING A CT MUINOTULE TO SAUGHT AND THE SUSPENDED TO THE SUSPENDE AND THE MOBILE PORTIONS OF THE FINE-GRAIN SEDIMENTS AND SUBSEQUENT DOWNSTREAM MOVEMENT WITH THE FINE PARTICLES. SINCE THE KINETICS AND DOWNSTREAM TRANSPORT PATHWAYS OF FINE PARTICLES OF A PARTICULAR RIVER DEPEND ON A NUMBER OF FACTORS PECULIAR TO EACH SYSTEM, THE MOST DIRECT APPROACH WOULD BE TO EXPLOIT THE PRESENCE OF "TRACERS" ALREADY PRESENT TO DEFINE THE PARAMETERS OF MOST RELEVANCE TO TRANSURANIC-ELEMENT TRANSPORT OVER VARIOUS TIME SCALES. NUCLEAR FACILITIES OFTEN RELEASE SUFFICIENT QUANTITIES OF FISSION AND ACTIVIATION PRODUCTS DURING NORMAL OPERATIONS WHICH CAN BE USED AS INDICATORS OF FINE-PARTICLE TRANSPORT PATHWAYS. THE BEHAVIOR OF THESE RADIONUCLIDES CANNOT BE EXPECTED TO BE IDENTICAL TO TRANSURANIC ELEMENTS IN RIVER SYSTEMS. BUT THOSE ELEMENTS WITH STRONG PARTICLE-PHASE ASSOCIATIONS CAN PROVIDE VERY USEFUL INFORMATION FOR SITES OF PRIMARY INTEREST FOR TRANSURANIC-ELEMENT TRANSPORT ASSESSMENTS.

1708 SIMPSON, K.W.; R.C. MT. PLEASANT; B. BUSH

THE USE OF ARTIFICIAL SUBSTRATES FOR MONITORING TOXIC ORGANIC COMPOUNDS: A PRELIMINARY EVALUATION INVOLVING THE PC9 PROBLEM IN THE HUDSON RIVER, NEW YORK [1977]

US EPA, EASTON, MD 17 PP

THE FOLLOWING REPORT CONCERNS ONGOINS EFFORTS TO USE MULTIPLATE SAMPLING OF MACROINVERTEBRATES FOR MONITORING PCB CONTAMINATION IN THE SURFACE WATERS OF NY. THIS METHOD SHOWS GREAT PROMISE FOR PROVIDING INFORMATION NOT AVAILABLE FROM MORE CONVENTIONAL DATA, AND IT MAY BE APPLICABLE TO STUDIES OF OTHER ENVIRONMENTAL CONTAMINANTS. NORMALIZED PCB LEVELS TO LIPID COVTENT ARE MORE UNIFORM THAN EXPRESSED PER UNIT DRY WEIGHT. EVEN WITH THE ABATEMENT OF THE MAIN POINT DISCHARGES IN FORT EDWARD. PCB CONTAMINATION IS A CONTINUING PROBLEM IN HUDSON RIVER WATER. CONCENTRATIONS ARE HIGHEST IN THE CANALIZED UPPER HUDSON BUT SEEM TO BE RECOMING MORE EVENLY DISTRIBUTED THROUGHOUT THE RIVER WITH THE PASSAGE OF TIME. MACROINVERTEBRATES IN THE ESTUARY AS FAR SOUTH AS CASTLETON HAVE SIGNIFICANT PCB LEVELS.

1709 SINDERMANN, C.J.

AN ASSESSMENT OF HUMAN IMPACT ON COASTAL ECOSYSTEMS AND LIVING RESOURCES OF THE NEW YORK BIGHT [1974]

MACFC, NOAA, HIGHLANDS, NJ 6 PP

REDUCTION OF SPECIES DIVERSITY AND BIJMASS, ANTI-BIOTIC AND HEAVY METAL RESISTANCE IN POLLUTION BACTERIA, INCREASED OCCURRENCE OF FIN ROT AND GILL DISORDERS, AND LOJER FISH BIOMASS INDICATE DEGRADATION IN NEW YORK BIGHT.

1710 SINDERMANN. C.J.

EFFECTS OF COASTAL POLLUTION ON FISH AND FISHERIES--WITH PARTICULAR REFERENCE TO THE MIDDLE ATLANTIC BIGHT [1976]

PAGES 281-301 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

INDUSTRIAL CONTAMINATION OF COASTAL WATERS EXERTS GREAT LOCAL IMPACT ON FISH AND SHELLFISH POPULATIONS. KNOWN OFFENDERS INCLUDE

HEAVY METALS, HALOGENATED HYDROCARBONS, AND PETROLEUM RESIDUES. EVEN IN LOW CONCENTRATIONS, MANY INDUSTRIAL CHEMICALS HAVE PROFOUND EFFECTS ON SOME OR ALL LIFE STAGES OF MARINE ANIMALS; EFFECTS MAY BE REFLECTED IN MORTALITY, INCREASED OCCURRENCE OF ABNORMALITIES, AND PHYSIOLOGICAL DISTURBANCES, WITH RESULTANT SLOW GROWTH OR SPAWNING INHIBITION. ORDERLY DEVELOPMENT OF MARINE AQUACULTURE IN COASTAL WATERS CAN BE SEVERLY IMPEDED BY CONTAMINANT-RELATED PUBLIC HEALTH PROBLEMS, BOTH CHEMICAL AND MICROBIAL, AND BY CONTAMINANT-INDUCED PROBLEMS ASSOCIATED WITH SURVIVAL, REPRODUCTION, AND GROWTH OF CULTIVATED ANIMALS. LONG TERM EFFECTS ON SPORTFISH ABUNDANCE ARE DIFFICULT TO QUANTIFY. AVAILABLE EVIDENCE SUGGESTS THAT ENVIRONMENTAL STRESS MAY PRECIPITATE DISEASES IN FISH AND SHELLFISH. PUBLIC HEALTH ASPECTS ARE PRESENTLY CONFINED LARGELY TO THOSE MICROORGANISMS AND TOXIC SUBSTANCES WHICH DO NOT PRODUCE OBVIOUS DISEASE IN FISH AND SHELLFISH BUT WHICH MAY BE ACCUMULATED OR TRANSMITTED PASSIVELY TO HUMANS FROM AQUATIC ANIMAL VECTORS (HEPATITIS, CHOLERA, TYPHOID, AND MERCURY POISONING). A FEW PATHOGENS OF FISH AND SHELLFISH MAY BE TRANSMISSIBLE TO HUMANS, BUT A CLEAR ROLE FOR POLLUTANT EFFECTS HAS NOT BEEN DEMONSTRATED. EVIDENCE EXISTS FOR LOCALIZED EFFECTS ON FISHERIES. BUT THERE IS AS YET LITTLE SPECIFIC EVIDENCE OF WIDESPREAD DAMAGE TO MAJOR FISHERIES RESOURCE POPULATIONS RESULTING FROM COASTAL POLLUTION.

1711 SINDERMANN, C.J.

ENVIRONMENTAL STRESS IN OCEANIC BIVALVE MOLLUSC POPULATIONS [1979]

REP 800 71606. NOAA, BOULDER, CO 12 PP NTIS-PB80-215 056

STRESSES OF NATURAL AND MAN-INDUCED ORIGIN CAN AND DO AFFECT OCEANIC BIVALVE POPULATIONS AS WELL AS ESTUARINE SPECIES. HUMAN FACTORS INCLUDE INTENSIVE EXPLOITATION, WITH EFFECTS THAT CAN BE DEMONSTRATED; AND INCREASING LEVELS OF COASTAL POLLUTION, WITH EFFECTS THAT CAN ONLY PARTIALLY BE UNDERSTOOD. NATURAL FACTORS, INCLUDING OXYGEN DEPLETION, CAN HAVE SEVERE IMPACTS ON OCEANIC SHELLFISH POPULATIONS. OCEAN DUMPING PLAYS AN IMPORTANT BUT NOT EXCLUSIVE ROLE. DIRECT EVIDENCE IS PRINCIPALLY IN THE FORM OF ELEVATED HEAVY METAL LEVELS, AND ELEVATED COLIFORM COUNTS IN SAMPLES FROM SUCH POPULATIONS. AMONG THE NATURAL CAUSES OF STRESS, LARGE-SCALE NATURAL OCEANOGRAPHIC PHENOMENA, POSSIBLY INFLUENCED BY HUMAN INPUTS OF NUTRIENT CHEMICALS, CAN HAVE PROFOUND EFFECTS ON OCEANIC BIVALVE POPULATIONS, AS WAS DEMONSTRATED BY THE DEVELOPMENT OF A LARGE ANOXIC ZONE OFF THE NJ COAST IN 1976. UNUSUAL METEOROLOGICAL AND HYDROGRAPHIC CONDITIONS, COMBINED WITH AN EXTENSIVE AND PERSISTENT ALGAL BLOOM, HAVE BEEN IDENTIFIED AS THE CAUSE OF THE ANOXIA, WHICH DESTROYED AN ESTIMATED 147,000 METRIC TONS OF SURF CLAMS, 6,600 METRIC TONS OF OCEAN QUAHOGS, AND LESSER AMOUNTS OF SEA SCALLOPS. PARASITISM AND DISEASE, CLEARLY DEMONSTRATED TO AFFECT ESTUARINE AND NEARSHORE BIVALVE MOLLUSCS, HAVE NOT YET BEEN SHOWN TO CAUSE MASS MORTALITIES IN OCEANIC BIVALVES.

1712 SINDERMANN, C.J.

POLLUTION-ASSOCIATED DISEASES AND ABNORMALITIES OF FISH AND SHELLFISH-+A REVIEW [1979]

FISH BULL 76(4):717-749

THE RELATIONSHIP OF DISEASE AND ENVIRONMENTAL STRESS IS BECOMING INCREASINGLY WELL ESTABLISHED WITH TIME. HUMAN ACTIVITIES—PARTICULARY THOSE THAT RESULT IN CHEMICAL ADDITIONS TO THE COASTAL ESTUARINE ENVIRONMENT—HAVE INCREASED THE POTENTIAL STRESSES ON FISH AND SHELLFISH INHABITING THOSE AREAS. CIRCUMSTANTIAL EVIDENCE FOR ASSOCIATIONS OF PULLUTANTS WITH CERTAIN FISH AND SHELLFISH DISEASES AND ABNORMALITIES IS ACCUMULATING. THIS PAPER ATTEMPTS TO REVIEW AND EVALUATE EXISTING INFORMATION ABOUT ASSOCIATIONS OF DISEASES AND MARINE ENVIRONMENTAL DEGRADATION. EMPHASIS HAS BEEN PLACED ON: DISEASES CAUSED BY CONTAMINANT STRESS AND RELATED FACULTATIVE PATHOGENS; STRESS—PROVOKED LATENT INFECTIONS; ENVIRONMENTALLY INDUCED ABNORMALITIES; GENETIC ABNORMALITIES ASSOCIATED WITH MUTAGENIC AND OTHER PROPERTIES OF CONTAMINANTS; EXPERIMENTALLY INDUCED LESIONS; CONTAMINANT EFFECTS ON RESISTANCE AND IMMUNE RESPONSES; AND POLLUTANT—PARASITE INTERACTIONS. THERE ARE SEVERAL DISEASES, PARTICULARLY FIN EROSION AND ULCERS IN FISH AND SHELL DISEASE IN CRUSTACEANS, FOR WHICH A RELATIONSHIP WITH POLLUTION SEEMS EVIDENT, AND THERE ARE A NUMBER OF OTHER DISEASES OR ABNORMALTIES (SUCH AS CERTAIN NEOPLASMS AND SKELETAL ANOMALIES) FOR WHICH A RELATIONSHIP WITH POLLUTION IS INDICATED. FURTHERMORE, THERE IS SOME EVIDENCE THAT CERTAIN LATENT VIRAL INFECTIONS MAY BE PROVOKED INTO PATENCY BY ENVIRONMENTAL STRESS.

1713 SINDERMANN, C.J.

STATUS OF NORTHWEST ATLANTIC HERRING STOCKS OF CONCERN TO THE UNITED STATES [1979]

TECH REP 23. SANDY HOOK LAB, HIGHLANDS, NJ 449 PP

THOSE FACTORS WHICH SEEM MOST IMPORTANT TO SUCCESS OF REPRODUCTION AND SURVIVAL OF LARVAE HAVE RECENTLY BEEN SUMMARIZED AS: 1) BOTTOM CONDITIONS (INCLUDING MAN-MADE DISTURBANCES) AT SITES OF SPAWNING AND EGG DEPOSITION; 2) OCEANIC CONDITIONS (CURRENTS, WINDS, OCEAN CLIMATE) WHICH CAN INFLUENCE SPAWNING MIGRATIONS AND NORMAL DISPERSAL OF LARVAE TO NURSERY AREAS; 3) WATER TEMPERATURE, WHICH CAN AFFECT TIMELY ARRIVAL OF ADULTS AT SPAWNING SITES AND SYNCHRONIZATION OF FOOD PRODUCTION WITH LARVAL DEVELOPMENT; 4) FOOD AVAILABILITY (KIND, SIZE, ABUNDANCE), WHICH CAN BE ALL-IMPORTANT TO LARVAL SURVIVAL; 5) PREDATOR ACTIVITY (TIMING, INTENSITY) WHICH CAN AFFECT EGG AND LARVAL DRASTICALLY. AT PRESENT—WITH HERRING STOCKS OF THE WESTERN NORTH ATLANTIC AT A LOW EBB, BUT WITH A POTENTIALLY EFFECTIVE REGULATORY MECHANISM (EXTENDED FISHERIES JURISDICTION) FINALLY IN PLACE—THERE IS OPPORTUNITY FOR SCIENTIFIC MANAGEMENT OF HERRING STOCKS OF CONCERN TO THE US.

1714 SINDERMANN, C.J.

USE OF PATHOLOGICAL EFFECTS OF POLLUTANTS IN MARINE ENVIRONMENTAL MONITORING PROGRAMS [1979]

PAP 15. WORKSHOP ON PROBLEMS OF MONITORING BIOL EFFECTS OF POLLUTION IN THE SEA. ICES, COPENHAGEN, DENMARK 17 PP

STRESS FROM POLLUTANTS MAY BE EXPRESSED IN MARINE ANIMALS IN A NUMBER OF WAYS, INCLUDING DIMINISHED REPRODUCTIVE ACTIVITIES;
DAMAGE TO GENETIC MATERIAL OF THE EGG OR EMBRYO, WITH RESULTING MORTALITY OR ABNORMAL DEVELOPMENT; DIRECT CHEMICAL DAMAGE TO
CELL MEMBRANES OR TISSUES; MODIFICATION OF PHYSIOLOGICAL AND BIOCHEMICAL REACTIONS; CHANGES IN BEHAVIOR, OFTEN DUE TO CHEMICAL
DAMAGE TO SENSORY EQUIPMENT; INCREASED INFECTION PRESSURE FROM FACULTATIVE MICROBIAL PATHOGENS; AND REDUCED RESISTANCE TO
INFECTION. SOME OF THE MORPHOLOGICAL MANIFESTATIONS OF STRESS MAY BE USEFUL AS INDICATORS IN POLLUTION MONITORING PROGRAMS.
AMONG THE NUMEROUS PATHOLOGICAL SIGNS THAT HAVE BEEN ASSOCIATED WITH POLLUTION STRESS, CHROMOSOMAL ANOMALIES AND SKELETAL
ABNORMALITIES ARE AMENABLE TO QUANTIFICATION AND SEEM SATISFACTORY AS MONITORING APPROACHES. CERTAIN NEOPLASMS IN MOLLUSCS ALSO
OFFER PROMISE. SOME OF THE BEST QUALITATIVE INDICATORS OF POLLUTION—THOSE WITH THE MOST OBVIOUS ASSOCIATION WITH DEGRADED
ENVIRONMENTS (FIN ROT, ULCERS, AND SHELL EROSION IN CRUSTACEA)—ARE MORE DIFFICULT TO QUANTIFY BUT COULD HAVE UTILITY. ANIMAL
TISSUES RESPOND TO TRAUMA IN SPECIFIC CIRCUMSCRIBED PREDICTABLE WAYS, SO IT IS UNLIKELY THAT UNIQUE PATHOLOGICAL INDICATOR OF POLLUTION WILL
BE FOUND; RATHER SEVERAL CRITERIA SHOULD BE SELECTED AND UTILIZED, BASED ON DIFFERENT BIOLOGICAL INDICATOR OF POLLUTION WILL
PHYSIOLOGY, BIOCHEMISTRY, GENETICS, BEHAVIOR, ECOLOGY), EACH PROVIDING ITS OWN INDEPENDENT PERSPECTIVE.

1715 SINGH, N.P.; P. LINSALATA; R. GENTRY; M.E. WRENN

DETERMINATION OF PLUTONIUM IN SEDIMENTS BY SOLVENT EXTRACTION AND ALPHA SPECTROMETRY [1979]

ANAL CHIM ACTA 111:265-274

A SIMPLE TECHNIQUE FOR THE DETERMINATION OF ENVIRONMENTAL LEVELS OF PLUTONIUM IN A HIGHLY COMPLEX MATRIX (SEDIMENTS CONTAINING VERY HIGH AMOUNTS OF IRON AND OTHER METALS) IS REPORTED. THE SEDIMENTS, COLLECTED FROM THE HUDSON RIVER ESTUARY WITH AN EMORY DREDGE, WERE HAND-HOMOGENIZED BEFORE A SAMPLE ALIQUOT WAS TAKEN. SAMPLES WERE AIR-DRIED, WEIGHED, SPIKED WITH PU-242 TRACER, AND HEATED AT 400 C FOR 24 H. PLUTONIUM WAS LEACHED FROM THE SEDIMENT WITH AN ACID MIXTURE. THE LEACHATE WAS FILTERED, AND PLUTONIUM WAS COPRECIPITATED WITH FE BY ADDING AMMONIA SOLUTION. AFTER DISSOLUTION, PU WAS EXTRACTED WITH 20% TRILAURYLAMINE IN XYLENE, THE EXTRACTS WERE THOROUGHLY ACID-WASHED TO REMOVE URANIUM AND THORIUM TRACES, AND PU WAS THEN BACK-EXTRACTED WITH 2 M SULFURIC ACID PRIOR TO ELECTRODEPOSITION ONTO A PLATINUM PLANCHET. THE ISOTOPIC COMPOSITION OF PU WAS DETERMINED BY ALPHA SPECTROSCOPY. TRACER YIELD AND PU CONCENTRATIONS DETERMINED ON ALIQUOTS OF THE SAME SAMPLES BY THIS METHOD AND BY AN ION-EXCHANGE TECHNIQUE WERE NOT SIGNIFICANTLY DIFFERENT.

1716 SIROIS, D.L.; S.W. FREDRICK

PHYTOPLANKTON AND PRIMARY PRODUCTION IN THE LOWER HUDSON RIVER ESTUARY [1978]

ESTUARINE COASTAL MAR SCI 7(5):413-423

A SURVEY OF THE REACHES OF THE HUDSON RIVER BETWEEN NEW YORK HARBOR AND POUGHKEEPSIE SHOWED THAT THE SPATIAL DISTRIBUTION OF PHYTOPLANKTON OCCURRED IN LONGITUDINAL GRADIENTS ALONG THE ESTUARY WITH MAXIMUM STANDING CROPS OF PHYTOPLANKTON FOUND IN THE TAPPAN ZEE AND HAVERSTRAW BAY. THE PATTERNS OF DISTRIBUTION OF GROSS PRIMARY PRODUCTIVITY CLOSELY CORRESPONDED TO THE TEMPORAL AND SPATIAL DISTRIBUTION OF PHYTOPLANKTON STANDING CROP. ESTIMATED DAILY AREAL GROSS PRIMARY PRODUCTION IN THE HUDSON RIVER ESTUARY APPEARED COMPARABLE TO THAT IN OTHER EAST COAST ESTUARIES AND ESTIMATED ANNUAL GROSS PRIMARY PRODUCTION IN MOST OF THE ESTUARY APPEARED TO BE IN THE RANGE (100-200 G C/M2/YR) CHARACTERISTIC OF COASTAL ENVIRONMENTS NEAR NEW YORK. IN THE SHALLOW WATERS OF THE TAPPAN ZEE AND HAVERSTRAW BAY ANNUAL PRIMARY PRODUCTION APPEARED GREATER AND LIKELY APPROXIMATES MAXIMUM PRODUCTION FOUND IN OTHER RIVER MOUTH ESTUARIES.

1717 SISSELMAN, A.H.

PROTEIN PRODUCTION AND NITROGEN CONVERSION IN AN EFFLUENT FOOD CHAIN UTILIZING THE FILAMENTOUS ALGA, SPIROGYRA SP. AND THE MINNOA, PIMEPHALES PROMELAS [1978]

M.A. THESIS. CUNY, NEW YORK, NY NP

A THO-STEP SEMAGE EFFLUENT BASED FILAMENTOUS ALGA, FINFISH FOOD CHAIN WAS ESTABLISHED AT THE TALLMAN ISLAND EFFLUENT AQUACULTURE LABORATORY IN QUEENS, NY. THE GREEN ALGA SPIROGYRA SP. WAS CULTURED IN SECONDARILY TREATED SEMAGE EFFLUENT. DRY BIOMASS PRODUCTION AND PROTEIN PRODUCTION VARIED FROM 3.16-5.14 G M2/D AND 0.73-2.63 G M2/D RESPECTIVELY OVER THE EXPERIMENTAL PERIOD. DISSOLVED INORGANIC NITROGEN UPTAKE AVERAGED 0.258 G NITROGEN M2/D OR APPROXIMATELY 47% OF INCOMING NITROGEN. THE MINNOW PIMEPHALES PROMELAS, FED ON THE SPIROGYRA SP, INCREASED IN HEIGHT BY 61-91% PER FISH OVER THE EXPERIMENTAL PERIOD. FOOD CONVERSION RATIOS AVERAGED 3.49:1 AND PROTEIN CONVERSION EFFICIENCES AVERAGED 45.87%. ANALYTICAL METHODS UTILIZED INCLUDED THE MODIFIED LOWRY METHOD FOR PARTICULATE PROTEIN ANALYSIS, DISSOLVED INORGANIC NITROGEN ANALYSIS USING AN AUTO ANALYZER. AND VARIOUS ALGAL CULTURING TECHNIQUES. INCIDENT LIGHT, TEMPERATURE, AND PH WERE MONITORED IN AN EFFORT TO DISCOVER IMPORTANT GROWTH-LIMITING FACTORS. LIGHT ENERGY WAS FOUND TO BE THE CRITICAL FACTOR IN LIMITING SPIROGYRA SP. PRODUCTION. IN CONCLUSION, THE SYSTEM EMPLOYED PROVED SUCCESSFUL AS A MEANS OF RECYCLING NUTRIENTS BY CONVERTING DISSOLVED INTROGEN INTO PLANT AND ARIMAL PROTEIN. THIS SYSTEM IS ONE POSSIBLE SOLUTION TO THE PROBLEM OF SEWAGE POLLUTION CONTROL.

1718 SKEA, J.C.; H.A. SIMONIN; H.J. DEAN; J.R. COLQUHOUN; J.J. SPAGNOLI; G.D. VEITH

BIOACCUMULATION OF AROCLOR 1016 IN HUDSON RIVER FISH [1979]

BULL ENVIRON CONTAM TOXICOL 22(3):332-336

AS PART OF A STUDY OF PCB CONTAMINATION IN THE HUDSON RIVER, 47 FISH FROM AN UNCONTAMINATED AREA WERE PLACED IN CAGES IN THE HUDSON UPSTREAM AND DOWNSTREAM OF A SUSPECTED PCB SOURCE, AND LATER ASSAYED FOR AROCLOR 1016 CONTENT. FISH FROM THE POLLUTED AREA ACCUMULATED AROCLOR RAPIDLY. WITH LEVELS OF 1.8 TO 3.8 G/G COMPARED WITH <0.02 G/G IN CONTROL FISH AND 0.17 G/L IN THE RIVER ITSELF. THIS SUGGESTS A 14-DAY BIOACCUMULATION FACTOR OF 15,000-27,000. PCB RESIDUES WERE SIMILAR IN THE 4 FISH SPECIES EXAMINED, BUT SHOWED A CORRELATION WITH FAT CONTENT AND WEIGHT OF THE FISH. RESULTS FROM THIS FIELD STUDY COMPARE FAVOURABLY WITH RESULTS OBTAINED IN THE LABORATORY BY OTHER RESEARCHERS.

1719 SLACK, J.R.; T. WYANT

AN OILSPILL RISK ANALYSIS FOR THE MID-ATLANTIC (PROPOSED SALE 49) OUTER CONTINENTAL SHELF LEASE AREA (1978)

WATER RESOURCES INVESTIG 78-56. USGS, HARTFORD, CT 79 PP

AN OILSPILL RISK ANALYSIS WAS CONDUCTED TO DETERMINE THE RELATIVE ENVIRONMENTAL HAZARDS OF DEVELOPING OIL IN DIFFERENT REGIONS OF THE MID-ATLANTIC OUTER CONTINENTAL SHELF LEASE AREA. THE STUDY ANALYZED THE PROBABILITY OF SPILL OCCURRENCE, LIKELY PATHS OF THE SFILLED OIL, AND LOCATIONS IN SPACE AND TIME OF SUCH OBJECTS AS RECREATIONAL AND BIOLOGICAL RESOURCES LIKELY TO BE VULNERABLE. THESE RESULTS ARE COMBINED TO YIELD ESTIMATES OF THE OVERALL OILSPILL RISK ASSOCIATED WITH DEVELOPMENT OF THE PROPOSED LEASE AREA. THE ANALYSIS IMPLICITLY INCLUDES ESTIMATES OF WEATHERING RATES AND SLICK DISPERSION AND AN INDICATION OF THE POSSIBLE MITIGATING EFFECTS OF CLEANUPS. ASSUMING THAT ECONOMICALLY RECOVERABLE AMOUNTS OF PETROLEUM ARE FOUND IN THE AREA, THE LEASING OF THE TRACTS PROPOSED FOR SALE 49 WILL INCREASE THE EXPECTED NUMBER OF SPILLS BY ABOUT 20-25% OVER THE NUMBER EXPECTED FROM THE EXISTING (SALE 40) LEASES. THE PROBABILITY THAT AN OBJECT SUCH AS LAND WILL BE CONTACTED BY A SPILL IS INCREASED BY AT MOST FIVE PERCENT.

1720 SLEIGHT, M.C.; D.E. GRANDSTAFF

ALUMINUM CONCENTRATIONS IN THE MULLICA RIVER-GREAT BAY ESTUARY [1978]

EOS: TRANS AM GEOPHYS UNION 59(4):290

DISSOLVED ALUMINUM IN FILTERED WATER (0.45 MICRONS) FROM THE MULLICA RIVER-GREAT BAY ESTUARY, NJ, AND SIX NORTHEASTERN US RIVERS WAS ANALYZED BY A FLUORIMETRIC METHOD USING MANGANON (2,2°-(METHYLIDYNENTRILO)DIPHENOL). THE AL CONTENT OF THE SIX RIVERS RANGED FROM 4-40 MICRONS/L, WITH AN AVERAGE APPROXIMATELY = 17 MICRONS/L (NOT CORRECTED FOR DISCHARGE). DURING THE 6 MONTH DESERVATION PERIOD, THE MULLICA RIVER WATER AL CONTENT AVERAGED APPROXIMATELY = 35 MICRONS/L. IN GREAT BAY ESTUARY, THE AL EXHIBITED DEFINITE NON-CONSERVATIVE BEHAVIOR, WITH UP TO 90% REMOVAL OF THE AL AT SALINITIES LESS THAN 10 PPT. THIS BEHAVIOR IS SIMILAR TO THAT PREVIOUSLY OBSERVED FOR IRON (COONLEY ET AL, 1971). THE CONCENTRATION OF AL APPEARS TO BE CONTROLLED BY THE SOLUPILITY OF CRYSTALLINE GIBBSITE. THE ESTIMATED FLUX OF DISSOLVED AL FROM THE ESTUARY INTO THE OCEAN IS LESS THAN 4 MICRONS/L. ASSUMING THESE DATA ARE APPROXIMATELY REPRESENTATIVE, WE CALCULATE AN OCEANIC RESIDENCE TIME FOR AL OF 1-2x10exp4 YEARS, AS OPPOSED TO SHORTER VALUES (APPROXIMATELY = 200 YEARS) CALCULATION FROM PREVIOUS YEARS.

1721 SMALL, M.M.

FRESH WATER FROM SEWAGE ON LONG ISLAND [1976]

BNL, UPTON, NY NP

SMALL SEWAGE PURIFICATION SYSTEMS ADEQUATE FOR ABOUT 250 HOMES ARE BEING TESTED FOR THE RETURN OF DRINKING QUALITY FRESH WATER TO THE LOCAL WATER TABLE. ONE SYSTEM CONSISTS OF A GRASS MEADOW WHICH SLOPES INTO A PLANTED MARSH WHICH MERGES INTO A POND WHICH IS STOCKED WITH FISH. SEWAGE IS APPLIED AT THE TOP OF THE MEADOW AND FLOWS DOWN THE GRASSED AREA PERMEATING THE SOIL AND GRASS ROOTS; IT THEN PASSES THROUGH THE MARSH SOILS AND AROUND THE MARSH PLANT STALKS AND ROOTS AND INTO THE POND. THE MARSH POND ARE MAINTAINED AT A CONSTANT LEVEL BY AN OVERFLOW PIPE. FRESH, DRINKABLE WATER FLOWS OUT OF THIS POND OVERFLOW. THE SECOND SYSTEM IS SIMPLE HAVING ONLY A SLIGHTLY LARGER MARSH FOLLOWED BY THE SAME SIZE POND. NEITHER SYSTEM PRODUCED ANY SLUDGE OR OBJECTIONABLE ODORS. FURTHER RESEARCH WILL CONCENTRATE ON VIRUS AND PATHOGEN REMOVAL EFFICIENCY.

1722 SMAYDA, T.J.

PLANKTON PROCESSES IN MID-ATLANTIC HEARSHORE AND SHELF WATERS AND ENERGY-RELATED ACTIVITIES [1975]

PAGES 70-95 IN B. MANOWITZ, ED. EFFECTS OF ENERGY-RELATED ACTIVITIES ON THE ATLANTIC CONTINENTAL SHELF, PROC OF CONFERENCE, BROOKHAVEN NAT'L LAB. 10-12 NOV 1975. BNL. UPTON, NY

PLANKION PROCESSES IN THE NEARSHORE AND SHELF WATERS OF THE MID-ATLANTIC REGION COLLECTIVELY EXHIBIT THE FOLLOWING

CHARACTERISTICS: 1) THERE ARE SEASONAL CYCLES IN PHYTOPLANKTON ABUNDANCE AND PRODUCTIVITY, VARYING REGIONALLY; 2) PHYTOPLANKTON GROWTH IS INFLUENCED BY THE SAME FACTORS THROUGHOUT THIS REGION, BUT THE RELATIVE IMPORTANCE (SOLELY AND IN COMBINATION) OF TEMPERATURE, LIGHT INTENSITY, NUTRIENTS, "WATER QUALITY," GRAZERS, ETC. IN REGULATING GROWTH VARIES SEASONALLY AND REGIONALLY; 3) CONSIDERABLE ANNUAL VARIATIONS IN PHYTOPLANKTON DYNAMICS MAY OCCUR WITHIN A GIVEN AREA; 4) THE SPECIES COMPOSITION OF THE PLANKTON COMMUNITIES VARIES SEASONALLY AND REGIONALLY. EXCLUSIVE OF CERTAIN COSMOPOLITAN AND EURYTOLERANT SPECIES; 5) ENVIRONMENTAL MODIFICATION HAS ALTERED PHYTOPLANKTON COMPOSITION AND DYNAMICS IN CERTAIN AREAS. EFFECTS OF HYDROCARBONS ON PHYTOPLANKTON ARE DISCUSSED.

1723 SMITH, B.G.

TWO SNOW PLUMES IN UNCOMMON PLACES [1)78]

SAIN 73/1. NESS, WASHINGTON, DC 5 PP

TWO CLOUD PLUMES WERE FORMED IN THE WAKE OF AN INTENSE CYCLONE THAT HAD RACED UP THE EAST COAST ON JAN 9, 1978. BY 1630 HR GMT ON THE 10TH, THE LOW WAS CENTERED BETWEEN LABRADOR AND JAMES BAY. THE LOW-LEVEL CONVEYANCE NEEDED TO FORM THE PLUMES CAME FROM TWO SOURCES: ONE WAS A CONVERGING WIND FLOW, WHICH CAN BE INFERRED FROM A FIGURE, AND THE OTHER WAS DIFFERENTIAL WARMING OF A DRY, COLD AIR MASS, FROM BENEATH, BY A NARROW BODY OF WATER BETWEEN TWO LAND MASSES. THE POINT OF THIS REPORT IS TO ALERT FORCASIERS TO THE POSSIBILITY OF UNEXPECTED CLOUDS OR PRECIPITATION RESULTING FROM PLUMING. WHEN THE WIND BLOWS PARALLEL TO A RELATIVELY LONG BODY OF WATER, AND IF THERE IS ENOUGH LAND-WATER TEMPERATURE DIFFERENTIAL, CLOUD PLUMES MAY RESULT, EVEN IN AREAS SUCH AS THE LONG ISLAND SOUND AND THE GULF OF MAINE, WHERE PLUMING IS NOT FREQUENT.

1724 SMITH, C.E.; T.H. PECK; R.J. KLAUDA; J.B. MCLAREN

HEPATOMAS IN ATLANTIC TOMCOD MICROGADUS TOMCOD (WALBAUM) COLLECTED IN THE HUDSON RIVER ESTUARY IN NEW YORK [1979]

J FISH DIS 2(4):313-319

INCIDENTAL OBSERVATIONS REVEALED THAT A PORTION OF THE ADULT POPULATION COLLECTED DURING THE 1977-78 SPAWNING SEASON HAD ENLARGED LIVERS CONTAINING DARK COLOURED TUMOURS AND OTHER ABNORMALITIES. OF THE TOTAL OF 264 LIVERS COLLECTED BETWEEN 16 JAN AND 27 FEB 1978 AND GROSSLY EXAMINED FOR PREVALENCE OF ABNORMALITIES, 25% APPEARED TO CONTAIN NEOPLASTIC NODULES AND HEPATOCELLULAR CARCINOMA. ONE LIVER CONTAINED A MASSIVE TUMOUR (7 x 12 mm) THAT INVOLVED APPROXIMATELY 60% OF THE LIVER. THE EXACT CAUSES OF THE HIGH PREVALENCE OF HEPATOCELLULAR CARCINOMA ARE UNKNOWN BUT POLYCHLORINATED BIPHENYLS ARE SUSPECTED OF HAVING A POSSIBLE ROLE. THE HUDSON RIVER IS KNOWN TO CONTAIN ELEVATED CONCENTRATIONS OF PCBS. TWELVE TOMCOD LIVERS FROM THE 1977-73 SPAWNING POPULATION REPRESENTING BOTH NORMAL AND HEPATOMA CONDITIONS CONTAINED CONCENTRATIONS OF PCBS RANGING FROM 10.9 TO 98.2 PPM (MEAN OF 37.5 PPM).

1725 SMITH, C.F.; J.R. SCHUBEL; M.P. GREGES; N. ITZKOWITZ; S.J. DIPIERO; J. LONGO; M.A. MORGAN

THERMAL RESISTANCE CHARACTERISTICS OF EARLY LIFE HISTORY STAGES OF FINFISH FROM LONG ISLAND WATERS [1979]

SPEC REP 26. MSRC, SUNY STONY BROOK, NY, 64 PP

EGGS AND LARVAE OF FINFISH FROM LONG ISLAND WATERS WERE SUBJECTED TO ELEVATED TEMPERATURE SHOCKS IN A SQUARE WAVE EXPOSURE EXPERIMENTAL DESIGN TO DETERMINE THEIR THERMAL RESISTANCE CHARACTERISTICS. 10, 50, AND 90 % MORTALITY THERMAL RESISTANCE CURVES WERE DRAWN FOR EGG AND LARVAL STAGES OF WEAKFISH (CYNOSCION REGALIS), STRIPED SEAROBIN (PRIDNOTUS EVOLANS), AND SCUP (STENDIOMUS CHRYSOPS), AND EGG STAGES OF SUMMER FLOUNDER (PARALICHTHYS DENTATUS) AND BLACKFISH (TAUTOGA ONITIS). IN GENERAL, THERMAL RESISTANCE WAS FOUND TO BE RELATED TO ACCLIMATION (BASE) TEMPERATURE PRIOR TO EXPERIMENTATION AND AGE OF THE LIFE HISTORY STAGE USED. FOR EACH SPECIES, RESISTANCE TO THERMAL STRESS INCREASED WITH AGE AND WITH INCREASING ACCLIMATION TEMPERATURE. AS THE THERMAL STRESS INCREASED, THE VARIATION OF RESPONSE OF SIMILARLY ACCLIMATED ORGANISMS DECREASED.

1726 SMITH, C.F.

ASPECTS OF HARD CLAM MANAGEMENT IN GREAT SOUTH BAY, NEW YORK [1979]

M.S. THESIS. SUNY, STONY BROOK, NY 96 PP

A CONCEPTUAL MODEL OF THE POPULATION DYNAMICS OF A HARD CLAM (MERCENARIA MERCENARIA) RESOURCE WAS CONSTRUCTED FROM RANGE ESTIMATES OF GROWTH, RECRUITMENT, STANDING STOCK, AND MORTALITY. THIS MODEL INDICATES THAT, MOST PROBABLY, STANDING STOCKS OF HARD CLAMS IN GREAT SOUTH BAY ARE DECREASING, THEREBY SIGNIFYING OVER-FISHING. SOME MANAGEMENT ALTERNATIVES THAT WOULD REDUCE FISHING PRESSURE ON THE RESOURCE ARE PRESENTED AND PISCUSSED.

1727 SMITH, D.E.; J.W. JOSSI

CONTINUOUS PLANKTON RECORDS: ZOOPLANKTON AND NET PHYTOPLANKTON IN THE MID-ATLANTIC BIGHT [1979]

PAGES 337-348 IN J.R. GOULET, JR. AND E.D. HAYNES, EDS. OCEAN VARIABILITY IN THE US FISHERY CONSERVATION ZONE, 1976. NMFS, SEATTLE, WA

THE SEASONAL ABUNDANCE AND VARIATION OF ZOOPLANKTON AND NET PHYTOPLANKTON AT A 10 M DEPTH, IN THE SHELF AND SLOPE WATERS OF THE NEW YORK AND CHESAPEAKE BIGHTS, WERE ASSESSED BY CONTINUOUS PLANKTON RECORDERS (CPR). US COAST GUARD CUTTERS AND RESEARCH VESSELS TOWED THE CPRS BETWEEN THE MOUTH OF CHESAPEAKE BAY AND OCEAN WEATHER STATION HOTEL (38 N 7 W). AND BETWEEN AMBROSE LIGHT, NEW YORK HARBOR, AND DEEPWATER DUMPSITE 106. THIS IS PART OF A COOPERATIVE AGREEMENT BETWEEN THE MARMAP PROGRAM OF THE NMFS AND THE USCG FOR THE AT-SEA COLLECTING OF DATA AND THE INSTITUTE FOR MARINE ENVIRONMENTAL RESEARCH (IMER) OF THE UNITED KINGDOM FOR A SOUTHERN EXTENSION OF THE LONG TERM SURVEY OF PLANKTON DYNAMICS IN THE NORTH ATLANTIC BY WHICH IMER HAS BEEN MONITORING SEASONAL AND LONG-TERM CHANGES SINCE 1930. THE ZOOPLANKTON OF A WARM CORE GULF STREAM EDDY WHICH PASSED THROUGH THE SURVEY AREA ARE ALSO DESCRIBED.

1728 SMITH, D.G.

NEW LOCALITY RECORDS OF CRAYFISHES FROM THE MIDDLE HUDSON RIVER SYSTEM [1979]

OHIO J SCI 77(3):133-135

INVESTIGATIONS ON THE DISTRIBUTIONS OF CRAYFISHES IN THE HUDSON RIVER ARE REPORTED FOR THE SPECIES ORCONECTES LIMOSUS, O. PROPINGUUS, O. VIRILIS, CAMBARUS ROBUSTUS, AND C. BARTONII. COMPARISON WITH THE LITERATURE SHOWS MANY NEW LOCALITY RECORDS. WHICH MAY BE INTERPRETED IN TERMS OF MIGRATION. HUMAN INTRODUCTION OR INTERDRAINAGE TRANSFER.

1729 SMITH, E.M.

SOME ASPECTS OF CATCH/EFFORT, BIOLOGY, AND THE ECONOMICS OF THE LONG ISLAND SOUND LOBSTER FISHERY DURING 1976 [1977]

CT DEP. HARTFORD. CT 106 PP

THE CT DEP HAS INITIATED A COMPUTERIZED REPORTING SYSTEM FOR LOBSTER TO IMPROVE THE PRECISION OF CATCH PER UNIT OF EFFORT STATISTICS GENERATED FROM DATA SUPPLIED BY COMMERCIAL LOBSTERMEN. THIS STUDY WAS DESIGNED TO: (1) ASSESS THE RELIABILITY OF THE COMMERCIAL FISHERIES LOGBOOK REPORTING SYSTEM IN REPRESENTING CATCH AND EFFORT FOR THE ENTIRE FISHERY (2) OBSERVE ASPECTS OF LOBSTER BIOLOGY AND CONDITION OF THE FISHERY AND (3) PROVIDE SOCIO-ECONOMIC INFORMATION ON THE LOBSTERING LABOR FORCE. THE COMPUTER SUMMARIES APPEAR TO BE ACCURATE IN ILLUSTRATING MONTHLY VARIATIONS IN CATCH PER UNIT OF EFFORT FOR THE COMMERCIAL FISHERY. THE RESULTS OF THE SOCIO-ECONOMIC SURVEY INDICATE THAT THE LABOR FORCE IS HIGHLY OVER-CAPITALIZED CHIEFLY THROUGH THE USE OF EXCESSIVE NUMPERS OF TRAPS, AND IS HIGHLY POLARIZED WITH 24% COMMERCIAL FISHERMEN AND 76% PERSONAL USE (RECREATIONAL)

PARTICIPANTS. THE AVERAGE FULL-TIME MAN WORKS LONGER HOURS FOR LESS PAY THAN DO MEN EMPLOYED IN THE TWO OCCUPATIONS IN WHICH PART-TIME MEN ARE MOST COMMONLY EMPLOYED.

1730 SMITH, E.M.

THE BIOLOGY AND ECONOMICS OF THE LONG ISLAND SOUND LOBSTER FISHERY DURING 1976 [1978]

CT DEP, HARTFORD, CT 24 PP

THE LOSSTER FISHERY IN LONG ISLAND SOUND AT THE PRESENT TIME CAN BEST BE DESCRIBED AS "GUARDEDLY HEALTHY". BECAUSE OF GENERAL COMPLIANCE WITH ONE OF CONNECTICUT'S CONSERVATION STATUTES, THE LOBSTER POPULATION APPEARS TO BE IN EQUILIBRIUM AND WILL PROBABLY CONTINUE TO REMAIN SO UNLESS NATURAL MORTALITY AND/OR FISHING MORTALITY GREATLY INCREASE IN MAGNITUDE. THE PROBLEMS OF THE FISHERY APPEAR TO BE MORE OF ECONOMIC RATHER THAN BIOLOGIC ORIGIN AND CAN BE CONSIDERED TO BE PRIMARILY THE RESULT OF EXCESSIVE EFFORT. WHILE MAINTAINING THE STATUS QUO FOR THE PRESENT TIME MAY BE AN ADEQUATE COURSE TO FOLLOW UNTIL A SUITABLE MANAGEMENT PROGRAM IS DEVISED, THE RESULTS OF THIS STUDY HAVE INDICATED THAT SOME FORM OF CONTROL IS NECESSARY AND THAT IMPLEMENTATION OF LIMITATIONS TO GROSS EFFORT SHOULD NOT BE DELAYED INDEFINITELY. IN THE INTERIM, INCREASED MARINE ENFORCEMENT TO INSURE COMPLIANCE WITH CONSERVATION STATUTES AND THE INCORPORATION OF A 1-3/4 INCH MINIMUM ESCAPE OPENING ARE ESSENTIAL TO PROTECT THE CONDITION OF THE PRESENT LOBSTER POPULATION.

1731 SMITH, H.J.

DESIGNING INTERCEPTING SEWER SYSTEMS FOR THE BOROUGH OF MANHATTAN [1979]

MUNIC ENG J 55:112-124

THE PROBLEMS ENCOUNTERED AND THEIR SOLUTIONS WHILE DESIGNING THE INTERCEPTING SEWER SYSTEMS OF THE NORTH (HUDSON) RIVER WATER POLLUTION CONTROL PROJECT AND THE NEWTOWN CREEK POLLUTION CONTROL PROJECT IN THE BOROUGH OF MANHATTAN, CITY OF NEW YORK, ARE DISCUSSED.

1732 SMITH, K.K.; R.E. GOOD; N.F. GOOD

PRODUCTION DYNAMICS FOR ABOVE AND BELOWGROUND COMPONENTS OF A NEW JERSEY SPARTINA ALTERNIFLORA TIDAL MARSH (1979)

ESTUARINE COASTAL MAR SCI 9(2):189-201

ABOVE- AND BELONGROUND PORTIONS OF THE MARSH PLANT S. ALTERNIFLORA, SHORT FORM WERE ANALYZED FOR CHANGES IN BIOMASS, CALORIC CONTENT, AND CHEMICAL COMPOSITION FOR APPROXIMATELY 14 MO. THE BELONGROUND PORTIONS OF THIS MARSH WERE CHARACTERIZED BY A LARGE BIOMASS, AVERAGING 11.4 KG/M2 IN THE IOP 30 CM. ANNUAL CHANGES OCCURRING IN THIS LAYER (DEFINED AS NET ECOSYSTEM PRODUCTION) GAVE A VALUE OF 2.2 KG/M2. THE ROOT TO SHOOT RATIO WAS 4.7 AND THE TURNOVER TIME, 5.5 YR. THE DISTRIBUTION OF PHOTOSYNTHETICALLY FIXED CARBON IN THE PLANT TISSUES WAS DETERMINED TO A DEPTH OF 50 CM BY SEPARATING PLANT MATERIAL INTO ASH, CRUDE PROTEIN, CRUDE FIBER, CRUDE FAT AND N-FREE EXTRACT. PERCENTAGE VALUES ARE GIVEN. PERCENTAGE OF CRUDE PROTEIN INCREASED WITH DEPTH WHILE PERCENT CRUDE FIBER AND N-FREE EXTRACT DECREASED WITH DEPTH. ABOVEGROUND PORTIONS YIELDED SLIGHTLY LOWER CALORIC VALUES THAN THOSE FOR BELONGROUND PORTIONS. CALORIC CONTENT BELONGROUND INCREASED WITH DEPTH. HIGH PRIMARY PRODUCTION, DENSE GROWTH HABIT AND ROOT LONGEVITY COMBINE TO FORM A HIGHLY STABLE SYSTEM. ANNUAL ENERGY AND CARBON FIXATION BY THIS PRIMARY PRODUCER PROVIDE A LARGE FLOW OF ORGANIC COMPOUNDS WITHIN THE ESTUARINE ECOSYTEM WITH THE BELONGROUND COMPONENT AND ITS DECOMPOSITION PRODUCTS ACTING AS A SINK.

1733 SMITH, K.L., JR.; G.T. ROWE; C.H. CLIFFORD

SEDIMENT OXYGEN DEMAND IN AN OUTWELLING AND UPWELLING AREA [1974]

PAP-3143. WHOI. WOODS HOLE. MA 8 PP NTIS-PB-256 989

IN SITU MEASUREMENTS OF OXYGEN DEMAND WERE MADE ON SEWAGE ENRICHED SEDIMENTS IN THE NEW YORK BIGHT (OUTWELLING) AND ON NATURALLY ENRICHED SEDIMENTS UNDER THE CALIFORNIA CURRENT OFF BAJA CALIFORNIA (UPWELLING). MEASUREMENTS WERE MADE WITH DIVER-SET IN SITU RESPIROMETERS. TOTAL OXYGEN UPTAKE WAS DIVIDED INTO BIOLOGICAL DEMAND (COMMUNITY RESPIRATION) AND CHEMICAL DEMAND WITH FORMALIN TREATMENT. IN BOTH THE OUTWELLING AND UPWELLING AREAS, THE TOTAL OXYGEN DEMAND OF THE SEDIMENTS WAS SIGNIFICANTLY HIGHER THAN CONTROL AREAS. BOTH THE BIOLOGICAL AND CHEMICAL DEMANDS WERE SIGNIFICANTLY ENHANCED BY ORGANIC ENRICHMENT.

1734 SMITH, R.A.; J.R. SLACK; R.K. DAVIS

AN OILSPILL RISK ANALYSIS FOR THE NORTH ATLANTIC OUTER CONTINENTAL SHELF LEASE AREA [1976]

OPEN FILE REP 76-620. USGS, HARTFORD, CT 50 PP

AN OIL SPILL RISK ANALYSIS WAS CONDUCTED TO DETERMINE RELATIVE ENVIRONMENTAL HAZARDS OF DEVELOPING OIL IN DIFFERENT REGIONS OF THE NORTH ATLANTIC OUTER CONTINENTAL SHELF LEASE AREA. THE STUDY ANALYZED PROBABILITY OF SPILL OCCURRENCE, LIKELY PATH OF POLLUTANTS FROM SPILLS AND LOCATIONS IN SPACE AND TIME OF RECREATIONAL AND BIOLOGICAL RESOURCES LIKELY TO BE VULNERABLE. THESE RESULTS ARE COMBINED TO YIELD ESTIMATES OF THE OVERALL OIL SPILL RISK ASSOCIATED WITH DEVELOPMENT OF THE LEASE AREA.

1735 SMITH, R.A.

THE CHANGING BEACHES OF GLEN COVE. NEA YORK [1980]

SHORE PEACH 48(2):2-10

THIS DESCRIPTION OF GLEN COVE, NY, BEACHES INCLUDES LONG ISLAND GEOLOGY, NATURAL PROCESSES ALONG THE LONG ISLAND NORTH SHORE INCLUDING TIDE MEASUREMENTS, TIDE DATUMS, SEA LEVEL VARIATIONS, EXTREME HIGH WATER LEVELS, TIDAL CURRENTS, PRESSURE AND WIND EFFECTS, AND WAVES, THE EXISTING SHORELINE OF LONG ISLAND SOUND INCLUDING PRYIBIL BEACH, EAST BEACH AND PEACOCK POINT, EAST ISLAND (EAST AND WEST SIDES), DOSORIS CREEK, DOSORIS POND, WEST POND AND INLET, AND THE AREA W OF DOSORIS ISLAND, AND THE GLEN COVE SHORELINE AT HEMPSTEAD HARBOR INCLUDING MORGAN'S MEMORIAL PARK, GARVIES POINT, AND GLEN COVE CREEK, EROSION PROCESSES AND HISTORICAL CHANGES ARE DETAILED FOR EACH LOCATION, AND INDICATE THAT LONG AND SHORT-TERM EROSION IS FOUND EVERYWHERE ALONG THE SHORELINE. CURRENT ATTEMPTS AT BEACH RESTORATION AND PROTECTION ARE GIVEN. HYDROGRAPHIC SURVEYS ARE NEEDED TO DETERMINE BEACH BEHAVIOR, AND AERIAL PHOTOGRAPHS ARE NECESSARY FOR INFORMATION ON BEACH ALIGNMENT.

1736 SMITH, R.N.

RECONNAISSANCE STUDIES OF BENTHIC ORGANISMS IN NEW YORK HARBOR AND ADJACENT WATERS [1971]

PAGES 38-55 IN SURVEY OF MARINE WASTE DEPOSITS, NY METROPOLITAN REGION. TECH REP 8. MSRC, SUNY, STONY BROOK, NY

NEW YORK HARBOR AND ITS ADJACENT WATERS WERE SURVEYED IN ORDER TO DETERMINE THE DISTRIBUTION AND ABUNDANCE OF COMMON BENTHIC MACROSCOPIC AND MICROSCOPIC MARINE AND BRACKISH WATER INVERTEBRATES. THE AQUATIC ENVIRONMENT WITHIN THE SURVEYED AREA RANGES FROM THE OPEN WATERS OF THE CONTINENTAL SHELF TO THE LESS SALINE WATERS IN THE RIVER CHANNELS. FINDINGS SHOW THAT IN MANY AREAS OF NEW YORK HARBOR THE BENTHIC COMMUNITIES WHICH HORMALLY CAN ADAPT TO SUCH VARYING ENVIRONMENTS ARE EITHER DRASTICALLY REDUCED IN ABUNDANCE OR COMPLETELY ABSENT. THESE CHANGES IN THE BENTHIC COMMUNITIES ARE THE RESULT OF HUMAN ACTIVITY SUCH AS FREQUENT DREDGING OF THE CHANNELS. ON THE BASIS OF THE DISTRIBUTION AND ABUNDANCE OF THE ORGANISMS SURVEYED. THE NEW YORK HARBOR REGION WAS DIVIDED INTO THREE AREAS WHICH REFLECT THE VARYING SEVERITY OF THE POLLUTION PROBLEM. THESE AREAS IN DESCENDING ORDER OF

SEVERITY ARE: (1) UPPER BAY, NEWARK BAY, ARTHUR KILL, EAST, HARLEM, HUDSON AND RARITAN RIVERS, (2) LOWER BAY AND (3) CONTINENTAL SHELF AREA.

1737 SMITH, T.E. (EDITOR)

GUIDE TO THE MUNICIPAL GOVERNMENT OF THE CITY OF NEW YORK [1973]

MEILEN PRESS, INC., NEW YORK, NY 360 PP

THE 10TH EDITION OF THE "GUIDE TO THE MUNICIPAL GOVERNMENT OF THE CITY OF NEW YORK," DESCRIBES THE ORGANIZATION DE THE CITY GOVERNMENT AS IT WAS IN 1971. IN A GOVERNMENT AS LARGE AND COMPLEX AS THAT OF THE CITY OF NEW YORK, CHANGES ARE CONSTANTLY TAKING PLACE. NEW AGENCIES ARISE, OUTMODED ONES DISAPPEAR, FUNCTIONS ARE CONSOLIDATED AND NEW METHODS ARE INTRODUCED. WE HAVE TRIED VERY HARD TO FERRET OUT ALL OF THESE CHANGES AND TO INCORPORATE THEM IN THIS BOOK AND FEEL THAT ALL MAJOR CHANGES UP TO SEPTEMBER 1971 HAVE PEEN NOTED. IN SOME CASES LATER CHANGES HAVE BEEN INCLUDED. STATISTICS HAVE OFTEN BEEN DIFFICULT TO UP-DATE DUE TO DELAYS IN PUBLICATION OF REPORTS AND DATA. THIS BOOK IS DESIGNED TO INTRODUCE THE BASIC RUDIMENTS OF CITY GOVERNMENT AS IT EXISTS IN NYC, TO THE CITIZEN, THE CIVIL SERVANT AND THE STUDENT. IN DOING THIS WE HAVE TRIED TO BE BRIEF AND FACTUAL.

1738 SMITH, W.G.

THE DISTRIBUTION OF SUMMER FLOUNDER PARALICHTHYS DENTATUS, EGGS AND LARVAE ON THE CONTINENTAL SHELF BETWEEN CAPE COD AND CAPE LOOKOUT 1965-66 [1973]

FISH BULL 71(2):527-548

EGGS AND LARVAE OF SUMMER FLOUNDER, PARALICHTHYS DENTATUS, WERE COLLECTED WITH GULF V PLANKTON NETS BETWEEN CAPE COD, MA, AND CAPE LOCKOUT, NC DURING A 1-YEAR SURVEY OF CONTINENTAL SHELF WATERS. THE MOST PRODUCTIVE SPAWNING GROUNDS WERE LOCATED OFF NY AND NJ. SPAWNING BEGAN IN NORTHERN PARTS OF THE SURVEY AREA PROGRESSED SOUTHWARD WITH THE SEASON, AND ENDED OFF CAPE LOCKOUT. WE COLLECTED EGGS NOV TO FEB, AND LARVAE NORTH OF CHESAPEAKE BAY FROM SEPT TO FEB AND SOUTH OF THE BAY FROM NOV TO MAY. MOST SPAWNING OCCURRED AT TEMPERATURES BETWEEN 12 AND 19 C, BUT THE PELAGIC EGGS WERE CAUGHT AT MEAN TEMPERATURES FROM 9.1 TO 22.9 C, AND THE LARVAE FROM 0 TO 23.1 C.

1739 SMITH, W.G.; J.D. SIRUNKA; A. WELLS

SEASONAL DISTRIBUTION OF LARVAL FLATFISHES (PLEURONECTIFORMES) ON THE CONTINENTAL SHELF BETWEEN CAPE COD, MASSACHUSETTS, AND CAPE LOOKOUT NORTH CAROLINA 1965-66 [1975]

. TECH REP SSRF-691. NOAA, BOULDER, CO 48 PP

LARVAL FLATFISHES, REPRESENTING 4 FAMILIES, 17 GENERA, AND 15 SPECIES, WERE IDENTIFIED FROM COLLECTIONS TAKEN DURING A 1-YR SURVEY DESIGNED TO LOCATE SPAWNING GROUNDS AND TRACE DISPERSION OF FISH EGGS AND LARVAE ON THE CONTINENTAL SHELF. MOST FLATFISHES BEGAN SPAWNING IN THE SPRING A TIME OF MARKED SEASONAL TEMPERATURE CHANGE. THE SEASONAL DISTRIBUTION OF LARVAE INDICATED THAT: 1) BOTHIDS HAD LONGER SPAWNING SEASONS THAN PLEURONECTIDS; 2) PLEURONECTIDS SPAWNED LARGELY IN THE NORTHERN HALF OF THE SURVEY AREA DURING THE SPRING; 3) MOST BOTHIDS SPAWNED IN THE SOUTHERN HALF, BEGINNING IN SPRING AND CONTINUING THROUGH EARLY FALL; 4) ALTHOUGH CYNOGLOSSIDS SPAWNED INCIDENTALLY OFF NC, MOST OF THEIR LARVAE WERE TRANSPORTED INTO THE SURVEY AREA FROM SPAWNING GROUNDS SOUTH OF CAPE LOOKOUT; 5) THE FEW REPRESENTATIVES OF THE FAMILY SOLEIDAE ORIGINATED SOUTH OF CAPE LOOKOUT; 6) SPAWNING THAT BEGAN IN THE SPRING PROCEEDED FROM SOUTH TO NORTH AS THE SEASON PROGRESSED, BUT SPAWNING THAT BEGAN IN THE FALL PROCEEDED FROM NORTH TO SOUTH, SUGGESTING THAT THE ONSET OF SPAWNING IS TRIGGERED BY SPRING WARMING AND FALL COOLING; 7) MOST SPECIES SPAWNED WITHIN A RELATIVELY NARROW RANGE OF TEMPERATURE; 8) SALINITY HAD NO APPARENT INFLUENCE ON SPAWNING.

1740 SMITH. W.G.; A. WELLS

BIOLOGICAL AND FISHERIES DATA ON STRIPED BASS, MORONE SAXATILIS (WALBAUM) [1977]

TECH REP 4. NOAA, SANDY HOOK LAB, HIGHLANDS, NJ 42 PP

THIS REPORT SUPPLIES A BRIEF DESCRIPTION OF THE FOLLOWING ON STRIPED BASS: TAXONOMY, DISTRIBUTION, REPRODUCTION AND DEVELOPMENT, NUTRITION, POPULATION DYNAMICS, EXPLOITATION, AND MANAGEMENT. ILLEGAL FISHING AREAS IN NEW YORK ARE THE HUDSON AND DELAWARE RIVERS DUE TO PCB'S.

1741 SMITH, W.G.; L. SULLIVAN: P.L. BERRIEN

FLUCTUATIONS IN PRODUCTION OF SAND LANCE LARVAE IN COASTAL WATERS OFF THE NORTHEASTERN UNITED STATES. 1974 TO 1977 [1978]

CM 1978/L:30. ICES, COPENHAGEN, DENMARK 14 PP

AN INCREASE IN NUMBERS OF LARVAL SAND LANCE, AMMODYTES SPP., CAUSED A SIGNIFICANT CHANGE IN THE RELATIVE ABUNDANCE OF SPECIES COMPRISING THE WINTER ICHTHYOPLANKTON IN COASTAL WATERS OFF THE NORTHEAST US BETWEEN 1974 AND 1977. THE CONTRIBUTION OF YOUNG SAND LANCE TO THE ICHTHYOPLANKTON COMMUNITY INCREASED FROM <50% IN 1974 TO >94% IN 1977 IN FEB-MAR PLANKTON COLLECTIONS FROM CAFE HATTERAS TO GEOPGES BANK. LARVAL PRODUCTION PEAKED IN 1976 DUE LARGELY TO AN "EXPLOSIVE" INCREASE IN THEIR ABUNDANCE ON GEORGES BANK. ABUNDANCE LEVELS OFF THE NORTHEAST COAST DECLINED ONLY SLIGHTLY IN 1977, DESPITE THE NEAR-ABSENCE OF LARVAE ON GEORGES BANK AND SEVERE WINTER WEATHER THAT PRODUCED ANOMALOUS DRIFT AND BELOW AVERAGE TEMPERATURES. SPAWNING IN 1976 AND 1977 BEGAN IN LATE NOV-EARLY DEC AND CONTINUED THROUGH MARCH DURING EACH OF THE FOUR YEARS STUDIED (1974-1977). BASED ON THE DISTRIBUTION OF SMALL LARVAE, MOST SPAWNING OCCURRED NEAR SHORE FROM CHESAPEAKE BAY TO CAPE COD, ON NANTUCKET SHOALS, AND. EXCEPT IN 1977, THE CENTRAL PART OF GEORGES BANK. RESEARCH TRAWL CATCHES OF ADULT SAND LANCES FLUCTUATED WIDELY DURING THE PAST DECADE BUT THEY INDICATE THAT THE SPAWNING BIOMASS HAS INCREASED SINCE 1975.

1742 SMITH, W.G.; M. PENNINGTON; P.L. BERRIEN; J.D. SIBUNKA; M. KONIECZNA; M. BARAMOWSKI; E. MELLER

ANNUAL CHANGES IN THE DISTRIBUTION AND ABUNDANCE OF ATLANTIC COD AND HADDOCK LARVAE OFF THE NORTHEASTERN UNITED STATES BETWEEN 1973-74 AND 1977-78 [1979]

RES DOC CM 1979/G:47. ICES, COPENHAGEN, DENMARK 19 PP

A PRELIMINARY ANALYSIS OF ICHTHYOPLANKTON SAMPLES COLLECTED ON COASTAL SURVEYS FROM CAPE HATTERAS, NO TO NOVA SCOTIA REVEALS THAT: 1) GEORGES BANK IS THE MOST IMPORTANT SPAWNING AREA FOR ATLANTIC COD, GADUS MORHUA, AND HADDOCK, MELANOGRAMMUS AEGLEFINUS; 2) THERE ARE MARKED INTRASPECIFIC DIFFERENCES IN ABUNDANCE ESTIMATES BETWEEN YEARS BUT INTERSPECIFIC COMPARISONS WITHIN YEARS GENERALLY PARALLEL EACH OTHER; 3) THEIR WITHIN-YEAR SPATIAL DISTRIBUTIONS ARE INCREDIBLY SIMILAR IN WINTER AND SPRING; 4) SPAWNING INTENSITY FOR BOTH SPECIES VARIES DURING THE SEASON BUT FITS INTO A PATTERN THAT GENERALLY HOLDS FROM YEAR TO YEAR; 5) DURING COLD WINTERS COD SPAWNING IS DISRUPTED OR GREATLY REDUCED AND HADDOCK SPAWNING IS DELAYED; 6) THERE IS NO APPARENT CORRELATION BETWEEN LARVAL ABUNDANCE AND RECRUITMENT SUCCESS FOR EITHER SPECIES. YEARS OF HIGH LARVAL ABUNDANCE PRODUCED WEAK TO MODERATE YEAR CLASSES BUT 1975, A YEAR OF MODERATE ABUNDANCE AND HIGH WINTER SURVIVAL OF LARVAE PRODUCED A STRONG YEAR CLASS FOR BOTH SPECIES.

1743 SMITH, W.G.; A.W. KENDALL, JR.; P.L. BERRIEN; M.P. FAHAY; J.B. COLTON, JR

PRINCIPAL SPAWNING AREAS AND TIMES OF MARINE FISHES, CAPE SABLE TO CAPE HATTERAS [1979]

FISH BULL 76(4):911-915

A TABULAR SUMMARY OF SPAWNING AREAS AND SEASONS OF THE MORE ABUNDANT MARINE FISHES ALONG THE GULF OF MAINE AND THE MIDDLE ATLANTIC BIGHT INCLUDING THE NEW YORK BIGHT. 35 SPECIES FROM 14 FAMILIES ARE SUMMARIZED.

1744 SMITH, W.G.; A. WELLS; D.G. MCMILLAN

THE DISTRIBUTION AND ABUNDANCE OF ICHTHYOPLANKTON IN THE MIDDLE ATLANTIC BIGHT AS DETERMINED FROM COASTAL SURVEYS AND SITE-SPECIFIC STUDIES, 1965-1976 [1979]

NOAA, HIGHLANDS, NJ 263 PP

ICHTHYOPLANKTON DATA FROM THE FILES OF THE SANDY HOOK MARINE LABORATORY ARE SUMMARIZED FROM COLLECTIONS IN THE MIDDLE ATLANTIC BIGHT BETWEEN 1965 AND 1976. THE DATA ARE COMPILED FROM PLANKTON SAMPLES COLLECTED ON COASTAL SURVEYS DESIGNED TO MONITOR SEASONAL SHIFTS IN THE DISTRIBUTION AND ABUNDANCE OF PLANKTONIC FISHES, AND FROM SITE-SPECIFIC STUDIES DESIGNED TO INVESTIGATE THE VERTICAL DISTRIBUTION AND DIEL MOVEMENTS OF LARVAE REPRESENTING SELECTED SPECIES. THE REPORT DESCRIBES OCCURRENCES AND SEASONAL PATTERNS OF DISTRIBUTION OF LARVAE FOR THE NUMERICALLY DOMINANT SPECIES COLLECTED ON THE 13-MONTH R/V DOLPHIN SURVEY IN 1965-66; A 15-MONTH SURVEY OF THE NEW YORK BIGHT FROM 1974 TO 1975; AND SEMI-ANNUAL SURVEYS FROM CAPE HATTERAS TO MARTHA'S VINEYARD FROM 1973 TO 1976. ALL LARVAL FISH DATA FROM THE THREE SURVEYS ARE TABULATED BY STATION OR BY CRUISE. RESULTS EMPHASIZE THE SEASONAL NATURE OF SPAWNING IN THE MIDDLE ATLANTIC BIGHT. INTER-SURVEY COMPARISONS OF DOMINANT SPECIES ARE DISCUSSED. IN ADDITION, THE REPORT CONTAINS INFORMATION ON THE DISTRIBUTION OF FISH EGGS, COMMUNITY ASSEMBLAGES OF LARVAL FISHS IN RELATION TO SIZE, CIRCULATION AND TEMPERATURE.

1745 SOKOLOFF, A.

OBSERVATIONS ON POPULATIONS OF THE HORSESHOE CRAB LIMULUS (XIPHOSURA) POLYPHEMUS [1978]

RES POPUL ECOL 19(2):222-236

MARKED POPULATIONS OF L. (XIPHOSURA) POLYPHEMUS REVEAL THAT IN COLD SPRING HARBOR, NY, THEY CONSISTED OF 10,000-18,000 ADULTS IN 1957 AND 1961. THE SEX RATIO IN 1957 WAS ABOUT 4 MALES:1 FEMALE. PAIRS MAY REMAIN ATTACHED FOR AS LONG AS 9 DAYS. AN UNDISTURBED FEMALE MAY LAY AS MANY AS 12,000 EGGS IN ONE NEST. THE COLD SPRING HARBOR POPULATIONS APPEAR TO BE RATHER SEDENTARY: NONE OF THE 1,000 ANIMALS MARKED ON THE NORTH EDGE OF THE SANDSPIT IN 1961 WERE DETECTED IN THE OUTER HARBOR EITHER AT LAUREL HOLLOW BEACH OR THE PENINSULA ADJACENT TO THE COLD SPRING HARBOR YACHT CLUB 500-800 M FROM THE TAGGING SITE, NOR WERE THEY FOUND IN THE SMALL BEACH ADJACENT TO THE BIOLOGICAL LABORATORY IN THE INNER HARBOR. SIMILARLY, NONE OF THE 300 ANIMALS MARKED AT THIS LAST SITE WERE FOUND AT THE NORTH EDGE OF THE SANDSPIT. THE PHENOTYPE OF THE COMPOUND EYE VARIES FROM BLACK TO PIGMENTLESS. SAMPLES OBSERVED IN COLD SPRING HARBOR AND IN THE MARINE BIOLOGICAL LABORATORY, WOODS HOLE, MA (SEPARATED BY LONG ISLAND SOUND AND A DISTANCE OF 150 MILES) DIFFER IN THE FREQUENCY OF THE VARIOUS PHENOTYPES SCORED, BUT THE MODE OF INHERITANCE OF EYE COLOR REMAINS OBSCURE. THE AVAILABLE EVIDENCE INDICATES LIMULUS HAD CONSIDERABLE PHENOTYPIC VARIATION IN REGARD TO BODY SIZE, EYE COLOR, AND OTHER CHARACTERS BELIEVED TO BE INHERITED, WITH THE RESULT THAT DEMES OR PHYSIOLOGICAL RACES ARE CREATED. IT IS ARGUED THAT THE BELIEF THAT THIS ORGANISM IS STABLE AND HAS NOT CHANGED SINCE THE TRIASSIC 200 MILLION YEARS AGO HAS FOUNDATION ONLY IN REGARD TO THE PATTERN OF THE DOTY OF THE WITH THE TOTAL PATTERN OF THE DOTY OF LIMULUS, BUT NOT IN REGARD TO ITS GENOTYPE. LIMULUS DOES NOT SEEM TO BE DIFFERENT FROM OTHER ORGANISMS FOR WHICH CONSIDERABLE GENETIC EVIDENCE IS AVAILABLE, AND THUS THE STATEMENT THAT DNA IS FAIRLY STABLE AND HAS REMAINED SO FOR 200 MILLION YEARS IS OPEN TO QUESTION.

1746 SOREN. J.

BASEMENT FLOODING AND FOUNDATION DAMAGE FROM WATER-TABLE RISE IN THE EAST NEW YORK SECTION OF BROOKLYN, LONG ISLAND, NEW YORK [1976]

USGS/WRI-76-95. USGS, MINEOLA, NY 20 PP

A RISING WATER TABLE FOLLOWING CESSATION OF PUBLIC-SUPPLY PUMPING HAS BEEN CAUSING BASEMENT FLOODING AND BUILDING FOUNDATION DAMAGE IN THE EAST NEW YORK SECTION OF BROOKLYN, KINGS COUNTY, LONG ISLAND, NY, SINCE 1975. THE WATER TABLE IN THE CENTRAL PART OF THE AREA ROSE FROM A LOW OF ABOUT 12 FT (3.7 M) BELOW SEA LEVEL IN 1936 TO ABOUT 8 TO 10 FT (2.4 TO 3 M) ABOVE SEA LEVEL IN MARCH 1976. PUBLIC-SUPPLY PUMPING IN BROOKLYN CEASED IN 1947 AND CEASED IN 1974 IN THE ADJACENT WOODHAVEN SECTION OF QUEENS COUNTY. A FURTHER WATER-TABLE RISE OF ABOUT 2 FT (0.6 METRE) IS ANTICIPATED IN THE NEXT SEVERAL YEARS IN THE CENTRAL PART OF THE EAST NEW YORK AREA, AND THE ULTIMATE WATER-TABLE HEIGHT COULD BE AS MUCH AS ABOUT 15 FT (4.6 M) ABOVE SEA LEVEL. RELIEF FROM THE FLOODING BY DEWATERING OPERATIONS IS COMPLICATED BY PROBLEMS WITH DISPOSAL OF PUMPED OUT GROUNDWATER.

1747 SOREN. J.

DIVERSION OF THE HUDSON RIVER ACROSS JESTERN LONG ISLAND, NEW YORK, NEAR MID-PLEISTOCENE TIME [1977]

GEOL SOC AM ABSTR PROG 9(3):320

NUMEROUS FRAGMENTS OF DIABASE IN THE JAMECO GRAVEL. A STREAM DEPOSIT OF PRE-SANGAMON PLEISTOCENE AGE IN A BURIED VALLEY NEAR THE WESTERN END OF LONG ISLAND, INDICATE THAT THE HUDSON RIVER WAS DIVERTED THROUGH THAT AREA FROM ITS PRESENT LOCATION NEAR THE MIDDLE OF THE PLEISTOCENE EPOCH. THE PALISADES, A DIABASE CLIFF THAT FORMS THE WEST BANK OF THE HUDSON RIVER BETWEEN NY AND NJ, ABOUT 8 MI (13 km) NORTHWEST OF THE BURIED VALLEY, IS THE ONLY LIKELY SOURCE OF THE DIABASE. A FURTHER INDICATION OF THE PIVERSION IS THAT THE BURIED VALLEY IS IN BETTER ALINEMENT WITH THE BURIED HUDSON CHANNEL IN THE CONTINENTAL SHELF THAN IS THE PRESENT HUDSON ESTUARY COURSE.

1748 SOREN. J.

HYDROGEOLOGIC CONDITIONS IN THE TOWN OF SHELTER ISLAND, SUFFOLK COUNTY, LONG ISLAND, NEW YORK [1978]

USGS. SYOSSET. NY 28 PP

THE UPPER GLACIAL AQUIFER IS THE SOLE SOURCE OF FRESHWATER FOR A SLOWLY GROWING POPULATION, CURRENTLY 2,000 TO 8,000 SEASONALLY, ON SHELTER ISLAND (AREA: 11 SQ MI), BETWEEN THE NORTH AND SOUTH FORKS OF EASTERN LONG ISLAND. THE AQUIFER IS READILY SUSCEPTIBLE TO LATERAL INFILTRATION BY SURROUNDING SALINE GROUNDWATER. CLAY BEDS UNDERLYING THE AQUIFER CONTAIN SALINE WATER, AND FORMATIONS BELOW THE CLAY PROBABLY CONTAIN SALINE WATER. FRESH GROUNDWATER IS MOSTLY SOFT AND LOW IN DISSOLVED SOLIDS CONCENTRATIONS; HOWEVER, SEVERAL WELLS NEAR SHORELINES HAVE YIELDED SALTY WATER FROM SALINE-WATER INFILTRATION. ANALYSES OF WELL WATER INDICATE THAT CONTAMINATION OF THE AQUIFER BY SEWAGE IS EVIDENT BUY NOT SEVERE. THE HYDROGEOLOGIC SYSTEM IS NOT IN EQUILIBRIUM, AND DETERIORATION OF WATER QUALITY IS EXPECTED TO GRADUALLY INCREASE AS INCREASED PUMPING OF FRESH GROUNDWATER CAUSES FURTHER SALINE-WATER INFILTRATION AND INTRODUCES ADDITIONAL EFFLUENT TO THE AQUIFER, AND OBSERVATION WELLS COULD PROVIDE EARLY DETECTION OF SALINE INFILTRATION.

1749 SOREN, J.

SUBSURFACE GEOLOGY AND PALEOGEOGRAPHY OF QUEENS COUNTY, LONG ISLAND, NEW YORK [1978]

WATER-RES INVESTIG 77-34. WATER RES DIV. QUEENS COUNTY GEOL SURVEY, SYOSSET. NY 17 PP

UNCONSOLIDATED STRATA OF CLAY, SILT, SAND, AND GRAVEL OF LATE CRETACEOUS AND PRE-WISCONSIN PLEISTOCENE AGES LIE BETWEEN CRYSTALLINE BASEMENT ROCKS (BEDROCK) OF PRECAMBRIAN AGE AND UNCONSOLIDATED DEPOSITS OF LATE PLEISTOCENE (WISCONSIN) AND HOLOCENE AGES IN QUEENS COUNTY, LONG ISLAND, NY. DATA COLLECTED DURING A RECENT STUDY OF THE HYDROGEOLOGY OF THE COUNTY AND UPDATED RECORDS OF EARLIER STUDIES HAVE BEEN USED TO PREPARE CONTOUR MAPS THAT DELINEATE THE SURFACES OF THE BEDROCK AND THE UPPER CRETACEOUS AND PRE-WISCONSIN PLEISTOCENE DEPOSITS. THE PRESENCE OF DIABASE FRAGMENTS APPARENTLY FROM THE HUDSON PALISADES IN A BURIED VALLEY THROUGH THE COUNTY SUGGESTS THAT THE ANCESTRAL HUDSON RIVER WAS DIVERTED INTO QUEENS COUNTY IN PLEISTOCEME

TIME. THE CONTOUR MAPS ARE USEFUL TO ENGINEERS, GROUNDWATER-SUPPLY MANAGERS, WELL DRILLERS, AND OTHERS CONCERNED WITH SUBSURFACE GEOLOGY IN THE AREA. A MAP SHOWING THE APLEOTOPOGRAPHY AND GEOLOGY AT THE TIME OF THE ANCESTRAL HUDSON RIVER'S ENTRANCE INTO THE COUNTY IS USEFUL IN UNDERSTANDING THE AREAL GEOMORPHOLOGY.

1750 SOUCIE, G.

HERE COME DE SLUDGE [1974]

AUDUBON 76:108-113

SEWAGE SLUDGE, DREDGE SPOILS, CONSTRUCTION RUBBLE, DERELICT VESSELS AND INDUSTRIAL WASTES ARE BEING DUMPED IN THE WATERS OF THE NEW YORK BIGHT PRODUCING CHANGES IN AREA MARINE LIFE, PUBLIC HEALTH HAZARDS, AND CONCENTRATIONS OF HEAVY METALS IN OFFSHORE WATERS. FEDERAL RESPONSIBILITY FOR SLUDGE DUMPING IS SHARED BY (1) THE US EPA, IN CHARGE OF ISSUING PERMITS AND MONITORING ACUTE, SHORT-TERM EFFECTS, (2) NOAA, FOR DELINEATING THE LONG TERM ENVIRONMENTAL IMPACT, DEFINING THE EXTENT OF PRESENT DUMPING GROUNDS, AND FOR SELECTING ALTERNATIVE SITES, AND (3) THE COAST GUARD FOR POLICING THE VESSELS AND BARGES DOING THE DUMPING. THE EPA DOES NOT SEE ANY OTHER IMMEDIATE ALTERNATIVES TO OFF DUMPING SINCE INCINERATION ADDS ADDITIONAL DIRTY AIR AND RELEASES AEROSOLS OF TOXIC HEAVY METALS WHILE COMPOSTING OF SLUDGE FOR FERTILIZERS IS ECONOMICALLY UNFEASABLE. THE EPA SUGGESTS A BI-STATE REGIONAL SLUDGE MANAGEMENT AUTHORITY TO SEEK ALTERNATIVES SUCH AS PIPELINES TO REMOTE LAND-FILLS, REGIONAL INCINERATION WITH ENERGY RECOVERY, OR ADVANCED TREATMENT PROCESSES. PRESENTLY THE EPA HAS SUCCEEDED IN GETTING THE NOAA TO IDENTIFY TWO ALTERNATIVE DUMPING AREAS FURTHER OUT AT SEA.

1751 SOUKUP, C.A.; S.J. SUCHARD; E.B. SMALL

SEASONAL FLUCTUATIONS OF PLANKTONIC CILIATE PROTOZOA FROM A POLLUTED MARINE ENVIRONMENT [1975]

J PROTOZOOL 22(3):31A-32A ABS ONLY

PLANKTON FROM THE WATER COLUMN OVER THE MAJOR SEWAGE DUMPSITE IN THE NEW YORK BIGHT WAS SAMPLED FOR 21 MO. QUANTITATIVE COUNTS OF THE CILIATES PRESENT INDICATE SEASONAL FLUCTUATION IN THE CILIATE PLANKTON POPULATION. SAMPLES WERE COLLECTED FROM DEPTHS OF 1 M, 1 M BELOW THE EUPHOTIC ZONE (RANGE: 3-30 M), AND 1 M ABOVE THE BOTTOM (RANGE: 25-33 M). THE SAMPLES WERE GRAVITY FILTERED THROUGH 80 MICRON, 35 MICRON, AND 20 MICRON MESH NYTEX MONOFILAMENT NYLON NET FILTERS SOON AS POSSIBLE. FILTERS WERE PLACED IN A 20-ML ALIQUOT OF FILTERED SEAWATER AND SWIRLED TO SUSPEND THE FILTRATE. 10 ML OF THE RESULTING CONCENTRATED PLANKTON SOUP WAS EXAMINED FOR LIVE MATERIAL AND 10 ML 4AS FIXED IN 10 ML OF BOUIN'S PRESERVATIVE FOR LATER COUNTING. DATA ANALYSIS INDICATES THAT THERE ARE 3 MAJOR POPULATION PEAKS, CORRESPONDING ROUGHLY TO THE SUMMER, AUTUMN, AND WINTER SEASONS. BACTIVOROUS SCUTICO CILIATES PREDOMINATE IN THE RELATIVELY LARGE SUMMER POPULATION PEAK; BACTIVOROUS PERITRICHS OUTNUMBER THE SCUTICO CILIATES IN THE LARGE AUTUMN PEAK; ALGIVOROUS TINTINNIDS PREDOMINATE IN THE SMALLER WINTER PEAK AND ARE ALSO PRESENT IN LOW NUMBERS DURING THE SPRING PHYTOPLANKTON BLOOMS.

1752 SOUKUP, C.A.

SEASONAL FLUCTUATIONS OF POPULATIONS OF PLANKTONIC CILIATED PROTOZOA OF THE NEW YORK BIGHT [1976]

M.S. THESIS. UNIV OF MD. BALTIMORE, MD

PLANKTON SAMPLES WERE TAKEN FROM THE 4ATER COLUMN AT SEVEN SELECTED SITES IN THE APEX OF THE NEW YORK BIGHT OVER A PERIOD OF 29 MONTHS (AUG 1973 TO FEB 1975). SAMPLING SITES INCLUDED AREAS OF THE LONG ISLAND SHORE, NEW JERSEY SHORE, HUDSON CANYON, AND NEAR THE NEW YORK HARBOR FOR CONTROLS, AND THE DUMPSITES FOR SEWAGE, DREDGE SPOILS, AND ACID WASTE. NISKEN WATER BOTTLES WERE USED TO TAKE FROM ONE TO TWELVE SAMPLES PER SITE. SAMPLES WERE MEASURED AND CONCENTRATED BY GRAVITY FILTRATION THROUGH A GRADED SERIES OF MONOFILAMENT NYLON FILTERS. EACH FILTER WAS PLACED INTO 20 ML OF FILTERED SEA WATER AND GENTLY AGITATED AND THE FILTERS REMOVED. THE CONCENTRATE WAS THEN DIVIDED INTO TWO ALIQUOTS OF 10 ML EACH. ONE ALIQUOT WAS EXAMINED FOR LIVE MATERIAL.

THE OTHER WAS FIXED WITH AN EQUAL VOLUME OF BOUIN'S FIXATIVE FOR QUANTITATIVE COUNTING. STATISTICAL EVIDENCE FOR POPULATION TRENDS RELATED TO DUMPSITES (SPECIFICALLY THE SEWAGE SITE) AND TO SEASONAL CHANGES IS PRESENTED. THE PRIMARY REASONS FOR THE OBSERVED TRENDS ARE CONCLUDED TO BE AS FOLLOWS: A) LOCALIZED AREAS OF HIGH BACTERIA CONCENTRATION AND ASSOCIATED LARGE POPULATIONS OF BACTIVOROUS CILIATES IN THE HIGHLY STRATIFIED SUMMER WATER COLUMN OF THE SEWAGE SLUDGE DUMPSITE AND B) THE PRESENCE OF LARGE POPULATIONS OF THE OMNIVOROUS TINTINNIDS AND THE RELATIVE ABSENCE OF BACTIVOROUS CILIATES IN THE WELL MIXED WATER COLUMN OF ALL SITES DURING THE WINTER AND SPRING MONTHS.

1753 SOUTHER, R.H.

WASTE TREATMENT STUDIES AT CLUETT, PEABODY AND COMPANY FINISHING PLANT [1969]

AMER DYESTUFF REPORTER 58 (15):13-16

A TEXTILE FINISHING PLANT, LOCATED AT THE CONFLUENCE OF THE MOHAWK AND HUDSON RIVERS, HAD POTENTIAL POLLUTANTS RESULTING FROM NATURAL IMPURITIES ON FABRICS AND FROM THE PROCESSING CHEMICALS USED IN THE DESIZING, SCOURING, MERCERIZING, BLEACHING AND FINISHING OPERATIONS. INSTALLATION OF CAUSTIC SODA RECOVERY UNITS ELIMINATED HYDROXYL ALKALINITY AND REDUCED POLLUTION LOADING BY ABOUT 50%. THEY MADE IT POSSIBLE TO REMOVE 97% OF BOD FROM THE EFFLUENT WATER, AS COMPARED WITH ABOUT 65% EFFICIENCY OBTAINABLE WITH THE PREVIOUS HIGHLY ALKALINE EFFLUENT. TANK SIZES AND RETENTION TIMES IN THE BIO-AERATION PROCESS WERE REDUCED. IT WAS FELT THAT THE INSTALLATION OF A FILTER PLANT AND ION-EXCHANGER WOULD MAKE IT POSSIBLE TO RECIRCULATE WATER.

1754 SPAGNOLI, J.J.; L.C. SKINNER

PCPS IN FISH FROM SELECTED WATERS IN NEW YORK STATE [1975]

TECH PAP 75-14. DIV OF FISH AND WILDLIFE, NY DEC. ALBANY, NY 47 PP

THIS IS A SUMMARY AND ANALYSIS OF PCB LEVELS IN FISH OF NEW YORK'S MAJOR RIVER SYSTEMS. SOME LAKE ONTARIO AND HUDSOM RIVER FISH EXCEED 5 PPM WITH THE LARGER, OILIER FISH HAVING THE HIGHEST LEVELS. IN THE HUDSON RIVER BELOW HUDSON FALLS FISH WITH PCBS ABOVE 50 PPM ARE NOT UNCOMMON. THE HIGHEST INDIVIDUAL CONCENTRATION RECORDED WAS 659 PPM IN A LARGE EEL.

1755 SPAGNOLI. J.J.; L.C. SKINNER

PCB'S IN FISH FROM SELECTED WATERS OF NEW YORK STATE [1977]

PESTIC MONIT J 11(2):69-87

PCB RESIDUES IN FISH FROM 41 STATIONS THROUGHOUT NY WERE MONITORED IN 1975. NEARLY ALL FISH CONTAINED PCBS IN DETECTABLE AMOUNTS ALTHOUGH THE LEVELS OF CONTAMINATION AND SPECIFIC AROCHLOR VARIED. THE HUDSON RIVER CONTAINED THE HIGHEST KNOWN PCB CONCENTRATIONS WITHIN THE US., LEVELS OFTEN EXCEEDED 100 PPM. OTHER WATERS AND FISH WHICH WERE SIGNIFICANTLY CONTAMINATED INCLUDE LAKE ONTARIO SALMONIDS AND CAYUGA LAKE LAKE TROUT. ONONDAGA LAKE, PREVIOUSLY CLOSED TO FISHING BECAUSE OF MERCURY CONTAMINATION, ALSO APPEARS TO HAVE ABNORMALLY HIGH LEVELS OF PCBS APPROACHING IN SOME INSTANCES THE ACTION LEVEL OF THE FDA. US DEPARTMENT OF HEW. SAMPLES FROM MARINE WATERS GENERALLY HAVE CONTAMINANT LEVELS SUBSTANTIALLY BELOW 5.0 PPM.

1756 SPATT. B.M.

ZONING: THE POLITICAL MILIEU: CASE STUDIES IN NEW YORK CITY, 1966-1973 [1976]

PH.D. THESIS. NYU, NEW YORK, NY 299 PP.

EXAMINATION OF SEVERAL CASE STUDIES INDICATE THAT BASIC PLANNING FOUNDATIONS ON WHICH THE ZONING RESOLUTION WAS STRUCTURED ARE OFTEN IGNORED. THIS IS DONE IN ORDER TO TRY TO GENERATE CITY REVENUES. THESE IMPROPER REASONS FOR USING OR CHANGING ZONING ARE FOR POLITICAL OBJECTIVES AND ARE AT THE EXPENSE OF COMPREHENSIVE PLANNING CONSIDERATIONS.

1757 SPITZER, P.R.; R.W. RISEBROUGH; W. WALKER, II; ET-AL.

PRODUCTIVITY OF OSPREYS IN CONNECTICUT-LONG ISLAND INCREASES AS DDE RESIDUES DECLINE [1978]

SCIENCE 202(4365):333-335

NESTING SUCCESS OF OSPREYS (PANDION HALIAETUS) BREEDING IN THE CONNECTICUT-LONG ISLAND AREA HAS INCREASED SINCE 1973 AND IS NOW APPROACHING THE LEVELS RECORDED PRIOR TO THE 1950'S. SIMULTANEOUSLY, DDE AND DIELDRIN RESIDUES HAVE DECLINED IN UNHATCHED EGGS. LEVELS OF PCBS SHOW NO CHANGES OVER THE PERIOD 1969-76. THE INCREASE IN PRODUCTIVITY IS ATTRIBUTED PRIMARILY TO LOWER LEVELS OF DDE CONTAMINATION. DETRIMENTAL EFFECTS IN THE PAST ON OSPREYS IN THE CONNECTICUT RIVER ESTUARY ARE ATTRIBUTED TO LOCAL CONTAMINATION WITH DIELDRIN.

1758 SQUIERS, E.R.; R.E. COOD

SEASONAL CHANGES IN THE PRODUCTIVITY, CALORIC CONTENT, AND CHEMICAL COMPOSITION OF A POPULATION OF SALT-MARSH CORD-GRASS (SPARTINA ALTERNIFLORA) [1974]

CHESAPEAKE SCI 15(2):63-71

DURING THE 1972 GROWING SEASON, THE PRODUCTIVITY OF A SHORT FORM AND A TALL FORM OF SPARTINA ALTERNIFLORA WAS STUDIED BY THE HARVEST METHOD IN THE VICINITY OF THE RUTGERS MARINE SCIENCES CENTER ON GREAT BAY NEAR TUCKERTON, NJ. THE ABOVEGROUND BIOMASS OF LIVING AND DEAD GRASS WAS DETERMINED AND SUBSAMPLES WERE ANALYZED FOR CALORIC EQUIVALENTS, ASH, NITROGEN, CRUDE PROTEIN, CRUDE FIBER, ETHER EXTRACT, AND NITROGEN FREE EXTRACT. S. ALTERNIFLORA HAD PEAK STANDING CROPS OF 1,592 G/M2 FOR TALL FORM AND 592 G/M2 FOR SHORT FORM. STANDING CROPS OF CRUDE FIBER, ETHER EXTRACT, NITROGEN FREE EXTRACT, AND CALORIC VALUES ARE A FUNCTION OF DRY MATTER PRODUCTION WHILE NITROGEN COMPONENTS SEEM TO BE INFLUENCED BY SOME OTHER FACTOR. 70 % OF THE CRUDE PROTEIN WAS PRESENT IN EARLY SUMMER AT A TIME WHEN DRY WEIGHT WAS LESS THAN 50% OF ITS MAXIMUM VALUE. THE DATA INDICATE THAT THE AMOUNT OF NITROGEN THAT THE PLANT ACCUMULATES IN ITS ABOVEGROUND PARTS EARLY IN THE GROWING SEASON IS DIRECTLY RELATED TO THE PEAK OF DRY MATTER STANDING CROP. THE EARLY SPRING ACCUMULATION OF NITROGEN MAY ACT TO OFFSET SHORTAGES AT THE PEAK OF THE GROWING SEASON. THE CHEMICAL COMPOSITION OF LITTER AND SOIL SAMPLES SUGGESTS THAT BIOLOGICAL BREAKDOWN OF PLANT MATERIAL OCCURS AT THE SOIL SURFACE.

1759 SQUIRES. D.F.

BROADENING OUR EXPERIENCE WITH MARINE BIOMASS [1980]

NYSG, ALBANY, NY 5 PP

BIOMASS IS THE USE OF LIVING MATERIAL TO PRODUCE ENERGY. SO FAR, CONSIDERATION OF MARINE BIOMASS PRODUCTION IN THE US HAS CENTERED AROUND THE WEST COAST AND ON THE GROWTH OF THE SEAWEED MACROCYSTIS, A PLANT AUTHORITIES DESCRIBE AS HAVING BEEN ENGINEERED FOR BIOMASS PRODUCTION. CONSIDERABLE INTEREST EXISTS IN DEVELOPING MARINE BIOMASS IN THE EAST AS WELL, WHERE ALTERNATIVE ENERGY SOURCES ARE URGENTLY NEEDED. HOWEVER, FURTHER INVESTIGATION IS NECESSARY TO DETERMINE WHAT KIND OF BIOMASS PRODUCTION WILL SUIT THE PARTICULAR BIOLOGICAL AND GEOLOGICAL CONDITIONS OF ATLANTIC COASTAL WATERS. TO EXAMINE QUESTIONS LIKE THIS, SEA GRANT HAS JOINED IN AN EXPLORATORY PROGRAM CONDUCTED BY A NUMBER OF PUBLIC AND PRIVATE ENERGY RESEARCH GROUPS. IN THIS PAPER, THE AUTHOR OUTLINES SOME OF THESE CONSIDERATIONS. AMONG THESE ARE (1) THE OVERALL ENERGY PRODUCING POTENTIAL OF BIOMASS PRODUCTION; (2) THE LEGAL AND SOCIAL FRAMEWORK UNDER WHICH IT MIGHT OCCUR; AND (3) THE KIND OF SEAMEED BEST SUITED FOR CULTIVATION. WITH REGARD TO THE LATTER, THE PROGRAM IS TAKING A LOOK AT INDIGENOUS SEAWEEDS THAT MIGHT BE CULTIVATED FOR

BIOMASS PRODUCTION. CONSIDERABLE ANXIETY EXISTS OVER THE RELEASE OF MACROCYSTIS--AS ANY EXOTIC SYSTEM MIGHT UPSET THE MARINE ENVIRONMENT. IT IS ALSO POSSIBLE THAT THE HIGH VALUES OF ATLANTIC WATERS RELATIVE TO THOSE OF THE WEST COAST COULD RESULT IN OVER-PRODUCTION OF MACROCYSTIS HERE, SO TESTS ARE BEING CONDUCTED TO DETERMINE HOW IT GROWS IN NEW YORK'S COASTAL WATERS. THE AUTHOR ALSO DISCUSSES THE MILIEU IN WHICH BIOMASS FARMING WOULD OCCUR, SPECIFICALLY AS IT RELATES TO THE NEW YORK BIGHT WHERE A FULL RANGE OF INTERNATIONAL, FEDERAL, AND STATE RELATIONSHIPS COME INTO PLAY.

1760 STAHL, L.E.; J. KOCZAN; D.J.P. SWIFT

ANATOMY OF A SHOREFACE-CONNECTED SAND RIDGE ON THE NEW JERSEY SHELF; IMPLICATIONS FOR THE GENESIS OF THE SHELF SURFICIAL SAND SHEET [1974]

GEOLOGY 2:117-120

FALLING WITHIN THE SITE SURVEY AREA FOR AN OFFSHORE NUCLEAR POWER FACILITY, BEACH HAVEN RIDGE HAS BEEN THE MOST THOROUGHLY INVESTIGATED SHOREFACE-CONNECTED RIDGE ON THE ATLANTIC SHELF. ITS STRATIGRAPHY CLEARLY INDICATES THAT IT IS OF HOLOCENE AGE AND INITIATED AT THE FOOT OF THE SHOREFACE, AFTER PASSAGE OF THE RETREATING BARRIER, AS THE LEADING EDGE OF THE SHELF SURFICIAL SAND SHEET.

1761 STAINKEN, D.M.

A DESCRIPTION EVALUATION OF THE EFFECTS OF NO. 2 FUEL OIL ON THE TISSUE OF THE SOFT SHELL CLAM, MYA ARENARIA L [1976]

BULL EYVIRONM CONTAM TOXICOL 16(6):730-738

THE RESULTS OF THIS STUDY WITH MYA ARENARIA REVEALED THAT RADICAL TISSUE CHANGES DID NOT OCCUR AFTER EXPOSURE TO NO. 2 FUEL OIL. IT IS POSSIBLE, HOWEVER, THAT EITHER THE VERY LOW CONCENTRATION OF OIL PRESENT IN THE WATER COLUMN WAS NOT SUFFICIENT TO ALTER TISSUE STRUCTURE (I.E. NEOPLASMS), OR THE EXPOSURE TIME WAS NOT LONG ENOUGH. THE HYDROCARBON CONCENTRATIONS IN THE WATER COLUMN OF EACH TANK MEASURED DURING THE LAST 3 WEEKS OF EXPOSURE VARIED FROM 1.52 TO 0.29 PPM. THE GENERAL EFFECTS OF SUBACUTE OIL EXPOSURE CAN BE CHARACTERIZED AS A DEPLETION OF GLYCOGEN AND GENERALIZED LEUKOCYTOSIS PARTICULARLY EVIDENT IN THE BLOOD SINUSES OF THE PALLIUM AND MANTLE MEMBRANE. THERE WAS ALSO AN INCREASE IN VACUOLIZATION OF THE DIVERTICULA, STOMACH AND INTESTINES. THE HISTOLOGICAL EFFECTS IN MYA ARENARIA APPEARED TO BE DOSE DEPENDENT. THE CLAMS EXPOSED TO THE INITIAL 100 PPM OIL EMULSION HAD MORE FREQUENT AND NOTICEABLE HISTOLOGICAL DIFFERENCES FROM THE CONTROLS. THE DEPLETION OF GLYCOGEN AND VACUOLIZATION MAY HAVE BEEN DUE TO A SUPPRESSION OF FEEDING AND CONSEQUENT USE OF BODY RESERVES COUPLED WITH AN ALTERED RESPIRATORY RATE. THE INCREASED VACUOLIZATION OF OIL-EXPOSED CLAMS MAY ALSO REPRESENT INCLUSION AND INTRACELLULAR COMPARTMENTALIZATION OF HYDROCARBONS. THE LEUKOCYTOSIS OF THE MANTLE BLOOD SINUSES BENEATH THE INNER EPITHELIUM PROBABLY REPRESENTS AN INFLAMMATION REACTION WITH A MIGRATION OF LEUKOCYTES INTO THE AFFECTED AREAS.

1762 STAINKEN. D.M.

THE EFFECT OF A NO. 2 FUEL OIL AND A SOUTH LOUISIANA CRUDE OIL UN THE BEHAVIOR OF THE SOFT SHELL CLAM. MYA ARENARIA L [1976]

BULL ENVIRONM CONTAM TOXICOL 16(6):724-729

GREATER CONCENTRATIONS OF OIL ELICITED GREATER MUCUS SECRETION AND DECREASED TACTILE RESPONSE IN MYA ARENARIA. BEHAVIOR SEQUENCE IS: INCREASED ACTIVITY. SUCCESSIVELY IMPAIRED ACTIVITY, IMMOBILIZATION AND DEATH.

1763 STAINKEN, D.M.

OCCURRENCE OF EXTRACTABLE HYDROCARBONS IN SEDIMENTS FROM RARITAN BAY, NEW JERSEY [1978]

US EPA, EDISON, NJ 8 PP NTIS-PB80-196 009

SEDIMENTS FROM 22 SITES IN THE RARITAN BAY-LOWER NEW YORK BAY COMPLEX SHOWED THAT EXTRACTABLE HYDROCARBONS AND PERCENT VOLATILES INCREASED AS THE SILT-CLAY CONTENT OF THE SEDIMENT INCREASED. THE HYDROCARBONS APPEARED TO BE CONCENTRATED IN THE DEEPER CENTER OF RARITAN BAY AND THE RARITAN BAY MUDS, HEADING DOWN THE BAY TOWARDS SANDY HOOK. EXTRACTABLE HYDROCARBONS RANGED FROM 2.2-1098.2 MICROGRAMS/G OF DRY SEDIMENT AND THE PERCENT OF VOLATILES RANGED FROM 0.85-11.39. A PEAK WITHIN THE N-C23 RANGE AND A LARGE "UNRESOLVED COMPLEX MIXTURE" WERE CHARACTERISTIC OF GAS CHROMATOGRAMS. MIXED ISOMERS OF BENZ-PYRENE AND BENZ-ANTHRACENE AND UNIDENTIFIED 1-6 FING POLYNUCLEAR AROMATIC HYDROCARBONS WERE PRESENT.

1764 STAINKEN, D.M.; U. FRANK

ANALYSIS OF RARITAN BAY BOTTOM WATERS FOR POLYNUCLEAR AROMATIC HYDROCARBONS [1979]

BULL ENVIRONM CONTAM TOXICOL 22(4-5):480-487

POLYNUCLEAR AROMATIC HYDROCARBON (PNA) CONCENTRATIONS AND TYPES WERE SURVEYED IN THE BOTTOM WATER OF THE LOWER NEW YORK
BAY-RARITAN BAY COMPLEX. BOTTOM WATERS SAMPLED FROM 18 SITES DURING JUNE 1977 WERE ANALYZED USING SYNCHRONOUS EXCITATION (SE)
FLUORESCENCE SPECTROSCOPY. CONFIRMATION WAS OBTAINED BY HIGH PRESSURE LIQUID CHROMATOGRAPHY AND IR SPECTROSCOPY. THE SE
PROCEDURE IS ADVANTAGEOUS IN THAT IT PERMITS CHARACTERIZATION OF THE AROMATIC CONTENT OF THE WATER SAMPLES WITH RESPECT TO THE
NUMBER OF AROMATIC RING SYSTEMS. MOST COMPOUNDS WERE FOUND IN THE LOW PARTS PER BILLION RANGE WHICH IS SURPRISING BECAUSE OF
THE HIGH POLLUTION INPUT. SITES WHERE PNA MATERIAL WAS FOUND WERE NEAR SHIP CHANNELS OR SEWER OUTFALLS IMPLICATING SHIPS AND
SEWAGE AS SOURCES OF PNA MATERIAL WITHIN THE AREA.

1765 STAINKEN, D.M.; J. ROLLWAGEN

PCB RESIDUES IN BIVALVES AND SEDIMENTS OF RARITAN BAY [1979]

BULL ENVIRONM CONTAM TOXICOL 23(4-5):690-697

THIS STUDY REPORTS THE RESULTS OF A SURVEY OF PCB CONTAMINATION IN THE RARITAN BAY-LOWER NEW YORK BAY COMPLEX. SEDIMENTS AND BIVALVE POPULATIONS WERE ANALYZED TO DETERMINE QUANTITIES AND TYPES OF PCB COMPOUNDS PRESENT. THE RANGE OF RESIDUES IN ALL BIVALVE TISSUES WAS FOUND TO BE 12-135 NG/G TISSUE. THE MEAN VALUES FOUND PER SPECIES SAMPLED WERE C. VIRGINICA 81 */- 32 NG/G TISSUE, M. ARENARIA 149 */- 67 NG/G TISSUE AND M. MERCENARIA 131 */- 27 NG/G TISSUE. IN CONTRAST, THE RANGE OF RESIDUES IN SEDIMENTS WAS 3.4-2035 NG/G. VERY FEW SEDIMENT RETENTION TIMES MATCHED MORE THAN 70% WITH THE STANDARD MIX OF ARCICLORS. HOWEVER, MANY SEDIMENTS MATCHED MORE THAN 50% WITH THE INDIVIDUAL ARCICLORS. THE SEDIMENTS APPEAR TO CONTAIN MIXTURES OF VARIOUS HOMOLOGS OF THE ARCICLORS. MIXTURES OF ARCICLORS 1016 AND 1242 APPEARED TO OCCUR IN ALL SEDIMENTS, ARCICLOR 1260 OCCURRED FREQUENTLY AND 1254 LESS OFTEN.

1766 STAKER, R.D.; S.F. BRUND

AN ANNUAL PHYTOPLANKTON STUDY IN COASTAL WATERS OFF EASTERN LONG ISLAND (BLOCK ISLAND SOUND) [1978]

BOTANICA MARINA 21(7):439-449

WATER SAMPLES WERE TAKEN TWICE A MONTH FOR 13 MO IN NERITIC WATERS OFF EASTERN LONG ISLAND. THE STUDY INVESTIGATED THE ANNUAL PHYTOPLANKTON CYCLE AND RELATED PHYSICAL AND CHEMICAL PARAMETERS ASSOCIATED WITH PHYTOPLANKTON ECOLOGY. SEAWATER TEMPERATURES RANGED BETWEEN 1 AND 22 C; SALINITIES WERE BETWEEN 27.7 AND 31.7 PPT, AND PH AVERAGED 7.83. NITRATE-N VALUES MAY BE CLOSE TO LIMITING FROM LATE MAY TO EARLY JULY; HOMEVER, P LEVELS APPEAR TO BE SATISFACTORY FOR PHYTOPLANKTON GROWTH. OXYGEN READINGS WERE USUALLY <5.00 ML/L, WHILE VITAMIN B12 VALUES AVERAGED CLOSE TO THOSE FOUND BY OTHERS FOR COASTAL WATERS. MEASUREMENTS OF THE PHYTOPLANKTON INCLUDED CELL COUNTS, CHLOROPHYLL A, AND SHANNON SPECIES DIVERSITY INDEX. A TOTAL OF 125 SPECIES OF

PLANKTONIC ALGAE WAS IDENTIFIED, WITH THE BACILLARIOPHYTA AND PHRROPHYTA CONTRIBUTING 93 AND 25 SPECIES, RESPECTIVELY.

SKELETONEMA COSTATUM WAS THE MOST NUMEROUS TAXON; HOWEVER, IT WAS SURPASSED BY THALASSIOSIRA NORDENSKIOLDII AND CERATIUM TRIPOS IN TERMS OF BIOMASS.

1767 STALTER. R.

SOME ECOLOGICAL OBSERVATIONS ON AN ILEX FOREST, SANDY HOOK, NEW JERSEY [1979]

CASTANEA 44:202-207

A FOREST WHICH IS LOCATED AT SANDY HOOK, NJ, AND WHICH IS AMONG THE BEST DEVELOPED ILEX OPACA FORESTS ON THE EAST COAST OF THE US, WAS STUDIED DURING SEPT AND OCT, 1977. THE POINT CENTERED QUARTER METHOD WAS USED TO SAMPLE ARBORESCENT VEGETATION AND DENSITY, RELATIVE DENSITY, FREQUENCY, RELATIVE FREQUENCY, BASAL AREA, RELATIVE DOMINANCE, AND IMPORTANCE VALUES WERE CALCULATED. HOLLY IS DOMINANT AND WILL PROBABLY REMAIN DOMINANT BECAUSE OF ITS ISOLATION, LACK OF COMPETITION, SHADE TOLERANCE, AND TOLERANCE OF SALT SPRAY.

1768 STALTER. R.

THE MAJOR PLANT COMMUNITIES OF THE FIRE ISLAND NATIONAL SEASHORE [1979]

PAGES 177-187 IN R.M. LINN, ED. PROC, 1ST CONFERENCE ON SCIENTIFIC RESEARCH IN THE NAT'L PARKS, NEW ORLEANS 9-12 NOV 1976. VOL 1. NAT'L PARK SERVICE TRANS AND PROC SER 5. US DEPT OF INTERIOR. WASHINGTON, DC

FIRE ISLAND IS A BARRIER ISLAND LOCATED ALONG THE SOUTH SHORE OF LONG ISLAND EXTENDING FROM SOUTHAMPTON TO APPROXIMATELY THE NASSAU-SUFFOLK COUNTY LINE, A DISTANCE OF 57 MI. IT IS SEPARATED FROM THE MAINLAND OF LONG ISLAND BY GREAT SOUTH BAY, WHICH IS FROM 3/4-3 MI WIDE. THE ISLAND SERVES AS A NATURAL BREAKWATER AND IS SEPARATED INTO 3 SEPARATE AND DISTINCT BARRIERS BY SHINNECOCK AND MORICHES INLETS. THERE ARE 3 GENERAL PLANT COMMUNITIES ON FIRE ISLAND: THE SAND DUNE COMMUNITY, THE SALT MARSH COMMUNITY, AND AN EVERGREEN FOREST OF ILEX OPACA (HOLLY). THE PLANTS OF THE SAND DUNE COMMUNITY GENERALLY TOLERATE SALT SPRAY. THE MOST COMMON MEMBERS OF THIS COMMUNITY INCLUDE AMMOPHILA BREVILIGULATA (DUNE GRASS), LATHYRUS JAPONICUS (BEACH PEA), ARTEMESIA STELLARIANA (DUSTY MILLER), AND SOLIDAGO SEMPERVIRENS (SEASIDE GOLDENROD). THE SALT MARSH COMMUNITY CONTAINS SPARTINA ALTERNIFLORA (TALL MARSH CORD GRASS), SALICORNIA SPP. (GLASS WORT), LIMONIUM CAROLINIANUM (SEA LAVENDER), DISTICHLIS SPICATA (SPIKE GRASS), SPARTINA PATENS (SALI MEADOW GRASS), AND IVA ORARIA (HIGH TIDE BUSH). SOIL SALT CONTENT AND TIDAL FLOODING ACCOUNT FOR THE ZONATION OF SALT MARSH SPECIES. THE MOST UNIQUE PLANT COMMUNITY OF THE ZONATION OF SALT MARSH SPECIES AN AREA OF APPROXIMATELY 64 ACRES BEHIND THE SECOND DUNE SYSTEM. ILEX OPACA (HOLLY) IS THE DOMINANT SPECIES OF THE SUNKEN FOREST WHICH IS ONE OF THE BEST DEVELOPED EVERGREEN MARITIME FORESTS IN THE COASTAL NORTHEASTERN US.

1769 STALTER, R.

CAREX KOBOMUGI OHWI AT SANDY HOOK, NEW JERSEY [1980]

BULL TORREY BOT CLUB 107(3):431-432

CAREX KOROMUGI OHWI IS REPORTED AT SANDY HOOK, MONMOUTH COUNTY, NJ. ASSOCIATED WITH AMMOPHILA BREVILIGULATA FERN ON PRIMARY AND SECONDARY DUNES IN THREE LOCATIONS

1770 STALTER, R.

THE PLANT COMMUNITIES OF SANDY HOOK, NEW JERSEY, WITH EMPHASIS ON ILEX OPACA [1980]

PAGES 26-50 IN PROC OF 2ND CONFERENCE ON SCIENTIFIC RESEARCH IN THE NATIONAL PARKS, SAN FRANCISCO. CA. VOL 11

THE PLANT COMMUNITIES OF SANDY HOOK, NJ WERE STUDIED FROM 1977 TO THE PRESENT. 17 VEGETATION UNITS HAVE BEEN IDENTIFIED. THESE COMMUNITIES ARE: DUNEGRASS COMMUNITIES, PHRAGMITIES COMMUNITY, HUDSONIA TOMENTOSA COMMUNITY, THE WIRE GRASS COMMUNITY, FRESHWATER MARSH COMMUNITIES, SALT MARSH COMMUNITIES, LOW DUNE THICKET, SHRUB THICKETS, HIGH XERIC THICKETS, HIGH RED CEDAR THICKET, PITCH PINE THICKET, TRANSITIONAL THICKETS. CACTUS COMMUNITY FORB-GRASSLAND COMMUNITY, WOODLANDS, ILEX-PRUNUS TRANSITIONAL FOREST. AND THE BAYSIDE HOLLY FOREST.

1771 STANFORD, H.M.

WHAT HAPPENS TO SEWAGE SLUDGE OVER SEVERAL HOURS AFTER IT IS DUMPED INTO THE OCEAN? [1978]

MESA, NOAA, STONY BROOK, NY 10 PP

THIS REPORT CONSISTS OF A SELCTION OF CHARTS AND GRAPHS FROM SEVERAL PAPERS ON SLUDGE CHARACTERISTICS AND SLUDGE DISPERSION. NO DISCUSSION OR COMMENTARY ON THE DATA IS INCLUDED. THE FOLLOWING TOPICS ARE COVERED: TEACHING DATA ON SEWAGE SLUDGE DISPERSION; SCATTERING STRENGTH PER UNIT VOLUME AFTER SLUDGE RELEASE; CHEMICAL ANALYSES OF SLUDGE AND OF THE WATER COLUMN AFTER SLUDGE DUMPING; SALINITY, TEMPERATURE, DENSITY, SIGMA-T AND EXTINCTION COEFFICIENTS BEFORE AND AFTER SLUDGE RELEASE; RELEASE OF HEAVY METALS FROM SLUDGE AND AMOUNTS OF PCBS AND DDT FOUND IN SLUDGE.

1772 STANFORD, H.M.; J.S. O'CONNOR; R.L. SHANSON

THE EFFECTS OF OCEAN DUMPING ON THE NEW YORK BIGHT ECOSYSTEM [1981]

PAGES 53-86 IN B.H. KETCHUM, D.R. KESTER AND P.K. PARK, EDS. OCEAN DUMPING OF INDUSTRIAL WASTES. PLENUM PUBLISHING CORP, NEW YORK, NY

THE EFFECTS OF OCEAN DUMPING ON A MARINE ECOSYSTEM MUST BE CONSIDERED IN THE CONTEXT OF THE CHARACTER AND QUANTITY OF ALL CONTAMINANTS REACHING THE SYSTEM. THE HIGHLY VARIABLE NATURE OF NATURAL FACTORS WITHIN THE ECOSYSTEM AND OF WASTE INPUTS TO IT MAKE THE DIRECT DETERMINATION OF CAUSE-EFFECT RELATIONSHIPS OF ANTHROPOGENIC MATERIALS QUITE DIFFICULT TO DISCERN. INDIRECT METHODS FOR SUCH DETERMINATION ARE POSSIBLE, OBVIATING THE NEED FOR EXHAUSTIVE STUDY OF WASTE MATERIALS AND THE ECOSYSTEM. ALL OF THESE FACTORS ARE ADDRESSED IN A CASE STUDY OF THE NEW YORK BIGHT ECOSYSTEM.

1773 STANKOWSKI, S.J.

MAGNITUDE AND FREQUENCY OF FLOODS IN NEW JERSEY WITH EFFECTS OF URBANIZATION [1974]

SPEC REP 38. USGS, TRENTON, NJ 46 PP

MATHEMATICAL AND GRAPHICAL RELATIONS ARE PRESENTED TO ESTIMATE FLOOD-PEAK MAGNITUDES HAVING SELECTED RECURRENCE INTERVALS RANGING FROM 2 TO 100 YRS FOR DRAINAGE BASINS LARGER THAN 1 MI2 WITH VARIOUS DEGREES OF EXISTING OR PROJECTED URBAN AND SURURBAN DEVELOPMENT. FOUR PARAMETERS ARE REQUIRED FOR USE OF THE RELATIONS. THREE OF THESE MAY BE MEASURED FROM TOPOGRAPHIC MAPS; NAMELY, BASIN SIZE, CHANNEL SLOPE, AND SURFACE STORAGE WITHIN THE BASIN. THE FOURTH IS AN INDEX OF MAN-MADE IMPERVIOUS COVER WHICH CAN BE DETERMINED FOR EXISTING AND FUTURE DEVELOPMENT CONDITIONS FROM CENSUS DATA AND POPULATION PROJECTIONS THAT ARE READILY AVAILABLE FROM REGIONAL, STATE AND LOCAL PLANNING AGENCIES. DEVELOPED FROM AN ANALYSIS OF FLOOD INFORMATION FOR 103 SITES IN NJ, THE RELATIONS SHOULD BE USEFUL FOR DESIGN OF BRIDGE WATERWAY OPENINGS, SELECTION OF OPTIMUM SIZE FOR DRAINAGE STRUCTURES, EVALUATION OF FLOOD HAZARDS FOR ALTERNATIVE LAND-USE PLANS, AND FOR DEFINITION OF FLOODWAY AND FLOOD-HAZARD AREA LIMITS. URBAN AND SUBURBAN DEVELOPMENT ARE SHOWN TO INCREASE FLOOD PEAKS UP TO 3 TIMES AT THE 2-YR RECURRENCE INTERVAL AND UP TO 18 TIMES AT THE 100-YR RECURRENCE INTERVAL AS STATEWIDE AVERAGES.

1774 STANLEY, D.J.; G.L. FREELAND

THE EROSION-DEPOSITION BOUNDARY IN THE HEAD OF HUDSON SUBMARINE CANYON DEFINED ON THE BASIS OF SUBMARINE OBSERVATIONS [1978]

MAR GEOL 26(3-4):M37-M46

SUBMERSIBLE OBSERVATIONS IN THE HEAD OF HUDSON CANYON, TO DEPTHS OF 305 M, INDICATE THAT COARSE RELICT SEDIMENT AT AND BELOW THE SHELF EDGE (AT ABOUT 10S M) HAS BEEN REWORKED BY CURRENTS AND BENTHIC ORGANISMS DURING THE HOLOCENE AND AT PRESENT. THE SHARP BOUNDARY BETWEEN AN UPPER GRAVEL-SHELL-SAND FACIES AND A DEEPER MUD FACIES IS HEREIN TERMED "MUD LINE." THIS "MUD LINE." PRESENT AT DEPTHS RANGING FROM 130 M TO 175 M, APPEARS TO RECORD A LONG-TERM SEPARATION OF ENERGY LEVELS. I.E., BELOW THESE DEPTHS, CURRENT SPEEDS NECESSARY TO ERODE FINE SEDIMENTS DECREASE SIGNIFICANTLY IN FREQUENCY AND INTENSITY. WE OBSERVED THAT THE SHELF BREAK AND UPPERMOST SLOPE IN THE CANYON IS A ZONE OF CONTINUING RESUSPENSION WHERE THERE IS NO PERMANENT ACCUMULATION OF FINES ABOVE THE "MUD LINE." DEFINING THE "MUD LINE" POSITION RELATIVE TO REGIONAL LITHOFACIES PATTERNS MAY PROVIDE AN ADDITIONAL, ALBEIT INDIRECT, MEASURE OF DEPTH OF IMPINGEMENT OF CURRENT SPEED SUFFICITIENT TO EXCEED THE THRESHOLD OF SEDIMENT TRANSPORT ON THE OUTER CONTINENTAL MARGIN.

1775 STANLEY, H.G.; D.W. KAPLANEK

A BIBLIOGRAPHY ON OCEAN WASTE DISPOSAL. 2ND ED [1976]

OCEAN DISPOSAL PROGRAM OFFICE, US EPA, WASHINGTON, DC 154 PP NTIS-PB-265 831

THIS RESEARCH BIBLIOGRAPHY IS RESTRICTED TO DOCUMENTS RELEVANT TO THE FIELD OF OCEAN WASTE DISPOSAL. IT IS PRIMARILY LIMITED TO RECENT PUBLICATIONS IN THE CATEGORIES OF: OCEAN WASTE DISPOSAL; CRITERIA; COASTAL ZONE MANAGEMENT; MONITORING; POLLUTION CONTROL; DREDGE SPOIL; DREDGE SPOIL DISPOSAL; INDUSTRIAL WASTE DISPOSAL; RADIOACTIVE WASTE; OIL SPILLS; BIOASSAY; FISHERIES RESOURCES; OCEAN INCINERATION; WATER CHEMISTRY; AND WATER POLLUTION.

1776 STARR, R.B.; G.A. BERBERIAN; M.A. WEISELBERG

NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC-1) R/V ADVANCE II, JAN 1975 [1976]

DR-ERL-MESA-22. NOAA, BOULDER, CO 48 PP NTIS-PB-271 472

DURING JANUARY 1975, AN OCEANOGRAPHIC CRUISE, DENOTED XWCC-1 WAS MADE BY THE R/V ADVANCE II IN THE NEW YORK BIGHT. THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA FOR ANALYSIS OF THE WATER CHARACTERISTICS IN THE NEW YORK BIGHT. THIS REPORT PRESENTS THE PHYSICAL AND CHEMICAL DATA FROM THIS CRUISE, AND DESCRIBES THE PARAMETERS MEASURED. THE MEASUREMENT METHODS. AND THE PROCEDURES FOR REDUCING THE DATA.

1777 STARR, R.B.; J.B. HAZELWORTH; G.A. BERBERIAN

NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC-6) NOAA SHIP GEORGE 8. KELEZ, 29 SEP-4 OCT 1975

DR-ERL-MÉSA-25. NOAA, BOULDER, CO. 132 PP. NTIS-P3-271 401

DURING SEPT-OCT 1975, AN OCEANOGRAPHIC CRUISE DENOTED XWCC-6 WAS MADE BY THE NOAA SHIP GEORGE B. KELEZ IN THE NEW YORK BIGHT.
THE OBJECTIVE OF THIS CHUISE WAS TO SUPPLY DATA TO BE INCORPORATED INTO AN ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS
IN THE HIGHLY IMPACTED ECOSYSTEM THIS REPORT PRESENTS THE PHYSICAL AND CHEMICAL DATA FROM THIS CRUISE AND DESCRIBES THE
MEASUREMENT METHODS AND PROCEDURES FOR REDUCING THE DATA.

1778 STARR, R.B.; J.B. HAZELWORTH; S.R. CUMMINGS; G.A. BERBERIAN

NEW YORK BIGHT PROJECT EXPANDED WATER COLUMN CHARACTERIZATION CRUISE (XWCC 10) NOAA 6HIP GEORGE 8. KELEZ, 28 JUN-1 JUL 1976

DR-ERL-MESA-28. NOAA, BOULDER, CO 91 PP NTIS-PB-275 442

DURING THE PERIOD 28 JUNE-1 JULY 1976, AN OCEANOGRAPHIC CRUISE WAS MADE ON THE NOAA SHIP GEORGE B KELEZ IN THE NEW YORK BIGHT.

THE OBJECTIVE OF THE CRUISE WAS TO SUPPLY DATA TO PROVIDE A BASE FOR ANALYSIS OF THE WATER CHARACTERISTICS AND MOVEMENTS IN THE
HIGHLY IMPACTED ECOSYSTEM. THIS REPORT PRESENTS THE CORRECTED PHYSICAL AND CHEMICAL (NUTRIENT) DATA FROM THIS CRUISE, AND
DESCRIBES THE NEUSTON NET TOWING OPERATION AND RESULTS.

1779 STARR, R.B.; F.W. STEIMLE, JR.

TEMPORAL DEVELOPMENT OF PHYSICAL CHARACTERISTICS [1980]

PAGES 17-50 IN OXYGEN DEPLETION AND ASSOCIATED BENTHIC MORTALITIES IN NEW YORK BIGHT, 1976. NOAA PROF PAP 11. NOAA, BOULDER, CO

STUDY OF THE OCEANIC CONDITIONS AND EVENTS, AND THEIR PROGRESSION IN THE NEW YORK BIGHT DURING 1976, INDICATES THE PRESENCE OF WARMER-THAN-NORMAL BOTTOM WATERS, EARLY IN THE YEAR. THIS IS IN ACCORD WITH THE FINDINGS OF HAZELWORTH AND CUMMINGS, AND SUGGESTS A LARGER AMOUNT OF OFFSHORE WATER IN THE BIGHT THAN USUAL. THERE MAY BE A CONNECTION BETWEEN THIS PRESENCE OF OFFSHORE WATER AND THE LARGE CONCENTRATION OF CERATIUM TRIPOS IN THE MIDDLE ATLANTIC BIGHT IN 1976. BY JUNE, HOWEVER, SURFACE AND BOTTOM WATERS WERE NEARLY NORMAL. THE DISTRIBUTION OF PROPERTIES IN THE HUDSON SHELF VALLEY AND OFF NEW JERSEY IN MAY, JUNE, AND SEPTEMBER, AND AT THE HURRICANE BELLE XBT AND BOTTOM-OXYGEN STATIONS, SUGGESTS AN ONSHORE MOVEMENT OF WATER BENEATH THE PYCNOCLINE. THIS AGREES WITH THE SLUGGISH ONSHORE SET FOUND IN THE CURRENT METER RECORDS BY MAYER AND OTHER. THE THICKNESS OF THE SUBPYCNOCLINE LAYER IS ABOUT 4 M LESS IN MAY AND JUNE OFF NEW JERSEY THAN OFF LONG ISLAND, THOUGH THE BOTTOM OF THE PYCNOCLINE IS AT A SHALLOWER DEPTH OFF NEW JERSEY. THIS DIFFERENCE IN THICKNESS WAS LESS IN SEPTEMBER. IN BOTH LOCALITIES BOTTOM WATER WAS EFFECTIVELY ISOLATED FROM THE SURFACE BY A RELATIVELY STRONG PYCNOCLINE. THIS PYCNOCLINE DID NOT APPEAR TO BE SIGNIFICANTLY STRONGER THAN NORMAL, PARTICULARLY EARLY IN THE YEAR. THE OCCURRENCE OF BOTTOM WATER THAT WAS 2.5 C WARMER THAN NORMAL IN APRIL AND 3 TO 4 C COLDER THAN NORMAL IN THE LATTER HALF OF THE SEASON INDICATES ADVECTION OF BOTTOM WATER THAN MATER THAN NORMAL IN APRIL AND 3 TO 4 C COLDER THAN NORMAL IN THE LATTER HALF OF THE SEASON INDICATES ADVECTION OF BOTTOM WATER THAN MATER INTO THE REGION. IF THE CONTINENTAL SHELF WERE THE SOURCE OF THIS WATER, THEN IT MUST HAVE BEEN SUBJECTED TO ANOMALOUS CONDITIONS UPSTREAM WHEN IT WAS AT THE SURFACE. HURRICANE BELLE HAD SOME EFFECT ON THE WATER COLUMN DOWN TO AT LEAST 25 M.

1780 STAUBLE, D.K.

SEASONAL AND STORM-RELATED BEACH CHANGES AT OCEAN CITY, NEW JERSEY [1973]

GEOL SOC AM ABSTR PROG 5(2):221-222

DETAILED SEASONAL AND STORM-RELATED BEACH CHANGES HAVE BEEN SURVEYED AT 3 BEACH PROFILE LOCATIONS AT OCEAN CITY, NJ, AN 8-MI LONG BARRIER ISLAND ALONG THE SOUTHERN NEW JERSEY COAST. THE BEACH PROFILE DATA WAS COLLECTED USING THE EMERY PROFILE METHOD AND ANALYZED WITH A DIGITAL COMPUTER TO DETERMINE VOLUMETRIC AND WITHIN-PROFILE CHANGES. SEASONAL CHANGES ARE RELATED TO THE ONSHORE MIGRATION OF AN INTERTIDAL RIDGE. THE RIDGE MIGRATED A DISTANCE OF 33 M (108.2 FT) IN 6 MO FROM THE LOW-TIDE SWASH ZONE, 9Y WAVE OVERWASH AND SLIP-FACE DEPOSITION INTO A RUNNEL, AND WELDED ONTO THE DUNES. DURING THE LATER STAGES OF RIDGE MIGRATION THE SUPRATIDAL BEACH WIDTH DECREASED, WILLE THE BEACH HEIGHT INCREASED, RESULTING IN A NET ACCRETION OF 95.3 FT2. AS THE RIDGE MIGRATED ONTO THE BEACH IN EARLY SPRING THE PROFILE BECAME CONVEX WITH A MEAN FORESHORE SLOPE OF 1:15. DURING JULY AND AUGUST WHEN THE PEACH WAS THE WIDEST THE MEAN FORESHORE SLOPE WAS 1:30 AND ALMOST PLANAR IN SLOPE. AS THE WIDTH OF THE BEACH DECREASED IN OCTOBER WITH THE WELDING OF THE RIDGE AT THE DUNE LINE THE MEAN FORESHORE SLOPE WAS 1:9 AND SLIGHTLY CONCAVE UPWARD DUE TO THE EROSION OF THE SEAWARD END OF THE WELDED RIDGE. BY JANUARY MOST OF THE WINTER EROSION HAS OCCURRED AND THE BEACH PROFILE STAYS RELATIVELY CONSTANT DURING THE REMAINDER OF THE WINTER MONTHS. SUPERIMPOSED ON THIS SEASONAL CYCLE ARE VARIATIONS IN THE RATES OF ACCRETION AND EROSION DUE TO "NORTHEASTERS" AND TROPICAL STORM ACTIVITY. DURING THE SUMMER AND EARLY

FALL THE BEACH RECOVERS VERY RAPIDLY FROM THESE STORMS. DETAILED PROFILE ANALYSIS INDICATES A NODAL POINT CLOSE TO THE LOW TIDE SWASH LINE SEPARATING TWO MAJOR ZONES OF ACTIVITY. DURING NET BEACH ACCRETION SAND IS GAINED ABOVE AND LOST BELOW THE NODAL POINT; THE OPPOSITE OCCURS DURING NET BEACH EROSION. VOLUMETRIC CHANGES FROM "NORMAL" STORM ACTIVITY ARE SMALLER THAN THE SEASONAL CHANGES, AND OFTEN RESULT IN NET SAND VOLUME INCREASES ALONG THE BEACH PROFILE.

1781 STECKLER. M.S.; A.B. WATTS

SUBSIDENCE OF THE ATLANTIC-TYPE CONTINENTAL MARGIN OFF NEW YORK [1978]

EARTH PLANET 41(1):1-13

THE CONTINENTAL MARGIN OFF NEW YORK CONSISTS OF A THICK SEQUENCE OF AT LEAST 4.8 KM OF MAINLY SHALLOW-WATER SEDIMENTS. SUCH LAPGE THICKNESSES OF SHALLOW-WATER SEDIMENTS CANNOT BE PRODUCED BY THE EFFECTS OF SEDIMENT LOADING ALONE. WE HAVE USED BIOSTRATIGRAPHIC DATA FROM THE COST B-2 WELL TO EXAMINE THE ORIGIN OF THE SUBSIDENCE OF THIS MARGIN. THE CONTRIBUTION OF SEDIMENT LOADING TO THE SUBSIDENCE HAS BEEN EVALUATED AND REMOVED. CORRECTIONS FOR EFFECTS OF COMPACTION, WATER DEPTH AND CHANGES OF SEA-LEVEL WERE ALSO INCLUDED. THE REMAINING SUBSIDENCE HAS BEEN INTERPRETED IN TERMS OF A SIMPLE THERMAL MODEL FOR THE COOLING LITHOSPHERE. BASED ON THIS MODEL A THICKNESS OF THE THERMAL LITHOSPHERE OF 113-139 KM IS ESTIMATED. THE TOTAL SUBSIDENCE AND CRUSTAL THINNING BENEATH THE COST B-2 WELL ARE ALSO ESTIMATED AND USED TO PLACE CONSTRAINTS ON MODELS FOR THE ORIGIN OF THE MARGIN.

1782 STEDFAST, D.A.

CROSS SECTIONS OF THE HUDSON RIVER ESTUARY FROM TROY TO NEW YORK CITY. NEW YORK [1980]

USGS, ALBANY, NY 76 PP

DATA ON CHANNEL GEOMETRY OF THE HUDSON RIVER ESTUARY AT 125 CROSS SECTIONS BETWEEN THE FEDERAL DAM AT TROY AND THE NORTHERN LIMITS OF NEW YORK CITY (133 MI) ARE PRESENTED FOR USE IN HYDRAULIC MODELING TIDAL STUDIES, TRAVEL TIME AND WATER GUALITY STUDIES, AND OTHER USES REQUIRING KNOWLEDGE OF HUDSON RIVER CHANNEL PROPERTIES. THE DATA WERE OBTAINED FROM FATHOMETER SURVEYS OF THE ESTUARY IN 1966-69. WATER-SURFACE ELEVATIONS WERE NOT RECORDED AT TIMES OF FATHOMETER RUNS BUT WERE CALCULATED IN 1979 FROM INFORMATION ON TIDE VARIATIONS IN THE ESTUARY AND FROM STAGE DATA COLLECTED AT ALBANY AND NEW YORK CITY. TOPOGRAPHIC MAPS AND FIELD RECONNAISSANCE WERE USED TO EXTEND THE ENDS OF THE CROSS SECTIONS BEYOND 100-YEAR FLOOD STAGE. CHANNEL-CONFIGURATION DATA ARE PRESENTED AS PERSPECTIVE PLOTS AND IN A TABLE; ALSO INCLUDED ARE STRIP MAPS SHOWING THE LOCATION OF THE CROSS SECTIONS.

1783 STEGEN, G.R.; D.P. DELISI; R.C. VON COLLN

PORTABLE, DIGITAL RECORDING, EXPENDABLE BATHYTHERMOGRAPHY (XBT) SYSTEM [1975]

DEEP SEA RES 22(6):447-453

A NEW SYSTEM UTILIZING EXPENDABLE BATHYTHERMOGRAPH (XBT) PROBES TO MEASURE THE VERTICAL TEMPERATURE STRUCTURE IN THE OCEAN IS DESCRIBED. THE SYSTEM PRODUCES A DIGITAL RECORD AND OFFERS SEVERAL IMPORTANT ADVANTAGES OVER THE STANDARD ANALOG RECORDING SYSTEM COMMONLY USED. DATA TAKEN WITH THE NEW SYSTEM IN THE NEW YORK BIGHT ARE PRESENTED.

1784 STEIMLE, F.W., JR.; R.B. STONE

ABUNDANCE AND DISTRIBUTION OF INSHORE BENTHIC FAUNA OFF SOUTHWESTERN LONG ISLAND [1973]

TECH REP SSRF-673. NCAA, BOULDER, CO 50 PP

THIS PAPER DESCRIBES A QUALITATIVE AND QUANTITATIVE CENSUS OF THE INSHORE BENTHIC FAUNA OFF SOUTHWEST LONG ISLAND OVER THE PERIOD FEB 1966 THROUGH JAN 1967, PRIOR TO CONSTRUCTION OF AN OCEAN SEWER OUTFALL IN THE GENERAL VICINITY. PRELIMINARY ANALYSES OF DATA INDICATE THE PRESENCE OF THREE DISTINCT COMMUNITIES: 1) AN INSHORE MEDIUM TO COARSE GRAIN SAND COMMUNITY DOMINATED BY THE BIVALVE, TELLINA AGILIS. THE AMPHIPOD, PROTOCHAUSTORIUS DEICHMANNAE, AND THE ECHINODERM, ECHINARACHINUS PARMA; 2) AN OFFSHORE SILTY FINE SAND COMMUNITY DOMINATED BY THE BIVALVE, NUCULA PROXIMA, AND THE POLYCHAETE, NEPHTYS INCISA; AND 3) A COMMUNITY DOMINATED BY THE BLUE MUSSEL, MYTILUS EDULIS.

1785 STEIMLE, F.W., JR.

DISSOLVED OXYGEN LEVELS IN NEW YORK BIGHT WATERS DURING 1977 [1978]

TECH REP. NMFS. HIGHLANDS. NJ 34 PP

ANOXIA IN BOTTOM WATERS OF THE NEW YORK BIGHT, AND ASSOCIATED MASS MORTALITIES OF MARINE ORGANISMS IN 1976, CAUSED CONCERN THAT ANOXIA MAY BECOME A CHRONIC PROBLEM IN THE BIGHT. THE NORTHEAST FISHERIES CENTER OF NMFS, ESTABLISHED A SERIES OF PERIODIC SURVEYS EARLY IN 1977 TO FURTHER UNDERSTAND THE HYDROLOGIC "CLIMATE" OF THE BIGHT AND TO MONITOR DISSOLVED OXYGEN (DO) LEVELS. THE BIGHT DID NOT BECOME ANOXIC IN 1977, ALTHOUGH A BAND OF LOW DO LEVELS WAS FOUND ALONG THE NEW JERSEY COAST DURING THE SUMMER.

1786 STEIMLE, F.W., JR.

HYDROGRAPHIC DATA FROM NEW YORK BIGHT: JULY-NOVEMBER 1976 [1978]

DR-ERL-MESA-35. NOAA. BOULDER. CO 202 PP NTIS-PB-284 447

AFTER EXTENSIVE MORTALITIES OF DEMERSAL FINFISH AND SHELLFISH OFF THE NORTH-CENTRAL NEW JERSEY COAST WERE REPORTED, INVESTIGATION DETERMINED THAT AN OXYGEN DEPLETION PROBLEM EXISTED IN THE SUB-THERMOCLINE WATER LAYER. A SERIES OF 39 CRUISES COLLECTED DATA IN THE NEW YORK BIGHT FROM JUL THROUGH NOV 1976. THIS REPORT IS A COMPILATION OF HYDROGRAPHIC DATA COLLECTED DURING THESE CRUISES. ALL STATIONS WERE LOCATED BY LORAN A OR C WITH GEOGRAPHIC CONVERSIONS FOR SOME DERIVED FROM A COMPUTER CONVERSION PROGRAM. THE ACCURACY OF COMPUTER CONVERSIONS WAS SPOT CHECKED AND ESTIMATED TO BE WITHIN 0.5 NAUTICAL MILES OF ACTUAL PLOTTED STATION LOCATIONS. WATER SAMPLES WERE COLLECTED IN PVC NISKIN WATER COLLECTORS. DISSOLVED OXYGEN DETERMINATIONS WERE MADE BY THE ALSTERBERG-AZIDE MODIFICATION OF THE WINKLER METHOD, SUBSTITUTING PHENYLARSENE OXIDE FOR SODIUM THIOSULFATE. SALINITY VALUES WERE DETERMINED WITH A BECKMAN RS-7C INDUCTION SALINJMETER, CORRECTED FOR DRIFT AND TEMPERATURE COMPENSATED. WATER TEMPERATURE WAS MEASURED WITH HYDROLAB FTO 3M THERMISTER THERMOMETER, GLASS MERCURY-TYPE THERMOMETER AND X3T'S. PORTIONS OF THIS DOCUMENT ARE NOT FULLY LEGIBLE.

1787 STEIMLE, F.W., JR.; C.J. SINDERMANN

REVIEW OF OXYGEN DEPLETION AND ASSOCIATED MASS MORTALITIES OF SHELLFISH IN THE MIDDLE ATLANTIC BIGHT IN 1976 [1978]

MAR FISH REV 40(12):17-26

IN SUMMER AND AUTUMN OF 1976, MASS MORTALITIES OF SHELLFISH OCCURRED IN A 165-KM LONG CORRIDOR OF SEVERE OXYGEN DEPLETION PARALLELING THE NEW JERSEY COAST FROM 5 TO 85 KM FROM SHORE, MORTALITIES OF SURF CLAMS, SPISULA SOLIDISSIMA, THE MOST SEVERELY AFFECTED SPECIES, WERE ESTIMATED IN EXCESS OF 140,000 T. ALTERATION OF NORMAL MIGRATORY PATTERNS OF LOBSTERS AND SEVERAL SPECIES OF FINFISH WAS ALSO NOTED. A SERIES OF ANOMALOUS METECROLOGICAL AND HYDROLOGICAL EVENTS (PARTICULARLY EARLY WARMING OF SURFACE WATERS RESULTING IN EARLY THERMOCLINE DEVELOPMENT, AND A MASSIVE SHELF-WIDE PHYTOPLANKTON BLOOM) SUPERIMPOSED ON AN ALREADY STRESSED COASTAL AREA, WAS CONSIDERED TO BE RESPONSIBLE. THE OCCURRENCE IS PARTICULARLY SIGNIFICANT BECAUSE THE

CONTINENTAL SHELF OF THE MIDDLE ATLANTIC BIGHT, FROM CAPE COD TO CAPE HATTERAS ON THE EAST COAST OF THE US, CONTAINS THE LARGEST KNOWN STOCKS OF OCEAN SHELLFISH OF ANY COMPARABLE COASTAL AREA OF NORTH AMERICA.

1788 STEIMLE, F.W., JR.; D.J. RADOSH

EFFECTS ON THE BENTHIC INVERTEBRATE COMMUNITY [1980]

PAGES 281-293 IN OXYGEN DEPLETION AND ASSOCIATED BENTHIC MORTALITIES IN NEW YORK BIGHT, 1976. NOAA PROF PAP 11. NOAA, BOULDER,

THE OXYGEN DEPLETION EVENT OF 1976 KILLED MANY BENTHIC INVERTEBRATES, ESPECIALLY SURF CLAMS OFF CENTRAL NEW JERSEY. SOME ORGANISMS, MOSTLY POLYCHAETES, SHOWED TOLERANCE. RECOLONIZATION AND STABILIZATION OF THE BENTHIC INVERTEBRATE POPULATION APPEARED TO BE INCOMPLETE 1 YEAR AFTER THE DISTURBANCE. SEVERAL YEARS MAY BE REQUIRED FOR SOME SPECIES——E.G., THOSE WITH NONPLANKTONIC LARVAL DISPERSAL—TO RETURN TO PREANOXIC LEVELS AND FOR THE BENTHIC INVERTEBRATE COMMUNITY TO STABILIZE TO A PREANOXIC STATE.

1789 STEINBERG, M.N.

A PRELIMINARY SYSTEM DYNAMICS MODEL OF THE EFFECTIVENESS OF SHELLFISH HATCHERIES ON INCREASING HARVESTABLE YIELDS [1980]

PAGES 395-900 IN PROC. INTERNAT'L CONFERENCE ON CYBERNETICS AND SOCIETY. 1980. IEEE. NEW YORK. NY

LONG ISLAND'S GREAT SOUTH BAY IS THE SOURCE OF OVER HALF THE HARD CLAMS SOLD IN THE US AND THIS RESOURCE PROVIDES OVER \$100 MILLION A YEAR FOR THE LONG ISLAND ECONOMY. BUT HEAVY EXPLOITATION HAS TAKEN ITS TOLL: THE BAY'S HARD CLAM POPULATION IS NOW IN DANGER. WHAT CAN BE DONE TO HALT THIS THREATENING TREND? IN THIS STUDY, THE FIRST OF A SERIES OF SYSTEM DYNAMICS MODELS EXAMINING THIS PROBLEM, THE AUTHOR'S AIM IS TO DETERMINE WHETHER SEEDING IS ACTUALLY EFFECTIVE. THE BASIC QUESTION IS WHETHER AN INCREASED AMOUNT OF THE ANIMALS WHO PREY ON THEM. IN THE LONG RUN, WHO BENEFITS MOST FROM ARTIFICIAL SEEDING—THE PREY OR THE PREDATORS? THE AUTHOR'S DISCONCERTING CONCLUSION IS THAT IN THIS CASE IT IS IN FACT THE PREDATORS WHO GET THE NOO, WHILE THE HARD CLAM POPULATION IS NOT SIGNIFICANTLY AFFECTED. SEEDING MAY NOT BE ALTOGETHER WORTHLESS, BUT IT MAY BE IN DIRE NEED OF MODIFICATIONS. THE AUTHOR BACKS UP HER ARGUMENT WITH DETAILED ANALYSIS AND DIAGRAMS.

1790 STETSON, J.B.

NATIONAL DAM SAFETY PROGRAM. LOWER (SOUTH) WICCOPEE DAM (NY33), LOWER HUDSON RIVER BASIN, PUTNAM COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 112 PP NTIS-AD-A065 833

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION.

1791 STETSON, J.B.

NATIONAL DAM SAFETY PROGRAM. HUSCOUT DAM (NY61), LOWER HUDSON RIVER BASIN, WESTCHESTER COUNTY, NY. PHASE I INSPECTION REPORT

NTIS, SPRINGFIELD, VA 81 PP NTIS-AD-AJ65 979

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND

ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. MUSCOUT DAM WAS JUDGED TO BE SAFE.

1792 STETSON, J.B.

NATIONAL DAM SAFETY PROGRAM. POCANTICO LAKE DAM (NY49), LOWER HUDSON RIVER BASIN, WESTCHESTER COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 94 PP NTIS-AD-A366 031

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. POCANTICO LAKE DAM WAS JUDGED TO BE UNSAFE NON-EMERGENCY DUE TO A SERIOUSLY INADEQUATE SPILLWAY.

1793 STETSON, J.B.

NATIONAL DAM SAFETY PROGRAM. INDIAN BROOK RESERVOIR (NY44), LOWER HUDSON RIVER BASIN, WESTCHESTER COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 90 PP NTIS-AD-AJ64 006

AUTHORITY FOR THIS REPORT IS PROVIDED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367 OF 1972. THE PURPOSE DF THIS INSPECTION IS TO EVALUATE THE STRUCTURAL AND HYDRAULIC CONDITION OF THE INDIAN BROOK DAM AND APPURTENANT STRUCTURES, OWNED BY THE VILLAGE OF OSSINING, NY, AND TO DETERMINE IF THE DAM CONSTITUTES A HAZARD TO HUMAN LIFE OR PROPERTY AND TO TRANSMIT FINDINGS TO THE STATE. THIS PHASE I ANSPECTION REPORT DOES NOT RELIEVE AN OWNER OR OPERATOR OF A DAM OF THE LEGAL DUTIES, OBLIGATIONS OR LIABILITIES ASSOCIATED WITH THE OWNERSHIP OR OPERATION OF THE DAM. IN ADDITION, DUE TO THE LIMITED SCOPE OF SERVICES FOR THESE PHASE I INVESTIGATIONS, THE INVESTIGATORS HAD TO RELY UPON THE DATA FURNISHED TO THEM. THEREFORE, THIS INVESTIGATION IS LIMITED TO VISUAL INSPECTION, REVIEW OF DATA PREPARED BY OTHERS, AND SIMPLIFIED HYDROLOGIC, HYDRAULIC AND STRUCTURAL STABILITY EVALUATIONS WHERE APPROPRIATE. THE INVESTIGATORS DO NOT ASSUME RESPONSIBILITY FOR DEFECTS OR DEFICIENCIES IN THE DAM OR IN THE DATA PROVIDED.

1794 STETSON. J.B.

NATIONAL DAM SAFETY PROGRAM. MINE LAKE DAM (NY767), LOWER HUDSON RIVER BASIN, ORANGE COUNTY, NY. PHASE I INSPECTION REPORT

NTIS, SPRINGFIELD, VA 91 PP NTIS-AD-AU86 357

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. MINE LAKE DAM IS CLASSIFIED AS A SMALL DAM WITH A SIGNIFICANT HAZARD POTENTIAL. THE DAM IS CONSTRUCTED OF MASONRY AND IS 13.9 FT HIGH AND 516 FT IN LENGTH. OVER 300 FT OF THE DAM'S LENGTH IS LESS THAT 8 FT IN HEIGHT. THE DAM'S RESERVOIR IS ONLY 25 ACRES. POPOLOPEN DAM IS LOCATED 1 MI ABOVE MINE LAKE, 4HILE STILWELL DAM AND RESERVOIR IS LOCATED A FEW HUNDRED FEET BELOW MINE LAKE DAM. THE DRAINAGE AREA OF THE DAM IS 8.7 SQ MI. THE STRUCTURE FORMS AN IMPOUNDMENT WHICH IS USED FOR RECREATIONAL PURPOSES ON THE WEST POINT MILITARY RESERVATION. HYDROLOGY COMPUTATIONS PREPARED ACCORDING TO THE CORPS OF ENGINEERS' SCREENING CRITERIA ESTABLISHES THE SPILLWAY CAPACITY OF 1,492 CFS AT 9.9 % OF THE PMF WITH THE PMF DISCHARGE AT 15,070 CFS AND THE 1/2 PMF DISCHARGE AT 7,170 CFS. SINCE THE SPILLWAY CANNOT PASS THE 1/2 PMF DISCHARGE WITHOUT OVERTOPPING THE DAM, THE SPILLWAY IS INADEQUATE. THE STABLITY ANALYSIS DETERMINED THREE LOADING CASES WHERE THE DAM WAS UNSTABLE. EACH OF THESE CASES INVOLVED UPLIFT ON THE BASE OF THE DAM DUE TO HYDROSTATIC FORCES IN COMBINATION WITH THE PMF, SEISMIC LOADINGS OR ICE LOADINGS. ONLY THE ICE LOAD OCCURS IN A NORMAL OPERATING SITUATION. THE CONDITION OF UPLITT IS PLAUSIBLE SINCE SEFPAGE WAS OBSERVED AT THE JUNCTURE OF THE MASONRY SPILLWAY WITH THE REPORDS.

1795 STEWART. K.R.; L.K. KODITSCHEK

DRUG-RESISTANCE TRANSFER IN ESCHERICHIA COLI IN NEW YORK BIGHT SEDIMENT [1980]

MAR POLL BULL 11(5):130-133

SEDIMENT FROM THE SENAGE SLUDGE DUMPSITE AREA IN THE NEW YORK BIGHT CONTAINS BACTERIA RESISTANT TO ANTIBIOTICS AND HEAVY METALS. A STUDY WAS CONDUCTED TO DETERMINE IF ANTIBIOTIC RESISTANCE COULD BE TRANSFERRED FROM DONOR TO RECIPIENT E. COLI STRAINS INOCULATED INTO GLASS VESSELS CONTAINING SEDIMENT AND SEAWATER OBTAINED NEAR THE DUMPSITE. TEMPERATURE WAS MAINTAINED AT 10 C, THE MEAN WINTER TEMPERATURE OF BENTHIC WATER AT THE DUMPSITE. TRANSCONJUGANTS (RECIPIENTS WHICH INHERIT DONOR GENES FOR TETRACYCLINE RESISTANCE) WERE ISOLATED FROM THE SEAWATER AND SEDIMENT WITHIN 1 HR AFTER INOCULATION AND WERE FOUND IN ALL SUPSEQUENT SEDIMENT SAMPLES FOR 1 MO. DONOR AND RECIPIENT E. COLI REMAINED VIABLE IN THE SEDIMENT FOR </EXAMPLES FOR 1 MO. SEWAGE SLUDGE POLLUTED SEDIMENT MAY SERVE AS AN ENVIRONMENT CONDUCTVE TO CONJUGAL TRANSFER OF ANTIBIOTIC RESISTANCES GENES.

1796 STEWART, R.J.; J.W. DEVANNEY, III

PROBABILISTIC TRAJECTORY ASSESSMENTS FOR OFFSHORE OIL SPILLS IMPACTING LONG ISLAND [1974]

NOAA, ROCKVILLE, MD 34 PP NTIS-PB-263 0.13

THIS STUDY HAS SHOWN THAT UNDER THE PRESUMED CURRENT AND WIND FIELDS, IT IS REASONABLE FOR LONG ISLAND TO ANTICIPATE THAT SOME SPILLS FROM THE NANTUCKET SHOALS REGION WILL BEACH UPON HER SHORES GIVEN A SUFFICIENT NUMBER OF SUCH EVENTS. IN PARTICULAR, IT APPEARS THAT THE PROBABILITY OF A SPILL BEACHING ON LONG ISLAND GIVEN THAT IT ORIGINATED ON NANTUCKET SHOALS IS ON THE ORDER OF .05 IN THE SUMMER AND PERHAPS..01 OR LESS IN THE WINTER. THE TIMES TO SHORE FOR SPILLS FROM THIS AREA APPEAR TO BE IN THE 30-TO 40-DAY RANGE ON THE AVERAGE, AND THE MINIMUM IS AROUND 20 DAYS. THESE PREDICTIONS ARE SOMEWHAT AT VARIANCE WITH OUR PREVIOUS RESULTS, BUT THIS CAN BE EXPLAINED BY THE DIFFERENCES IN THE WIND FIELD SPECIFICATIONS.

1797 STOCKTON. W.D.; R.H. BACKUS

THE DISTRIBUTION OF SALINITY IN NEW YORK HARBOR AND ITS APPROACHES [1951]

ONR. ARLINGTON. VA 57 PP NTIS-AD-494 919

THE DATA PRESENTED IN THIS REPORT HAVE BEEN TAKEN FROM A NUMBER OF SOURCES. OBSERVATIONS IN LONG ISLAND SOUND HAVE BEEN DRAWN FROM RILEY AND THOSE FOR NEW YORK BIGHT FROM KETCHUM, REDFIELD AND AYERS. WINTER VALUES FOR RARITAN BAY HAVE BEEN TAKEN FROM AYERS, KETCHUM AND REDFIELD. SUMMER VALUES FOR THE SAME PLACE ARE FROM UNPUBLISHED DATA OF AYERS. DATA FOR THE REMAINDER OF THE AREA--THE WATERS AROUND MANHATTAN INCLUDING THE EAST AND HARLEM RIVERS, AND WESTERMOST LONG ISLAND SOUND HAVE BEEN GATHERED BY J.C. AYERS UNDER THE PRESENT CONTRACT. IN ADDITION TO SUMMER AND WINTER DATA PRESENTED FOR THE WHOLE AREA UNDER CONSIDERATION, SPRING AND FALL DATA ARE PRESENTED FOR NEW YORK BIGHT. BESIDES THE CHARTS SHOWING SURFACE DISTRIBUTION OF SALINITY A NUMBER OF DIAGRAMS HAVE BEEN PROVIDED SHOWING THE VERTICAL DISTRIBUTION AT A NUMBER OF SELECTED SECTIONS.

1798 STOCKION, W.D.; J.C. AYERS

THE DISTRIBUTION OF SALINITY IN THE WATERS OF NEW YORK BIGHT, BLOCK ESLAND SOUND, AND NEWPORT BIGHT; CRUISE STIRNI I, JULY-SEPTEMBER 1951 [1952]

ONR, ARLINGTON, VA 21 PP NTIS-AD-494 921

THE DATA PRESENTED IN THIS REPORT WERE OBTAINED DURING JULY, AUGUST, AND SEPTEMBER, 1951 ON CRUISE STIRNI I OF THE PROJECT. THE LOCATION OF THE STATIONS AT WHICH THE DATA WERE OBTAINED IS SHOWN. IN PREPARING THE SURFACE SALINITY CONTOURS THE FOLLOWING

PROCEDURE WAS FOLLOWED: SALINITY VALUES OBTAINED BY TITRATION OF SURFACE SAMPLES SECURED AT ALL HYDROGRAPHIC STATIONS AND AT MANY BATHYTHERMOGRAPH LOWERINGS BETWEEN STATION POSITIONS WERE PLOTTED ON USC AND GS CHART NO. 1108. THE POINTS THUS LOCATED WERE THEN CONNECTED BY THE STIRNI'S TRACT FROM STATION TO STATION. ON THE COURSE LINES THE CORRECTED SURFACE SALINITY VALUES FROM THE SALINITY-TEMPERATURE-DEPTH RECORDER WERE PLOTTED AND THE WHOLE WAS CONTOURED.

1799 STONE, R.B.

ARTIFICIAL REEFS AND FISHERY MANAGEMENT [1978]

FISHERIES 3(1):2-4

ARTIFICIAL REEFS CAN AND SHOULD BE USED AS A POSITIVE METHOD FOR MANAGING ROUGH BOTTOM FISHERIES WITHIN A GIVEN AREA BY HELPING TO MAINTAIN STOCKS OF FISH AT LEVELS THAT WILL PROVIDE ACCEPTABLE CATCHES TO ANGLERS WHILE INSURING CONTINUANCE OF THE RESOURCE. A BRIEF HISTORY OF ARTIFICIAL REEF CONSTRUCTION IN THE US IS PROVIDED. SOME FISH, SUCH AS GRUNTS, FEED DN GRASS BEDS AND SAND BOTTOM AT NIGHT BUT USE REEFS FOR SHELTER DURING THE DAY. REEF MATERIALS ALSO PROVIDE SHELTERED AREAS OF CALM WATER OR FAVORABLE CURRENTS BY DAMPING OR DEFLECTING CURRENTS. FISH USING THESE AREAS CONSERVE ENERGY. MANY FISH FEED ON ALGAE OR ENCRUSTING AND MOTILE INVERTEBRATES ASSOCIATED WITH THE REEF AS WELL AS USING THE SHELTER THAT REEFS PROVIDE. REEFS ALSO MAY BE USED AS LANDMARKS OR VISUAL REFERENCE POINTS FOR FISH; THESE LANDMARKS PROVIDE A SPATIAL REFERENCE FOR FISH IN A RATHER FEATURELESS ENVIRONMENT. MANY DIFFERENT NONTOXIC SCRAP MATERIALS WERE EVALUATED, INCLUDING CAR BODIES, BUILDING RUBBLE, CONCRETE CULVERTS, SHIPS, BARGES, AND TIRES. SINCE THERE IS A DEFINITE RELATIONSHIP BETWEEN ROUGH BOTTOM AND NUMBERS OF FISH, ABSENCE OF ROUGH BOTTOM LIMITS THE NUMBER OF JUVENILE AND ADULT ROUGH-BOTTOM FISH THAT A GIVEN AREA CAN SUPPORT. IF ARTIFICIAL REFFS COULD DOUBLE ROUGH-BOTTOM CARRYING CAPACITY IN THESE AREAS, THEN AREAS WITH RELATIVELY HIGH FISHING PRESSURE AND SMALL AMOUNTS OF ROUGH-BOTTOM HABITAT COULD BE IMPROVED CONSIDERABLY. AN ILLUSTRATION OF THIS PHENOMENON IS PRESENTED, USING THE NEWYORK BIGHT AS AN EXAMPLE.

1800 STONE, W.B.

POISONING OF WILD BIRDS BY ORGANOPHOSPHATE AND CARBAMATE PESTICIDES [1979]

NY FISH GAME J 26(1):37-47

8 INSTANCES IN WHICH ORGANOPHOSPHATE OR CARBAMATE (CHOLINESTERASE INHIBITOR) PESTICIDES APPLIED FOR VARIOUS PURPOSES KILLED WILD BIRDS ARE DISCUSSED. THOUSANDS OF BIRDS ARE APPARENTLY BEING KILLED IN THIS WAY, AND MORE SUCH CASES ARE ANTICIPATED BECAUSE OF THE WIDESPREAD USE, AND OFTEN MISUSE, OF THESE PESTICIDES. METHODS ARE SUGGESTED FOR INVESTIGATING WILDLIFE POISONINGS.

1801 STONE, W.B.; E. KIVIAT; S.A. BUTKAS

TOXICANTS IN SNAPPING TURTLES [1980]

NY FISH GAME J 27(1):39-50

SELECTED TISSUES FROM 32 SNAPPING TURTLES (CHELYDRA SERPENTINA) FROM NEW YORK WATERS WERE ANALYZED FOR ORGANOCHLORINE CONTAMINANTS. HIGH LEVELS OF ORGANOCHLORINES, ESPECIALLY PCOS, WERE FOUND IN THE FAT (E.G., A MEAN OF 2990.60 PPM FOR THE SPECIMENS FROM THE HUDSON RIVER AND SOME OTHER LOCALITIES IN THE STATE SEEM UNSUITABLE FOR HUMAN CONSUMPTION BECAUSE OF CONTAMINATION OF THEIR TISSUES WITH PERSISTENT POLLUTANTS. IT IS SUGGESTED THAT THE SNAPPING TURTLE WOULD MAKE A USEFUL ADDITION TO THE SPECIES USED FOR MONITORING, AND FINDING. CUMULATIVE TOXICANTS.

1802 STORM, P.C.

A DESCRIPTION AND ANALYSIS OF PHYTOPLANKTON PRODUCTION IN THE HUDSON RIVER ESTUARY DURING 1974 AND 1975 (1979)

PH.D. THESIS. NYU. NEW YORK, NY 109 PP

A DESCRIPTION AND ANALYSIS OF PHYTOPLANKTON PRODUCTION IN THE HUDSON RIVER ESTUARY DURING 1974 AND 1975 IS GIVEN. A SPATIAL AND TEMPORAL SURVEY OF THE PHYTOPLANKTON ABUNDANCE (7 x 10exp4 cells/l to 2 x 10exp6 cells/l) and primary production (2 mg Carbon/m2/hr to 138 mg carbon/m2/hr) varied seasonally with the peak occurring during the spring. The dominant species, cyclotella glomerata, was observed throughout the river during all sampling periods. The major factors influencing the seasonal variation in phytoplankton populations were solar radiation, water temperature and freshwater discharge. The spatial variation in Populations was dependent upon the salinity, artificial nutrient additions and the river hydrography. The Phytoplankton contribution to the organic nutrition of the river was minor compared to the detrital contributions. The average phytoplankton portion of the particulate organic carbon over the 2-yr period was 8.3%.

1803 STOTT, P.H. (EDITOR)

LONG ISLAND: AN INVENTORY OF HISTORIC ENGINEERING AND INDUSTRIAL SITES [1975]

HISTORIC AMERICAN ENGINEERING RECORD, WASHINGTON, DC NP

THIS PAPER INVENTORIES HIGTORIC ENGINEERING AND INDUSTRIAL SITES FOR SUFFOLK, NASSAU, KINGS, AND QUEENS COUNTIES, NY.

1804 STUBBLEFIELD, W.L.; M. DICKEN; D.J.P. SWIFT

RECONNAISSANCE OF BOTTOM SEDIMENTS ON THE INNER AND CENTRAL NEW JERSEY SHELF [1974]

REP 74111811. NOAA. BOULDER. CO 43 PP NT1S-COM-75-10285

THE PETROGRAPHY OF SAMPLES FROM TWO AREAS ON THE NEW JERSEY SHELF WAS ANALYZED TO RESOLVE THE RELATION BETWEEN SURFICIAL GRAIN-SIZE DISTRIBUTION, HYDRAULIC REGIME, AND BATHYMETHY. DETERMINATION OF THIS RELATION IS ESSENTIAL TO OUR UNDERSTANDING OF THE SEDIMENT FLUX IN THESE AREAS AND IS A CRITICAL PARAMETER FOR ENVIRONMENTAL IMPACT PROBLEMS. THE SAMPLE LOCALITIES ARE PRESENTLY UNDERGOING, OR ARE BEING CONSIDERED FOR, A VARIETY OF CONFLICTING USAGES, INCLUDING FOOD RESOURCES (FISHING), MINERAL RESOURCES (BEACH BORPOW), AND WASTE DISPOSAL (DREDGE SPOIL AND SEWAGE). ALL OF THE COLLECTED SAMPLES WERE EXAMINED FOR GRAIN-SIZE DISTRIBUTION IN QUARIER-PHI INTERVALS AND FOR RELATED STATISTICAL PARAMETERS WHICH INCLUDE MEAN GRAIN SIZE STANDARD DEVIATION, SKEWNESS, AND KURTOSIS. A MEAN GRAIN-SIZE DISTRIBUTION MAP FOR EACH AREA SUGGEGTS A RELATION BETWEEN BATHYMETRY AND GRAIN-SIZE DISTRIBUTION WHICH, IN TURN, DEFINES CERTAIN FEATURES OF A HYDRAULIC REGIME. SELECTED SAMPLES WERE FURTHER EXAMINED FOR RELATIVE PERCENT OF DETRITUS, CLAY PEBBLES, FAUNA CONTENT, AND HEAVY MINERAL CONCENTRATIONS. THE INDIVIDUAL PETROGRAPHICAL PARAMETERS ARE PRESENTED IN TABULAR FORM.

1805 STUBBLEFIELD, W.L.; D.J.P. SWIFT; T.F. MCKINNEY

RIDGE AND SWALE TOPOGRAPHY OF THE CENTRAL NEW JERSEY SHELF: ACTIVE OR RELICT HYDRAULIC RESPONSE? [1974]

EOS: TRANS AM GEOPHYS UNION 55(4):279

TOPOGRAPHIC, STRATIGRAPHIC, AND PETROGRAPHIC DATA FROM THE CENTRAL NEW JERSEY SHELF ARE SUFFICIENT TO RESOLVE ITS HOLOCENE HISTORY. THE TOPOGRAPHY IS IMPRINTED ON THE GREAT EGG SHOAL RETREAT MASSIF, THE RETREAT PATH OF THE ESTUARY MOUTH SHOAL ASSOCIATED WITH THE ANCESTRAL GREAT EGG RIVER. THE DATA INDICATE, SOMEWHAT LESS DEFINITIVELY, THAT THE TRANSVERSE RIDGES OF THE MASSIF WERE INITIATED BY THE STORM FLIW FIELD AFTER PASSAGE OF THE SHORELINE. A SMALL-SCALE RIDGE PATTERN IMPRINTED OVER THE INITIAL PATTERN SHOWS THAT SUBSTRATE RESPONSE TO HYDRAULIC PROCESS CONTINUED AS THE SHORELINE RECEDED AND THE WATER COLUMN DEEPENED. GRAIN SIZE DISTRIBUTIONS, RADIOCARBON DATES, AND SAND-RIBBON-LIKE BEDFORMS SUGGEST THAT THE TOPOGRAPHY CONTINUES TO

RESPOND TO STORM FLOW. A MODEL FOR MAINTENANCE OF THE RIDGES, INVOLVING SECONDARY FLOW IN THE STORM FLOW FIELD, IS COMPATIBLE WITH MORPHOLOGIC AND PETROGRAPHIC DATA, BUT NEEDS CONFIRMATION BY HYDRAULIC OBSERVATIONS. THE ISSUE IS BECOMING A PRACTICAL ONE, AS DEEP WATER TERMINALS, OFFSHORE POWER PLANTS, AND DRILLING PLATFORMS ARE PROPOSED FOR THE REGION.

1806 STUBBLEFIELD, W.L.; J.W. LAVELLE; D.J.P. SWIFT; T.F. MCKINNEY

SEDIMENT RESPONSE TO THE PRESENT HYDRAULIC REGIME ON THE CENTRAL NEW JERSEY SHELF [1974]

J SEDIMENT PETROL 45 (1):337-358

PETROGRAPHIC DATA, FROM VIBRACORES AND GRAB SAMPLES COLLECTED ON THE CENTRAL NEW JERSEY SHELF, SUGGEST A SUBSTRATE STILL ACTIVELY RESPONDING TO THE HYDRAULIC REGIME. RADIOCARBON DATES OF SHELL MATERIAL FROM THE RIDGE AND SWALE TOPOGRAPHY INDICATES AGGRADATION OF THE RIDGE'S CREST DURING THE LAST 500 YEARS AND EXPOSURE OF EARLIER HOLOCENE MATERIAL IN THE DEEPER TROUGHS OF THE AREA. THE SAMPLES FROM BOTH THE CORES AND THE SURFICIAL SAMPLES WERE INVESTIGATED FOR HEAVY MINERAL PERCENTAGES AND GRAIN SIZE ANALYSIS IN ADDITION TO RADIOCAR3ON DATING. THE CONCENTRATION OF HEAVY MINERALS INTO DISSEMINATED BANDS, AS OBSERVED IN THE VIBRACORES, IS COMPATIBLE WITH SEDIMENT TRANSPORT BY SAND RIPPLES ON THE RIDGE'S FLANKS. THE GRAIN SIZE VARIATION WAS SUBJECTIVELY ANALYZED BY APPLYING A Q-MODE FACTOR ANALYSIS WHICH PRODUCED THREE DISTINCT GROUPINGS OF THE GRAIN SIZE DISTRIBUTION. EACH GROUPING IS FOUND TO CHARACTERIZE A PARTICULAR PART OF THE RIDGE TOPOGRAPHY. FINE SAND AND MODERATE SORTING OCCUPS ON THE FLANKS, MEDIUM TO FINE SAND AND MODERATE SORTING OCCUPS ON THE CRESTS WHEREAS TWO POPULATIONS ARE FOUND IN THE TROUGHS: COARSE, POOPLY SORTED SANDS AND VERY FINE, WELL SORTED SANDS. THIS TEXTURAL VARIATION SUPPORTS A HYPOTHESIS OF UP-FLANK RHEOLOGIC AND SUSPENSIVE TRANSPORT OF MEDIUM AND FINE SAND DURING INTENSE STORMS AND SUBSEQUENT DOWN-FLANK WINNOWING OF FINE SAND DURING LESS INTENSE METEROLOGICAL EVENTS. THE RADIOCARBON DATES INDICATE THAT SIZE FRACTIONATION AND HEAVY MINERAL CONCENTRATIONS ARE SUBSEQUENT TO ISOLATION FROM A BEACH ENVIRONMENT.

1807 STUBBLEFIELD, W.L.

TEMPORAL AND SPATIAL SUBSTRATE VARIATION IN THE NEW YORK BIGHT APEX [1975]

GEOL SOC AM ABST PROG 7(7):1285-1286

QUARTERLY MONITORING OF SELECTED AREAS IN THE NEW YORK BIGHT APEX, OVER A 1-1/2 YEAR SPAN, INDICATES A PRONOUNCED TEMPORAL AND SPATIAL VARIATION WITHIN THE UPPER FE4 MILLIMETERS OF THE SUBSTRATE. BY MEANS OF SIDESCAN SONAR, BOTTOM GRAB SAMPLING, AND BOTTOM PHOTOGRAPHY, BOTTOMS RANGING FROM COARSE, CLEAN SAND TO MUDDY, VERY-FINE SAND WERE OBSERVED. A TEMPORAL VARIATION BECAME APPARENT WHEN THE SAMPLING STATIONS WERE REOCCUPIED WITH THE AID OF PRECISION NAVIGATION. THE MONITORING, WHICH INCLUDED SAMPLES TAKEN SHORTLY BEFORE AND AFTER A DECADAL STORM, SUGGESTS THAT THE SUBSTRATE MOBILITY IS MOST PREVALENT IN THE VICINITY OF LONG ISLAND AND NEW JERSEY SHORELIVES AND IN CHRISTIAESEN BASIN WHICH MARKS THE HEAD OF THE HUDSON SHELF VALLEY. SIDESCAN RECORDS FROM NEARSHORE LONG ISLAND INDICATE DEVELOPMENT OF SAND WAVE-LIKE FORMS DURING THE WINTER AND GUBSEQUENT DEGRADATION DURING THE SUMMER MONTHS. THE SAND WAVE DEVELOPMENT IS PROBABLY ASSOCIATED WITH THE PEAK-FLOW EVENTS OF THE WINTER STORMS. THE FEATURES ARE OF NEGLIGIBLE RELIEF, AND MAY BE DEGRADED BY THE ACTION OF BOTTOM WAVE SURGE AND BENTHIC ORGANISMS. CHRISTIAENSEN BASIN, WHICH IS CHARACTERIZED BY MUDDY, VERY-FINE SAND IN ITS CENTER, IS THE SETTLING SITE FOR MUCH OF THE SEWAGE SLUDGE MATERIAL PRESENTLY BFING DUMPED BY NEW YORK CITY. SIDESCAN RECORDS SHOW THAT THE BASIN IS CHARACTERIZED BY A PATCHY BOTTOM PATTERN. THE PATCHES ARE IRREGULAR IN SHAPE, FREQUENTLY ELONGATED TO THE NORTHWEST AND VARY IN SHAPE AND POSITION BETWEEN OBSERVATIONS WHICH SUPPORT THE SUGGESTION OF TEMPORAL MOBILITY OF THE BOTTOM SEDIMENTS.

1808 STUBBLEFIELD, W.L.

RIDGE DEVELOPMENT AS REVEALED BY SUB-BOTTOM PROFILES ON THE CENTRAL NEW JERSEY SHELF [1976]

MAR GEOL 20(4):315-334

CLOSELY-SPACED 3.5 KHZ SEISMIC PROFILES WERE COLLECTED OVER THE NORTHEASTERLY TRENDING RIDGE AND SWALE SYSTEM 50 KM EAST-SOUTHEAST OF ATLANTIC CITY, NJ. THEY YIELD INFORMATION ON THE LATE QUATERNARY DEPOSITIONAL HISTORY OF THE AREA, AND ON THE ORIGIN OF THE RIDGE SYSTEM. 4 OF THE SUB-BOTTOM REFLECTORS IDENTIFIED WERE SUFFICIENTLY PERSISTENT TO WARRANT INVESTIGATION AND INTERPRETATION. THESE REFLECTORS. WHICH HAVE BEEN CORED, LITHOLOGICALLY IDENTIFIED, AND RADIOCARBON DATED, ARE STRATIGRAPHICALLY HIGHER THAN THE REFLECTORS DEALT WITH BY THE MAJORITY OF PREVIOUS STUDIES. THE UPPER 3 REFLECTORS ARE DEFINITELY MID- AND POST-WISCONSIN IN AGE AND PRESENT A RECORD OF THE MOST RECENT GLACIAL CYCLE. THE UPPER 3 UNITS ASSOCIATED WITH THE OBSERVED REFLECTORS APPEAR TO EXERT A PRONOUNCED INFLUENCE ON THE BATHYMETRY. THE GENTLY CORRUGATED RIDGE SYSTEM OF HOLOCENE SAND IS FORMED OVER THE REGIONALLY FLAT-LYING UPPER UNIT. AN EARLY HOLOCENE LAGOONAL SILTY CLAY. THE CHARACTERISTICALLY FLAT. BROAD DEPRESSIONS OF THE AREA ARE FLOORED BY THIS LAGOONAL MATERIAL. LOCALLY. HOWEVER. MARINE SCOUR HAS CUT THROUGH THE SILTY CLAY INTO AN UNDERLYING UNIT OF UNCONSOLIDATED FINE PLEISTOCENE SAND. SEVERAL STAGES OF TROUGH DEVELOPMENT APPEAR TO BE REPRESENTED. AFTER PENETRATING THE LAGOONAL CLAY, TROUGHS ARE INITIALLY NARROW, BUT WHEN INCISED THROUGH THE SAND INTO A LOWER, PLEISTOCENE, SILTY-CLAY UNIT, THE TROUGHS BECOME NOTABLY WIDER, AS DOWNCUTTING IS INHIBITED BY THE LOJER CLAY, THE UPPER CLAY IS UNDERCUT AS THE TROUGH WIDENS IN A FASHION SIMILAR TO A DESERT BLOWOUT. THE SUB-BOTTOM REFLECTORS INDICATE THAT RIDGE DEVELOPMENT ON THE CENTRAL SHELF HAS INVOLVED AGGRADATION AS WELL AS EROSION. SOME RIDGES SEEM TO HAVE GROWN BY VERTICAL AND LATERAL ACCRETION FROM SMALL CORES. THE INTERNAL STRUCTURE OF OTHER RIDGES SUGGESTS THAT THEY FORMED BY THE COALESCENCE OF SEVERAL SMALL RIDGES. OTHERS APPEAR TO HAVE UNDERGONE APPRECIABLE LATERAL MIGRATION. THE RIDGES APPEAR TO BE IN A STATE OF CONTINUING ADJUSTMENT TO THE HYDRAULIC REGIME OF THE DEEPENING POST-PLEISTOCENE WATER COLUMN.

1809 STUBBLEFIELD, W.L.; R.W. PERMENTER; D.J.P. SWIFT

TIME AND SPACE VARIATION IN THE SURFICIAL SEDIMENTS OF THE NEW YORK BIGHT APEX [1977]

ESTUARINE COASTAL MAR SCI 5(5):597-607

SIDESCAN SONAR RECORDS, GRAB SAMPLES, AND BOTTOM PHOTOGRAPHS WERE COLLECTED ALONG TWO TRANSECTS IN THE NEW YORK BIGHT APEX, ON A QUARTERLY BASIS FOR SIX QUARTERS. SAMPLING WAS DESIGNED TO DETERMINE THE NATURAL VARIABILITY OF BOTTOM DEPOSITS IN TIME AND SPACE, AND THE EFFECT OF OCEAN DUMPING ON THESE PATTERNS. THE HUDSON SHELF VALLEY AND THE CHRISTIAENSEN BASIN AT ITS HEAD ARE FLOORED BY FINE MUDDY SAND AND MUD, WHILE THE HIGH AREAS ON EITHER SIDE ARE COVERED BY MEDIUM GRAINED SAND. BOTTOM SANDS ON THE SEAWARD SIDE ARE RELATIVELY UNIFORM. ON THE NEW JERSEY SIDE, AND NEAR THE LONG ISLAND COAST, SAND RIBBON-LIKE PATTERNS WITH SPACINGS OF 10-200 M APPEAR. SEPARATE DUMPSITES FOR SEWAGE SLUDGE, DREDGE SPOIL, CELLAR DIRT, AND ACID WASTE OCCUR WITHIN THE AREA. THE DISTRIBUTION OF GRAIN SIZES AND BEDFORM PATTERNS ARE STABLE OVER TIME, INDICATING THAT THE BOTTOM IS IN A STATE OF TEXTURAL NEAR-EQUILIBRIUM WITH THE HYDRAULIC CLIMATE. THE EFFECTS OF OCEAN DUMPING ARE MOST OBVIOUS IN THE VICINITY OF THE DREDGE SPOIL DUMPSITE, WHICH HAS SHOALED 15 M WITHIN THE LAST YEARS. HERE AN AUREOLE OF ANOMALOUSLY FINE SEDIMENT IS SPREADING OVER A BOTTOM LOCALLY COMPOSED OF ARTIFICIAL RUBBLE. CHOLERA BANK, THE AREA WHERE THE HIGHLY MOBILE SEWAGE SLUDGE IS DUMPED, IS FLOORED BY SAND; NO PERMANENT SLUDGE DEPOSITS FORM. THE BOTTOM MUDS OF THE ADJACENT CHRISTIAENSEN BASIN MAY, HOWEVER, BE CONTAMINATED WITH THIS MATERIAL.

1810 STUNKARD, H.W.

CLARIFICATION OF TAXONOMY AND NOMECLATURE IN THE GENUS OPECOELOIDES ODHNER 1928 [1978]

J PARASITOL 64(1):177-178

THE FINDING OF OPECOELOIDES VITELLOSUS IN THE PUFFER, SPHEROIDES MACULATUS, FROM LONG ISLAND SOUND, PROMPTED A REVIEW OF THE SCATTERED LITERATURE DEALING WITH THE OPECOELOIDES SP (DIGENEA). THE STATUS OF 8 OPECOELOIDES AND RELATED GENERA, OF WHICH ANISOPORUS METACERCARIAE WERE FOUND IN THE PROSOBRANCH GASTROPOD, MITRELLA LUNATA, CYMBEPHALLUS FROM FISHES, AND DISTOMUM VITELLISUM FROM MERLUCCIUS TRILINEARIS IS DISCUSSED.

1811 STURGES, W.

"COMMENT ON NEARSHORE CURRENTS OFF LONG ISLAND" BY J.T. SCOTT AND G.T. CSANADY [1977]

J GEOPHYS RES 82(9):1451-1452

THIS PAPER DISCUSSES THE LINEAR RELATIONSHIP BETWEEN LONGSHORE WIND STRESS AND CURRENTS 2 M ABOVE THE BOTTOM. THE LONGSHORE SLOPE RESULTING FROM THIS IS A MINIMUM IN THE FALL WHEN THE LONGSHORE WIND STRESS IS A MINIMUM. THESE SLOPES ARE BEYOND THE LIMITS OF GEODETIC LEVELING.

1812 SULLIVAN, L.: E. THORNDIKE: S. EITTREIM

NEPHELOMETER MEASUREMENTS AND BOTTOM PHOTOGRAPHS FROM CONRAD CRUISE 16 [1975]

OFF OF NAVAL RES. ARLINGTON, VA 202 PP NTIS-A012-431

THE REPORT GIVES THE RESULTS OF NEPHELOMETER MEASUREMENTS AND BOTTOM PHOTOGRAPHS TAKEN ON ROBERT D. CONRAD CRUISE 16, WHICH BEGAN AT ST. GEORGE, BERMUDA, ON 10 AUG 1972 AND ENDED IN PIERMONT, NY, ON 12 SEPT 1973. DURING THIS CRUISE MEASUREMENTS WERE MADE IN THE NORTH AND SOUTH ATLANTIC OCEANS. THE PRINCIPAL OBJECTIVES OF THESE MEASUREMENTS WERE TO STUDY THE TRANSPORT OF SEDIMENT IN THE WATER COLUMN AND ITS DEPOSITION AND EROSION AT THE SEDIMENT-WATER INTERFACE. THE BOTTOM PHOTOGRAPH COLLECTION WILL PROVIDE INFORMATION FOR GEOLOGICAL AND BIOLOGICAL STUDIES OF THE OCEAN FLOOR.

1813 SUSSMAN, B.; W.G. KANABIS

TIME-SMEAR AND FREQUENCY-SMEAR STUDIES ON THE BIFI RANGE [1971]

J ACOUST SOC AM 50(3):1038-1942

THIS COMMUNICATION TO THE EDITOR REPORTS DATA FOR TIME-SMEAR AND FREQUENCY-SMEAR MEASUREMENTS MADE IN THE SHALLOW- & WATER ACOUSTIC RANGE IN LONG ISLAND SOUND ABOUT 10 MI LONG AND 110 FT DEEP. DATA ARE SHOWN TO BE A FUNCTION OF SEA STATE, AND RESULTS MAY BE APPLIED TO PREDICT SONAR SIGNAL FLUCTUATION.

1814 SUSZKOWSKI, D.J.

SEWAGE POLLUTION IN NEW YORK HARBOR: A HISTORICAL PERSPECTIVE [1973]

M.S. THESIS. SUNY, STONY BROOK, NY 68 PP

A HISTORY OF MAN-MADE POLLUTION INPUTS TO NY HARBOR AND THEIR EFFECTS WHICH DESCRIBES PAST ATTEMPTS AT RELIEVING THE SEWAGE PROBLEY.

1315 SUSZKOWSKI, D.J.

SEDIMENTOLOGY OF NEWARK BAY, NEW JERSEY; AN URBAN ESTUARINE BAY [1978]

PH.D. THESIS. UNIV OF DELAWARE, NEWARK, DE 237 PP

THE MODEL RESULTS, COUPLED WITH BOTTOM SEPIMENT CHARACTERISTICS, WERE UTILIZED TO INTERPRET SEDIMENTARY PROCESSES. THE MAJOR SEDIMENTARY PROCESSES IN THE CHANNEL AREAS WITH THE GREATEST SHOALING RATES ARE: (1) A LOW ENERGY ENVIRONMENT CREATED BY DIFFERENTIAL MOVEMENT OF TIDAL WATERS; (2) DENSITY-INDUCED, ESTUARINE CIRCULATION PATTERNS; AND (3) SCOURING AND SETTLING LAG OF PARTICLES CAUSED PRINCIPALLY BY DISTANCE-VELOCITY ASYMMETRY BETWEEN THE MAIN CHANNEL OF THE BAY AND THE INSHORE CHANNELS.

1816 SWANSON, R.L.; S.D. HICKS

TIDES AND SEA LEVEL CHANGES [1974]

MESA. NOAA. SUNY. STONY BROOK. NY 24 PP

THE SEMIDIURNAL TIDE WAVE IN THE NEW YORK BIGHT REGION GENERALLY TRAVERSES THE CONTINENTAL SHELF SUCH THAT THE SAME PHASE ARRIVES NEARLY SIMULTANEOUSLY ALL ALONG THE NEW JERSEY COAST. NEW DATA SUBSTANTIATES THE FACT THAT THE RANGE OF TIDE INCREASES FROM SOMEWHAT LESS THAN A METER AT THE CONTINENTAL SHELF BREAK TO APPROXIMATELY 1.4 M ALONG THE NEW JERSEY COAST. LONG ISLAND, A MAJOR TOPOGRAPHIC FEATURE, MODIFIES THE CO-TIDE AND CO-RANGE LINES IN THE NORTHERN PORTION OF THE BIGHT. SEA LEVEL RELATIVE TO THE LAND IS RISING JUST OVER 3 MM/YR IN THIS REGION, ABOUT ONE-THIRD DUE TO GLACIAL-EUSTATIC RISE, THE OTHER TWO-THIRDS FROM COASTAL SUBSIDENCE.

1817 SWANSON, R.L.

FY75 PROPOSAL [1974]

PRESENTED TO MESA NY BIGHT PROJECT OFFICE. MAR GEOL AND GEOPHYS LAB. AOML. MIAMI. FL 39 PP

SUFFOLK COUNTY SEWAGE OUTFALL SITE PROPOSALS ARE COVERED IN THIS PAPER. PROPOSALS ARE MADE FOR AN EXPANDED PROGRAM OF COHESIVE SEDIMENT MONITORING AND AN EXTENSIVE SEDIMENT CHEMISTRY PROGRAM. MORE SHIPTIME, ESPECIALLY IN WINTER, IS PLANNED. SOUTH SHORE CORRIDOR STUDIES AND THE ROCKAWAY-SANDY HOOK TRANSECT AND BARGE DUMP STUDY IS DISCUSSED.

1818 SWANSON, R.L.

OCEAN DUMPING IN THE NEW YORK BIGHT [1975]

TR-ERL 321-MESA 2. NOAA, BOULDER, CO 78 PP

THE NEW YORK BIGHT EXTENDS SEAWARD OVER 15,000 SQ MI FROM LONG ISLAND AND NEW JERSEY TO THE EDGE OF THE CONTINENTAL SHELF, SOME 80-100 NMI OFFSHORE. WASTES FROM 20 MILLION PEOPLE ARE DISCHARGED TO THE BIGHT. THESE WASTES ARRIVE BY A VARIETY OF ROUTES: OCEAN DUMPING, OUTFALL SEWERS, AIR POLLUTION, RIVER DISCHARGE, LAND RUNOFF, THERMAL DISCHARGES, VESSEL WASTES, AND OCCASIONAL SPILLS. ALTHOUGH IMPACTS OF THESE WASTES ON THE MARINE ENVIRONMENT ARE NOT CLEARLY UNDERSTOOD, THERE IS EVIDENCE THAT THE WATERS, BOTTOM SEDIMENT, AND LIVING RESOURCES ARE UNDER STRESS. IN 1973 THE AMOUNT OF RAW AND DIGESTED SEWAGE SLUDGE WAS 150 MILLION FT3 (4.3 x 10exp6 M3), and average of 260 MILLION FT3 (7.4 x 10exp6 M3)/YR OF DREDGE SPOILS WERE DUMPED EACH YEAR BETWEEN 1965 AND 1970, AS WELL AS WASTE ACID, AND CONSTRUCTION AND DEMOLITION DEBRIS. THE HAZARDS OF THIS DUMPING ARE NOT KNOWN, HOWEVER ABOVE NORMAL INCIDENCE OF FIN-ROT DISEASE IN FISH IN THE AREA AND THE CLOSING OF THE AREA TO SHELLFISHING ARE INDICATIONS THAT SOMFTHING IS WRONG. HOWEVER, THERE IS NO EVIDENCE OF MASSIVE SHOREWARD MOVEMENT OF THE SLUDGE, OR OF IMMINENT BACTERIOLOGICAL HAZARD TO THE BEACHES. IT IS RECOMMENDED THAT LAND-BASED DISPOSAL ALTERNATIVES BE DEVELOPED.

1819 SWANSON, R.L.

STATUS ON NOAA'S OCEAN DUMPING RESEARCH IN THE NEW YORK BIGHT [1975]

NOAA, STONY BROOK, NY 31 PP

THIS REPORT SUMMARIZES RESULTS FROM SEVERAL INVESTIGATIONS IN THE NEW YORK BIGHT. SOURCES OF CONTAMINATION ARE DUMPED WASTES: DREDGE SPOILS, SEWAGE SLUDGE, ACID WASTES AND TOXIC CHEMICALS. THERE IS EVIDENCE FOR CONSEQUENTIAL DEGRADATION OF BIGHT APEX IN DISSOLVED OXYGEN, NUTRIENTS AND PHYTOPLANKTON PRODUCTIVITY DATA. ORGANIC CARBON AND METALS HAVE BEEN FOUND IN THE SEDIMENT. THE TOPOGRAPHIC LOW OF THE HUDSON SHELF VALLEY IS A PREFERENTIAL SETTLING BASIN FOR SEDIMENTS AND CONTAMINANTS.

1820 SWANSON, R.L.

TIDES [1976]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 4. NYSG, ALBANY, NY 34 PP NTIS-PB-253 136

THE SEMIDIURNAL TIDE WAVE IN THE NEW YORK BIGHT REGION GENERALLY TRAVERSES THE CONTINENTAL SHELF SUCH THAT THE SAME PHASE ARRIVES NEARLY SIMULTANEOUSLY ALL ALONG THE NJ COAST. NEW PATA SUBSTANTIATES THE FACT THAT THE RANGE OF TIDE INCREASES FROM SOMEWHAT LESS THAN A METER AT THE CONTINENTAL SHELF BREAK TO APPROXIMATELY 1.4 M (4.6 FT) ALONG THE NJ COAST. LONG ISLAND SOUND, A MAJOR EMBAYMENT MODIFIES THE CO-TIDE AND CO-RANGE LINES IN THE NORTHEASTERN PORTION OF THE BIGHT. SEA LEVEL IS RISING RELATIVE TO THE LAND AT AN AVERAGE REPRESENTATIVE RATE OF JUST OVER 3 MM (0.01 FT) PER YEAR IN THIS REGION.

1821 SWANSON, R.L.

STATUS OF OCEAN DUMPING RESEARCH IN NEW YORK BIGHT [1977]

ASCE J WATERW DIV 103:9-24

THE NEW YORK BIGHT EXTENDS SEAWARD FROM LONG ISLAND AND NEW JERSEY TO THE EDGE OF THE CONTINENTAL SHELF. WASTES FROM APPROX 20,000,000 PEOPLE ARE DISCHARGED TO THE BIGHT APEX. THESE WASTES ARRIVE BY A VARIETY OF ROUTES: OCEAN DUMPING, SEWER OUTFALLS, ATMOSPHERIC FALLOUT, RIVER DISCHARGES, LAND RUNOFF, THERMAL DISCHARGES, VESSEL WASTES, AND OCCASIONAL SPILLS. BIOTIC ABERRATIONS IN THE APEX ARE MORE PREVALENT THAN IN COMPARABLE COASTAL ENVIRONMENTS. LOCALLY, OCEAN DISPOSAL OF SEWAGE SLUDGE AND OREDGE MATERIAL CAN BE ASSOCIATED WITH THESE IMPACTS. COMPARABLE STUDIES OF EXISTING OCEAN DUMPING PRACTICES, AND PROPOSED ALTERNATIVE OCEAN DISPOSAL SITES, NEARLY 65 NMI (120 KM) OUT ON THE CONTINENTAL SHELF WERE COMPLETED.

1822 SWANSON, R.L.

LONG ISLAND BEACH POLLUTION: JUNE 1976 [1977]

MESA SPEC REP. NOAA. BOULDER. CO NP

THIS REPORT CONTAINS INFORMATION ON THE NATURE AND POSSIBLE SOURCES OF FLOATING TRASH AND POLLUTANTS THAT WERE WASHED UP IN LARGE QUANTITIES ON MOST OF LONG ISLAND'S BEACHES DURING JUNE 1976.

1823 SWANSON, R.L.; H.M. STANFORD; J.S. O'CONNOR; S. CHANESMAN; C.A. PARKER; P.A. EISEN; G.F. MAYER

JUNE 1776 POLLUTION OF LONG ISLAND OCEAN BEACHES [1978]

ASCE J ENVIRON ENG DIV 104:1067-1085

IN JUNE 1976, LONG ISLAND'S OCEAN BEACHES WERE INUNDATED WITH FLOATING WASTES INCLUDING SEWAGE-RELATED MATERIAL, TRASH, AND GARBAGE. THE MATERIAL EXITED THE HUDSON-RARITAN ESTUARY AS A RESULT OF HIGH SPRING RUNOFF AND INTENSIVE MAY RAINS. ONCE INTRODUCED INTO NEW YORK BIGHT WAITERS, IT WAS TRANSPORTED TO THE BEACHES BY PERSISTENT SOUTHERLY WINDS. THE MAJOR SOURCES OF THE FLOATABLE WASTES WERE URBAN RUNOFF AND SEWAGE TREATMENT PLANT BY PASSING EFFLUENT THROUGH THE COMBINED SEWER SYSTEM. ASSESSMENT WAS ACCOMPLISHED BY COMPARING WASTE MATERIALS FOUND ON THE BEACHES WITH THE TYPES AND VOLUMES OF MATERIALS ASSOCIATED WITH SUSPECTED SOURCES. CONTINUAL WASHUPS OF FLOATABLE MATERIAL CAN BE EXPECTED, PARTICULARLY DURING SUMMER MONTHS, UNTIL BETTER SOURCE AND SCREENING CONTROLS ARE IMPLEMENTED.

1824 SWANSON, R.L.; C.J. SINDERMANN

OXYGEN DEPLETION AND ASSOCIATED BENTHIC MORTALITIES IN NEW YORK BIGHT, 1976 [1979]

REP 80-382004, NOAA, BOULDER, CO 344 PP NTIS-PB81-103 723

IN JULY 1976, FISHERMEN REPORTED LARGE NUMBERS OF DEAD SURF CLAMS AND OTHER BOTTOM DWELLING ORGANISMS IN AN 8,600 KM2 AREA OF THE NEW JERSEY CONTINENTAL SHELF. THE PHENOMENON CONTINUED THROUGH OCTOBER OF THAT YEAR. IT WAS DETERMINED THAT MORTALITIES WERE CAUSED BY EXTREMELY LOW CONCENTRATIONS OF DISSOLVED OXYGEN AND BY HYDROGEN SULFIDE POISONING IN SOME BOTTOM WATERS. MORTALITIES WERE GREATEST AMONG SURF CLAMS, OCEAN QUAHOGS, AND OTHER BENTHIC ANIMALS. BY OCTOBER 1976 MORE THAN HALF OF THE SURF CLAM POPULATION OFF THE CENTRAL NEW JERSEY COAST HAD DIED, AND A SIGNIFICANT BUT SMALLER NUMBER OF OCEAN QUAHOGS AND SEA SCALLOP ALSO DIED. LOBSTER CATCHES DECLINED ALMOST 50% DURING THE PERIOD. THIS PAPER DOCUMENTS WHAT HAS BEEN LEARNED ABOUT RESOURCE AND ECONOMIC LOSSES CAUSED BY THE DECLINE OF OXYGEN IN THESE WATERS.

1825 SWANSON, R.L.; H.M. STANFORD; D.M. GOODRICH

A MONITURING PLAN FOR THE NEW YORK BIGHT [1979]

MESA, STONY BROOK, NY 17 PP

DURING THE PAST FEW YEARS, NUMEROUS SYMPTOMS OF DISORDER HAVE BECOME APPARENT IN THE NEW YORK BIGHT. A PLAN FOR MONITORING WATER QUALITY IN THE BIGHT HAS BEEN DEVELOPED, AND IS UNDERGOING TEST AND EVALUATION. MAJOR ENVIRONMENTAL CONCERNS ADDRESSED BY THE PLAN ARE DESCRIBED. RATIONALE FOR SELECTION OF MEASUREMENT PARAMETERS, TOGETHER WITH APPROPRIATE TIME AND SPACE-SCALES, ARE GIVEN. COORDINATION BETWEEN NUMEROUS GOVERNMENT AND NON-GOVERNMENT ORGANIZATIONS IS ESSENTIAL TO THE SUCCESS OF THE MONITORING EFFORT.

1826 SWARTZ, R.C.; J.D. WALKER; W.A. DEBEN; F.A. COLE

STRUCTURAL ANALYSIS OF STRESSED MARINE COMMUNITIES: WATER QUALITY CRITERIA RESEARCH OF THE US EPA [1976]

US EPA, CORVALLIS, OR NTIS-77-063 760

POLLUTION OFTEN CAUSES MAJOR CHANGES IN THE STRUCTURE OF MARINE COMMUNITIES. THE IMPACT OF SEWAGE SLUDGE ON MACROBENTHIC ASSEMBLAGES IN THE NEW YORK BIGHT AND IN EXPERIMENTAL MICROCOSMS IS DESCRIBED AS AN ILLUSTRATION OF THE EFFECTS OF STRESS ON SPECIES COMPOSITION, DENSITY, DIVERSITY AND HETEROGENEITY. STRUCTURE ANALYSIS PROVIDES AN EXCEPTIONALLY GOOD METHOD FOR ASSESSING ECOLOGICAL ALTERATIONS AT SPECIFIC SITES, BUT QUANTITATIVE CRITERIA SUCH AS DIVERSITY INDICES SHOULD NOT BE USED AS UNIVERSAL REGULATORY STANDARDS. FIELD SURVEYS SHOULD BE CLOSELY COORDINATED WITH LABORATORY INVESTIGATIONS OF THE TOXICITY AND ACCUMULATION OF POLLUTANTS FROM THOSE SPECIES WHICH DOMINATED COMMUNITY STRUCTURE AND FUNCTION PRIOR TO HUMAN PERTURBATION.

1827 SWARTZ, R.C.: W.A. DEBEN: F.A. COLE

A BIOASSAY FOR THE TOXICITY OF SEDIMENT TO THE MARINE MACROBENTHOS [1978]

PAGES 225-237 IN MANAGEMENT OF BOTTOM SEDIMENTS CONTAINING TOXIC SUBSTANCES, PROC OF 3RD US-JAPAN EXPERTS MEETING, NOV 1977, EASTON, MD

A DIOASSAY HAS BEEN DEVELOPED TO DETERMINE THE ACUTE TOXICITY OF THE SETTLEABLE PHASE OF DREDGED MATERIAL TO THE MARINE BENTHOS. FIVE BENTHIC INVERTEBRATES REPRESENTING DIFFERENT TAXONOMIC AND TROPHIC POSITIONS WERE ALLOWED TO ACCLIMATE TO CONTROL (NON-POLLUTED) SEDIMENT AND WERE THEN COVERED BY A LAYER OF EITHER TEST OR CONTROL SEDIMENT. MEAN SURVIVAL AFTER TEN DAYS OF EXPOSURE WAS SIGNIFICANTLY DIFFERENT FROM THE CONTROLS FOR SEDIMENT FROM THE DUWAMISH RIVER, WA; HOUSTON SHIP CHANNEL, TX; BALLEY CREEK, VA; AND RARITAN RIVER, NJ; BUT THERE WAS NO SIGNIFICANT DIFFERENCE FOR SEDIMENT FROM COOS BAY AND THE SKIPANON RIVER, OR. THERE WERE SUBSTANTIAL DIFFERENCES IN SURVIVAL AMONG THE FIVE TEST SPECIES. THE MOST SENSITIVE SPECIES WAS THE

INFAUNAL AMPHIPOD, PARAPHOXUS EPISTOMUS.

1828 SWARTZ, S.M.; B.H. BRINKHUIS

THE IMPACT OF DREDGED HOLES ON OXYGEN DEMAND IN THE LOWER BAY, NEW YORK HARBOR [1978]

REP SR-17, REF-78/5. NOAA, ROCKVILLE, MD NTIS-PB-299 880

THE PURPOSE OF THIS INVESTIGATION WAS TO DETERMINE THE EFFECTS, IF ANY, OF DREDGED HOLES IN THE SEABED OF THE LOWER BAY OF NEW YORK HARBOR ON OXYGEN DYNAMICS IN THE WATER COLUMN AND SURFICIAL SEDIMENTS. THE DATA FOR THIS STUDY WERE COLLECTED DURING FIVE CRUISES IN THE LOWER BAY BETWEEN FEB 1978 AND AUG 1978. SAMPLES OF SURFICIAL SEDIMENTS WERE ANALYZED FOR ORGANIC CARBON, ACID-SOLUBLE SULFIDE, AND OXYGEN CONSUMPTION RATE. IN ADDITION, THE WATER COLUMN AT MANY OF THE STATIONS WAS SAMPLED AT VARIOUS DEPTHS TO PROFILE TEMPERATURE, SALINITY, AND DISSOLVED OXYGEN. THE RESULTS SHOW THAT THE PRESENCE OF DREDGED HOLES AFFECTS OXYGEN DEMAND OF THE SEDIMENTS AND OXYGEN CONCENTRAIONS OF THE OVERLYING WATERS. THESE EFFECTS ARE VARIABLE AND DEPENDENT ON THE LOCATION OF THE DREDGED HOLES. LOWER OXYGEN CONCENTRATIONS WERE GENERALLY FOUND IN DREDGED HOLES ON THE WEST BANK. THERE WAS NO EFFECT OF DREDGED HOLES ON OXYGEN DYNAMICS ON THE EAST BANK.

1829 SWIFT, D.J.P.; G.L. FREELAND; D.E. DRAKE; P.G. HATCHER; G.H. KELLER; J.W. LAVELLE; T.A. NELSEN; W.L. STUBBLEFIELD

MESA: INTERDISCIPLINARY APPROACH TO ENVIRONMENTAL ANALYSIS OF CONTINENTAL MARGINS [1973]

MARITIME SEDIMENTS 9(2):37-44

THIS DESCRIPTION OF GEOLOGICAL INVESTIGATIONS IN THE NEW YORK BIGHT EXAMINES THE PHYSICAL AND CHEMICAL PROPERTIES OF SUBSTRATE.
SUBSTRATE MONITORING OF SEDIMENT VARIATIONS WITH TIME AND CONSTRUCTING NUMERICAL MODELS OF SEDIMENT TRANSPORT ARE DISCUSSED.

1830 SWIFT, D.J.P.; D.B. DUANE; T.F. MCKINNEY

RIDGE AND SWALE TOPOGRAPHY OF THE MIDDLE ATLANTIC BIGHT, NORTH AMERICA: SECULAR RESPONSE TO THE HOLOCENE HYDRAULIC REGIME [1973]

MAR GEOL 15:227-247

THE RIDGE AND SWALE TOPOGRAPHY OF THE MIDDLE ATLANTIC BIGHT WAS ORIGINALLY INTERPRETED AS A RELICT STRAND PLAIN WHOSE RIDGES REFLECT STILLSTANDS OF THE RETURNING HOLOCENE SEA. HOWEVER, CLOSE EXAMINATION INDICATES THAT THE RIDGES APPEAR TO BE INSTEAD LONGITUDINAL BED FORMS, RESPONSES TO A REGIME OF INTERMITTENT, SOUTH-TRENDING STORM CURRENTS. RIDGES MAY BE INITIATED ON THE SHORE FACE AND DETACHED AS THE COAST RETREATS TO FORM FIELDS OF ISOLATED RIDGES, OR THEY MAY BE MOLDED INTO THE SHELF-TRANSVERSE SAND MASSIFS THAT MARK THE RETREAT PATHS OF LITTORAL-DRIFT DEPOSITIONAL CENTERS AT ESTUARY MOUTHS AND OFF CUSPATE FORELANDS. THE RIDGE AND SWALE TOPOGRAPHY IS THUS A STABLE END CONFIGURATION TOWARD WHICH A VARIETY OF NEAR-SHORE CONSTRUCTIONAL TOPOGRAPHIES HAVE CONVERGED DURING THE HOLOCENE TRANSGRESSION. MORPHOLOGIC EVIDENCE FOR READJUSTMENT OF RIDGE TOPOGRAPHY TO THE DEEPENING SHELF FLOA FIELD DURING THE HOLOCENE TRANSGRESSION IS DISCERNABLE. HOWEVER, THE EXTENT TO WHICH THE OFFSHORE TOPOGRAPHY CONTINUES TO RESPOND TO HYDRAULIC REGIME IS UNCLEAR. THE ROLE OF HELICAL FLOW STRUCTURE IN THE STORM FLOW FIELD REMAINS TO BE DOCUMENTED. RESOLUTION OF THESE PROBLEMS WILL REQUIRE MORE DETAILED INFORMATION OF HYDRAULIC PROCESS AND SUBSTRATE RESPONSE ON STORM-DOMINATED SHELVES.

1831 SWIFT, D.J.P.

BARRIER-ISLAND GENESIS: EVIDENCE FROM THE CENTRAL ATLANTIC SHELF. EASTERN USA [1975]

SEDIMENT GEOL 14:1-43

SINCE MOST BARRIER SYSTEMS APPEAR TO HAVE RETREATED INTO THEIR PRESENT POSITIONS FROM FURTHER OUT ON THE CONTINENTAL SHELF, THE CONTINENTAL SHELF IS A LOGICAL PLACE IN WHICH TO INVESTIGATE BARRIER GENESIS. THE MIDDLE ATLANTIC BIGHT OF NORTH AMERICA. ONE OF THE BEST KNOWN SHELF SECTORS, DOES NOT APPEAR TO CONTAIN ANY DROWNED BARRIERS. INSTEAD, A SERIES OF TERRACES BEAR ON THEIR SUFFACES A DISCONTINUOUS CARPET OF LAGOONAL SEDIMENTS BENEATH A DISCONTINUOUS SAND SHEET FORMED BY EROSIONAL BARRIER RETREAT. SCARPS SEPARATING TERRACES ARE THE LOWER SHOREFACES OF STILLSTAND BARRIERS WHOSE SUPERSTRUCTURES WERE DESTROYED WHEN SHOREFACE RETREAT RESUMED. THUS THE "ORIGIN" OF MOST BARRIERS IS THAT THEY HAVE RETREATED IN FROM THE POSITION OF THEIR IMMEDIATE PREDECESSORS. BARRIER GENESIS, IN THE CLASSIC SENSE OF LARGE-SCALE. COAST WISE SPIT PROGRADATION OF MAINLAND-BEACH DETACHMENT, COULD ONLY HAVE OCCURRED AT LATE WISCONSIN LOWSTAND, WHEN THE SENSE OF SEA LEVEL DISPLACEMENT WAS REVERSED. THE RELATIVE ROLES OF COASTHISE SPIT PROGRADATION AND MAINLAND-BEACH DETACHMENT DEPEND ON COASTAL RELIEF AND SLOPE, WITH STEEP, RUGGED COASTS FAVORING SPIT PROGRADATION AT THE EXPENSE OF MAINLAND-BEACH DETACHMENT. SINCE MOST MAJOR BARRIER SYSTEMS FORM ON FLAT COASTAL PLAINS, IT WOULD APPEAR THAT MAINLAND-BEACH DETACHMENT IS THE MORE IMPORTANT MODE OF BARRIER FORMATION. DURING STILLSTANDS OR PERIODS OF REDUCTION IN THE RATE OF SEA-LEVEL RISE, COASTS CAN MORE NEARLY APPROACH THEIR CLIMAX CONFIGURATION, IN WHICH THE SHORELINE IS RELATIVELY STRAIGHT, AND THE SHOREFACE IS WELL DEVELOPED AND OF MAXIMUM POSSIBLE SLOPE. COASTAL ADJUSTMENTS DURING SUCH PERIODS MAY REQUIRE LOCALIZED MAINLAND-BEACH DETACHMENT AND COASTMISE SPIT PROGRADATION, IN ORDER TO ATTAIN SUCH A CONFIGURATION.

1832 SWIFT, D.J.P.

COASTAL SEDIMENTATION [1976]

PAGES 255-310 IN D.J. STANLEY AND D.J.P. SWIFT, EDS. MARINE SEDIMENT TRANSPORT AND ENVIRONMENTAL MANAGEMENT. JOHN WILEY AND SONS, INC., NEW YORK, NY

THIS CHAPTER LOOKS AT SECIMENTATION IN THE COASTAL ZONE AS A WHOLE, FROM THE SHORELINE OUT TO AN INDETERMINATE DISTANCE ON THE ORDER OF 5 KM, WHERE SHELF FLOWS ARE NO LONGER AFFECTED BY PROXIMITY TO SHORE. FROM THIS PERSPECTIVE, THE SYSTEM OF LONGSHORE SAND TRANSPORT BENEATH THE ZONE OF SHOALING AND BREAKING WAVES CAN BE EXAMINED TOGETHER WITH A DEEPER SYSTEM OF LUNGSHORE SEDIMENT TRANSPORT DRIVEN BY INTERMITTENT WIND OR TIDAL FLOWS. TIME AND SPACE PATTERNS OF SEDIMENT INPUT INTO THIS DOUBLE SYSTEM, THE CHARACTER OF SEDIMENT TRANSPORT, ZONES OF TEMPORARY STORAGE OR PERMANENT DEPOSITION, AND THE BYPASSING OF SEDIMENT ONTO THE SHELF SURFACE ARE ANALYZED. MORE COMPLEX PATTERNS OF SEDIMENT TRANSPORT ARE ALSO DESCRIBED, WHICH RESULT WHEN COASTAL FLOWS ASSOCIATED WITH STRAIGHT COASTAL COMPARTMENTS INTERACT WITH CIRCULATION IN THE EROSIONAL REENTRANTS OF ROCKY COASTS OR CONSTRUCTIONAL INLETS OF LAGOONS AND RIVER MOUTHS.

1833 SWIFT, D.J.P.

CONTINENTAL SHELF SEDIMENTATION [1976]

PAGES 311-350 IN D.T. STANLEY AND D.J.P. GWIFT, EDS. MARINE SEDIMENT TRANSPORT AND ENVIRONMENTAL MANAGEMENT. JOHN WILEY AND SONS, INC., NEW YORK, NY

THIS CHAPTER EXAMINES PATTERNS OF SEDIMENTATION ON THE SHELF AS A WHOLE. IT REEXAMINES THE COASTAL BOUNDARY OF THE SHELF AS A SOURCE OF SEDIMENT FOR THE REST OF THE SHELF, AND AS A ZONE WHICH THUS REGULATES THE RATE AND CHARACTER OF SEDIMENTATION ON THE SHELF SURFACE. THIS CHAPTER CONCERNS ITSELF WITH THE MECHANISMS BY WHICH THIS DYNAMIC BARRIER IS PENETRATED, ALONG THE SHOREFACE OR AT RIVER MOUTHS, AND BY WHICH SEDIMENT IS INJECTED INTO THE SHELF DISPERSAL SYSTEM. THE RELATIVE EFFICIENCIES OF SHOREFACE AND RIVER MOUTH BYPASSING DURING PERIODS OF TRANSGRESSION ON ONE HAND, AND DURING PERIODS OF REGRESSION ON THE OTHER ARE DESCRIBED. THESE VAHYING EFFICIENCIES LEAD TO TWO DISTINCT SHELF REGIMES: A PASSIVE REGIME IN WHICH THE SHELF SAND SHEET IS GENERATED BY EROSIONAL SHOREFACE RETREAT (AUTOCHTHONOUS SEDIMENTATION) AND A MORE ACTIVE REGIME IN WHICH RIVER MOUTH BYPASSING CAUSES DEPOSITION ACROSS THE SHELF SURFACE (ALLOCHTHONOUS SEDIMENTATION). THE CHAPTER ANALYZES THE TRANSPORT PATTERNS ASSOCIATED WITH THESE TWO REGIMES, AND THE RESULTING PATTERNS OF MORPHOLOGY, STRATIGRAPHY, AND GRAIN-SIZE DISTRIBUTION.

1834 SWIFT, D.J.P.; G.L. FREELAND; P.E. GADD; G.C. HAN; J.W. LAVELLE

MORPHOLOGIC EVOLUTION AND COASTAL SAND TRANSPORT, NEW YORK-NEW JERSEY SHELF [1976]

PAGES 58-89 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG. ALLEN PRESS, LAWRENCE, KS

THE SURFACE OF THE NEW YORK-NEW JERSEY SHELF HAS BEEN EXTENSIVELY MODIFIED BY LANDWARD PASSAGE OF NEARSHORE SEDIMENTARY ENVIRONMENTS DURING THE POSTGLACIAL RISE OF SEA LEVEL. THE RETREAT OF ESTUARY MOUTHS ACROSS THE SHELF SURFACE HAS RESULTED IN SHELF VALLEY COMPLEXES. CONSTITUENT ELEMENTS INCLUDE SHELF VALLEYS LARGELY MOLDED BY ESTUARY MOUTH SCOUR, SHOAL RETREAT MASSIFS LEFT BY THE RETREAT OF ESTUARY MOUTH SHOALS, AND MIDSHELF OR SHELF-EDGE DELTAS. THE EROSIONAL RETREAT OF THE STRAIGHT COAST BETWEEN ESTUARY MOUTHS HAS LEFT A DISCONTINUOUS SHEET OF CLEAN SAND 0-10 CM THICK. DURING THE RETREAT RROCESS, A SEQUENCE OF OBLIQUE-TRENDING, SHOREFACE-CONNECTED SAND RIDGES FORMED AT THE FOOT OF THE SHOREFACE. AS A CONSEQUENCE, THE SURFICIAL SAND SHEET OF THE SHELF FLOOR BEARS A RIDGE AND SWALE TOPOGRAPHY OF SAND RIDGES UP TO 10 M HIGH AND 2-4 M APART. THE MECHANICS OF SEDIMENTATION IN THESE TWO NEARSHORE ENVIRONMENTS (ESTUARY MOUTH AND INTERESTUARINE COAST) ARE NOW BEING INVESTIGATED FOR PURPOSES OF ENVIRONMENTAL MANAGEMENT AS WELL AS FOR FURTHER UNDERSTANDING OF SHELF HISTORY. SYSTEMATIC OBSERVATIONS OF SEDIMENTATION IN NEW YORK HARBOR MOUTH HAVE NOT YET BEEN INITIATED. HOWEVER, RECONNAISSANCE DATA REVEAL A COMPLEX PATTERN OF EBG-AND FLOOD-DOMINATED ZONES THAT CONTROL THE PATTERN OF SAND STORAGE.

1835 SWIFT, D.J.P.; G.L. FREELAND; R.A. YOUNG; T.L. CLARKE

REGIONAL SEAFLOOR RESPONSE TO STORM FLOW, INNER LONG ISLAND SHELF [1978]

EOS: TRANS AM GEOPHYS UNION 59(12):1110

BOTH DYNAMICAL DATA (CURRENT METER AND NEPHELOMETER DATA) AND CLASSICAL DATA (BATHYMETRIC PROFILING, GRAB SAMPLES, SIDE SCAN SONAR, BOX CORES) INDICATE THAT THE LING ISLAND INNER SHELF IS A ZONE OF ACTIVE SEDIMENT TRANSPORT. DYNAMICAL OBSERVATIONS OF "NORTHEASTER" STORMS REVEAL THAT DURING THESE EVENTS MEAN FLOWS IN EXCESS OF 30 CM/SEC MEASURED AT 100 CM OFF THE BOTTOM ARE SUSTAINED FOR HOURS OR DAYS, AND ARE ASSOCIATED WITH SEDIMENT CONCENTRATIONS ON THE ORDER OF 80 MG/L. BATHYMETRIC DATA SHOW THAT INDIVIDUAL STORMS CAUSE CHANGES IN BOTTOM LEVEL OF 10°S OF CM OFFSHORE TO 1 M NEAR THE BEACH. THEY CREATE MEGARIPPLES AND MOVE EXISTING SAND MAVES. HISTORICALLY THIS ACTIVITY HAS RESULTED IN THE RETREAT OF THE COASTLINE (UP TO 100 M IN THE LAST CENTURY), SHOREFACE EROSION (UP TO 1 M ON THE 10 M ISOBATH IN 10 YEARS) AND AGGRADATION OF THE DOWN DRIFT SIDE OF BARRIER ISLANDS AND OF THE INNER SHELF IMMEDIATELY SEAWARD OF THE SHOREFACE. THE EXTREMELY VARIABLE NATURE OF OBSERVED FLUID MOTIONS AND ASSOCIATED SEDIMENT FLUXES IMPEDES STATISTICAL ASSESSMENT OF THE DYNAMIC DATA REQUIRED TO EXPLAIN THE OBSERVED LONG-TERM RESPONSE OF THE SEAFLOOR. DATA OBTAINED TO DATE INDICATE THAT STORM FLOWS TREND EAST OR WEST ALONG THE COAST, AND MAY BE ASSOCIATED WITH UPWELLING OR DOWNWELLING. HOWEVER, LIMITED EVIDENCE SUGGESTS THAT WEST-TRENDING, DOWNWELLING FLOWS ARE ESPECIALLY EFFECTIVE IN ERODING THE SHOREFACE AND DEPOSITING THE ERODED SAND ON THE ADJACENT INNER SHELF.

1836 SWIFT, D.J.P.; G.L. FREELAND

CURRENT LINEATIONS AND SAND WAVES ON THE INNER SHELF. MIDDLE ATLANTIC BIGHT OF NORTH AMERICA [1978]

J SEDIMENT PETROL 48(4):1257-1266

ELONGATE BEDFORMS OF LESS THAN ONE METER RELIEF ARE ABUNDANT ON THE NORTH ATLANTIC SHELF FLOOR. SPACING BETWEEN FEATURES, AND WIDTH OF SOLITARY FORMS, RANGES FROM 15 TO 50 M. LENGTHS-TO-WIDTH RATIOS OBSERVED BY SIDE-SCAN SONAR ARE IN EXCESS OF 10:1. THE MOST COMMON FORM CONSISTS OF A BAND OF COARSE SAND OR SHELLY GRAVEL THAT IS DEPRESSED SLIGHTLY BELOW THE LEVEL OF THE FINER SAND ON EITHER SIDE. IN SOME CASES THESE BEDFORMS APPEAR TO BE EROSIONAL WINDOWS EXPOSING THE BASAL COARSE SAND OR GRAVEL OF THE HOLOCENE TRANGRESSION; ELSEWHERE INEY ARE MERELY LOCALIZED LAG CONCENTRATES. BEDFORMS ON THE SHORE FACE AND ADJACENT INNER SHELF TEND TO BE NEARLY SHORE-NORMAL WITH SLIGHTLY ACUTE ANGLES OPENING TO THE NORTHEAST. FURTHER SEAWARD MOST BEDFORMS ARE PARALLEL TO THE COAST, AND TO THE GENERALIZED TREND OF THE ISOBATHS. THESE RELATIONSHIPS LEAD TO THE INFERENCE THAT THE

NEARSHORE FEATURES ARE THE TROUGHS OF LOW AMPLITUDE, FLOW-TRANSVERSE SAND WAVES, AND THAT THEY ARE PROBABLY RESPONSES TO THE INTENSE, DOWNWELLING, ALONG-COAST FLOWS THAT OCCUR DURING NORTHEASTER STORMS. THE OFFSHORE BEDFORMS MAY ALSO BE RESPONSES TO STORM FLOW, BUT THEIR ORIENTATION SUGGESTS THAT THEY ARE FLOW-PARALLEL CURRENT LINEATIONS, PERHAPS RESPONSES TO LONGITUDINAL VORTICES IN THE FLOW. THE BEDFORMS INDICATE THAT THE SHELF FLOOR IS RESPONDING TO THE MODERN HYDRAULIC REGIME. TIME-AVERAGED BED LOAD TRANSPORT IS DIRECTED DOWNSHELF, TO THE SOUTH AND WEST. ON THE INNER SHELF THERE IS ALSO AN OFFSHORE TRANSPORT COMPONENT.

1837 SWIFT, D.J.P.; G.L. FREELAND; G.C. HAN; G. HARVEY; R.A. YOUNG

1979 PROGRESS REPORT: INNER SHELF SEDIMENT TRANSPORT EXPERIMENT [1979]

AOML, MIAMI, FL 16 PP

THIS PROJECT INVESTIGATING SEDIMENT TRANSPORT OFF LONG ISLAND AND CONTAMINANTS BORNE BY THOSE SEDIMENTS CONTAINS AN INVENTORY OF SEA FLOOR AND SURFICIAL SEDIMENTS. SOUTHWESTERLY TRANSPORT PREDOMINATES ON THE INNER SHELF AND THE SEA FLOOR IS A DYNAMIC AND MUBILE SURFACE. SUSPENDED SEDIMENT TRANSPORT IS CONTROLLED BY WINTER STORMS AND EXCEEDS 2.0 X 10EXP6 METRIC TONS PER YEAR.

1838 SWIFT, D.J.P.; G.L. FREELAND; R.A. YOUNG

TIME AND SPACE DISTRIBUTION OF MEGARIPPLES AND ASSOCIATED BED FORMS MIDDLE ATLANTIC BIGHT, NORTH AMERICAN ATLANTIC SHELF [1979]

SEDIMENTOL 26:389-406

THREE SENETICALLY DISTINCT SIZE CLASSES OF LOWER REGIME TRANSVERSE BEDFORMS HAVE LONG BEEN KNOWN FROM LABORATORY STUDIES. AND FROM STUDIES OF THE INTERTIDAL ZONE: RIPPLES, MEGARIPPLES, AND SAND WAVES. THESE FEATURES ARE ALSO PRESENT ON THE SUBTIDAL SHELF SURFACE OF THE MIDDLE ATLANTIC BIGHT, AND THEIR DISTRIBUTION IN TIME AND SPACE ALLOWS US TO DRAW INFERENCES CONCERNING THE TIME AND SPACE PATTERN OF SEDIMENT TRANSPORT. TRANSVERSE BEDFORMS IN THE MIDDLE ATLANTIC BIGHT OCCUR IN RESPONSE TO TIDAL FLOWS AT ESTUARY AND INLET MOUTHS AND ON TIDE-DOMINATED BANKS; ON THE SHELF SURFACE, HOWEVER, THEY ARE PRIMARILY RESPONSES TO WIND-DRIVEN FLOWS. RIPPLES ARE THE MOST WIDESPREAD OF THE THREE CLASSES. THEY ARE CURRENT-FORMED DURING PEAK STORM FLOWS, BUT ARE PROBABLY REMADE AS OSCILLATORY WAVE RIPPLES AS THE FLOW WANES. MEGARIPPLES ARE FOUND PRIMARILY ON THE INNER SHELF, ALSO AS RESPONSES TO PEAK STORM FLOWS. SAND WAVES OF SEVERAL METERS AMPLITUDE OCCUR ON THE INNER SHELF IN THE VICINITY OF TOPOGRAPHIC HIGHS; LOW AMPLITUDE SAND WAVES (<2 M), SOLITARY OR IN TRAINS, ARE WIDESPREAD ON THE INNER SHELF. THEY SURVIVE THROUGH MANY SEASONS OF STORM FLOWS. MEGARIPPLES ARE ESPECIALLY INTERESTING AS RECORDS OF SPECIFIC FLOW EVENTS. THEY ARE WIDESPREAD ON THE INNER SHELF DURING THE WINTER, OCCURRING IN FIELDS UP TO SEVERAL KILOMETRES IN DIAMETER. ON A PORTION OF THE LONG ISLAND INNER SHELF DURING THE WINTER, OCCURRING IN FIELDS COVERED APPROXIMATELY 15% OF THE SHELF SURFACE. THEY TEND TO BE ERASED DURING THE SUCCEEDING SUMMER MONTHS. BOTH MEGARIPPLES (SHORE-TERM RESPONSE ELEMENTS) AND SAND WAVES (LONG-TERM RESPONSE ELEMENTS) INDICATE THAT SAND TRANSPORT IN THE MIDDLE ATLANTIC BIGHT IS DIRECTED TO THE SOUTHEAST, PARALLEL WITH THE REGIONAL TREND OF THE ISOBATHS.

1839 SWIFT, D.J.P.; R. MOIR; G.L. FREELAND

QUATERNARY RIVERS ON THE NEW JERSEY SHELF: RELATION OF SEAFLOOR TO BURIED VALLEYS [1980]

GEOLOGY 8(6):276-280

THE QUATERNARY EVOLUTION OF THE STREAM NET ON THE NEW JERSEY SHELF HAS BEEN INTERPRETED ON THE BASIS OF BATHYMETRIC MAPS AND ALSO BY MEANS OF SEISMIC PROFILING, WITH SOMEWHAT DIFFERENT RESULTS. MAPS SHOW THE MOST RECENT POSITIONS OF SEAFLOOR SHELF VALLEYS, BUT THESE VALLEYS MAY HAVE BEEN CREATED BY RETHEATING ESTUARY MOUTHS RATHER THAN BY SUBAERIAL STREAM EROSION. SEISMIC PROFILES REVEAL BURIED VALLEYS OF SUBAERIAL FLUVIAL ORIGIN, WHICH MAY FOLLOW COURSES THAT DIVERGE MARKEDLY FROM THE TRENDS OF ASSOCIATED SEAFLOOR VALLEYS. SHELF VALLEYS MUST BE UNDERSTOOD IN THE CONTEXT OF EROSIONAL SHOREFACE RETREAT. A PROCESS THAT

LARGELY REMADE THE SHELF SURFACE DURING SUCCESSIVE QUATERNARY TRANSGRESSIONS. MOST SHELF LANDFORMS ARE MARINE AND POST-TRANSGRESSIONAL IN ORIGIN, HAVING BEEN FORMED AT THE FOOT OF THE SHOREFACE. ONLY VERY LARGE AND DEEPLY INCISED SUBAERIAL LANDFORMS SURVIVE THE SHOREFACE-RETREAT PROCESS. THE MARINE LANDFORMS THAT TEND TO REPLACE OR BURY SUBAERIAL RIVER VALLEYS INCLUDE SHELF VALLEYS CREATED BY ESTUARY-MOUTH SCOUR, SHOAL-RETREAT MASSIFS, AND SHELF DELTAS. THREE DISTINCT SHELF VALLEY SETS ARE ATTRIBUTABLE TO THE ANCESTRAL DELAWARE, GREAT EGG, AND HUDSON RIVERS, RESPECTIVELY. INDIVIDUAL VALLEY SETS MAY FOLLOW MARKEDLY DIVERGENT PATHS. IN THE CASE OF THE HUDSON, THE ESTUARY RETREATED UP A DEEPLY INCISED RIVER VALLEY AND WAS CONFINED BY IT. THE SHELF VALLEY IS A RIVER VALLEY ONLY PARTIALLY FILLED BY ESTUARINE DEPOSITS. IN THE CASE OF THE OTHER TWO RIVERS, THE ESTUARY MOUTHS BECAME LARGELY DECOUPLED FROM THE UNDERLYING RIVER VALLEYS DURING THE TRANSGRESSION, AND THEIR RETREAT PATHS DO NOT EVERYWHERE OVERLIE THE BURIED CHANNELS.

1840 TABERY, M.A.; A.P. RICCIARDI; T.J. CHAMBERS

OCCURRENCE OF LARVAL INSHORE LIZARDFISH IN THE HUDSON RIVER ESTUARY [1978]

NY FISH GAME J 25(1):87-89

THE RANGE OF LARVAE OF THE INSHORE LIZARDFISH (SYNODUS FOETENS) CAN BE EXTENDED TO INCLUDE THE HUDSON RIVER ESTUARY ON THE BASIS OF 4 SPECIMENS COLLECTED IN 1 M2 PLANKTON TOWS IN THE VICINITY OF YONKERS, NY.

1841 TALERICO, J.P.

NATIONAL DAM SAFETY PROGRAM. UPPER GREENWOOD LAKE DAM (NJOO186), WALLKILL RIVER BASIN, LONG HOUSE CREEK, PASSAIC COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP. TRENTON. NJ 91 PP NTIS-AD-A037 920

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

1842 TALERICO, J.P.

NATIONAL DAM SAFETY PROGRAM. SHADOW LAKE DAM (NJ00232), PASSAIC RIVER BASIN, HOHOKUS CREEK, BERGEN COUNTY, NJ. PHASE I INSPECTION REPORT [1980]

NJ DEP, TRENTON, NJ 85 PP NTIS-AD-A037 924

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

1843 TALERICO, J.P.

NATIONAL DAM SAFETY PROGRAM. ELECTRIC LIGHT POND DAM (NJOD245), HACKENSACK RIVER BASIN, PASCACK BROOK, BERGEN COUNTY, NJ. PHASE I INSPECTION REPORT [1989]

NJ DEP, TRENTON, NJ 118 PP NIIS-AD-A737 329

THIS REPORT CITES RESULTS OF A TECHNICAL INVESTIGATION AS TO THE DAM'S ADEQUACY. THE INSPECTION AND EVALUATION OF THE DAM IS AS PRESCRIBED BY THE NATIONAL DAM INSPECTION ACT, PUBLIC LAW 92-367. THE TECHNICAL INVESTIGATION INCLUDES VISUAL INSPECTION, REVIEW OF AVAILABLE DESIGN AND CONSTRUCTION RECORDS, AND PRELIMINARY STRUCTURAL AND HYDRAULIC AND HYDROLOGIC CALCULATIONS, AS APPLICABLE. AN ASSESSMENT OF THE DAM'S GENERAL CONDITION IS INCLUDED IN THE REPORT.

1844 TANACREDI. J.T.

PETROLEUM HYDROCARBONS FROM EFFLUENTS: DETECTION IN MARINE ENVIRONMENT [1977]

J WATER POLLUT CONTROL FED 49(2):216-227

WEEKLY SAMPLES FROM 4 WASTEMATER TREAIMENT FACILITIES DISCHARGING INTO JAMAICA BAY WERE ANALYZED FOR THE PRESENCE OF WASTE CRANKCASE PETROLEUM PRODUCTS. TWO NOVEL ULTRAVIOLET-FLUORESCENCE SPECTROSCOPIC TECHNIQUES WERE UTILIZED TO EXHIBIT QUALITATIVELY THE PRESENCE OF WASTE AUTOMOTIVE PETROLEUM HYDROCARBONS IN EACH OF THE FINAL EFFLUENTS OF WATER POLLUTION CONTROL PLANTS BY COMPARISON OF SAMPLE "PROFILES" TO "PROFILES" GENERATED BY STANDARD OILS. THE SURFACE WATERS AND A BENTHIC ORGANISM (MYA ARENARIA) RESIDING IN JAMAICA BAY WERE ALSO ANALYZED FOR PETROLEUM HYDROCARBONS USING THESE TECHNIQUES.

ULTRAVIOLET-FLUORESCENCE SPECTROSCOPIC ANALYSES FURNISHED PRAMATIC EVIDENCE FOR THE PRESENCE OF A SIGNIFICANT QUANTITY OF HYDROCARBONS ASSOCIATED WITH WASTE PETROLEUM PRODUCTS IN ALL SAMPLES COLLECTED. GAS CHROMATOGRAPHIC AND MASS SPECTROSCOPIC ANALYSES INDICATE PETROLEUM CONTAMINATION OF MOLEUSKS.

1845 TAORMINA, A.S.

TOTAL MANAGEMENT FOR RESOURCE VALUES OF LONG ISLAND'S TIDAL WETLANDS [1973]

DIV OF FISH AND WILDLIFE, NY DEC, STONY BROOK, NY 6 PP

THIS NY DEC PAMPHLET DEFINES TIDAL WEILANDS, THEIR HISTORY AND USES IN NEW YORK STATE. MANAGEMENT OF THESE AREAS IS NECESSARY IN ORDER TO INSURE PROPER NAVIGATIONAL CHANNELS AND TO BALANCE DEVELOPMENT AND INDUSTRIAL UTILIZATION OF SALT MARSHES WITH PRESERVED NATURAL PRODUCTIVITY AND AESTHETIC BEAUTY. MANAGEMENT IS ALSO NECESSARY FOR THE CONTROL OF NUISANCE INSECTS THAT BREED IN MARSH PONDS.

1846 TAVERNI, A.F.; R.F. DWORSKY

INTEGRATING WATER QUALITY AND BEST MANAGEMENT PRACTICES [1979]

PAGES 73-115 IN BEST MANAGEMENT PRACTICES FOR AGRICULTURE AND SILVICULTURE, PROC OF 1978 CORNELL AGRICUL WASTE MANAG CONFERENCE

THIS PAPER DISCUSSED IN DETAIL THE NEW YORK STATE LEVEL B PLANS (SECTION 209 OF PUBLIC LAW 92-500) WHICH CONTRIBUTE TO IMPROVED WATER QUALITY THROUGH THE USE OF COMMON TECHNIQUES. SPECIFICALLY, THIS PAPER FOCUSED ON THE GENESEE RIVER, HUDSON RIVER AND LAKE CHAMPLAIN. IT PROVIDED A SUMMARY OF BEST PRACTICES AND THE RELATION OF BEST MANAGEMENT PRACTICES TO OVERALL WATER QUALITY MANAGEMENT. LASTLY, THIS PAPER DEMONSTRATED THE VIABILITY OF A STATE INTEGRATED PLANNING APPROACH.

1847 TAYLOR, H.M., JR.; J.K. POPLIN; G.B. MITCHELL

INVESTIGATION FOR SOUTH FILL AREA, US MILITARY ACADEMY, WEST POINT, NY [1980]

US ARMY CORPS ENG WES, VICKSBURG, MS 258 PP NTIS-AD-AU89 751

THE INVESTIGATION REPORTED HEREIN DESCRIBES SURFACE AND SUBSURFACE HORIZONTAL AND VERTICAL CONTROL. SAMPLING, TESTING.

LABORATORY TESTING, AND ANALYSES PERFORMED TO DETERMINE THE STABILITY OF A ROCK FILL OVER FAT CLAY DEPOSITS (SOUTH FILL)
BORDERING THE HUDSON RIVER AT THE WEST POINT MILITARY ACADEMY. THE SOUTH FILL AREA IN ITS PRESENT CONFIGURATION WAS FOUND TO BE
STABLE AND SHOULD REMAIN STABLE PROVIDED USE IS LIMITED TO PARKING, ATHLETIC FIELDS, AND RECREATIONAL AREAS. THE REPORT
CONTAINS DOCUMENTATION OF DATA COLLECTED SINCE THE MONITORING PROGRAM BEGAN IN 1961.

1848 TEETER, A.M.; R.J. CALLAWAY; D.W. DENBO

DISPERSION OF SEWAGE SLUDGE DISCHARGED INTO NEW YORK BIGHT. PHYSICAL OCEANOGRAPHIC DATA--DECEMBER 1974 [1978]

US EPA. CORVALLIS. OR 60 PP NTIS-PB-238 421

THIS VOLUME CONTAINS PHYSICAL OCEANOGRAPHIC DATA COLLECTED AT THE SEWAGE SLUDGE DISPOSAL SITE NEAR THE APEX OF THE NEW YORK BIGHT DEC 18-21, 1974. AN OPTICAL TRACER METHOD WAS USED TO MEASURE THE WATER COLUMN DISTRIBUTION OF WASTE MATERIAL WITH TIME AFTER DISCHARGE. PROFILES WITH DEPTH WERE TAKEN FOR TWO TO FOUR HOURS AFTER WASTE DISCHARGE. AMBIENT TEMPERATURE-SALINITY-DENSITY PROFILES AND CURRENT MEASUREMENTS WERE ALSO TAKEN.

1849 TEETER, A.M.; R.J. CALLAWAY; G.R. DITSWORTH; D.W. DENBO; D.W. BROWNE

DISPERSION OF SEWAGE SLUDGE DISCHARGED INTO NEW YORK BIGHT. PHYSICAL OCEANOGRAPHIC DATA AND LABORATORY ANALYSES--1975 [1978]

US EPA. CORVALLIS. OR 212 PP NTIS-PB-289 769

THIS VOLUME CONTAINS DATA ON THE DISPERSION OF SEWAGE SLUDGE SUBSEQUENT TO ITS DISPOSAL AT A SITE NEAR THE APEX OF THE NEW YORK BIGHT. CRUISES WERE MADE IN MAY, JULY, AND OCTOBER, 1975. AN OPTICAL TRACER METHOD WAS USED TO MEASURE THE WATER COLUMN DISTRIBUTION OF WASTE MATERIAL FOR TWO TO FOUR HOURS AFTER DISCHARGE. DIRECT MEASUREMENTS OF THE CONCENTRATION OF SUSPENDED MATERIAL WERE MADE. AMBIENT TEMPERATURE-SALINITY-DENSITY PROFILES WERE TAKEN. CURRENTS WERE MEASURED BY MOORED AND PROFILING INSTRUMENTS AND BY DROGUE TRACKING. LABORATORY ANALYSES ON THE SETTLING CHARACTERISTICS, DENSITIES, AND OPTICAL PROPERTIES OF SEWAGE SLUDGES FROM THE NEW YORK AREA ARE PRESENTED.

1850 TERRY. O.W.

THE NE 4 YORK AQUACULTURE PROGRAM -- PAST, PRESENT, AND FUTURE [1974]

NYSSGP-RS-74-018. NYSG. ALBANY, NY 6 PP

THIS REPORT CONTAINS A BRIEF HISTORY OF THE AQUACULTURE PROGRAMS NOW FUNCTIONING IN NEW YORK STATE, AND SUGGESTIONS FOCUSING ON REALISTIC GOALS THE SEA GRANT PROGRAM CAN TRY TO ACCOMPLISH FOR FUTURE AQUACULTURE STUDIES. THE CRITERIA FOR IMPROVEMENT INCLUDE SUGGESTIONS TO MAINTAIN AND EXPAND ADVISORY SERVICE, SUPPORT MARICULTURE RESEARCH FACILITIES AND PROJECTS, DEVELOP OPPORTUNITIES FOR AQUACULTURE TO USE THERMAL AND SEWAGE PLANT EFFLUENTS, AND THE DEVELOPMENT OF OFFSHORE AND DEEPWATER AQUACULTURE PROJECTS.

1851 TERRY, O.W.; H.F. UDELL

TIDAL MARSH RESTORATION AT HEMPSTEAD, LONG ISLAND [1974]

SHORE BEACH 42(2):36-39

A MARSH PLANTING PROJECT WAS STARTED IN HEMPSTEAD, NY TO FIND A SOLUTION FOR TWO SEPARATE PROBLEMS. ONE OF THESE IS THE DESTRUCTION OF SALT MARSHES ON LONG ISLAND. THE OTHER IS THE DISPOSAL OF DREDGE SPOIL. SPARTINA ALTERNIFLORA WAS PLANTED ON A

DREDGE SPOIL SUBSTRATE USING 3 PLANTING METHODS--SEEDS, SEEDLINGS, AND PLUGS. PLANT SOURCES AND SURVIVAL RATES ARE DISCUSSED.
EFFECIS OF SUBSTRATE COMPOSITION ON PLANT GROWTH RATES PROVED SURPRISING--PLANTS DID BETTER IN SANDY SOIL THÂN IN FINE-GRAINED
SOIL OF HIGH DRGANIC CONTENT. IT WAS CONCLUDED THAT PLANTING OF SPARTINA COULD BE AN EFFECTIVE METHOD OF RAPID EROSION CONTROL.

1852 TERRY. O.W.

ENVIRONMENTAL EFFECTS OF SAND AND GRAVEL MINING IN NEW YORK HARBOR: A PROGRESS REPORT [1976]

SSGP-PR-76-U27. NYSG, ALBANY, NY 3 PP

A SEA GRANT PROJECT IS CONSIDERING WHAT EFFECTS MINING HAS HAD, IS NOW HAVING, AND WOULD LIKELY HAVE, IF EXPANDED, ON THE NEW YORK HARBOR ENVIRONMENT. THE 1ST PHASE OF THE PROJECT, NEARING COMPLETION, IS A PRELIMINARY STUDY OF THE RESOURCE ITSELF--THE SIZE, LOCATION, AND QUALITY OF THE HARBOR DEPOSITS. THE INITIAL STEP WAS COMPILING AN EXTENSIVE ANNOTATED BIBLIOGRAPHY, SOON TO BE PUBLISHED, WHICH LISTS AND CRITICALLY REVIEWS ALL AVAILABLE PUBLISHED INFORMATION ON THE TOPIC. A PRELIMINARY GEOPHYSICAL SURVEY OF THE HARBOR IS ALSO BEING CONDUCTED, USING A HIGH-RESOLUTION SEISMIC PROFILING SYSTEM TO MAP PRESENT SAND AND GRAVEL RESOURCES IN 3 DIMENSIONS. THE ESTIMATED ANNUAL REMOVAL OF HARBOR AGGREGATES SINCE 1967 IS 5.5 x 10EXP6 YD3. MINING IS PRESENTLY LARGELY CONFINED TO THE AREA AROUND AMBROSE CHANNEL, THE MAIN SHIP CHANNEL TO NEW YORK HARBOR. THIS PROJECT AND OTHERS GROWING FROM IT SHOULD ESTABLISH THE SCIENTIFIC BACKGROUND FOR OPTIMAL MANAGEMENT OF THE HARBOR SAND AND GRAVEL RESOURCE. WITH GREATEST ECONOMIC BENEFIT AT MINIMUM ENVIRONMENTAL COST.

1853 TERRY, O.W.

AQUACULTURE [1977]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 17. NYSG. ALBANY. NY 36 PP

THE OYSTER INDUSTRY, PROBABLY THE EARLIEST FORM OF AMERICAN AQUACULTURE, HAS A LONG AND IMPORTANT HISTORY IN THE VARIOUS INSHORE WATERS ADJOINING NEW YORK BIGHT. WITH THE INTRODUCTION OF MODERN TECHNOLOGY, THE FUTURE OF OYSTER PRODUCTION IS NOW PROMISING DESPITE THE INDUSTRY'S RECENT DIFFICULTIES. STRICTER ENVIRONMENTAL PROTECTION WILL SOMETIMES WORK TO CONSTRAIN AQUACULTURE AS WELL AS TO PROMOTE IT, BUT THE OVERALL BALANCE PROMISES TO BE FAVORABLE TO THE INDUSTRY. THE GREATEST LONG-TERM POTENTIAL FOR BIGHT AQUACULTURE PROBABLY LIES IN SHARING WORLDWIDE PROGRESS TOWARD NOVEL HIGH-TECHNOLOGY SYSTEMS JUST NOW BEGINNING TO BE SERIOUSLY CONSIDERED FOR OFFSHORE OR OPEN SEA MARICULTURE. THE BIGHT HAS UNIQUE ADVANTAGES FOR AQUACULTURE, WHICH TIGHT SERVE TO TURN SOME OF THE BIGHT'S PRESENTLY MOST INTRACTABLE WASTE DISPOSAL PROBLEMS INTO RESOURCES THROUGH RECYCLING.

1854 TERRY, O.W.; D.M. CHASE (EDITORS)

MARICULTURE IN NEW YORK STATE, PROCEEDINGS OF THE SYMPOSIUM [1977]

NYSG, ALBANY, NY 96 PP

MARICULTURE IS ACTIVELY THRIVING IN PARTS OF EUROPE & ASIA. THE OYSTER IS LONG ISLAND'S SECOND MOST VALUABLE MARINE RESOURCE AND IS INTENSIVELY CULTURED IN PRIVATE ACTIVITES. PROFITABLE OPERATIONS NOW INCLUDE OYSTERS, MUSSELS AND JAPANESE PRAWN. RESTRAINTS ARE LEGAL COMPLICATIONS: 1) OBTAINING SEA BED RIGHTS AND 2) OBTAINING THE NECESSARY PERMITS.

1855 TESKEY, R.O.; T.M. HINCKLEY

IMPACT OF WATER LEVEL CHANGES ON WOODY RIPARIAN AND WETLAND COMMUNITIES. VOL II. THE SOUTHERN FOREST REGION [1977]

US FWS. WASHINGTON. DC 54 PP NTIS-PH-276 037

VOLUME 2 IS KEYED TO THE COMPREHENSIVE LITERATURE REVIEW (VOLUME 1 IS ON PLANT AND SOIL RESPONSES) AND IDENTIFIES THE EFFECTS OF WATER LEVEL CHANGES ON THE STRUCTURE, DIVERSITY, AND COMPOSITION OF WETLAND AND REPARIAN COMMUNITIES. IT INCLUDES THE KEY ECOLOGICAL AND PHYSIOGRAPHIC CHARACTERISTICS OF THE REGIONS, DESCRIPTIONS OF SUCCESSIONAL PATTERNS, SITE AND SPECIES CHARACTERISTICS, AND TOLERANCE TABLES FOR MATURE TREES AND SEEDLINGS OF INDIVIDUAL SPECIES. THIS VOLUME COVERS THE COASTAL STATES FROM NJ TO TX.

1856 THOMANN. R.V.

COST EFFECTIVENESS OF REGIONAL WATER QUALITY MANAGEMENT: SOME SELECTED CASE STUDIES AND GENERAL IMPLICATIONS [1972]

PAGES 57-66 IN PROC OF A NAT'L SYMPOSIUM ON COSTS OF WATER POLL CONTROL, APRIL 6-7, 1972. WATER RESOURCE RESEARCH INST, NCSU, RALEIGH. NC

IT IS POSTULATED THAT IT WOULD BE FALLACIOUS TO IGNORE THE INTERACTION BETWEEN BIODEGRADABLE ORGANIC WASTE DISCHARGES AND WATER QUALITY IN ORDER TO INSTITUTE WASTE TREATMENT PROGRAMS BASED SOLELY ON ARBITRARY WASTE EFFLUENT AND WATER QUALITY STANDARDS. TO SUBSTANTIATE THE LACK OF COST EFFICIENCY, THE WATER QUALITY RESPONSES OF THE HIGHLY URBANIZED BOSTON HARBOR, NEW YORK HARBOR, AND THE DELAWARE ESTUARY, TO THREE TREATMENT LEVELS ARE CALCULATED AND SHOWN TO BE ABOUT 0.1-0.5 MG/L DO INCREASE FOR EVERY 100,000 LB/DAY REMOVED BY A TREATMENT PROGRAM AND THE MARGINAL INCREASE IN DO AT THE UPPER LEVELS OF TREATMENT WOULD BE ABOUT 0.1-0.2 MG/L. CUMULATIVE DO RESPONSES WOULD BE ABOUT 2-3 MG/L, PRIMATILY RESULTING FROM TREATMENT UPGRADED TO THE SECONDARY WITH NITRIFICATION LEVEL. IT IS ESTIMATED THAT IT WOULD COST ABOUT \$200-250 MILLION ANNUALLY TO GO FROM SECONDARY WITH NITRIFICATION TO 99% REMOVAL. THE WATER QUALITY IMPROVEMENT, FOR THIS EXPENDITURE WOULD BE LESS THAN 0.5 MG/L DO WITH THE RESULT THAT THESE REGIONS WOULD BE SPENDING ABOUT \$50 MILLION ANNUALLY FOR A 0.1 MG/L DO IMPROVEMENT WITH NO POTENTIAL FOR NEW USES OF THESE FATERS. IF THESE METROPOLITAN REGIONS WERE FORCED TO INSTALL ULTIMATE TREATMENT (IF TECHNOLOGICALLY POSSIBLE) AN ANNUAL \$200 MILLION WOULD BE INFFFICIENTLY SPENT.

1857 THOMANN, R.V.; J.P. ST. JOHN

THE FATE OF PCBS IN THE HUDSON RIVER ECOSYSTEM [1979]

NY ACAD SCI ANN 320:610-629

THE FOCUS OF THIS PAPER IS THE DESCRIPTION OF THE DISTRIBUTION AND FATE OF POLYCHLORINATED BIPHENYLS IN THE HUDSON RIVER WITH PARTICULAR EMPHASIS ON THE AQUATIC ECOSYSTEM. A SETTLEMENT BETWEEN THE NY DEC AND THE GENERAL ELECTRIC COMPANY (GE) CONCERNING THE CONTAMINATION OF THE HUDSON RIVER BY PCBS DISCHARGED FROM GE'S FACILITIES AT FORT EDWARD, NY, CALLED FOR AN OVERALL STUDY OF THE HUDSON. THE DIRECTION OF THE WORK REPORTED ON HEREIN IS TO PROVIDE INPUT INTO THE DECISION MAKING PROCESS OF ESTIMATING THE EFFECTS OF REMEDIAL ACTIONS ON PCB LEVELS IN THE GENERAL BIOTA AND THE LARGER MIGRATORY FISH.

1858 THOMANN, R.V.

EQUILIBRIUM MODEL OF FATE OF MICROCONTAMINANTS IN DIVERSE AQUATIC FOOD CHAINS [1981]

CAN J FISH AQUAT SCI 38(3):280-296

BIOCONCENTRATION AND BIOACCUMULATION FACTORS OF PCB, PU-239, AND CS-137 ARE COMPILED FROM THE LITERATURE AS A FUNCTION OF ORGANISM SIZE. THE DISTRIBUTION OF FIELD-OBSERVED BIOACCUMULATION FACTORS VARIES MARKEDLY BETWEEN EACH SUBSTANCE BUT SIMILARLY TO ORDER OF MAGNITUDE WITHIN EACH SUBSTANCE ACROSS DIVENSE FOOD CHAINS. IT CAN BE INFERRED FROM THE LITERATURE THAT PCB LEVELS IN TOP PREDATORS ARE DUE PRIMARILY TO FOOD CHAIN TRANSFER. A STEADY STATE COMPARTMENT FOOD CHAIN MODEL IS DERIVED FOR ESTIMATION OF THE RELATIVE EFFECT OF UPTAKE DIRECTLY FROM WATER VERSUS FOOD CHAIN TRANSFER. THE MODEL FOOD CHAIN TRANSFER

NUMBER F, GIVEN BY ALPHA C/K + G FOR ALPHA = CHEMICAL ABSORPTION EFFICIENCY, C = SPECIFIC CONSUMPTION, K = EXCRETION RATE, AND G = NET ORGANISM GROWTH RATE INDICATES THE DEGREE OF FOOD CHAIN ACCUMULATION. FOR F > 1, FOOD CHAIN TRANSFER IS SIGNIFICANT; FOR F < 1, UPTAKE FROM WATER IS MORE SIGNIFICANT. APPLICATION OF THE MODEL SUGGEST THAT (A) PCB BODY BURDEN IN TOP PREDATORS IS DUE ALMOST ENTIRELY TO CONSUMPTION OF CONTAMINATED PREY, (B) FOR PU-239 ALL OF THE BODY BURDEN IS DUE TO UPTAKE FROM THE WATER ONLY, AND (C) OBSERVED CS-137 CONCENTRATION FACTORS ARE DUE PRINCIPALLY TO FOOD CHAIN TRANSFER WITH A HIGH DEPENDENCE ON THE SALINITY-DEPENDENT PHYTOPLANKTON ADSORPTION.

1859 THOMAS. J.P.: W.C. PHOEL

NEW YORK BIGHT APEX DATA ON TOTAL OXYGEN CONSUMPTION BY THE SEABED. MARCH 1974-FEBRUARY 1975 [1976]

DR-ERL-MESA-5. NOAA, BOULDER. CO 92 PP NTIS-PB-271 342

DURING THE PERIOD BETWEEN MAR 1974 AND FEB 1975 SEABED OXYGEN CONSUMPTION AND RELATED BOTTOM WATER HYDROGRAPHIC DATA (TEMPERATURE, SALINITY, DISSOLVED OXYGEN CONCENTRATIONS AND % OXYGEN SATURATION) WERE MEASURED ON FOUR CRUISES IN THE APEX OF THE NEW YORK BIGHT TO DETERMINE BASELINE VALUES AND DISTRIBUTIONS. SAMPLES FOR SEABED OXYGEN CONSUMPTION WERE TAKEN WITH A PAMATMAT MULTIPLE CORER AND INCUBATED ON SHIPBOARD IN A WATER BATH THEMOREGULATED TO IN SITU TEMPERATURE. DATA FROM THE APPROXIMATELY SIXTY STATIONS PER CRUISE ARE SUMMARIZED IN THIS REPORT.

1860 THOMAS, J.P.; W.C. PHOEL; F.W. STEIMLE, JR.; J.E. O"REILLY: C.A. EVANS

SEABED OXYGEN CONSUMPTION -- NEW YORK GIGHT APEX [1976]

PAGES 354-367 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS.

SEABED OXYGEN CONSUMPTION RATES, TEMPERATURE, SALINITY, AND DISSOLVED OXYGEN WERE MEASURED DURING FIVE CRUISES IN THE NEW YORK BIGHT APEX BETWEEN MAR 1974 AND AUG 1975. THE AREA SAMPLED INCLUDED THE WASTE DISPOSAL SITES FOR SEWAGE SLUDGE, DREDGE SPOILS, AND INDUSTRIAL ACID WASTES. SAMPLES WERE COLLECTED AND INCUBATED ON SHIPBOARD AT IN SITU TEMPERATURE DURING OXYGEN UPTAKE MEASUREMENTS. IN WINTER THE HIGHEST RATES OF UPTAKE WERE MEASURED IN THE CHRISTIAENSEN BASIN ADJACENT TO THE SEWAGE SLUDGE DISPOSAL SITE, IN THE TOPOGRAPHICALLY HIGH DREDGE SPOIL DISPOSAL AREA WEST OF THE CHRISTIAENSEN BASIN, AND IN THE HUDSON SHELF VALLEY. IN SUMMER THE HIGHEST RATES WERE MEASURED IN THE DREDGE SPOIL AREA. RATES IN THE CHRISTIAENSEN BASIN, HOWEVER, WERE LOW COMPARED WITH THE SURROUNDING AREAS AND WERE MORE LIKE WINTER RATES. THIS DIFFERENCE MAY HAVE BEEN CAUSED BY DIFFERENTIAL SEDIMENTATION RATES OF OXIDIZABLE ORGANIC CARBON TO THE SEABED, MEDIATED BY THE PRESENCE OR ABSENCE OF A THERMOCLINE. THE HIGHEST RATES WERE MEASURED NEAR A MUNICIPAL SEWAGE OUTFALL OFF ASBURY PARK, NJ. NO DISCERNABLE EFFECTS ON SEABED OXYGEN CONSUMPTION WERE OBSERVED NEAR THE ACID WASTE DISPOSAL AREA. RATES OF OXYGEN UPTAKE BY THE BOTTOM WATER AND BY THE ENTIRE WATER COLUMN WERE MEASURED AND COMPARED WITH OXYGEN UPTAKE RATES BY THE SEDIMENT. MOST (93%-98%) OXYGEN UPTAKE IN THE APEX OCCURS IN THE WATER COLUMN AND NOT ON THE SEABED.

1861 THOMAS, J.P.; W.C. PHOEL; J.E. O'REILLY; C.A. EVANS

SEABED OXYGEN CONSUMPTION IN THE LOWER HUDSON ESTUARY [1976]

SANDY HOOK LAB. NMFS. HIGHLANDS. NJ 21 PP

SEABED OXYGEN CONSUMPTION RATES, TEMPERATURE, SALINITY, AND DISSOLVED OXYGEN WERE MEASURED DURING FEB AND AUG 1975, IN THE LOWER HUDSON RIVER (SPUYTEN DUYVIL TO THE NARROWS), LOWER NEW YORK BAYS, THE NEW YORK BIGHT APEX, HUDSON SHELF VALLEY AND ADJACENT CONTINENTAL SHELF SEAWARD OF THE APEX. SAMPLES OF THE SEABED WERE COLLECTED WITH A PAMATMAT MULTIPLE CORER AND INCUBATED ON SHIPBOARD AT IN SITU TEMPERATURE TO MEASURE RATES OF OXYGEN CONSUMPTION. RATES OF OXYGEN CONSUMPTION BY THE SEABED FROM 12.6 TO 41.5 ML 02 /M2/HR IN THE LOWER HUDSON (SPUYTEN DUYVIL TO THE NARROWS), 3.9 TO 31.4 ML 02/M2/HR IN LOWER BAY. 2.9

TO 41.5 ML 02/M2/HR IN THE APEX, 6.8 TO 22.6 ML 02/M2/HR IN THE SHELF VALLEY, AND 1.4 TO 9.0 ML 02/M2/HR OVER THE CONTINETAL SHELF BEYOND THE APEX. TEMPERATURE COEFFICIENTS (Q10) WERE 1.1 TO 1.3 FOR THE LOWER HUDSON, 1.7 TO 2.3 FOR LOWER BAY AND 2.3 FOR THE APEX. THE LOWER HUDSON RIVER SEABED CONSUMES 12.3 AND 16.4 METRIC TONS OF CARBON/DAY IN FEBAND AUG RESPECTIVELY (ASSUMING A RESPIRATORY QUOTIENT OF 1). THIS REPRESENTS ABOUT 5% OF THE ORGANIC LOAD IN THE RIVER.

1862 THOMAS. R.F.: S.P. MASLANSKY: R.C. MT. PLEASANT

REMOVAL AND DISPOSAL OF PCB-CONTAMINATED RIVER BED MATERIALS [1979]

1979 NATIONAL CONFERENCE ON HAZARDOUS MATERIAL RISK ASSESSMENT, DISPOSAL, AND MANAGEMENT, MIAMI BEACH, FL, APRIL, 1979. MALCOLM PIRNIE, INC., WHITE PLAINS, NY ABS ONLY

THE DESIGN OF A CONTAINED DISPOSAL SITE FOR CONTAMINATED DREDGE SPOIL PROVIDED FOR AN 18-IN LINER OF COMPOSTED CLAY TO BE COVERED BY 12 IN OF MATERIAL FOR TURF ESTABLISHMENT. BECAUSE OF DELAYS IN A DREDGING PROGRAM IN A RIVER NAVIGATION CHANNEL AT FORT EDWARD, NY, THE CLAY COVER WAS NOT COMPLETED DURING THE INITIAL CONSTRUCTION SEASON. AS A RESULT, APPROX 8 MILLION GAL OF ACCUMULATED PRECIPITATION, TO A DEPTH OF 12 FT, WERE RETAINED ON THE CLAY LINER. THE RESULTING HYDROSTATIC PRESSURE CAUSED SLUMPING OF THE CLAY COVER ON THE FILL SIDE SLOPES. THESE AREAS WERE REPAIRED, AND DEWATERING OPERATIONS, BEGUN IN AUG 1978, CONTINUED FOR APPROX 1 YR. WATER REMOVED FROM THE SITE WAS DISCHARGED TO THE HUDSON RIVER AT LEVELS OF 0.5-1.5 PPB, WHICH IS WITHIN EXPECTED VALUES. AIR VALUES OF PCB DURING DISPOSAL OF THE 1,000 MICROG/G MATERIAL REACHED LEVELS APPROX 5,000-15,000 NG/M. THE INFORMATION WILL BE USED IN DESIGN AND OPERATION OF THE DISPOSAL SITE FOR 1.5 MILLION YD3 TO BE DREDGED FROM PCB "HOT SPOI" AREAS IN THE UPPER HUDSON. AS NOW PROPOSED BY NY.

1863 THOMPSON, H.D.

GEOMORPHOLOGY OF THE HUDSON GORGE IN THE HIGHLANDS -- NEW YORK [1935]

PH.D. THESIS. NYU, NEW YORK, NY 100 PP

A GEOLOGICAL STUDY ANALYZING THE HUDSON RIVER HIGHLANDS" BEDROCK FORMATION IN AN ATTEMPT TO EXPLAIN PRESENT PATHS OF STREAM FLOW.

1864 THOMPSON, J.; K.K. TUREKIAN; R.J. MCCAFFREY

THE ACCUMULATION OF METALS IN AND RELEASE FROM SEDIMENTS OF LONG ISLAND SOUND [1975]

PAGES 28-44 IN L.E. CRONIN, ED. ESTUARINE RESEARCH: CHEMISTRY, BIOLOGY, AND THE ESTUARINE SYSTEM. ACADEMIC PRESS, INC., NEW YORK, NY

DETAILED ANALYSES OF A SHORT DIVER-OBTAINED CORE AND OF A LONG GRAVITY CORE ALONG A LINE SOUTH OF NEW HAVEN HARBOR WERE USED TO DETERMINE THE MODES AND RATES OF ACCUMULATION OF METALS OVER TIME IN SEDIMENTS OF CENTRAL LONG ISLAND SOUND AND THE PATTERNS OF THEIR RELEASE. THE PB-210 DATING OF THE LONG CORE SHOWS AN INCREASE IN ZN, CU, PB, HG AND MN (THE METALS DETERMINED) OVER THE LAST 70 YRS. THIS IS PRESUMED TO BE THE CONSEQUENCE OF HUMAN ACTIVITY AROUND THE SOUND. THE SHORT DIVER-OBTAINED CORE WAS ANALYZED FOR PB-210, RA-226, U-234, U-238, TH-228, TH-230 AND TH-232 AS WELL AS CU, PB, ZN, CD AND MN. INTERPRETATION OF THE SEDIMENTARY AND CHEMICAL DATA SHOWS THAT ABOUT 16 YRS AGO THERE WAS AN EPISODIC DEPOSITION OF APPROXIMATELY 18 CM OF SEDIMENT WITH SUBSEQUENT BIOTURBATION OF THE UPPER 10 CM AND RETENTION OF STRATIFICATION IN THE LOWER PORTION. IT ALSO SHOWS LOSS OF U AND RA-228 (AND, BY ANALOGY, PROBABLY OF RA-226) AND GAIN OF PB-210, TH-228, AND, POSSIBLY, SOME MN SINCE THE SEDIMENT LOAD WAS DEPOSITED. THE METALS CU, PB, AND ZN SHOWED NO LOSS FROM THE SEDIMENT.

1865 THORNTON, J.A.

STUDIES OF EUTROPHICATION IN SURFACE JATERS OF MANHASSET BAY, NEW YORK [1974]

NMRC. KINGS POINT. NY 60 PP NTIS-COM-75-10179

THE REPORT DEALS WITH AN EVALUATION OF A SECONDARY SEWAGE TREATMENT METHOD WITH THE EMPHASIS ON THE ROLE OF NUTRIENT MATTER CONTAINED WITHIN THE SEWAGE EFFLUENT IN STIMULATING ALGAL GROWTH. THE BASIC SEWAGE TREATMENTS, BOTH SHORE SIDE AND SHIPBOARD, ARE REVIEWED. THE ROLE OF NUTRIENTS IN ALGAL GROWTH IS SUMMARIZED. STUDIES OF EUTROPHICATION IN SURFACE WATERS OF MANHASSET BAY, NY, OUTLINE THE EFFECTS OF SECONDARY TREATMENT EFFLUENT ON ALGAL GROWTH.

1866 THURBERG, F.P.; M.A. DAWSON; R.S. COLLIER

EFFECTS OF COPPER AND CADMIUM ON OSMOREGULATION AND DXYGEN CONSUMPTION IN TWO SPECIES OF ESTUARINE CRABS [1973]

MAR BIOL 23(3):171-175

GREEN (RABS (CARCINUS MAENAS) AND ROCK CRABS (CANCER IRRORATUS) WERE EXPOSED TO VARIOUS CONCENTRATIONS OF COPPER AS CUPRIC CHLORIDE (CUCL2-2 H2O), AND CADMIUM AS CADMIUM CHLORIDE (CDCL2-2 1/2 H2O) FOR 48 H. THE EXPOSURES WERE CONDUCTED AT 5 DIFFERENT SALINITIES. AT THE END OF EACH EXPOSURE PERIOD, TESTS OF BLOOD-SERUM OSMOLALITY AND GILL-TISSUE OXYGEN CONSUMPTION WERE PERFORMED. COPPER-EXPOSED CRABS EXHIBITED LOSS OF OSMOREGULATORY FUNCTION WITH INCREASING COPPER CONCENTRATION UNTIL NORMALLY HYPEROSMOTIC SERUM BECAME ISOSMOTIC WITH THE SURROUNDING MEDIUM. CADMIUM ELEVATED GREEN CRAB SERUM ABOVE ITS NORMAL. HYPEROSMOTIC STATE. COPPER HAD NO EFFECT ON GILL-TISSUE OXYGEN CONSUMPTION; HOWEVER, CADMIUM REDUCED THE RATE OF OXYGEN CONSUMPTION IN BOTH SPECIES TESTED.

1867 THURRERG, F.P.; R.O. GOODLETT

IMPACT ON CLAMS AND SCALLOPS PART 2. LOW DISSOLVED OXYGEN CONCENTRATIONS AND SURF CLAMS--A LABORATORY STUDY [1979]

PAGES 277-280 IN OXYGEN DEPLETION AND ASSOCIATED BENTHIC MORTALITIES IN NEW YORK BIGHT, 1976. PROF PAP 11. NOAA, BOULDER, CO

UNDER LABORATORY CONDITIONS, THE SURF CLAM SURVIVED LOW LEVELS OF DO FOR EXTENDED PERIODS OF TIME. LEVELS BELOW 1.4 ML/L WERE NEARLY ALWAYS FAYAL. NO DEATHS WERE RECORDED AFTER 8 WEEKS AT 2.1 ML/L DO, AND CLAMS PLACED IN WATER AT C.7 ML/L AFTER PREVIOUS EXPOSURE TO 2.1 ML/L SURVIVED FOR 8 WEEKS, INDICATING THAT A GRADUAL SHIFT TO ANAEROBIC PATHWAYS IS POSSIBLY ADVANTAGEOUS. FLOWING WATER EXPOSURES PERMITTED BETTER SURVIVAL THAN DID STATIC WATER SYSTEMS. METABOLIC STUDIES INDICATED THAT ANIMALS HELD UNDER LOW OXYGEN CONDITIONS CONSUMED DXYGEN AT HIGHER RATES THAN NORMAL.

1868 TIETJEY, J.H.

POPULATION DISTRIBUTION AND STRUCTURE OF THE FREE-LIVING NEMATORES OF LONG ISLAND SOUND [1977]

MAR BIOL 43(2):123-136

THE DISTRIBUTION AND STRUCTURE OF NEMATODE POPULATIONS IN 4 SEDIMENTARY ENVIRONMENTS (MUDS, MUDDY SANDS, FINE SANDS AND MEDIUM-COARSE SANDS) IN LONG ISLAND SOUND WERE STUDIED. MEAN POPULATION DENSITIES WERE HIGHEST IN MUDS AND MUDDY SANDS. CLUSTER ANALYSIS SUGGESTED THE PRESENCE OF TWO BASIC FAUNISTIC UNITS A MUD UNIT CHARACTERIZED BY HIGH SPECIES DOMINANCE, LOW SPECIES DIVERSITY AND LOW SPECIES ENDEMISM, AND A SAND UNIT CHARACTERIZED BY, LOW SPECIES DOMINANCE, HIGH SPECIES DIVERSITY AND HIGH SPECIES ENDEMISM. SPECIES DIVERSITY TO ALL HABITATS WAS A DIRECT FUNCTION OF BOTH SPECIES RICHNESS AND EQUITABLITY. LIMITED NICHE SEPARATION AMONG DEPOSIT FEEDERS, USUALLY THE DOMINANT NEMATODE TROPHIC TYPE IN MUDDY SEDIMENTS, IS PROPOSED AS THE CAUSE FOR THE HIGH SPECIES DOMINANCE SO OFTEN CHARACTERISTIC OF SHALLOW MARINE MUDS. THE STUDY AFFORDED THE OPPORTUNITY TO EXAMINE THE QUANTITATIVE AND QUALITATIVE ASPECTS OF POPULATION STRUCTURE IN RELATION TO ENVIRONMENTAL IMPACT (AS INDICATED BY LARGE DIFFERENCES IN THE HEAVY METAL AND ORGANIC CARBON CONCENTRATIONS WITHIN EACH OF THE 4 SEDIMENTARY REGIMES). WITHIN EACH

SEDIMENT TYPE NO DIFFERENCES IN POPULATION DENSITIES. SPECIES COMPOSITION OR SPECIES DIVERSITY OF NEMATODES EXISTED BETWEEN HEAVILY IMPACTED AND APPARENTLY NON-IMPACTED SEDIMENTS, OR BETWEEN LONG ISLAND SOUND AND SIMILAR COASTAL REGIONS. THESE FINDINGS CAST DOUBT ON (1) THE USE OF HEAVY METAL AND ORGANIC CARBON CONCENTRATIONS AS INDICATORS OF ENVIRONMENTAL STRESS FOR MARINE NEMATODES, (2) THE USE OF DIVERSITY INDICES ALONE AS INDICATORS OF ENVIRONMENTAL DETERIORATION, AND (3) THE USEFULNESS OF FIELD MONITORING STUDIES ALONE FOR THE ASSESSMENT OF POLLUTION IMPACT ON MARINE NEMATODES.

1869 TIETJEN, J.H.

POPULATION STRUCTURE AND SPECIES COMPOSITON OF THE FREE-LIVING NEMATODES INHABITING SANDS OF THE NEW YORK BIGHT APEX [1980]

ESTUARINE COASTAL MAR SCI 10(1):61-73

THE FREE-LIVING NEMATODES INHABITING SILTY AND MEDIUM TO COARSE SANDS AT 9 STATIONS IN THE NEW YORK BIGHT APEX WERE STUDIED FROM AUG 1973 TO SEPT 1974. AVERAGE POPULATION IN DENSITIES RANGED FROM 221 TO 1381; NO SIGNIFICANT DIFFERENCES IN DENSITY ASSOCIATED WITH SEDIMENT TYPE, ORGANIC CARBON OR HEAVY METAL CONCENTRATIONS WERE OBSERVED. IN MEDIUM SANDS WITH LOW ORGANIC CARBON AND LOW HEAVY METAL CONCENTRATIONS THE NEMATODE FAUNA WAS CHARACTERIZED BY: (1) DOMINANCE BY MEMBERS OF THE FAMILIES CHROMADORIDAE AND 053, HIGH SPECIES DIVERSITY. IN SILTY SANDS, AND ALSO IN MEDIUM SANDS WITH HIGH ORGANIC CARBON AND/OR HIGH HEAVY METAL CONCENTRATIONS, THE FAUNA WAS MARKED BY: (1) LOW RELATIVE ABUNDANCES OF THE CHROMADORIDAE AND DESMODORIDAE; (2) HIGH DOMINANCE OF THE COMESOMATIDAE; AND (3) LOW SPECIES DIVERSITY. IN MEDIUM SANDS SPECIES DIVERSITY WAS SIGNIFICANTLY INVERSELY CORRELATED WITH INCREASED CONCENTRATIONS OF CR., CW., PB AND ZN. HOWEVER, NO SUCH RELATIONSHIP EXISTED IN SILTY SANDS. CONTAMINATED MEDIUM SANDS WERE ALSO MARKED BY HIGH RELATIVE ABUNDANCES OF THE COMESOMATID SABATIERIA PULCHRA, WHICH MAY BE ABLE TO TOLERATE STRESSED SANDS MUCH BETTER THAN THE NORMAL INHABITANTS OF SUCH SEDIMENTS—SPECIES BELONGING TO THE FAMILIES CHROMADORIDAE AND DESMODORIDAE.

1870 TIMONEY, J.F.; J. PORT; J. GILES; J. SPANIER

HEAVY-METAL AND ANTIPIOTIC RESISTANCE IN THE BACTERIAL FLORA OF SEDIMENTS OF NEW YORK BIGHT [1978]

APPL ENVIRON MICROBIOL 36(3):465-472

THE NEW YORK BIGHT EXTENDS SEAWARD SOME 80-100 MI (APPROX 129-161 KM) FROM THE LONG ISLAND AND NEW JERSEY SHORELINES TO THE EDGE OF THE CONTINENTAL SHELF. OVER 14 X 10EXP6/M3 OF SEWAGE SLUDGE, DREDGE SPOILS, ACID WASTES, AND CELLAR DIRT ARE DISCHARGED INTO THIS AREA EACH YEAR. LARGE POPULATIONS OF BACILLUS SP. RESISTANT TO 20 MICRO G MERCURY/ML WERE OBSERVED IN BIGHT SEDIMENTS CONTAMINATED BY THESE WASTES. RESISTANT BACILLUS POPULATIONS WERE MUCH GREATER IN SEDIMENTS CONTAINING HIGH CONCENTRATIONS OF HE AND OTHER HEAVY METALS THAN IN SEDIMENTS FROM AREAS FURTHER OFFSHORE WHERE DUMPING HAS NEVER BEEN PRACTICED AND WHERE HEAVY-METAL CONCENTRATIONS WERE FOUND TO BE LOW. AMPICILIN RESISTANCE DUE MAINLY TO BETA-LACTAMASE PRODUCTION WAS SIGNIFICANTLY (P<0.001) MORE FREQUENT IN BACILLUS STRAINS FROM SEDIMENTS NEAR THE SEWAGE SLUDGE DUMPSITE THAN IN SIMILAR BACILLUS POPULATIONS FROM CONTROL SEDIMENTS. BACILLUS STRAINS WITH COMBINED AMPICILLIN AND HG RESISTANCES WERE ALMOST 6 TIMES AS FREQUENT AT THE SLUDGE DUMPSITE AS IN CONTROL SEDIMENIS. THIS OBSERVATION SUGGESTS THAT GENES FOR HG RESISTANCE AND BETA-LACTAMASE PRODUCTION ARE SIMULTANEOUSLY SELECTED FOR IN BACILLUS AND THAT HEAVY-METAL CONTAMINATION OF AN ECOSYSTEM CAN RESULT IN A SELECTION PRESSURE FOR ANTIBIOTIC RESISTANCE IN BACILLUS AND THAT HEAVY-METAL RESISTANCE WAS FREQUENTLY LINKED WITH OTHER HEAVY METAL RESISTANCES AND, IN A SUBSTANTIAL PROPORTION OF BACILLUS STRAINS, INVOLVED REDUCTION TO VOLATILE METALLIC HG.

1871 TINARI, F.P.

THE NEW JERSEY RECREATIONAL BOATER: A PILOT STUDY [1980]

DIV REP 10. SETON HALL UNIV. SOUTH ORANGE, NJ NP

THE TWO PURPOSES OF THIS PILOT STUDY WERE TO: (1) FIELD TEST THE SURVEY QUESTIONNAIRE, AND (2) GATHER PRELIMINARY DESCRIPTIVE

INFORMATION ABOUT MARINE BOATERS IN THE STATE. THOUGH OF ONLY LIMITED SCOPE, THE INFORMATION OBTAINED GIVES US SOME INDICATION OF CURRENT BOATING TRENDS IN THE STATE. THE NEW JERSEY BOATER IS APPROXIMATELY 50 YEARS OF AGE, HAVING A FAMILY INCOME IN THE LOW THIRTY-THOUSANDS. HE TRAVELS ABOUT 30 MI FROM HIS HOME TO HIS BOAT DOCK. OUR TYPICAL BOATER SPENDS OVER 60 DAYS EACH YEAR USING HIS BOAT, PRIMARILY FOR SPORT OR PLEASURE, WITH THE SUMMER MONTHS BEING PEAK USAGE TIMES. HIS BOAT IS ABOUT 6 YRS OLD, 30 FT IN LENGTH, AND ABSORDS APPROXIMATELY BETWEEN \$1,500 AND \$2,500 EACH YEAR IN EXPENSES. THE AVERAGE NJ BOATER DEVOTES ROUGHLY 15 HRS/MO IN MAINTENANCE WORK ON HIS BOAT

1872 TINGLE, A.G.

A COMPUTER ANALYSIS OF THE SPREAD OF POLLUTION ON LONG ISLAND BEACHES [1976]

BNL, UPTON, NY 21 PP NTIS-BNL-50651

IN JUNE 1976 LARGE QUANTITIES OF GARBAGE AND SEWAGE-TYPE DEBRIS WERE WASHED ASHORE ON MOST SOUTHERN LONG ISLAND BEACHES. THE FLOATABLE DEBRIS, OF UNKNOWN SOURCE, THREATENED INDUSTRY AND PUBLIC HEALTH. IN AN EFFORT TO TRACE THE SOURCE, THE TRAJECTORIES OF FLOATABLES FROM A VARIETY OF HYPOTHETICAL RELEASE POINTS IN THE NEW YORK BIGHT WERE SIMULATED USING A ONE-LAYER OCEAN MODEL THAT COMPUTES CURRENTS, GIVEN THE BOTTOM TOPOGRAPHY AND THE OBSERVED WINDS. IT WAS THEN ASSUMED THAT THE SURFACE MATERIAL MOVES AS THE VECTOR SUM OF THE CURRENTS AND 3% OF THE WIND. IT WAS FOUND THAT THE INITIAL BEACHING WAS PROBABLY DUE TO DEBRIS FLOATING IN THE BIGHT APEX, AND THAT MATERIAL FROM AS FAR SOUTH AS ATLANTIC CITY COULD HAVE WASHED ASHORE DURING LATE JUNE. AN EXAMINATION OF HISTORICAL WIND RECORDS INDICATED THAT THE PERSISTENT SOUTHWEST WINDS OBSERVED DURING THIS PERIOD COULD RECURABION THE FEAR.

1873 TINGLE. A.G.; D.A. DIETERLE

A NUMERICAL OIL TRAJECTORY FORECAST MODEL USED TO ASSESS THE HAZARD TO LONG ISLAND BEACHES FROM OIL ENTERING THE NEW YORK BIGHT APEX FROM FEBRUARY 11-24, 1977 [1977]

BNL. UPTON. NY 26 PP NTIS-BNL-50649

OIL SPILLING INTO THE HUDSON RIVER FROM A GROUNDED BARGE (CARRYING 400,000 GALLONS) WAS OBSERVED ENTERING THE NY BIGHT APEX ON 11 FEBRUARY 1977. A COMPUTER MODEL WAS USED TO FORECAST THE SUBSEQUENT TRAJECTORY OF THIS OIL AND TO ASSESS THE HAZARD TO LONG ISLAND BEACHES. DIL WAS FORECAST TO WASH ASHORE ON THE 13TH ON ROCKAWAY OR LONG BEACH, DEPENDING UPON THE INITIAL POSITION OF THE OIL IN THE BIGHT. OIL WAS OBSERVED ON ROCKAWAY BEACH ON THE 13TH. ADDITIONAL DAILY FORECASTS INDICATED NO FURTHER HAZARD TO LONG ISLAND, ALSO IN ACCORDANCE WITH OBSERVATIONS, AND THE FORECASTS WERE TERMINATED ON THE 16TH. THE MODEL WAS USED ALSO TO ASSESS A BEACHING EVENT THAT OCCURRED A WEEK LATER. THE COMPLETE CALCULATIONS ARE AVAILABLE ON MICROFICHE IN GRAPHICS FORMAT.

1874 TINGLE, A.G.; D.A. DIETERLE; J.J. WALSH

PERTURBATION ANALYSIS OF THE NEW YORK BIGHT. [1979]

PAGES 395-436 IN R.J. LIVINGSTON, ED. ECOLOGICAL PROCESSES IN COASTAL AND MARINE SYSTEMS. PLENUM PRESS. NEW YORK, WY

THE PHYSICAL TRANSPORT OF POLLUTANTS, THEIR MODIFICATION BY THE COASTAL FOOD WEB, AND THEIR TRANSFER TO MAN ARE PROBLEMS OF INCREASING COMPLEXITY ON THE CONTINENTAL SHELF. IN AN ATTEMPT TO SEPARATE CAUSE AND EFFECT, A COMPUTER MODELING TECHNIQUE IS APPLIED TO PROBLEMS INVOLVING THE TRANSPORT OF POLLUTANTS AS ONE TOOL IN ASSESSMENT OF REAL OR POTENTIAL COASTAL PERTURBATIONS. APPROACHES FOR FURTHER DEVELOPMENT OF MODELS OF THE BIOLOGICAL RESPONSE WITHIN THE COASTAL MARINE ECOSYSTEM ARE DISCUSSED. THE PRESENT PERTURBATION ANALYSES CONSIST OF (1) A CIRCULATION SUB-MODEL, (2) A SIMULATED TRAJECTORY OF A POLLUTANT PARTICLE WITHIN THE FLOW FIELD, AND (3) A TIME DEPENDENT WIND INPUT FOR EACH CASE OF THE MODELS. THESE MODELS, HAVE BEEN SUCCESSFUL IN: (1) REPRODUCING DRIFT CARD DATA FOR DETERMINING THE PROBABILITIES OF A WINTER OIL SPILL BEACHING WITHIN THE NEW YORK BIGHT, (2) ANALYZING THE SOURCE OF FLOATABLES ENCOUNTERED ON THE SOUTH SHORE OF LONG ISLAND IN JUNE 1976, AND (3) PREDICTING THE

TRAJECTORY OF OIL SPILLED IN THE HUDSON RIVER AFTER IT HAD ENTERED THE NEW YORK BIGHT APEX.

1875 TODD, D.K.

SALT-WATER INTRUSION AND ITS CONTROL [1974]

J WATER WORKS ASSOC 66 (3):180-187

SALT WATER INTRUSION, A NATURAL AND TROUBLESOME PHENOMENON RENDERING GROUNDWATER UNPOTABLE, MUST BE CONTROLLED OR ELIMINATED.
THE MOST GERIOUS PROBLEMS ARE IN THE COASTAL URBAN AREAS OF CA, TX, FL, NY, AND HI. CONTROL METHODS FOR PREVENTING SALT WATER
FROM CONTAMINATING GROUNDWATER SOURCES OF DRINKING WATER INCLUDE REDUCED PUMPING, INCREASED GROUNDWATER LEVELS, PUMPING SALINE
WATER, SEALING ABANDONED WELLS, AND PROPER WELL CONSTRUCTION.

1876 TOFFLEMIRE, T.J.

PRELIMINARY REPORT ON SEDIMENT CHARACTERISTICS AND WATER COLUMN INTERACTIONS RELATIVE TO DREDGING THE UPPER HUDSON RIVER FOR RIVER REMOVAL [1976]

NY DEC. ALBANY. NY 82 PP

DUE TO THE HIGH CONTAMINATION OF SEDIMENTS AND FISH IN THE UPPER HUDSON RIVER BY MANY YEARS OF DISCHARGE OF PCB, A BRIEF STUDY OF THE SEDIMENTS AND THEIR WATER INTERACTIONS RELATIVE TO DREDGING WAS UNDERTAKEN. THIS STUDY WAS ONE OF MANY STUDIES CONDUCTED ON THE HUDSON RELATIVE TO THE PCB CONTAMINATION AND LEGAL HEARINGS CONDUCTED AT THE NY DEC IN APRIL 1976. THE SCOPE OF THIS STUDY WAS LIMITED TO DETERMINING THE FOLLOWING: A. CHARACTERISTICS OF THE SEDIMENT; B. CHARACTERISTICS OF THE BED LOAD; AND C. SEDIMENT-WATER INTERACTIONS RELATIVE TO DREDGING.

1877 TOFFLENIRE, T.J.; T.F. ZIMMIE

HUDSON RIVER SEDIMENT DISTRIBUTIONS AND WATER INTERACTIONS RELATIVE TO PCB: PRELIMINARY INDICATIONS [1977]

US EPA. EASTON. MD 26 PP

THE NATURE OF THE UPPER HUDSON RIVER SEDIMENTS IS DISCUSSED WITH RESPECT TO THE RELATIONSHIP OF PCB CONCENTRATION TO SEDIMENT TYPE AND CHARACTER. BED LOAD ESTIMATES OF PCB TRANSPORT INDICATE THIS TO BE A RELATIVELY SMALL PERCENTAGE OF THE TOTAL SUSPENDED LOAD PCB TRANSPORT. CATIONIC POLYMERS, SEDIMENT TYPE, AND LAGOON RETENTION TIME ARE FOUND TO AFFECT SUSPENDED SOLIDS AND PCB LOSSES FROM HYDRAULIC DREDGING LAGOONS. SEVERAL RECOMMENDATIONS ARE MADE TO MINIMIZE LOSSES OF SOLIDS AND ASSOCIATED PCBS DURING DREDGING.

1878 TOFFLEMIRE, T.J.; S.O. QUINN; P.R. HAGUE

PCO IN THE UPPER HUDSON RIVER--MAPPING, SEDIMENT SAMPLING, AND DATA ANALYSIS [1979]

TECH PAP 57. NY DEC, ALBANY, NY 34 PP

THE PRESENCE OF POLYCHLORINATED BIPHENYLS IN THE HUDSON RIVER BIOTA HAS BEEN KNOWN SINCE LATE 1969, BUT SEVERAL YEARS ELAPSED BEFORE THE ENORMOUS MAGNITUDE OF THE PCB CONTAMINATION WAS REALIZED. THE SOURCES OF THE PCBS WERE IDENTIFIED AS TWO GENERAL ELECTRIC (GE) CAPACITOR MANUFACTURING PLANTS, LOCATED AT HUDSON FALLS AND FT EDWARD, NY. ON SEPT 8, 1976, THE NY DEC AND GE SIGNED AN AGREEMENT WHICH TERMINATED THE LEGAL ACTION AGAINST GE FOR PCB DISCHARGES. THE AGREEMENT LED TO THE ESTABLISHMENT OF A 17 MILLION (\$3 MILLION NYS. \$4 MILLION GE) FUND TO STUDY AND SOLVE THE PCB PROBLEM. ALTHOUGH PRELIMINARY RESEARCH

DEMONSTRATED THAT A SERIOUS PROBLEM DJES EXIST WITH RESPECT TO PCBS IN THE HUDSON RIVER, THE COMPLETE SCOPE OF THE PROBLEM AND THE APPROPRIATE REMEDIAL ACTION WERE NOT CLEAR. THIS PAPER SUMMARIZES STUDIES BY DEC AND OTHERS DEALING WITH PCB MAPPING AND SEDIMENT DISTRIBUTIONS IN THE UPPER HUDSON.

1879 TOFFLENIRE, T.J.; L.J. HETLING; S.O. QUINN

PCB IN THE UPPER HUDSON RIVER: SEDIME AT DISTRIBUTIONS. WATER INTERACTIONS AND DREDGING [1979]

TECH PAP 55. NY DEC. ALBANY. NY 75 PP.

THIS PAPER SUMMARIZES SOME KEY DATA FOR THIS CASE STUDY OF POLYCHLORINATED BIPHENYLS IN THE HUDSON RIVER. IT HIGHLIGHTS FINDINGS OF MORE GENERAL INTEREST DEALING WITH PCB SEDIMENT DISTRIBUTIONS, WATER INTERACTIONS AND DREDGING. IN SEPTEMBER 1976, THE NY DEC AND THE GENERAL ELECTRIC COMPANY (GE) SIGNED A LEGAL AGREEMENT SETTING UP A. \$ 7 MILLION FUND TO STUDY AND SOLVE THE PCB PROBLEM. AN INDEPENDENT PCB ADVISORY COMMITTEE WAS ALSO SET UP TO ADVISE DEC IN THIS EFFORT. THIS PAPER SUMMARIZES THE CONSULTANT STUDIES AND DEC STUDIES DEALING WITH PCB SEDIMENT DISTRIBUTIONS, WATER INTERACTION AND DREDGING FOR THE UPPER HUDSON. A SUMMARY REPORT OF BROADER SCOPE AND A DETAILED REPORT OF MAPPING AND SEDIMENT RELATIONSHIPS ARE ALSO AVAILABLE.

1880 TOKOS, J.J.

THE DISTRIBUTION OF CHLOROPHYLL-A IN THE NEW YORK BIGHT AS DETERMINED BY CONTINUOUS IN-VIVO FLUOROMETRY, AUGUST 1977 [1978]

M.S. THESIS. SUNY. STONY BROOK. NY 89 PP

AN EXTENSIVE, HIGH RESOLUTION SURVEY OF PHYTOPLANKTON CHLOROPHYLL A AND TEMPERATURE IN BOTH THE HORIZONTAL AND VERTICAL DIMENSIONS WAS CONDUCTED DURING AUGUST, 1977 IN THE NEW YORK BIGHT. MOST PHYTOPLANKTON BIOMASS IS LOCATED WITHIN THE 30-40 M ISOBATH. MAPPING ACTIVITIES OF TWO OFFSHORE TRANSECTS AND THREE TIME-SERIES INDICATE THE NEARSHORE BIGHT WAS DIVIDED INTO THREE DISTINCT REGIONS: A CHLOROPHYLL A BAND (5-10 KM x 50-60 KM) IN A FRONTAL SYSTEM ALONG THE NEW JERSEY COAST, A LOW CHLOROPHYLL MIXED ENVIRONMENT NEAR LONG ISLAND AND A HIGH CONCENTRATION SURFACE POPULATION IN THE HUDSON RIVER DISCHARGE. THE NJ FRONTAL SYSTEM (THE MAJOR CONFORMATIONAL FEATURE) HAS NOT PREVIOUSLY BEEN REPORTED. THE THREE AREAS APPEAR RELATED TO TO THE EFFECTS OF PREVAILING WIND STRESS ON LOCAL VARIATIONS IN COASTLINE ORIENTATION AND BOTTOM TOPOGRAPHY. RESULTS ENCOURAGE REPEATED MAPPING SURVEYS IN ORDER TO MORE ACCURATELY ASSESS PHYTOPLANKTON RESPONSE TO PHYSICAL FORCING FUNCTIONS WITHIN THIS HIGHLY DIVERSE ENVIRONMENT.

1881 TONG, S.S.C.; W.H. GUTENMANN; D.J. LISK; G.E. BARDICK; E.J. HARRIS

TRACE TETALS IN NEW YORK STATE FISH [1972]

NY FISH GAME J 19(2):123-131

AN ANALYTICAL SURVEY WAS CONDUCTED OF THE CONCENTRATIONS OF 8 METALS IN FISH FROM 11 NEW YORK STATE WATERS. ANALYSIS OF BA. CD. CO. NI. AG, TIN. VA. AND ZN IN FISH WAS PERFORMED BY SPARK SOURCE MASS SPECTROMETRY FOLLOWING DRY ASHING OF SAMPLES. BA. CD. AND AG WERE PRESENT IN THE RANGE OF 0.1 PPM. TIN AND ZN WERE USUALLY FOUND AT RELATIVELY HIGHER LEVELS OF 0.5 TO SEVERAL PP4. CO. NI. AND VA WERE INTERMEDIATE IN CONCENTRATION BEING MOST OFTEN LESS THAN 1 PPM.

1882 TOTH. S.J.; A.N. OTT

CHARACTERIZATION OF BOTTOM SEDIMENTS: CATION EXCHANGE CAPACITY AND EXCHANGEABLE CATION STATUS [1970]

ENVIRON SCI TECHNOL 4(11):935-939

MODIFICATIONS WERE DETERMINED OF SOIL CHARACTERIZATION METHODS WHICH WOULD BE REQUIRED TO CHARACTERIZE BOTTOM SEDIMENTS BASED UPON SAMPLES TAKEN FPOM SOME RIVERS, BAYS, AND FRESHWATER IMPOUNDMENTS. TWO PARAMETERS WERE USED: CATION EXCHANGE CAPACITY (CEC) AND EXCHANGEABLE CATION STATUS (ECS). CEC IS THE ABILITY OF AN EXCHANGER, EXPRESSED IN TERMS OF ME PER 100 G, TO RETAIN A SPECIFIC CATION AT A CERTAIN PH VALUE AND SALT CONCENTRATION. ECS, EXPRESSED IN LIKE TERMS, REFERS TO THE AMOUNT OF NA, K, CA, MG, AND H HELD BY THE SOIL COMPLEX. IT WAS DETERMINED THAT CEC AND ECS VALUES CAN BE UTILIZED IN DETERMINING SALT-WATER INTRUSIONS AND POLLUTION EFFECTS. THESE VALUES NEED TO BE PETERMINED ON FRESH OR FROZEN AND THAWED SEDIMENTS SINCE DRYING REDUCES CEC AND EXCHANGEABLE FE AND MN CONTENTS. EXCHANGEABLE H IONS CANNOT BE DETERMINED IN NH40AC EXTRACTS BECAUSE LARGE AMOUNTS OF DISPERSED ORGANIC MATTER AND EXCHANGEABLE FE AND MN ARE PRESENT. THERE ARE EXTREMELY WIDE VARIATIONS FOUND IN CEC AND ECS VALUES. THE ORGANIC CONTENT OF BOTTOM SEDIMENTS IS RESPONSIBLE FOR ABOUT 80 PERCENT OF THE CEC.

1883 TOZZOLI. A.J.

CONTAINERIZATION AND ITS IMPACT ON PORT DEVELOPMENT [1972]

ASCE J WATERW DIV 98 (WW3):333-342

THE CHANGES IN CARGO HANDLING ARE REVIEWED OVER THE POSTWAR YEARS, WITH TRENDS IN VESSEL CONSTRUCTION, THE THEORY OF .
CONTAINERIZATION, AND A REVIEW OF PROBLEMS LEADING TOWARDS INTERMODAL SYSTEM OF TRANSPORTATION. THE INTERFACE AND THE GROUND ON WHICH IT TAKES PLACE ARE FULLY EXPLAINED AND ARE BASED ON EXPERIENCE AT THE ELIZABETH-PORT AUTHORITY MARINE TERMINAL. CRITERIA FOR THE PORT COMPLEX ARE REVIEWED WITH AREA REQUIREMENTS AND OPERATIONAL CHARACTERISTICS.

1884 TROVER, E.L. (EDITOR)

CHRONOLOGY AND DOCUMENTARY HANDBOOK OF THE STATE OF NEW YORK [1978]

OCEANA PUBLICATIONS, INC., DOBBS FERRY, NY 152 PP

THESE ARE INTENDED TO BE CONCISE READY REFERENCES OF CERTAIN BASIC DATA FOR EACH STATE, AND A STARTING POINT FOR MORE EXTENDED STUDY AS THE INDIVIDUAL MAY REQUIRE. FOR ALL TOO MANY STATES, LOCAL HISTORY AND DOCUMENTARY MATERIAL IS NOT CONVENIENTLY AVAILABLE FOR THE AVERAGE CITIZEN, OR EVEN FOR THE SPECIALIST, AND IF THESE VOLUMES MAY GENERATE INTEREST IN CERTAIN STATES IN LOCAL, COMPREHENSIVE REFERENCE PUBLICATIONS WHICH FILL IN THE BROAD OUTLINES SUGGESTED HERE, THE EDITORS CAN ONLY CLAIM AN INDIRECT CONTRIBUTION TO STATE AND LOCAL HISTORY. THE ORIGINAL EDITORIAL PLAN FOR THESE HANDBOOKS IS CONTINUED: (1) PRINCIPAL HISTORICAL EVENTS, AND REPRESENTATIVE DEVELOPMENTS OF PARTICULAR SOCIAL, ECONOMIC OR POLITICAL SIGNIFICANCE, ARE SET OUT IN A CHRONOLOGY; (2) THEN FOLLOWS A CONCISE BIOGRAPHICAL DIRECTORY OF THE CHIEF STATE OFFICERS—GOVERNORS AND MEMBERS OF BOTH HOUSES OF CONGRESS; (3) THE FIRST STATE CONSTITUTION, THE CURRENT TEXT OF WHICH IS READILY AVAILABLE IN EACH STATE; (4) A COLLECTION OF DOCUMENTS; AND 5) A SHORT SELECTED BIBLIOGRAPHY TO DIRECT THE READER TO MORE DETAILED SOURCE MATERIAL.

1885 TSAL, Y.J.

SHEAR FLOW INSTABILITY AS A SOURCE OF INTERNAL WAVES ON THE CONTINENTAL SHELF [1977]

NOAA, WASHINGTON, DC 187 PP NTIS-PB-281 864

INTERNAL WAVE PACKETS ON THE CONTINENTAL SHELF HAVE BEEN OBSERVED FROM SATELLITE IMAGES AND VIA SHIPBOARD MEASUREMENT.

TEMPERATURE AND ACOUSTIC ECHO-SOUNDER MEASUREMENTS SHOW THAT THESE ARE ESSENTIALLY UNDULATORY INTERNAL BORES PERHAPS HAVING
TIDAL ORIGIN. AN INSTABILITY CALCULATION SUGGESTS THE SOURCE OF THE UNDULATIONS IS LOCAL SHEAR FLOW INSTABILITY. THE VERTICAL
VELOCITY PERTURBATION FOR WAVES OF MAXIMUM AMPLICATION ALWAYS HAS TWO PEAKS, LOCATED AROUND THE TWO INTERFACES AND A SUBSIDIARY
MINIMUM AT THE CRITICAL LAYER. THE FORM OF THIS EIGEN FUNCTION AGREES QUALITATIVELY WITH THE RESULTS DERIVED FROM TEMPERATURE
PROFILES MADE AT THE INTERNAL WAVE TROUGHS AND CRESTS OFF LONG ISLAND.

1886 TUCHOLKE, B.E.; G.M. BRYAN; J.I. EWING

GAS-HYDRATE HORIZONS DETECTED IN SEISMIC-PROFILER DATA FROM THE WESTERN NORTH ATLANTIC [1977]

AM ASSOC PET GEOL BULL 61(5):698-707

REFLECTING HORIZONS WHICH HAVE ANOMALOUSLY HIGH AMPLITUDE AND WHICH ARE CONFORMABLE TO THE SEAFLOOR AT ABOUT 500 TO 600 M SUBBOTTOM HAVE BEEN REPORTED IN TWO LOCATIONS OFF THE US EAST COAST, ONE ALONG THE CREST OF THE BLAKE OUTER RIDGE. AND ANOTHER BENEATH THE UPPER CONTINENTAL RISE OFF NJ AND DE. DETAILED MAPPING OF THESE HORIZONS SHOWS THAT: (1) THE HORIZONS CUT ACROSS BEDDING PLANES IN THE SEDIMENT; (2) SUBBOTTOM DEPTH OF THE HORIZONS INCREASES WITH INCREASING SEAFLOOR DEPTH AND THUS WITH DECREASING SEAFLOOR (BOTTOM WATER) TEMPERATURE; AND (3) THE HORIZONS ARE RESTRICTED TO AREAS WHERE SEDIMENT STRATA DIP LANDWARD; SUCH ANOMALOUS HORIZONS ARE UNCOMMON WITHIN THE NORMAL SEAWARD-DIPPING CONTINENTAL-RISE STRATA. DEEP-SEA DRILLING INTO OR CLOSE TO THE ANOMALOUS HORIZON ON THE BLAKE OUTER RIDGE RECOVERED METHANE-RICH SEDIMENT. PRESSURE/TEMPERATURE CONDITIONS WITHIN THE SEDIMENT COLUMN IN BOTH AREAS OF ANOMALOUS HORIZONS ARE APPROPRIATE FOR FORMATION OF GAS HYDRATES TO SEVERAL HUNDRED METERS DEPTH, THUS SUGGESTING THAT A ZONE OF GAS HYDRATES OVERLIES THE ANOMALOUS HORIZONS. A PLOT OF THE HYDRATE/GAS PHASE TRANSFORMATION OF THE METHANE/SEAWATER SYSTEM IN THE SEDIMENTARY COLUMN, USING GEOLOGICALLY REASONABLE VALUES FOR SEAFLOOR TEMPERATURE AND FOR THERMAL GRADIENT AND SOUND-VELOCITY IN THE SEDIMENT. SHOWS A GOOD CORRELATION BETWEEN THE DEPTH OF THE PHASE CHANGE AND THE MINIMUM DEPTH OF THE ANOMALOUS REFLECTING HORIZONS. THE HORIZONS THEREFORE ARE THOUGHT TO REPRESENT AN IMPEDANCE CONTRAST CAUSED BY THE DOWNWARD CHANGE FROM GAS HYDRATE TO GAS IN THE SEDIMENT. LANDWARD-DIPPING STRATA AND THE GAS-HYDRATE LAYER BLOCKS SEAWARD GAS MIGRATION AND THE DIPPING STRATA RESTRICT LANDWARD MIGRATION.

1887 TUCKER, W.D.

ENVIRONMENTALISM AND THE LEISURE CLASS [1977]

HARPER'S MAG 225(1531):49-62

THE STORM KING MOUNTAIN CONTROVERSY, CONSIDERED TO BE THE BIRTHPLACE OF THE ENVIRONMENTAL MOVEMENT, IS DETAILED. NEW YORK'S CONSOLIDATED EDISON CO'S DESIRE TO BUILD A RELIABLE 2 MILLION KW PUMPED STORAGE PLANT AT STORM KING TO SOLVE THE PROBLEM OF PEAKING POWER AT BARGAIN RATES AND TO CREATE GREATER EFFICIENCIES IN EXISTING SYSTEMS WAS THWARTED BY A SMALL BUT DETERMINED GROUP OF WEALTHY PEOPLE. THEIR SUCCESS WAS DETERMINED BY THE DEGREE TO WHICH THEY WERE ABLE TO WIN SUPPORT AMONG PEOPLE WHOSE BEST INTERESTS MIGHT HAVE BEEN SERVED BY SUPPORTING THE CONSTRUCTION OF THE CONSOLIDATED EDISON CO STORM KING PLANT. AMONG THESE 4AS THE ENTIRE GOVERNMENT OF THE CITY OF NEW YORK. FROM THE STORM KING CONTROVERSY, THE QUESTION OF WHERE FUTURE POWER IS TO COME MUST BE ASKED AS ENVIRONMENTALISTS ATTEMPT TO STALEMATE PRACTICALLY EVERY CONCEIVABLE METHOD OF PRODUCING ENERGY.

1888 TUCKER, W.D. (EDITOR)

COASTAL SHELF OCEANOGRPHY PROGRAM, PROGRESS REPORT #2: JULY 1 TO SEPTEMBER 30, 1974 [1974]

BNL, UPTON, NY 59 PP

WITH THE START OF FISCAL YEAR 1975 ON JULY 1, 1974, FOUR PROJECTS IN COASTAL SHELF QCEANOGRAPHY WERE FUNDED BY THE DIVISION OF BIOMEDIAL AND ENVIRONMENTAL RESEARCH (DBER). THESE WERE: 1) COASTAL SHELF TRANSPORT AND DIFFUSION; 2) COASTAL SHELF PRODUCTIVITY; 3) FISH EGGS AND LARVAE STUDIES; AND 4) BIOLOGICAL STUDIES OF THE COASTAL SHELF PROGRESS ON EACH OF THESE PROJECTS IS DESCRIBED IN THIS REPORT.

1889 TUCKER, W.D. (EDITOR)

COASTAL SHELF OCEANOGRAPHY PROGRAM, PROGRESS REPORT #3: OCTOBER 1, 1974 TO MARCH 31, 1975 [1975]

BNL, UPTON, NY 47 PP

WORK IN COASTAL SHELF OCEANOGRAPHY IS PROCEEDING IN FOUR PROGRAM AREAS: COASTAL SHELF TRANSPORT AND DIFFUSION, CDASTAL SHELF PRODUCTIVITY, FISH EGGS AND LARVAE STUDIES, AND FOOD CHAIN DYNAMICS AND FISH MORTALITY. THESE PROGRAMS ARE BEING CARRIED OUT AS COLLABORATIVE EFFORTS BETWEEN BNL STAFF AND STAFF OF A NUMBER OF ESTABLISHED OCEANOGRAPHIC INSTITUTES UNDER A SERIES OF SUBCONTRACTS. THESE ARE ALL NOW OPERATIVE, AND WORK IN PROGRESS IS COVERED IN THIS REPORT.

1890 TUFFEY, T.J.

PHOTOSYNTHETIC REAERATION ON THE UPPER PASSAIC RIVER [1972]

OWRT, JASHINGTON, DC 165 PP NTIS-PB-241 721

INVESTIGATIONS WERE MADE OF PHOTOSYNTHESIS UPON A SMALL POLLUTED RIVER, THE PASSAIC RIVER IN NJ, INCLUDING EFFECTS UPON THE GENERAL OXYGEN REGIMEN OF THE RIVER. DATA OBTAINED SHOWED VARIATION OF PHOTOSYNTHETIC OXYGEN WITH WATER DEPTH, TIME OF DAY, AND WITH THE SEASONS. ATTEMPTS WERE MADE TO DEVELOP A METHOD OF MATHEMATICALLY MODELLING NET PHOTOSYNTHESIS EFFECT. BASED ON WATER QUALITY AND ENVIRONMENTAL CHARACTERISTICS; BUT RESULTS WERE NOT SUFFICIENTLY SATISFACTORY TO BE DEFINITIVE. A COMPARISON OF OXYGENATION EFFECTS DUE TO PHOTOSYNTHESIS AND THE NATURAL ATMOSPHERIC REAERATION, RESPECTIVELY, SHOWED THAT PHOTOSYNTHESIS CONTRIBUTED ABOUT 20% OF THE TOTAL OXYGEN ADDED; THE PROPORTION BEING INDEPENDENT OF THE STREAM DISCHARGE. MOREOVER, IF THE DISSOLVED OXYGEN CONCENTRATION OF THE RIVER WERE AT A HIGHER LEVEL THIS PROPORTION WOULD RISE, UP TO POSSIBLY 45% OF THE TOTAL. NUTRIENT LEVELS IN THE WATER WERE HIGH. THE PHOSPHATE LEVELS IN PARTICULAR WERE MANY TIMES THAT NECESSARY TO MAINTAIN ALGAE GROWTH.

1891 TUFFEY, T.J.; J.V. HUNTER; W. WHIPPLE, JR.; S.L. YU

INSTREAM AERATION AND PARAMETERS OF STREAM AND ESTUARINE NITRIFICATION [1974]

OWRT, WASHINGTON, DC 69 PP NTIS-PB-240 183

THE FIRST OBJECTIVE WAS TO VERIFY A TENTATIVE HYPOTHESIS THAT ARTIFICIAL STREAM AERATION MIGHT BE FOUND TO STIMULATE THE NITRIFICATION PROCESS. FIELD INVESTIGATIONS ON THE PASSAIC RIVER, NJ, AND THE LITTLE MIAMI RIVER GAVE A CLEAR CUT NEGATIVE ANSWER TO THIS HYPOTHESIS. THE SECOND OBJECTIVE WAS TO INVESTIGATE MORE FULLY THE CHEMICAL AND BIOCHEMICAL MECHANISMS OF STREAM NITRIFICATION. IT WAS FOUND THAT THE MUCH USED WARBURG APPARATUS IS RELATIVELY INACCURATE IN MEASURING BOD OF STREAMS, AND INHERENTLY UNSUITABLE FOR USE IN MEASURING NITRIFICATION. NITRIFICATION DOES OCCUR IN SHALLOW SURFACE-ACTIVE STREAMS AND IN ESTUARIES (BUT THROUGH ENTIRELY DIFFERENT PROCESSES). THE CENTRAL PORTIONS OF MEDIUM-SIZED RIVERS GENERALLY DO NOT NITRIFY TO A SIGNIFICANT EXTENT. REQUIREMENTS FOR MODELLING SUCH PROCESSES ARE DISCUSSED.

1892 TUREKIAN, K.K.; A. KATZ; L.H. CHAN

TRACE ELEMENT TRAPPING IN PTEROPOD TESTS [1973]

LIMNOL OCEANOGR 18(2):240-249

PTEROPOD TESTS FROM THE GULF OF ARABA AND THE SOUTH ATLANTIC OCEAN AND "BULK" (SOFT TISSUE) PLANKTON SAMPLES FROM LONG ISLAND SOUND HERE ANALYZED BY INSTRUMENTAL NEUTRON ACTIVATION ANALYSIS (INAA) FOR 11 TRACE METALS (FE, CE, LA, SM, EU, TH, SC, CR, CO, SB, SE) TO STUDY THE TRAPPING AND TRANSPORT MECHANISMS FOR THESE METALS IN THE OCEANS AND THE CAPABILITY OF PTEROPODS TO MODIFY THE COMPOSITION OF SEAWATER DURING THIS PROCESS. THE INTERNAL CORRELATIONS AMONG THESE METALS STRONGLY SUGGEST THAT A FINELY PARTICULATE (LESS THAN 0.2 MICRON) AUTHIGENIC IRON-RICH PHASE (HYDRATED OXIDE OR PHOSPHATE) IS TRAPPED BY BOTH THE SOFT AND HARD TISSUES OF PLANKTON AND THAT THIS PHASE IS THE MAJOR CARRIER OF SEVERAL OF THE TRACE METALS. ASSUMING THAT THE IRON-RICH FLOC-TRAPPING MECHANISM IS APPLICABLE TO ALL PELAGIC CALCAREOUS TESTS, THEN THE DOWNWARD FLUX OF IRON AND ASSOCIATED TRACE

ELEMENTS CARRIED BY THESE TESTS CAN BE ASSESSED. THIS ASSUMPTION LEADS TO THE CONCLUSION THAT THE IRON AND THE ASSOCIATED TRACE ELEMENTS HAVE RESIDENCE IN THE DEEP WATER OF THE SAME ORDER OF MAGNITUDE AS THAT OF THE DEEP WATER ITSELF.

1893 TUREKIAN. K.K.

HEAVY METALS IN ESTUARINE SYSTEMS [1974]

OCEANUS 18(1):32-33

MAN'S ACTIVITIES HAVE CLEARLY INCREASED THE FLUX OF METALS TO COASTAL WATERS DELIVERED BY STREAMS, SEWER OUTFALL AND THE ATMOSPHERE. THE METALS DEPOSITED IN DREDGE SPOILS HAVE LITTLE CHANCE OF LEACHING OUT OF THE SEDIMENT. PROBLEMS INVOLVE MOBILIZED TOXIC ORGANIC COMPOUNDS AND CHANGES IN THE PHYSICAL NATURE OF THE SUBSTRATE.

1894 TUREKIAN, K.K.

FATE OF NUCLIDES IN NATURAL WATER SYSTEMS. ANNUAL PROGRESS REPORT. OCTOBER 1. 1976-SEPTEMBER 30. 1977 [1977]

ERDA, JAK RIDGE, IN 9 PP NTIS-COO-3573-26

DIRECTLY OR INDIRECTLY MAN'S SPEWING OF HIS WASTES INTO THE COASTAL ZONE IS COUPLED TO HIS USE OF ENERGY. THE ACT OF SUPPLYING ENERGY FOR HIS ONGOING ACTIVITIES IS CAPABLE ALSO OF SUPPLYING SOME OF THE POTENTIALLY MOST DELETERIOUS COMPONENTS TO THE COASTAL ZONE. RESULTS ARE REPORTED FROM STUDIES OF THE PATTERN OF PHYSICAL AND BIOLOGICAL ACTIVITY IN THE ESTUARY WHICH CONTROLS THE DISTRIBUTION AND POSSIBLE NEUTRALIZATION OF POTENTIAL POLLUTANTS. SEDIMENT CHRONOLOGIES APPLICABLE TO AQUEOUS REPOSITORIES WERE ESTABLISHED IN ORDER TO IDENTIFY THE EFFECTS DUE TO MAN AND TO ASSESS THE CHANGING INTENSITY OF HIS ACTIVITIES OVER TIME. NATURAL AND MANMADE RADIONUCLIDES HAVE BEEN COMMONLY USED TO IDENTIFY AGE WITH DEPTH IN THE SEDIMENT PILE. BUT WE FIND THAT PROCESSES OTHER THAN SEDIMENT ACCUMULATION CONFOUND THE RECORD. BIOLOGICAL AND PHYSICAL DISRUPTIONS THAT ALTER THE RECORD OF RADIONUCLIDES IN A SEDIMENT FROM THAT EXPECTED FROM THE SOURCE WERE STUDIED IN LONG ISLAND SOUND USING THE NATURAL RADIONUCLIDES TH-234 AND PB-210 AND TRACE ELEMENTS IN, CD, CU, AND NI. THE UPTAKE AND RETENTION OF THESE ELEMENTS IN MUSSELS WAS STUDIED.

1895 TUREKIAN. K.K.

NATURAL RADIONUCLIDES IN THE NEW YORK BIGHT SYSTEM PROGRESS REPORT AND RENEWAL PROPOSAL TO NOAA [1977]

MESA. NOAA. BOULDER. CO 17 PP

THE STABILITY OF SEDIMENTS IN THE NEW YORK BIGHT IS OF CONSIDERABLE INTEREST BECAUSE OF THE HUMAN PERTURBATIONS OF THE SYSTEM BY DUMPING. IT IS ALSO OF IMPORTANCE BECAUSE IT IS AN EXAMPLE OF THE BEHAVIOR OF COASTAL DEPOSITS NOT PROTECTED BY ESTUARINE INLETS OF THE TYPE REPRESENTED BY LONG ISLAND SOUND AND CHESAPEAKE BAY. THE QUESTIONS TO WHICH OUR RESEARCH ADDRESSES ITSELF ARE: (1) WHAT IS THE SOURCE OF THE ORGANIC-RICH FINE-GRAINED COMPONENT OF THE NEW YORK BIGHT SEDIMENTS; (2) WHAT ARE THE TIME SCALES OF MOBILITY AND STABILITY OF SEDIMENTS IN THE NEW YORK BIGHT; (3) HOW DO THESE COMPARE WITH "PROTECTED" ESTUARIES LIKE LONG ISLAND SOUND; AND (4) AT WHAT DEPTH 'COR DISTANCE) OFFSHORE DOES THE REGIME CHANGE? WE HAVE PROCEEDED TOWARDS SOLUTIONS TO THESE QUESTIONS BY STUDYING SHORT, LARGE CROSS-SECTION CORES, OBTAINED BOTH BY DIVERS AND NORMAL BOX CORING, WHICH UNAMPIGUOUSLY RETAIN THE SEDIMENT-WATER INTERFACE. BY MEASURING SUCH PROPERTIES AS THE ORGANIC CONTENT VARIATIONS WITH DEPTH. WE CAN RELATE DIAGNOSTIC NATURAL RADIONUCLIDE ABUNDANCES TO PROCESSES OF SCAVENGING FROM THE WATER COLUMN, PHYSICAL MIXING AND TRANSPORT, AND BIOTURBATION AS THEY AFFECT FINE-GRAINED MATERIALS AND THEIR ASSOCIATED COMPONENTS. THIS REPORT IS PRELIMINARY AS MORE MEASUREMENTS ON CORES ALREADY OBTAINED MUST STILL BE MADE. THE RESULTS TO DATE ARE LISTED IN THE APPENDIX. OUR IDEAS CAN BE EXPECTED TO CHANGE AS ADDITIONAL DATA ARE OBTAINED BUT ENOUGH OF A FRAMEWORK ALREADY EXISTS TO JUSTIFY AN ATTEMPT AT A PRELIMINARY INTERPRETATION.

1896 TUREKIAN, K.K.

ARTIFICIAL RADIONUCLIDES SUBPANEL REPORT [1979]

PAGES 44-47 IN J.S. O'CONNER AND H.M. STANFORD, EDS. CHEMICAL POLLUTANTS OF THE NEW YORK BIGHT: PRIORITIES FOR RESEARCH. NOAA, BOULDER, CO

THE ABUNDANCE OF PLUTONIUM IN THE NEW YORK HARBOR SEDIMENTS IS ABOUT 100 DPM /Kg. IF THE PRESENT LEVEL OF PLUTONIUM IN THE WATER, SEDIMENTS, AND MARINE LIFE OF THE NEW YORK BIGHT POSES NO THREAT TO LIFE, THEN WHY WORRY ABOUT IT? THE ANSWER LIES IN THE PROJECTED INCREASE OF PLUTONIUM PRODUCTION AND HANDLING AROUND THE NEW YORK BIGHT, AS NUCLEAR ENERGY IS MORE EXTENSIVELY USED. PLUTONIUM ISOTOPES, BECAUSE OF THEIR VERY LONG HALF-LIVES, ARE PERSISTENT IN THE SENSE THAT THEY DO NOT LEAVE THE ENVIRONMENT EXCEPT BY RADIOACTIVE DECAY. THERE ARE AS YET NO KNOWN CHEMICAL BREAKDOWN PATHWAYS CONCEIVABLE AS FOR THE ORGANIC POLLUTANTS. THUS PLUTONIUM WILL ACCUMULATE IN COASTAL SEDIMENTS AND BE SUBJECT TO INCORPORATION IN THE BENTHOS. AT WHAT LEVEL THIS BECOMES A HAZARD IS NOT EASY TO ASCERTAIN. THE LONG-RANGE POTENTIAL THREATS FROM INCREASING PLUTONIUM LEVEL IN THE NEW YORK BIGHT PROVIDE THE RATIONALE FOR LONG-TERM MONITORING AND STUDY.

1897 TURK, J.T.; D.E. TROUTMAN

POLYCHLORINATED BIPHENYL TRANSPORT IN THE HUDSON RIVER: PRESENT AND PROJECTED TREND (PRELIMINARY DRAFT) [1977]

WATER RESOURCES DIV. USGS. ALBANY. NY 11 PP

CONCENTRATION OF POLYCHORINATED BIPHYENYLS IN THE HUDSON RIVER CAN BE PREDICTED BY A SIMPLE MIXING AND DILUTION MODEL. PCB CONCENTRATION AND LOADING IN RIVER WATER ARE CONTROLLED BY RESUSPENSION OF CONTAMINATED SEDIMENT; THEREFORE, REDUCTION OF POINT-SOURCE DISCHARGE WILL ONLY SLIGHTLY REDUCE PCB CONCENTRATION AT MOST RIVER-DISCHARGE RATES.

1898 TURNER, R.E.

SUCCESSION OF COPEPOD SPECIES IN A MIDDLE ATLANTIC ESTUARY [1978]

ESTUARIES 1(1):68-69

A STUDY OF THE SEASONAL SUCCESSION OF DOMINANT COPEPOD SPECIES WAS CONDUCTED DURING THE PERIOD MAY, 1972 TO JUNE, 1973 IN THE NAVESINK RIVER ESTUARY, A TRIBUTARY OF THE NEW YORK BIGHT. THE REPLACEMENT OF THE COPEPOD ACARTIA TONSA BY ACARTIA CLAUSII, A PHENOMENON WELL-DOCUMENTED IN THE MIDDLE ATLANTIC ESTUARIES FOR THE LATE WINTER AND EARLY SPRING SEASONS, WAS NOT OBSERVED DURING THIS STUDY, INDICATING THAT THIS SUCCESSION MAY NOT TAKE PLACE IN THE NAVESINK. INSTEAD, THE MORE BRACKISH-WATER CALANOIDS, PSEUDODIPTOMUS CORONATUS AND EURYTEMORA AFFINIS REPLACED A. TONSA, INCREASING IN NUMBERS MARKEDLY AS THE A. TONSA POPULATION DECLINED. ALTHOUGH A. CLAUSII IS KNOWN TO OCCUR IN TEMPERATURES AND SALINITIES COMPARABLE TO THOSE OF THE NAVESINK, THIS STUDY SUPPORT THE RESULTS OF YAMAZI (1966) THAT THE OCCURRENCE OF A. CLAUSII IN THE NAVESINK IS A RARITY.

1899 UDELL, H.F.; T. DOHEMY; J. ZAKUDASKY; J.S. KEENE

OCEAN DUMPING OF SEWAGE SLUDGE: ITS EFFECT ON THE SOUTH SHORE OF LONG ISLAND. A STATUS REPORT [1974]

DEPT OF CONSERVATION AND WATERWAYS, TOWN OF HEMPSTEAD, POINT LOOKOUT, NY 21 PP

OCEAN BOTTOM SEDIMENTS WERE SAMPLED FROM AN AREA EXTENDING FROM EAST ROCKAWAY INLET SOUTH TO THE OCEAN SEWAGE SLUDGE DUMPSITE, EASTERLY TO JONES INLET AND SOUTHERLY 8 MI. PHYSICAL, CHEMICAL, AND MICROBIOLOGICAL CHARACTERISTICS OF THE SEDIMENTS WERE DETERMINED. UPON EVALUATION OF THESE CHARACTERISTICS, GIVING CONSIDERATION TO METAL CONTENT AS CD, CR, CU, NI, PB, AND ZN; ORGANIC MATTER, AND BACTERIAL CONCENTRATIONS--IT WAS FOUND THAT SEWAGE SLUDGE AS DEPOSITED AT THE DESIGNATED DUMPSITE, LOSES

ITS IDENTITY 7.5 MI SOUTH OF ROCKAWAY INLET. SEDIMENTS BEYOND A 3-MI RADIUS NORTH AND EAST OF THE DUMPSITE CONTAIN BACKGROUND LEVELS OF HEAVY METALS AND ORGANIC MATTER; HOWEVER, IN THE VICINITY OF ATLANTIC BEACH AT EAST ROCKAWAY INLET. LEVEL OF METALS, ORGANIC MATTER, AND BACTERIA ARE SLIGHTLY IN EXCESS OF BACKGROUND. THIS RESULTS FROM MATERIAL BEING FLUSHED FROM THE WEST REGION OF HEMPSTEAD BAY BY DIURNAL TIDAL TRANSPORT. MATERIAL CARRIED FROM THE BAY IS CARRIED EAST BY THE REVERSING CURRENT, AND THEN WESTERLY BY LONG SHORE CURRENTS. THUS, DEPOSITION OF MATERIAL FROM THE BAY TAKES PLACE IN A CONFINED AREA OFFSHORE OF ATLANTIC BEACH.

1900 UNDERWOOD, P.C.C.

THE SPATIAL DISTRIBUTION OF PHYTOPLANKTON BIOMASS IN THE SURFACE WATERS OF THE NEW YORK BIGHT FROM APRIL 1975 TO SEPTEMBER 1975

M.S. THESIS. SUNY, STONY BROOK, NY 84 PP

THE MONTHLY DISTRIBUTION OF CHLOROPHYLL A IN THE SURFACE WATERS OF THE NEW YORK BIGHT FROM APR 1975 TO SEPT 1975 IS DESCRIBED, AND A METHOD FOR UTILIZATION OF A CONTINUOUS RECORD OF SURFACE IN VIVO CHLOROPHYLL FLUORESCENCE TO INCREASE SAMPLING RESOLUTION AND DECREASE BETWEEN STATION INTERPOLATION IS PRESENTED. THE SPRING BLOOM IN THE NEW YORK BIGHT IS CHARACTERIZED BY A SHELF-WIDE INCREASE IN CHLOROPHYLL A CONCENTRATION. AS THE BLOOM PROGRESSES AND THE NUTRIENT SUPPLY IS UTILIZED, THE DISTRIBUTION BECOMES CHARACTERIZED BY PATCHES OF HIGH CONCENTRATION EMBEDDED IN A BACKGROUND "MATRIX" OF LOWER CONCENTRATION. EVIDENCE IS PRESENTED TO SHOW THAT THESE HIGHS REFLECT INPUT OF NUTRIENTS FROM OUTSIDE SOURCES.

1901 USRY, J.W.; J.B. HALL, JR.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, OPERATIONS: REMOTE SENSING EXPERIMENTS IN THE NEW YORK BIGHT, 7-17 APRIL 1975 [1975]

NASA LANGLEY RESEARCH CENTER, LANGLEY, VA 61 PP

6 REMOTE SENSING EXPERIMENTS WERE CONDUCTED IN THE NEW YORK BIGHT BETWEEN APRIL 7-17, 1975, TO EVALUATE THE ROLE OF NASA REMOTE SENSING TECHNOLOGY TO AID IN MONITORING OCEAN DUMPING. 22 REMOTE SENSORS WERE FLOWN ON THE C-54, U-2, AND C-130 NASA AIRCRAFT WHILE THE NOAA OBTAINED CONCURRENT IN SITU SEA TRUTH DATA USING HELICOPTERS AND SURFACE PLATFORMS. THE PRIMARY SENSORS INCLUDED A RADIGMETER/SCATTEROMETER (RADSCAT), OCEAN COLOR SCANNER (OCS), MULTICHANNEL OCEAN COLOR SENSOR (MOCS), FOUR HASSELBLAD CAMERAS, TWO ZEISS CAMERAS, AND AN AIRBORNE MULTISPECTRAL PHOTOGRAPHIC SYSTEM (AMPS) CONTAINING FOUR CAMERAS, AN EBERT SPECTROMETER, A RECONOFAX IV INFRARED (IR) SCANNER, AND A PRECISION RADIATION THERMOMETER (PRT-5). THE PURPOSE OF THIS REPORT IS TO DOCUMENT THE OPERATIONS PERFORMED BY NASA IN CARRYING OUT THE SIX REMOTE SENSING EXPERIMENTS. BRIEF DESCRIPTIONS OF THE TEST SITE, AIRCRAFT FLATFORMS, EXPERIMENTS, AND SUPPORTING SENSORS ARE PRESENTED. THE OPERATIONS OF EACH AIRCRAFT ARE DISCUSSED AND AIRCRAFT FLIGHT LINES, FLIGHT PARAMETERS, AND DATA IDENTIFICATION PARAMETERS ARE PRESENTED IN FIGURES AND TABLES. OPERATIONS PERFORMED BY THE HELICOPTERS AND SURFACE PLATFORMS TO OBTAIN IN SITU SEA TRUTH DATA WILL BE PRESENTED BY NOAA IN A SEPARATE DOCUMENT.

1902 VACCARO, R.F.; G.D. GRICE; G.T. ROWE; P.H. WIEBE

ACID-IAON MASTE DISPOSAL AND THE SUMMER DISTRIBUTION OF STANDING CROPS IN THE NEW YORK BIGHT [1972]

WATER RES 6:231-256

HYDROGRAPHIC, CHEMICAL AND BIOLOGICAL CONDITIONS IN COASTAL WATERS OF THE NEW YORK BIGHT WHERE 50 MILLION TONS OF ACID-IRON INDUSTRIAL WASTE WERE DUMPED OVER 22 YEARS WERE STUDIED AND COMPARED WITH THOSE OF A NEARBY CONTROL AREA. THE MAXIMUM PERSISTENT IRON CONCENTRATION ON THE ACID DISPOSAL GROUNDS HAVE A MINIMUM DILUTION OF THE ACID WASTES OF 1:39,000. THERE IS NO INDICATION OF AN INCPEASE OF IRON IN SEDIMENTS OF THE PAST 14 YEARS. ALTHOUGH STANDING CROPS OF ZOOPLANKTON AND BENTHIC ANIMALS

WERE LESS ON ACID GROUNDS THAN ON THE CONTROL AREAS, THESE DIFFERENCES WERE NOT ATTRIBUTED TO ACID WASTE. A PHYTOPLANKTON TOXICITY EXPERIMENT, CARRIED OUT IN A CULTURE CONTAINING A CONCENTRATION FOUR TIMES GREATER THAN IN THE FIELD, HAD NO EFFECT ON PHYTOPLANKTON GROWTH. COPEPODS WERE STUDIED IN SEAWATER CULTURES CONTAINING ACID WASTE; COPEPODS EITHER FAILED TO REPRODUCE OR THEIR DEVELOPMENT WAS PROLONGED IN A C.0001 CONCENTRATION; NO ADVERSE EFFECTS WERE NOTED AT LOWER CONCENTRATIONS. COMPARISON OF THE ACID AND CONTROL AREAS SHOWED THE HIGHEST VALUES FOR EIGHT TRACE METAL CONCENTRATIONS IN ZOOPLANKTON, BENTHOS, AND SEDIMENTS. NO MAJOR EFFECTS OF ACID—TRON WASTE ON SEDIMENT AND BIOTA WERE DETECTED.

1903 VACHTSEVANOS, G.J.

SIMULATION STUDIES IN THE ENERGY ENVIRONMENT INTERFACE [1977]

PAGES 1004-1008 IN PROC IEEE CONF DECIS CONTROL INCL SYMP ADAPT PROCESSES 16TH, AND A SPEC SYMP ON FUZZY SET THEORY AND APPLINEW ORLEANS, LA. DEC 7-9 1977. IEEE. NEW YORK. NY

THE CONCEPTUALIZATION, DEVELOPMENT AND IMPLEMENTATION OF MATHEMATICAL MODELLING TECHNIQUES IN THE ASSESSMENT OF THE ENVIRONMENTAL IMPACT OF NUCLEAR AND FOSSIL-FUELED POWER PLANTS LOCATED ALONG TIDAL ESTUARINES AND USING ONCE-THROUGH COOLING TECHNIQUES ARE DISCUSSED. PHYSICAL AND BIOLOGICAL SUBSYSTEM MODELS PREDICT ACCURATELY THE FAR-FIELD TEMPERATURE DISTRIBUTION AND THE LONG-TERM IMPACT ON BIOLOGICAL COMMUNITIES OF THE HUDSON ESTUARY DUE TO PLANT WASTE-HEAT DISCHARGES AND COOLING WATER INTAKE STRUCTURES RESPECTIVELY.

1904 VACHTSEVANOS, G.J.

ECOLOGICAL MODELLING: AN ASSESSMENT METHODOLOGY FOR POWER PLANT IMPACTS [1978]

PAGES 534-637 IN PROC, INTERNAT'L CONFERENCE CYBERN SOC, TOKYO, 3-5 NOV AND KYOTO, JAPAN, 7 NOV 1978. VOL 1. IEEE, NEW YORK, NY

THIS PAPER DESCRIBES THE CONCEPTUALIZATION, DEVELOPMENT AND IMPLEMENTATION OF MATHEMATICAL MODELLING IN THE ASSESSMENT OF THE ENVIRONMENTAL IMPACT OF NUCLEAR AND FOSSIL-FUELED POWER PLANTS LOCATED ALONG TIDAL ESTUARIES AND USING ONCE-THROUGH COOLING TECHNIQUES. A MAJOR IMPACT OF POWER PLANTS USING RIVER WATER IN ONCE-THROUGH COOLING RELATES TO THE ENTRAINMENT AND IMPINGEMENT OF FISH AT THE INTAKE STRUCTURE. ATTENTION IS FOCUSED UPON THE EFFECT OF POWER PLANT OPERATIONS ON THE FISH POPULATIONS WHICH ARE EITHER RESIDENT IN THE HUDSON ESTUARY OF THE EASTERN US OR USE IT AS SPAWNING GROUNDS. THE STRIPED BASS HAS BEEN SELECTED AS A REPRESENTATIVE SPECIES, SPAWNED IN THE HUDSON RIVER EACH YEAR, FOR ITS COMMERCIAL AND ECOLOGICAL IMPORTANCE. THE RESEARCH EFFORT DESCRIBED IN THIS PAPER INVOLVES THE DEVELOPMENT OF MODELS OF FISH POPULATIONS AND APPLICATIONS OF THESE MODELS TO PREDICT THE IMPACT OF NEW OR EXISTING GENERATING STATIONS ON THESE POPULATIONS.

1905 VALENTI, R.J.; S. PETERS

AQUATIC DISPOSAL FIELD INVESTIGATIONS EATONS NECK DISPOSAL SITE LONG ISLAND SOUND. APPENDIX D. PREDISPOSAL BASELINE CONDITIONS OF DEMERSAL FISH ASSEMBLAGES [1977]

US ARMY CORPS ENG. WASHINGTON. DC 97 PP NTIS-AD-AJ45 720

THE MAJOR GOAL OF THE EATONS NECK DISPOSAL SITE FIELD INVESTIGATION WAS TO EVALUATE THE EFFECTS OF AQUATIC DISPOSAL OF DREDGED MATERIAL ON ORGANISMS AND WATER QUALITY, INCLUDING THE SIGNIFICANCE OF PHYSICAL, CHEMICAL, AND BIOLOGICAL FACTORS THAT INFLUENCE THE RATE OF DISPOSAL SITE RECOLONIZATION BY BENTHIC ANIMALS. THIS VOLUME OF THE STUDY PRESENTS DEMERSAL FISH SAMPLING DATA AT EATONS NECK. THE SPATIAL AND TEMPORAL DISTRIBUTIONS OF THE MORE ABUNDANT DEMERSAL FISH ARE DISCUSSED. THE FOOD HABITS OF EIGHT BENTHIC FORAGING FISH SPECIES ARE ALSO PRESENTED. DATA ON LOBSTERS INCLUDE MONTHLY HISTOGRAMS DENOTING SPATIAL AND TEMPORAL DISTRIBUTIONS, MALE-FEMALE RATIOS, AND RELATIVE ABUNDANCE OF EXPLOITABLE LEGAL-SIZED LOBSTERS. THE REPORT CONCLUDES THAT THE EATONS NECK SITE IS A VALUABLE AREA WITH REGARD TO FISHERY RESOURCES. THROUGHOUT THE SAMPLING, WITH FEW EXCEPTIONS, THE DISPOSAL SITE ACCOUNTED FOR THE LARGEST CATCHES OF FISH. THE DISPOSAL SITE WAS ALSO FOUND TO BE A PRIME LOBSTERING AREA AND

ACCOUNTED FOR 91.3 % OF THE TOTAL NUMBER OF LOBSTERS COLLECTED. THE STUDY RECOMMENDS THAT PRIME CONSIDERATION BE GIVEN TO LOBSTER FISHERY IN ANY FUTURE DISPOSAL OPERATIONS SINCE IT REPRESENTS THE MOST UTILIZED RESOURCE OF THE AREA.

1906 VALIELA, I.; S. VINCE; J.M. TEAL

ASSIMILATION OF SEWAGE BY WETLANDS [1)76]

PAGES 234-253 IN M. WILEY, ED. ESTUARINE PROCESSES, VOL 1: USES, STRESSES, AND ADAPTATIONS TO THE ESTUARY. ACADEMIC PRESS, NEW YORK, NY

WETLANDS HAVE ATTRACTED ATTENTION AS POTENTIAL COMPONENTS OF WASTE TREATMENT SYSTEMS BECAUSE OF TYPICALLY LARGE PLANT PRODUCTION, HIGH DECOMPOSER ACTIVITY, ANAEROBIC CONDITION AND LARGE ADSORPTIVE AREAS IN THE SEDIMENTS. THESE PROPERTIES SEEM TO PROVIDE WETLANDS WITH THE ABILITY TO DEGRADE AND ELIMINATE CONTAMINANTS IN WASTE WATERS. THE EFFLUENT PROPERTIES OF A VARIETY OF WETLAND HABITATS IN VERY DIVERSE PARTS OF THE WORLD (SALT AND BRACKISH MARSHES, POLDERS, CYPRESS, PAPYRUS AND MANGROVE SWAMPS, FRESHWATER MARSHES AND BOGS) HAVE BEEN STUDIED. ALTHOUGH EACH HABITAT TYPE DIFFERS, CURRENT RESULTS FROM MARSHES SHOW THAT NITROGENOUS AND PHOSPHORUS NUTRIENTS ARE REMOVED FROM CONTAMINATED OR WASTE WATERS. HEAVY METALS FROM SLUDGES ARE RETAINED BY MARSH MUDS, BUT THE EFFECTIVENESS VARIES CONSIDERABLY FOR DIFFERENT METALS. PETROLEUM HYDROCARBONS ACCUMULATE IN MARSH MUDS AND MAY BE ACTIVELY DECOMPOSED, PARTICULARLY AT LOWER LEVELS OF CONTAMINATION. CHLORINATED HYDROCARBONS HAVE HIGH AFFINITIES FOR MARSH SEDIMENTS AND CAN BE ALTERED BY MICROORGANISMAL ACTIVITY. THERE IS PRELIMINARY EVIDENCE THAT COUNTS OF COLIFORM BACTERIA MAY BE REDUCED IN TIDAL WATER THAT FLOODS MARSHES. THE WASTE-PROCESSING ABILITY OF COASTAL WETLANDS MUST HAVE AN UPPER BACTERIA MAY BE REDUCED IN TIDAL WATER THAT FLOODS MARSHES. THE WASTE-PROCESSING ABILITY OF COASTAL WETLANDS FUNCTION WELL EVEN IN SEVERELY POLLUTED AREAS.

1907 VAN TASSEL, A.J.

SUMMARY OF FINDINGS CONCERNING WATER [1973]

PAGES 381-294 IN A.J. VAN TASSEL, ED. OUR ENVIRONMENT: THE OUTLOOK FOR 1980, PART 1: WATER. LEXINGTON BOOKS, LEXINGTON, MA

TWO BROAD CONCLUSIONS CAN BE MADE FROM STUDIES OF LAKE MICHIGAN, LAKE ERIE, PUGET SOUND, SAN FRANCISCO BAY, LONG ISLAND SOUND, THE HUDSON, SAVANNAH AND LOWER MISSISSIPPI RIVERS AND THE WATER SUPPLIES OF LONG ISLAND AND SOUTHERN CALIFORNIA: (1) THE RATE OF GROWTH IN THE INPUTS OF INDUSTRIAL POLLUTANTS IN ALMOST ALL OF THE WATERWAYS WAS GREATER THAN THAT ATTRIBUTABLE TO POPULATION, AND (2) THE EFFLUENT OF MUNICIPAL SEWAGE PLANTS AND SPECIFICALLY THAT PORTION BEGINNING AS HOUSEHOLD SEWAGE WAS FAR AND AWAY THE MOST IMPORTANT SOURCE OF NUTRIENTS RESPONSIBLE FOR THE PHENOMENON OF OVERRENRICHMENT OR EUTHROPHICATION. THE EUTROPHICATION PROCESS IS WELL UNDERWAY IN LAKE ERIE BUT IT IS UNLIKELY THAT ANY OTHER LARGE BODIES OF WATER SUCH AS THOSE DETAILED IN THIS BOOK WILL REACH ADVANCED STAGES OF EUTROPHICATION BY 1980. IT APPEARS THAT, WITH THE EXCEPTION OF NITRATE AND PHOSPHATE REMOVAL, MORE PROGRESS IS BEING MADE WITH MUNICIRAL WASTES THAN INDUSTRIAL WASTES; HOWEVER RECENT FUNDING ASSISTANCE PROGRAMS ENACTED BY VARIOUS STATES SHOULD LEAD TO RAPID PROGRESS IN THE CONTROL OF INDUSTRIAL EFFLUENTS. THE MAJOR CASUALTY HAS BEEN WATER RECERATION, WITH MUCH SHORELINE AND BATHING AREAS NOW PLACED OFF LIMITS. JHE ONLY MAJOR IRREVERSIBLE DAMAGE, DUE LARGELY TO BOTTOM DEPOSITION OF DECAYING VEGETATION CAPABLE OF EXERTING MASSIVE OXYGEN DEMAND FAR INTO THE FUTURE, HAS BEEN INCURRED BY LAKE ERIE. THE GENERAL OUTLOOK FOR THE NATION'S WATERWAYS IN LIGHT OF LIKELY MASSIVE FEDERAL FUNDING IS BRIGHT.

1908 VAN WINKLE, W., JR.

APPLICATION OF COMPUTERS IN AN ASSESSMENT OF THE ENVIRONMENTAL IMPACT OF POWER PLANTS ON AN AQUATIC ECOSYSTEM. [1975]

PAGES 35-108 IN ERDA-WIDE CONFERENCE ON COMPUTER SUPPORT ON ENVIRON SCI AND ANALYSIS, ALBUQUERQUE, NM, 9 JUL 1975. ERDA, OAK RIDGE, IN

THE APPLICATION OF COMPUTERS IN THE AREA OF POWER PLANT IMPACT ASSESSMENT IS APPROACHED FROM THE STANDPOINT OF ADDRESSING A

REPRESENTATIVE AND IMPORTANT SPECIES. THE STRIPED BASS, WHICH IS SUBJECTED TO NUMEROUS STRESSES BY VIRTUE OF THE OPERATION OF FIVE POWER PLANTS ALONG THE LOWER HUDSON RIVER IN NEW YORK. FOUR PARTICULAR APPLICATIONS OF COMPUTER USAGE ARE DISCUSSED: (1) BIBLIOGRAPHIC INFORMATION SERVICES; (2) DATA MANAGEMENT; (3) DATA ANALYSIS; AND (4) SIMULATION MODELING.

1909 VAN WINKLE, W., JR.; S.W. CHRISTENSEN; G. KAUFFMAN

CRITIQUE AND SENSITIVITY ANALYSIS OF THE COMPENSATION FUNCTION USED IN THE LMS HUDSON RIVER STRIPED BASS MODELS [19/6]

PUB 944. ENVIRON SCI DIV. ORNL. OAK RIDGE. TN 107 PP

THE DESCRIPTION AND JUSTIFICATION FOR THE COMPENSATION FUNCTION DEVELOPED AND USED BY LAWLER, MATUSKY AND SKELLY ENGINEERS (LMS) IN THEIR HUDSON RIVER STRIPED BASS MODELS ARE PRESENTED. A SENSITIVITY ANALYSIS OF THIS COMPENSATION FUNCTION IS REFORTED, BASED ON COMPUTER RUNS WITH A MODIFIED VERSION OF THE LMS COMPLETELY MIXED (SPATIALLY HOMOGENEOUS) MODEL. TWO TYPES OF SENSITIVITY ANALYSIS WERE PERFORMED: A PARAMETRIC STUDY INVOLVING AT LEAST FIVE LEVELS FOR EACH OF THE THREE PARAMETERS IN THE COMPENSATION FUNCTION, AND A STUDY OF THE FORM OF THE COMPENSATION FUNCTION ITSELF, INVOLVING COMPARISON OF THE LMS FUNCTION WITH FUNCTIONS HAVING NO COMPENSATION AT STANDING CROPS EITHER LESS THAN OR GREATER THAN THE EQUILIBRIUM STANDING CROPS, FOR THE RANGE OF PARAMETER VALUES USED IN THIS STUDY, ESTIMATES OF PERCENT REDUCTION ARE LEAST SENSITIVE TO CHANGES IN YS, THE EQUILIBRIUM STANDING CROP, AND MOST SENSITIVE TO CHANGES IN KXO, THE MINIMUM MORTALITY RATE COEFFICIENT. ELIMINATING COMPENSATION AT STANDING CROPS EITHER LESS THAN OR GREATER THAN THE EQUILIBRIUM STANDING CROPS RESULTS IN HIGHER ESTIMATES OF PERCENT REDUCTION. FOR ALL VALUES OF KXO AND FOR VALUES OF YS AND KX AT AND ABOVE THE BASELINE VALUES, ELIMINATING COMPENSATION AT STANDING CROPS GREATER THAN THE EQUILIBRIUM STANDING CROPS LESS THAN THE EQUILIBRIUM STANDING CROPS RESULTS IN A GREATER INCREASE IN PERCENT REDUCTION THAN ELIMINATING COMPENSATION AT STANDING CROPS GREATER THAN THE EQUILIBRIUM STANDING CROPS.

1910 VAN WINKLE, A., JR.

ANNUAL PROGRESS REPORT FOR PERIOD ENDING SEPTEMBER 30. 1979 [1980]

ORNL, DAK RIDGE, TN 13 PP NTIS-ORNL-5620

THE AQUATIC ECOLOGY SECTION IS INVOLVED IN BASIC AND APPLIED RESEARCH FOCUSING ON ENVIRONMENTAL PROBLEMS AND ON GAINING A BETTER UNDERSTANDING OF THE STRUCTURE AND FUNCTION OF AQUATIC ECOSYSTEMS. A MAJOR AND GROWING AREA OF RESEARCH IN THE SECTION DEALS WITH ECOLOGICAL PROCESSES IN SOUTHEASTERN RESERVOIRS. TWO OTHER AREAS OF ACTIVITY WHICH SUPPORT THE ABOVE RESEARCH IN SOUTHEASTERN RESERVOIRS ARE THE ANALYSIS OF ENVIRONMENTAL ISSUED RELATED TO SMALL—SCALE HYDROELECTRIC DEVELOPMENT AND THE BIOLOGICAL MONITORING AT OAK RIDGE—DE FACILITIES. A SECOND MAJOR AREA OF RESEARCH IN THE SECTION DEALS WITH POPULATION STUDIES. A VARIETY OF USEFUL QUANTITATIVE METHODOLOGIES WERE DEVELOPED AND APPLIED IN AN EFFORT TO ASSESS THE IMPACTS OF ENTRAINMENT AND IMPINGEMENT OF FISH BY POWER PLANTS ALONG THE HUDSON RIVER IN NEW YORK. RESEARCH ON PARTICULAR COMPONENTS OF IMPACIS ASSOCIATED WITH POWER PLANTS CONTINUES TO BE PROMINENT. PATHOGENIC MICROORGANISMS IN ARTIFICIALLY HEATED WATERS IS THE NEWEST AREA OF CONCERN. OUR STWDY OF TOXICANT FORMATION IN CONDENSER COOLING SYSTEMS IS DIRECTED TOWARD DETERMINING OPTIMUM CHORINATION PROCEDURES AT POWER PLANTS. THE INVESTIGATIONS OF ENTRAINMENT STRESSES ARE DESIGNED TO DETERMINE THE QUANTITATIVE RELATIONSHIPS BETWEEN MORTALITY OF FISH EGGS AND LARVAE AND THE VARIOUS PHYSICAL STRESSES ASSOCIATED WITH ENTRAIVMENT.

1911 VAUGHAN. J.

ABUNDANCE DETERMINATIONS OF THE MARINE DINOFLAGELLATE CERATIUM TRIPOS OFF THE NEW JERSEY COAST DURING THE SUMMER AND FALL 1976
[1977]

NACOTE CREEK RES STATION, NJ DEP, TRENTON, NJ 15 PP

EARLIER THAN NORMAL INCREASES OF C. TRIPOS AND THE LONGEVITY OF THE BLOOM MAY WELL BE ATTRIBUTED TO THE EXISTANCE OF THE STRONG THERMOCLINE WHICH EXISTED THROUGHOUT THE SUMMER. DEPLETION OF NUTRIENTS IN THE SURFACE LAYERS (SURFACE TO THERMOCLINE) PROBABLY

OCCURRED AS USUAL FOLLOWING THE SPRING DIATOM INCREASES BUT REPLENISHMENT THROUGH VERTICAL MIXING MAY HAVE BEEN INCOMPLETE. THE EXISTENCE OF AN IMPERMEABLE BARRIER IN THE FORM OF THE THERMOCLINE KEPT MUCH OF THE INORGANICS FROM RETURNING TO THE UPPER LAYERS AND PERHAPS PREVENTED A CHANGE IN SPECIES COMPOSITON. THIS PERSISTENT THERMOCLINE SURVIVED THE HURRICANE OF AUG 8 AND DID NOT BREAK DOWN UNTIL SURFACE WATERS COOLED SUFFICIENTLY AND NORTHEAST WINDS BLEW FOR NEARLY A WEEK IN LATE SEPT. WHILE UNUSUAL ATMOSPHERIC AND OCEANOGRAPHIC TRENDS MAY HAVE SET THE STAGE FOR THIS KILL, MAN'S INFLUENCE IN UPSETTING THE DELICATE BALANCE OF THE MARINE ECOSYSTEM CAN HARDLY BE NEGLECTED. INCREASING AMOUNTS OF UNDESIREABLE WASTES INTRODUCED INTO THIS SYSTEM WILL DALY SERVE TO LESSEN THE ROLE PLAYED BY UNUSUAL NATURAL PHENOMENON IN THE OCCURRENCE OF FUTURE MARINE FISH KILLS.

1912 VAUGHN, J.M.; E.F. LANDRY; M.Z. THOMAS; T.J. VICALE; W.F. PENELLO

SURVEY OF HUMAN ENTEROVIRUS OCCURRENCE IN FRESH AND MARINE SURFACE WATERS ON LONG ISLAND (1979)

APPL ENVIRON MICROBIOL 38(2):290-296

A VARIETY OF SURFACE WATER SYSTEMS, INCLUDING LAKE RONKONKOMA (A FRESHWATER INLAND LAKE), PENATAQUIT CREEK (A BRACKISH CREEK), GREAT SOUTH BAY (SOUTH SHORE EMBAYMENT), AND OYSTER BAY (NORTH SHORE EMBAYMENT) WERE ANALYZED ON A MONTHLY BASIS FOR INDIGENOUS HUMAN ENTEROVIRUSES AND COLIFORM BACTERIA. FINDINGS ARE DISCUSSED IN TERMS OF THE PROBABLE POLLUTION SOURCES TO EACH SYSTEM AND THEIR RELATIONSHIP TO DATA FROM PREVIOUS STUDIES.

1913 VECCHIOLI, J.; J.A. OLIVA; S.E. RAGONE; H.F.H. KU

WASTEWATER RECLAMATION AND RECHARGE BAY PARK. NY [1975]

ASCE J ENVIRON ENG DIV 101(EE2): 210-214

THE POPULATION OF NASSAU COUNTY, A HIGHLY SUBURBANIZED AREA ON LONG ISLAND ADJACENT TO NYC, HAS GROWN FROM ABOUT 670,000 IN 1950 TO MORE THAN 1,400,000 IN 1970. POPULATION GROWTH HAS BEEN ACCOMPANTED BY AN INCREASE IN GROUNDWATER PUMPAGE, WHICH WAS THE ONLY SOURCE OF PUBLIC SUPPLY WATER IN 1973. GROUNDWATER PUMPAGE HAS INCREASED FROM 100 MGD (410.000 M3/DAY) IN 1950 TO NEARLY 210 MGD (795,000 M3/DAY) IN 1972. MOST OF THE WATER FOR PUBLIC SUPPLY IS OBTAINED FROM THE MAGOTHY AQUIFER. A VERY FINE TO MEDIUM SAND AQUIFER OF LATE CRETACEOUS AGE. NET WITHDRAWALS FROM THE GROUNDWATER SYSTEM HAVE RESULTED IN DECLINING GROUNDWATER LEVELS, DECREASED STREAM FLOW, AND LOCAL LANDWARD MOVEMENT OF SALTY GROUNDWATER. CONTINUED INCREASE IN NET WITHDRAWALS IS EXPECTED AS POPULATION, PER CAPITA WATER USE, AND PERCENTAGE OF POPULATION SERVED BY SEWERS INCREASE. ON THE BASIS OF THESE GROWTH FACTORS, A WATER SUPPLY DEFICIT BETWEEN 71.1 MGD AND 91.1 MGD (269,000 M3/DAY AND 445,000 M3/DAY) HAS BEEN FORECAST FOR NASSAU COUNTY BY 1990. A WATER CONSERVATION METHOD CURRENTLY UNDER STUDY BY NASSAU COUNTY INVOLVES RECLAMATION OF WASTEPATER AND ITS RETURN TO THE GROUNDWATER RESERVOIR. SINCE 1968, THE NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS HAS OPERATED AN ADVANCED WASTE TREATMENT PLANT AT BAY PARK, NY, NEAR THE SOUTH SHORE OF NASSAU COUNTY. RECLAIMED WATER FROM THIS PLANT HAS BEEN USED IN A SERIES OF DEEP-WELL ARTIFICIAL-RECHARGE EXPERIMENTS BY THE USGS IN COOPERATION WITH THE NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS. THESE EXPERIMENTS WERE INTENDED TO PROVIDE DATA NEEDED TO EVALUATE: (1) EFFECTIVENESS AND COSTS OF THE WATER RECLAMATION PROCESS: (2) DEGREE AND CAUSE OF AND REMEDIES FOR CLOGGING OF WELLS RECHARGING THE RECLAIMED WATER; AND (3) GEOCHEMICAL COMPATABILITY OF THE RECLAIMED WATER WITH THE AQUIFER. EARLY RESULTS OF VARIOUS ASPECTS OF THE RECHARGE STUDIES HAVE BEEN REPORTED IN SEVERAL PAPERS. SOME OF THESE EARLIER FINDINGS HAVE BEEN UPDATED IN THIS PAPER ON THE BASIS OF RESULTS OF A RECENT (1973) 5-MONTH PERIOD OF OPERATION (TEST RW13) DURING WHICH 41,700,000 GAL (158,000 M3) OF RECLAIMED WATER WAS RECHARGED. CONSIDERED ARE: (1) WATER RECLAMATION PLANT AND ITS OPERATION; (2) MAJOR HYDRAULIC AND WATER-QUALITY ASPECTS OF THE RECHARGE: AND (3) OPERATION AND MAINTENANCE COSTS.

1914 VELMICH, A.J.; S.L. LASKOWSKI

TECHNIQUE FOR ESTIMATING DEPTH OF 100-YEAR FLOOD IN NEW JERSEY [1979]

OPEN FILE REP. USGS, TRENTON, NJ 17 PP

TECHNIQUES ARE DEVELOPED FOR USE IN ESTIMATING 100-YEAR FLOOD DEPTHS ON NJ STREAMS. EQUATIONS AND GRAPHS ARE PRESENTED RELATING THE 100-YEAR FLOOD DEPTH ABOVE THE MEAN ANNUAL FLOOD TO DRAINAGE AREA AND AREA OF LAKES AND SWAMPS. SEPARATE RELATIONS FOR THE COASTAL PLAIN AND NONCOASTAL PLAIN STREAMS IN THE FOUR HYDROLOGIC AREAS IN NJ ARE SHOWN. A METHOD OF MAPPING FLOOD-PRONE AREAS ON USGS 7-1/2 MINUTE TOPOGRAPHIC QUADRANGLES IS DETAILED IN THIS REPORT.

1915 VERBER. J.L.

SAFE SHELLFISH FROM THE SEA [1976]

PAGES 433-441 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG. ALLEN PRESS. LAWRENCE. KS

THE NATIONAL SHELLFISH SANITATION PROGRAM WAS INITIATED IN 1925 AFTER A WIDESPREAD TYPHOID FEVER OUTBREAK CAUSED BY RAW OYSTERS. SPECIFIC RECOMMENDATIONS MADE IN 1925 ESTABLISHED GUIDELINES FOR CLASSIFYING OFFSHORE WATERS FOR CLAM HARVESTING AND STATED THAT SHELLFISH BEING HARVESTED MUST NOT BE EXPOSED TO FECAL CONTAMINATION. IN 1974, SEA CLAMS ACCOUNTED FOR 59% OF ALL SHELLFISH (OYSTERS, CLAMS, AND MUSSELS) HARVESTED FROM US WATERS. THE FDA IS RESPONSIBLE FOR CLASSIFYING THE OFFSHORE WATER BEYOND 5.5 KM FOR HARVESTING SHELLFISH. IN RECENT YEARS, THE SEA HAS BEEN USED INCREASINGLY FOR SEWAGE SLUDGE AND INDUSTRIAL WASTE DISPOSAL. DEPLETION OF THE RESOURCES IN THE ORIGINAL MAJOR SEA CLAM HARVEST AREA OF NJ AND INCREASED DEMAND (43 MILLION KG WERE HARVESTED IN 1974) HAVE CAUSED THE INDUSTRY TO EXPAND ITS AREA OF OPERATION TO THE SOUTHEAST IN SEARCH OF MORE PRODUCTIVE SHELLFISH BEDS. THERE TOO, HEAVY POPULATION AND INDUSTRIAL GROWTH HAVE INCREASED THE AMOUNTS OF CHEMICAL WASTES, SEWAGE SLUDGE, AND OTHER WASTE MATERIALS BEING DISPOSED OF AT SEA. WARNING NOTICES TO HARVESTERS, CLOSING AREAS OF THE NEW YORK BIGHT TO SHELLFISHING, HAVE BEEN POSTED SINCE 1970. HIGH BACTERIAL LEVELS ARE FOUND IN BOTH THE SEWAGE SLUDGE AND DREDGE SPOIL SITES.

1916 VERRICO. P.J.

THE ABUNDANCE OF THE HARD CLAM, MERCENARIA MERCENARIA. IN RELATION TO SUBSTRATE CHARACTER IN SOUTH DYSTER BAY, NEW YORK [1972]

M.A. THESIS. HOFSTRA UNIV. HEMPSTEAD, NY 13 PP

THERE IS A CLEAR TREND TOWARDS INCREASED CLAM DENSITY WITH INCREASED FINENESS OF PARTICLE SIZE WHICH DOES NOT HOLD TRUE WHEN THERE IS HYDROGEN SULFIDE PRESENT. HYDROGEN SULFIDE CAUSES BIVALVE MORTALITY DUE TO ANOXIA. THE PRESENCE OF EEL GRASS, ZOSTERA MARINA, IS IMPORTANT TO MERCENARIA DENSITY FOR THE FOLLOWING REASONS: 1) PROVIDES A SUBSTRATE FOR LARVAL SETTLING; 2) RECYCLES NUTRIENTS AND PREVENTS HYDROGEN SULFIDE PRODUCTION; 3) REDUCES CURRENT VELOCITY TO FACILITATE LARVAL SETTLING; 4) RENDERS THE AREA DIFFICULT TO DREDGE, THEREBY ELIMINATING HUMAN PREDATION.

1917 VESPUCCI. P.D.; J.T. DEALTERIS

THE QUATERNARY SEQUENCE OF LITTLE EGG INLET. NJ [1975]

GEOL SOC AM ABSTR PROG 7(1):129

A SERIES OF SEVEN BORINGS IN A TRANSECT PERPENDICULAR TO THE COASTLINE WERE PERFORMED IN THE VICINITY OF LITTLE EGG INLET, NJ. THE RESULTING STRATIGRAPHIC SECTION REVEALS A SEQUENCE OF DEPOSITIONAL AND EROSIONAL EVENTS INDICATIVE OF THE DEVELOPMENTAL STAGES IN THE EVOLUTION OF THIS NATURAL INLET SYSTEM. THE HOLOCENE TRANSGRESSIVE SEQUENCE IS PARTICULARLY WELL PRESERVED. THE HOLOCENE SEDIMENTS REST UNCONFORMABLY OVER SANDY GRAVELS AND CLAYEY GRAVELS WHICH REPRESENT FLUVIAL EFFECTS DURING THE PEISTOCENE EPOCH. THE CONFIGURATION OF THE ACTIVE TIDAL INLETS AND LANDWARD MIGRATION OF THE LOCAL BARRIER ISLAND DURING THE PAST 135 YEARS HAVE BEEN RECORDED ON HYDROGRAPHIC SURVEY BOAT SHEETS. THE DEGREE OF PRESERVATION OF THE HOLOCENE TRANSGRESSIVE SEQUENCE VARIES ACCORDING TO GEOMORPHIC CHANGES OF THE INLET SYSTEM. THE MAXIMUM PEPTH OF INLET SCOUR AND THE GEOMORPHIC SIGNIFICANCE OF PREVIOUS COASTAL FEATURES IS REFLECTED IN THE STRATIGRAPHY.

1918 WAGNER. J., JR.; J.F. CREMERS

CATHODIC PROTECTION FOR OLDER BAY LINE WAS DESIGN CHALLENGE [1980]

PIPELINE IND 53(1):55-58

THE AUTHORS DESCRIBE THE SIGNIFICANT EFFECT THAT ELECTRICAL ATTENUATION HAS ON RESTORING CATHODIC PROTECTION TO AN OLDER PIPE LINE THAT CROSSES NEWARK BAY SOUTH OF NEW YORK CITY.

1919 WAKELAYD, M.E., JR.

SOURCES OF FINE-GRAINED SEDIMENTS IN LONG ISLAND SOUND [1978].

GEOL SOC AM ABSTR PROG 10(2):90

CLAY MINERALOGY (<2 MICRON SIZE FRACTION) OF SURFICIAL SEDIMENTS WITHIN LONG ISLAND SOUND AND FROM POSSIBLE SOURCE AREAS ARE DISTINCTIVE ENOUGH TO PERMIT ESTIMATES OF THE IMPORTANCE OF THESE SOURCES AS SEDIMENT CONTRIBUTORS TO THE SOUND. Q-MODE FACTOR ANALYSIS IS THE PRINCIPLE TECHNIQUE EMPLOYED FOR QETERMINING THE PROPORTIONATE INFLUENCE OF EACH SOURCE. FROM THIS ANALYSIS THREE SOURCE AREAS EMERGE AS THE MAJOR CONTRIBUTORS OF FINES (<2 MICRONS) IN LIS: (1) THE CONNECTICUT RIVER, (2) ERODING GLACIAL BLUFFS ALONG THE NORTH SHORE OF LONG ISLAND, AND (3) A FINE-GRAINED DEPOSIT ON THE CONTINENTAL SHELF SOUTH OF MARTHA'S VINEYARD. LIS SAMPLES ARE SUBSEQUENTLY RESOLVED INTO VARIOUS PERCENTAGES OF THESE SOURCES BY OBLIQUE ROTATION OF THE FACTOR AXES. MAPPING OF THESE DATA REVEAL SHELF-LIKE SEDIMENTS ARE MORE ABUNDANT (50-75% OF SAMPLE) IN MIDDLE AND WESTERN LIS. CONNECTICUT RIVER-LIKE SEDIMENTS ARE ONLY ABUNDANT NEAR THE MOUTH OF THE RIVER AND WITHIN THE EASTERN PASSAGE OF THE SOUND. ERODING GLACIAL BLUFF-LIKE SEDIMENTS FROM THE NORTH SHORE OF LONG ISLAND ARE THE LEAST ABUNDANT AND TYPICALLY CONTRIBUTE LESS THAN 10% TO THE ENTIRE SAMPLE. THESE DATA INDICATE THAT THE LANDWARD TRANSPORT OF FINE-GRAINED SEDIMENT FROM THE ADJACENT CONTINENTAL SHELF IS A MAJOR MECHANISM FOR ACCUMULATING FINES IN MIDDLE AND WESTERN LIS.

1920 WALDHAUER, R.; A. MATTE; R.E. TUCKER

LEAD AND COPPER IN THE WATERS OF RARITAN AND LOWER NEW YORK BAYS [1978]

MAR POLLUT BULL 9(2):38-42

WATERS FROM THE RARITAN BAY-LOWER NEW YORK BAY SYSTEM WERE SAMPLED AT 28 LOCATIONS. DUPLICATE SAMPLES FROM SINGLE CASTS AT SURFACE AND BOTTOM WERE COLLECTED AT EACH STATION IN A NISKIN SAMPLING BOTTLE, MODIFIED TO ELIMINATE INTRODUCTION OF EXTRANEOUS METALS. METAL CONCENTRATIONS WERE DETERMINED USING A PRINCETON APPLIED RESEARCH MODEL 174 POLAROGRAPH. PRIOR TO ANALYSIS, EACH SAMPLE WAS ADJUSTED TO A PH OF 5.3 WITH A BUFFER SOLUTION. CONCENTRATIONS OF PB AND CU AT THE WESTERN END OF RARITAN BAY WERE THE HIGHEST. NEAR OUTERBRIDGE CROSSING IN ARTHUR KILL AN ACIDIFIED SAMPLE OF SURFACE WATER CONTAINED 11.5 LG/L PB AND BOTTOM WATER CONTAINED 12.5 LG/L PB. THE SOLUBLE FRACTION OF SURFACE WATER WAS 36 LG/L CU, AND 65 LG/L PB AND BOTTOM WATER CONTAINED 4.2 LG/L PB. COPPER IN THE ACIDIFIED FRACTION OF SURFACE WATER WAS 36 LG/L CU, AND 65 LG/L CU AT THE BOTTOM OF THE WATER COLUMN. THE SOLUBLE FRACTION CONTAINED 12.1 LG/L CU AND THE BOTTOM WATER 5.8 LG/L CU. DATA FOR THE OTHER 4 SITES IS ALSO GIVEN. DATA FOR THE TRANSECT FROM ARTHUR KILL TO SANDY HOOK SHOW A STRONG CORRELATION, SIGNIFICANT AT THE 95%-99% LEVEL, BETWEEN METAL CONCENTRATION AND SALINITY FOR THE SURFACE WATER. MEASURING METAL CONCENTRATIONS AT A FEW KEY STATIONS WILL PROVIDE THE SPATIAL DISTRIBUTION WITH SALINITY FOR THE SURFACE WATER MASS. FOR THE HOTTOM WATER, DILUTION IS CLEARLY NOT THE CONTROLLING MECHANISM. CORRELATIONS SIGNIFICANT AT THE 95%-99% LEVEL WATER FOUND BETWEEN METAL IN THE SEDIMENT AND SOLUBLE CU, PARTICULATE CU, AND PARTICULATE PB. SOLUBLE PB IN THE BOTTOM WATERS IS CONTROLLED BY AN UNKNOWN PROCESS. THE CONCENTRATION GRADIENT ALONE WAS NOT SUFFICIENT TO EVALUATE THE METAL INPUT TO THE ESTUARY.

1921 WALKER, H.A.; S.B. SAILA; E.L. ANDERSON

EXPLORING DATA STRUCTURE OF NEW YORK DIGHT BENTHIC DATA USING POST- COLLECTION STRATIFICATION OF SAMPLES, AND LINEAR DISCRIMINANT ANALYSIS FOR SPECIES COMPOSITION COMPARISONS [1979]

ESTUARINE COASTAL MAR SCI 9(2):101-120

TECHNIQUES FOR EXPLORING DATA STRUCTURE FROM 4 CRUISES ON A RECTILINEAR SAMPLING GRID SYSTEM ON THE NEW YORK BIGHT WERE PRESENTED. THE PROBLEM OF MICROENVIRONMENTAL VARIABILITY WAS HANDLED BY POST-COLLECTION STRATIFICATION OF SAMPLES BASED ON THE PHYSICAL CHARACTERISTICS OF EACH GRAB RATHER THAN ON CLASSICAL SPATIAL STRATA DEFINITIONS. THE THREE PHYSICAL VARIABLES USED TO DEFINE STRATA WERE: MEAN PARTICLE SIZE, PERCENT ORGANIC MATTER, AND TOTAL CONCENTRATION OF SELECTED HEAVY METALS. VARIATIONS IN SPECIES DENSITIES WITHIN STRATA OVER TIME WERE INVESTIGATED. MULTIVARIATE DISCRIMINANT TECHNIQUES WERE USED TO SEARCH FOR MAJOR STRATISTICAL DIFFERENCES IN A SPECIES ABUNDANCE BETWEEN STRATA. A FLEXIBLE SAMPLING PROGRAM BASED ON POST-COLLECTION STRATIFICATION WAS SUGGESTED TO DETECT SHIFTS IN MEAN SPECIES ABUNDANCE WITHIN STRATA OVER TIME.

1922 WALLACE, D.N.

A CRITICAL COMPARISON OF THE BIOLOGICAL ASSUMPTIONS OF HUDSON RIVER STRIPED BASS MODELS AND FIELD SURVEY DATA [1975]

TRANS AM FISH SOC 4:710-717

IN 1974 MAJOR DECISIONS ABOUT THE ESTIMATED IMPACT OF POWER PLANTS ALONG THE HUDSON RIVER WERE REACHED BY COURTS AND REGULATORY AGENCIES. THESE CASES FEATURED SEVERAL STRIPED BASS (MORONE SAXATILIS) MODELS AS TOOLS FOR IMPACT ASSESSMENT. MANY OF THE MODELS WERE BASED ON ASSUMPTIONS RELATIVE TO DISTRIBUTION, TRANSPORT, AND BEHAVIOR OF EARLY LIFE STAGES OF STRIPED BASS. HOWEVER, DATA FROM THE 1965-1968 HUDSON RIVER FISHERIES INVESTIGATION, THE 1969-1970 RAYTHEON SURVEY, THE 1971-1972 NYU ICHTHYOPLANKTON STUDY, THE 1973 TEXAS INSTRUMENTS HUDSON RIVER FISHERIES SURVEY, AND SURVEYS IN OTHER STRIPED BASS ESTUARIES DID NOT SUPPORT THE ASSUMPTIONS OF MOST OF THE MODELS. RECOMMENDATIONS FOR USE OF MODELS IN DECISION-MAKING WERE OFFERD.

1923 WALLACE, D.N.

THO ANOMALIES OF FISH LARVAL TRANSPORT AND THEIR IMPORTANCE IN ENVIRONMENTAL ASSESSMENT [1978]

NY FISH GAME J 25(1):59-71

ENVIRONMENTAL IMPACT ASSESSMENTS FOR INDUSTRIAL PLANTS USING WATER GENERALLY INCLUDE ESTIMATES OF ICHTHYOPLANKTON ENTRAINMENT. THE PATTERN OF TRANSPORT OF FISH LARVAE IN WATER CURRENTS DETERMINES THE PROPORTION OF A POPULATION WHICH WILL PASS THROUGH THE ZONE OF INTAKE INFLUENCE AND THE PROPORTION OF THOSE PASSING THE INTAKE WHICH WILL BE ENTRAINED. SAMPLING STUDIES REVEALED TWO ANOMALIES OF IMPORTANCE TO SUCH ESTIMATES: (1) DATA FROM FIELD SURVEYS IN THE HUDSON RIVER ESTUARY SHOWED THAT LARVAE ARE NOT TRANSPORTED IN THE WATER MASS LIKE SOLUTE PARTICLES; AND (2) DATA FROM ENTRAINMENT MONITORING AT GENERATING PLANTS ON THE GREAT LAKES SHOWED THAT LARVAL DENSITIES IN THE ENTRAINED WATER ARE NOT ALWAYS THE SAME AS THOSE IN THE SURROUNDING AMBIENT WATER. REALISTIC ASSESSMENT OF ENTRAINMENT IMPACT IS BOTH ENVIRONMENTALLY AND ECONOMICALLY IMPORTANT, AND LABORATORY OBSERVATION OF THE CONDITIONS THAT DETERMINE PATTERNS OF LARVAL TRANSPORT WOULD BE DESIRABLE.

1924 WALLACE, F.X.

NEW LEGAL APPROACHES TO ENVIRONMENTAL CONTROL [1974]

NY ACAD SCI ANN 250:182-185

THIS PAPER DISCUSSES NEW METHODS OF ACHIEVING POLLUTION ABATEMENT OBJECTIVES. IN WORKING TOWARDS THESE OBJECTIVES, THE NY DEC HAS RECENTLY UNDERGONE A REORGANIZATION AND HAS ESTABLISHED 9 REGIONAL OFFICES THROUGHOUT THE STATE, EACH WITH THE LOCAL RESPONSIBILITY FOR ALL DEPARTMENTAL PROGRAMS. IN ADDITION, EACH REGIONAL OFFICE WILL HAVE AN ATTORNEY TO WORK CLOSELY WITH STAFF NEMBERS. A 16-WEEK TRAINING PROGRAM FOR CONSERVATION OFFICERS HAS ALSO BEEN ESTABLISHED. IN ADDITION TO THE NEW IMPROVEMENTS WITHIN THE NY DEC. A SYSTEM OF FINANCIAL GUARANTEE IN WHICH THE PARTY FOUND POLLUTING MUST POST A SECURITY TO GUARANTEE COMPLIANCE TO ORDERS, HAS BEEN ESTABLISHED. UPON FULFILLMENT OF THE ORDERS, THE SECURITY WILL BE RETURNED, PROVIDING AN INCENTIVE FOR IMPROVEMENTS.

1925 WALSH, J.J.; T.E. WHITLEDGE; S.O. HOWE; C.D. WIRICK; L.J. CASTIGLIONE; L.A. CODISPOTI

TRANSIENT FORCINGS OF THE LOWER TROPHIC LEVELS DURING THE SPRING BLOOM WITHIN THE NEW YORK BIGHT [1976]

PAGES 273-274 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

A TIME-SERIES STUDY OF THE SPRING BLOOM IN THE NEW YORK BIGHT WAS CONDUCTED ACROSS THE CONTINENTAL SHELF. SOUTH OF LONG ISLAND. FROM 25 MAR TO 9 APR 1975. A BUOY WAS INSTALLED ABOUT 95 KM OFFSHORE AT THE SHELF BREAK IN A DEPTH OF 90 M. AND A 2-WEEK MESOSCALE AND A 3G-H DIEL TIME SERIES WERE CONDUCTED AT THIS LOCATION (39" 54"N, 72" 4"W) TO MONITOR EFFECTS OF STORM AND SHELF-BREAK MIXING. TWO UNDERWAY LINE MAPS OF NUTRIENTS AND CHLOROPHYLL FLUORESCENCE AT 3 M AND A SERIES OF THREE OFFSHORE TRANSECTS. OF VARYING STATION SPACING FROM 5 TO 30 KM APART. WERE TAKEN ALONG THE MAIN BUOYLINE WITH ADDITIONAL TRANSECTS EAST AND WEST OF THIS ZONAL STUDY TO MONITOR THE TIME RATES OF CHANGE OF SYSTEM PROPERTIES ACROSS THE SHELF. ADDITIONAL STATIONS WERE OCCUPIED ALONG THE AXIS OF THE HUDSON CANYON AND LONGSHORE BETWEEN MORICHES BAY, LONG ISLAND, AND MARTHA'S VINEYARD TO ASSESS BOTH THE IMPACT OF THE OFFSHORE CANYON AND THE INSHORE BOUNDARY CONDITION FOR NUTRIENT CYCLING ON THE SHELF. A 48-H DIEL TIME SERIES OF THE MID-SHELF (APPROX 79 M) PRODUCTIVITY WAS ALSO TAKEN IN THE REGION OF MAXIMUM CHLOROPHYLL BIOMASS. ABOUT 25 KM INSHORE OF THE SHELF-BREAK TIME SERIES AND ABOUT 70 KM SEAWARD OF SHINNECOCK INLET. RAINWATER SAMPLES WERE COLLECTED FROM THE SHIP'S MAST FOR NUTRIENT ANALYSES DURING ONE OF THE THREE STORMS ENCOUNTERED. MEASUREMENTS OF TEMPERATURE. SALINITY. IRRADIANCE, NUTRIENTS, CHLOROPHYLL, PHYTOPLANKTON, PARTICLES, PARTICULATE NITROGEN AND CARBON, ZOOPLANKTON, PRIMARY PRODUCTION, RESPIRATION, AND NITRATE UPTAKE OVER A 2-WEEK PERIOD SUGGESTED MAXIMUM PRODUCTIVITY AND MINIMUM GRAZING STRESS AT MIDSHELF. THE MEAN SPRING PHYTOPLANKTON BIOMASS OF 6.2 MG CHL A/M3 FOR THE 187 MIDSHELF MEASUREMENTS AND THE OBSERVED PN:CHL A RATIO OF 0.6 O MEAN ATOM ATOM ATOM STOCK OF 3.7 MICROGRAM-ATOM STEED STORM ATOM STOCK OF 3.7 MICROGRAM-ATOM STOCK OF 3.7 MICROGRAM STO THE 34 PN MEASUREMENTS IN THIS REGION WAS 2.4 MICROGRAMS-ATOMS/L). IN CONTRAST TO A DISSOLVED INDRGANIC NITROGEN STOCK OF 4-5 MICROGRAM-ATOMS N/L DURING MAPR-AR 1975 AND ABOUT 6-8 MICROGRAM-ATOMS N/L DURING JAN 1958, 1962, AND 1975. MOREOVER, THE MEAN CHLOROPHYLL CONCENTRATION OF 79 OBSERVATIONS ALONG THE SAME CROSS-SHELF TRANSECT AT THE END OF JAN 1975 WAS 1.25 MICROGRAM CHL A/L, OR 0.75 MICROGRAM-ATOMS PN/L WITH A PN;CHL A CONVERSON OF 0.6:1; WE COULD CONCLUDE THAT THE SEASONAL FLUX OF NITROGEN FROM THE DISSOLVED TO PARTICULATE POOLS WITHIN THE BIGHT MIGHT BE ACCOUNTED FOR IN SUCH A BUDGET. HOWEVER, THE MEAN PRODUCTIVITY OF 2.97 G C/M2/D FOR SEVEN SIMULATED IN SITU STATIONS AND THAT OF 2.91 G C/M2/D CALCULATED FROM THE 21 POTENTIAL PRODUCTIVITY STATIONS IN THIS AREA. TOGETHER WITH THE MEAN ATOMIC PC:PN RATIO OF 7.44:1 IMPLY A TOTAL DAILY NITROGEN DEMAND OF 1.1 MICROGRAM-ATOMS N/L/D OVER THE UPPER 30 M. THIS AGREES FAIRLY WELL WITH THE NR ESTIMATE OF JUST A NITRATE UTILIZATION RATE OF APPROX. 0.5 MICROGRAM-ATOM NO3/L/D (OVER A 10-H DAY). STEADY STATE ASSUMPTIONS OF A DELTA N TRANSFER OF 2-3 MICROGRAM-ATOMS N/L FROM THE WATER COLUMN TO PHYTOPLANKTON BETWEEN JAN AND MAR-APR 1975 COULD THUS REALLY OCCUR IN AS BRIEF A TIME AS 2-3 DAYS WITH THE ABOVE RATES. THE ABOVE DISSOLVED AND PARTICULATE NITROGEN STANDING STOCKS COULD NOT HAVE BEEN MAINTAINED OVER ALMOST ALL OF THE 2-4EEK PERIOD OF OUR STUDY WITHOUT OTHER NITROGEN INPUTS. FURTHERMORE, SEASONAL STORM MIXING AND POSSIBLE BREAKING OF INTERNAL WAVES APPEAR TO BE MECHANISMS FOR REPLENSIHING NUTRIENTS WITHIN THE SPRING CONTINENTAL SHELF ECOSYSTEM; NUTRIENT RECYCLING THROUGH HERBIVORE EXCRETORY PRODUCTS ALSO APPEARED TO BE AN IMPORTANT NUTRIENT SOURCE. WHEREAS RAINFALL AND RIVER DISCHARGE DID NOT APPEAR TO ADD SIGNIFICANT NITROGEN AT THE TIME OF THE SPRING BLOOM.

1926 WALSH, J.J.; T.E. WHITLEDGE; F.W. BARVENIK; C.D. WIRICK; S.O. HOWE

WIND EVENTS AND FOOD CHAIN DYNAMICS WITHIN THE NEW YORK BIGHT [1978]

LIMNOL OCEANOGR 23(4):659-683

TIME SERIES OF WIND, CURRENT, NUTRIENTS, CHLOROPHYLL, AND ZOOPLANKTON, ARE USED TO EXAMINE THE EFFECT OF STORM EVENTS ON THE FOOD CHAIN DYNAMICS OF THE NEW YORK BIGHT. STORMS CAUSE DILUTION OF PHYTOPLANKTON CONCENTRATION IN THE VERTICAL PLANE, BUT LEAD

TO AGGREGATION OF CHLORUPHYLL IN THE HORIZONTAL FIELD. NUTRIENTS ARE MADE AVAILABLE WITH ONSHORE FLOW IN RESPONSE TO WIND EVENTS FAVORABLE FOR UPWELLING. A SERIES OF NUTRIENT BUDGETS SUGGEST THAT STORM-INDUCED MIXING AND UPWELLING OF NITRATE MAY SATISFY AT LEAST 33 % OF THE PRODUCTIVITY DEMAND OF THIS SYSTEM. EXAMPLES OF THE BIOLOGICAL RESPONSE TO STORMS ARE DRAWN FROM 20 CRUISES DURING JAN, MAR, APR-MAY, AND AUG-SEPT 1974, 1975, 1976, AND 1977 UNDER MIXED AND STRATIFIED CONDITIONS OF THE WATER COLUMN. THE INTERACTION OF STORMS AND SEASONAL STRATIFICATION SUGGEST PREDICTABLE STRUCTURE AND FREQUENCY OF CHLOROPHYLL DISTRIBUTION ACROSS THE SHELF WHICH MAY INFLUENCE BOTH THE SURVIVAL STRATEGIES OF HERBIVORES AND THE LOCI OF ENERGY TRANSFER TO THE REST OF THE FOOD CHAIN.

1927 WALSH, J.J.: ET.AL.

THE BIOLOGICAL RESPONSE TO TRANSIENT FORCINGS OF THE SPRING BLOOM WITHIN THE NEW YORK BIGHT [1976]

BROOKHAVEN NAT LAB. UPTON. NY 56 PP

A 1975 TIME SERIES STUDY OF THE SPRING BLOOM IN THE NEW YORK BIGHT WAS CONDUCTED ACROSS THE CONTINENTAL SHELF, SOUTH OF LONG ISLAND IN MARCH-APRIL. MEASUREMENTS OF TEMPERATURE, SALINITY, IRRADIANCE, NUTRIENTS, CHLOROPHYLL, PHYTOPLANKTON, PARTICLES, PARTICULATE NITROGEN AND CARBON, ZOOPLANKTON, PRIMARY PRODUCTION, RESPIRATION, AND NITRATE UPTAKE OVER A TWO WEEK PERIOD SUGGESTED A MAXIMUM IN PRODUCTIVITY AND A MINIMUM IN GRAZING STRESS AT MID-SHELF. SEASONAL STORM-MIXING AND POSSIBLE BREAKING OF INTERNAL WAVES APPEAR TO BE MECHANISMS FOR REPLENSIFING NUTRIENTS WITHIN THE SPRING CONTINENTAL SHELF ECOSYSTEM; NUTRIENT RECYCLING THROUGH HERBIVORE EXCRETORY PRODUCTS MIGHT BE AN IMPORTANT NUTRIENT SOURCE, WHEREAS RAINFALL AND RIVER DISCHARGE DID NOT APPEAR TO BE SIGNIFICANT NITROGEN INPUTS AT THE TIME OF THE SPRING BLOOM. THE SIMILAR ANNUAL PRIMARY PRODUCTIVITY, TERMINAL FISH VIELD, AND PERHAPS FOOD CHAIN DIVERSITY OF THE NEW YORK BIGHT, IN COMPARISON WITH AN EASTERN BOUNDARY CURRENT OF THE SAME LATITUDE. OREGON. MAY REFLECT THE SIMILAR INTENSITY AND FREQUENCY OF PHYSICAL EVENTS WITHIN FACH SHELF ECOSYSTEM.

1928 WALTON, G.F.; G.H. NIESWAND; S.J. TOTH; C.W. STILLMAN; J.R. WESTMAN

EVALUATION OF ESTUARINE SITE DEVELOPMENT LAGOONS [1976]

OWRT. WASHINGTON. DC 187 PP NTIS-PB-261 367

A LARGE NUMBER OF ESTUARINE SITE DEVELOPMENT LAGOON SYSTEMS HAVE BEEN CONSTRUCTED ALONG THE NJ SHORE WITH LITTLE, IF ANY, KNOWLEDGE REGARDING THE TRUE NATURE OF THE SYSTEM BEING CREATED AND ITS IMPACT ON THE EXISTING NATURAL ESTUARINE SYSTEM. A COMPREHENSIVE STUDY AND EVALUATION OF THESE LAGOON SYSTEMS WAS UNDERTAKEN INCLUDING CONSIDERATION OF THE PHYSICAL, CHEMICAL, BIOLOGICAL AND SOCIOECONOMIC CONDITIONS. IN TERMS OF THE SOCIOECONOMIC CONDITIONS, THE RESIDENTS ARE GENERALLY QUITE SATISFIED WITH THEIR LAGOON HOMES IN SPITE OF THEIR PERCEPTION OF MAJOR POLLUTION AND OVER-DEVELOPMENT PROBLEMS.

1929 WANG . D.P.

LOW FREQUENCY SEA LEVEL VARIABILITY ON THE MIDDLE ATLANTIC BIGHT [1979]

J MAR RES 37(4):683-697

LOW-FREQUENCY SEA LEVEL FLUCTUATIONS ON THE MID-ATLANTIC BIGHT, FROM CAPE COD TO CAPE HATTERAS, AND THEIR RELATIONS TO WIND FORCING WERE EXAMINED OVER A ONE YEAR (1975) PERIOD. THE DOMINANT SEA LEVEL FLUCTUATIONS OCCURRED AT TIME SCALES OF 4 DAYS, AND THEY WERE COHERENT OVER THE ENTIRE BIGHT, ON THE OTHER HAND, SEA LEVELS WERE NOT COHERENT BETWEEN THE SOUTHERN (SOUTH OF KIPTOPEAKE B.) AND NORTHERN PART AT SHORTER TIME SCALES. LOCAL WIND FORCING WAS IMPORTANT FROM CAPE COD TO CAPE MAY; MOST OF THE SEA LEVEL CHANGE WAS DRIVEN BY THE ALONGSHORE (NORTHEAST-SOUTHWEST) WIND. IN ADDITION, THE EAST-WEST WIND SET UP A LARGE SURFACE SLOPE BETWEEN NANTUCKET AND SANDY HOOK. THE WIND SET-UP MAY BE DUE TO THE BENT COASTLINE AROUND SANDY HOOK; THE FRICTIONAL EFFECT MAY ALSO PLAY A ROLE. SOUTH OF CAPE MAY, THE LOCAL ALONGSHORE WIND FORCING WAS DOMINANT AT TIME SCALES SHORTER THAN 3.3 DAYS (IN WINTER). AT LONGER TIME SCALES, CONTRIBUTION FROM FREE SHELF WAVES WAS SIGNIFICANT. A SOUTHWARD PHASE

PROPAGATION OF 600 KM/DAY WAS FOUND BETWEEN CAPE MAY AND CAPE HATTERAS, WHICH IS CONSISTENT WITH THE SHELF WAVE MODEL. THE DOMINANCE OF FREE WAVES APPARENTLY WAS DUE TO THE LACK OF COHERENT WIND FORCING SOUTH OF CAPE MAY.

1930 WARBACH. J.D.; D.B. HARPER

A FRESH LOOK AT THE NEW YORK COASTLINE [1980]

NYSG. ALBANY. NY 80 PP

THERE'S SOMETHING FOR EVERYONE IN NY'S WATERFRONTS. THOUSANDS VISIT THE STATE'S MARINE AND ISLAND SHORELINES EVERY YEAR, AND THOUSANDS OF OTHERS LIVE THERE ALL YEAR ROUND. THESE SHORELINES ARE PUT TO VERY DIFFERENT USES. FOR SOME THEY ARE AN ESCAPE, AN AESTHETIC HIDEAWAY FROM THE RUSH OF CITY LIFE; FOR OTHERS, THEY ARE CITY LIFE, A BUSY CENTER OF WORK AND TRADE. THAT'S WHY NY'S SHORELINES PRESENT SUCH GREAT VISUAL DIVERSITY. SOME ARE BLANKETED BY DENSE BUILDINGS AND TRAFFIC; OTHERS ARE SILENT, PRISTINE WILD LANDS. VISUAL DIVERSITY IS THE SUBJECT OF THIS PAPER. AS THE AUTHORS POINT OUT, PLANNERS INVOLVED WITH VISUAL MANAGEMENT OF NEW YORK'S SHORELINES MUST FACE CONFLICTING DEMANDS AND VALUES: WHERE IS DEVELOPMENT NEEDED? WHERE SHOULD NATURE BE LEFT UNTOUCHED? HOW ARE AESTHETIC AND ECONOMIC CONCERNS TO BE BALANCED? HOW CAN THESE SHORELINES BEST BE USED? BUT THIS BOOK'S APPEAR IS NOT LIMITED TO PLANNERS. WITH ITS ELEGANT DRAWINGS AND PHOTOGRAPHS, IT IS ITSELF AN AESTHETIC EXPERIENCE. IT TAKES THE READER FOR A TOUR OF THE EMPIRE STATE'S SHORELINES, DISCUSSING HOW THEY GOT THE WAY THEY ARE AND WHAT PROBLEMS THEY PRESENT. WHETHER YOUR CONCERN WITH NEW YORK'S SHORELINES IS PROFESSIONAL, ECONOMIC, POETIC, OR JUST RECREATIONAL, THIS BOOK WILL ENHANCE YOUR APPRECIATION OF THE GREAT DIVERSITY AND RICHNESS OF THIS IMPORTANT RESOURCE.

1931 WARD. D.V.; B.L. HOWES

THE EFFECTS OF ABATE, AN ORGANOPHOSPHOROUS INSECTICIDE. ON MARSH FIDDLER CRAB POPULATIONS [1974]

BULL ENVIRONM CONTAM TOXICOL 12(6):694-697

FIDDLER CRABS OF THE GENUS UCA HAVE BEEN PREVIOUSLY DESCRIBED AS HIGHLY SENSITIVE TO A NUMBER OF POLLUTANTS ENCROACHING ON MARSHLANDS THUS THERE HAS BEEN A TENDENCY TO USE THIS GENUS AS AN INDICATOR ORGANISM FOR A NON-POLLUTED MARSH. AMONG THE COMMON POLLUTANTS OF MARSHES AT PRESENT ARE THE ORGANOPHOSPHOROUS INSECTICIDES, WHICH HAVE VIRTUALLY REPLACED THE CHLORINATED HYDROCARBONS FOR MOSQUITO CONTROL. IN SPITE OF THE WIDE USE OF THESE COMPOUNDS, INFORMATION ON THEIR EFFECTS ON MARSH ORGANISMS IS SCANTY AND PREVIOUS EXPERIMENTAL STUDIES HAVE BEEN LIMITED TO THE LABORATORY AND TO MEASUREMENT OF ACUTE LETHAL EFFECTS. IN NJ MARSHES, ABATE (SIGMA, SIGMA, SIGMA, SIGMA, TETRAMETHYL SIGMA, SIGMA, THIODI-P-PHENYLENE PHOSPHOROTHIOATE) IS THE ORGANOPHOSPHATE IN HEAVIEST USE AS A LARVICIDE. THIS STUDY ATTEMPTS TO EVALUATE THE EFFECTS OF NORMAL ABATE USE (1.E., THE STANDARD RATE AND FREQUENCY USED FOR MOSQUITO CONTROL IN NJ) ON POPULATIONS OF UCA PUGNAX IN THE FIELD.

1932 WARD, D.V.; B.L. HOWES; D.F. LUDWIG

INTERACTIVE EFFECTS OF PREDATION PRESSURE AND INSECTICIDE (TEMEFOS) TOXICITY ON POPULATIONS OF THE MARSH FIDDLER CRAB, UCA PUGNAX [1976]

MAR BIOL 35(2):119-126

EXPERIMENTAL PLOTS WERE ESTABLISHED IN GREAT BAY MARSH, TUCKERTON, OCEAN COUNTY, NJ. CHANGES IN FIDDLER CRAB POPULATION DENSITIES WERE FOLLOWED IN OPEN-MARSH TEMEFOS-TREATED AND UNTREATED TEST PLOTS AND IN TREATED AND UNTREATED PLOTS WHICH WERE CAGED OVER TO REDUCE PREDATION BY MARSH BIRDS. TEMEFOS SIGNIFICANTLY REDUCED THE POPULATION DENSITY OF U. PUGNAX IN THE OPEN TEST PLOTS BUT NOT IN THE CAGED PLOTS. TEMEFOS HAS A PRIMARILY SUBLETHAL EFFECT ON THE CRABS, THE EFFECT BECOMING LETHAL ONLY AFTER INTERACTION WITH AVIAN PREDATION. EVIDENCE FROM THE PRESENCE OF A TIME-LAG EFFECT IN THE POPULATION DECREASE, FROM A CALCULATED PREDATION INDEX, AND FROM LABORATORY STUDIES REPORTED ELSEWHERE OF BEHAVIORAL ALTERATION BY TEMEFOS ALSO SUPPORTS THE CONCLUSION THAT TEMEFOS PRIMARILY IMPAIRS THE ESCAPE RESPONSE OF U. PUGNAX. THIS LEADS TO INCREASED PREDATION AND

SUBSEQUENTLY TO A DECREASED FIDDLER CRAB POPULATION. SUCH STUDIES OF SUBLETHAL EFFECTS OF TOXICANTS AND FIELD STUDIES OF INTERACTIONS OF LETHAL AND SUBLETHAL EFFECTS OF SUCH COMPOUNDS WITH NATURAL POPULATION DYNAMICS OF AFFECTED SPECIES ARE NECESSARY TO EVALUATE POSSIBLE EFFECTS OF TOXICANTS ON POPULATIONS.

1933 WARD, T.J.

THE RELATION BETWEEN PHYSICAL FACTORS AND THE RANGE OF TWO SYMPATRIC SPECIES OF FIDDLER CRAB (GENUS:UCA) IN A LONG ISLAND SALT MARSH [1975]

M.S. THESIS. C.W. POST CAMPUS, LI UNIV. BRENTWOOD. NY NP

THE SIZE AND DISTRIBUTION OF TWO SYMPATRIC SPECIES OF FIDDLER CRAB, UCA PUGNAX AND UCA PUGILATOR ON A WELL DEFINED LONG ISLAND SALT MARSH WAS DETERMINED. THE PHYSICAL FACTORS WHICH WERE CONSIDERED IMPORTANT IN ALLOWING SYMPATRY WERE ALSO MEASURED. THESE INCLUDED TIME OF TIDAL COVERAGE, SUBSTRATE SALINITY, TEMPERATURE, AMOUNT OF SUBSTRATE MOISTURE AT LOW TIDE, AND SUBSTRATE GRAIN SIZE DISTRIBUTION. BOTH CRAB DISTRIBUTION AND PHYSICAL PARAMETERS WERE FOUND TO BE NON-HOMOGENEOUS THROUGH THE MARSH. THE RANGE OF TOLERANCE TO ALL PHYSICAL PARAMETERS MEASURED FOR UCA PUGNAX WAS FOUND TO BE GENERALLY LESS, AND OFTEN COMPLETELY WITHIN THE RANGE OF TOLERANCE FOR UCA PUGILATOR. HOWEVER, UCA PUGNAX WAS FOUND TO BE OF GREATER AVERAGE WEIGHT. A COMBINATION OF SLIGHT ECOLOGICAL DIFFERENCES AND SIZE DISSIMILARITY ARE SEEN AS THE FACTORS WHICH ALLOW SYMPATRY.

1934 WASSERMAN, S.E.; D.B. GILHOUSEN

CAUSE AND PREDICTION OF BEACH EROSION [1973]

NOAA-IM-NWS-ER-55. US, NWS. GARDEN CITY. NY 16 PP NTIS-COM-74-10036

OCEANOGRAPHIC AND METEOROLOGICAL FACTORS INVOLVED IN BEACH EROSION CAN BE ISOLATED. SURFACE WIND AND PRESSURE CONDITIONS ASSOCIATED WITH KNOWN BEACH EROSION CASES HAVE BEEN PRESENTED, AND PRODUCTS OPERATIONALLY AVAILABLE TO ASSIST IN PREDICTING THESE CONDITIONS HAVE BEEN ITEMIZED. IT IS NOT KNOWN HOW OFTEN BEACH EROSION DOES NOT OCCUR WHEN THE WIND AND PRESSURE CONDITIONS ARE FAVORABLE. SHIFTING SANDS, WHICH CONTINUOUSLY LHANGE NEAR COASTAL UNDERWATER TOPOGRAPHY, AND TIDE CONDITIONS PLAY AN IMPORTANT ROLE IN CONTROLLING THE BEACH EROSION PROCESS. THE MOST DAMAGING BEACH EROSION IS CAUSED BY A FETCH DIRECTED ALONG THE COASTLINE WITH AN ONSHORE COMPONENT. THE WIND-DRIVEN STEEP WAVES STIR UP THE SAND AND FINE GRAVEL AND TEND TO EAT ANAY AT THE BEACHES. THEN, A LONGSHORE CURRENT, OR "LITTORAL DRIFT" IS REQUIRED TO TRANSPORT THE LOOSENED SAND, IF THE EROSION PROCESS IS TO CONTINUE.

1935 WASSERMAN, S.E.; D.B. GILHOUSEN

CAUSE AND PREDICTION OF BEACH EROSION -- ABSTRACT [1974]

GOVERNMENT REP ANNOUNC 74(4):77-78 ABS ONLY NTIS-COM-74-10036

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1936 WASSERMAN, S.E.; D.B. GILHOUSEN

PREDICTION OF METEOROLOGICAL FACTORS RELATED TO BEACH EROSION AT NEW JERSEY & LONG ISLAND. NY [1976]

J APPL METEOROL 15(4):313-318

PREDICTION OF METEOROLOGICAL FACTORS RELATED TO STORM-CAUSED BEACH EROSION ARE DISCUSSED. COMPOSITE SEA LEVEL PRESSURE MAPS ARE PRESENTED FOR BEACH EROSION EVENTS THAT OCCURRED ON THE NEW JERSEY AND LONG ISLAND, NY, COASTS. SIGNIFICANT METEOROLOGICAL CONDITIONS RELATED TO BEACH EROSION ARE: 1) AN ANGLE BETWEEN THE PREDOMINANT WIND DIRECTION ON THE ERODING BEACH AND THE ORIENTATION OF THE SMOOTHED COASTLINE OF BETWEEN 0 DEG AND 20 DEG FOR LONG ISLAND, AND BETWEEN 20 DEG AND 40 DEG FOR NEW JERSEY; 2) A SETUP PERIOD OF AT LEAST 18 H DURING WHICH COASTAL WINDS DO NOT VARY MORE THAN 20 DEG FROM THE OBSERVED PREDOMINANT WIND DIRECTION; 3) AT SOME TIME DURING THE SETUP PERIOD THE WIND DIRECTION UPSTREAM FOR A DISTANCE AT LEAST 550 KM DOES NOT VARY MORE THAN 20 DEG FROM THE COASTAL WIND DIRECTION; AND 4) THE UPWIND SURFACE PRESSUE GRADIENT AT SOME TIME DURING THE SETUP PERIOD ATTAINS A VALUE OF AI LEAST 4 MB/200 KM.

1937 WASSMAN, E.R.

PRIMARY-PRODUCTION MEASUREMENTS FOR THE GREEN SEAWEED CODIUM FRAGILE IN LONG ISLAND SOUND [1973]

MAR BIJL 21(4):289-297

RATES OF PRIMARY PRODUCTION AND COMPENSATION DEPTHS WERE DETERMINED FOR CODIUM FRAGILE BY 3 DIFFERENT MEASUREMENTS: (1) GROWTH RATE; (2) RATE OF C-14 FIXATION; (3) RATE OF O2 EVOLUTION. THE RADIOCARBON ASSAY EMPLOYED LIQUID SCINTILLATION COUNTING DF HOMOGENEOUS SUSPENSIONS OF SEAWED TISSUE IN GELLED FLUOR. MAXIMUM RATES OF PRIMARY PRODUCTION RANGED BETWEEN 2.6 AND 3.9 MG C-FIXED/G DRY WEIGHT/H. THE COMPENSATION DEPTH IS REGULATED BY LOCAL TURBIDITY, AS 1S VERTICAL DISTRIBUTION. ALL 3 METHODS FOR THE DETERMINATION OF COMPENSATION DEPTH, WHEN USED SIMULTANEOUSLY, GAVE THE SAME VALUE. CHLOROPHYLL LEVELS WERE FOUND TO VARY INVERSELY WITH AVAILABLE LIGHT, HENCE DEPTH, WHEREAS STARCH LEVELS WERE FOUND TO VARY DIRECTLY WITH AVAILABLE LIGHT.

1938 WATERS, E.Y. (EDITOR)

PUBLICATIONS RELATIVE TO THE ECOLOGY OF THE NEW YORK BIGHT [1973]

SOUTHEAST FISHERIES CENTER, NMFS, BRUNSWICK, GA 15 PP

A BIBLIOGRAPHY OF THE NY BIGHT ALPHABETICALLY ARRANGED BY AUTHOR'S LAST NAME.

1939 WATTS. G.M.

OFFSHORE DREDGING FOR BEACH YOURISHMENT PROJECTS SURVEYED [1974]

WORLD DREDGING MAR CONSTR 10(6):21-23

OFFSHORE DREDGING FOP BEACH FILL PURPOSES IS DISCUSSED IN LIGHT OF INCREASED EXPLORATION AS CONSTRAINTS ARE PLACED ON THE UTILIZATION OF LAGOON. BAY OR ESTUARINE BOTTOM DEPOSITS FOR FILL PURPOSES.

1940 WEAVER, S.S.

PLANKTON COMMUNITIES AT FIRE ISLAND INLET (GREAT SOUTH BAY, LONG ISLAND, NEW YORK) [1975]

PH.D. THESIS. NYU, NEW YORK, NY NP

BOTH ZOOPLANKTON AND PHYTOPLANKTON COMMUNITIES WERE OBSERVED AND RECORDED AT FIRE ISLAND INLET FROM 1971 TO 1974. SPECIES TYPICAL OF A TEMPERATE, NERITIC ENVIRONMENT WERE FOUND. SAMPLING BY NET AND BOTTLE AT SEVERAL STATIONS IN THE AREA REVEALED TWO POPULATIONS, ONE REPRESENTATIVE OF THE BAY WATER AND THE OTHER REPRESENTATIVE OF THE OCEAN WATER. IT WAS FURTHER FOUND THAT THESE TWO P) PULATIONS COULD BE FOLLOWED FROM ONE STATION (OAK BEACH) BY SAMPLING AT THE APPROPRIATE TIDAL INTERVALS, I.E., MID-TIDE AFTER SLACK, ON BOTH THE EBB AND FLOW TIDES. OBSERVATIONS OF PLANKTON COMMUNITIES REPRESENTATIVE OF BAY WATER AND OF OCEAN WATER AS THEY MOVE INTO AND OUT OF THE INLET FROM ONE STATION COULD BE OF SIGNIFICANCE IN MONITORING THE EFFECTS OF PROPOSED MAN-MADE CHANGES IN THE ENVIRONMENT.

1941 WEAVER, S.S.

THE DELINEATION OF TWO PLANKTON COMMUNITIES FROM ONE SAMPLING SITE (FIRE ISLAND INLET, LONG ISLAND, NY) [1976]

MAR BIOL 34(3):273-283

700PLANKTON AND PHYTOPLANKTON COMMUNITIES WERE OBSERVED AND RECORDED AT FIRE ISLAND INLET FROM 1971-1974. SPECIES TYPICAL OF A TEMPERATE, NERITIC ENVIRONMENT WERE FOUND. SAMPLING BY NET AND BOTTLE AT SEVERAL STATIONS IN THE AREA REVEALED TWO POPULATIONS, ONE REPRESENTATIVE OF THE BAY WATER AND THE OTHER REPRESENTATIVE OF THE DCEAN WATER. IT WAS FURTHER FOUND, BY COMPARING FREQUENCY OF OCCURRENCE, RELATIVE ABUNDANCE, RANK ORDER AND INDICATOR SPECIES, THAT THESE TWO POPULATIONS COULD BE MONITORED AT ONE SAMPLING STATION (OAK BEACH) BY SAMPLING AT THE APPROPRIATE TIDAL INTERVALS, I.E., MIDTIDE AFTER SLACK CURRENT, ON BOTH THE EBB AND FLOW TIDES. OBSERVATIONS FROM ONE SITE OF PLANKTON COMMUNITIES REPRESENTATIVE OF BAY WATER AND OF OCEAN WATER, AS THEY MOVE INTO AND OUT OF THE INLET, COULD BE OF SIGNIFICANCE IN MONITORING THE EFFECTS OF PROPOSED MAN-MADE CHANGES IN THE ENVIRONMENT. IT IS POSSIBLE THAT OTHER COASTAL AREAS COULD BENEFIT BY SUCH A COMBINED APPROACH.

1942 WEAVER, S.S.

CERATIUM IN FIRE ISLAND, LONG ISLAND, NEW YORK (1971-1977) [1979]

LIMNOL OCEANOGR 24(3):553-558

THE DINOFLAGELLATE CERATIUM TRIPOS OCCURRED IN VERY LARGE NUMBERS OFF THE ENTIRE US MID-ATLANTIC COAST FROM FEB THROUGH JUL 1976. IT HAS BEEN SUGGESTED THAT THIS BLOOM CONTRIBUTED TO THE ANOXIC CONDITIONS OFF NJ AND THE SUBSEQUENT FISH KILL IN THE SUMMER OF 1976. THE AUTHOR'S OBSERVATIONS SINCE 1971 IN THE NEARSHORE WATERS OF FIRE ISLAND INLET, OFF THE SOUTH SHORE OF LONG ISLAND, SHOW THAT WHILE THE MAGNITUDE OF THE 1976 BLOOM WAS EXTRAORDINARY, C. TRIPOS HAS OCCURRED EACH YEAR WITH PEAKS IN APR AND MAY. THIS PAPER REPORTS THE OCCURRENCE OF C. TRIPOS OVER THE LAST 7 YEARS.

1943 WEBER, C.I.

A GUIDE TO THE COMMON DIATOMS AT WATER POLLUTION SURVEILLANCE SYSTEM STATIONS [1966]

ANAL QUAL CONTR LAB, US EPA, CINCINNATI, OH 101 PP

A TOTAL OF 164 DIATOM SPECIES ARE DESCRIBED AND ILLUSTRATED, REPRESENTING 43 OF THE COMMON GENERA FOUND AT FWPCA WATER POLLUTION SURVEILLANCE SYSTEM STATIONS. SOME OF THE SPECIES WERE SELECTED PRIMARILY TO DEMONSTRATE THE MORPHOLOGICAL DIVERSITY WITHIN THE GENERA. THE GEOGRAPHICAL DISTRIBUTION OF 96 OF THE SPECIES IS SHOWN IN AN ACCOMPANYING CHART. THIS GUIDE WAS PREPARED TO SERVE AS A BENCH REFERENCE FOR BIOLOGISTS IN THE LABORATORY WHO ARE BEING TRAINED IN DIATOM IDENTIFICATION. THE GUIDE ALSO CONTAINS A GLOSSARY AND GENERIC KEY. THE KEY WAS CONSTRUCTED WITH THE BEGINNER IN MIND, AND IS BASED ENTIRELY ON THE SHAPE AND MARKINGS OF THE DIATOM CELL WALL AS OBSERVED IN MATERIAL MOUNTED IN HYRAX. NO ATTEMPT WAS MADE TO PLACE THE TAXA IN THEIR PROPER PHYLOGENETIC ORDER.

1944 WEIDNER. C.H.

WATER FOR A CITY--A HISTORY OF NEW YORK CITY'S PROBLEM FROM THE BEGINNING TO THE DELAWARE RIVER SYSTEM [1974]

RUTGERS UNIV PRESS, NEW BRUNSWICK, NJ 339 PP

THIS IS AN ACCOUNT OF NEW YORK CITY'S DEVELOPMENT OF WATER SUPPLY RESOURCES FROM THE EARLIEST YEARS TO THE CONSTRUCTION OF THE MASSIVE DELAWARE RIVER SYSTEM OF THE MID-TWENTIETH CENTURY.

1945 WEIGOLD, M.E.

THE AMERICAN MEDITERRANIAN: AN ENVIRONMENTAL, ECONOMIC & SOCIAL HISTORY OF LONG ISLAND SOUND [1974]

KENNIKAT PRESS. PORT WASHINGTON. NY 228 PP

THE HISTORY OF MAN AND THE LONG ISLAND SOUND FROM THE COLONIZATION OF THE SEA BY THE EUROPEANS TO THE PRESENT IS DETAILED. THE LAST SECTION OF THE BOOK DEALS WITH ENVIRONMENTAL PROBLEMS CAUSED BY OVERUSE OF THE SOUND.

1946 WEIS, J.S.; P. WEIS

EFFECTS OF HEAVY METALS ON DEVELOPMENT OF THE KILLIFISH, FUNDULUS HETEROCLITUS [1977]

J FISH BIOL 11(1):49-54

WHEN F. HETEROCLITUS EMBRYOS WERE EXPOSED TO INORGANIC MERCURY AT CONCENTRATIONS OF 0.03 OR 0.1 Mg/L AT THE EARLY BLASTULA STAGE, THE PERCENTAGE OF SUCCESSFUL AXIS FORMATION WAS REDUCED AND A SIGNIFICANT PROPORTION OF EMBRYOS DEVELOPED CYCLOPIA OR INTERMEDIATE CONDITIONS LEADING TO CYCLOPIA. TREATMENT AT THE LATE BLASTULA STAGE REDUCED THE SEVERITY OF THE DEFECTS. EMBRYOS WHICH DEVELOPED IN LEAD AT CONCENTRATIONS OF 1 AND 10 Mg/L WERE NORMAL IN APPEARANCE UNTIL HATCHING, AT WHICH TIME THEY EXHIBITED LORDOSIS OR WERE UNABLE TO UNCURL FROM THE POSITION THEY HAD WHILE STILL INSIDE THE CHORION. NO SIGNIFICANT EFFECTS OF CAD IUM AT CONCENTRATIONS UP TO 10 Mg/L WERE NOTED.

1947 WEISBERG, J.; J. MARCHISIN

THE PASSAIC RIVER FLOOD PLAIN AND BASIN IN NEW JERSEY--PROBLEMS OF ENCROACHMENT [1980]

PAGES 254-261 IN N. MANSPEIZER, ED. FIELD STUDIES OF NEW JERSEY GEOLOGY AND GUIDE TO FIELD TRIPS: 52ND ANN MEETING OF THE NYS GEOL ASSOC, RUTGERS UNIV. NEWARK, NJ

THIS PAPER DISCUSSES THE GEOLOGICAL HISTORY OF THE PASSAIC RIVER BASIN AND THE PROBLEMS CAUSED BY FLOODING.

1948 WEISS, D.

LATE PLEISTOCENE STRATIGRAPHY AND PALEOECOLOGY OF THE LOWER HUDSON RIVER ESTUARY [1974]

GEOL SOC AM BULL 85:1561-1570

THE ECOLOGIC AND STRATIGRAPHIC DEVELOPMENT OF THE LOWER HUDSON HIVER ESTUARY DURING LATE PLEISTOCENE TIME WAS RECONSTRUCTED FROM FORMINIFERS AND POLLEN IN CORES TAKEN FROM PEEKSKILL, NY, TO THE NARROWS OF NEW YORK BAY. SEDIMENTS DEPOSITED IN FRESHJATER, BRACKISH WATER, AND MARINE ENVIRONMENTS WERE PENETRATED BY THE CORES, WHICH RANGED FROM 32.0 TO 72.7 M. THE

FORAMINIFERS IDENTIFIED IN THE CORES ARE DIVIDED INTO 4 ASSEMBLAGES, EACH CHARACTERISTIC OF LOCAL STRATIGRAPHIC ZOVE AND BIOTOPE. 3 OF THE ASSEMBLAGES CURRENTLY THRIVE IN THE ESTUARY; THE FOURTH, COMPOSED PRIMARILY OF BENTHIC FORAMINIFERS. IS NOW FOUND ON THE NEARSHORE CONTINENTAL SHELF FROM PORTSMOUTH, NH, TO CAPE HATTERAS, NC, AND IN EASTERNMOST LONG ISLAND SOUND. SPRUCE-FIR, PINE, AND OAK POLLEN ASSEMBLAGES OCCUR IN THE CORES AND ARE ZONED USING THE STANDARD POLLEN ZONES ESTABLISHED FOR THE NORTHEASTERN US. THE POLLEN ZONES ARE USED FOR CHRONOSTRATIGRAPHIC PURPOSES. FOLLOWING THE DESSIPATION OF GLACIAL LAKE HUDSON, TIDAL CONDITIONS WERE ESTABLISHED IN THE ESTUARY WELL BEFORE 12,000 YR AGO. ESTUARINE CONDITIONS WITH SALINITIES HIGH ENOUGH TO SUPPORT FORAMINIFERS BECAME ESTABLISHED BY APPROX 11,500 YR AGO. ABOUT 10,000 YR BP, SALINITY DECREASED SLIGHTLY BUT WAS RE-ESTABLISHED BY 9,000 YR AGO. THE MAXIMUM TRANSGRESSION OF MESOHALINE BRACKISH WATER INTO THE ESTUARY OCCURRED ABOUT 6,500 YR B.P., AS SHOWN BY THE FIRST APPEARANCE OF FORAMINIFERS IN THE NORTHERN PART OF THE AREA. THIS EVENT CORRELATES WITH THE GENERAL FLOODING OF THE NORTHEASTERN US BY THE ATLANTIC OCEAN. THE AREAL DISTRIBUTION OF FORAMINIFERAL BIOFACIES IN THE ESTUARY 6,500 YR AGO INDICATES THE MAXIMUM LIMIT OF MESOHALINE WATER IN THE HUDSON RIVER VALLEY DURING POSTGLACIAL TIME. FORAMINIFERAL EVIDENCE INDICATES THAT THE SALINITY OF THE ESTUARY HAS DECREASED DURING THE PAST 1,500 TO 3,000 YR. THIS IS THE FORAMINIFERAL EVIDENCE INDICATES THAT THE SALINITY OF THE ESTUARY HAS DECREASED DURING THE PAST 1,500 TO 3,000 YR. THIS IS THE ESTUARY IS REGRESSING OCEANWARD.

1949 WEISS, D.: J.W. RACHLIN: N.K. COCH

THE HUDSON ESTUARY [1975]

PAGES 30-54 IN 67TH NEW ENGLAND INTERCOLLEGIATE GEOL CONFERENCE, NEW YORK, 1975, GUIDEBOOK FOR FIELD TRIPS IN WESTERN MA, NORTHERN CT. AND ADJACENT AREAS OF NY. CUNY. NEW YORK. NY

A SERIES OF SHORT ARTICLES PRESENTS SOME EARLY RESULTS OF A CONTINUING PROGRAM OF INVESTIGATIONS OF THE PHYSICAL, CHEMICAL, GEOLOGICAL, AND PALEONTOLOGICAL ASPECTS OF THE ESTUARY. SUBJECTS COVERED ARE GEOLOGIC SETTING AND HISTORY, TEMPERATURE AND SALINITY OF RIVER WATER, TRACE METAL LOADINGS, DISSOLVED OXYGEN LEVELS, PHYSICAL AND MINERALOGICAL ANALYSES OF SEDIMENT, FORAMINIFERA, DIATOM, AND SHELLED MACHOINVERTEBRATE DISTRIBUTIONS. MUCH OF THE SAMPLING REPORTED WAS DONE ON MONTHLY RIVER CRUISES IN 1974.

1950 WEISS, D.; K. GEITZENAUER; F.J. SHAW

FORAMINIFERA, DIATOMS, AND MOLLUSKS AS POTENTIAL HOLOCENE PALEOECOLOGIC INDICATORS IN THE HUDSON ESTUARY [1976]

GEOL SOC AM ABSTR PROG 8(2):296-297 ABS ONLY

RECENT STUDIES OF ASSEMBLAGE DISTRIBUTIONS OF FORAMINIFERA, DIATOMS, AND MOLLUSKS IN A 138 KM STRETCH OF THE HUDSON ESTUARY FROM SAUGERTIES, NY TO THE NEW YORK BIGHT, INDICATE THEIR DISTRIBUTION IS APPARENTLY SALINITY CONTROLLED. KEY SPECIES FROM THESE GROUPS HAVE DISTRIBUTIONAL ASSEMBLAGES WHICH ARE ALMOST COINCIDENT. AS A RESULT, FOUR ASSEMBLAGES HAVE BEEN DELINEATED AS FOLLOWS: 1) BRACKISH-MARINE (35-14 0/00 SALINITY) ELPHIDIUM-THALASSIOSIRA-MULINA ASSEMBLAGES; 2) BRACKISH (25-10 0/00 SALINITY) AMMOBIA-MELOSIURA-MYA ASSEMBLAGE; 3) LOW BRACKISH (15-1 0/00 SALINITY) AMMOBIA-CULITES-CYCLOTELLA-MYTILOPSIS ASSEMBLAGE; 4) BRACKISH-FRESHWATER (LESS THAN 0.5 0/00 SALINITY) CYCLOTELLA-ELLIPTIO ASSEMBLAGE IN WHICH NO FORAMINIFERA WERE PRESENT. THE ASSEMBLAGES WERE RELATED TO ESTUARINE SALINITIES OR SALINITY RELATED PARAMETERS (I.E., NUTRIENTS) WHICH CHANGE WITH INFLOW OF FRESHWATER AND/OR MARINE WATER. INDIVIDUAL, MORE MOBILE, SPECIES OF FORAMINIFERA AND DIATOMS SHOW TEMPORAL DISTRIBUTION PATTERNS THAT FOLLOW THE SEASONAL MOVEMENT OF SALINITY (APR) IO HIGH SALINITY (SEP). WHEREAS MOLLUSCAN ASSEMBLAGES, FOR EXAMPLE, MOVE AS MUCH AS 13 KM DURING A CHANGE FROM LOW SALINITY (APR) IO HIGH SALINITY (SEP). WHEREAS MOLLUSCAN ASSEMBLAGES HAVE PERMANENT DISTRIBUTION PATTERNS WITHIN THE ESTUARY. THESE ASSEMBLAGE DISTRIBUTIONS ARE DETERMINED BY THE HYDRODYNAMIC AND ENVIRONMENTAL FRAMEWORK OF THE ESTUARY AND ARE IMPORTANT FOR STUDYING ITS HOLOCENE STRATIGRAPHIC AND PALEOECOLOGIC RECORD.

1951 WEISS, D.; K. GEITTEMAUER; F.C. SHAW

FOPAMINIFERA, DIATOM AND BIVALVE DISTRIBUTION IN RECENT SEDIMENTS OF THE HUDSON ESTUARY [1978]

ESTUARINE COASTAL MAR SCI 7(4):393-470

FORAMINIFERA, DIATOMS, AND BIVALVES. COLLECTED IN CHANNEL AND TRAVERSE SAMPLES ALONG THE LOWER 184 KM OF THE HUDSON ESTUARY IN 1974-1775, SHOWED DISTINCTIVE DISTRIBUTIONS ALONG THE LENGTH OF THE ESTUARY. TYPICAL ASSEMBLAGES OF THESE POTENTIAL FOSSILS WERE DESIGNATED WHICH CORRESPOND APPROXIMATELY TO A DECREASE IN SALINITY NORTHWARD IN THE ESTUARY. IN GENERAL, ONLY FRESHWATER FORMS WERE FOUND NORTH OF PEEKSKILL, LOW BRACKISH-WATER FORMS PENETRATED AS FAR SOUTH AS MID-MANHATTAN, HIGH BRACKISH-WATER FORMS WERE FOUND AS MUCH AS 16 KM NORTH OF THIS, WHILE NORMAL MARINE FAUNAS DID NOT PENETRATE SIGNIFICANTLY NORTHWARD OF NEW YORK HARBOR. THIS PAPER, IN ADDITION TO PROVIDING BASELINE DATA ON THE PRESENT DAY DISTRIBUTION OF THESE TAXA, ALSO DEFINED POTENTIAL FOSSIL ASSEMBLAGES. THESE ASSEMBLAGES SHOULD PROVE USEFUL IN INTERPRETING PAST SALINITY GRADIENTS IN THE ESTUARY WHEN ADEQUATE CORES BECOME AVAILABLE.

1952 WENIG. J.

AN INTRODUCTION TO ENVIRONMENTAL SCIENCE--THE ECOLOGY OF LONG ISLAND [1977]

ENVIRON PUB ASSOC LTD., PLAINVIEW, NY 68 PP

THIS PAPER IS A NONTECHNICAL INTRODUCTION TO THE LAYPERSON OF LONG ISLAND ECOLOGY. IT DISCUSSES RESOURCES, POLLUTION, WILDLIFE AND PROBLEMS DEALING WITH WASTE PRODUCTS.

1953 WEST, R.H.; P.G. HATCHER; D.K. ATWOOD

POLYCHLORINATED BIPHENYLS AND DDTS IN SEDIMENTS AND SEWAGE SLUDGE OF THE NEW YORK BIGHT [1976]

NOAA. BOULDER. CO 42 PP

SEDIMENT SAMPLES TAKEN ON A CRUISE IN SEPT, 1973, IN THE NEW YORK BIGHT APEX WERE ANALYZED FOR POLYCHLORINATED BIPHENYLS AND DDTS. IN ADDITION, SEVERAL SAMPLES OF SEWAGE SLUDGE WERE OBTAINED FROM TREATMENT PLANTS IN THE NEW YORK METROPOLITAN AREA WHICH DISPOSE OF THEIR SEWAGE VIA OCEAN DUMPING. RESULTS OF THE ANALYSES AND DATA REDUCTION ARE PRESENTED IN TABULAR FORM AND SOME PRELIMINARY CONCLUSIONS STATED. IT IS NOTED THAT ALTHOUGH SEDIMENTS CLOSE TO THE HUDSON-RARITAN OUTFLOW CONTAIN ORGANICS WHICH ARE RICHER IN PCRS THAN SEDIMENTS IN THE REST OF THE BIGHT, THE HIGH ORGANIC INPUTS AT THE SEWAGE SLUDGE DUMPSITE RESULT IN THIS AREA HAVING THE MAJOR INPUT OF PCBS AND DDTS TO THE BIGHT APEX.

1954 WEST, R.H.; P.G. HATCHER

POLYCHLORINATED BIPHFNYLS IN SENAGE SLUDGE AND SEDIMENTS OF THE NEW YORK BIGHT [1980]

MAR POLLUT BULL 11(5):126-129

SEDIMENTS OF THE NEW YORK BIGHT WERE ANALYZED FOR PCBS. THE SEDIMENTS WERE HEAVILY CONTAMINATED BY SUCH SUBSTANCES. THE HIGHEST CONCENTRATIONS ARE ADJACENT TO AN OFFSHORE SLUDGE DUMP ZONE, IMPLYING THAT THE PRIMARY SOURCE OF PCBS IS SEWAGE SLUDGE. WIDESPREAD TRANSPORT OF PCBS OUT OF THE BIGHT IS NOT EVIDENT AS THE AREA OF CONTAMINATION IS LIMITED TO AREAS OF MUD ACCUMULATION. THE PCB PROFILE IN A COME OF THESE MUD FACIES CAN BE HISTORICALLY CORRELATED TO THE COMMERCIAL PRODUCTION OF PCBS.

1955 WESTMAN, J.R.; R.F. NIGRELLI

PRELIMINARY STUDIES OF MENHADEN AND THEIR MASS MORTALITIES IN LONG ISLAND AND NEW JERSEY WATERS [1955]

NY FISH GAME J 2(2):142-153

AN ANNUAL, HEAVY MORTALITY OF MENHADE IN THE WATERS ADJACENT TO NEW YORK HARBOR OCCURS IN LATE MAY AND JUNE WHEN MILLIONS OF FISH DIE AND LITTER THE BEACHES. DYING FISH, CALLED "SPINNERS" ARE CHARACTERIZED BY A LOSS OF COORDINATED MOVEMENTS AND EXOPTHALMIA OF ONE OR BOTH EYES. HEMORRAGES CAUSED BY GAS EMBOLI WERE NOTED IN THE CAPILLARIES OF THE GILLS, EYES, AND OPTIC LOPES OF THE BRAIN. MENHADEN ALONG THE ATLANTIC COAST OF NORTH AMERICA ARE SUSCEPTIBLE TO A VARIETY OF PARASITES, WHICH: ESPECIALLY THOSE FOUND ON THE GILLS, MAY CONTRIBUTE TO THE MASS MORTALITIES OBSERVED.

1956 WEYL . P.K.

TEMPERATURE DISTRIBUTION OF THE HEATED EFFLUENT FROM THE NORTHPORT POWER STATION (LONG ISLAND LIGHTING COMPANY) [1971]

TECH REP 10. MSRC, SUNY, STONY BROOK, NY 29 PP

MEASUREMENTS OF TEMPERATURE DISTRIBUTION IN LONG ISLAND SOUND WERE TAKEN WHEN ONLY ONE UNIT OF THE NORTHPORT POWER STATION WAS OPERATING AND THEN WITH BOTH UNITS OPERATING. THE LOAD LEVEL OF THE PLANT, THE STATE OF THE TIDES, THE SEA STATE AND WEATHER CONDITIONS ALL EFFECT THE TEMPERATURE DISTRIBUTION. MAXIMUM TEMPERATURE ANOMALIES OCCUR DURING CALM CONDITIONS THUS THE SURVEYS WERE CONDUCTED DURING THREE PERIODS OF LOW WIND VELOCITY. AT A 734 MEGAWATT LOAD AN ELEVATION OF 6 C ABOVE AMBIENT WAS OBSERVED OUT TO 4.5 KM FROM THE HEATED EFFLUENT DISCHARGE POINT. DATA PRESENTED ARE ADEQUATE DNLY FOR A ROUGH ESTIMATE OF THE TEMPERATURE DISTRIBUTION.

1957 WEYL, P.K.

THE POLLUTION SUSCEPTIBILITY OF THE MARINE WATERS OF NASSAU AND SUFFOLK COUNTIES, NEW YORK [1974]

TECH REP 20. MSRC. SUNY. STONY BROOK, NY 21 PP

A NEW DESCRIPTIVE PARAMETER OF THE COASTLINE, THE POLLUTION SUSCEPTIBILITY, IS DEVELOPED. THE POLLUTION SUSCEPTIBILITY IS THE AVERAGE CONCENTRATION IN THE WATER NEAR THE COAST, THAT WOULD RESULT FROM A UNIT RATE OF DISCHARGE OF A CONSERVATIVE POLLUTANT THAT IS MISCIBLE WITH THE WATER. FOR POTENTIAL CONTINUOUS DISCHARGES IN RESTRICTED BAYS, A SECOND PARAMETER, THE STEADY-STATE POLLUTION SUSCEPTIBILITY, IS DEVELOPED. THIS IS THE AVENAGE CONCENTRATION THAT WOULD RESULT FROM A UNIT RATE OF DISCHARGE AFTER THE BAY HAS COME TO A STEADY STATE WITH THE POLLUTANT. DILUTION OF POLLUTANTS IN THE NASSAU-SUFFOLK MARINE WATERS RESULTS PRIMARILY FROM TIDAL ACTION. THE TIDAL AMPLITUDE AND PHASE FOR THE AREA, INTERPRETED FROM PUBLISHED DATA, HAS BEEN CHARTED. THIS INFORMATION IS USED TO PRODUCE CHARTS OF THE TWO POLLUTION SUSCEPTIBILITY PARAMETERS. COMPARISONS OF THE STEADY-STATE POLLUTION SUSCEPTIBILITY PARAMETER FOR LONG ISLAND SOUND WITH INFORMATION ON SALINITY AND THE CONCENTRATION OF DISSULVED PHOSPHATE INDICATE THAT THE SUSCEPTIBILITY IS RELIABLE WITHIN A FACTOR OF TWO. HYPOTHETICAL ILLUSTRATIONS OF HOW THE CHARTS CAN BE USED IN THE COASTAL ZONE PLANNING PROCESS ARE GIVEN. THE CHARTS, WHICH MEASURE APPROXIMATELY 2-1/2 X 8 FT EACH, ARE NOT INCLUDED IN THIS REPORT. THEY ARE ON FILE WITH THE REGIONAL MARINE RESOURCES COUNCIL OF THE NASSAU-SUFFOLK REGIONAL PLANNING HOARD.

1958 WEYL, P.K.

AN ANALYSIS OF SHELLFISH SANITATION DATA [1979]

SPEC REP 30. MSRC, SUNY, STONY BROOK, NY 26 PP

THE STUDY SHOWED THAT A CONVERSION FROM A TOTAL COLIFORM TO A FECAL COLIFORM STANDARD WOULD LEAD TO A GREATER CLOSURE OF SHELLFISH GROWING ARFAS. RAINFALL EVENTS SIGNIFICANTLY INCREASE THE COLIFORM CONCENTRATION. THE ANALYSIS WAS MADE FROM MANY YEARS OF DATA PROCESSED BY COMPUTER.

1959 WEZERNAK, C.T.; N. ROLLER

MONITORING OCEAN DUMPING WITH ERTS-1 DATA [1973]

PAGES 535-641 IN NASA GODDARD SPACE FLIGHT CENTER SYMP ON SIGNIFICANT RESULTS OBTAINED FROM THE ERTS-1, VOL. 1, SECT A AND B. NASA GODDARD SPACE FLIGHT CENTER, GREENBELT, MD

THE RESULTS OF AN ANALYSIS OF ERTS-1 DATA FOR THE NEW YORK BIGHT COLLECTED ON 16 AUGUST 1972 ARE DESCRIBED. RESULTS ARE PRESENTED WHICH SHOW ACID-IRON WASTES, SEWAGE SLUDGE, SUSPENDED SOLIDS, AND MAJOR WATER MASS BOUNDARY FEATURES IN THE STUDY AREA.

1960 WEZERNAK, C.T.; D.R. LYZENGA; F.C. POLCYN

REMOTE SENSING STUDIES IN THE NEW YORK BIGHT [1975]

NESS, JASHINGTON, DC 76 PP NTIS-COM-75-11358

DESCRIBED IN THE REPORT ARE THE RESULTS OF A REMOTE SENSING PROGRAM OF DATA COLLECTION AND ANALYSIS UNDERTAKEN IN THE NEW YORK BIGHT. AIRCRAFT MULTISPECTRAL MISSIONS WERE CARRIED OUT ON 7 APRIL 1973. THE MORNING MISSION ON THAT DATE COINCIDED WITH THE ERTS-1 SATELLITE PASS OVER THE AREA. THE PRINCIPAL OBJECTIVES OF THE PROGRAM WERE TO PROVIDE DATA, WHICH WHEN COMBINED WITH SHIPBOARD MEASUREMENTS, WOULD DESCRIBE THE SURFACE WATERS OF THE AREA AND THEIR GENERAL CIRCULATION. SPECIFICALLY THE REMOTE SENSING PROGRAM WAS DESINGED TO PROVIDE THE FOLLOWING INFORMATION: (1) SEA SURFACE TEMPERATURE DISTRIBUTION, (2) SURFACE CHLOROPHYLL CONCENTRATIONS, (3) SECCHI DISC TRANSPARENCY, (4) DOCUMENT OCEAN DUMPING PRACTICES, (5) MOVEMENT OF WATER MASSES AS EVIDENCED BY DYE TRACER METERIALS.

1961 WHALIN, R.W.; R.D. CARVER; D.D. DAVIDSON

EFFECT OF OFFSHORE STRUCTURES ON SHORELINE EVOLUTION. ATLANTIC GENERATING STATION [1975]

OFFSHORE TECH CONFERENCE 7TH ANN PROC 3:873-886

A FIXED-BED, DISTORTED-SCALE HYDRAULIC MODEL INVESTIGATION WAS PERFORMED TO DETERMINE THE POTENTIAL EFFECT, IF ANY, OF A PROPOSED OFFSHORE NUCLEAR POWER PLANT ON SHORELINE EVOLUTION. THE PROPOSED PLANT LOCATION IS ABOUT 3 MI SEAWARD OF LITTLE EGG INLET, NJ. MODEL MEASUREMENTS OF CURRENT PATTERNS AND BREAKING WAVE CHARACTERISTICS (HT, DEPTH, AND ANGLE TO SHORELINE) WERE USED TO CALCULATE LONGSHORE TRANSPORT RATES IN THE POTENTIALLY AFFECTED AREAS. CONSTRUCTION OF THE PROPOSED OFFSHORE POWER PLANT AND BREAKWATER APPARENTLY WILL NOT ALTER CURRENT PATTERNS SIGNIFICANTLY WITHIN THE BREAKER ZONE, ALTER LONGSHORE CURRENT VELOCITIES OR TRANSPORT RATES N AND S OF THE INLET, OR HAVE A SIGNIFICANT EFFECT ON SHORELINE EVOLUTION.

1962 WHALIN, R.W.

HYDRAULIC MODEL EVALUATION OF COASTAL EVOLUTION DUE TO OFFSHORE STRUCTURES [1975]

SHORE BEACH 43(1):9-20

AN OFFSHORE FLOATING NUCLEAR POWER PLANT (FNP) REQUIRES A STRUCTURE DESIGNED TO PROTECT IT FROM A PROBABLE MAXIMUM EVENT WHETHER IT BE A HURRICANE OR SOME OTHER STORM. SUCH OFFSHORE STRUCTURES OR ISLANDS FORM BARRIERS TO THE EXISTING WAVE CLIMATE WHICH, DEPENDING ON THE CIRCUMSTANCES OF BARRIER SIZE, DISTANCE OFFSHORE, AND WAVE CLIMATE, MIGHT AFFECT WAVE CONDITIONS NEAR THE COASTLINE AND CONSEQUENTLY SEDIMENT TRANSPORT RATES. THIS COULD PERTURB NATURAL EVOLUTION OF THE COASTLINE AND RESULT IN EROSION AND/OR ACCRETION PATTERNS WHICH MIGHT BE EITHER BENEFICIAL OR DETRIMENTAL. LARGE SUPERTANKERS MOORED AT MONOBUOYS TO DISCHARGE OIL ALSO POSE A BARRIER TO THE WAVES AND, DEPENDING ON THEIR DISTANCE OFFSHORE, MAY HAVE AN EFFECT ON COASTAL

EVOLUTION. DETACHED BREAKWATERS LIKEWISE FORM A BARRIER TO WAVES. FUTURE DEEP DRAFT HARBORS COULD BE EITHER MONOBUDYS OR ENTIRE OFFSHORE ISLAND PORTS. THE CURRENT ENERGY CRISIS AND PROJECTED SUPPLY AND DEMAND FOR OIL MAKE IT A VIRTUAL CERTAINTY THAT ONE OF THE ONLY VIABLE ALTERNATIVES IS TO PROVIDE OFFSHORE DEER DRAFT FACILITIES FOR OIL IMPORT. IT WOULD APPEAR THAT THE OBVIOUS SOLUTION IS TO CONSTPUCT LARGE OFFSHORE ISLANDS TO FUNCTION NOT ONLY AS AN OIL TERMINAL BUT AS AN ENTIRE ENERGY RELATED COMPLEX INCLUDING REFINERIES AND ALL OIL-RELATED INDUSTRY. FNP'S COULD PROVIDE ENERGY FOR THE ENTIRE COMPLEX AS WELL AS FOR LAND BASED POPULATION CENTERS. MANY DESIGN PROBLEMS EXIST AND THIS ARTICLE CONCERNS A METHOD OF EVALUATION OF ONE OF THESE PROBLEMS:
SPECIFICALLY THE EFFECT OF SUCH OFFSHORE CONSTRUCTION ON SHORELINE EVOLUTION. MERE ILLUSTRATION THAT THE OFFSHORE CONSTRUCTION WILL EFFECT COASTAL EVOLUTION IS NOT NECESSARILY DETRIMENTAL. FOR INSTANCE, OFFSHORE STRUCTURES (DETACHED BREAKWATERS) MAY BE USED TO CONTROL COASTAL EROSION. INITIAL EVALUATION SHOULD BE BASED ON HISTORICAL EVIDENCE AND RELATIVELY SIMPLE ANALYTICAL ENGINEER FOR ATTEMPTING TO DETERMINE THE POTENTIAL EFFECT OF OFFSHORE STRUCTURES ON COASTAL EVOLUTION. MODEL MEASUREMENTS OF LONGSHORE CURRENTS, BREAKING WAVE HEIGHTS, BREAKING DEPTH, AND BREAKING ANGLE CAN BE USED TO EVALUATE THE RELATIVE EFFECT OF THE PROPOSED CONSTRUCTION ON COASTAL EVOLUTION. TRACER TESTS (NOT DISCUSSED IN THE APPLICATION ILLUSTRATED) WITH A MOVABLE MATERIAL ALSO CAN BE CONDUCTED IN FIXED-BED MODELS TO YIELD A QUALITATIVE INDICATION OF POTENTIAL AREAS OF SCOUR AND DEPOSITION. COMPUTATIONS OF CHANGES IN LONGSHORE TRANSPORT RATES ALSO CAN BE MADE TO AID IN THIS EVALUATION.

1963 WHIPPLE, W., JR.

PRELIMINARY MASS BALANCE OF BOD ON THREE NEW JERSEY RIVERS [1970]

NJ WATER RESOURCES RESEARCH INST. RUTGERS UNIV. NEW BRUNSWICK. NJ 94 PP

THIS STUDY BROUGHT OUT CERTAIN RELATIONSHIPS IMPORTANT FROM THE VIEWPOINT OF WATER QUALITY CONTROL. EVEN THOUGH WATER QUALITY IN THESE BASINS DATA WAS RATHER INCOMPLETE; THERE SEEMS LITTLE DOUBT THAT THE ORGANIC LOADING OF EACH OF THE THREE RIVER SYSTEMS IS MUCH GREATER THAN THE ORGANIC LOADING FROM RECORDED EFFLUENTS. FOR THE PASSAIC RIVER, FOR WHICH THERE IS FAR MORE DATA THAN FOR THE OTHER TWO, AND WHERE A MUCH GREATER EFFORT AT SURVEILLANCE AND ENFORCEMENT HAS BEEN MADE, THE RECORDED EFFLUENTS ACCOUNT FOR 39% OF THE TOTAL ORGANIC LOADING ENTERING THE RIVER SYSTEM. IN THE MILLSTONE BASIN, A COMPARABLE FIGURE IS 24.3%. IN THE RARITAN BASIN THE PROPORTION OF THE ORGANIC LOADING ATTRIBUTABLE TO RECORDED EFFLUENTS IS ONLY 7.3% A FIGURE SO LOW AS TO SUGGEST EITHER A SERIOUS DEFICIENCY IN THE RECORDS USED, OR A LACK OF CONTROL OF MAJOR SOURCES OF POLLUTION IN THE RARITAN BAY.

1964 WHIPPLE, W., JR.

WATER POLLUTION: ENVIRONMENTAL IMPACTS AND MEANS OF CONTROL [1973]

3TH ANNUAL HENRY M SHAW LECTURE SER IN CIVIL ENG. DEPT OF CIVIL ENG. NCSU. RALEIGH, NC 26 PP

THE NATIONAL WATER COMMISSION, CHARGED WITH MAKING A SEARCHING ANALYSIS OF ALL US WATER RESOURCE PROGRAMS, HAS SHOWN THAT WATER POLLUTION IS BY FAR THE MOST IMPORTANT WATER PROBLEM. ALTHOUGH ONE MAY NOT AGREE WITH ALL OF THE NMC'S RECOMMENDATIONS, THERE CAN BE NO DOUBT THAT THE REPORT REPRESENTS AN ACCURATE AND AUTHORITATIVE EVALUATION. THE COMMISSION HAS ESTIMATED THAT FUTURE CAPITAL NEEDS FOR WATER POLLUTION CONTROL WILL COST UP TO \$130 BILLION TO MEET PRESENT WATER QUALITY STANDARDS AND UP TO \$361 BILLION TO MEET A PROPOSED "NO DISCHARGE" POLICY. AS MOST OF THE TRADITIONAL WATER PROGRAMS ARE NOW MATURE, OR DIMINISHING IN IMPORTANCE, IT IS EVIDENT THAT THE RELATIVELY NEW PROGRAM OF WATER POLLUTION CONTROL IS OUTSTANDINGLY THE MOST IMPORTANT. CONGRESS HAS NOW OPTED FOR TH EXPENSIVE "NO DISCHARGE" POLICY, BASED UPON GENERAL GROUNDS OF PROTECTING ENVIRONMENTAL QUALITY, WITHOUT ANY ANALYSIS WORTHY OF THE NAME. EVEN THE EXISTING WATER QUALITY STANDARDS ARE QUITE ARBITRARY, AS NO SERIOUS QUANTITATIVE ANALYSIS WAS MADE OF THE ENVIRONMENTAL EFFECTS OF APPLYING THEM OR OF NOT APPLYING THEM. THIS DEFICIENCY SEEMS PARTICULARLY REMARKABLE BECAUSE MANY PROPOSALS OF MUCH LESS ENVIRONMENTAL IMPORTANCE ARE REQUIRED TO BE ACCOMPANIED BY VOLUMINOUS ENVIRONMENTAL IMPACT STATEMENTS, BASED ON LENGTHY HEARINGS AND TESTIMONY, EVEN THOUGH THOSE PREPARING THE STATEMENTS MAY BE POORLY EQUIPPED TO EVALUATE THE TOTAL ENVIRONMENTAL ENVIRONMENTAL STUATION. HOWEVER, THE EPA IS EXEMPT BY LAW FROM THESE REQUIREMENTS, AND HAS NOT SEEN FIT TO PUBLISH DETAILED ANALYSES IN ANY OTHER FORM. THE FOLLOWING IS A DISCUSSION OF PAST AND PRESENT DECISION—MAKING REGARDING WATER POLLUTION CONTROL AND SUGGESTIONS FOR CHANGES TO BE MADE FOR THE FUTURE.

1965 WHIPPLE, W. JR.; J.V. HUNTER; S.L. YU

CHARACTERIZATION OF URBAN RUNOFF: NEW JERSEY [1976]

OWRT. WASHINGTON. DC 94 PP

POLLUTION FROM URBAN RUNOFF IN THE SADDLE RIVER, NJ WAS DETERMINED. SPECIFICALLY HEAVY METALS, BOD, PHOSPHATES AND SUSPENDED SOLIDS WERE MEASURED. TECHNIQUES INCLUDE USE OF SINGLE SAMPLES AND OF SAMPLES TAKEN AT SHORT INTERVALS THROUGHOUT STORM EVENTS. RESULTS ARE COMPARED TO DIFFERENT TYPES OF LAND USE, SHOWING MORE POLLUTION OF ALL TYPES FROM URBAN AND INDUSTRIAL RUNOFF THAN FROM RESIDENTIAL AREA RUNOFF.

1966 WHIPPLE, W., JR.; T.S. PYTLAR, JR.

URBAN CHANNEL EROSION: PRELIMINARY ANALYSIS [1978]

OWRT, JASHINGTON, DC 23 PP NTIS-PB-280 952

THE STUDY INVESTIGATED THE EROSIONAL ASPECTS OF URBAN STREAMS. AN ANALYSIS IS GIVEN FOR 12 NJ STREAMS TO IDENTIFY VARIABLES RELATED TO EXCESS RUNOFF AND STREAM EROSION. PRELIMINARY RESULTS INDICATE THAT MEASURES OF LAND USE, STREAM SLOPE, GEOLOGY, AND DRAINAGE BASIN AREA ARE MOST USEFUL IN EXPLAINING THE DEGREE OF CHANNEL EROSION. BED LOAD TRANSPORT AND OTHER HYDRAULIC RELATIONSHIPS WILL BE USED TO FORMULATE QUANTITATIVE CRITERIA WHICH CAN BE USED BY LOCAL AGENCIES TO MANAGE URBAN STREAMS SO AS TO AVOID CHANNEL DEGRADATION AND THE EVENTUAL NECESSITY OF CONCRETE LINING AND CHANNELIZATION OF THE STREAMS IN URBAN SETTINGS.

1967 WHIPPLE, W., JR.: J.M. DILOUIE, JR.: T.S. PYTLAR, JR.

EROSIONAL ASPECTS OF MANAGING URBAN STREAMS [1980]

OWRT, JASHINGTON, DC, 85 PP NTIS-PB-153 422

THE EROSIONAL ASPECTS OF STREAMS IN URBANIZING AREAS WERE INVESTIGATED BY CORRELATING LAND USE INFORMATION AND PHYSICAL DATA ON A NUMBER OF NJ STREAMS AND BY MODELING PROCESS BASED UPON SEDIMENT TRANSPORT THEORY. IT WAS CONCLUDED: (A) THAT PROCESSES OF URBANIZATION, BY MEANS OF INCREASING RATES OF RUNOFF, GREATLY INCREASED BED-LOAD CAPACITY AND HENCE EROSIVE CAPABILITY OF STREAMS, (B) THAT URBANIZING STREAMS ARE VULNERABLE TO CHANNEL DEGRADATION AND INCREASED BANK EROSION, (C) THAT IN SUCH CASES CULVERIS AT ROAD CROSSINGS HHICH CREATE A RETARDING EFFECT UPON FLOOD FLOWS HAVE A BENEFICIAL EFFECT, BOTH IN REDUCING FLOOD PEAKS DOWNSTREAM AND IN REDUCING CHANNEL EROSION POTENTIAL, AND (D) THAT IN URBANIZING AREAS, AN INTEGRATED APPROACH APPEARS DESTRABLE, INCLUDING DESIGN OF DETENTION BASINS, DESIGN OF CULVERTS AT ROAD CROSSINGS, USE OF ENERGY DISSIPATING STRUCTURES, AND A PROGRAM OF LAND USE CONTROL.

1968 WHITE, J.A.

OPERATIONAL EXPERIENCE WITH A US COAST GUARD R&D PROTOTYPE SHIPBOARD WASTEWATER TREATMENT SYSTEM [1975]

PAPER 75-ENA-27 FOR MEETING ON JUL 21-24, 1975. ASME. NEW YORK, NY NP

THIS PAPER SUMMARIZES THE OPERATIONAL EXPERIENCE WHICH WAS GAINED DURING THE FIRST 6 MO OF THE TEST AND EVALUATION OF AN R&D PROTOTYPE WASTEWATER TREATMENT SYSTEM ON BOARD A 157 FT (47.8 M) COASTAL BUOY TENDER, THE CGC RED BEECH. THE SHIP HAS A CREW OF 34 OFFICERS AND MEN, AND OPERATES IN AND AROUND NEW YORK HARBOR. THE CGC RED BEECH USES A SALT WATER FLUSH, AND IS EQUIPPED WITH A COLLECTION, HOLDING, AND TRANSFER SYSTEM. SEWAGE IS PUMPED FROM A HOLDING TANK AMIDSHIPS TO THE WASTEWATER TREATMENT CENTER IN THE SHIP'S AFTER STEERING COMPARTMENT BY A GRINDER PUMP. THE TREATMENT SYSTEM REMOVES GROSS SOLIDS BY SCREENING THE INFLUENT THROUGH A HYDRASIEVE.

1969 WHITE, J.R.

A PRELIMINARY TEST OF A GOVERNMENT-OWNED LOCAL AREA DIL ON WATER SURVEILLANCE SYSTEM [1976]

USCG RES AND DEVEL CENTER, GROTON, CT 70 PP NTIS-A040 541

A FIELD TEST OF 3 FIXED SITE, OIL ON WATER POINT SENSORS WAS CONDUCTED IN NEW YORK HARBOR FROM SEPT 1975 THROUGH MAR 1976. OVER 2000 HOURS OF STRIP CHART RECORDINGS JERE ANALYZED TO DETERMINE SUCH ITEMS AS, NUMBER OF ALARMS FOR VARIOUS THRESHOLD LEVELS AND TIME DURATIONS, EFFECTS OF TIDAL FLUCTUATIONS, EFFECTS OF OIL BACKGROUND LEVELS, AND SENSOR RELIABILITY. IN ADDITION, SURFACE SAMPLES WERE OBTAINED AND ANALYZED TO PROVIDE GROUND TRUTH DATA. TO BE OPERATIONALLY DESIRABLE, THE SENSORS COMPRISING A LOCAL AREA SURVEILLANCE SYSTEM MUST UNEQUIVOCALLY INITIATE AN ALARM IN ONE CIRCUMSTANCE ONLY. THAT IS THE CASE WHEN THERE IS A SURFACE OIL FILM LARGE ENOUGH TO WARRANT CLEANUP, PREVENTATIVE MEASURES, OR LEGAL ACTION. THE RESULT OF THE BAYONNE EVALUATION INDICATED THAT THIS CRITERIA WOULD BE DIFFICULT TO MEET WITH THE TWO TYPES OF SENSORS EVALUATED. THE PROBLEMS OF THIN FILM SENSITIVITY, THRESHOLD LEVELS, AND ALARM TIME DELAYS COMBINE TO RAISE SERIOUS QUESTIONS TO THE PRACTICABILITY OF EMPLOYING POINT SENSORS IN A WIDESPREAD HARBOR MONITORING SYSTEM. IT APPEARS THEY WOULD BE MORE EFFECTIVE MONITORING SPECIFIC PROBLEM AREAS SUCH AS MOORED TANKERS OR STORM DRAIN OUTFALLS.

1970 WHITE, W.A.

INFLUENCE OF GLACIAL MELTWATER IN THE ATLANTIC COASTAL PLAIN [1978]

SOUTHEAST GEOL 19(3):139-156

THE LARGE ESTUARIES THAT DISTINGUISH THE EMBAYED SECTION OF THE ATLANTIC COASTAL PLAIN ARE A TYPICAL IN THAT THEY OCCUR ONLY IN THE VALLEYS OF RIVER SYSTEMS WHOSE TRUNK STREAMS WERE TRENCHED BY GREAT DISCHARGES OF MELTWATER DURING LOW GLACIAL SEA LEVELS. TRIBUTARIES TO THESE RIVERS WERE ALSO TRENCHED WHEN NICK POINTS MOVED RAPIDLY UP STREAM THROUGH UNCONSOLIDATED SEDIMENT FROM THEIR POINTS OF CONFLUENCE WITH THE INCISED TRUNK STREAMS. REPETITIVE TRENCHING OF THESE STREAM SYSTEMS DURING SEVERAL EPISODES OF GLACIATION ACCOUNTS FOR THE BRANCHING VALLEY-SIDE TERRACES WHICH CHARACTERIZE THE EMBAYED SECTION AS CONTRASTED WITH THE BEACH RIDGE PLAINS THAT TYPIFY THE SEA ISLAND SECTION. THE LARGE ESTUARIES OF NORTHEASTERN NC OCCUPY REESTABLISHED VALLEYS OF STREAMS THAT WERE 1) TRENCHED WHILE TRIBUTARY TO A FORMER SOUTHERN EXTENSION OF THE MELTWATER-CARRYING SUSQUEHANNA RIVER IN PRE-PANLICO TIME, 2) FILLED WITH ESTUARINE SEDIMENT DURING HIGH INTERGLACIAL SEA LEVELS, 3) BLANKETED WITH SHALLOW MARINE SEDIMENT BY THE PAMLICO SEA, AND 4) REEXPRESSED AS BROAD SHALLOW ESTUARIES BY COMPACTION OF BURIED ESTUARINE SEDIMENTARY FILL. THE OBTUSE SEAWARD PROTUBERANCES OF THE THREE COASTAL COMPARTMENTS OF THE EMBAYED SECTION WHICH APEX AT RODANTHE, NC; OCEAN. CITY, ND; AND BARNEGAT, NJ; RESULT FROM THE MELTWATER-CUT TRENCHES OF THE SUSQUEHANNA, DELAWARE AND HUDSON RIVERS, WHERE THEY EXTENDED ACROSS WHAT IS NOW THE CONTINENTAL SHELF. THE NORTHERN SEGMENT OF EACH OF THESE COASTAL COMPARTMENTS HAS A MAINLAND OCEANIC BEACH WHICH IS A RELICT OF THE WESTERN VALLEY WALL OF THE PRESENTLY SUBMERGED PART OF THE VALLEY. VALLEYS THAT WERE TRIBUTARY TO THESE SUBMERGED VALLEYS ARE ESTUARINE.

1971 WHITLEDGE, T.E.

WATER COLUMN MONITORING CRUISE 1--NEW YORK BIGHT 21-25 APRIL 1980 DATA REPORT [1980]

MESA, STONY BROOK, NY 145 PP

THIS REPORT CONTAINS DATA FROM THE FIRST WATER COLUMN MONITORING CRUISE OF 198 MEASURING CONCENTRATIONS OF NITROGEN, NUTRIENTS AND CHLOROPHYLL, PHYTOPLANKTON SPECIES ENUMERATION AND BOTTOM SAMPLES. TABLES OF NUTRIENT AND CHLOROPHYLL DATA, XBT PROFILES, FLUORESCENCE PROFILES. PHYTOPLANKTON TAXONOMY AND ABUNDANCE ARE INCLUDED.

1972 WHITNEY, D.E. G.M. WOODWELL: R.W. HOWARTH

NITROGEN FIXATION IN FLAX POND: A LONG ISLAND SALT MARSH [1975]

LIMNOL OCEANOGR 20(4):640-643

NITROGEN FIXATION WAS MEASURED BY THE ACETYLENE REDUCTION TECHNIQUE DURING SUMMER 1973. RATES OF FIXATION IN THE TOP 4 CM OF ALL SEDIMENTS RANGED FROM 12 TO ABOUT 800 MICROG N FIXED/M2/H. FIXATION DIMINISHED WITH DEPTH WITH NONE AT 20 CM OR BELOW. BLUE-GREEN ALGAL MATS FIXED AT RATES THAT RANGED FROM 260-8,900 MICROG N/M2/H. NO FIXATION WAS DETECTED IN THE TIDAL WATER COLUMN, BUT RATES OF 8.6-4,800 MICROG N/L/H OCCURRED IN SMALL STAGNANT POOLS ON THE MARSH SURFACE. RATES OF FIXATION APPEARED NOT TO VARY BETWEEN DAY AND NIGHT.

1973 WIDMER, K.

GEOLOGY AS A GUIDE TO REGIONAL ESTIMATES OF THE WATER RESOURCE £1968]

GEOL REP 8. NJ BUR GEOL AND TOPOGR, TRENTON, NJ 15 PP

RECENT STUDIES OF GROUNDWATER GEOLOGY PUBLISHED BY THE NJ GEOLOGICAL SURVEY WERE DESIGNED TO PROVIDE INFORMATION BY WHICH MUNICIPALITIES, COUNTIES, OR REGIONAL PLANNING GROUPS CAN ESTIMATE THE UPPER LIMITS OF GROUNDWATER RESOURCE IN THE AREA OF INTEREST. NEW JERSEY IS A WATER RESOURCE PENINSULA BETWEEN THE DELAWARE RIVER AND BAY ON THE WEST AND THE HUDSON RIVER AND ATLANTIC OCEAN ON THE EAST. WATER DEVELOPMENT PLANS FOR NJ ARE LIMITED TO ITS OWN AREA AND ITS SHARE OF ANY DELAWARE RIVER DEVELOPMENT. THE GEOLOGIC CONDITIONS WITHIN THE STATE ESTABLISH 5 GROUNDWATER PROVINCES WITH WIDELY DIVERGENT POTENTIALS AND PROBLEMS. 3/5 OF NJ IS A COASTAL PLAIN WHOSE LOW RELIEF SEVERELY LIMITS SURFACE WATER DEVELOPMENT WHILE GROUNDWATER IS ABUNDANT AND EASILY UTILIZED. ESTIMATES OF THE GROUNDWATER POTENTIAL SHOULD NOT ONLY BE BASED ON THE OUTCROPPING OF A FORMATION AND THE USUAL GEOLOGIC AND HYDROLOGIC FACTORS, BUT ALSO UPON THE AREA WITHIN WHICH WELLS MAY BE CONSTRUCTED TO UTILIZE THE VARIOUS SAND FORMATIONS. THE NORTHERN 2/5 OF THE STATE ARE UNDERLAIN BY ROCK FORMATIONS IN 3 GROUNDWATER PROVINCES WHERE FISSURE WATER CONDITIONS PREVAIL. THE GLACIATED PART OF NORTHEASTERN NJ FORMS A FIFTH GROUNDWATER PROVINCE. THE PRESENCE OR ABSENCE AND THE CHARACTER OF THE PLEISTOCENE COVER NOTICEABLY CHANGES THE GROUNDWATER POTENTIAL OF EVERY UNDERLYING FORMATION. CAREFUL EXAMINATION OF LARGE NUMBERS OF WELL RECORDS FROM ANY GEOLOGIC FORMATION INDICATES THE SAFE SUSTAINED YIELD. FROM THESE ESTIMATES OF SAFE SUSTAINED YIELD THE MINIMUM LOT SIZE FOR SUBURBAN DEVELOPMENT OR THE MAXIMUM POPULATION DENSITIES OR INDUSTRIAL WATER NEED PER SQ MI CAN BE DETERMINED FROM MANY AREAS OF THE STATE.

1974 WIEBE, P.H.; G.D. GRICE; E. HOAGLAND

ACID-IRON WASTE AS A FACTOR AFFECTING THE DISTRIBUTION AND ABUNDANCE OF ZOOPLANKTON IN THE NEW YORK BIGHT. 11. SPATIAL VARIATIONS IN THE FIELD AND IMPLICATIONS FOR MONITORING STUDIES [1972]

ESTUARINE COASTAL MAR SCI 1(1):51-64

A STUDY WAS UNDERTAKEN IN THE NEW YORK BIGHT IN AN EFFORT TO UNDERSTAND SMALL SCALE VARIATIONS OF SINGLE SPECIES POPULATIONS AND COASTAL ZOOPLANKTON COMMUNITIES AS THEY RELATE TO THE DISPOSAL OF ACID WASTES. TWO GRIDS OF B LOCATIONS EACH, ONE DAY AND ONE NIGHT STATION PER LOCATION, WERE PLACED SO THAT ONE COVERED THE ACID GROUNDS AND THE OTHER A SIMILAR AREA FUNCTIONING AS A CONTROL 9 KM TO THE NORTHEAST. 39 TAXONOMIC CATEGORIES OF ZOOPLANKTON WERE COUNTED FROM OBLIQUE NET TOW SAMPLES COLLECTED AT THE 32 STATIONS. BIOMASS WAS DETERMINED FROM LENGTH MEASUREMENTS OF INDIVIDUALS OF 24 TAXA. SPECIES COMPOSITION OF THE SAMPLES HAS TYPICAL OF NERITIC WATERS OF THE YORTH—EAST ATLANTIC COAST. THE SPATIAL DISTRIBUTION OF THE MAJORITY OF THE SPECIES WAS MARKEDLY AGGREGATED, BUT NO TREND WAS OBSERVED WHICH WOULD SUGGEST THAT THE ACID WASTES WERE AN IMPORTANT FACTOR IN SHAPING THE DISTRIBUTIONS. SPECIES DID NOT SHOW COLLECTIVE AGREEMENT AS TO THE AREA IN WHICH A HIGHER AVERAGE ABUNDANCE FOR EACH OCCURRED; AND NO SIGNIFICANT TRENDS IN PERCENT SIMILARITY OR DIVERSITY (SIMPSON'S D AND THE INFORMATION THEORY H1) WERE EVIDENT. ALTHOUGH VACCARO ET AL. (1972) FOUND ZOOPLANKTON BIOMASS TO BE APPROXIMATELY 30 % HIGHER FROM THE CONTROL AREA THAN FROM THE ACID GROUNDS, COMPARISON OF THE BIOMASS DIFFERENCE BETWEEN THE TWO AREAS ON A SPECIES BY SPECIES BASIS SHOWED THAT 95 % OF THE OVERALL DIFFERENCE WAS ACCOUNTED FOR BY ONLY THREE SPECIES, PSEUDOCALANUS SP. AND ITS COPEPODIDS, CALANUS FINMARCHICUS COPEPODIDS AND TEMORA LONGICORNIS. THE ACID—TRON WASTES APPEARED TO BE A MINOR FACTOR AFFECTING THE DISTRIBUTION AND ABUNDANCE

OF ZOOPLANKTON SPECIES DURING THE TIME OF THIS INVESTIGATION. THE LABORATORY DATA REPORTED IN THE PRECEDING PAPER (GRICE ET AL., 1773) SUPPORT THIS CONCLUSION. EMPIRICAL MEASURES OF THE VARIABILITY OF SINGLE SPECIES POPULATIONS AND COMMUNITY INDICES PRESENTED IN THE TEXT MAY BE USEFUL GUIDES FOR FUTURE SURVEYS OR MONITORING STUDIES.

1975 WIEMEYER, S.N.; D.M. SWINFORD; P.R. SPITZER

ORGANOCHLORINE RESIDUES IN NEW JERSEY OSPREY EGGS [1978]

BULL ENVIRON CONTAM TOXICOL 19:56-63

THIS PAPER PRESENTS DATA ON LEVELS OF DRGANOCHLORINE PESTICIDES AND POLYCHLORINATED BIPHENYLS (PCBS) IN THE EGGS OF NEW JERSEY OSPREYS, THE CHANGES IN EGGSHELL THICKNESS, AND RELATES THIS INFORMATION TO SIMILAR DATA FOR DECLINING AND STABLE OSPREY POPULATIONS IN OTHER AREAS.

1976 WIGLEY, R.L.; R.B. THEROUX; H.E. MURRAY

DEEP-SEA RED CRAB, GERYON QUINQUEDENS, SURVEY OFF NORTHEASTERN UNITED STATES [1975]

MAR FISH REV 37(8):1-21

A QUANTITATIVE SURVEY OF THE DEEP-SEA RED CRAB, GERYON QUINQUEDENS, WAS CONDUCTED IN CONTINENTAL SLOPE WATERS OFF THE NORTHEASTERN US IN JUNE-JULY 1974. RED CRABS WERE PRESENT IN ALL GEOGRAPHIC AREAS SAMPLED, BETWEEN OFFSHORE MARYLAND AND EASTERN GEORGES BANK. THEY WERE FOUND AT WATER DEPTHS RANGING FROM 274 TO 1,463 M (150-800 FM), BUT THERE WERE STRIKING DIFFERENCES IN SIZE AND NUMBER OF RED CRABS RELATED TO DEPTH. THE ESTIMATED NUMBER OF RED CRABS OF COMMERCIAL SIZE, 114 MM (4.5 IN) OR LARGER IN CARAPACE WIDTH, IN THE SURVEY AREA WAS 43 MILLION AND THE STANDING CROP BIOMASS 27 MILLION KG (59 MILLION POUNDS). BOTH NUMBER AND BIOMASS OF CRABS WERE GREATER AT INTERMEDIATE DEPTHS, 320-914 M (175-500 FM), THAN IN EITHER SHALLOWER OR DEEPER WATERS. SIZE OF CRABS RANGED FROM 8 TO 142 MM (0.3-5.6 IN). MALES WERE SUBSTANTIALLY LARGER (AVERAGE WEIGHT 413 G; 0.9 LB) THAN FEMALES (AVERAGE WEIGHT 244 G; 9.5 LB). LARGEST CRABS OCCURRED IN SHALLOW WATERS AND SMALLEST CRABS OCCURRED IN DEEPEST WATERS. AN UP-SLOPE MIGRATION IS DEDUCED FROM THIS PRONQUNCED SIZE-DEPTH RELATIONSHIP. OTHER TOPICS INCLUDED IN THIS REPORT ARE: NOTES ON RED CRAB BIOLOGY, ESTIMATES OF DENSITY OF THE AMERICAN LOBSTER, AND DESCRIPTIONS OF BOTTOM SEDIMENTS AND TOPOGRAPHY.

1977 WILBER, W.G.; J.V. HUNTER

AQUATIC TRANSPORT OF HEAVY METALS IN THE URBAN ENVIRONMENT [1977]

WATER RESOUR BULL 13 (4):721-734

A STUDY WAS CONDUCTED FOR 2 YRS ON A 4.6 MI STRETCH OF THE SADDLE RIVER NEAR LODI, NJ. THE PRIMARY OBJECTIVES OF THIS STUDY WERE TAO-FOLD; INITIALLY, THE AMOUNTS OF VARIOUS HEAVY METALS BEING CONTRIBUTED TO THE SADDLE RIVER BY STORMWATER RUNOFF, RAINFALL, AND INDIVIDUAL TRIBUTARIES, ETC., WERE INVESTIGATED TO BETTER DELINEATE THE DISTRIBUTION OF VARIOUS SOURCES OF HEAVY METALS TO THE AQUATIC ENVIRONMENT. SECONDLY, A SERTES OF BENTHAL DEPOSITS FROM THE SADDLE RIVER WERE ANALYZED TO DETERMINE THE FATE OF THESE METALS ONCE INTRODUCED INTO THE RECEIVING STREAM. A MASS BALANCE ANALYSIS OF HEAVY METALS IN THE SADDLE RIVER WAS PERFORMED TO DETERMINE THE AMOUNT OF THESE MATERIALS CONTRIBUTED FROM UNRECORDED SOURCES. THE RESULTS OF THIS STUDY SEEMED TO DEMONSTRATE THE IMPORTANCE OF CONSIDERING THE POTENTIAL SCOURING OF RIVER SEDIMENTS AS A SECONDARY SOURCE OF METALS IN DETERMINATIONS OF THIS TYPE. THE DISTRIBUTION OF METALS IN PRECIPITATION SAMPLES COLLECTED IN THIS STUDY WAS SIMILAR TO THAT IN RUNOFF, WITH PB AND 7N PREDOMINATING. RELATIVE CONCENTRATIONS OF METALS IN PRECIPITATION AS COMPARED TO THOSE OF STORMWATER WERE RELATIVELY INSIGNIFICANT. METAL CONCENTRATIONS OF BOTTOM SEDIMENTS WERE FOUND TO VARY CONSIDERABLY FROM SAMPLE TO SAMPLE.

1978 WILBER, W.G.; J.V. HUNTER

THE IMPACT OF URBANIZATION ON THE DISTRIBUTION OF HEAVY METALS IN BOTTOM SEDIMENTS OF THE SADDLE RIVER [1979]

WATER RESOUR BULL 15(3):790-800

A 3-YR STUDY WAS CONDUCTED ON A 4.6-MI STRETCH OF THE SADDLE RIVER NEAR LODI, NJ, TO PROVIDE BASELINE INFORMATION ON THE CONCENTRATION AND DISTRIBUTION OF HEAVY METALS IN BOTTOM SEDIMENTS OF THE SADDLE RIVER; TO QUALITATIVELY EVALUATE WHICH PARAMETERS AFFECT THIS DISTRIBUTION; AND TO DETERMINE THE EFFECT OF URBANIZATION ON THE CONCENTRATION AND DISTRIBUTION OF THESE MATERIALS. SIGNIFICANT ENRICHMENTS OF SEVERAL HEAVY METALS WERE OBSERVED IN BOTTOM SEDIMENTS OF THE LOWER SADDLE RIVER AS COMPARED TO THE UPPER SADDLE RIVER. ATTEMPTS TO CORRELATE METAL CONCENTRATIONS IN BOTTOM SEDIMENTS WITH COD WERE NOT SUCCESSFUL IN DEMONSTRATING A RELATIONSHIP BETWEEN THESE 2 FACTORS. METAL CONCENTRATIONS WERE STRONGLY DEPENDENT ON PARTICLE SIZE. IN GENERAL, METAL CONCENTRATIONS IN BOTTOM SEDIMENTS INCREASED WITH DECREASING PARTICLE DIAMETER. HOWEVER, METALS ENRICHMENT WAS GREATER IN THE LARGER SEDIMENT FRACTIONS STUDIED (>420 MICRONS) THAN THE SMALLER SEDIMENT FRACTIONS AS ONE PROCEEDED DOWNSTREAM THROUGH THE URBAN ARFA. SINCE THE LARGER SEDIMENT FRACTIONS ARE LEAST AFFECTED BY SCOUR AND TRANSPORT, THEY MAY BEST REFLECT THE EFFECT OF URBANIZATION ON THE DISTRIBUTION OF HEAVY METALS OVER AN EXTENDED PERIOD OF TIME AT A GIVEN LOCATION.

1979 WILBER, W.G.; J.V. HUNTER

DISTRIBUTION OF METALS IN STREET SWEEPINGS, STORMATER SOLIDS, AND URBAN AQUATIC SEDIMENTS [1979]

J WATER POLLUT CONT FED 51(12):2810-2822

THE CHEMICAL AVAILABILITY OF HEAVY METALS IN STREET SWEEPINGS, STORMWATER SOLIDS, AND SEDIMENTS FROM AN URBAN AREA WAS DETERMINED BASED ON THEIR SOLUBILITY IN SADDLE RIVER, NJ WATER, EXCHANGEABILITY WITH AMMONIUM ACETATE, AND ASSOCIATION WITH EASILY REDUCIBLE MANGANESE OXIDES, ORGANIC MATTER, AND MODERATELY REDUCIBLE IRON OXIDES. AN AVERAGE OF <1% OF THE TOTAL METALS IN THE SOLIDS STUDIED WERE SOLUBLE IN SADDLE RIVER WATER AT PH 7.4. THE CONCENTRATION OF METALS IN STREET SWEEPINGS AND STORMWATER SOLIDS EXCHANGEABLE WITH AMMONIUM ACETATE (PH 7.0) WAS SIGNIFICANT AND, IN THE CASE OF PB AND ZN, COMPRISED >20% OF THE TOTAL CONCENTRATION. AN AVERAGE OF 16.7% OF THE METALS IN THE SOLIDS STUDIED WERE BOUND TO ORGANIC MATTER, WITH CU BEING THE MOST TIGHTLY BOUND. WITH THE EXCEPTION OF MN AND CU IN SEDIMENTS OF THE SADDLE RIVER, THE FRACTION ASSOCIATED WITH MODERATELY REDUCIBLE IRON OXIDES ACCOUNTED FOR >50% OF THE TOTAL METAL CONCENTRATIONS.

1980 WILBER. W.G.; J.V. HUNTER

THE INFLUENCE OF URBANIZATION ON THE TRANSPORT OF HEAVY METALS IN NEW JERSEY STREAMS [1980]

OWRT, WASHINGTON, DC 128 PP NTIS PB-81-153 570

A STUDY OF THE TRANSPORT OF HEAVY METALS WAS PERFORMED ON A HIGHLY DEVELOPED 4.6 MI STRETCH OF THE SADDLE RIVER NEAR LODI, NJ. HEAVY METAL CONCENTRATIONS IN STORMWATER RUNOFF ENTERING THE STUDY AREA VARIED SIGNIFICANTLY THROUGHOUT RUNOFF EVENTS AND FROM STORM TO STORM. PB, ZN, AND CU CONTRIBUTED FROM 9.3 TO 93 % OF THE TOTAL METALS MEASURED. DISTRIBUTION OF METALS IN PRECIPITATION SAMPLES COLLECTED IN THE STUDY WAS SIMILAR TO THAT IN RUNOFF SAMPLES, WITH PB AND ZN PREDOMINATING, ALTHOUGH CONCENTRATIONS OF METALS IN RAINFALL WERE MUCH LOHER THAN THOSE IN RUNOFF. BASE FLOW METAL CONCENTRATIONS IN TRIBUTARIES TO THE SADDLE RIVER WERE VAPIABLE. WITH HIGHEST LEVELS OCCURRING DURING WET WEATHER.

1981 WILK, S.J.; M.J. SILVERMAN

FISH AND HYDROGRAPHIC COLLECTIONS MADE BY THE RESEARCH VESSELS DOLPHIN AND DELAWARE II DURING 1968-72 FROM NEW YORK TO FLORIDA [1976]

TECH REP. SANDY HOOK LAB, NMFS, HIGHLANDS, NJ 159 PP NTIS-PB-253 175

INFORMATION IS GIVEN IN TABULAR FORM FOR FISH AND HYDROGRAPHIC OBSERVATIONS COLLECTED DURING 18 CRUISES MADE BY THE RESEARCH VESSELS DOLPHIN AND DELAWARE II FROM NEW YORK TO FLORIDA DURING 1968-72. TABLES INCLUDE STATION LOCATIONS WITH RELATED HYDROGRAPHIC OBSERVATIONS AND NUMBER. WEIGHT. AND SIZE RANGE OF FISH SPECIES CAUGHT.

1982 WILK, S.J.

WEAKFISH--WIDE RANGING SPECIES [1976]

LEAFLET NO 19. ATLANTIC STATES MAR FISH COMM. WASHINGTON. DC 4 PP

THIS BRIEF DESCRIPTION OF WEAKFISH (CYNOSCION REGALIS) INCLUDES THE DISTRIBUTION ALONG ATLANTIC AND GULF COASTS, MIGRATION AND SPAWNING HABITS. GROWTH RATES. IT ALSO DESCRIBES SPORT AND COMMERCIAL FISHING, MANAGEMENT NEEDS AND CURRENT RESEARCH.

1983 WILK, S.J.

SUMMER BENTHIC FISH FAUNA OF SANDY HOOK BAY, NEW JERSEY [1976]

TECH REP SSRF-698. MACFC. NMFS. HIGHLANDS. NJ 20 PP

38 SPECIES FROM 25 FAMILIES WERE CAPTURED DURING AN OTTER TRAWL SURVEY IN JUL-OCT 1970. DISTRIBUTION, ABUNDANCE, LENGTH AND AGE COMPOSITION, AND ENVIRONMENTAL PREFERENCES WERE ANALYZED FOR THE MORE NUMEROUS SPECIES. WINTER FLOUNDER (PSEUDOPLEURONECTES AMERICANUS) STRIPED SEAROBIN (PRIONOTUS EVOLANS), WINDOWPANE (SCOPHTHALMUS AQUOSUS) AND NORTHERN SEAROBIN (P. CAROLINUS) ACCOUNTED FOR 68.3% BY NUMBER AND 66.4% BY WT OF THE TOTAL SURVEY CATCH. THE GREATER ABUNDANCE AND DIVERSITY OF SPECIES IN THE NORTHERN HALF OF THE SURVEY AREA WERE APPARENTLY RELATED TO THE DEEPER AND SLIGHTLY COLDER WATER AND THE PROXIMITY TO THE OCEAN. THE BAY APPEARS TO PROVIDE A SUMMER RESIDENCE FOR SEVERAL IMPORTANT RECREATIONAL AND COMMERCIAL SPECIES, PRIMARY RED HAKE (UROPHYCIS CHUSS), BLUEFISH (PONATOMUS SALATARIX), SCUP (STENOTOMUS CHRYSOPS), WEAKFISH (CYNOSCION REGALIS), BUTTERFISH (PEPRILUS TRIACANTHUS). SUMMER FLOUNDER (PARALICHTHYS DENTATUS). AND WINTER FLOUNDER (PSEUDOPLEURONECTES AMERICANUS).

1984 WILK, S.J.; W.W. MORSE; D.E. RALPH; T.R. AZAROVITZ

FISHES AND ASSOCIATED ENVIRONMENTAL DATA COLLECTED IN NEW YORK BIGHT, JUNE 1974-JUNE 1975 [1977]

NOAA/NMFS, SEATTLE, WA 56 PP

TABULATIONS OF FISHES AND ASSOCIATED ENVIRONMENTAL DBSERVATIONS ARE GIVEN FOR 700 TRAWL STATIONS MADE DURING 30 COLLECTING INTERVALS IN THE NEW YORK BIGHT FROM JUNE 1974 TO JUNE 1975. SUMMARY TABLES INCLUDED GIVE THE FOLLOWING INFORMATION: COLLECTING INTERVAL DATA (VESSEL, DATES, STATIONS SAMPLED, GEAR, AND AREA) STATION DATA (DATE, LOCATION, TIME OF DAY, TOTAL CATCH, AND ENVIRONMENTAL OBSERVATIONS) AND CATCH DATA FOR 127 SPECIES, REPRESENTING 67 FAMILIES (LOCATION, NUMBER, AND WEIGHT). THE 10 MOST FREQUENTLY COLLECTED SPECIES WERE: MERLUCCIUS BILINEARIS (46 STATIONS), SCOPHTHALMUS AQUOSUS (419), RAJA ERINACEA (411), UROPHYCIS CHUS (409), PSEUDOPLEURONECTES AMERICANUS (363), HIPPOGLOSSINA OBLONGA (325), LOPHIUS AMERICANUS (305), PEPRILUS TRIACANTHUS (284), PARALICHTHYS DENTATUS (272), AND SQUALUS ACANTHIAS (224).

1985 WILK, S.J.; W.W. MORSE; D.E. RALPH

LENGTH-WEIGHT RELATIONSHIPS OF FISHES COLLECTED IN THE NEW YORK BIGHT (1978)

BULL NJ ACAD SCI 23(2):58-64

AVERAGE LENGTH-WEIGHT RELATIONSHIPS ARE PRESENTED FOR 78 SPECIES OF FISHES COLLECTED DURING A TRAWL SURVEY IN THE NEW YORK BIGHT CONDUCTED FROM JUNE 1974 TO JUNE 1975. SIGNIFICANT DIFFERENCES IN LENGTH-WEIGHT RELATIONSHIPS WERE FOUND BETWEEN MALES AND FEMALES FOR 18 OF THE 27 SPECIES SO TESTED.

1986 WILK. S.J.

BIOLOGICAL AND FISHERIES DATA ON WEAKFISH. CYNOSCION REGALIS (BLOCH AND SCHNEIDER) [1979]

TECH REP 21. SANDY HOOK LAB. HIGHLANDS. NJ 49 PP

THESE BRIEF DESCRIPTIONS ON WEAKFISH INCLUDE TAXONOMY, DISTRIBUTION, REPRODUCTION, DEVELOPMENT, NUTRITION, BEHAVIOR, POPULATION DYNAMICS, FISHING, MANAGEMENT AND AQUACULTURE. STATE REGULATIONS SET LIMITS ON THE CAPTURE OF YEARLING FISH (9-12 INCHES) BUT THERE IS LITTLE OR NO ENFORCEMENT.

1987 WILK, S.J.; W.G. SMITH; D.E. RALPH; J.D. SIBUNKA

POPULATION STRUCTURE OF SUMMER FLOUNDER BETWEEN NEW YORK AND FLORIDA BASED ON LINEAR PISCRIMINANT ANALYSIS [1980]

TRANS AM FISH SOC 109(3):265-271

WE USED A STEPWISE LINEAR DISCRIMINANT ANALYSIS TO INVESTIGATE THE POPULATION STRUCTURE OF SUMMER FLOUNDER, PARALICHTHYS DENTATUS (LINNAEUS). ANALYSIS WAS BASED ON 18 MORPHOMETRIC AND MERISTIC VARIABLES TAKEN FROM 1,214 SPECIMENS COLLECTED IN COASTAL WATERS BETWEEN MONTAUK POINT, NY AND CAPE CANAVERAL, FL. TWO POPULATIONS WERE IDENTIFIED: ONE IN THE MIDDLE ATLANTIC BIGHT, OR BETWEEN NEW YORK AND CAPE HATTERAS, NC; THE OTHER IN THE SOUTH ATLANTIC BIGHT, OR BETWEEN CAPE HATTERAS AND FLORIDA. DISCRIMINANT ANALYSIS COEFFICIENTS, BASED ON FIVE MORPHOMETRIC VARIABLES TAKEN FROM SPECIMENS COLLECTED AT GEOGRAPHIC EXTREMES OF THE SURVEY AREA, PROVIDE A MATHEMATICAL MEANS FOR CLASSIFYING SUMMER FLOUNDER INTO EITHER THE NORTHERN OR SOUTHERN POPULATION WITH AN ACCURACY OF 93%.

1988 WILLARD, W.B.; R.B. BUSTAMANTE; B. CARNES; C.M. ROBSON; P.B. KAUSS; T.C. HUTCHINSON; M. GRIFFITHS; R.A. HAHN; A.M. OGUNTUASE; E.L. BOURODIMOS; S.B. NELSON; E.T. SMITH; R. BRASTER; P.R. SPENCER

ENVIRONMENTAL PROGRESS IN SCIENCE AND EDUCATION [1972]

PROC, 18TH ANN TECH MEETING, INST ENVIRON SCI, MAY 1-4 1972, NEW YORK, NY. INST ENVIRON SCI, MT PROSPECT, IL 591 PP

88 PAPERS WERE PRESENTED AT THE CONFERENCE COVERING SUCH BROAD ASPECTS OF ENVIRONMENTAL AND HUMAN ENGINEERING AS WATER AND AIR POLLUTION, VEHICLE SAFETY DESIGN, HEALTH AND NOISE POLLUTION. SPECIFIC TOPICS TREATED INCLUDE: WASTEWATER RECLAMATION, AIRCRAFT RESTRAINT SYSTEM, AIR POLLUTION CONTROL, NUCLEAR RADIATION, SHOCK AND VIBRATION, PESTICIDES, ETC. THE FOLLOWING IS A PARTIAL LIST OF TITLES AND AUTHORS: STUDY OF MUNICIPAL WASTEWATER RECLAMATION BY W.B. WILLARD AND R.B. BUSTAMANTE; CHARACTERIZATION AND LABORATORY SIMULATION-WATER POLLUTION ABATEMENT AND CONTROL BY B. CARNES AND C.M. ROBSON; FIELD AND LABORATORY STUDIES OF THE EFFECTS OF CRUDE OIL SPILLS ON PHYTOPLANKTON BY P.B. KAUSS, T.C. HUTCHINSON, AND M. GRIFFITHS; CORRELATION ANALYSIS OF WATER GUALITY OF THE PASSAIC RIVER IN NJ BY R.A. HAHN, A.M. OGUNTUASE AND E.L. BOURODIMOS; BASIC CONSIDERATIONS FOR MANAGING OCEAN DUMPING BY S.B. NELSON; AND MATHEMATICAL MODELS FOR REGIONAL ECONOMIC AND WASTE LOAD PROJECTION BY E.T. SMITH AND R.E. BRASTER.

1989 WILLIAMS, A.D.

EFFECTS OF FOREIGN FISHING ON THE COASTAL MARINE FISHERIES OF NEW YORK STATE [1975]

NSF, WASHINGTON, DC 150 PP NTIS-PB80-150840

THIS REPORT ATTEMPTS TO DETERMINE WHAT EFFECT FOREIGN FISHING HAS HAD ON THE COMMERCIAL FISHERIES OF NEW YORK STATE. INTEREST IN THIS SUBJECT IS BASED ON THE BELIEF THAT THE DECLINE IN MARINE FISHERIES LANDINGS IN NY AND OTHER STATES CAN BE ATTRIBUTED TO INTENSIVE FISHING BY FOREIGN FLEETS. INVESTIGATIONS HAVE SHOWN THAT FOREIGN FLEETS ARE ONLY PARTIALLY RESPONSIBLE FOR THE PRESENT SITUATION. THIS STUDY ANALYZES THE INTERACTIONS OF NY AND FOREIGN FLEETS BY INDIVIDUAL SPECIES. PARTICULAR ATTENTION IS PAID TO THOSE SPECIES TAKEN BY FOREIGN FLEETS WHICH ARE ALSO IMPORTANT TO STATE COMMERCIAL AND RECREATIONAL FISHERIES. PRESENTED ARE A HISTORY OF FOREIGN FISHING, DEVELOPMENT OF SOVIET AND OTHER FOREIGN FISHING FLEETS IN THE NORTHWEST ATLANTIC AND MIDDLE ATLANTIC BIGHT, AND SPECIAL DISCUSSIONS BASED ON TYPES OF FISH TAKEN OR NOT TAKEN BY FOREIGN OR DOMESTIC FLEETS. RECOMMENDATIONS INCLUDE ANTICIPATING THE EXTENSION OF THE US COASTAL JURISDICTION TO 200 MI, RESULTING IN AN ULTIMATE FEDERAL AUTHORITY. AND IMPLEMENTATION OF A REGIONAL FISHERIES MANAGEMENT PLAN.

1990 WILLIAMS, B.S.; T.M. HOGAN; Z. 70

THE BENTHIC ENVIRONMENT OF THE HUDSON RIVER IN THE VECINITY OF OSSINING, NEW YORK, DURING 1972 AND 1973 [1975]

NY FISH GAME J 22 (1):25-37

THE BENTHIC COMMUNITY OF THE HUDSON RIVER NEAR OSSINING, NY, WAS SAMPLED AT MONTHLY INTERVALS BETWEEN MAY 1972 AND APRIL 1973 WHEN THE RIVER WAS FREE OF ICE. PETERSEN GRAB SAMPLES (0.1 SQ M) WERE TAKEN AT SIX STATIONS AND WASHED THROUGH 250 MICRONS SCREENS. THE ORGANISMS COLLECTED WERE REMOVED FROM THE RESIDUAL DEBRIS, IDENTIFIED AND ENUMERATED. SEDIMENTS WERE ANALYZED TO DETERMINE THEIR PARTICLE-SIZE COMPOSITION AND OXIDATION-REDUCTION POTENTIAL. SIGNIFICANT DIFFERENCES WERE FOUND BETWEEN STATIONS IN THE DENSITY OF SPECIMENS FOR FOUR OF THE SPECIES TESTED, BUT NO EXPLANATION OF THESE VARIATIONS COULD BE GIVEN ON THE BASIS OF DATA COLLECTED. THE FAUNA AT OSSINING CONTAINS MANY SPECIES CLASSICALLY ASSOCIATED WITH UPPER-ESTUARINE CONDITIONS ALONG THE ATLANTIC COAST OF THE US AND HAS BEEN REASONABLY CONSTANT IN SPECIES COMPOSITION OVER A PERIOD OF 38 YEARS.

1991 WILLIAMS, D.J.; B.C. MOSER

AIRBORNE SEA SALT SEDIMENTATION MEASUREMENTS AND A METHOD OF REPRODUCING AMBIENT SEDIMENTATION RATES FOR THE STUDY OF ITS EFFECT ON VEGETATION [1976]

ATMOS ENVIRON 10(7):531-534

A METHOD TO REPRODUCE AMBIENT AIRBORNE SEA SALT SEDIMENTATION FOR THE STUDY OF ITS EFFECTS ON VEGETATION WAS DEVELOPED. THE METHOD CONSISTS OF A POLYETHYLENE SEDIMENTATION CHAMBER WITH A PVC CYLINDER IN THE CENTER THROUGH WHICH A SPINNING DISC HUMIDIFIER FORCES A CLOUD OF SEA SALT AEROSOL. THIS APPARATUS WAS CAPABLE OF REPRODUCING SEDIMENTATION RATES FROM 1.54 TO 27.00 MICROGRAM/M2/S WHICH CORRESPONDED TO MEASURED SEDIMENTATION RATES UP TO 600 M INLAND ALONG THE NEW JERSEY COAST.

1992 WILLIAMS, G.C.

VIABLE EMBRYOGENESIS OF THE WINTER FLOUNDER PSEUDOPLEURONECTES AMERICANUS FROM -1.8 C TO 15 C [1975]

MAR BIOL 3(1)3:71-74

PSEUDOPLEURONECTES AMERICANUS SPAWNS IN LATE WINTER NEAR NEW YORK, AND ITS EGGS MAY BE FOUND IN SHALLOW WATER UNDER ICE AT TEMPERATURES BELOW. THE USUAL FREEZING POINT OF VERTEBRATE TISSUES. SURVIVAL AND DURATION OF DEVELOPMENT AT A VARIETY OF CONSTANT TEMPERATURES WERE RECORDED FOR ARTIFICIALLY FERTILIZED EGGS IN THE LABORATORY. MANY EGGS HATCHED INTO NORMAL LARVAE AFTER 2 MONTHS AT THE LOWEST TEMPERATURE TRIED, -1.8 C. THE UPPER LETHAL TEMPERATURE WAS ABOUT 15 C. THERE WAS A LINEAR RELATION BETWEEN LOG TIME AND TEMPERATURE IN THE MINIMUM MORTALITY RANGE (D C TO 10 C), WITH A Q 10 OF ABOUT 4.8.

1993 WILLIAMS, J.J. . .

NATIONAL DAM SAFETY PROGRAM. MIDDLE BRANCH DAM (NYOOO34), HUDSON RIVER BASIN, MIDDLE BRANCH OF CROTON RIVER, PUTNAM COUNTY, NY. PHASE [INSPECTION REPORT [1978]

NTIS. SPRINGFIELD, VA 60 PP NTIS-AD-A073 169

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION ON THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. MIDDLE BRANCH DAM WAS JUDGED TO BE UNSAFE, NON-EMERGENCY DUE TO SEEPAGE AND SATURATED GROUND AT JUNCTION OF WEST ABUTMENT AND DOWNSTREAM SLOPE OF THE EARTH EMBANKMENT.

1994 WILLIAMS, J.J.

NATIONAL DAM SAFETY PROGRAM. DIVERTING RESERVOIR DAM (NYO0056), HUDSON RIVER BASIN, PUTNAM COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 71 PP NTIS-AD-AJ73 171

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. DIVERTING RESERVOIR DAM WAS JUDGED TO BE UNSAFE. NON-EMERGENCY. STRENGTHENING OF THE DAM WAS RECOMMENDED TO INCREASE THE FACTOR OF SAFETY DURING THE PROBABLE MAXIMUM FLOOD.

1995 WILLIAMS, J.J.

NATIONAL DAM SAFETY PROGRAM. CHADWICK LAKE DAM (NYOO509), HUDSON RIVER VALLEY, QUASSAICK CREEK, DRANGE COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 83 PP NTIS-AD-AQ63 861

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. CHADWICK LAKE DAM WAS JUDGED UNSAFE, NON-EMERGENCY DUE TO A SERIOUSLY INADEQUATE SPILLWAY.

1996 WILLIAMS, J.J.

NATIONAL DAM SAFETY PROGRAM. CARGILL RESERVOIR DAM (NYOUO86), HUDSON RIVER VALLEY, CARGILL BROOK, PUTNAM COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 66 PP NTIS-AD-AU68 487

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. CARGILL RESERVOIR DAM WAS JUDGED TO BE SAFE, ALTHOUGH FURTHER INVESTIGATION AND MAINTENANCE ACTIONS WERE RECOMMENDED.

1997 WILLIAMS, J.J.

NATIONAL DAM SAFETY PROGRAM. BOG BROOK DAM NUMBER 1 (NY 00068) AND DAM NUMBER 2 (NY 00069), HUDSON RIVER BASIN, TRIBUTARY TO EAST BRANCH CROTON RIVER, PUTNAM COUNTY, NY. PHASE I INSPECTION REPORT [1978]

NTIS, SPRINGFIELD, VA 75 PP NTIS-AD-AJ73 168

THIS REPORT PROVIDES INFORMATION AND ANALYSIS ON THE PHYSICAL CONDITION OF THE DAM AS OF THE REPORT DATE. INFORMATION AND ANALYSIS ARE BASED ON VISUAL INSPECTION OF THE DAM BY THE PERFORMING ORGANIZATION. BOG BROOK DAM NO. 1 AND NO. 2 WERE INSPECTED AND JUDGED TO BE UNSAFE, NON-EMERGENCY. DAM NO. 1 HAS SIGNIFICANT SEEPAGE AT JUNCTION OF THE NORTH ABUTMENT AND DOWNSTREAM FACE OF EMBANKMENT. DAM NO. 2 HAS GROWTH OF TREES AND BRUSH ON EMBANKMENT.

1998 WILLIAMS, R.G.; F.A. GODSHALL

SUMMARIZATION AND INTERPRETATION OF HISTORICAL PHYSICAL OCEANOGRAPHIC AND METEOROLOGICAL INFORMATION FOR THE MID-ATLANTIC REGION. FINAL REPORT TO THE BUREAU OF LAND MANAGEMENT, US DEPT OF INTERIOR [1980]

NOAA, BOULDER, CO 295 PP

THIS REPORT DESCRIBES THE RESULTS OF AN ENVIRONMENTAL STUDY OF THE MID-ATLANTIC REGION OF THE OUTER CONTINENTAL SHELF. THE MID-ATLANTIC REGION AS DEFINED FOR THIS STUDY IS THE AREA EXTENDING NORTHWARD FROM 38 DEG N TO 41 DEG N BETWEEN THE COAST AND THE 2,300 m isobath. The study consisted of three tasks: 1) to summarize historical meteorological and oceanographic data for the region; 2) to analyze the historical data summaries; 3) to draw conclusions from the analysis and to recommend design for future field programs to fill existing data gaps. The meteorological data used were obtained primarily from the national climatic center, asheville, nc. They include national weather service coastal station records and standard shipboard marine surface observations, supplemented by ocean weather station and meteorological buoy measurements. Most of the oceanographic data were obtained from the national oceanographic data center, washington, dc with complementary data sets provided by private institutions.

1999 WILLIAMS, S.C.

PLUTONIUM AND CESIUM RADIONUCLIDES IN THE HUDSON RIVER ESTUARY [1976]

NUCLEAR SCI ABS 33(3):576 ABS ONLY

WE HAVE OBTAINED A LARGE SET OF GRAVITY CORES FROM THE HUDSON ESTUARY THROUGH MUCH OF THE AMBIENT SALINITY RANGE. A NUMBER OF CORE SECTIONS HAVE BEEN ANALYZED FOR CS-137, CS-134, CO-60 AND K-40 BY DIRECT GAMMA COUNTING, AND FOR PU-239/240 BY ALPHA-SPECTROMETRY. THE DISTRIBUTION OF BOTH CS-137 AND PU-239/240 INDICATES RAPID ACCUMULATION IN MARGINAL CORE AREAS AND IN THE HARBOR REGION ADJACENT TO NEW YORK CITY. THE DISTRIBUTION OF BOTH CS-137 AND PU-239/240 IN THE SEDIMENTS IS QUITE SIMILAR IN SURFACE SEDIMENTS AND THE TRENDS WITH DEPTH IN CORES ARE ALSO SIMILAR. THE RATIO OF SEDIMENT PU-239/240 TO CS-137 THROUGHOUT THE SAMPLED SALINITY RANGE (0-20 0/00) APPROXIMATES THAT IN FALLOUT, EXCEPT NEAR THE NUCLEAR REACTOR AT INDIAN POINT WHERE RELEASES OF CS-137 RESULT IN A RATIO LOWER (0.004 TO 0.008) THAN TYPICAL OF FALLOUT (0.015). MEASUREMENT AMOUNTS OF REACTOR DERIVED CS-134, CO-60, AND MN-54 ARE FOUND IN NEARLY ALL OF THE SAMPLES CONTAINING APPRECIABLE CS-137. THESE SAMPLES WERE BETWEEN 15 KM UPSTREAM OF INDIAN POINT REACTOR SITE AND THE DOWNSTREAM EXTENT OF OUR SAMPLING, 70 KM SOUTH OF THE REACTOR.

2000 WILLIAMS, S.C.; H.J. SIMPSON; C.R. OLSEN; R.F. BOPP

SOURCES OF HEAVY METALS IN SEDIMENTS OF THE HUDSON RIVER ESTUARY [1978]

MAR CHEM 6(3):195-213

SEDIMENTS IN THE HUDSON ESTUARY CONTAIN IN. CU AND PB FROM METAL POLLUTANTS DISCHARGED TO THE HARBOR IN THE NYC AREA, FROM DISPERSED SOURCES OF CONTAMINATION INTRODUCED UPSTREAM, AND FROM NATURAL WEATHERING PROCESSES. THE MAGNITUDE OF THE CONTRIBUTION FROM EACH OF THESE THREE SOURCES TO PARTICULAR SITES CAN BE ESTIMATED ON THE BASIS OF TOTAL METAL ABUNDANCES, RELATIVE PROPORTIONS OF SEVERAL METALS, AND OTHER SEDIMENT PROPERTIES. THE PATTERN OF RECENT HEAVY METAL CONTAMINATION IN HUDSON SEDIMENTS CLOSELY FOLLOWS THE DISTRIBUTION IN SEDIMENTS OF CS-137 WHICH WAS DERIVED OVER THE PAGT TWO DECADES FROM GLOBAL FALLOUT AND LOCAL RELEASES FROM A COMMERCIAL NUCLEAR REACTOR. SEVERAL SIMPLE EMPIRICAL CORRECTIONS RELATED TO GRAIN SIZE

AND MINERALOGY VARIATIONS ARE SUGGESTED FOR COMPARING HEAVY-METAL CONTAMINATION LEVELS OF SANDY CONTINENTAL SHELF SEDIMENTS WITH FINE-GRAINED ESTUARINE AND COASTAL SEDIMENTS. FE HAS LITTLE VARIATION IN HUDSON SEDIMENTS WHILE MN IS GREATER IN SURFACE SEDIMENT OF SOME LOW-SALINITY AND FRESH-WATER AREAS THAN DEEPER IN THE SEDIMENTS, AND GENERALLY LESS IN THE HIGH-SALINITY AREA OF RAPID SEDIMENT DEPOSITION IN NEW YORK HARBOR. MUCH OF THE POLLUTANT CU ADDED TO THE HARBOR APPEARS TO BE RAPIDLY DEPOSITED IN THE SEDIMENTS.

2001 WILLIAMS, S.J.

THE GEOLOGIC FRAMEWORK OF INNER NEW YORK BIGHT -- ITS INFLUENCE ON POSITIONING OFFSHORE ENGINEERING STRUCTURES [1973]

GEOL SOC AM ABSTR PROG 5(2):239

MUCH INTEREST HAS BEEN EXPRESSED RECENTLY IN EVALUATING THE FEASIBILITY OF PLACING MAN-MADE ENGINEERING WORKS (E.G., AIRPORTS, DEEP DRAFT TERMINALS, NUCLEAR POWER PLANTS) ON THE INNER CONTINENTAL SHELF PROXIMAL TO NEW YORK MEGALOPOLIS. MAJOR IMPETUS FOR SUCH PROPOSALS IS THE LACK OF AVAILABLE SPACE IN THE HIGHLY URBANIZED AREA, COUPLED WITH ECONOMIC FACTORS AND INCREASING ENVIRONMENTAL CONCERNS. PRIOR TO MAKING FINAL SITE SELECTION AND COMMENCEMENT OF ENGINEERING DESIGN, A KNOWLEDGE OF THE SHALLOW SUBBOTTOM STRUCTURE AND STRATIGRAPHY, SURFICIAL SEDIMENT CHARACTER AND GEOLOGIC SHELF HISTORY IS NECESSARY. RESULTS OF AN ICONS PROGRAM REVEAL THIS PEGION STRADDLES TWO DISTINCT PHYSIOGRAPHIC PROVINCES WHICH ARE UNDERLAIN BY GENTLY SE-DIPPING COASTAL PLAIN STRATA WHICH HAVE BEEN DIFFERENTIALLY ERODED AND COVERED WITH VARIABLE THICKNESSES OF PLEISTOCENE-HOLOCENE STRATIFIED SAND AND GRAVEL. SHREWSBURY ROCKS EXTEND OFFSHORE FROM LONG BRANCH, NJ IN A NE DIRECTION AND FORM A SEA FLOOR CUESTA MARKING THE PHYSIOGRAPHIC BOUNDARY BETWEEN THE DEEPLY ERODED AND SUBSEQUENTLY FILLED SUBBOTTOM TO THE NORTH AND THE NEARLY OUTCROPPING TRUNCATED EDGES OF COASTAL PLAIN STRATA TO THE SOUTH. THE BURIED SUBMARINE HUDSON CHANNEL HAS BEEN TRACED ON GEOPHYSICAL RECORDS FROM THE NARROWS TO ITS SHELF HEAD (A NATURAL DEEP CHANNEL) SOUTH OF SANDY HOOK, NJ. OTHER BURIED CHANNELS WHICH DRAINED THE TERMINAL MORAINE TO THE NORTH ARE EVIDENT SOUTH OF ROCKAWAY BEACH. HOLOCENE TRANSGRESSION HAS SERVED TO REWORK EXISTING SEA FLOOR SEDIMENTS TO YIELD THE PRESENT DISTRIBUTION AND TO SUPPLY LITTORAL CURRENTS WITH MATERIAL FOR THE NORTHWARD GROWTH OF SANDY HOOK SPIT AND WESTWARD GROWTH OF ROCKAWAY BEACH.

2002 WILLIAMS, S.J.; D.B. DUANE

GEOMORPHOLOGY AND SEDIMENTS OF THE INNER NEW YORK BIGHT CONTINENTAL SHELF [1974]

CERC, FORT BELVOIR, VA 84PP NTIS-AD-785 577

APPROXIMATELY 455 MI OF CONTINUOUS SEISMIC REFLECTION PROFILES AND 61 VIBRATING CORES WERE OBTAINED FROM THE INNER NEW YORK BIGHT WHICH ENCOMPASSES ABOUT 250 SQ MI OF THE OFFSHORE FROM NORTHERN NJ AND WESTERN LONG ISLAND. THE MAJOR PHYSIOGRAPHIC FEATURES INCLUDE SANDY HOOK AND ROCKAJAY BEACH, BOTH PROGRADING BARRIER ISLANDS, SHREWSBURY ROCKS AND THE HUDSON (SUB-MARINE) CHANNEL. SHREWSBURY ROCKS MARK THE DEMARCATION BETWEEN TWO DISTINCT GEOMORPHIC PROVINCES. THE AREA NORTH OF SHREWSBURY ROCKS IS UNDERLAIN BY COASTAL PLAIN STRATA WHICH HAVE BEEN DEEPLY ERODED BY PLEISTOCENE GLACIAL PROCESSES AND COVERED BY SAND AND GRAVEL OUTWASH. SOUTH OF SHREWBURY ROCKS, COASTAL PLAIN STRATA HAVE BEEN EVENLY TRUNCATED AND COVERED BY A VENEER OF RESIDUAL MATERIAL. THREE PRIMARY TYPES OF BEDDING HAVE BEEN OBSERVED ON THE SEISMIC RECORDS. COASTAL PLAIN STRATA EXHIBIT A MONOCLINAL REGIONAL SOUTHEAST DIP; STEEPLY INCLINED CROSSBEDS ARE RESTRICTED TO AN ELONGATE BASIN EAST OF SANDY HOOK. CONSIDERED TO BE OF FLUVIAL ORIGINS. THE THIRD TYPE IS PLEISTOCENE-HOLOCENE STRATIFIED FLUVIAL SANDS AND GRAVELS WHICH ARE REGIONALLY DISCONTINUOUS AND EXHIBIT GENTLE SEAWARD DIP. CORES REVEAL THAT FINE TO MEDIUM SAND IS THE PREDOMINANT SEDIMENT TYPE ON THE INNER SHELF. ISOLATED PATCHES OF COARSE SAND ROUNDED SEA GRAVELS ARE PRESENT OFF LONG ISLAND WHERE FLUVIANT MATERIALS ARE EXPOSED. COURSE SEDIMENT OFF NJ IS JUDGED TO BE RESIDUAL FROM SEA FLOOR OUTCROPS OF COASTAL PLAIN STRATA. VERY FINE SAND. SILT AND MUDS COMPRISE THE SEA FLOOR AT THE HEAD OF THE HUDSON CHANNEL AND ALONG THE BODY. SAND SUITABLE FOR BEACH NOURISHMENT PROJECTS IS FOUND IN ABUNDANCE THROUGHOUT THE SHALLOW SHELF PARTS OF THE INNER NEW YORK BIGHT. SEA FLOOR TOPOGRAPHY IS FAIRLY FLAT AND SAND OCCURS AS BLANKET DEPOSITS. IT IS ESTIMATED THAT OVER 2 BILLION YDS3 OF CLEAN SAND IS AVAILABLE FOR RETRIEVAL BY PRESENT DREDGING TECHNIQUES.

2003 WILLIAMS, S.J.; S. SPIGEL .

SOCIO-ECONOMIC IMPACT OF ESTUARINE THERMAL POLLUTION [1974]

OWRT. WASHINGTON, DC 117 PP NTIS-PB-236 034

THE IMPACT OF THERMAL POLLUTION FROM A NUCLEAR POWER PLANT ON PEOPLE IS INDIRECT AND IS MEDIATED BY THE PERCEIVED ECONOMIC IMPACT AS WELL AS THE PERCEIVED ENVIRONMENTAL IMPACT. ATTITUDES TOWARD THE POWER PLANT ARE PRIMARILY A FUNCTION OF THE ECONOMIC IMPACT AND SECONDARILY A FUNCTION OF ENVIRONMENTAL ATTITUDES. RESIDENTS WHO FELT THEY DERIVED ECONOMIC ADVANTAGE FROM A POWER PLANT TENDED TO DENY ANY ADVERSE ENVIRONMENTAL IMPACT. WHILE STRONG FEELINGS TOWARD NATURE WERE ASSOCIATED WITH NEGATIVE ATTITUDES TOWARD CONSTRUCTION OF ANOTHER NUCLEAR PLANT, PARTICIPATION IN A PARTICULAR SPORT OR RECREATIONAL ACTIVITY PROVIDED NO BASIS FOR PREDICTION OF A FAVORABLE OR UNFAVORABLE ATTITUDE TO THE PLANT. FOR THE IMMEDIATE AREA AROUND THE BARNEGAT BAY ESTUARY, THE ECONOMIC ANALYSIS SHOWED A FAVORABLE RATIO OF BENEFITS. TO COSTS, HOWEVER, THERE WAS A POOR DISTRIBUTION OF IMPACTS, SO THAT SOME GROUPS INCURRED GREATER COSTS THAN BENEFITS. TECHNICAL ASSISTANCE TO LOCAL POLITICAL BODIES COULD LEAD TO AN EARLY IDENTIFICATION OF ECONOMIC DISBENEFITS TO LOCAL INTERESTS AND LEAD TO THE ESTABLISHMENT OF A MORE EQUAL DISTRIBUTION OF BENEFITS AND COSTS.

2004 WILLIAMS, S.J.

ANTHROPOGENIC FILLING OF THE HUDSON RIVER SHELF CHANNEL [1975]

GEOLOGY 10:597-600

PUBLIC CONCERN HAS RECENTLY BEEN EXPRESSED ABOUT POSSIBLE WIDESPREAD DEGRADATION OF THE OCEANS AS A RESULT OF DUMPING WASTE ON THE CONTINENTAL SHELVES. BUT BEFORE MAJOR AND COSTLY POLICY CHANGES ARE INITIATED, EXHAUSTIVE ENVIRONMENTAL MONITORING MUST BE CONDUCTED TO DETERMINE PRESENT GEOLOGIC, CHEMICAL, AND BIOLOGICAL CONDITIONS AT THE DISPOSAL SITES AND ENVIRONMENTAL CONDITIONS PRIOR TO DUMPING ACTIVITIES. WASTE MATERIAL HAS BEEN TRANSPORTED FROM NYC BY BARGE TO DESIGNATED DISPOSAL SITES, ABOUT 20 KM SEAWARD OF LOWER BAY, FOR AT LEAST 87 YRS. SIGNIFICANT FILLING OF THE SUBMERGED HUDSON RIVER (SHELF) CHANNEL HAS RESULTED. THE PHYSICAL NATURE AND COMPOSITION OF MATERIAL DUMPED IN DESIGNATED DISPOSAL SITES HAVE VARIED DURING URBANIZATION OF NEW YORK. SOME MATERIAL RESEMBLES INDIGENOUS SEAFLOOR SEDIMENT; OTHER WASTE IS APPARENTLY TOXIC TO MANY ORGANISMS. GROSS (1972) CORRECTLY STATED THAT SEDIMENTATION OF SOLID WASTE FROM NYC FAR EXCEEDS THE VOLUME OF NATURAL SEDIMENTATION ON THE INNER SHELF AND, THEREFORE, THAT SUCH WASTE DISPOSAL IS AN IMPORTANT GEOLOGIC PROCESS. THE TOPIC OF ANTHROPOGENIC ACCRETION IN THE HUDSON CHANNEL SHELF REGION IS PART OF A STUDY (WILLIAMS AND DUANE, 1974) MADE TO DETERMINE THE STRUCTURAL AND STRATIGRAPHIC CHARACTER OF THE NEW YORK BIGHT WITH EMPHASIS ON LOCATING POTENTIAL OFFSHORE SAND AND GRAVEL RESOURCES. DATA USED FOR THIS STUDY CONSIST OF 824 KM OF HIGH-RESOLUTION. CONTINUOUS SEISMIC-REFLECTION SPARKER PROFILES AND 61 VIBRATORY SEDIMENT CORES.

2005 WILLIAMS. S.J.

CONSTRUCTION IN THE COASTAL ZONE: A POTENTIAL USE OF WASTE MATERIALS [1975]

MAR GEOL 18(1):1-15

THE INNER NEW YORK BIGHT, AT THE HEAD OF THE HUDSON SHELF CHANNEL, HAS BEEN THE SITE FOR OCEAN DISPOSAL OF VARIOUS WASTE PRODUCTS SINCE AT LEAST 1888. NATURAL CHANNEL-LIKE BATHYMETRY EXPRESSED IN 1845 IS TODAY A SERIES OF HILLS RISING TO WITHIN 12 M (40 FT) OF THE WATER SURFACE SUPERIMPOSED UPON A BROAD LOBATE MOUND. THIS TOPOGRAPHIC INVERSION CREATED OVER THE PAST NINE DECADES IS ATTRIBUTABLE TO DISPOSAL OF MATERIALS (SOIL, SAND, AND STONE) OF VARYING COMPOSITION GENERATED DURING CONSTRUCTION IN THE NEW YORK METROPOLITAN AREA. DAIA INDICATE APPROXIMATELY 765 X 10EXP6 M3 (1 X 10EXP9 YD3) OF WASTE HAS BEEN DUMPED IN THAT REGION FROM 1887 TO 1934. ISOPACH MAPS, SEA-FLOOR PROFILES, SEISMIC RECORDS, AND VIBRATORY CORES SHOW MUCH OF THE FILL HAS REMAINED IN PLACE IN SPITE OF BOTTOM CURRENTS OF APPROXIMATELY 25 CM/SEC (0.5 KNOT) AND A WAVE CLIMATE OF H S = 0.76 M (2.5 FT.); T = 5-15 SEC. MAN-MADE ISLANDS PROPOSED FOR THE INNER CONTINENTAL SHELF FOR SITING POWER, PORT, OR RECREATIONAL FACILIJIES WILL USE LARGE VOLUMES OF 3TABLE MATERIAL FOR CORE FILL, WHICH COULD BE WASTE MATERIALS SUCH AS THOSE DESCRIBED.

EFFECTIVE REGIONAL COASTAL-ZONE PLANNING SHOULD RECOGNIZE USES FOR PAST AND FUTURE WASTE MATERIAL AS SUCH PRACTICES WOULD CONSERVE SAND AND GRAVEL RESOURCES FOR OTHER HIGH-VOLUME NEEDS (SHORELINE NOURISHMENT AND PROTECTION AND CONSTRUCTION AGGREGATE) AND ALLEVIATE SOME OF THE SITE-SELECTION PROBLEMS IN LAND DISPOSAL OF WASTE.

2006 WILLIAMS, S.J.

GEOMORPHOLOGY, SHALLOW SUBBOTTOM STRUCTURE, AND SEDIMENTS OF THE ATLANTIC INNER CONTINENTAL SHELF OFF LONG ISLAND, NEW YORK [1976]

TECH PAP 76-2. CERC. FORT BELVOIR, VA 125 PP NTIS-A025 467

ABOUT 300 SQ MI OF THE ATLANTIC INNER CONTINENTAL SHELF OFF LONG ISLAND, NY, WERE STUDIED BY CERC TO OBTAIN INFORMATION ON THE SEA FLJOR MORPHOLOGY, SEDIMENT DISTRIJUTION, AND SHALLOW SUBBOTTOM STRATIGRAPHY AND STRUCTURE. THIS INFORMATION IS USED FOR DELINEATING SAND AND GRAVEL RESOURCES AND DECIPHERING SHELF GEOLOGIC HISTORY. BASIC SURVEY DATA BY CERC CONSISTS OF 735 MI OF HIGH-RESOLUTION CONTINUOUS SEISMIC PROFILES AND 70 VIBRATORY CORES; ADDITIONAL DATA WERE AVAILABLE FROM 82 SEDIMENT CORES AND 225 MI OF SEISMIC RECORDS. DATA COVERAGE EXTENDS FROM ATLANTIC BEACH EAST TO MONTAUK AND IN GARDINERS BAY; AND FROM THE 225 MI OF SEISMIC RECORDS. DATA COVERAGE EXTENDS FROM ATLANTIC BEACH EAST TO MONTAUK AND IN GARDINERS BAY; AND FROM THE MAINLAND IN A NORTH-SOUTH ORIENTATION AND CONTINUE SOUTH ACROSS THE SHELF. THALWEG DEPTHS OF THE CHANNELS RANGE FROM -100 TO -550 FT MSL AND CHANNEL WIDTHS ARE OFTEN SEVERAL MILES. MANY CHANNELS ON THE NORTH SHORE OF LONG ISLAND UNDERLIE REENTRANT BAYS AND MOST WERE SIGNIFICANTLY ENLARGED BY PLEISTOCENE GLACIAL ICE AND LATER FILLED WITH SEDIMENT. MUCH OF THE SURFICIAL SAND ON THE INNER SHELF IS SUITABLE AS FILL FOR BEACH RESTORATION, EXCEPT FOR THAT OF THE SHOREFACE REGION (O TO -30 FT MSL) WHICH CONTAINS FINE SAND AND THAT OF MAJOR PARTS OF GARDINERS BAY WHICH CONTAIN ORGANIC-RICH SILT AND CLAY. TOPOGRAPHIC HIGHS ON THE SEA FLJOR IN THE FORM OF LINEAR SHOALS, AND BROAD DELTALIKE PLATFORMS IN EASTERN LONG ISLAND APPEAR MOST SUITABLE FOR SAND RECOVERY.

2007 WILLIAMS, S.J.

GEOLOGIC STRUCTURE STRATIGRAPHY AND SEDIMENT DISTRIBUTION ON THE INNER CONTINENTAL SHELF OFF LONG ISLAND. NEW YORK [1976]

GEOL SOC AM ABSTR PROG 8(2):301

ABOUT 1850 KM OF HIGH RESOLUTION SEISMIC REFLECTION PROFILES AND 152 VIBRATORY CORES FROM THE LONG ISLAND INNER CONTINENTAL SHELF (-10 TO -35 M WATER DEPTHS) WERE USED TO DESCRIBE THE SHALLOW STRATIGRAPHIC AND STRUCTURAL CHARACTER, SEDIMENT DISTRIBUTION AND RESOURCE POTENTIAL OF SAND AND GRAVEL. GRANITIC BEDROCK UNDERLIES THE SHELF AT DEPTHS VARYING FROM -610 M AT FIRE ISLAND TO -130 M AT ORIENT POINT. OVERYLING UPPER CRETACEOUS/TERTIARY CLASTIC SEDIMENTS DIP AND THICKEN TO THE SE. THESE STRATA UNDERLIE THE ENTIRE SHELF AND EXTEND NORTH UNDER LI. THEIR UPPER SURFACE EXHIBITS VARIABLE RELIEF DUE TO EROSION FOLLOWING TERTIARY UPLIF AND TO SUBSEQUENT PLEISTOCENE FLUVIAL AND GLACIAL PROCESSES. 15 BURIED ANCESTRAL RIVER CHANNELS (< 170 M DEEP, < S KM WIDE) WERE IDENTIFIED AND FOUND TO CROSS THE WESTERN AND EASTERN LI SHELF AND TO CONNECT WITH DEEP BURIED CHANNELS UNDERLYING LONG ISLAND. THICKNESS OF QUATERNARY SHELF SEDIMENT VARIES FROM 16 TO 60 M OFF EASTERN AND WESTERN LI, BUT OFF EAST-CENTRAL LI GLAUCONITE-RICH CJASTAL PLAIN STRATA CROP OUT AND QUATERNARY SEDIMENTS VENEER THE SEA FLOOR. PLEISTOCENE OUTWASH SEDIMENTS, CONSISTING OF BLAYKET-LIKE SAND AND GRAVEL LAYERS, ARE MOST ABUNDANT ON THE SHELF BUT 7 C-14 AGE DATES PROVE HOLOCENE SEDIMENTS OF BACK-BARRIER ISLAND ORIGIN ARE PRESENT IN LIMITED AREAS. FINE TO MEDIUM QUARTZ SAND IS THE PREDOMINANT SEDIMENT TYPE ON THE OPEN SHELF, WHILE MUDS CHARACTERIZE THE GARDINERS BAY REGION. SAND VOLUMES OF 6 BILLION M3 ARE POTENTIALLY AVAILABLE WITHIN 5 M OF THE SEA FLOOR TO SERVE ANTICIPATED NEEDS FOR BEACH HOURISHMENT AND CONSTRUCTION.

2008 WILLIAMS, S.J.

GEOLOGIC EFFECTS OF OCEAN DUMPING ON NEW YORK BIGHT INNER SHELF [1977]

AM ASSOC PET GEOL BULL 61(5):841

A DETAILED STUDY INTENDED TO INVENTORY MARINE SAND AND GRAVEL RESOURCES WAS CONDUCTED USING 824 KM OF HIGH-RESOLUTION SEISMIC-REFLECTION SUBBOTTOM PROFILES AND 61 VIBRATORY SEDIMENT CORES. ANALYSES OF THESE DATA TOGETHER WITH BATHYMETRIC MAPS FROM 1345 TO 1973 AND ANCILLARY DEEP-BORING LOGS HAVE REVEALED THAT MUCH OF THE NATURAL BATHYMETRY AND GEOLOGIC CONDITIONS ON THE INNER NEW YORK BIGHT SHELF HAVE BEEN MODIFIED SIGNIFICANTLY BY OCEAN DISPOSAL OF WASTE SOLIDS SINCE ABOUT 1888. INNERMOST PARTS OF THE HUDSON SHELF CHANNEL HAVE AGGRADED BY APPROXIMATELY 15 M AND BROAD HILLS MASK THE FORMER NATURAL—CHANNEL MORPHOLOGY. COMPOSITION OF THE WASTE SOLIDS VARIES CONSIDERABLY; MUCH OF THE EARLY MATERIAL WAS NATURAL SOIL AND EXCAVATION DEBRIS FROM CONSTRUCTION OF BUILDING, SUBWAY TUNNELS. AND NAVIGATION CHANNELS. MORE RECENT WASTES CONSIST PRIMARILY OF FINE-GRAINED DREDGE SPOIL, TREATED SEWAGE SLUDGE, AND INDUSTRIAL ACIDS. THE NATURAL GEOLOGIC STRATIGRAPHY SHOWS CONSIDERABLE VARIATION ALSO, MAKING THE DISTINCTION BETWEEN NATURAL AND ANTHROPOGENIC SEDIMENT DIFFICULT. UPPER CRETACEOUS CLASTIC STRATA CROP OUT AT SHREWSBURY ROCKS AND VARIABLE THICKNESSES OF STRATIFIED QUATERNARY SAND AND GRAVEL PREDOMINATE OVER THE SHELF.

CORES FROM THE HUDSON CHANNEL DEPRESSION CONTAIN FINE-GRAINED SEDIMENTS WHICH APPEAR TO BE NATURAL RELICT-ESTUARINE DEPOSITS. DEPOSITION RATES OF SOLID WASTES HAVE BEEN FAR GREATER THAN FOR NATURAL SEDIMENT; MOST OF THE WASTE SOLIDS HAVE REMAINED IN THE ORIGINAL DUMP SITES AND ARE MODIFIED ONLY SLIGHTLY BY PRESENT SHELF PROCESSES.

2009 WILLIAMS. S.J.

GEOLOGIC EFFECTS OF OCEAN DUMPING OF THE NEW YORK BIGHT INNER SHELF [1979]

PAGES 51-72 IN H.D. PALMER AND M.G. GROSS, EDS. OCEAN DUMPING AND MARINE POLLUTION--GEOLOGICAL ASPECTS OF WASTE DISPOSAL. DOWDEN. HUTCHINSON AND ROSS. INC.. STROUDSBURG. PA

HIGH RESOLUTION SEISMIC REFLECTION RECORDS, SEDIMENT CORES AND DEEP BORINGS, AND COMPARISON OF BATHYMETRIC CHARTS FROM 1845 TO 1973 PROVIDE EVIDENCE THAT OCEAN DUMPING OF ASSORTED SOLID MATERIALS HAS SIGNIFICANTLY FILLED PARTS OF THE HUDSON SHELF CHANNEL, AND IS AN IMPORTANT GEOLOGIC PROCESS. OCEAN DISPOSAL OF NATURAL AND MAN-MADE WASTES WAS OFFICIALLY INITIATED SEAWARD OF NEW YORK HARBOR IN 1888 TO RELIEVE HEALTH PROBLEMS, CONGESTION AND ACCELERATED SHOULING OF NAVIGATION CHANNELS LONG ASSOCIATED WITH UNCONTROLLED DISPOSAL WITHIN THE CITY AND ADJACENT WATERWAYS. RECORDS SHOW THAT ABOUT 850 MILLION M3 OF LIQUID AND SOLID WASTES HAVE BEEN DUMPED IN THE PAST 85 YRS. THIS HAS RESULTED IN CREATION OF SEVERAL MOUNDS WITH RELIEF OF ABOUT 15 M COVERING AN AREA OF ABOUT 9 THOUSAND HECTARES. THE CALCULATED VOLUME OF ANTHROPOGENIC SOLIDS FILLING THE HUDSON CHANNEL IS 318 MILLION M3. MUCH OF THE MATERIAL IS SIMILAR IN CHARACTER TO INDIGENOUS SEDIMENT. THE RESULTS INDICATE MOST MATERIALS EXCEPT SEWAGE SLUDGE ARE FAIRLY STABLE AND REMAIN IN THE ORIGINAL DUMPSITES. IN SPITE OF LARGE VOLUMES OF SLUDGE DUMPED AT THE SAME SITE SINCE 1924, NO EVIDENCE OF SIGNIFICANT ACCUMULATION ON THE SEAFLOOR HAS BEEN FOUND.

2010 WILLIAMS. S.P.

GUIDE TO THE RESEARCH COLLECTIONS OF THE NEW YORK PUBLIC LIBRARY [1975]

AMERICAN LIBRARY ASSOCIATION, CHICAGO, IL 336 PP

THE GUIDE WILL PROVIDE THE PROSPECTIVE USER OF THE RESEARCH LIBRARIES WITH AN IDEA OF WHAT HE MAY EXPECT TO FIND IN THE COLLECTIONS AND WHERE IT MAY BE FOUND. IT WILL GIVE THE RESEARCHER AND THE SCHOLAR AN AWARENESS OF THE INTERRELATIONSHIPS OF MATERIALS IN THE COLLECTIONS AND OF IMPORTANT RESOURCES THAT MIGHT OTHERWISE BE OVERLOOKED. IT WILL BE USEFUL TO NEW LIBRARY STAFF MEMBERS AS THEY SEEK TO FAMILIARIZE THEMSELVES WITH THE COLLECTIONS, ESPECIALLY IN SUBJECT FIELDS OUTSIDE THEIR AREAS OF ASSIGNMENT. IT WILL SERVE REFERENCE LIBRARIANS OUTSIDE THE LIBRARY, AND MANY OTHERS IN THE BOOK WORLD AS WELL, AS AN AID IN REFERRING SCHOLARS TO PARTICULAR MATERIALS. IT WILL PROVIDE A BASIS FOR PLANNING, WITH OTHER LIBRARIES, PROGRAMS OF COOPERATIVE COLLECTION DEVELOPMENT AND COOPERATIVE SERVICE.

2011 WILLIS, B.H.

HACKENSACK MEADOWLANDS AIR POLLUTION STUDY: EVALUATION AND RANKING OF LAND USE PLANS TLSP: FINAL REPORT [1973]

NJ DEP, TRENTON, NJ NP

THIS REPORT IS THE THIRD OF THE FIVE TASK REPORTS. ITS PURPOSE IS TO DESCRIBE THE PROCEDURES DEVELOPED FOR INCORPORATING AIR POLLUTION CONSIDERATIONS INTO THE FORMULATION, EVALUATION, AND RANKING OF ALTERNATIVE URBAN LAND USE AND TRANSPORTATION SYSTEM PLANS AND POLICIES, AND TO DESCRIBE THE RESULTS OF THE EVALUATION AND RANKING OF FOUR ALTERNATIVE LAND USE PLANS FOR 1990 FOR THE NJ HACKENSACK MEADOWLANDS.

2012 WILLIS, B.H.

HACKENSACK MEADOWLANDS AIR POLLUTION STUDY: SUMMARY REPORT--AIR POLLUTION IN THE URBAN AND TRANSPORATION PLANNING PROCESS TLSP: FINAL REPORT [1973]

NJ DEP. TRENTON, NJ NP

THIS REPORT IS THE SUMMARY REPORT. ITS PURPOSE IS TO PRESENT AN OVERVIEW OF THE PROCEDURES DEVELOPED FOR CONSIDERING AIR POLLUTION IN THE URBAN AND TRANSPORTATION PLANNING PROCESS. AND TO DESCRIBE THE RESULTS OF APPLYING THESE PROCEDURES TO THE EVALUATION AND RANKING OF THE FOUR ALTERNATIVE LAND USE PLANS FOR THE NJ HACKENSACK MEADOWLANDS.

2013 WILLIS. B.H.; J.R. MAHONEY; J.C. GOODRICH

HACKENSACK MEADOWLANDS AIR POLLUTION STUDY: AIR QUALITY IMPACT OF LAND USE PLANNING TLSP: FINAL REPORT [1973]

NJ DEP, TRENTON, NJ NP

THIS REPORT IS THE FOURTH OF THE FIVE TASK REPORTS. ITS PURPOSE IS TO DESCRIBE THE SET OF PLANNING GUIDELINES FOR CONSIDERING AIR POLLUTION IN THE URBAN AND TRANSPORTATION PLANNING PROCESS AS DERIVED FROM THE ANALYSIS OF LAND USE PLANS FOR THE NJ HACKENSACK MEADONLANDS.

2014 WILLSON, S. (EDITOR)

COASTLINES [1971]

NYSG. CORNELL UNIV. THACA, NY 8 PP

THIS di-monthly newsletter is aimed at commercial and sport fishermen, marina operators, coastal contractors, planning boards, environmental management councils, educators, recreationists, and seafood processors. It focuses on articles and information of use in solving coastal-related problems.

2015 WILSON, B.W.

HURRICANE TIDE PREDICTION FOR NEW YORK BAY [1961]

PAGES 548-584 IN PROC OF 7TH CONFERENCE ON COASTAL ENGINEERING, THE HAGUE, NETHERLANDS, AUGUST 1960, VOL 2. THE ENGINEERING FOUNDATION, NEW YORK, NY

THE SOLUTION IS PRESENTED OF THE PROBLEM OF CORRELATING, ON A TWO-DIMENSIONAL BASIS, THE METEOROLOGICAL PARAMETERS OF SEVERAL OFFSHORE STORMS WITH THE KNOWN SURGE INDUCED BY THEM IN NEW YORK BAY AND WITH THE APPLICATION OF THE RESULTS TO THE PREDICTION OF LIKELY EFFECTS OF A DESIGN HURRICANE OF GIVEN STRENGTH TRAVERSING A GIVEN PATH AT A GIVEN SPEED. A RECURSION FORMULA IS EVOLVED, USING THE METHOD OF FINITE DIFFERENCES FOR TIME INCREMENTS OF 1/3 HR, WHICH RELATES TIDE ELEVATION AT THE BAY-MOUTH

WITH TWO VALUES OF THE ELEVATION AT 1/3 AND 2/3 HR EARLIER AND WITH VALUES OF WIND-STRESS AND PRESSURE-GRADIENT DRIVING-FORCE COMPONENTS AT TIMES EARLIER BY THE PERIODS TAKEN FOR FREE LONG GRAVITY WAVES TO TRAVEL FROM THE STATIONS TO THE BAY-MOUTH. THE FORMULA INCLUDES A CUMULATIVE FORCING FUNCTION TERM WHICH ALLOWS FOR THE GEOSTROPHIC INFLUENCE OF THE EARTH'S ROTATION AND ALSO FOR AN "EDGE-WAVE" EFFECT NORTHWARD ALONG THE EASTERN SEABOARD. MOREOVER IT TAKES INTO ACCOUNT THE OBSERVED TENDENCIES OF HURRICANE STORM TIDES IN NEW YORK BAY TO DEVELOP RESURGENCES AT PERIODS OF 7 HRS WITH DECAY RATES OF 50% AMPLITUDE DECREASE PER CYCLE. THE COEFFICIENTS OF THE "FORCING FUNCTIONS", DETERMINED BY CORRELATION, TEND TO REPRESENT THE STORM SIZE AND SPEED AND ALSO THE DYNAMIC AUGMENTATION OF THE FORCED WAVE. PREDICTED MAXIMUM STORM TIDE HEIGHTS ARE IN FAIR AGREEMENT WITH CRUDE EMPIRICAL ESTIMATES BASED ON CENTRAL PRESSURES WITHIN THE HURRICANES.

2016 WILSON, E.E.

MARINERS WEATHER LOG [1976]

VOL 2C.NO 6. NOAA, WASHINGTON, DC 74 PP NTIS-PB-263 378

IN ADDITION TO ITS REGULAR SECTIONS THIS ISSUE CONTAINS THE FOLLOWING ARTICLES: A BRIEF HISTORY OF US COAST GUARD ICEBREAKERS; HIGH WINDS OVER THE CARIBBEAN SEA; TIDAL FLUCTUATIONS IN NEW YORK HARBOR DURING AN INTENSE STORM; AND GREAT LAKES ICE SEASON, 1975-76.

2017 WILSON, J.S.

MAINTENANCE DREDGING IN NEW YORK HARBOR--A DEVELOPING DILEMMA [1979]

AMERICAN SEAPORT 41(6):21-22

THE PORT OF NEW YORK AND NEW JERSEY MAY BE UNABLE TO MAINTAIN ADEQUATE DEPTH IN ITS ACCESS CHANNELS AND SHIP BERTHS FOR THE UNRESTRICTED MOVEMENTS OF OCEANGOING VESSELS BECAUSE OF US EPA REGULATIONS DESIGNED TO PREVENT OCEAN DUMPING OF ALL BUT TOTALLY UNCONTAMINATED MATERIALS. DREDGE MATERIAL IS MOSTLY FINE-GRAINED, COMPRESSIBLE MATERIAL FROM WATERSHEDS OF THE HUDSON RIVER USUALLY CONTAMINATED TO SOME DEGREE BY INDUSTRIAL AND SANITARY WASTES. WITH THE PUBLICATION OF NEW REGULATIONS DESIGNED TO PROTECT THE MARINE ENVIRONMENT, ALL DREDGING PERMITS INVOLVING OCEAN DUMPING WERE SUSPENDED UNTIL LABORATORY TESTING OF THE EFFECT OF DREDGED MATERIAL ON MARINE ORGANISMS AND CONSIDERATIONS FOR DISPOSAL ALTERNATIVES WERE EVALUATED BY THE ACE.

ADDITIONAL TESTS ON THE ACCUMULATION OF POLLUTANTS IN THE TISSUES OF MARINE ORGANISMS HAVE BEEN DEVELOPED. THE REGULATIONS REQUIRE ALTERNATE DISPOSAL FOR ALL CONTAMINATED MATERIAL UNLESS LABORATORY TESTING JUDGES IT ACCEPTABLE, HOWEVER, LAND DISPOSAL IS 5-7 TIMES MORE EXPENSIVE. MAY ALSO BE ENVIRONMENTALLY UNACCEPTABLE, AND IS NOT AVAILABLE IN THE AREA.

2018 WILSON, J.S.

BROOKLYN, NEW YORK: STUDIES FOR WHARF CONSTRUCTION, RED HOOK CONTAINER TERMINAL [1980]

AMERICAN SEAPORT 42 (3): 19-20

THE GENERAL LAYOUT OF THE NEW TERMINAL, SCHEDULED FOR COMPLETION IN FALL, 1980, AND THE CONDITIONS OF CONSTRUCTION ARE DESCRIBED. THE NEW WHARF RETAINS THE SOUTHERN FACE OF THE FILL IN ATLANTIC BASIN AND MODIFIES THE WESTERN SIDE OF PIER 1D TO ACCOMMODATE THE NEW LOADING FROM THE RAIL-MOUNTED CONTAINER CRANE AND MOBILE CONTAINER-HANDLING EQUIPMENT. DIAGRAMS OF THE GENERAL PLAN AND 2 CROSS SECTIONS ARE INCLUDED.

2019 WILSON. R.E.

GRAVITATIONAL CIRCULATION IN LONG ISLAND SOUND [1976]

ESTUARINE COASTAL MAR SCI 4(4):443-453

LONG ISLAND SOUND HAS SOME IMPORTANT ESTUARINE CHARACTERISTICS INCLUDING TIDAL MOTIONS TRANSMITTED FROM THE SEA AND A DILUTION OF SEAVATER WITH FRESHWATER. LONGITUDINAL SALINITY AND ASSOCIATED DENSITY GRADIENTS EXIST IN THE SOUND THROUGHOUT THE YEAR AND MAINTAIN NON-TIDAL, TWO-LAYER GRAVITATIONAL CIRCULATION. THE VOLUME TRANSPORT DUE TO THIS CIRCULATION WAS DETERMINED FROM SIMPLE DYNAMIC COMPUTATIONS BASED ON A FORCE BALANCE BETWEEN THE VERTICAL GRADIENT OF THE TURBULENT STRESS RESULTING FROM TIDAL MOTIONS AND THE PRESSURE GRADIENT RESULTING FROM HORIZONTAL DENSITY VARIATIONS. DATA FROM 4 HYDROGRAPHIC CRUISES CONDUCTED IN THE SOUND WERE USED TO EVALUATE THE HORIZONTAL PRESSURE GRADIENT. THE TRANSPORT COMPUTATIONS INDICATED THAT GRAVETATIONAL CIRCULATION WAS WELL DEVELOPED IN THE WESTERN AND CENTRAL SOUND AND WAS INTENSE IN THE EASTERN SOUND.

2020 WILSON, R.E.; A. OKUBO; W.E. ESAIAS

NOTE ON TIME-DEPENDENT SPECTRA FOR CHLOROPHYLL VARIANCE [1979]

J MAR RES 37(3):485-491

OBSERVATIONS OF THE DISTRIBUTION OF CHLOROPHYLL A ALONG TRANSECTS IN CENTRAL LONG ISLAND SOUND HAVE SHOWN THAT THE VARIANCE SPECTRUM FOR CHLOROPHYLL CAN CHANGE SIGNIFICANTLY WITH TIME. THE RELATIVE IMPORTANCE OF GROWTH AND SPECTRAL TRANSFER IN PRODUCING OBSERVED CHANGES IN THE CHLOROPHYLL SPECTRUM IS DISCUSSED IN LIGHT OF THE DYNAMIC EQUATION FOR THE SPECTRUM OF A PASSIVE CONTAMINANT.

2021 WILSON, R.E.; A. OKUPO

EFFECTS OF VERTICAL-HORIZONTAL COUPLING ON THE HORIZONTAL DISTRIBUTION OF CHLOROPHYLL A [1980]

J PLANKTON RES 2(1):33-42

THE DISTRIBUTIONS OF CHLOROPHYLL A AND SALINITY WERE SAMPLED ON SUCCESSIVE DAYS ALONG HORIZONTAL TRANSECTS IN CENTRAL LONG ISLAND SOUND. CHANGES IN THE VARIANCE SPECTRA OVER A PERIOD OF THREE DAYS FOLLOWING A WIND EVENT SUGGEST THAT THERE WAS AN INPUT OF VARIANCE AT WAVE NUMBERS OF THE ORDER 6 X 10EXP-3 RADS/M. THERE WAS AN ASSOCIATED INCREASE IN COHERENCY SQUARED BETWEEN CHLOROPHYLL AND SALINITY. DURING THIS PERIOD VERTICAL STRUCTURE IN BOTH CHLOROPHYLL AND SALINITY WAS REESTABLISHED. IT APPEARS THAT HORIZONTAL STRUCTURE WAS GENERATED BY THE INTERACTION OF THIS VERTICAL STRUCTURE WITH A VERTICAL SHEAR IN HORIZONTAL CURRENTS AT SEMIDIURNAL AND LOWER FREQUENCIES AND POSSIBLY BY SHORT PERIOD INTERNAL WAVES WITH FREQUENCIES NEAR THE VAISALA FREQUENCY.

2022 WILSON, W.H.; R.W. AUSTIN; R.C. SMITH

OPTICAL REMOTE SENSING OF CHLOROPHYLL IN OCEAN WATERS [1978]

PAGES 1103-1113 IN PROC. 12TH INTERNAT'L SYMP ON REMOTE SENSING OF ENVIRON. 20 APR 1978. MANILA. PHILLIPPINES

OCEAN COLOR REMOTE SENSING EXPERIMENTS WERE CONDUCTED IN COASTAL WATERS UTILIZING MEASUREMENTS FROM HIGH ALTITUDE AIRCRAFT COORDINATED WITH SUPPORTING MEASUREMENTS FROM SURFACE VESSELS. THE RESULTS OF THESE EXPERIMENTS WERE USED TO STUDY THE SIGNIFICANCE OF THE VARIOUS FACTORS CONTRIBUTING TO THE APPARENT SIGNALS AVAILABLE TO THE REMOTE SENSOR, TO STUDY METHODS FOR ELIMINATING THE MASKING EFFECTS OF SURFACE GLITTER AND THE ATMOSPHERE, AND TO DEVELOP EFFECTIVE METHODS FOR EQUATING THE REMOTELY SENSED SIGNAL WITH CHLOROPHYLL CONCENTRATIONS IN THE WATER. THE AIRBORNE SENSOR WAS THE OCEAN COLOR SCANNER DEVELOPED AT NASA/GODDARD SPACE FLIGHT CENTER. IT MAPS THE APPARENT RADIANCE OF THE OCEAN SURFACE BELOW THE FLIGHT TRACK IN 10 NARROW SPECTRAL BANDS. MEASUREMENTS FROM THE SURFACE VESSEL INCLUDED CHLOROPHYLL CONCENTRATION AND THE ATTENUATION PROPERTIES OF THE WATER. RELATIONSHIPS WERE DEVELOPED BETWEEN WATER REFLECTANCE AND CHLOROPHYLL CONCENTRATION WHICH CAN BE USED FOR PREDICTING SURFACE CHLOROPHYLL CONCENTRATION REMOTELY. THESE RELATIONS HAVE BEEN USED TO INVESTIGATE THE SURFACE CHLOROPHYLL CONCENTRATION

IN THE NEW YORK BIGHT AREA.

2023 WILTSEE, K.W., JR.; W.L. FRECH; D.B. RAMSAY

AIR QUALITY MAINTENANCE ANALYSIS FOR NEW JERSEY-NEW YORK AND MIQ-HUDSON AGMA [1979]

US EPA, NEW YORK, NY 409 PP

AN AIR QUALITY MAINTENANCE ANALYSIS OF SO2 AND TSP CONCENTRATION WAS CONDUCTED FOR THE NJ-NY AND MIQ-HUDSON AGMA'S. THE YEAR 1975 WAS USED AS THE BASE AND PROJECTIONS WERE MADE TO 1980, 1985, AND 2000. AN EMISSIONS INVENTORY CREATED UNDER A PREVIOUS CONTRACT WAS REVIEWED AND UPDATED USING BEST AVAILABLE DATA. IMPROVEMENTS WERE MADE IN THE POINT SOURCE INVENTORY, COUNTY LEVEL AREA SOURCE INVENTORIES, AND SUBCOUNTY ALLOCATION PROCEDURES. AN IMPROVED VERSION OF THE AGMA MODEL WAS VALIDATED AND THEN USED TO PREDICT ANNUAL REGIONAL AIR QUALITY LEVELS FOR EACH YEAR. THE RESULTS INDICATED THAT ANNUAL PRIMARY SO2 AND TSP STANDARDS COULD BE EXCEEDED IN THE SOUTH BRONX BY 2000. TSP LEVELS THROUGHOUT MUCH OF NORTHEASTERN NEW JERSEY AND NYC EXCEED THE SECONDARY TSP ANNUAL GUIDELINES.

2024 WINDOM, H.; F. TAYLOR; R. STICKNEY

MERCURY IN NORTH AMERICAN PLANKTON [1]73]

J CONSEIL 35(1):18-21

CONCENTRATIONS OF HG IN NORTH ATLANTIC PLANKTON (QN_A DRY WEIGHT BASIS) VARY FROM LESS THAN 0.2 TO ABOUT 0.4 PPM IN UNPOLLUTED AREAS TO AS HIGH 5.3 PPM IN POLLUTED AREAS NEAR SHORE. NO CORRELATION IN HG CONTENT WITH SPECIES COMPOSITION OF THE PLANKTON SAMPLES WAS OBSERVED. VARIATIONS IN CONCENTRATION APPEAR TO BE A FUNCTION OF DISTANCE FROM COASTAL POLLUTION SOURCES.

2025 WISE, M.W.

THE FISHERIES AND FISHERY RESOURCES OF LONG ISLAND SOUND [1975]

M.S. THESIS. SUNY, STONY BROOK, NY 122 PP

THE IMPORTANT FISHERIES AND FISHERY RESOURCES OF LONG ISLAND SOUND ARE REVIEWED, INCLUDING THE HISTORY OF THE FISHERIES, BIOLOGY OF IMPORTANT SPECIES, FACTORS AFFECTING ABUNDANCE OF FISHERY RESOURCES AND MANAGEMENT NEEDS FOR THE IMPORTANT COMMERCIAL AND RECREATIONAL SPECIES. COMMERCIAL LANDINGS DATA ARE OF QUESTIONABLE ACCURACY. MANY SPECIES IN THE SOUND SUPPORT RECREATIONAL FISHERIES FOR WHICH CATCH/EFFORT DATA ARE NOT AVAILABLE. BEFORE SUCCESSFUL MANAGEMENT OF THE FISHERY RESOURCES OF THE SOUND WILL BE POSSIBLE, BASIC BIOLOGICAL DATA ON THE STOCKS WILL BE NEEDED, AS WELL AS IMPROVED CATCH/EFFORT DATA FOR COMMERCIAL AND RECREATIONAL FISHERIES. MANAGEMENT OF ENDEMIC RESOURCES, PARTICULARLY HARD CLAM, WILL BE MORE FEASIBLE THAN MANAGEMENT OF MIGRATORY FINFISH STOCKS.

2026 WOGMAN, N.A.: K. KNIELSON; B.E. VAUGHAN

IN SITU POLLUTANT STUDY OF THE NEW YORK BIGHT [1977]

PAGES 726-729 IN PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1976 TO THE ERDA ASSISTANT ADMINISTRATOR FOR ENVIRONMENT AND SAFETY. PART 2: ECOLOGICAL SCIENCES. BATTELLE PACIFIC NORTHWEST LABS, RICHLAND, WA

THIS PROGRAM IS FOR FEASIBILITY EVALUATION, DEVELOPMENT, AND APPLICATION DEMONSTRATION OF INSTRUMENTAL TECHNOLOGY FOR THE IN SITU ANALYSIS OF THE WIDE SPECTRUM OF INORGANIC, ORGANIC, AND RADIONUCLIDE SPECIES IN OCEANS AND FRESHWATER SEDIMENTS. SAMPLING

AND ANALYTICAL METHODS FOR SEAWATER AND SEDIMENTS USING X-RAY FLUORESCENCE SPECTRA ARE DESCRIBED.

2027 WOJNAROWSKI, M.E.; S.G. STIANSEN; N.E. REDDY

STRUCTURAL INTEGRITY EVALUATION OF A FIXED PLATFORM USING VIBRATION CRITERIA [1978]

PAGES 247-256 IN PROC. 9TH ANN OFFSHORE TECHNOLOGY CONFERENCE. 2 MAY 1977, HOUSTON, TX

A RATIONAL EVALUATION OF THE STRUCTURAL INTEGRITY OF AN OFFSHORE STRUCTURE BASED ON VIBRATION CALCULATIONS AND ON-BOARD VIBRATION MEASUREMENTS IS PERFORMED FOR THE USCG AMBROSE TOWER, A FOUR-LEGGED FIXED PLATFORM AT THE ENTRANCE TO NEW YORK HARBOR. A MATHEMATICAL MODEL OF THE STRUCTURE IS ANALYZED BY THE SAP IV COMPUTER PROGRAM, TAKING INTO CONSIDERATION THE EFFECTS OF MASS, ENTRAINED WATER, SOIL SUPPORT CONDITIONS, EQUIPMENT, ETC. THE VARIOUS PARAMETERS AFFECTING THE LOWER-MODE VIBRATION CHARACTERISTICS OF THE STRUCTURE ARE CONSIDERED SEPARATELY AND THEIR QUANTITATIVE EFFECT ON THE NATURAL FREQUENCIES IS EVALUATED. THE THEORETICAL ANALYSIS PROVIDES A CONVENIENT WAY TO INCORPORATE CHANGES OF STRUCTURAL INTEGRITY EVALUATION BY MEANS OF VIBRATION CHARACTERISTICS, APPLICABLE TO MANY TYPES OF OFFSHORE STRUCTURES, CAN REDUCE COSTLY, INCONVENIENT INSPECTIONS AND ELIMINATE SOURCES OF UNEXPECTED CATASTROPHIC FAILURE THROUGH EARLY DAMAGE DETECTION AND REPAIR.

2028 WONG . K.C.; R.E. WILSON

AN ASSESSMENT OF THE EFFECTS OF BATHYMETRIC CHANGES ASSOCIATED WITH SAND AND GRAVEL MINING ON TIDAL CIRCULATION IN THE LOWER BAY OF NEW YORK HARBOR [1979]

SPEC REP 18. MSRC, SUNY, STONY BROOK, NY 28 PP

PRESENT SAND AND GRAVEL MINING OPERATIONS WITHIN THE LOWER BAY OF NEW YORK HARBOR ARE RESTRICTED TO THE EAST BANK OF AMBROSE CHANNEL AND TO THE VICINITY OF CHAPEL HILL NORTH CHANNEL BECAUSE OF THE CONCERN THAT MINING IN OTHER AREAS MIGHT ADVERSELY AFFECT WATER QUALITY AND SHORE EROSION. AS PART OF AN EVALUATION OF ENVIRONMENTAL EFFECTS ASSOCIATED WITH EXPANDED SAND AND GRAVEL MINING WERE SIMULATED NUMERICALLY TIDAL CIRCULATION PATTERNS AND TIDAL ELEVATIONS IN LOWER BAY FOR A NUMER OF ALTERED BATHYMETRIES CORRESPONDING TO HYPOTHETICAL MINING OPERATIONS. RESULTS SUGGEST THAT TIDAL CURRENTS WILL DECELERATE OVER THE MINED REGION AND ACCELERATE OUTSIDE OF THEM, AND THAT THE TIDAL STREAM WILL BE DEFLECTED TOWARDS THE REGION. IT IS ALSO CLEAR THAT THE MINING NEAR THE MOUTH OF THE BAY COULD INCREASE TIDAL RANGE ALONG STATEN ISLAND SUBSTANTIALLY.

2029 WOODWELL, G.M.; R.A. HOUGHTON; N.R. TEMPEL

ATMOSPHERIC CO2 AT BROOKHAVEN, LONG ISLAND, NEW YORK: PATTERNS OF VARIATION TO 125 METERS [1973]

J GEOPHYS RES 78(6):932-940

INTERMITTENT OBSERVATIONS OF CO2 CONCENTRATIONS OVER 6 YRS AT HEIGHTS UP TO 125 M SHOW THAT THE CO2 CONTENT OF AIR IS EXTREMELY VARIABLE BUT THAT DIURNAL, SEASONAL, AND ANNUAL PATTERNS ARE CONSPICUOUS. THE USUAL DIURNAL PATTERN SHOWS LARGEST VARIATION CLOSE TO THE GROUND. HIGHEST CONCENTRATIONS OCCUR DURING NOCTURNAL TEMPERATURE INVERSIONS. AS MIGHT BE EXPECTED ON LONG ISLAND, WESTERLY WINDS TEND TO HAVE HIGHER CO2 CONTENTS THAN EASTERLY WINDS. THE NORMAL SEASONAL FLUCTUATION IS FROM A HIGH IN DEC AND JAN TO A LOW IN SEPT. THE DIFFERENCE IS ABOUT 19 PPM. THERE IS A YEAR-TO-YEAR INCREASE IN CO2 CONTENT OF AIR THAT AVERAGED 1.2 PPM/YR OVER THE 6-YEAR SPAN OF THE STUDY. ALTHOUGH THE VARIANCE OF CO2 MEASUREMENTS IS HIGH WITHIN THE INDUSTRIALIZED AREA OF EASTERN NORTH AMERICA, THERE IS A REASONABLE POSSIBILITY OF EXAMINING TRENDS IN CO2 CONTENT OF AIR BY SUFFICIENTLY INTENSIVE MEASUREMENTS.

2030 WOODWELL, G.M.; D.E. WHITNEY; C.A.S. HALL; R.A. HOUGHTON

THE FLAX POND ECOSYSTEM STUDY: EXCHANGES OF CARBON IN WATER BETWEEN A SALT MARSH AND LONG ISLAND SOUND [1977]

LIMNOL OCEANOGR 22(5):833-838

FLAX POND, A TIDAL MARSH ON THE NORTH SHORE OF LONG ISLAND, NY, WAS USED TO EXAMINE THE EXCHANGES OF CARBON IN ITS VARIOUS FORMS BETWEEN A SALT MARSH AND THE COASTAL WATERS. THE MARSH REMOVED FINE PARTICULATE CARBON FROM THE TIDAL WATER THROUGHOUT THE YEAR; IT TENDED TO BE A SMALL SOURCE OF C AS TOTAL CO2 AND DISSOLVED ORGANIC CARBON DURING SUMMER, AND A SINK FOR BOTH FORMS IN WINTER. THE NET FLUX OF TOTAL CARBON OVER A YEAR, MEASURED AS TOTAL CO2 AND AS PARTICULATE AND DISSOLVED ORGANIC C. WAS A SMALL INPUT INTO THE MARSH, ESTIMATED AS ABOUT 51 G C/M2. THE DATA WERE CONSISTENT WITH OTHERS SHOWING THE MARSH TO BE A NET CONSUMER OF CHLOROPHYLL THROUGHOUT THE YEAR AND A STRONGLY HETEROTROPHIC SYSTEM IN SUMMER AND DO NOT SUPPORT THE CONVENTIONAL VIEW OF MARSHES AS NET SOURCES OF FIXED CARBON TO COASTAL WATERS.

2031 WOODWELL, G.M.; D.E. WHITNEY

EXCHANGES OF PHOSPHORUS BETWEEN A SALT MARSH AND THE COASTAL WATERS OF LONG ISLAND SOUND [1977]

MAR BIOL 41(1):1-6

THE EXCHANGES OF PHOSPHORUS BETWEEN FLAX POND, A TIDAL SPARTINA ALTERNIFLORA MARSH ON THE NORTH SHORE OF LONG ISLAND AND LONG ISLAND SOUND WERE MEASURED OVER 18 MG. PHOSPHORUS EXPORTED FROM THE MARSH FROM MAY THROUGH DEC AND IMPORTED DURING THE REMAINDER OF THE YEAR. ORGANIC PHOSPHORUS APPEARS TO BE ACCUMULATED IN ALL SEASONS, BUT THE YEARLY PHOSPHORUS BUDGET OF THE MARSH IS APPROXIMATELY BALANCED DESPITE THE ACCUMULATION OF ABOUT 6 MM OF SEDIMENT ANNUALLY.

2032 WOODWELL, G.M.; C.A.S. HALL; D.E. WHITNEY; R.A. HOUGHTON

THE FLAX POND ECOSYSTEM STUDY: EXCHANGES OF INORGANIC NITROGEN BETWEEN AN ESTUARINE MARSH AND LONG ISLAND SOUND [1979]

ECOLOGY 60(4):695-702

THE CONCENTRATIONS OF INORGANIC NITROGEN IONS WERE MEASURED IN THE TIDAL WATER FLUSHING FLAX POND, AN ESTUARINE MARSH ON THE NORTH SHORE OF LONG ISLAND. THE BASIC SAMPLING UNIT WAS ONE TIDAL CYCLE DURING WHICH 8 SUBSAMPLES WERE TAKEN, 4 ON THE FLOOD AND 4 ON THE EBB. THE SAMPLING WAS APPROXIMATELY WEEKLY DURING 20 MO. CONCENTRATIONS OF THE THREE FORMS OF NITROGEN (NITRATE, NITRITE, AND AMMONIUM) VARIED SEASONALLY AND WITH THE PERIODIC OCCURRENCE OF ALGAL BLOOMS. CONCENTRATIONS WERE HIGHEST IN WINTER AND LOWEST IN SPRING AND EARLY SUMMER, BUT DETAILS OF THE PATTERNS OF ABUNDANCE DIFFERED AMONG THE IONS. THERE WAS A NET DISCHARGE OF NITROGEN IN THE AMMONIUM FORM FROM FLAX POND DURING SUMMER AND FALL AND A NET INPUT FROM THE SOUND IN WINTER AND SPRING. THE NET EXCHANGES DURING 1 YR WERE ZERO FOR NITRITE, AN INFLUX OF NITRATE OF ABOUT 1 G N/M2 TO THE MARSH, AND A RELEASE OF ABOUT 2 G AMMONIUM-N/M2 INTO THE SOUND. THE NET TOTAL EXCHANGE WAS A RELEASE INTO LONG ISLAND SOUND OF APPROXIMATELY 1 G N/M2 OF MARSH, AN AMOUNT NOT STATISTICALLY DIFFERENT FROM ZERO. CRUDE ESTIMATIONS OF THE TOTAL INORGANIC M-BUDGET OF LONG ISLAND SOUND SUGGEST THAT ESTUARIES, PRECIPITATION, AND RIVERS EACH CONTRIBUTED APPROXIMATELY EQUAL INPUTS IN EARLIER TIMES.

2033 WRENN, M.E.; J.W. LENTSCH; M. EISENBUD; G.J. LAUER; G.P. HOWELLS

RADIOCESIUM DISTRIBUTION IN WATER, SEDIMENT, AND BIOTA IN THE HUDSON RIVER ESTUARY FROM 1964 THROUGH 1970 [1971]

PAGES 334-343 IN 3RD NATIONAL SYMP ON RADIOECOLOGY. 10-12 MAY 1971, OAK RIDGE, TN. NTIS-CONF-710 501

AN INCREASE IN CS-137 IN RIVER WATER JAS SEEN IN A LIMITED SECTION OF THE HUDSON RIVER FROM THE INDIAN POINT NUCLEAR POWER PLANT ALTHOUGH FALLOUT IS THE MAJOR SOURCE. THE CONCENTRATIONS IN SEDIMENTS, AQUATIC PLANTS, AND FISH WERE ROUGHLY IN THE RATIOS OF 30:1:1. DATA ON FISH WERE MODELED SINCE FISH CONSUMPTION IS THE MAJOR ROUTE OF EXPOSURE TO MAN. IT IS SHOWN THAT THE CS-137 IN SEDIMENTS CONTROLS THAT IN FISH. SINCE ALTHOUGH THE CONCENTRATION IN WATER HAS BEEN DECREASING (AN ORDER OF MAGNITUDE

SINCE 1964) THE CONCENTRATION IN FISH HAS VARIED LITTLE FROM YEAR TO YEAR (THE MAXIMUM WAS ABOUT 56 PICOCURIES/KG IN 1969).
CONCENTRATIONS WERE HIGHEST IN BOTTOM FEEDING SPECIES SUCH AS CATFISH AND SUCKERS, INTERMEDIATE IN PLANT-EATING SPECIES SUCH AS KILLIFISH, AND LOWEST IN ANADROMOUS FISH SUCH AS SHAD. CONCENTRATIONS IN THE RIVER FISH WERE GENERALLY AN ORDER OF MAGNITIUDE LOWER THAN IN FISH FROM LAKES IN THIS LATITUDE.

2034 WRIGHT, W.R.; C.E. PARKER

A VOLUMETRIC TEMPERATURE/SALINITY CENSUS FOR THE MIDDLE ATLANTIC BIGHT [1976]

LIMNOL OCEANOGR 21(4):563-571

TWO SEASONAL VOLUMETRIC TEMPERATURE/SALINITY DIAGRAMS HAVE BEEN PREPARED FOR THE WATERS OF THE MIDDLE ATLANTIC BIGHT FROM NANTUCKET SHOALS TO CAPE HATTERAS TO A DEPTH OF 200 M AND EXTENDING AS MUCH AS 130 KM BEYOND THE EDGE OF THE CONTINENTAL SHELF. TOTAL VOLUME INCLUDED IS 23,145.6 KM3, OF WHICH ABOUT HALF IS SLOPE WATER, MORE SALINE THAN 35%. MOST OF IT IS IN A DISTINCTIVE SUBSURFACE MAXIMUM REGION NEAR 13 C, WHICH IS NAMED THE UPPER SLOPE WATER THERMOSTAD. THE LESS SALINE SHELF WATER HAS TWO MODES DIVIDED BY A MIMIMUM NEAR 33.6 PPT. THE FRESHER MODE, ASSOCIATED WITH SHALLOW DEPTHS, IS IDENTIFIED AS COASTAL WATER; THAT FROM 33.6-35 PPT IS CALLED SHELF EDGE WATER, AND MUCH OF IT IS FOUND SEAWARD OF THE SHELF BREAK. THERE IS VERY LITTLE SEASONAL CHANGE IN THE TOTAL VOLUME OF SHELF WATER BUT ITS GEOGRAPHICAL DISTRIBUTION VARIES, SHOWING THE EFFECTS OF SPRING RUNOFF AND SUGGESTING A SUMMER INFLUX OF SLOPE WATER IN THE NORTHERN PORTION OF THE BIGHT. COMPARISON WITH A SIMILAR CENSUS FOR THE GULF OF MAINE AND SHELF WATER TO THE EAST SHOWS SOME OVERLAP BUT LITTLE EVIDENCE OF SUBSTANTIAL EXCHANGE.

2035 WROBEL. W.E.

THERMAL BALANCE IN THE HUDSON ESTUARY [1974]

NY ACAD SCI ANN 250:157-168

AERIAL INFRARED SURVEY DATA AND ANALYTICAL MODELING TECHNIQUES WERE USED TO EVALUATE THE ABILITY OF THE HUDSON ESTUARY TO ASSIMILATE THERMAL INPUTS. THE ANALYSES SHOW (1) THAT THE TEMPERATURE INCREASING INFLUENCE OF PRESENT POINT DISCHARGES IS LIMITED IN AREAL EXTENT BECAUSE OF MIXING AND ATMOSPHERIC TRANSFER PROCESSES; (2) THAT SEASON AND GEOGRAPHY INDUCL SUBSTANTIAL NATURAL VARIATIONS IN TEMPERATURE; (3) AND THAT, ALTHOUGH WASTE HEAT FROM POWER GENERATION IS THE BIGGEST HEAT SOURCE. A LIMITED ADDITIONAL AMOUNT OF POWER COULD BE GENERATED IN THE 30-MILE REGION BETWEEN BEAR MOUNTAIN AND POUGHKEEPSIE. FUTURE INCREASES IN DISCHARGES OF COOLING WATER MUST BE BASED ON ECOLOGICAL AND ENGINEERING ANALYSES.

2036 WUNDERLICH, L.D.

THE HYDROGRAPHIC FEATURES OF THE NEW YORK BIGHT APEX [1976]

M.S. THESIS. SUNY. STONY BROOK. NY NP

AN ANALYSIS IS PRESENTED OF THE SEASONAL CYCLE OF HYDROGRAPHIC PROPERTIES IN THE NEW YORK BIGHT APEX. THE STUDY IS BASED UPON EXISTING REPORTS AND DATA, PRINCIPALLY THOSE GATHERED BY THE NMFS AND THE MESA PROGRAM ON MONTHLY HYDROGRAPHIC SAMPLING CRUISES DURING THE YEARS 1969, 1973-74. THESE DATA, INCLUDING TEMPERATURE, SALINITY, AND DENSITY, ARE PRESENTED GRAPHICALLY ON A MONTHLY BASIS THROUGH THE USE OF ISOMETRIC BLOCK DIAGRAMS AND PLANIMETRIC PROJECTIONS. THE PROFILES OF TEMPERATURE, SALINITY, AND DEVSITY ILLUSTRATE THE IMPORTANCE OF THE LOCAL EXCHANGE OF HEAT AND MOMENTUM BETWEEN THE ATMOSPHERE AND SURFACE WATERS OF THE APEX AND THE SEASONAL RUNOFF PATTERN OF THE HUDSON RIVER IN DETERMINING THE HYDROGRAPHIC PROPERTIES OF THE NEW YORK BIGHT.

2037 YARISH, C.; P. EDWARDS; S. CASEY

ACCLIMATION RESPONSES TO SALINITY OF THREE ESTUARINE RED ALGAE FROM NEW JERSEY [1979]

MAR BIOL 51(3):289-294

THE EFFECTS OF SALINITY AND ACCLIMATION TIME ON THE NET PHOTOSYNTHETIC RESPONSES OF THE RED ALGAE, BOSTRYCHIA RADICANS, CALOGLOSSA LEPRIEURII, AND POLYSIPHONIA SUBTILISSIMA FROM GREAT BAY ESTUARY, NJ, WERE INVESTIGATED. THE ALGAE WERE CULTURED IN A SERIES OF SYNTHETIC SEAWATER MEDIA OF 5, 15, 25 AND 35 0/00 S FOR ACCLIMATION PERIODS OF 0,2,4,8, AND 16 D PRIOR TO DETERMINING THEIR PHOTOSYNTHETIC RESPONSES. ALL SPECIES WERE EURYHALINE, AND DEMONSTRATED PHOTOSYNTHESIS AT ALL THE ABOVE SALINITIES. B. RADICANS, WHICH WAS MORE COMMON TOWARDS THE MOUTH OF THE ESTUARY, HAD A MAXIMUM PHOTOSYNTHETIC RATE AT 25 0/00 S, WHEREAS C. LEPRIEURII AND P. SUBTILISSIMA, WHICH WERE MORE COMMON TOWARD THE HEAD OF THE ESTUARY, HAD PHOTOSYNTHETIC MAXIMA BETWEEN 15 AND 25 0/00, AND AT 15 0/00, RESPECTIVELY. THE CURVES RELATING NET PHOTOSYNTHESIS TO SALINITY WERE USUALLY SIMILAR WITHIN A SPECIES AT DIFFERENT ACCLIMATION PERIODS, ALTHOUGH STATISTICALLY SIGNIFICANT DIFFERENCES WERE SOMETIMES NOTED. THE ACCLIMATION PERIODS PRODUCING MAXIMAL NET PHOTOSYNTHESIS WERE 0, 2, AND 4D FOR B. RADICANS, AND 4 D FOR C. LEPRIEURII, WHILE FOR P. SUBTILISSIMA THERE WAS NO SIGNIFICANT DIFFERENCE IN RESPONSE FOR ANY ACCLIMATION PERIOD OVER THE RANGE OF SALINITIES STUDIED.

2038 YASSO, W.E.; E.M. HARTMAN, JR.

BEACH FORMS AND COASTAL PROCESSES [1976]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 11 (REVISED ED). NYSG, ALBANY, NY

HEADLANDS, ESTUARIES, A BARRIER SPIT, AND BARRIER BARS AND ISLANDS SEPARATED FROM THE MAINLAND BY SHALLOW LAGOONS ARE THE MAJOR LANDFORMS OF THE NEW YORK BIGHT COAST. BIGHT BEACHES ARE SUBJECT TO BOTH ANNUAL AND LONG-TERM CHANGES IN SHAPE AND POSITION TYPICAL OF OCEAN-FACING SHORELINES. WAVE REFRACTION CAUSES LITTORAL DRIFT OF BEACH SAND IN A PREDOMINANTLY MESTWARD DIRECTION ALONG THE SOUTH SHORE OF LONG ISLAND. AT FIRE ISLAND INLET THE MESTWARD DRIFT RATE IS 366,440 M3/YR (480,000 yD3/YR). NORTHWARD LITTORAL DRIFT PREDOMINATES ALONG THE NEW JERSEY COAST NORTH OF DOVER TOWNSHIP. AT SANDY HOOK THE NORTHWARD DRIFT RATE REACHES A MAXIMUM OF 376,300 M3/YR (493,000 yD3/YR). SOUTH OF DOVER TOWNSHIP THE DRIFT IS PREDOMINANTLY SOUTHWARD, REACHING A MAXIMUM OF 152,000 M3/YR (200,000 YD3/YR) AT CAPE INLET. YASSO'S EXPLANATION OF THE MECHANISM OF LONGSHORE TRANSPORT IS AN EXCELLENT INTRODUCTION FOR THE NON-SCIENTISTS. THIS PAPER ALSO INCLUDES THE BEST AVAILABLE DISCUSSION OF THE GROWTH OF SANDY HOOK.

2039 YASSO, W.E.

DEVELOPMENTAL TESTS ON THE USE OF FLUORESCENT TRACERS AND BACKWASH SEDIMENT-LOAD SAMPLERS TO MEASURE THE BEACH DRIFT COMPONENT OF LITTORAL TRANSPORT AT SANDY HOOK, NEW JERSEY [1976]

PAGES 138-149 IN M.G. GROSS, ED. MIDDLE ATLANTIC CONTINENTAL SHELF AND THE NEW YORK BIGHT, PROC OF SYMP, NEW YORK, NY, 3-5 NOV 1975. SPEC SYMP VOL 2. AM SOC LIMNOL OCEANOG, ALLEN PRESS, LAWRENCE, KS

SIMPLE, FLAT-BOTTOMED, TROUGHLIKE DEVICES MADE OF SHEET METAL WERE USED TO SAMPLE BEDLOAD AND SUSPENDED LOAD OF INDIVIDUAL BACKWASHES IN TIME-INTEGRATED STUDIES OF BEACH DRIFT RATE ON THE FORESHORE AT SANDY HOOK, NJ. IN THE MOST COMPLETE EXPERIMENT FIRST ARRIVAL OF FLUORESCENT TRACER PARTICLES, IN THE MEDIUM TO COARSE SAND RANGE, SHOWED A NEGATIVE LINEAR RELATIONSHIP BETWEEN PARTICLE DIAMETER AND BEACH DATFT VELOCITY. PEAK-OF-DISTRIBUTION ARRIVALS, BASED ON SMOOTHED RECOVERY DISTRIBUTIONS OBTAINED BY WEIGHT RATIO CONVERSION PROCEDURES, CONFIRM THE INVERSE SEDIMENT SIZE-BEACH DRIFT VELOCITY RELATIONSHIP. INCREASE IN MEAN BACKWASH SEDIMENT MASS IS ROUGHLY CORRELATED WITH INCREASE IN THE PRODUCT OF BREAKER HEIGHT SQUARED AND BREAKER PERIOD SQUARED. HOWEVER, BOTH THIS RELATIONSHIP AND THE ANOMALOUS VARIABILITY AND APPARENT PERIODICITY IN SEDIMENT MASS ENTRAINED BY INDIVIDUAL BACKWASHES WILL REQUIRE FURTHER INVESTIGATION.

GENERALIZED MODEL FOR STORM SURGES [1776]

PAGES 921-933 IN 15TH COASTAL ENGINEERING CONF, HONOLULU, HI, 11 JULY 1976. ASCE, NEW YORK, NY

A 2-DIMENSIONAL NUMERICAL SIMULATION MODEL OF STORM SURGES BASED ON THE VERTICALLY INTEGRATED HYDRODYNAMIC EQUATIONS OF CONTINUITY AND MOMENTUM IS ADOPTED. THE MODEL EMBODIES THE INUNDATION OVER THE LOW-LYING LAND SURFACE WITH MOVING WATER-LAND INTERFACES. WIND STRESS COEFFICIENT IS CONSIDERED NOT ONLY FUNCTION OF WIND SPEED BUT ALSO DEPENDENT ON THE TEMPERATURE DIFFERENTIAL BETWEEN AIR AND WATER. BOTTOM STRESS IS TREATED BY AN EVALUATION OF CONVOLUTION INTEGRALS OVER THE SURFACE SLOPE PRESSURE DEPRESSION AND WIND-SHEAR. THE CONTRIBUTION OF MOMENTUM BY RIVER INFLOWS IS TAKEN INTO ACCOUNT. PARTICULAR ATTENTION IS DIRECTED TO THE TREATMENT OF NONLINEAR TERMS IN THE GOVERNING EQUATIONS TO INSURE THE IMPROVEMENT OF NUMERICAL STABILITY AND ACCURACY. THE MODEL IS APPLIED TO THE NJ COASTAL AREA AND REPRODUCES THE HISTORICAL STORM SURGES QUITE WELL BOTH AT ATLANTIC CITY AND SANDY HOOK.

2041 YEH, G.T.; Y.J. TSAI

ANALYTICAL THREE-DIMENSIONAL TRANSIENT MODELING OF EFFLUENT DISCHARGES [1976]

WATER RESOUR RES 12(3):533-540

A TRANSIENT, THREE-DIMENSIONAL TURBULENT DIFFUSION EQUATION DESCRIBING THE CONCENTRATION DISTRIBUTION OF A SUBSTANCE OR HEAT IN A TIME-DEPENDENT FLOW FIELD WAS SOLVED ANALYTICALLY. TWO MODELS WERE CONSIDERED: ONE TREATED BOTH THE DEPTH AND THE WIDTH OF A WATER BODY AS BEING FINITE, WHILE THE OTHER DEALT WITH FINITE DEPTH BUT WITH INFINITE WIDTH. IN THE SEARCH FOR SOLUTIONS, THE METHOD OF GREEN'S FUNCTION WAS UTILIZED TO THE OPTIMUM ADVANTAGE. THE SOLUTIONS WERE DEVELOPED FOR CASES IN WHICH THE VELOCITY FIELD CAN BE DESCRIBED AS ANY INTEGRATABLE FUNCTION OF TIME. FOR PRACTICAL APPLICATIONS, THE VELOCITY WAS ASSUMED TO BE THE SUM OF A CONSTANT AND A HARMONIC COMPONENT. THERE WERE NO LIMITATIONS ON THE TYPE OF SOURCE CONDITIONS. RESULTS WERE COMPARED WITH FIELD TEASUREMENTS AND SHOWED THE MODELS TO BE CAPABLE OF SIMULATING THE DYE DISTRIBUTION IN TIDAL WATER BODIES. THE MODELS SHOULD PROVIDE THE ENGINEERING COMMUNITY WITH A QUICK AND EASY WAY OF PREDICTING THE DISTRIBUTION OF EFFLUENT DISCHARGES. THEY SHOULD OBVIATE THE NEED OF USING TEDIOUS AND TIME-CONSUMING NUMERICAL MODELS, AS OCCASIONS OFTEN ARISE IN WHICH SUCH COMPLICATED MODELS MAY NOT BE WARRANTED.

2042 YENTSCH. C.S.

PLANKTON PRODUCTION [1977]

MESA NEW YORK BIGHT ATLAS MONOGRAPH 12. NYSG, ALBANY. NY 25 PP NTIS-PB-272-327

THE PRINCIPAL MECHANISM FOR REGULATING PRIMARY PRODUCTION IN THE WATERS OF NEW YORK BIGHT IS VERTICAL MIXING. THE INTENSITY OF THIS MIXING IS CAUSED BY A UNIQUE BLEND BETWEEN LOCAL METEOROLOGICAL CONDITIONS AND THE PHYSIOLOGY OF PHOTOSYNTHETIC PHYTOPLANKTON. IN WINTER THE DISTRIBUTION OF PHYTOPLANKTON IS LARGELY DUE TO THE INTENSITY OF VERTICAL MIXING AND WATER DEPTH; PRIMARY PRODUCTIVITY IN SLOPE WATERS IS LIMITED BY VERTICAL MIXING, WHICH IN EFFECT REDUCES THE AMOUNT OF SUNLIGHT RECEIVED BY THE PHYTOPLANKTON. THE SPRING BLOOM ARISES FROM THE REDUCTION IN VERTICAL MIXING BECAUSE OF HEAT (VIA SUNLIGHT) BEING ADDED TO SURFACE WATERS AND THE RELAXATION OF JINDS. DURING SUMMER, PRIMARY PRODUCTION IS LOW THROUGHOUT MOST OF THE BIGHT. APPARENTLY BECAUSE OF THE LIMITED QUANTITIES OF NITROGEN IN THE EUPHOTIC ZONE. INTENSE PRODUCTION OCCURS IN AUTUMN AS A RESULT OF THE BREAKDOWN OF THE SUMMER THERMOCLINE WITH THE ONSET OF WINTER TEMPERATURES AND STRONG WINDS.

2043 YEZZI, D.J., JR.; A.P. UZZO, JR.

DYNAMIC MODEL OF NUTRIFICATION IN HUNTINGTON BAY, NEW YORK [1979]

ECOL MODEL (6):59-75

A DYNAMIC SIMULATION MODEL OF NUTRIFICATION WITH RESPECT TO PHYTOPLANKTON AND ZOOPLANKTON LEVELS IN HUNTINGTON BAY IS DEVELOPED. THE VALIDITY OF RELATIONSHIPS USED BY PREVIOUS BESTARCHERS IN FRESHWATER ENVIRONMENTS IS TESTED UNDER MARINE CONDITIONS. NUTRIENTS ARE MODELLED, AND IT IS SHOWN THAT NITROGEN IS THE LIMITING NUTRIENT IN THE BAY. PHOSPHORUS IS NOT FOUND TO BE LIMITING.

2044 YINGST. J.Y.

PATTERNS OF MICRO- AND MEIOFAUNAL ABUNDANCE IN MARINE SEDIMENTS. MEASURED WITH THE ADENOSINE TRIPHOSPHATE ASSAY [1978]

MAR BIOL 47(1):41-54

ATP MEASUREMENTS ARE USED TO DETERMINE VERTICAL AND SEASONAL DISTRIBUTIONS OF MICROORGANISMS AND MEIOFAUNA IN SEDIMENTS FROM A 14 M DEEP MUD BOTTOM IN CENTRAL LONG ISLAND SOUND ON 12 SAMPLING DATES FROM APR 1975 TO OCT 1976. BELOW THE TOPMOST 1 CM OF SEDIMENT, ATP MEASUREMENTS CAN BE USEFUL IN ESTIMATING AND COMPARING STANDING STOCKS OF MICROORGANISMS AND MEIOFAUNA. IN THE TOP 1 CM, HOWEVER, LARGE QUANTITIES OF NEWLY SETTLED BIVALVES AND JUVENILE POLYCHAETES IN SUMMER AND FALL ACCOUNT FOR TOTAL ATP CONCENTRATIONS. THE ATP CONTENT OF INDIVIDUAL MEIOFAUNA RANGES FROM 1.97 NG/INDIVIDUAL COPEP OD NAUPLIUS TO 190.7 NG/INDIVIDUAL MULINIA LATERALIS. THE TOTAL ATP CONTENT OF INDIVIDUALS OF OTHER GROUPS. HOWEVER, ON A MG ATP PER G WET OR DRY TISSUE BASIS, THE ATP CONTENTS OF MICRO- AND MEIOFAUNAL TAXA ARE NOT SIGNIFICANTLY DIFFERENT. ATP MEASUREMENTS ALSO PERMIT EXAMINATION OF THE RELATIVE CONTRIBUTION OF DIFFERENT MEIOFAUNA TO THE TOTAL LIVING BIOMASS OF MEIOFAUNA IN SEDIMENTS. TOTAL SEDIMENT ATP CONCENTRATIONS ARE GREATEST IN THE TOP 1 CM AT ALL SEASONS AND DECREASE WITH INCREASING DEPTH. HIGH ATP CONCENTRATIONS IN SURFACE SEDIMENT REFLECT HIGH CONCENTRATIONS OF MICROORGANISMS AND MEIOFAUNA AT THE SEDIMENT-WATER INTERFACE. THE TOP 2 CM CONTAIN 71% OF ALL MEIOFAUNA, WITH 41% OCCURRING IN THE TOPMOST CM-DENSITIES ARE LOWEST IN WINTER AND HIGHEST IN SPRING AND SUMMER, AVERAGING 490 INDIVIDUALS/10 CM2. AND VARYING FROM 87 TO 1.366 INDIVIDUALS/10 CM2.

2045 YORK, D.; N. LESSER; T. BELLATTY; ET.AL.

TERMINAL DEVELOPMENT ON A REFUSE FILL SITE [1977]

PAGES 310-830 IN PROC OF CONFERENCE, GEOTECHNICAL PRACTICE FOR DISPOSAL OF SOLID WASTE MATERIALS, NEW YORK. ASCE, NEW YORK, NY

A 240 ACRE SITE, FORMERLY USED FOR THE DISPOSAL OF REFUSE FILL, IS BEING CONVERTED INTO AN UPLAND PAVED AREA SERVING THE ELIZABETH-PORT AUTHORITY MARINE TERMINAL AT ELIZABETH, NJ. SUBSURFACE CONDITIONS AT THE SITE CONSIST OF FROM 8 TO 22 FT OF MUNICIPAL REFUSE FILL WHICH HAD BEEN PLACED OVER A TIDAL MARSH DEPOSIT THAT VARIES FROM 2 TO 14 FT IN THICKNESS. SITE PREPARATION CONSISTED OF FIRST REGARDING AND COMPACTING THE REFUSE FILL, AND THEN PRELOADING WITH SAND FILL. COMPRESSION PARAMETERS OF THE REFUSE FILL DEPOSIT, COMPUTED ON THE BASIS OF SETTLEMENTS OBSERVED DURING THE PRELOAD PERIOD, ARE REPORTED. COMPRESSION PARAMETERS OF THE REFUSE FILL DEPOSIT, COMPUTED ON THE BASIS OF SETTLEMENTS OBSERVED DURING THE PRELOAD PERIOD, ARE REPORTED. DURING SITE PREPARATION, MEASUREMENTS WERE MADE TO ESTABLISH THE TYPES OF GASES BEING GENERATED BY THE REFUSE FILL AND TO ESTIMATE RATES OF GAS PRODUCTION. BASED ON THESE MEASUREMENTS, A PERMANENT GAS COLLECTOR AND VENTING SYSTEM WAS DESIGNED AND INSTALLED IN PAVED AREAS. POST-CONSTRUCTION GAS MEASUREMENTS ARE COMPARED WITH INVESTIGATORY MEASUREMENTS. IN CONNECTION WITH THE DESIGN OF THE COLLECTOR SYSTEM, AIR PERMEABILITY TESTS WERE MADE ON SAMPLES OF SAND FILL AND SEVERAL GRADATIONS OF CRUSHED STONE.

2046 YOST, E.F.

A STUDY OF THE ESTUARINE AND COASTAL OCEANOGRAPHY OF BLOCK ISLAND SOUND AND ADJACENT NEW YORK COASTAL WATERS [1972]

GODDARD SPACE FLIGHT CENTER, NASA, GREENBELT, MD 4PP

THERE ARE NO AUTHOR-IDENTIFIED SIGNIFICANT RESULTS IN THIS REPORT. ERTS-1 IMAGERY WAS RECEIVED FROM NASA IN BOTH POSITIVE AND

NEGATIVE FORM. THIS IMAGERY WAS ANALYZED TO DETERMINE THE HYDROLOGIC FEATURES OF THE WATER MASS, INCLUDING CURRENT PATTERNS, SUSPENDED PARTICULATES, AND THE CONTACTS BETWEEN DIFFERENT WATER MASSES, AS WELL AS COASTAL MARSH CHARACTERISTICS. A SPECTRAL DATA MODEL 64 MULTISPECTRAL PROJECTOR/VIEWER WAS USED FOR THE ANALYSIS. QUICK LOOK ANALYSIS OF THE SECOND GENERATION NEGATIVES INDICATED THAT: (1) GREEN SPECTRAL BAND LACKED CONTRAST AND WAS OVEREXPOSED: (2) RED SPECTRAL HAD ACCEPTABLE CONTRAST, BUT SOMEWHAT OVEREXPOSED: AND (3) INFRARED BANDS OVEREXPOSED FOR LAND AREAS, BUT EXPOSURE GOOD FOR WATER. ANALYSIS OF SECOND GENERATION POSITIVES INDICATED THAT: (1) GREEN SPECTRAL BAND EXTREMELY FLAT; (2) RED SPECTRAL BAND OF ACCEPTABLE CONTRAST, BUT TO DENSE FOR PROJECTION; AND (3) INFRARED BANDS LACKED DETAIL IN BOTH WATER AND LAND AREAS. PHOTOGRAPHS INDICATE THAT IT IS NECESSARY TO EXPOSE AND PROCESS THE MILITISPECTRAL IMAGERY FOR THE SCENE BRIGHTNESS RANGE UNDER CONSIDERATION.

2047 YOST, E.F.; T.H. SLAUGHTER; R.T. KERHIN; V. KLEMAS; R. SRNA; W. TREASURE; M. OTLEY; D.E. BOWKER; P. FLEISCHER; T.A. GOSINK; W.J. LUDWICK; F.H. RUGGLES. JR.

SYMP ON SIGNIFICANT RESULTS OBTAINED FROM THE EARTH RESOURCES TECHNOLOGY SATELLITE-1, 1973. 3 VOLS [1973]

SCI AND TECH INF OFFICE. NASA. WASHINGTON. DC

THE FOLLOWING IS A PARTIAL LIST OF TITLES AND AUTHORS FROM THE SYMPOSIUM: IN SITU SPECTRORADIOMETRIC QUANTIFICATION OF ERTS DATA BY E.F. YOST; SEASONAL CHANGES OF LITTORAL TRANSPORT AND BEACH WIDTH AND RESULTING EFFECT ON PROTECTIVE STRUCTURES BY T.H. SLAUGHTER; APPLICABILITY OF ERTS-1 IMAGERY TO THE STUDY OF SUSPENDED SEDIMENT AND AQUATIC FRONTS BY V. KLEMAS, R. SRNA, W. TREASURE AND M. OTLEY; PLUME DEVELOPMENT IN LONG ISLAND SOUND OBSERVED BY REMOTE SENSING (ERTS-1) BY F.H. RUGGLES. JR.

2048 YOST, E.F.; R. HOLLMAN; J.E. ALEXANDER; R. NUZZI

AN INTERDISCIPLINARY STUDY OF THE ESTUARINE AND COASTAL OCEANOGRAPHY OF BLOCK ISLAND SOUND AND ADJACENT NEW YORK COASTAL WATERS

PAGES 1607-1619 IN PROC, 3RD EARTH RESOURCES TECHNOLOGY SATELLITE-1 SYMP, 10-14 DEC 1973. VOL 1: TECH PRESENTATIONS, SEC B. NASA SP-351. NASA, WASHINGTON, DC NTIS-E73-10819

ERTS-1 PHOTOGRAPHIC DATA PRODUCTS HAVE BEEN ANALYZED USING ADDITIVE COLOR VIEWING AND ELECTRONIC IMAGE ANALYSIS TECHNIQUES. SATELLITE DATA WERE COMPARED TO WATER SAMPLE DATA COLLECTED SIMULTANEOUSLY WITH THE DATA OF ERTS-1 COVERAGE IN NEW YORK BIGHT. PREDICTION OF THE ABSOLUTE VALUE OF TOTAL SUSPENDED PARTICLES CAN BE MADE USING COMPOSITES OF POSITIVE OF MSS BANDS 5 AND 6 WHICH HAVE BEEN PRECISELY MADE USING THE STEP WENGE SUPPLIED ON THE IMAGERY. PREDICTIONS OF THE RELATIVE VALUE OF THE EXTINCTION COEFFICIENT CAN BE MADE USING BANDS 4 AND 5. THEMATIC CHARTS OF TOTAL SUSPENDED PARTICLES (PARTICLES/L)) AND EXTINCTION COEFFICIENT PROVIDE SCIENTISTS CONDUCTING STATE AND FEDERAL WATER SAMPLING PROGRAMS IN NEW YORK BIGHT WITH DATA WHICH IMPROVES THE PERFORMANCE OF THESE PROGRAMS.

2049 YOST, E.F.; R. HOLLMAN; J.E. ALEXANDER; R. NUZZI

AN INTERDISCIPLINARY STUDY OF THE ESTUARINE AND COASTAL OCEANOGRAPHY OF BLOCK ISLAND SOUND AND ADJACENT NEW YORK COASTAL WATERS--ABSTRACT [1974]

SCI TECH AERO REP 12(20):2425 ABS ONLY

ERTS-1 PHOTOGRAPHIC DATA PRODUCTS HAVE BEEN ANALYZED USING ADDITIVE COLOR VIEWING AND ELECTRONIC IMAGE ANALYSIS TECHNIQUES. SATELLITE DATA WERE COMPARED TO WATER SAMPLE DATA COLLECTED SIMULTANEOUSLY WITH THE DATA OF ERTS-1 COVERAGE IN NEW YORK BIGHT. PREDICTION OF THE ABSOLUTE VALUE OF TOTAL SUSPENDED PARTICLES CAN BE MADE USING COMPOSITES OF POSITIVES OF MSS BANDS 5 AND 6 WHICH HAVE BEEN PRECISELY MADE USING THE STEP WEDGE SUPPLIED ON THE IMAGERY. PREDICTIONS OF THE RELATIVE VALUE OF THE EXTINCTION COEFFICIENT CAN BE MADE USING BANDS 4 AND 5. THEMATIC CHARTS OF TOTAL SUSPENDED PARTICLES (PARTICLES/L) AND EXTINCTION COEFFICIENT PROVIDE SCIENTISTS CONDUCTING STATE AND FEDERAL WATER SAMPLING PROGRAMS IN NEW YORK BIGHT WITH DATA

WHICH IMPROVES THE PERFORMANCE OF THESE PROGRAMS.

2050 YOST, E.F.

SATELLITE MEASUREMENTS OF TURBIDITY OF COASTAL WATERS [1975]

PAGES 1170-1180 IN PROC. 3RD CONFERENCE CIVIL ENGINEERING IN THE OCEANS, NEWARK, DE. ASCE, NEW YORK, NY

LANDSAT-1 PHOTOGRAPHIC DATA PRODUCTS WERE ANALYZED USING ADDITIVE COLOR VIEWING AND ELECTRONIC IMAGE ANALYSIS TECHNIQUES AND COMPARED TO SAMPLE DATA COLLECTED IN NEW YORK BIGHT. PREDICTION OF THE ABSOLUTE VALUE OF TOTAL SUSPENDED PARTICLES CAN BE MADE USING COMPOSITES OF POSITIVES OF MSS BANDS 5 AND 6 WHICH HAVE BEEN PRECISELY MADE USING THE STEP WEDGE SUPPLIED ON THE IMAGERY. PREDICTIONS OF THE RELATIVE VALUE OF THE EXTINCTION COEFFICIENT (-K) CAN BE MADE USING BANDS 4 AND 5. THEMATIC CHARTS OF TOTAL SUSPENDED PARTICLES (PARTICLES/L) AND EXTINCTION COEFFICIENT (-K) CAN BE ACCURATELY CONSTRUCTED FROM LANDSAT SATELLITE DATA.

2051 YOST, E.F.

IN SITU SPECTRORADIOMETRIC CALIBRATION OF EREP IMAGERY AND ESTUARINE AND COASTAL OCEANOGRAPHY OF BLOCK ISLAND SOUND AND ADJACENT NEW YORK COASTAL WATERS [1979]

NASA, WASHINGTON, DC 322 PP NTIS-E76-10418

THE FIRST PART OF THE STUDY RESULTED IN PHOTOGRAPHIC PROCEDURES FOR MAKING MULTISPECTRAL POSITIVE IMAGES WHICH GREATLY ENHANCE THE COLOR ADDITIVE COLOR ANALYSIS OF THE GEOLOGIC FEATURES NEAR WILLCOX, ARIZONA USING ENHANCED BLACK AND WHITE MULTISPECTRAL POSITIVES ALLOWED COMPILATION OF A SIGNIFICANT NUMBER OF UNMAPPED GEOLOGIC UNITS WHICH DO NOT APPEAR ON GEOLOGIC MAPS OF THE AREA. THE SECOND PART DEMONSTRATED THE FEASIBILITY OF USING SKYLAB REMOTE SENSOR DATA TO MONITOR AND MANAGE THE COASTAL ENVIRONMENT BY RELATING PHYSICAL, CHEMICAL, AND BIOLOGICAL SHIP SAMPLED DATA TO \$1900, \$1900, AND \$192 IMAGE CHARACTERISTICS. PHOTOGRAPHIC REPROCESSING TECHNIQUES WERE DEVELOPED WHICH GREATLY ENHANCED SUBTLE LOW BRIGHTNESS WATER DETAIL. USING THESE PHOTOGRAPHIC CONTRAST-STRETCH TECHNIQUES, TWO WATER MASSES HAVING AN EXTINCTION COEFFICIENT DIFFERENCE OF ONLY 0.07 MEASURED SIMULTANEOUSLY WITH THE ACQUISITION OF SOOA DATA WERE READILY DIFFERENTIATED.

2052 YOUNG, B.H.

A STUDY OF STRIPED BASS IN THE MARINE DISTRICT OF NEW YORK [1977]

NY DMCR, ALBANY, NY 65 PP

THREE PROJECTS WERE CONDUCTED DURING 3 YRS OF FIELD WORK CONCERNING STRIPED BASS. DATA ARE MAINTAINED AND REPORTED SEPARATELY FOR EACH JOB. DATA WAS GATHERED AT AMAGANSETT TO ESTIMATE THE RATE OF EXPLOITATION FOR STRIPED BASS. DATA CONCERNING THE FISH TAGGED AND RECAPTURED ARE PRESENTED. THE RATE OF EXPLOITATION WILL BE REPORTED AT A LATER DATE TO ALLOW FOR ADDITIONAL RECAPTURES. IN A SECOND PROJECT, YOUNG-OF-THE-YEAR AND YEARLING STRIPED BASS WERE TAGGED ON THE HUDSON RIVER TO ESTIMATE THE RATE OF CONTRIBUTION OF THE HUDSON RIVER TO ATLANTIC COASTAL STOCKS. DATA ARE PRESENTED CONCERNING THE FISH TAGGED AND RECAPTURED. FURTHER RECAPTURES ARE NECESSARY TO ESTIMATE THE HUDSON RIVER'S CONTRIBUTION. FINALLY, A CREEL SURVEY ON THE SPORT FISHERY AT MONTAUK POINT IS REPORTED. ESTIMATIONS OF THE YEARLY CATCH BY NUMBER AND WEIGHT OF STRIPED BASS ARE GIVEN, ALONG WITH MONTHLY ESTIMATES OF THE NUMBER OF MEN FISHING AND FISH CAUGHT.

2053 YOUNG, D.L.K.; R.T. BARBER

EFFECTS OF WASTE DUMPING IN NEW YORK BIGHT ON THE GROWTH OF NATURAL POPULATIONS OF PHYTOPLANKTON [1973]

ENVIRON POLLUT 5(3):237-252

A LABORATORY STUDY WAS UNDERTAKEN TO EXAMINE THE GROWTH OF NATURAL PHYTOPLANKTON POPULATIONS IN RELATION TO POSSIBLE EFFECTS FROM ORGANIC MATERIAL OR HEAVY METAL CONTENT ASSOCIATED WITH DREDGE-SPOIL AND SEWAGE SLUDGE DUMPSITES IN THE NEW YORK BIGHT. IN SPITE OF HIGH AMOUNTS OF POTENTIALLY TOXIC ORGANIC MATTER AND HEAVY METALS IN NEW YORK BIGHT WATERS, REPORTED TO BE CONCENTRATED IN SEDIMENTS AT THE DISPOSAL SITES, INHIBITION OF PHYTOPLANKTON GROWTH WAS NOT CONSISTENTLY DEMONSTRATED THROUGHOUT THE STUDY AT ANY PARTICULAR DISPOSAL SITE. FROM THE DATA PRESENTED, IT IS CLEAR THAT NEITHER THE LOCATION OF A SAMPLING SITE WITHIN A DUMPING AREA NOR EVEN GROSS SEASONAL HYDROGRAPHIC DIFFERENCES CAN BE USED RELIABLY TO PREDICT PHYTOPLANKTON PRODUCTIVITY. IN NEW YORK BIGHT WATERS FROM OUTSIDE THOSE AREAS HIGHLY AFFECTED BY SEWAGE SLUDGE OR DREDGE SPOIL DUMPING, THE GROWTH OF NATURAL PHYTOPLANKTON POPULATIONS WAS INITIALLY EXPONENTIAL. WATERS SAMPLED FROM THE DISPOSAL AREAS WERE TEMPORALLY AND SPATIALLY INCONSISTENT IN SUPPORTING INITIAL RAPID GROWTH. INHIBITION OCCURRED ONLY AS A TEMPORARY LAG. THE DOMINANT PHYTOPLANKTER THAT GREW EXPONENTIALLY WAS, WITH A SINGLE EXCEPTION, A TYPICAL COASTAL BLOOM SPECIES. THE TEMPORARY INHIBITION WAS MORE PROBABLY DUE TO TOXIC ORGANIC MATERIALS THAT TO HEAVY METALS.

2054 YOUNG, D.L.K.; G. BOWES; P.D. MOSKOWITZ; C.F. WURSTER

HALOGENATED HYDROCARBONS SUBPANEL REPORT [1979]

PAGES 33-43 IN J.S. O'CONNER AND H.M. STANFORD, EDS. CHEMICAL POLLUTANTS OF THE NEW YORK BIGHT: PRIORITIES FOR RESEARCH. US ERL, BOULDER, CO

OF THE HALOGENATED HYDROCARBONS EVALUATED, THE PCBS APPEAR TO BE OF THE CLASS OF COMPOUNDS OF GREATEST PRESENT CONCERN IN THE ECOSYSTEM OF THE NEW YORK BIGHT. THE CHLORINATED PESTICIDES MOST FREQUENTLY DETECTED THERE IN THE PAST ARE DDT RESIDUES AND DIELDRIN. HOWEVER, REGIONAL PRODUCTION AND USE DATA SUGGEST THAT TOXAPHENE, KEPONE, AND PERHAPS CHLORDANE ALSO COULD BE PRESENT AND SHOULD BE SURVEYED. BOTH THE CHLORINATED PHENOLS AND THE CHLORINATED BENZENES ARE COMPOUNDS OF CONCERN. OF THESE, TRI- AND PENTACHLOROPHENOL AND HEXACHLOROBENZENE ARE THE CONTAMINANTS MOST LIKELY TO BE DETECTED IN SEDIMENTS AND ORGANISMS. HOWEVER, THE USE OF TRI- AND TETRACHLOROBENZENES ALONG WITH POLYCHLORINATED BIPHENYLS IN TRANSFORMER INSULATING FLUIDS INDICATES THAT THESE CHLORINATED BENZENES ALSO SHOULD BE SOUGHT IN SAMPLES CONTAINING PCBS.

2055 YOUNG, J.S.

A MARINE KILL IN NEW JERSEY COASTAL WATERS [1973]

MAR POLLUT BULL 4(5):70

A KILL OF LOBSTERS AROUND WRECKS OFF IHE NJ COAST SEEM NOT TO BE A DIRECT RESULT OF POLLUTION BUT MAY HAVE BEEN DUE TO AN INFLUX OF WATER CAUSING REDUCED OXYGEN LEVELS COMBINED WITH HIGH TEMPERATURES. MORTALITIES OF THIS KIND HAVE BEEN DBSERVED BEFORE IN THE AREA BUT IT IS NOT KNOWN IF THIS IS AN ANNUAL EVENT OR DUE TO ABNORMAL CIRCUMSTANCES. IT WOULD BE WORTH KEEPING THE SITUATION UNDER REVIEW IN THE FUTURE.

2056 YOUNG, J.S.; C.I. GIBSON

EFFECT OF THERMAL EFFLUENT ON MIGRATING MENHADEN [1973]

MAR POLLUT BULL 4(6):94-96

HOT WATER EFFLUENT FROM POWER STATIONS KILL JUVENILE MENHADEN MIGRATING THROUGH LONG ISLAND SOUND. SINCE THE FISH SINK TO THE BOTTOM, LOSSES ARE UNRECORDED OR UNDERESTIMATED. MENHADEN IN LONG ISLAND SOUND CONTRIBUTE TO THE COMMERCIAL FISHERY OFF THE EASTERN SEABOARD OF THE US. AT PRESENT, THE LOSSES ARE SMALL IN COMPARISON TO THE TOTAL NUMBER OF FISH MIGRATING THROUGH THE SOUND. IN THE FUTURE, THE INCREASING JSE OF THE SOUND AND OTHER COASTAL AND ESTUARINE WATERS MAY HAVE SERIOUS CONSEQUENCES FOR

FISHERIES.

2057 YOUNG, J.S.; A.B. FRAME

SOME EFFECTS OF A POWER PLANT EFFLUENT ON ESTUARINE EPIBENTHIC ORGANISM [1976]

INT REVUE GES HYDROBIOL 61(1):37-61

A STUDY USING THE SUBMERGED TEST PANEL METHOD WAS CONDUCTED AT THE OYSTER CREEK NUCLEAR GENERATING STATION NEAR BARNEGAT BAY, NJ TO INVESTIGATE EFFECTS OF THE HEATED EFFLUENT ON EPIBENTHIC COMMUNITIES. TEST PANELS WERE PLACED IN THE INTAKE AND DISCHARGE CANALS AND COLLECTED USING SCUBA AT 23, 84, 168 AND 335-DAY INTERVALS BETWEEN OCT 1970 AND OCT 1970. EXPOSED PANELS WERE REPLACED BY CLEAN PANELS UPON COLLECTION. FAUNAL RESEMBLANCE, BOTH BETWEEN STATIONS DURING A SAMPLING DATE AND WITHIN STATIONS FROM ONE SAMPLING DATE TO THE NEXT, WAS LOW. NUMBERS OF SPECIES WERE HIGHER AT THE DISCHARGE STATION THAN AT THE INTAKE STATION FROM LATE FALL TO EARLY SUMMER AND LOWER FROM MIDSUMMER TO EARLY FALL. OVERALL DIFFERENCES IN DIVERSITY AT THE TWO STATIONS COULD NOT BE DETECTED. THE OPTIMUM TEMPERATURE FOR GROWTH OF BALANUS SP. WAS APPROACHED MORE CLOSELY DURING WINTER IN THE DISCHARGE CANAL THAN IN THE INTAKE CANAL WHERE GROWTH WAS RETARDED BY COLD WATER. BALANUS EBURNEUS APPEARED TO HAVE AN EXTENDED BREEDING SEASON. BECAUSE OF DILUTION OF THE DISCHARGED WATER WITH COOLER INTAKE WATER THROUGH A PLANT BYPASS SYSTEM DURING THE SUMMER, THE EFFLUENT WAS NOT SERIOUSLY HARMFUL TO AMPHIPOD REPRODUCTION. SEASONAL ABUNDANCES OF NUMEROUS INVERTEBRATES AT BOTH STATIONS ARE REPORTED AND POSSIBLE POWER PLANT EFFECTS ARE DISCUSSED.

2058 YOUNG, R.A.

SEAFLUME: A DEVICE FOR IN SITU STUDIES OF THRESHOLD EROSION VELOCITY AND EROSIONAL BEHAVIOR OF UNDISTURBED MARINE MUDS [1977]

MAR GEOL 23:M11-M18

A SELF-CONTAINED SEA-GOING FLUME HAS BEEN DESIGNED FOR USE IN SEDIMENT TRANSPORT STUDIES ON THE SEA FLOOR. BOTTOM SEDIMENT BEHAVIOR AND FLOW VELOCITY RESULTING FROM WATER PUMPED THROUGH THE FLUME ARE RECORDED PHOTOGRAPHICALLY TO OBTAIN ESTIMATES OF THRESHOLD EROSION VELOCITY AND MODES OF EROSION. PRECISION AND ACCURACY OF ESTIMATED THRESHOLD VELOCITIES FOR MUDDY MARINE SEDIMENTS ARE FOUND TO BE AS GOOD OR BETTER THAN THOSE PREVIOUSLY OBTAINED BY OTHER FIELD OR LABORATORY TECHNIQUES.

2059 YOUNG, R.A.

SUSPENDED-MATTER DISTRIBUTION IN THE NEW YORK BIGHT APEX RELATED TO HURRICANE BELLE [1978]

GEOLOGY 6(5):301-304

SUSPENDED MATTER AND HYDROGRAPHIC PROPERTIES OF THE NEW YORK BIGHT APEX WERE STUDIED 3 DAYS AFTER PASSAGE OF HURRICANE BELLE (AUG 1776). DISTRIBUTIONS OF SUSPENDED MATTER WERE FOUND TO BE SIMILAR TO THOSE PRESENT DURING PREVIOUS PERIODS OF CALM SUMMER WEATHER. BY COMPARING THE PRESENT POSISTORM OBSERVATIONS WITH PREVIOUS POSTSTORM SAMPLING, IT WAS HYPOTHESIZED THAT DURING SUMMER A STRATIFIED WATER COLUMN CAN RESTRICT VERTICAL MIXING OF RESUSPENDED BOTTOM MATERIAL TO THE RELATIVELY THIN NEAR-BOTTOM LAYER, WHEREAS MIXING THROUGHOUT THE WATER COLUMN TAKES PLACE DURING UNSTRATIFIED WINTER CONDITIONS. CLEARING TIMES FOR RESUSPENDED MATERIAL, THEREFORE, ARE SHORTER IN SUMMER THAN IN WINTER. BOTH EXTENT OF VERTICAL MIXING AND CLEARING TIMES ARE IMPORTANT CONSIDERATIONS FOR THOSE CONCERNED WITH PROBLEMS OF MARINE ECOLOGY.

2060 YOUNG, R.A.: D.J.P. SWIFT; T.L. CLARKE

EROSION AND SUSPENDED MATTER TRANSPORT IN THE BOTTOM BOUNDARY LAYER ON THE INNER SHELF [1979]

EOS: TRANS AM GEOPHYS UNION 60(7):90

TIME SERIES OF NEAR-POTTOM VELOCITY AND CONCENTRATION PROFILES HAVE BEEN OBTAINED DURING SEVERAL STORMS AND INTERVENING QUIESCENT PERIODS ALONG THE LONG ISLAND INNER SHELF. ACOUSTICAL SUSPENDED MATTER PROFILES, MADE USING A NEW 3 MHZ PROFILOMETER. REVEAL REPEATED EROSION EVENTS EACH LASTING SEVERAL SECONDS. RESUSPENDED MATERIAL APPARENTLY IS OFTEN EJECTED UPWARD TO AT LEAST 100 CM ABOVE BOTTOM DURING THESE EVENTS. EVEN DURING QUIESCENT PERIODS THE PRESENCE OF A VERTICALLY OSCILLATING LAYER OF SUSPENDED MATTER IS INDICATED. THE ACOUSTICAL PROFILES OF LIGHT SCATTERING/TRANSMISSION MEASUREMENTS MADE AT A SINGLE POINT 100 CM ABOVE THE BED. BOTH TIME SERIES GIVE REASONABLE REPRESENTATIONS OF MEAN SUSPENDED MATTER CONDITIONS OVER PERIODS OF WEEKS, BUT THE ACOUSTICAL PROFILES REVEAL SIGNIFICANTLY MORE DETAIL OF THE FLOW-SEDIMENT INTERACTIONS AND VERTICAL SUSPENSION DISTRIBUTION AT SURFACE WAVE FREQUENCIES.

2061 YUNGHANS, R.S.; E.B. FEINBERG; F.J. WOBBER; R.L. MAIRS; R.T. MACOMBER

APPLICATION OF ERTS-1 DATA TO THE PROTECTION AND MANAGEMENT OF NEW JERSEY'S COASTAL ENVIRONMENT [1973]

GOVERNMENT REP ANNOUNC 73(22):96 ABS ONLY NTIS-E73-11031

RATES OF EROSION AND ACCRETION OF THE SHORELINE ARE BEING CALCULATED FOR TWO TEST AREAS ALONG THE NJ COAST. MEASUREMENTS ARE MADE ON AERIAL PHOTOGRAPHS TAKEN OVER THE LAST 20 YEARS AND PROCESSED BY COMPUTER. THE RATES ARE PRESENTED IN GRAPHIC FORM ON AN ERIS-1 BASE MAP AT A SCALE OF 1:125,000. THESE RATES ARE BEING USED TO DETERMINE THE EFFECTIVENESS OF VARIOUS SHORE PROTECTION STRUCTURES AT PREVENTING SAND REMOVAL AND ENCOURAGING SAND ACCUMULATION. INFORMATION ON MAINTENANCE AND CONSTRUCTION EXPENDITURES IS BEING USED TO OBTAIN A A COST EFFECTIVENESS RATIO FOR VARIOUS SHORE PROTECTION DEVICES. THE RELATIONSHIP OF EROSION RATES, PROPERTY VALUE, AND PROJECT COST ARE ALL CRITERIA FOR SELECTION OF SITE TYPE AND EXTENT OF A SHORE PROTECTION STRUCTURE. COMPILATION AND EVALUATION OF HISTORICAL DATA WILL IDENTIFY PAST DECISION MAKING PATTERNS. THE EFFECTIVENESS OF THESE DECISIONS WITH RESPECT TO EROSION RATES, PROPERTY VALUE, AND PROJECT COST, CAN BE USED AS AN ADDED CRITERIA FOR FUTURE ALLOCATION OF MONEY AND THE SELECTION OF SITE AND TYPE OF STRUCTURE TO BE BUILT.

2062 YUNGHAYS, R.S.; E.B. FEINBERG; F.J. WOBBER

APPLICATION OF ERIS-1 DATA TO THE PROTECTION AND MANAGEMENT OF NEW JERSEY'S COASTAL ENVIRONMENT [1973]

GOVERNMENT REP ANNOUNC 73(9):62 ABS ONLY NTIS-E73-10330

PHOTOMAPS, USING MSS BANDS 5 AND 7. HAVE BEEN PREPARED DELINEATING THE COASTAL ZONE AS DESCRIBED IN THE COASTAL AREA FACILITY REVIEW ACT BEFORE THE STATE LEGISLATURE. AN UPPER WETLANDS BOUNDARY OVERLAY HAS BEEN PREPARED AT 1:500,000 SCALE. THE MOVEMENT AND DISPERSION OF WASTES IN THE NEW YORK BIGHT AREA ARE BEING PLOTTED WITH EACH ORBIT. THE POSSIBLE IMPACT OF THESE WASTES ON THE NEW JERSEY SHORELINE IS BEING QUANTIFIED.

2063 YUNGHANS, R.S.; E.B. FEINBERG; J.A. STITT; R.L. MAIRS; F.J. WOBBER

APPLICATION OF ERTS-1 DATA TO THE PROTECTION AND MANAGEMENT OF NEW JERSEY'S COASTAL ENVIRONMENT [1974]

NASA, WASHINGTON, DC 267 PP NTIS-E75-10190

QUASI-JPERATIONAL INFÓRMATION PRODUCTS FOR COASTAL ZONE MANAGEMENT HAVE BEEN PREPARED USING ERTS-1 IMAGERY AND COLLATERAL AERIAL PHOTOGRAPHY. THESE PRODUCTS WERE APPLIED TO THE PRACTICAL REGULATION, PROTECTION, AND MANAGEMENT OF NJ'S COASTAL ENVIRONMENT. PROCEDURES WERE DEVELOPED FOR THE OPERATIONAL USE OF ERTS-1 DATA PRODUCTS WITHIN THE NJ DEP. SUCCESSFUL ANALYSIS AND PRODUCT PREPARATION FOR OPERATIONAL NEEDS CENTERED ON FOUR MAJOR COASTAL RESOURCE PROBLEM AREAS; (1) DETECTION OF ENVIRONMENTAL CHANGES IN COASTAL AREAS, (2) SITING DF OCEAN OUTFALLS, (3) MONITORING OF OFFSHORE WASTE DISPOSAL, AND (4) CALCULATION OF RECESSION RATES ALONG THE ATLANTIC SHORE. THE UTILITY AND MONETARY BENEFITS DERIVED FROM ERTS AND AIRCRAFT

IMAGERY FOR EACH PROBLEM AREA HAVE BEEN DETERMINED. THE NJ DEP ESTIMATES THE POSSIBILITY OF \$620.000 YEARLY SAVINGS THROUGH THE USE OF AN OPERATIONAL ERTS SYSTEM AND A ONE-TIME SAVINGS OF \$2.8 MILLION ON CURRENT OR PLANNED PROJECTS IF A TRULY OPERATIONAL ERTS TYPE SATELLITE WERE AVAILABLE.

2064 YUNGHAYS, R.S.; E.B. FEINBERG; F.J. WOBBER; R.L. MAIRS; R.T. MACOMBER; D.T. STANCZUK; J.A. STITT

APPLICATION OF ERIS-1 DATA TO THE PROTECTION AND MANAGEMENT OF NEW JERSEY'S COASTAL ENVIRONMENT--ABSTRACT [1974]

SCI TECH AERO REP 12 (10):1162 ABS ONLY

THE AUTHOR HAS IDENTIFIED THE FOLLOWING SIGNIFICANT RESULTS. RAPID ACCESS TO ERTS DATA WAS PROVIDED BY NASA GSFC FOR THE FEB 26, 1974 OVERPASS OF THE NJ TEST SITE. 47 HRS FOLLOWING THE OVERPASS COMPUTER-COMPATIBLE TAPES WERE READY FOR PROCESSING AT EARTHSAT. THE FINISHED PRODUCT WAS READY JUST 60 HRS FOLLOWING THE OVERPASS AND DELIVERED TO THE NJ DEP. THIS OPERATIONAL DEMONSTRATION HAS BEEN SUCCESSFUL IN CONVINCING NJ DEP AS TO THE WORTH OF ERTS AS AN OPERATIONAL MONITORING AND ENFORCEMENT TOOL OF SIGNIFICANT VALUE TO THE STATE. AN EROSION/ACCRETION SEVERITY INDEX HAS BEEN DEVELOPED FOR THE NJ SHORE CASE STUDY AREA. COMPUTERIZED ANALYSIS TECHNIQUES HAVE BEEN USED FOR MONITORING OFFSHORE WASTE DISPOSAL DUMPING LOCATIONS, DRIFT VECTORS, AND DISPERSION RATES IN THE NEW YORK BIGHT AREA. A COMPUTER SHADE PRINT OF THE AREA WAS USED TO IDENTIFY INTENSITY LEVELS OF ACID WASTE. A LITTON INTENSITY SLICE PRINT WAS MADE TO PROVIDE GRAPHIC PRESENTATION OF DISPERSION CHARACTERISTICS AND THE DUMP EXTENT. CONTINUED MONITORING WILL LEAD TO THE RECOMMENDATION AND JUSTIFICATION OF PERMANENT DUMPING SITES WHICH POSE NO THREAT TO WATER QUALITY IN NEARSHORE ENVIRONMENTS.

2065 ZAFIRIOU, O.C.; J. MYERS; R. BOURBONNIERE; F.J. FREESTONE

OIL SPILL SOURCE CORRELATION BY GAS CHROMATOGRAPHY: AN EXPERIMENTAL EVALUATION OF SYSTEM PERFORMANCE [1977]

PAGES 153-159 IN PREVENTION AND CONTROL OF OIL SPILLS, PROC OF JOINT CONFERENCE, WASHINGTON, DC. MARCH 13-15, 1973

A SIMPLE GAS CHROMATOGRAPHIC METHOD CORRELATES UNKNOWN OILS IN NATURAL WATERS WITH POSSIBLE SOURCE OILS. UNDER THE OPERATING PROCEDURES INVOLVED, UNIQUE MATCHES ARE GENERALLY ACHIEVED WITHOUT MISCORRELATIONS, EVEN WHEN UP TO 15 OILS OF THE SAME TYPE ARE POSSIBLE SOURCES. OIL SAMPLES ARE QUANTITATIVELY CHARACTERIZED BY RATIOS OF INTENSITIES CORRESPONDING TO THEIR CONTENTS OF SEVERAL COMPONENTS OF KNOWN GEOCHEMICAL VARIABILITY AND RESISTANCE TO WEATHERING. THE EFFECTS OF WEATHERING, SAMPLE TYPES, AND ADDED SPILL CONTROL CHEMICALS WERE DETERMINED BY "BLIND" CORRELATION OF 35 ARTICICIALLY WEATHERED OILS, EACH WITH ONE OF 17 POSSIBLE SOURCES. OIL TYPE AND WEATHERING DID NOT SERIOUSLY INFLUENCE SPILL—SOURCE MATCHING SUCCESS. THE PRESENCE OF HIGHLY SIMILAR SOURCE OILS WAS THE MAJOR PERFORMANCE—LIMITING FACTOR.

2066 ZAFIRIOU, O.C.; M. BLUMER; J. MYERS; D.M. STAINKEN

CORRELATION OF OILS AND OIL PRODUCTS BY GAS CHROMATOGRAPHY [1977]

ENVIRON PROT TECHNOL SER. US EPA, NEW YORK, NY 90 PP

A GAS CHROMATOGRAPHIC METHOD IS PRESENTED FOR IDENTIFYING THE DISCHARGE SOURCE OF PETROLEUM OIL POLLUTANTS FOUND AS SLICKS AND SHORELINE RESIDUES. THE METHOD IS USED TO MATCH ENVIRONMENTALLY ALTERED OILS WITH UNMEATHERED SOURCE SAMPLES, A TECHNIQUE KNOWN AS "FINGERPRINTING". ANALYSES OF ARTIFICIALLY AGED OILS AND OF POTENTIAL SPILL SOURCES FOUND IN GREATER NEW YORK HARBOR AND PORTLAND, ME, INDICATED A HIGH RATE OF SUCCESS FOR THE METHOD IN REALISTIC SITUATIONS. THE METHOD WAS DEMONSTRATED TO BE SUITABLE FOR ROUTINE USE WITH WEATHERED AND UNWEATHERED SAMPLES, AND FOR MONITORING LEVELS OF HYDROCARBONS IN ORGANISMS AND SEDIMENTS. THE METHOD CAN BE MODIFIED TO STUDY THE FATE AND EFFECTS OF LOWER LEVELS OF PETROLEUM HYDROCARBONS.

THERMODYNAMICS OF STEADY AND UNSTEADY PROCESSES, INVOLVING HEAT TRANSFER FOR THE CONSOLIDATED EDISON NUCLEAR POWER PLANT AT INDIAN PT. NY [1960]

M.S. THESIS. CUNY. NEW YORK. NY NP

THIS PAPER PRESENTS AN ANALYTICAL APPROACH TO THE HEAT TRANSFER PROBLEM BETWEEN A NUCLEAR POWER PLANT AND ITS SURROUNDINGS, AS APPLIED TO THE CONSOLIDATED EDISON COMPANY NUCLEAR POWER PLANT AT INDIAN POINT, NY. PARTICULAR EMPHASIS IS PLACED ON THE TOPICS USUALLY APPROXIMATED BY OVERCONSERVATIVE ASSUMPTIONS. THESE INCLUDE THE FOLLOWING: A) STEADY STATE ANALYSIS DURING THE NORMAL POWER PLANT OPERATION: B) UNSTEADY STATE ANALYSIS DURING AND AFTER THE MAXIMUM CREDIBLE INCIDENT.

2068 ZAPATKA, M.C.; R.W. HANN. JR.

TECHNICAL AND PHILOSOPHICAL ASPECTS OF OCEAN DISPOSAL [1977]

TSG. COLLEGE STATION. TX 160 PP

OCEANOGRAPHY AND ITS MAJOR GEOLOGICAL, PHYSICAL, CHEMICAL AND BJOLOGICAL PARAMETERS ARE EXAMINED AS THEY RELATE TO OCEAN DISPOSAL. THE PRINCIPAL TECHNICAL ASPECTS OF OCEAN DISPOSAL ARE COVERED, INCLUDING A DISCUSSION OF THE QUALITIES AND QUANTITIES OF WASTE MATERIALS (DREDGED MATERIALS, INDUSTRIAL WASTES, DOMESTIC SEMAGE WASTES, SOLID WASTES, RADIOACTIVE WASTES, CONSTRUCTION AND DEMOLITION DEBRIS, AND MILITARY WASTES); DISPOSAL METHODS (BARGES, CONTAINERIZED METHODS, SUBMARINE OUTFALLS, CHASE, AND INDIRECT DISCHARGE); TRANSPORT OF THE MATERIALS (PHYSICAL FACTORS AFFECTING TRANSPORT AND DISPERSION, DIFFUSION COEFFICIENTS, AND WASTE DISPERSION STUDIES); EFFECTS OF WASTE DISPOSAL ON MARINE LIFE (TOXICITY, O2 DEPLETION, BIOSTIMULATION, AND HABITAT CHANGES); EFFECTS OF WASTE DISPOSAL ON HUMANS (HEALTH, AESTHETICS, AND ECONOMICS); RELEVANT LEGISLATION (PUBLIC LAW 92-500, PUBLIC LAW 92-532 AND PERMIT OPERATIONS); DISPOSAL SITES (THE NEW YORK BIGHT, THE GULF OF MEXICO, THE CHESAPEAKE STORAGE, LAND DISPOSAL SITES (THE NEW YORK BIGHT, THE GULF OF MEXICO, THE CHESAPEAKE STORAGE, LAND DISPOSAL, RECYCLING, AND ADVANCED TREATMENT). THE PHILOSOPHICAL ASPECTS OF OCEAN DISPOSAL DISCUSSED INCLUDE THE SIGNIFICANCE OF THE OCEAN, THE ULTIMATE SINK, THE INFINITE SINK, CONSERVATION OF MATTER, ASSIMILATION CAPACITY OF THE OCEAN, MIXING AND DILUTION, OCEAN VS. ESTUARY, WASTE OR NUTRIENT, THE EFFECT ON THE BALANCE OF NATURE, HEALTH RISK, ACUTE TOXICITY VS. CHRONIC TOXICITY, LOCAL IMPACT VS. GLOBAL IMPACT, OUT OF SIGHT OUT OF MIND, THE LAYMAN'S VIEWPOINT, AESTHETICS, INFLUENCE OF ENVIRONMENTALISTS, HUMAN FACTORS, LACK OF KNOWLEDGE, ARGUMENT OF UNREALISTIC LEGISLATION, ARGUMENT OF ALTERNATIVE DISPOSAL METHODS, ECONOMICS, AND AN IRREVERSIBLY POLLUTED OCEAN. BOTH SIDES OF EACH PHILOSOPHICAL ISSUE ARE PRESENTED WHENVER POSSIBLE.

2069 ZAROOGIAN, G.E.; S. CHEER.

ACCUMULATION OF CADMIUM BY THE AMERICAN OYSTER, CRASSOSTREA VIRGINICA [1976]

NATURE 261(5559):408-410

CADMIUM IS A MAJOR ENVIRONMENTAL POLLUTANT POTENTIALLY HARMFUL TO HEALTH, AND IF THE SEA BECOMES POLLUTED WITH THIS METAL THERE COULD BE A REDUCTION IN EXTENSIVE SOURCES OF FOOD. SEAFOODS CONSTITUTE A SOURCE OF CD IN THE HUMAN DIET AND IN VIEW OF ABUNDANT EVIDENCE THAT SHELLFISH ACCUMULATE TRACE METALS IT IS IMPORTANT TO INVESTIGATE CD POLLUTION. PEOPLE HAVE BECOME ILL FROM CD POISONING AFTER INGESTING FOODS CONTAINING CONCENTRATIONS OF 13-15 MICROG/G (13-15 PPM). WE NOW REPORT THAT ADULT DYSTERS REARED IN SEAWATER CONTAINING 0.005 PPM CD ACCUMULATED UP TO 10.75 PPM IN 40 WEEKS. THIS ACCUMULATION, PLUS CD NATURALLY PRESENT, BROUGHT THE CONCENTRATION OF CD TO 13 PPM IN THE SOFT TISSUE, WHICH REPRESENTS A POTENTIAL HEALTH HAZARD IF OYSTERS CONSTITUTE A MAJOR ITEM OF THE DIET.

2070 ZAROOGIAN, G.E.

STUDIES ON THE DEPURATION OF CADMIUM AND COPPER BY THE AMERICAN OYSTER CRASSOSTREA VIRGINICA [1979]

BULL ENVIRONM CONTAM TOXICOL 23(1-2):117-122

AN ATTEMPT WAS MADE TO ESTABLISH UNDER LABORATORY CONDITIONS WHETHER CD- AND CU-TREATED DYSTERS, (C. VIRGINICA) WOULD DEPURATE ACCUMULATED CD AND CU WHEN RETURNED TO CLEANER WATERS CONTAINING NATURAL CONCENTRATIONS OF THESE METALS. THE DYSTERS WERE TREATED WITH CD FOR 40 MK. DEPURATION OF CD PROCEEDED FOR 16 MK. SINCE THE DYSTERS CONTAINED HIGH CONCENTRATIONS OF CU AT THE TIME OF COLLECTION FROM LONG ISLAND SOUND, DEPURATION OF CU WAS STUDIED FOR 56 MK. NO SIGNIFICANT DECREASE IN CU CONCENTRATIONS OCCURRED IN EITHER THE CONTROL OF CD-TREATED DYSTERS WITH INCREASING OR DECREASING TEMPERATURE REGIMES. A GENERAL INCREASING TREND RATHER THAN A DECREASED CU CONCENTRATION WITH TIME WAS INDICATED. DEPURATION OF CD APPARENTLY DID NOT OCCUR WHEN METAL CONCENTRATION ALONE WAS STUDIED: WHEN THE RELATIONSHIPS OF CONTENT AND WEIGHT WITH TIME WERE INCLUDED, A LOSS OF CD WAS INDICATED SINCE CONTENT DECREASED OVER TIME AS DID WEIGHT. DURING THE DEPURATION PERIOD, CD CONTENT SIGNIFICANTLY DECHEASED FROM 608 TO 270 MICROG (=56%).

2071 ZARUDSKY, J.D.

ADAPTATION OF THE CLAPPER RAIL. RALLUS LONGINOSTRIS CREPITANS GENELIN TO ARTIFICIAL NESTING STRUCTURE ON THE TOWN OF HEMPSTEAD SALT MARSHES OF LONG ISLAND, NEW YORK [1972]

M.A. THESIS. HOFSTRA UNIV. HEMPSTEAD, NY 170 PP

THE NORTHERN CLAPPER RAIL, RALLUS LONGINOSTIS CREPITANS GENELIN IS AN INHABITANT OF ESTUARINE SALT MARSHES. SUCCESSIVE EXTREME HIGH TIDES AND STRONG WINDS OCCURRING DURING THE BIRD'S NESTING CYCLE CAN SEVERLY LIMIT A YEAR'S PRODUCTION BY CAUSING THE DESTRUCTION OF EGG NESTS AND OF THE BROODS TO REDUCE MORTALITY CAUSED BY THESE CLIMATIC CONDITIONS, 128 ARTIFICIAL NEST STRUCTURES WERE ESTAPLISHED ON VARIOUS SALT MARSH ISLAND. DURING A 2 YR PERIOD DETERMINABLE USE FOR ONE OR MORE OF THESE ACTIVITIES OCCURRED IN 76% OF THE NEST STRUCTURES. ADAPTATIONS FOR NESTING OVER A 2 YR PERIOD MAY HAVE RESULTED IN RED ADULTS OR MEMBERS OF THE BROOD IMPRINTING ON THEM; I.E. NESTING EITHER OCCURRED IN THE SAME STRUCTURE TWO SEASONS OR IN A STRUCTURE LOCATED IN THE SAME AREA TO WHERE NESTING IN A STRUCTURE OCCURRED THE PREVIOUS SEASON.

2072 ZAUBEN. D.

REHABILITATION OF BAY SCALLOP FISHERY OF LONG ISLAND, NEW YORK [1977]

NOAA, BOULDER, CO NTIS-PB-266 363

A HISTORICAL SURVEY WAS UNDERTAKEN TO DETERMINE AREAS ON LONG ISLAND WHICH HAD FORMERLY PRODUCED BAY SCALLOPS (PECTIN IRRADIAN) BUT WHICH NO LONGER DO SO. AS A RESULT OF THE SURVEY, FIVE AREAS WERE SELECTED FOR SCALLOP TRANSPLANTS. IN A COOPERATIVE EFFORT WITH THE TOWN OF ISLIP, A SCALLOP TRANSPLANT TO THAT TOWN'S WATERS, LOCATED IN GREAT SOUTH BAY WAS ALSO CONDUCTED. SEVERAL ENVIRONMENTAL PARAMETERS WERE MEASURED INCLUDING TEMPERATURE, DISSOLVED OXYGEN, ORGANIC CARBON AND PHYTOPLANKTON COMPOSITION AND DEVSITY IN BOTH THE CONTROL AREA (ORIENT HARBOR) AND EACH OF THE TRANSPLANT AREAS TO DETERMINE IF THERE WERE ANY GROSS DIFFERENCES BETWEEN THE STUDY AREAS AND THE CONTROL AREA. UPON COMPLETION OF THE PROGRAM, THERE WERE NO INDICATIONS THAT THE TRANSPLANTED SCALLOPS HAD ESTABLISHED THEMSELVES IN ANY OF THE FOUR AREAS WHERE NONE EXISTED IMMEDIATELY PRIOR TO THE PROGRAM. OF ALL THE ENVIRONMENTAL PARAMETERS MONITORED. ONLY ORGANIC CARBON SHOWED ANY GREAT DEVIATION FROM THE CONTROL AREA.

2073 ZAVRAS, E.T.; H.A. JAMES

CAROTENOIDS FOUND IN LITTORINA LITTOREA, AND THEIR RELATIONSHIP TO PARASITIC INFECTION BY LARVA TREMATODES [1979]

J INVERT PATHOL 34(3):276-284

L. LITTOREA, FROM LONG ISLAND SOUND, FEED PRIMARILY ON ALGAE: CHLOROPHYCEAE (THREE SPECIES) AND RHODOPHYCEAE (TWO SPECIES). CAROTENOIDS FROM THE ALGAE ACCUMULATE IN TISSUES OF THE SNAIL IN EITHER AN UNCHANGED OR A METABOLIZED STATE. CAROTENE, THE

MAJOR PIGMENT OF GREEN AND RED ALGAE, WAS ISOLATED FROM THE FOOT, NEPATOPANCREAS, AND HEPHRIDIUM OF THESE SNAILS SIX OXYGENATED CAROTENOIDS, NOT COMPLETELY IDENTIFIED, WERE ISOLATED FROM THE SAME TISSUES. THE SNAILS SHOW A VARIATION IN FOOT COLOR FROM WHITE TO BROWN TO RED. L. LITTOREA IS PARASITIZED BY TREMATODE LARVAE OF CRYPTOCOTYLE LINGUA AND CERCARIA PARVICAUDATA FROM WHICH CAROTENE AND ONE OXYGENATED CAROTENOID WERE ISOLATED. CONTRARY TO PREVIOUS WORK, THERE IS NO RELATION BETWEEN FOOT COLOR OF THE SNAIL AND PARASITIC INFECTION. NEITHER AGE NOR SEX APPEARS TO HAVE ANY RELATION TO FOOT COLOUR. ALTHOUGH CAROTENOID PIGMENTS ARE KNOWN TO CAUSE THE VARIATION IN FOOT COLOR, THE REASONS OR FACTORS FOR THEIR ACCUMULATION IN THE SNAIL TISSUE HAVE NOT BEEN ESTABLISHED. SOME HYPOTHETICAL EXPLANATIONS ARE DISCUSSED.

2074 ZEMBRZUSKI, T.J., JR.; B. DUNN

TECHNIQUES FOR ESTIMATING MAGNITUDE AND FREQUENCY OF FLOODS ON RURAL UNREGULATED STREAMS IN NEW YORK STATE EXCLUDING LONG ISLAND [1979]

USGS. ALBANY. NY 66 PP

TECHNIQUES ARE PRESENTED FOR ESTIMATING THE MAGNITUDE AND FREQUENCY OF FLOODS AT UNGAGED SITES ON UNREGULATED RURAL STREAMS IN NEW YORK, EXCLUDING LONG ISLAND. DISCHARGE-FREQUENCY DATA AND BASIN CHARACTERISTICS OF 220 GAGING STATIONS IN NY AND ADJACENT STATES WERE USED IN MULTIPLE LINEAR REGRESSION ANALYSES TO DEVELOP EQUATIONS FOR FLOODS THAT RANGE IN RECURRENCE INTERVAL FROM 2 TO 100 YRS. SEPARATE EQUATIONS WERE DEVELOPED FOR NORTHERN, SOUTHEASTERN, AND WESTERN REGIONS OF NY. DRAINAGE AREA IS THE INDEPENDENT VARIABLE NEEDED IN ALL EQUATIONS; OTHER VARIABLES NEEDED, DEPENDING ON REGION, ARE MAIN-CHANNEL SLOPE, STORAGE INDEX, AND MEAN ANNUAL PRECIPITATION. A METHOD IS GIVEN FOR OBTAINING IMPROVED DISHARGE-FREQUENCY RELATIONSHIPS AT GAGE SITES BY WEIGHTING LOG-PEARSON TYPE III AND REGRESSION ESTIMATES ACCORDING TO THEIR VARIANCES. BASIN CHARACTERISTICS, LOG-PEARSON TYPE III STATISTICS, AND REGRESSION AND WEIGHTED ESTIMATES OF THE DISCHARGE-FREQUENCY RELATIONSHIP ARE TABULATED FOR THE NEW YORK GAGING STATIONS USED IN THE REGRESSION AND WEIGHTED ESTIMATES OF THE DISCHARGE-FREQUENCY RELATIONSHIP ARE TABULATED FOR THE NEW YORK GAGING STATIONS USED IN THE REGRESSION AND WEIGHTED ESTIMATES OF THE DISCHARGE-FREQUENCY RELATIONSHIP ARE TABULATED FOR THE NEW YORK GAGING STATIONS USED IN THE REGRESSION AND WEIGHTED ESTIMATES OF THE DISCHARGE-FREQUENCY RELATIONSHIP ARE TABULATED FOR THE NEW YORK GAGING STATIONS USED IN THE REGRESSION AND WEIGHTED ESTIMATES OF THE DISCHARGE-FREQUENCY RELATIONSHIP ARE TABULATED FOR THE NEW YORK GAGING STATIONS USED IN THE REGRESSION AND WEIGHTED ESTIMATES OF THE DISCHARGE-FREQUENCY RELATIONSHIP ARE TABULATED FOR THE NEW YORK GAGING STATIONS USED IN THE REGRESSION AND WEIGHTED ESTIMATES OF THE DISCHARGE-FREQUENCY RELATIONSHIP ARE TABULATED FOR THE NEW YORK GAGING STATIONS USED IN THE REGRESSION AND WEIGHTED ESTIMATES.

2075 ZEPPIE, C.R.

VERTICAL PROFILES AND SEDIMENTATION RATES OF CD. CR. CU. NI. AND PB IN JAMAICA BAY, NY [1977]

M.S. THESIS. SUNY, STONY BROOK. NY 85 PP

CONCENTRATIONS OF PB, CU, CR, CD, NI, TOTAL CARBON AND NITROGEN, AND OTHER SEDIMENT PARAMETERS WERE MEASURED IN SEDIMENT CORES OBTAINED AT SIX LOCATIONS IN JAMAICA BAY, NY. TWO SAMPLING SITES WERE LOCATED IN A MAN-MADE IMPOUNDMENT CREATED 23 YRS AGO UPON AN INTERTIDAL SALT MARSH. PB-210 GEOCHRONOLOGIES YIELDED SEDIMENTATION RATES OF 0.5 +/- 0.1 CM/YR FOR THE CENTRAL BAY, 0.8 +/- 0.1 CM/YR FOR THE INTERTIDAL MARSH, AND 0.2 +/- 0.07 CM/YR FOR THE IMPOUNDMENT. INCREASED FLUXES OF CU, CD, AND PB TO THE SEDIMENTS OF JAMAICA BAY HAVE OCCURRED IN THE LAST 30 YRS. THE INCREASE IN THE FLUX OF PB IS ATTRIBUTED TO THE COMBUSTION OF LEADED GASOLINE IN AUTOMOBILES. THE MOST IMPORTANT ROUTE OF PB TO THE SEDIMENTS OF THE BAY WAS FOUND TO BE RUNOFF FROM THE URBAN ENVIRONMENT. HIGHER FLUXES OF CU AND GD ARE ATTRIBUTED TO INCREASES IN THE CONCENTRATION OF THESE METALS IN RESIDENTIAL WASTEWATER. THE FLUXES OF NI AND CR HAVE REMAINED FAIRLY CONSTANT OVER THIS SAME PERIOD.

2076 ZIMMERMAN, R.

ORGANIZATIONAL EVALUATION OF INDUSTRIAL WATER POLLUTION CONTROL IN THE NEW YORK REGION [1973]

WATER RESOUR BULL 4(6):1210-1224

NON-TECHNOLOGICAL FACTORS RELATED TO THE BEHAVIOR AND CHARACTERISTICS OF ORGANIZATIONS INVOLVED IN POLLUTION CONTROL ARE EXPLORED HERE AS TO THEIR IMPORTANCE AS DETERMINANTS OR INDICATORS OF THE LEVEL OF POLLUTION CONTROL EFFECTIVENESS. METHODS OF EVALUATING THE EXISTING LEVEL OF EFFECTIVENESS ARE DEVELOPED AND TESTED USING THE RESPONSE OF A SELECTED SET OF INDUSTRIAL ESTABLISHMENTS TO STATE WATER POLLUTION ABATEMENT ACTION IN THE NEW YORK REGION FROM 1966 TO 1971. THE COMPLIANCE OF 209

MANUFACTURING ESTABLISHMENTS TO STATE ABATEMENT ORDERS IN THE NEW YORK REGION IS EVALUATED WITH RESPECT TO SELECTED ORGANIZATIONAL AND INDUSTRIAL CHARACTERISTICS AND CHARACTERISTICS OF THE FIRMS' SOCIOECONOMIC ENVIRONMENT. THE INFLUENCE OF STATE POLICIES AND PROGRAMS IS ALSO DISCUSSED. IT WAS FOUND THAT THE DEGREE OF COMPLIANCE TO STATE ABATEMENT ACTION BY INDUSTRY IN THE REGION IS POSITIVELY RELATED TO ORGANIZATION SIZE, THE EXTENT OF WASTE GENERATION, THE WEALTH AND SIZE OF THE TOWN IN WHICH THE FIRM IS LOCATED, AND THE AVAILABILITY OF WASTE TREATMENT FACILITIES IN THE TOWN. THE AGE OF THE FIRM WAS NOT RELATED TO COMPLIANCE. THE STRUCTURE OF STATE ABATEMENT SCHEDULING ALSO INFLUENCES THE DEGREE OF COMPLIANCE. THE METHODS OF ANALYSIS USED HERE PROVIDE A BASIS FOR A COMPREHENSIVE ANALYSIS OF THE EFFECTIVENESS OF POLLUTION CONTROL AS AN ALTERNATIVE TO THE CASE APPROACH THAT IS CURRENTLY BEING USED.

2077 ZIMMIE. T.F.; T.J. TOFFLEMIRE

DISPOSAL OF PCB CONTAMINATED SEDIMENTS IN THE HUDSON RIVER [1977]

PAGES 950-864 IN ASCE SPECIAL CONFERENCE OF GEOTECH ENG DIV. JUNE 1977. ANN ARBOR. MI. ASCE. NEW YORK. NY

REMOVAL EFFICIENCES OF 99% SS AND 98% PCBS WERE OBTAINED AT BUOY 212 ON THE HUDSON RIVER WITHOUT CHEMICALS WHEN LAGOON FLOW THROUGH TIME WAS INCREASED TO 45 MIN COMPARED TO 15 MIN AT LOCK 1. THREE CATIONIC POLYMERS WERE MOST COST EFFECTIVE IN REDUCING SS AND PCBS IN THE LAGOON EFFLUENTS. POLYMER CONCENTRATIONS OF 15-20 MG/L WERE MOST EFFECTIVE AND REDUCED THE SS AND PCB CONCENTRATIONS AT BUOY 212 FROM 500 MG/L TO 250 MG/L FOR SS AND FROM 100 LG/L TO 50 LG/L FOR PCBS. THE CORRESPONDING REMOVAL EFFICIENCIES WERE INCREASED TO 99.5% FOR SS AND 99% FOR PCBS. THE USE OF POLYMERS WAS EFFECTIVE AT LOCK 1 IN SPITE OF THE RELATIVELY SHORT DETENTION TIME OF 15 MIN. REMOVAL EFFICIENCIES WERE INCREASED FOR SS FROM 80% WITHOUT POLYMERS TO 96% WITH POLYMERS.

2078 ZIMMIE, T.F.; T.J. TOFFLEMIRE

MAINTENANCE DREDGING AND TOXIC SUBSTANCES [1978]

PAGES 704-719 IN PROC, 2ND INTERNAT^el waterborne transp conference, asce urban transp div special comference, new york, ny, oct 5-7 1977. Asce, new york, ny

AS MORE TOXIC SUBSTANCES ARE DISCOVERED IN WATERWAYS, REGULATION OF DREDGING OPERATIONS WILL INCREASE, WITH IMPORTANT ECONOMIC IMPLICATIONS. MANY TOXIC SUBSTANCES WILL BE OF INTEREST TO THOSE CONCERNED WITH DREDGING, BECAUSE THESE SUBSTANCES POSSESS THE COMMON CHARACTERISTIC OF LOW SOLUBILITY IN WATER. THESE SUBSTANCES WILL BE FOUND IN HIGH CONCENTRATIONS IN THE BOTTOM SEDIMENTS. EXAMPLES OF DREDGING OPERATIONS IN THE HUDSON RIVER, DEALING WITH PCB CONTAMINATED SEDIMENTS, ARE DISCUSSED. DETENTION TIME, CHEMICAL TREATMENT, FLOATING BOOMS, AND LANDFILL DISPOSAL SITES ARE DISCUSSED.

2079 ZISKOWSKI, J.J.; R.A. MURCHELANO

FIN EROSION IN WINTER FLOUNDER [1975]

MAR POLLUT BULL 6(2):26-29

DISEASED FISH SHOWING EROSION OF THE FINS HAVE BEEN RECORDED FROM POLLUTED WATERS IN SEVERAL PARTS OF THE WORLD. RESULTS OF A YEAR'S SURVEY OF FIN EROSION AMONG FISH IN OCEANIC AND ESTUARINE WATERS OF NEW YORK BIGHT ARE PRESENTED. THE PRISTINE GREAT BAY WAS CHOSEN AS A CONTROL FOR THE HEAVILY CONTAMINATED SANDY HOOK-RARITAN BAY SYSTEM. ALMOST ALL FIN EROSION WAS CONFINED TO DEMERSAL FLAT FISH, PARTICULARLY THE 4INTER FLOUNDER, A SPECIES WHICH SPENDS A LONG TIME IN POLLUTED ESTUARIES NEAR SANDY HOOK.

2080 ZISKOJSKI, J.J.; V.T. ANDERSON, JR.; R.A. MURCHELANO

A BENT FIN RAY CONDITION IN WINTER FLOUNDER, PSEUDOPLEURONECTES AMERICANUS, FROM SANDY HOOK AND RARITAN BAYS. NEW JERSEY. AND LOWER BAY, NEW YORK [1980]

COPEIA 4:895-899 .

FIN ERGSION DISEASE IS THE MOST APPARENT PATHOLOGIC CONDITION AMONG FISHES CAPTURED IN THE POLLUTED WATERS OF SANDY HOOK AND RARITAN BAYS, NJ, AND LOWER BAY, NY. ALTHOUGH SEVERAL SPECIES ARE AFFECTED, THE DISEASE IS MOST PREVALENT IN DEMERSAL FLATFISHES. OTHER, LESS STRIKING ABNORMALITIES ARE OBSERVED HERE AMONG TELEOSTS. AMONG THESE IS A BENT FIN RAY CONDITION OF WINTER FLOUNDER. THE AUTHORS OBSERVED FLOUNDER WITH THIS CONDITION FROM 3973 TO 1978. THESE FISH ARE SPAWNED AND RESIDE FOR SEVERAL YEARS IN THE HEAVILY POLLUTED WATERS OF THE INNER NEW YORK BIGHT. DETAILED OBSERVATIONS OF BENT FIN RAYS IN THESE FISH WERE MADE IN 1976: THIS REPORT CONSTITUTES THE FIRST DESCRIPTION OF THIS CONDITION IN WINTER FLOUNDER.

2081 ZOGORSKI, J.S.; S.D. FAUST

ATMOSPHERIC REAERATION CAPACITY OF STREAMS. PART 11. DIRECT MEASUREMENT OF THE ATMOSPHERIC REAERATION RATE CONSTANT IN THE UPPER PARITAN RIVER BASIN [1973]

ENVIRON LETT 4(1):61-85

THE FEASIBILITY OF USING THE DISTURBED EQUILIBRIUM METHOD, MODIFIED BY GAMESON AND TRUESDALE. IN DIRECTLY MEASURING THE REAERATION RATE CONSTANT WAS DETERMINED AND ALSO WHICH, IF ANY, OF THE EMPIRICAL PREDICTIVE EQUATIONS COULD BE SUCCESSFULLY APPLIED IN ESTIMATING REAERATION RATE CONSTANT. TWO STUDY SITES, RARITAN RIVER AND LAMINGTON RIVER, NJ, WERE SELECTED BASED ON CHANNEL UNIFORMITY AND AS BEING REPRESENTATIVE OF THE RIVER. TO CREATE AN OXYGEN DEFICIT REQUIRED FOR MEASUREMENT, A CATALYZED SODIUM SULFITE SOLUTION WAS INTRODUCED. TO EVALUATE VARIOUS EMPIRICAL EQUATIONS, THE MEAN VELOCITY AND MEAN DEPTH DURING EACH EXPERIMENT WERE DETERMINED. AN ADDITIONAL CRITERION WHICH MUST BE SATISFIED WHEN MEASURING REAERATION RATE CONSTANT VALUES BY THE GAMESON AND TRUESDALE METHOD IS THAT COMPLETE HORIZONTAL AND VERTICAL MIXING OF THE DEPLETED WATER BODY MUST OCCUR BEFORE THE FIRST SAMPLING STATION IS REACHED. THESE REAERATION EXPERIMENTS INDICATE THAT THIS METHOD, AS MODIFIED BY GAMESON AND TRUESDALE, CAN BE SUCCESSFULLY APPLIED TO MEASURE THE REAERATION RATE CONSTANT DIRECTLY IN SMALL, SHALLOW STREAMS. THE PREDICTIVE EQUATION OF OWNES, EDWARDS, AND GIBBS, FOR SHALLOW STREAMS PROVIDED THE BEST STATISTICAL FIT TO THE REAERATION RATE CONSTANT VALUES. THE PREDICTIVE EQUATION FOR DEEP STREAMS VIELDED THE SECOND BEST FIT.

2082 TUBARIK, L.S.: J.M. O'CONNOR

RADIOISOTOPIC STUDY OF MERCURY UPTAKE BY HUDSON RIVER BIOTA [1978]

PAGES 273-287 IN J.H. THORP AND J.W. GIBBONS, EDS. ECOL SYMP ON ENERGY AND ENVIRON STRESS IN AQUATIC SYSTEMS, AUGUSTA, GA, 2 NOV 1977

PLANKTONIC ORGANISMS FROM THE HUDSON RIVER WERE EXPOSED TO VARIOUS FORMS OF MERCURY (HG-203) TO EVALUATE THE ROLE OF ESTUARINE FORAGE ORGANISMS IN THE KINETICS OF TOXIC METAL TRANSPORT IN AQUATIC SYSTEMS. MERCURY ACCUMULATION WAS EXPRESSED AS CONCENTRATION PER UNIT TIME. CONCENTRATION FACTORS RANGED FROM 10 EXP2 TO 10 EXP2 TO 10 EXP2 THAT IN THE FILTERED RIVER WATER. HG-203 UPTAKE WAS GREATER IN MICROZOOPLANKTON AND ALGAE THAN IN MACROZOOPLANKTON AND FISH LARVAE. THE AMPHIPOD GAMMARUS SP. WAS TO TO CHANGES IN ENVIRONMENTAL CONDITIONS. EXPOSURE TO THE INFORMATION OF THE FORM OF HG OR TO CHANGES IN ENVIRONMENTAL CONDITIONS. EXPOSURE TO THE INFORMATION OF THE FORM OF HG OR TO CHANGES IN ENVIRONMENTAL CONCENTRATION OF THE FOUR FORMS OF HG (METHYL MERCURY CHLORIDE AND PHENYL MERCURIC ACETATE) SHOWED NO DIFFERENCES IN CONCENTRATION OF THE FOUR FORMS OF HG AFTER A 1-DAY EXPOSURE. CONCENTRATION OF THE ORGANIC FORMS BY GAMMARUS SP. WAS THREE TIMES GREATER THAN THAT OF INORGANIC HG COMPOUNDS AFTER EXPOSURE FOR 1 WEEK. STUDIES OF HG UPTAKE THROUGHOUT THE YEAR SHOWED THAT UPTAKE OF ALL THE HG COMPOUNDS TESTED INCREASED DURING THE SUMMER MONTHS, BUT UPTAKE OF ORGANIC COMPOUNDS INCREASED TO A GREATER EXTENT THAN THAT OF INORGANIC COMPOUNDS. TEMPERATURE CHANGE WAS SHOWN TO BE AN IMPORTANT VARIABLE FOR DETERMINING THE DEGREE OF UPTAKE; HOWEVER, NO SINGLE ENVIRONMENTAL PARAMETER ADEQUATELY EXPLAINED THE SEASONAL FLUCTUATIONS IN HG UPTAKE.

2083 AEC

FINAL ENVIRONMENTAL STATEMENT RELATED TO THE PROPOSED CONSTRUCTION OF MILLSTONE NUCLEAR POWER STATION, UNIT 3, MILLSTONE POINT COMPANY [1974]

AEC. WASHINGTON, DC 401, PP NTIS-50423-80

THE PROPOSED MILLSTONE NUCLEAR POWER STATION, UNIT 3, WILL EMPLOY A PRESSURIZED WATER REACTOR AND WILL BE LOCATED IN THE TOWN OF WATERFORD, CT. ON MILLSTONE POINT. COOLING WILL BE BY A ONCE-THROUGH FLOW OF WATER FROM NIANTIC BAY WHICH WILL BE DISCHARGED THROUGH A QUARRY POND INTO LONG ISLAND SOUND. ENVIRONMENTAL IMPACTS ARE ASSESSED AND AFTER CONSIDERATION OF ALTERNATIVES AN ENVIRONMENTAL BENEFIT-COST SUMMARY WAS COMPILED. ENVIRONMENTAL FACTORS CONSIDERED INCLUDE CLIMATE, HYDROLOGY (SURFACE WATER AND GROUNDWATER), ECOLOGY INCLUDING AQUATIC LIFE, COOLING-WATER SUPPLY AND DISCHARGE, COOLING TOWERS, COOLING LAKES, SPRAY PONDS, RADIOACTIVE CHEMICAL AND SANITARY WASTES, AMOUNT OF DISSOLVED OXYGEN AND TOXIC CHEMICALS IN EFFLUENT WATER. THE CONCLUSION IS TO ISSUE A CONSTRUCTION PERMIT SUBJECT TO CERTAIN STIPULATED CONDITIONS RELATING TO THE IMPACT OF CONSTRUCTION, LANDSCAPING TECHNIQUES FOR SCREENING, MORTALITY OF BIOTA, ECOLOGICAL EFFECTS OF DISCHARGE, SURVEILLANCE AND MONITORING OF AREA, AND PROVIDE A COURSE OF ACTION TO ALLEVIATE IRREVERSIBLE DAMAGES.

2084 ALEXANDER POTTER ASSOCIATES, CONSULTING ENGINEERS

COMPREHENSIVE SEWERAGE STUDY -- ORANGE COUNTY, NEW YORK [1976]

WPC-CS-209. ALEXANDER POTTER ASSOC, NEW YORK, NY NP

THE STUDY DEALS WITH THE REQUIREMENTS OF ORANGE COUNTY COMMUNITIES THROUGH THE YEAR 2020 IN TERMS OF EXPECTED POPULATION GROWTH, MAKES A DETERMINATION OF POTENTIAL SERVICE AREAS, RECOMMENDS FUTURE INTERCEPTOR SYSTEMS AND TREATMENT PLANTS, AND GIVES PRELIMINARY ESTIMATES ON LOCATION, CAPACITIES AND COSTS. SEVERAL ALTERNATIVES ARE PRESENTED IN SOME BASINS. THE RECOMMENDED ALTERNATIVE MAY REQUIRE THE ACCEPTANCE OF THE PROJECT BY SEVERAL COMMUNITIES AND THE PROJECT MAY NOT MATERIALIZE IF SOME COMMUNITIES DO NOT PARTICIPATE. THIS WILL REQUIRE REEVALUATION OF THE PROJECT AND THE SELECTION OF OTHER ALTERNATIVES.

2085 ANDERSON-NICHOLS AND CO, INC

DELINEATION OF FLOOD HAZARD AREAS: RARITAN RIVER [1972]

FLOOD HAZARD REP NO 2. ANDERSON-NICHOLS AND CO INC. BOSTON. MA 30 PP

GENERAL REASONS FOR FLOODING PROBLEMS AS WELL AS SPECIFICS ABOUT THE RARITAN RIVER SITUATION ARE GIVEN. 331 LINEAL STREAM MILES OF FLOOD PLAINS WERE STUDIED WITHIN THE 1,100 SQ MI OF RAITAN RIVER BASIN. THIS STUDY COVERS THE RARITAN RIVER AND CONTAINS SOME INFORMATION ON 6 SUB-WATERSHEDS: SOUTH BRANCH AND NORTH BRANCH RARITAN RIVER, MILLSTONE RIVER, GREEN BROOK, LAWRENCE BROOK AND SOUTH RIVER. A NUMBER OF MAJOR FLOODS HAVE OCCURRED SINCE THE EARLIEST RECORDED IN 1810. THE 30.6 MI SEGMENT OF THE RARITAN RIVER IN THIS REPORT SLOPES AT AN AVERAGE OF 2.3 FT/MI AND FLOWS THROUGH 18 COMMUNITIES. DESIGN DISCHARGES HAVE BEEN CALCULATED FOR THIS REGION. FOR THE FLOODWAY, THE DISCHARGE IS 2.4 TIMES THE MEAN ANNUAL FLOOD AND FOR THE FLOOD HAZARD AREA IT IS 3.0 TIMES THE MEAN ANNUAL FLOOD. THE PEAK DISCHARGE FOR THE FLOODWAY IS 54,000 CU FT/SEC AND FOR THE FLOOD HAZARD AREA, 67,500 CFS. CONTOUR MAPS SHOW THE DELINEATION OF THE FLOODWAY AND FLOOD FRINGE AREA. THE FOLLOWING RECOMMENDATIONS ARE GIVEN: COMMUNITIES ALONG THE RIVER SHOULD ESTABLISH REGULATIONS TO CONTROL LAND USE ALONG THE RIVER; NO FILL OR STRUCTURE SHOULD BE PERMITTED IN THE FLOODWAY WHICH WOULD ALTER THE NATURAL FLOW OF THE RIVER; IN THE FLOOD FRINGE THE LOWEST FLOOR ELEVATION SHOULD BE AT LEAST A FOOT ABOVE THE FLOOD HAZARD DESIGN ELEVATION; THE POSSIBILITY OF STRUCTURAL FLOOD REDUCTION MEASURES SHOULD BE CONSIDERED PERIODICALLY; NATIONAL FLOOD INSURANCE SHOULD BE CONSIDERED; AND MUNICIPALITIES SHOULD CONSIDER TAXING LAND THAT IS NOT SUITABLE FOR DEVELOPMENT BECAUSE OF LOCATION IN A FLOOD AREA.

POTENTIAL ONSHORE EFFECTS OF DEEPWATER OIL TERMINAL-RELATED INDUSTRIAL DEVELOPMENT, VOLUME I [1973]

COUNCIL ON ENVIRON QUALITY, WASHINGTON, DC NP

AN ASSESSMENT OF THE ONSHORE, OR SECONDARY, EFFECTS OF DEEPWATER TERMINAL DEVELOPMENT ON EACH OF 5 AREAS (MACHIAS, ME; THE VICINITY OF SANDY HOOK, NJ; THE DELAWARE BAY, NJ; GRAND ISLE, LA; AND FREEPORT, TX) SELECTED AS TERMINAL LOCATIONS. THE RELATIVE SUITABILITY OF EACH AREA AS A TERMINAL SITE IS AFFECTED BY THE RELATIVE IMPACTS OF A TERMINAL ON THE AREA, INCLUDING THE ADDITIONAL INDUSTRIAL DEVELOPMENT, PRODUCTION, EMPLOYMENT, AIR AND WATER POLLUTION, LAND USE, POPULATION CHANGES, ETC., RESULTING FROM TERMINAL DEVELOPMENT. THE TERMINAL IMPACTS ARE RELATED TO THE NORMAL CUMULATIVE EFFECTS OF GROWTH PROCESSES ON VARIOUS INDIVIDUAL AREAS AND REGIONS IN ORDER TO ILLUSTRATE THEIR APPARENT CAPACITY TO ACCOMMODATE TERMINAL—RELATED GROWTH.

2087 ARTHUR D. LITTLE, INC

POTENTIAL ONSHORE EFFECTS OF DEEPWATER OIL TERMINAL-RELATED INDUSTRIAL DEVELOPMENT. VOL 11. PART TWO: MID-ATLANTIC REGION. PART THREE: MAINE (1973)

GOVERNMENT REP ANNOUNC 73(23):29-30 ABS ONLY NTIS-PB-224 019

THIS REPORT CONSIDERS THE ECONOMIC AND ENVIRONMENTAL CONSEQUENCES OF ESTABLISHING A DEEPWATER TERMINAL IN TWO GENERAL LOCATIONS: NEAR CAPE MAY IN SOUTHERN NJ AND NEAR SANDY HOOK IN NORTHERN NJ. BECAUSE TWO "SETS" OF IMPACTS WERE TO BE EXAMINED, TWO GEOGRAPHIC DEFINITIONS OF THE MID-ATLANTIC WERE USED, ONE TO REFLECT THE BROADER, MORE DIFFUSE ECONOMIC IMPACT OF INDUSTRIAL ACTIVITIES RELATING TO DEEPWATER OIL TERMINAL OPERATIONS, AND THE SECOND TO RECOGNIZE THE MORE LOCALIZED ENVIRONMENTAL IMPACT OF SUCH OPERATIONS. THE ECONOMIC DEFINITION INCLUDES ALL OF NJ, PA AND DE, SINCE IT IS THESE THREE STATES WHICH JOULD BE MOST LIKELY TO EXPERIENCE THE MAJOR PART OF ECONOMIC EXPANSION DIRECTLY OR INDIRECTLY ASSOCIATED WITH CRUDE OIL IMPORTATION AND PROCESSING. THE ENVIRONMENTAL DEFINITION INCLUDES A LIMITED PORTION OF THE SAME THREE STATES—ESSENTIALLY A "BELT" OF LAND APPROXIMATELY 20-40 MI WIDE, BEGINNING IN MIDDLESEX COUNTY, NJ, IN THE NORTH, FOLLOWING THE DELAWARE RIVER FROM TRENTON, NJ TO WILMINGTON, DE, AND ENDING IN CAPE MAY COUNTY, NJ. GIVEN A CONTINUATION OF HISTORICAL INDUSTRIAL DEVELOPMENT PATTERNS, AND THE PRESENT FORECLOSURE OF DE TO DEEPWATER TERMINAL ACTIVITY, THE ABOVE—DEFINED BELT IS THE ONE MOSI LIKELY TO EXPERIENCE THE GREATEST ENVIRONMENTAL IMPACT.

2088 BOYCE THOMPSON INSTITUTE

AN ATLAS OF THE BIOLOGICAL RESOURCES OF THE HUDSON ESTUARY [1977]

ESTUARINE STUDY GROUP, BOYCE THOMPSON INSTITUTE FOR PLANT RESEARCH, YONKERS, NY 104PP

THIS ATLAS PRESENTS INFORMATION ON THE ABUNDANCE, FREQUENCY OF OCCURRENCE, SEASONAL VARIATION, AND DISTRIBUTION OF IMPORTANT SPECIES OF PLANTS AND ANIMALS FOUND IN THE HUDSON ESTUARY OVER A 120-KM REACH FROM NEW YORK HARBOR TO POUGHKEEPSIE.

2089 CAMP DRESSER & MCKEE - ENVIRONMENTAL ENGINEERS

PHASE 2 REPORT OF TECHNICAL INVESTIGATION OF ALTERNATIVES FOR NEW YORK-NEW JERSEY METROPOLITAN AREA SEWAGE SLUDGE DISPOSAL MANAGEMENT PROGRAM [1976]

CAMP DRESSER AND MCKEE, ENVIRONMENTAL ENGINEERS, BOSTON, MA 319 PP

THIS STUDY INCORPORATES FINDINGS FROM THE 1975 PHASE 1 REPORT ON TECHNICAL ALTERNATIVES TO OCEAN DISPOSAL. THAT REPORT RECOMMENDED PYROLYSIS FOR MOST OF THE AREA'S SLUDGE AND OTHER LAND-BASED ALTERNATIVES FOR OUTLYING AREAS. THE OBJECTIVE OF THE PHASE 2 REPORT IS TO DEVELOP A REGIONAL SLUDGE MANAGEMENT RLAN WHICH INTEGRATES PYROLYSIS, LAND APPLICATION. COMPOSTING. LANDFILLING, AND OCEAN DISPOSAL. THE PLAN MUST BE ENVIRONMENTALLY SOUND, COST EFFECTIVE. AND CAPABLE OF POLITICAL AND SOCIAL

IMPLEMENTATION. CURRENTLY, THE APPROXIMATELY 100 AREA TREATMENT PLANTS PRODUCE 700 TONS/DAY OF SLUDGE. ABOUT 80 % IS BARGED TO SEA FOR DISPOSAL; THE REMAINDER IS LANDFILLED, INCINERATED, OR DISPOSED OF BY OTHER MEANS. SMALLER MASTEMATER TREATMENT PLANTS IN THE STUDY AREA, INCLUDING PACKAGED PLANTS, DO NOT ADD SIGNIFICANT QUANTITIES TO THE TOTAL SLUDGE PRODUCTION. BY THE YEAR 2000, ABOUT 2,400 TONS/DAY WOULD BE PRODUCED, DIVIDED NEARLY EQUALLY BETWEEN NEW JERSEY AND NEW YORK PLANTS. IN NJ. ABOUT ONE MALF THE SLUDGE WILL BE PRODUCED BY TWO LARGE WASTEWATER TREATMENT FACILITIES: THE MIDDLESEX COUNTY SEWERAGE AUTHORITY PLANT AND THE PASSAIC VALLEY SEWERAGE COMMISSIONERS PLANT. IN NY. ABOUT 800 TONS/DAY WILL BE PRODUCED BY THE NEW YORK CITY PLANTS.

2090 CENTER FOR COASTAL AND ENVIRONMENTAL STUDIES

A GUIDE TO THE ENVIRONMENTAL ASPECTS OF THE LOCAL PLANNING PROCESS [1976]

RUTGERS UNIV. NEW BRUNSWICK. NJ 196 PP

SCIENTIFIC RESOURCE INFORMATION ADDRESSING MAJOR PLANNING ISSUES, DRAWING UPON LEGAL CONSTRUCTS WHICH GOVERN LOCAL PLANNING.
INCLUDED ARE CONSIDERATIONS OF MAJOR LOCAL LAND USE PLANNING ISSUES REQUIRING THE APPLICATION OF SCIENTIFIC KNOWLEDGE AND LEGAL
INFORMATION. ALSO INCLUDED ARE DESCRIPTIONS OF NATURAL RESOURCES AND THEIR DYNAMICS AND THE PROCESS OF CARRYING OUT THE
INVENTORY OF NATURAL RESOURCES IN A MUNICIPALITY.

2091 CENTER FOR COASTAL AND ENVIRONMENTAL STUDIES

COASTAL ZONE LEGISLATION [1976]

COASTAL NOTES R-1. CENTER FOR COASTAL AND ENVIRON STUDIES, RUTGERS UNIV. NEW BRUNSWICK, NJ 17 PP

THESE ARE THE MAJOR LAWS WHICH GUIDE HUMAN ACTIVITIES IN THE COASTAL ZONE OF NEW JERSEY. THEY HELP CONTROL HUMAN IMPACT ON THE COMPLEX COASTAL ENVIRONMENT SO THAT THESE PRODUCTIVE AND VITAL LANDS AND WATERS CAN CONTINUE TO THRIVE. IT IS IMPORTANT FOR CITIZENS TO AID IN THIS PROCESS BY SHARING THEIR KNOWLEDGE AND MAKING THEIR OPINIONS KNOWN TO THE PEOPLE ADMINISTERING THE LAWS. THE FUTURE OF NEW JERSEY'S COASIAL ZONE IS DIRECTLY RELATED TO CITIZEN RESPONSE TO STATE AND FEDERAL ATTEMPTS TO PRESERVE AND PROTECT THIS ENVIRONMENT.

2092 CENTER FOR COASTAL AND ENVIRONMENTAL STUDIES

OIL SPILLS: REACTION AND RESPONSIBLITY IN NEW JERSEY [1976]

COASTAL NOTES R-3. CENTER FOR COASTAL AND ENVIRON STUDIES, RUTGERS UNIV, NJ DEP, DIV OF MAR SCI, OFFICE OF COASTAL ZONE MANAGE, TRENTON. NJ 7 PP

SPILLS OF OIL, CHEMICALS, DEBRIS, AND OTHER HAZARDOUS MATERIALS IN NJ ARE TEN TIMES MORE FREQUENT TODAY THEN THEY WERE 5 YRS AGO. BECAUSE NJ'S LARGEST INDUSTRIAL ACTIVITY IS THE MANUFACTURE OF PETROLEUM, PETROCHEMICALS, AND RELATED OPERATIONS, A POTENTIAL ENVIRONMENTAL THREAT EXISTS THROUGH THE SHEER QUANTITY AND TYPE OF MATERIALS BEING HANDLED. A SPILL OF OIL OR ANY OTHER HAZARDOUS MATERIAL CAN KILL FISH AND WILDLIFE, DESTROY VEGETATION, AND CONTAMINATE WATER SUPPLIES. OIL WHICH IS ALLOWED TO SEEP INTO THE LAND OR DRAIN INTO THE GROUND AND SURFACE WATERS IS DIFFICULT TO REMOVE, AND CAN THEREFORE REMAIN A HAZARD FOR A LONG TIME TO THE DETRIMENT OF FISH, WILDLIFE, VEGETATION, AND WATER QUALITY. IN ORDER TO AVERT THESE OIL SPILL RELATED ENVIRONMENTAL PROBLEMS, THE FEDERAL AND NJ STATE GOVERNMENTS HAVE DEVELOPED PROGRAMS FOR OIL SPILL PREVENTION AND CONTROL. THIS PAMPHLET DESCRIBES THE GOVERNMENTAL REACTIVE CAPACITY TO OIL SPILLS AND ALSO EXPLAINS HOW TO REPORT AN OIL SPILL TO THESE AGENCIES.

2093 CENTER FOR COASTAL AND ENVIRONMENTAL STUDIES

COASTAL ZONE LEGISLATION [1976]

COASTAL NOTES R-1. CENTER FOR COASTAL AND ENVIRON STUDIES, RUTGERS UNIV, NJ DEP, DIV OF MAR SCI, OFFICE OF COASTAL ZONE MANAGE, TRENTON, NJ 17 PP

THE ENACTMENT OF FEDERAL AND STATE COASTAL LEGISLATION GAVE NEW JERSEY THE OPPORTUNITY TO DEVELOP AND IMPLEMENT A COASTAL ZONE MANAGEMENT PROGRAM. PRESENTLY, 4 KEY LAWS GOVERN ACTIVITIES IN NJ'S TIDELANDS AND UPLANDS: RIPARIAN STATUTES, THE WETLANDS ACT OF 1973, THE COASTAL AREA FACILITY REVIEW ACT OF 1973, AND THE FEDERAL COASTAL ZONE MANAGEMENT ACT OF 1972. TOGETHER, THESE ACTS PROVIDE SEVERAL MECHANISMS DESIGNED TO BALANCE THE ECONOMIC AND SOCIAL PRESSURES FACING THE COASTAL ZONE WITH THE PROTECTION AND PRESERVATION OF A HEALTHY NATURAL COASTAL AND MARSHLAND SYSTEM. THIS REPORT DESCRIBES THE MAJOR FEATURES OF THESE FOUR COASTAL LAWS AND EXPLAINS HOW THEY AFFECT HUMAN ACTIVITIES WHERE THE LAND MEETS THE SEA IN NJ.

2094 CENTER FOR WATER RESOURCES AND MARINE SCIENCES

A STUDY OF SELECTED ASPECTS OF THE POWERS OF NEW YORK STATE OVER THE WATERS OF THE STATE [1968]

REPORT TO THE NY TEMPORARY COMMISSION ON WATER RESOURCES PLANNING. CORNELL UNIV, ITHACA. NY 102 PP

THE QUESTIONS CONSIDERED ARE: (1) WHETHER THE STATE OF NEW YORK HAS PROPRIETARY RIGHTS OR RIGHTS AS TRUSTEE FOR THE PUBLIC IN THE WATERS OF THE STATE, AS DISTINCT FROM ITS POLICE AND NAVIGATION POWERS OVER SUCH WATERS; (2) WHETHER THE STATE, BY VIRTUE OF SUCH RIGHTS, IS AUTHORIZED TO MODIFY RIPARIAN RIGHTS IN FURTHERANCE OF THE PUBLIC INTEREST. NEW YORK'S NAVIGATIONAL SYSTEM OF CANALS AND LARGE WATERWAYS FOR PUBLIC USE MAKE A DEFINITION OF THE STATE'S AUTHORITY TO ALTER RIPARIAN RIGHTS VALUABLE. PRIOR STATE POWER HAS BEEN BASED ON THE NAVIGATION OR POLICY POWERS, WITH ANY OTHER CONFISCATION OF RIPARIAN RIGHTS BEING COMPENSATED. AN IN DEPTH STUDY OF NEW YORK'S STATUTORY AND CASE LAW ON RIPARIAN AND STATE WATER RIGHTS LEADS TO THE CONCLUSION THAT THE STATE HOLDS RIGHTS IN CERTAIN WATERS AND BEDS IN PUBLIC TRUST, BUT THE EXTENT OF THE STATE'S POWERS AS TRUSTEE ARE ILL—DEFINED. NEW YORK LAW IS UNCERTAIN AS TO WHETHER PROPRIETARY RIGHTS AND RIGHTS TO MODIFY WITHOUT COMPENSATION EXIST IN THE STATE.

2095 CT DEP

LONG ISLAND SOUND: AN ATLAS OF NATURAL RESOURCES [1977]

ECOASTAL AREA MANAGE PROG. CT DEP. HARTFORD, CT 52 PP

THIS GENERAL DESCRIPTION OF THE ENVIRONMENT OF LONG ISLAND SOUND INCLUDES A PH AND GEOLOGICAL HISTORY AND PROCESSES ARE BRIEFLY DESCRIBED. CHAPTERS ILLUSTRATE VEGETATION AND THE ANIMAL LIFE. SHORT CHAPTERS ON CRUSTACEANS, MOLLUSCS, PLANKTON, FISHES, BIRDS, ENDANGERED SPECIES, MAMMALS, REPTILES AND AMPHIBIANS ARE INCLUDED.

2096 C.T. MALE AND ASSOCIATES.

REGIONAL WATER SUPPLY AND WASTEWATER DISPOSAL PLAN AND PROGRAM, CAPITAL DISTRICT REGION [1971]

CAPITAL DISTRICT REGIONAL PLANNING COMMISSION, ELNORA, NY 212 PP

THE POPULATION OF THE 4-COUNTY REGION FOR WHICH THE CAPITAL DISTRICT REGIONAL PLANNING COMMISSION HAS RESPONSIBILITY IS EXPECTED TO GROW FROM 720,000 (IN 1970) TO ABOUT ONE MILLION BY 1990. THIS WILL PLACE AN INCREASED DEMAND ON THE WATER SUPPLY AND THE SEWAGE TREATMENT SYSTEMS IN THE AREA. RECOMMENDATIONS ARE PRESENTED TO PROMOTE THE HEALTH AND LIVING STANDARDS OF THE CITIZENS AND TO ENCOURAGE THE ORDERLY GROWTH OF THE COMMUNITIES WITHIN THE PLANNING REGION. THESE INCLUDE: INTER-CONNECTION OF COUNTY WATER DISTRIBUTION SYSTEMS WITHOUT THE CONSTRUCTION OF NEW WATER TREATMENT FACILITIES; CONSTRUCTION OF NEW AND REGIONAL WASTE TREATMENT PLANTS, COORDINATED AT THE COUNTY LEVEL; AND THE PLACEMENT OF ALL TREATMENT PLANTS ON MAJOR STREAMS TO PRESERVE

THE WATER QUALITY OF THE TRIBUTARIES. THE ONLY DRAWBACK TO COUNTY-LEVEL SYSTEMS IS THAT IF CONSTRUCTION COSTS RISE ABOVE APPROVED BIDS, THE COUNTIES ARE REQUIRED TO OBTAIN STATE APPROVAL TO PROCEED. THIS CAN CAUSE A SIGNIFICANT DELAY OF PROJECTS UNDERWAY. IT IS RECOMMENDED THAT THE LAW BE CHANGED.

2097 DAMES AND MOORE, INC

SITE SELECTION STUDY FOR OPEN WATER DISPOSAL OF DREDGED MATERIALS: LONG ISLAND SOUND, BLOCK ISLAND SOUND AND ADJACENT OPEN WATERS [1979]

DAMES AND MOORE, INC., CRANFORD, NJ 39 PP

THE ENVIRONMENTAL IMPACT REPORT (EIR) INCLUDES A SITE SELECTION PHASE WHICH WILL IDENTIFY AREAS SUITABLE FOR THE DEPOSITION OF DREDGED MATERIALS CONSIDERING ALL SIGNIFICANT CONSEQUENCES TO ENVIRONMENTS AND RESOURCES. THE EIR WILL DEFINE AND DISCUSS THE ENVIRONMENTAL AND ECONOMIC IMPACTS OF OPEN WATER DISPOSAL ON BOTH A REGIONAL AND DISPOSAL SITE BASIS. THE EIR WILL ALSO CONSIST OF A MANAGEMENT ANALYSIS WHEREIN PROCEDURES WILL BE PROPOSED TO MITIGATE POTENTIALLY ADVERSE IMPACTS OF THE DEPOSITION AND TO INCREASE THE POSITIVE PRODUCTIVE EFFECTS OF THAT DEPOSITION. PERSONAL INTERVIEWS HAVE BEEN CONDUCTED WITH THOSE INDIVIDUALS OR GROUPS CONSIDERED KNOWLEDGEABLE OF THE STUDY REGION WHO MAY HAVE PROFESSIONAL INTERESTS WITH REGARD TO THAT ENVIRONMENT AND/OR MANAGEMENT OF DREDGED MATERIAL DISPOSAL IN THOSE WATERS; AND, THOSE INDIVIDUALS OR GROUPS WITH CONCERNS ABOUT THE ENVIRONMENTAL OR ECONOMIC CONSEQUENCES OF UTILIZING THESE OPEN WATERS FOR DEPOSITION OF DREDGED SEDIMENTS. IN ADDITION TO THIS PRESENTATION OF THE SITE SELECTION METHODOLOGY, A SUMMARY OF THE RESULTS OF THE INTERVIEWS WILL BE PRESENTED AT THE DELPHI SESSION.

2098 DELAWARE AND RARITAN CANAL STUDY COMMITTEE

PUBLIC HEARING BEFORE DELAWARE AND RARITAN CANAL STUDY COMMITTEE (CREATED PURSUANT TO SCR 2008) HELD: SEPT 14. 1973 [1973]

DELAWARE AND RARITAN CANAL STUDY COMMITTEE, TRENTON, NJ 82 PP

THIS IS A HEARING OF THE DELAWARE AND RARITAN CANAL STUDY COMMITTEE WHICH WAS ESTABLISHED BY SENATE CONCURRENT RESOLUTION 2008, CREATING A COMMITTEE TO STUDY AND DEVELOP MEANS OF PROTECTING, PRESERVING AND MAINTAINING THE DELAWARE AND RARITAN CANAL FOR THE ENJOYMENT AND BENEFIT OF THE CITIZENS OF NJ.

2099 ECONOMIC DEVELOPMENT BOARD

ECONOMIC IMPACTS OF REGULATING THE USE OF PCBS IN NEW YORK STATE [1976]

ECONOMIC DEVELOPMENT BOARD, ALBANY, NY 27 PP

IN RESPONSE TO NY DEC'S "ZERO EMISSION" ORDER, GENERAL ELECTRIC WILL BE FORCED TO CONVERT THEIR HUDSON FALLS/FORT EDWARD OPERATIONS TO ACCOMMODATE ONE OF THE SUBSTITUTES AND, THUS, ACCEPT A SERIOUS EROSION OF THEIR MARKET SHARE, OR (AS SEEMS MORE LIKELY) CLOSE THE HUDSON FALLS/ FORT EDWARD PLANT AND RELOCATE IN A STATE WITH LESS STRINGENT REQUIREMENTS. IN THIS REPORT, THE ECONOMIC IMPLICATIONS FOR THE STATE OF EACH OF THESE ALTERNATIVE ACTIONS IS EXAMINED. IN ADDITION, THE POSSIBLE ECONOMIC IMPACT OF A BAN ON BOTH COMMERCIAL AND RECREATIONAL FISHING BELOW THE HUDSON FALLS/FORT EDWARD SITE IS ANALYZED. THIS INDUSTRY CONTRIBUTES APPROXIMATELY \$2 MILLION TO THE ECONOMY OF MY, LESS THAN ONE THIRTIETH THAT CONTRIBUTED BY THE GE FACILITIES AT HUDSON FALLS AND FORT EDWARD. THE HUDSON RIVER FISHING INDUSTRY HAS ALREADY BEEN DAMAGED BY THE CONCENTRATION OF PCBS IN THE RIVER SEDIMENT. THE MY DEPT OF HEALTH ESTIMATES THAT CONCENTRATIONS OF PCBS IN THE HUDSON CAN BE MEASURED IN TONS. GE, IN MEETING THE EPA LIMIT OF 100 GR/DAY OF PCB EMISSIONS, WOULD ADD TO THE HUDSON APPROXIMATELY EIGHTY POUNDS PER YEAR. EVIDENCE EXISTS WHICH WOULD SUGGEST THAT EVEN AITH COMPLETE CESSATION OF PCBS EMISSION, SEVERAL YEARS WOULD ELAPSE BEFORE A DROP IN PCBS CONTAMINATION COULD BE DEFECTED.

2100 EG g G

CURRENTS OBSERVED IN NEW JERSEY COASTAL WATERS NEAR 39 28" N LATITUDE AND 74 15" W LONGITUDE DURING FEBRUARY 1974 [1974]

EG & G ENVIRONMENTAL CONSULTANTS, WALTHAM, MA 32 PP

CURRENTS IN THE VICINITY OF THE PROPOSED SITE SHOWED CONSIDERABLE DIRECTIONAL VARIABILITY DURING FEB 1974. RAPIDLY CHANGING WINDS CAUSED NUMEROUS REVERSALS IN THE ALONGSHORE COMPONENT FROM A SOUTHERLY TO A NORTHERLY DIRECTION. TIDAL EFFECTS WERE OBSERVED IN THE ONSHORE-OFFSHORE DIRECTION. THESE EFFECTS WERE MOST PRONOUNCED IN THE UPPER LEVEL CURRENTS. THE FOLLOWING TABULATION SUMMARIZES CURRENT SPEEDS AS MEASURED BY THE MOORED EG&G MODEL 102 AND ENDECO MODEL 105 CURRENTS METERS.

2101 EG & G

SUMMARY OF OCEANOGRAPHIC OBSERVATIONS IN NEW JERSEY COASTAL WATERS NEAR 39 28"N LATITUDE AND 74 15" W LONGITUDE DURING THE PERIOD MAY 1972 THROUGH APRIL 1973. [1974]

EG & G ENVIRONMENTAL CONSULTANTS, WALTHAM, MA NP

THIS REPORT DETAILS THE IMPLEMENTATION AND RESULTANT FINDINGS OF COASTAL/OCEANOGRAPHIC INVESTIGATIONS CONDUCTED OFF THE SOUTHEASTERN COAST OF NJ DURING THE PERIOD MAY 1972 THROUGH APR 1973. THESE INVESTIGATIONS WERE MADE TO DETERMINE THE SIGNIFICANT OCEANOGRAPHIC FEATURES AT THE SITE OF THE PROPOSED ATLANTIC GENERATING STATION. INCLUDED AMONG THE PRINCIPAL FINDINGS ARE THE PREVAILING CURRENT FLOW CONDITIONS, THE SEASONAL CHARACTERISTICS OF TEMPERATURE AND SALINITY DISTRIBUTIONS, THE MAGNITUDES AND CHARACTERISTICS OF TIDAL HEIGHTS AND CURRENTS, AND THE INFERRED EFFECTS OF BOTH NORMAL AND TRANSIENT METEOROLOGICAL CONDITIONS UPON THESE PHYSICAL PARAMETERS. PESCRIPTIONS OF INSTRUMENTS AND TECHNIQUES EMPLOYED IN THE COURSE OF THESE INVESTIGATIONS, ARE PROVIDED IN DETAIL. ANALYSIS OF THE DATA OBTAINED AND A SUMMARY OF THE FINDINGS ARE PRESENTED.

2102 EG & G .

SUMMARY OF OCEANOGRAPHIC OBSERVATIONS IN NEW JERSEY COASTAL WATERS NEAR 39 28" N LATITUDE AND 74 15" W LONGITUDE DURING THE PERIOD MAY 1973 THROUGH APRIL 1974 [1974]

EG & G ENVIRONMENTAL CONSULTANTS, WALTHAM, MA NP

PUBLIC SERVICE ELECTRIC AND GAS COMPANY OF NEW JERSEY IS ENGAGED IN AN ENVIRONMENTAL SITE ASSESMENT OFF LITTLE EGG INLET, NJ, IN THE VICINITY OF THE SITE OF THE PROPOSED ATLANTIC GENERATING STATION. THE OBJECTIVE OF THE PROGRAM IS TO PROVIDE ENVIRONMENTAL INFORMATION REQUIRED FOR PUBLIC SERVICE TO OBTAIN LICENSES TO CONSTRUCT THE GENERATING STATION. EGGG ENVIRONMENTAL CONSULTANTS IS PERFORMING FOR PUBLIC SERVICE A BROAD PROGRAM OF PHYSICAL OCEANOGRAPHIC AND METEOROLOGICAL MEASUREMENTS AND ANALYSES OF THE OCEANOGRAPHIC DATA. EGGG IS ISSUING TWO TYPES OF REPORTS ON ITS ACTIVITIES. ONE TYPE, DATA REPORTS, PRESENTS DATA IN STRAIGHTFORWARD STATISTICAL AND GRAPHICAL FORMATS WITHIN A RELATIVELY SHORT TIME AFTER INSTRUMENT RETRIEVAL. ANOTHER TYPE, MAJOR REPORTS, ANALYZES, INTERRELATES, AND INTERPRETS DATA ON A RANGE OF VARIABLES COLLECTED OVER A YEAR OR LONGER. THIS MAJOR REPORTS HE RESULTS OF EGGG'S WORK WITH DATA COLLECTED DURING THE INTERVAL MAY 1973 THROUGH APRIL 1974. THE MEASUREMENTS REPORTED HEREIN WERE MADE IN AN OCEAN AREA WITHIN 10 KM OF THE SITE. THIS SECTION OF THE ATLANTIC COAST IS CHARACTERIZED BY A BROAD AND SHALLOW CONTINENTAL SHELF WITH LITTLE RELIEF. THE COASTLINE IS LOW AND RELATIVELY STRAIGHT, BUT BROKEN BY SEVERAL INLETS TO LANDWARD OF THE PROPOSED SITE. THE OCEAN BOTTOM NEAR THE SITE IS GENERALLY SANDY AND VARIES IN DEPTH FROM 10.5 TO 13.5 M JELOW MEAN LOW WATER.

2103 EG & G

SUMMARY OF OCEANOGRAPHIC OBSERVATIONS IN NEW JERSEY COASTAL WATERS NEAR 39 28" N LATITUDE AND 74 15" W LONGITUDE DURING THE PERIOD MAY 1974 THROUGH MAY 1975 [1975]

EG & G ENVIRONMENTAL CONSULTANTS. WALTHAM. MA NP

OCEANOGRAPHIC AND METEOROLOGIC MEASUREMENTS WERE CONDUCTED IN THE VICINITY OF THE PROPOSED ATLANTIC GENERATING STATION (AGS) DURING THE PERIOD MAY 1974 THROUGH MAY 1975 INCLUSIVE, CONTINUING A COMPREHENSIVE EFFORT BEGUN IN MAY 1972. THE PROPOSED AGS SITE IS ABOUT 4 KM EAST-SOUTHEAST OF LITTLE EGG INLET, NJ, AT 39 28 N LATITUDE, 74 15 N LONGITUDE. MOST OF THE MEASUREMENTS WERE MADE WITHIN 10 KM OF THE SITE. LITTLE EGG INLET IS THE PRIMARY INLET TO BROAD AND SHALLOW GREAT BAY. THE NEARBY COASTLINE IS GENERALLY LOW AND STRAIGHT. THE OCEAN BOTTOM IS MOSTLY SANDY WITH BROAD NORTHEASTERLY TRENDING RIDGES; THE DEPTH NEAR THE SITE IS ABOUT 10.5 TO 13.5 METERS BELOW MEAN LOW WATER (MLW). THE CONTINENTAL SHELF EXTENDS 110 KM TO SEAWARD OF THE SITE BEFORE THE 100-METER CONTOUR IS REACHED. DURING THE DATA YEAR, MAY 1974 THROUGH MAY 1975, THE PROGRAM INCLUDED METEOROLOGICAL MEASUREMENTS AT SIX LOCATIONS; CURRENT MEASUREMENTS AT SIX LOCATIONS; CURRENT MEASUREMENTS AT SIX LOCATIONS, CURRENT MEASUREMENTS AT SEVEN LOCATIONS, MOSTLY AT TWO DEPTHS EACH; TIDE HEIGHT AND WAVE HEIGHT AND SIX LOCATIONS. A VERTICAL ARRAY OF TEN TEMPERATURE RECORDERS WAS LOCATED HEAR THE SITE DURING THE SUMMER SEASON TO STUDY THERMOCLINE BEHAVIOR. HYDROGRAPHIC SURVEYS (PROFILES OF TEMPERATURE AND SALINITY AS A FUNCTION OF DEPTH) WERE CONDUCTED ABOUT EVERY TWO WEEKS, COVERING THIRTY-FOUR STATIONS WITHIN A 15-KM RADIUS OF THE SITE. A NOTEWORTHY CHANGE IN DATA, REPORTED HEREIN, IS THE VANE NORMALIZED UNIT VECTOR (VNUV) CORRECTION APPLIED IN PROCESSING DATA FROM EGG MODEL 102 CURRENT TETERS. SPEEDS ARE TYPICALLY ONE-HALF TO TWO—THIR

2104 EG & G

FORECASTING POWER PLANT EFFECTS ON THE COASTAL ZONE [1976]

FINAL REP B-4441. EG AND G. ENVIRONMENTAL CONSULATANTS, WALTHAM, MA 557 PP

FIELD METHODS, DATA ANALYSIS, AND CALCULATION ARE PRESENTED EXEMPLIFYING PROCEDURES FOR OCEANIC DISPERSION PREDICTION AS A TOOL FOR FORECASTING POWER PLANT EFFECTS ON THE COASTAL ZONE. MEASUREMENTS WERE MADE OF DYE, DROGUES AND TEMPERATURES NEAR PILGRIM STATION'S DISCHARGE (PLYMOUTH, MA), AND OF CURRENTS AND OTHER VARIABLES ACROSS MASSACHUSETTS BAY. ANALYSIS OF CURRENT DATA ILLUSTRATES SEPARATION OF TIDAL, WIND-DRIVEN AND INERTIAL CONSTITUENTS AND THEIR SIGNIFICANCE FOR DISPERSION. DYE AND TEMPERATURE DISPERSION ARE COMPARED WITH THE CURRENTS STUDY, AND DIFFUSION COEFFICIENTS ESTIMATED. CURRENT DATA FROM COASTAL SITES (NJ AND MA) ARE ANALYZED TO DETERMINE FIELD REQUIREMENTS FOR DISPERSION ESTIMATES. METHODS TO CALCULATE EXPECTED PRECISION OF ESTIMATES BASED ON BRIEF CURRENT RECORDS ARE DEVELOPED. MODEL CALCULATIONS PREDICTING DISPERSION BASED ON OBSERVED OCEAN CURRENTS ARE DESCRIBED. FORMULAE ARE DERIVED TO ESTIMATE THE SPATIAL DISTRIBUTION OF IMPACT FROM A DISCHARGE. A NUMERICAL MODEL TO CALCULATE DISCHARGE DISPERSION IN MORE DETAIL IS DISCUSSED AND USED TO STUDY TIME VARIATIONS OF DISCHARGE EFFECTS. MODEL PREDICTIONS ARE COMPARED WITH FIELD OBSERVATIONS.

2105 EG & G

DISPERSION IN WATERS OF THE NEW YORK BIGHT ACID DUMP GROUNDS OF ACID IRON WASTES DISCHARGED FROM A TOWED BARGE [1977]

EG & G ENVIRONMENTAL CONSULTANTS, WALTHAM, MA 112 PP

ON 12 AUG 1977, A 5-HOUR STUDY WAS MADE OF DISPERSION IN THE WAKE OF BARGE MORAN 108 WHICH WAS DISCHARGING ACID-IRON WASTE INTO THE NEW YORK BIGHT ACID DUMP GROUNDS. A SINGLE STATION WAS TAKEN IN THE WASTE ON THE FOLLOWING DAY. IN ALL, 22 STATIONS WERE OCCUPIED. FOR EACH STATION, IRON CONCENTRATION, WASTE CONCENTRATION, PH, AND SALINITY WERE DETERMINED AT SIX LEVELS. TEMPERATURE STRUCTURE WAS MEASURED AT HOURLY INTERVALS. ALTHOUGH A DENSITY GRADIENT JUST BELOW 10 M CONFINED WASTE TO THE SURFACE MIXED LAYER, RAPID LATERAL DISPERSION OF ACID-IRON WASTE WAS INDICATED BY IRON AND PH DATA. THIRTY-NINE MINUTES AFTER DISCHARGE, MIXING IN THE BARGE'S WAKE AND BY NATURALLY OCCURRING TURBULENCE DILUTED. ACID-IRON WASTE 9,400:1. AT 4 HR, WASTE IN THE PLUME WAS DILUTED FURTHER TO APPROXIMATELY 90,000:1. A SINGLE STATION, APPROXIMATELY 18 HR AFTER DISCHARGE, SHOWED ADDITIONAL DILUTION TO 116,300:1. PH MEASURED IN THE WASTE WAKE RETURNED TO WITHIN 0.2 PH UNIT OF AMBIENT WITHIN 1 HR OF DISCHARGE. OBSERVED PH VALUES ARE CONSISTENT WITH THE PH DEPRESSION PREDICTED FROM SEAWATER BUFFERING EQUATIONS FOR WASTE CONCENTRATIONS OBSERVED DURING THAT FIRST HOUR. SUBSTANTIAL DISTORTION AND TRANSLATION OF THE PLUME CROSS-SECTION WAS OBSERVED.

WINDS OF 10-15 KTS OUT OF THE WEST CAUSED INTENSE SURFACE MIXING WHICH RAPIDLY SPREAD THE PLUME TO 2 KM WIDE IN 4 HR. IN ADDITION, THE WIND STRESS ON THE SURFACE APPEARS TO HAVE SLOWED THE WESTWARD TIDAL CURRENT AT THE SEA SURFACE COMPARED TO THE BOTTOM OF THE SURFACE MIXED LAYER SO THAT THE FARTHEST WESTWARD EXTENSION WAS AT 10 M AND THE FARTHEST EASTWARD EXTENSION WAS AT 0 TO 5 M. TIDAL CURRENTS CARRIED THE AXIS OF THE PLUME APPROXIMATELY 1.6 KM WEST OF THE BARGE TRACK ON THE DAY OF THE STUDY.

2106 EG & G

DISPERSION IN WATERS OF THE NEW YORK BIGHT ACID DUMP GROUNDS OF BY-PRODUCT HYDROCHLORIC ACID DISCHARGED FROM A TOWED BARGE [1977]

EG & G ENVIRONMENTAL CONSULTANTS, WALTHAM, MA 97 PP

ON 13 AUG 1977, AN 8-HOUR STUDY WAS MADE OF DISPERSION IN THE WAKE OF BARGE AC NO 5 WHICH WAS DISCHARGING BY-PRODUCT HYDROCHLORIC ACID (DYED WAKE TO ENHANCE IDENTIFICATION) INTO THE NEW YORK BIGHT ACID DUMP GROUNDS. TWENTY-EIGHT STATIONS WERE OCCUPIED. FOR EACH STATION, WASTE CONCENTRATION, PH, FLUORIDE CONCENTRATION, AND SALINITY WERE DETERMINED AT SIX LEVELS. TEMPERATURE STRUCTURE WAS MEASURED AT HOURLY INTERVALS. ALTHOUGH A SHALLOW DENSITY GRADIENT AT 10 M CONFINED WASTE TO THE SURFACE MIXED LAYER, WASTE DILUTION AS INDICATED BY DYE, FLUORIDE AND PH, WAS RAPID. AT 1 MIN, IN THE BARGE'S STILL VISIBLY TURBULENT WAKE, DILUTION WAS 2,700:1; AT 3 MIN, IT WAS 6,500:1; AT 4 MIN, 15,000:1. AT 4 HR, DILUTION WAS APPROXIMATELY 100,000:1. VALUES OF PH RETURNED TO WITHIN 0.2 PH UNITS OF AMBIENT AT 4 HR; THIS OBSERVATION IS CONSISTENT WITH THE PH DEPRESSION PROJECTED FOR WASTE DILUTIONS OBSERVED AFTER 4 HR. SUBSTANTIAL DISTORTION AND TRANSLATION OF THE PLUME WAS OBSERVED. AN APPARENT WIND-INDUCED CURRENT SHEAR CAUSED THE SURFACE MANIFESTATION OF THE PLUME TO MOVE EASTWARD AND SEPARATE FROM THE SUBSURFACE CORE. TIDAL CURRENTS TRANSLATED THE PLUME APPROXIMATELY 3.6 KM WEST OF THE BARGE TRACK.

2107 EG & G

SUMMER 1977 CHEMICAL OCEANOGRAPHIC MONITORING CRUISE-NEW YORK BIGHT ACID DUMP GROUNDS CRUISE REPORT [1977]

EG & G ENVIRONMENTAL CONSULTANTS, WALTHAM, MA 38 PP

THIS REPORT PRESENTS RESULTS FOR THE FIRST PHASE OF A CHEMICAL OCEANOGRAPHIC MONITORING PROGRAM BEING CONDUCTED IN THE VICINITY OF THE ACID-WASTE DISPOSAL SITE IN NEW YORK BIGHT. THE PROGRAM, WHICH IS DESIGNED ACCORDING TO GUIDELINES PROMULGATED IN THE OCEAN DUMPING FINAL REVISION OF REGULATIONS AND CRITERIA AND METHODOLOGIES USED IN THE MARINE ECOSYSTEM ANALYSIS (MESA) NEW YORK BIGHT PROJECT, IS BASED ON SEASONAL SAMPLING (SUMMER, FALL, AND WINTER 1977-1978) AT FIVE PERMANENTLY ESTABLISHED DISPOSAL SITE STATIONS, TWO SEASONALLY ESTABLISHED "WASTE TRANSPORT" STATIONS, AND TWO PERMANENT REFERENCE STATIONS. DURING 15, 16, AND 18 AUG 1977, ALL NINE STATIONS WERE SAMPLED AT FOUR DEPTHS WITH REPLICATE CASTS FOR TEMPERATURE, SUSPENDED PARTICULATE MATTER, PH, DISSOLVED OXYGÉN, SALINITY, ALKALINITY, FLUORIDE, CHLOROPHYLL A, AND IRON (DISSOLVED AND PARTICULATE). OTHER DISSOLVED AND PARTICULATE HEAVY METALS (AS, CD, CR, CU, PB, HG, NI, TI, V, AND ZN) WERE DETERMINED IN SAMPLES FROM REPLICATE CASTS AT THE CENTRALLY LOCATED DISPOSAL SITE STATION AND ONE REFERENCE STATION. THE REPLICATE SEDIMENT SAMPLES FROM THESE THO STATIONS AND FROM THE WASTE TRANSPORT STATION WERE ANALYZED FOR IRON AND THE OTHER HEAVY METALS.

2108 EG & G

FALL 1977 CHEMICAL OCEANOGRAPHIC MONITORING CRUISE--NEW YORK BIGHT ACID DUMP GROUNDS CRUISE REPORT [1978]

EG & G ENVIRONMENTAL CONSULTANTS, WALTHAM, MA 43 PP

THIS REPORT PRESENTS RESULTS FOR THE SECOND PHASE OF A CHEMICAL OCEANOGRAPHIC MONITORING PROGRAM BEING CONDUCTED IN THE VICINITY OF THE ACID-WASTE DISPOSAL SITE IN NEW YORK BIGHT. THE PROGRAM, WHICH WAS DESIGNED ACCORDING TO GUIDELINES PROMULGATED IN THE OCEAN DUMPING FINAL REVISION OF REGULATIONS AND CRITERIA AND METHODOLOGIES USED IN THE MARINE ECOSYSTEM AVALYSIS (MESA) NEW YORK BIGHT PROJECT, IS BASED ON SEASONAL SAMPLING (SUMMER, FALL, AND WINTER 1977-1978) AT FIVE PERMANENTLY ESTABLISHED

DISPOSAL SITE STATIONS, TWO SEASONALLY ESTABLISHED "WASTE TRANSPORT" STATIONS, AND TWO PERMANENT REFERENCE STATIONS, DURING 14, 15, AND 16 NOVEMBER 1977, NINE STATIONS WERE SAMPLED AT THREE DEPTHS FOR TEMPERATURE, SUSPENDED PARTICULATE MATTER, PH, DISSOLVED OXYGEN, SALINITY, ALKALINITY, FLUORIDE, CHLOROPHYLL A, AND IRON (DISSOLVED AND PARTICULATE). OTHER DISSOLVED AND PARTICULATE HEAVY METALS (AS, CD, CR, CU, PB, HG, NI, TI, V, AND ZN) WERE DETERMINED IN SAMPLES FROM REPLICATE CASTS AT THE CENTRALLY LOCATED DISPOSAL SITE STATION AND ONE REFERENCE STATION. THE REPLICATE SEDIMENT SAMPLES FROM THESE TWO STATIONS AND FROM THE WASTE TRANSPORT STATION UNDER AN OLD WASTE PLUME WERE ANALYZED FOR IRON AND THE OTHER HEAVY METALS.

2109 ENGINEERING-SCIENCE, INC

NEW JERSEY AREA SOURCE VOC AND NOX EMISSIONS INVENTORY (FOR SELECTED COUNTIES AND CATEGORIES) £1979]

US EPA, NEW YORK, NY 130 PP

ENGINEERING-SCIENCE ASSISTED THE NJ DEP IN THE DEVELOPMENT OF THE AIR POLLUTION AREAS SOURCE EMISSION INVENTORIES FOR CERTAIN CATEGORIES AND COUNTRIES NOT PREVIOUSLY EVALUATED. THE BASE YEAR OF THIS STUDY WAS 1975 AND PROJECTIONS WERE MADE FOR 1977, 1982, AND 1987. INCLUDED AMONG THE NINETEEN CATEGORIES, WHICH WERE INVENTORIED FOR VOLATILE ORGANIC COMPOUNDS AND OXIDES OF NITROGEN, WERE PESTICIDE APPLICATION AND NATURAL SOURCE EMISSIONS. THE OXIDANT SEASON, APR 1 EXTENDING THROUGH SEP 30, PROPORTION OF ANNUAL EMISSIONS WERE ASSESSED FOR ALL NINETEEN CATEGORIES. THE BASE YEAR. AND PROJECTION YEARS.

2110 ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN

A SUMMARY OF REMOTE SENSING INVESTIGATIONS IN THE NEW YORK BIGHT [1979]

ENVIRONMENTAL RESEARCH INST OF MICHIGAN, ANN ARBOR, MI 157 PP

A NUMBER OF EXPERIMENTS WERE CONDUCTED USING SPECIFIC REMOTE SENSING TECHNIQUES AND DIRECTED TOWARD GATHERING AND ANALYZING INFORMATION ON SIGNIFICANT OCEAN PARAMETERS OBSERVED IN THE NEW YORK BIGHT. THESE REMOTE SENSING EXPERIMENTS WERE CONDUCTED BY. OR FOR THE NATIONAL ENVIRONMENTAL SATELLITE SERVIGE OF NOAM IN APR 1973 AND APR 1975. THE DATA WERE COLLECTED FROM MULTI-ALTITUDE REMOTE SENSING OPERATIONS (INTERMEDIATE— AND HIGH-ALTITUDE AIRCRAFT, AND THE LANDSAT-1 SATELLITE) AND FROM SURFACE OPERATIONS TO OBTAIN CONCURRENT IN SITU DATA. THE RESULTING DATA WERE ANALYZED TO OBTAIN INFORMATION ON CHOOPPHYLL—A DISTRIBUTION, SUSPENDED PARTICULATE CONCENTRATION, AND CIRCULATION, BOTH AT THE SURFACE AND AT 10 M DEPTH. THE RESULTS PROVIDE SIGNIFICANT INFORMATION ON VARIOUS WATER CONSTITUENTS, INCLUDING THOSE RESULTING FROM SEWAGE AND ACID DUMPING, TIDAL PROCESSES, POLLUTANT DISPERSAL, AND OTHER DYNAMIC PROCESSES OCCURRING IN THE STUDY AREA. WITH PROPER PLANNING AND EXECUTION, REMOTE SENSING OPERATIONS CAN REPLACE OR SUPPLEMENT INFORMATION FROM OTHER SOURCES ON THESE PHENOMENA. CURRENT REMOTE SENSING TECHNOLOGY CAN PROVIDE SYNOPTIC AND REPETITIVE COVERAGE OF LAKGE OCEAN AREAS AND PERMIT QUANTITATIVE ESTIMATION OF CAREFUL PLANNING OF THE NUMBER, LOCATION, AND TIMING OF THE INVESTIGATIVE TEAM.

2111 FEDERAL POWER COMMISSION

PEOPLE AND THE SOUND: POWER AND THE ENVIRONMENT PLANNING REPORT. FINAL REPORT [1975]

FEDERAL POWER COMMISSION, NEW YORK, NY 106 PP NTIS-PB-245 242

THIS PLANNING REPORT DESCRIBES THE POWER AND ENVIRONMENT ELEMENT OF THE LONG ISLAND SOUND REGIONAL STUDY. IT IS PART OF THE FINAL REPORT OF THE STUDY, WHICH OUTLINES A STRATEGY FOR SECURING THE BALANCED CONSERVATION AND DEVELOPMENT OF NATURAL RESOURCES OF THE SOUND AND ITS SHORELINE IN BOTH NEW YORK AND CONNECTICUT.

2112 FEDERAL REPORTER

UNITED STATES V MAYOR AND CITY COUNCIL OF HOBOKEN (DOCKS MAY BREACH RIGHT OF RE-ENTRY FOR CONDITION BROKEN) [1928]

29 F2D 932 DNJ CT 1928

PLAINTIFF UNITED STATES BROUGHT ACTION TO HAVE REALTY LOCATED WITHIN DEFENDANT CITY DECLARED PERMANENTLY TAX EXEMPT. THE PROPERTY WAS A PORTION OF THE HUDSON RIVER'S BED WHICH HAD BEEN CONVEYED TO A GERMAN STEAMSHIP LINE BY DEFENDANT. A CONVENANT IN THE CONVEYANCE PROHIBITED ERECTION OF ANY STRUCTURE WHICH WOULD OBSTRUCT PUBLIC VIEW. HOWEVER, THE STEAMSHIP COMPANY HAD ERECTED DOCKS ON THE PROPERTY. PLAINTIFF CONDEMNED THE PROPERTY UNDER A STATUTE ALLOWING CONDEMNATION OF GERMAN PROPERTY DURING WORLD ARR I. THE PARTIES AGREED THAT PLAINTIFF WAS EXEMPT FROM TAXATION, BUT DEFENDANT CONTENDED THAT PLAINTIFF DID NOT OWN THE PROPERTY WHEN THE TAX WAS IMPOSED, BECAUSE THE TAKING WAS UNCONSTITUTIONAL. DEFENDANT'S CONTENTION WAS REJECTED BY THE UNITED STATES DISTRICT COURT. HOWEVER, THE COURT OBSERVED THAT THE CONVEYANCE HAD APPARENTLY BEEN BROKEN, AND THAT APPARENTLY THE STATE OF NEW JERSEY, WHICH HAD ORIGINALLY CONVEYED THE LAND TO DEFENDANT, HAD A RIGHT OF RE-ENTRY.

2113 FEDERAL REPORTER

CORBY V RAMSDELL (LIABILITY OF OWNER OF RIVER BED FOR OBSTRUCTIONS TO NAVIGATION) [1930]

45 F2D 199 SD NY 1930

PLAINTIFF BROUGHT AN ACTION IN ADMIRALTY TO RECOVER DAMAGES FOR THE SINKING OF HIS SHIP. PLAINTIFF CONTENDED THAT DEFENDANT WAS IN POSSESSION AND CONTROL OF PROPERTY UNDER THE HUDSON RIVER AND THAT DEFENDANT HAD ALLOWED A WHARF TO DECAY AND BECOME SUBMERSED UNDER THE WATER WHICH CONSTITUTED AN UNLAWFUL OBSTRUCTION TO THE SAFE NAVIGATION OF THE RIVER. PLAINTIFF CONTENDED THAT HIS BOAT STRUCK UPON THE WHARF AND SANK. DEFENDANT CONTENDED THAT HIS PREDECESSOR IN TITLE HAD BUILT THE WHARF AND THAT HE HAD NEVER USED IT, AND THEREFORE HE WAS NOT RESPONSIBLE FOR IT. THE COURT HELD THAT OWNERS OF LAND UNDER NAVIGABLE WATER POSSESS RIGHTS WHICH ARE SUBJECT TO THE PUBLIC'S RIGHT OF NAVIGATION. SUCH OWNERS HAVE AN OBLIGATION TO MAINTAIN ABUTMENTS INTO THE WATER IN SUCH A CONDITION THAT THEY DO NOT ENDANGER NAVIGATION. THIS OBLIGATION EXISTS BY VIRTUE OF OWNERSHIP OF THE SUBMERGED PED AND IS NOT DEPENDENT UPON THE ACTUAL USE OF SUCH BED. DEFENDANT WAS THUS HELD LIABLE FOR THE DAMAGES CAUSED BY THE OBSTRUCTION WHICH HE HAD KNOWINGLY PERMITTED TO FALL INTO DISREPAIR.

2114 FEDERAL REPORTER

CITIZENS COMM FOR HUDSON VALLEY V VOLPE (AUTHORITY TO ISSUE PERMITS FOR CAUSEWAY CONSTRUCTION) [1970]

425 F2D 97 2ND CIR 1970

PLAINTIFF CITIZEN GROUPS BROUGHT ACTIONS TO ENJOIN DEFENDANT ARMY CORPS OF ENGINEERS FROM ISSUING A PERMIT AUTHORIZING THE STATE TO CONDUCT A DREDGE AND FILL OPERATION FOR AN EXPRESSMAY PROJECT AND TO REVOKE THE STATE'S EXISTING PERMIT. PLAINTIFFS CONTENDED THAT THE PROPOSED EXPRESSMAY WOULD ADVERSELY AFFECT THE LOCAL ENVIRONMENTAL AND SCENIC RESOURCES AND THAT THE CORPS OF ENGINEERS HAD EXCEEDED ITS AUTHORITY IN APPROVING THE PROJECT SINCE IT CONTAINED DIKES AND CAUSEMAYS, WHICH, BY FEDERAL STATUTE, COULD NOT BE CONSTRUCTED MITHOUT THE CONSENT OF CONGRESS AND THE APPROVAL OF THE SECRETARY OF TRANSPORTION. DEFENDANT ARGUED THAT PLAINTIFFS HAD NO STANDING AND THAT THE CORPS OF ENGINEERS DID NOT HAVE TO CONSIDER THE NECESSITY OF FURTHER FEDERAL APPROVAL BEFORE ACTING. THE CJURT HELD THAT CIVIC GROUPS CONCERNED WITH PRESERVATION OF NATURAL, SCENIC AND HISTORIC RESOURCES HAD STANDING TO SEEK REVIEW OF THE CORPS' DECISION. THE COURT FURTHER HELD THAT THE CORPS OF ENGINEERS COULD NOT IGNORE THE PROSPECT OF FUTURE FEDERAL APPROVAL. THE COURT AFFIRMED THE DISTRICT COURT'S ORDER REVOKING THE STATE'S DREDGE PERMIT AND ENJOINING ISSUANCE OF A NEW PERMIT WITHOUT FIRST OBTAINING THE CONSENT OF CONGRESS AND THE APPROVAL OF THE SECRETARY OF TRANSPORTATION.

2115 FEDERAL SUPPLEMENT .

THE SS NEA HELLIS (FINES FOR DISCHARGING OIL INTO NAVIGABLE WATERS) [1940]

32 F SUPP 115 SD NY 1940

THE US BROUGHT A LIBEL ACTION IN ADMIRALTY AGAINST DEFENDANT STEAMSHIP TO IMPOSE A FINE FOR DISCHARGING OIL INTO NEW YORK HARBOR. THE ACTION WAS BROUGHT UNDER THE OIL POLLUTION ACT OF 1924 WHICH PROHIBITED THE DISCHARGE OF OIL INTO THE COASTAL NAVIGABLE WATERS OF THE US. DEFENDANT CONTENDED THAT THE OIL POLLUTION ACT DID NOT APPLY TO THE ALLEGED VIOLATION. INSTEAD, DEFENDENT CONTENDED THAT THE ALLEGED VIOLATION WAS GOVERNED SOLELY BY THE NEW YORK HARBOR ACT OF 1888 WHICH PROHIBITED DISCHARGE OF OIL INTO THE WATERS OF THE HARBOR OF NEW YORK. IT WAS A GREED THAT BOTH FEDERAL STATES APPLIED TO THE SAME SUBJECT MATTER. UNDER THE PRINCIPLE THAT WHERE THERE ARE TWO STATUTES UPON THE SAME SUBJECT—THE EARLIER BEING SPECIAL AND THE LATER GENERAL—THE SPECIAL SERVES AS AN EXCEPTION TO THE GENERAL, THE COURT HELD THAT THE OIL POLLUTION ACT WAS NOT APPLICABLE. THE NEW YORK HARBOR ACT WAS A SPECIAL STATE AND AS SUGH WAS CONTROLLING OVER THE OIL POLLUTION ACT. ACTION UNDER THE OIL POLLUTION ACT. ACTION UNDER THE OIL POLLUTION ACT.

2116 FEDERAL SUPPLEMENT

CITIZENS COMMITTEE FOR THE HUDSON VALLEY V. VOLPE (PRELIM INJUNCTION BARRING HIGHWAY CONSTRUCTION ALONG A NAVIGABLE STREAM)

297 F SUPP 874 SD NY 1969

PLAINTIFFS APPLIED FOR A PRELIMINARY INJUNCTION PROHIBITING THE DELIVERY OF A PERMIT AUTHORIZING NY TO BEGIN LANDFILL OPERATIONS ON THE PROPOSED HUDSON RIVER EXPRESSMAY. THE COURT HELD THAT THE PLAINTIFF HAD FAILED TO DEMONSTRATE A REASONABLE PROBABILITY OF SUCCESS AT TRIAL CHALLENGING THE CONSTRUCTION OF THE EXPRESSMAY. THE COURT NOTED THAT THE ITEMS OF DAMAGE CLAIMED BY THE PLAINTIFF WERE HIGHLY CONJECTURAL AND THAT ADEQUATE REMEDY AT LAW EXISTED. FURTHER DELAY IN COMMENCEMENT OF CONSTRUCTION WOULD INCREASE THE PROJECT S COST. THEREFORE, THE COURT DENIED THE PLAINTIFF'S APPLICATION. THE PLAINTIFF HAD CONTENDED THAT THE EXPRESSMAY PROJECT WAS INCORRECTLY TREATED BY THE ARMY AND INTERIOR DEPARTMENTS AS ONE REQUIRING A MERE PERMIT. THE PLAINTIFFS ARGUED THAT THE PROJECT CALLED FOR CONSTRUCTION OF DIKES AND CAUSEMAYS AND THEREFORE REQUIRED CONSENT OF CONGRESS. THE COURT NOTED THAT THE PROJECT WOULD NOT SUBSTANTIALLY INTERFERE WITH NAVIGATION AND DETERMINED THAT PLAINTIFFS ARGUMENT IN THIS REGARD WOULD BE OF NO AVAIL.

2117 FEDERAL SUPPLEMENT

CITIZENS COMM FOR HUDSON VALLEY V. VOLPE (WAIVER OF THE DEFENSE OF SOVEREIGN IMMUNITY) [1969]

297 F SUPP 839 SD NY 1969

PLAINTIFFS BROUGHT THIS ACTION AGAINSI THE STATE COMMISSIONER OF TRANSPORTATION CHALLENGING THE CONSTRUCTION OF THE HUDSON RIVER EXPRESSMAY. THE DEFENDANT OBTAINED PERMISSION FROM THE FEDERAL GOVERNMENT TO CONSTRUCT THE ROAD. PERMISSION WAS ADMITTEDLY REQUIRED SINCE THE PROPOSED EXPRESSMAY WOULD EXTEND INTO AND OVER THE RIVER. THE PLAINTIFFS" CONTENDED THAT THE DEFENDANT HAD WAIVED THE DEFENSE OF SOVEREIGN IMMUNITY IN FEDERAL COURT BY KNOWINGLY ENTERING AN AREA REGULATED BY CONGRESS PURSUA'T TO CONSTITUTIONAL AUTHORITY. THE COURT HELD THAT THIS LIMITATION ON THE DEFENSE OF SOVEREIGN IMMUNITY ONLY APPLIED WHERE A STATE HAD ENTERED A SPHERE OF OPERATION SUBJECT TO CAUSES OF ACTION CREATED BY CONGRESS IN, FAVOR OF A SPECIFIC CLASS (FELA CLAIMS). THE PLAINTIFFS IN THIS CASE DID NOT BRING ITS ACTION UNDER A STATUTE REQUIRING A PERSON TO SECURE A FEDERAL PERMIT PRIOR TO ALTERATION OF A NAVIGABLE STREAM. THEREFORE, THE DEFENDANT HAD NOT WAIVED THE DEFENSE OF SOVEREIGN IMMUNITY TO AN ACTION AT LAW. HOWEVER, WHEN A STATE OFFICIAL ATTEMPTS TO PROCEED UNDER A STATUTE CLAIMED TO BE UNCONSTITUTIONAL, HE IS STRIPPED OF HIS OFFICIAL CHARACTER AND MAY BE ENJOINED FROM PROCEEDING.

2118 FEDERAL SUPPLEMENT

CITIZENS COMMITTEE FOR THE HUDSON VALLEY V VOLPE (CONSTRUCTION PERMITS WITHOUT APPROVAL AS REQUIRED BY THE RIVERS AND HARBORS ACT OF 1899) [1969]

302 F SUPP 1083 SD NY 1969

PLAINTIFFS CHALLENGED THE CONSTRUCTION OF THE PROPOSED HUDSON RIVER EXPRESSMAY. THEY CLAIMED THAT SINCE THE EXPRESSMAY PROJECT INVOLVED CONSTRUCTION OF DIKES, CAUSE ANS. AND BRIDGES OVER OF IN A NAVIGABLE MATERWAY OF THE US, THE CORPS OF ENGINEERS EXCEEDED ITS AUTHORITY IN ISSUING CONSTRUCTION PERMITS WITHOUT APPROVAL OF CONGRESS OR THE DEPARTMENT OF TRANSPORTATION AS REQUIRED IN THE RIVER AND HARBORS ACT OF 1899. THE COURT HELD THAT THE DEFENDANT CORPS HAD APPROVED CONSTRUCTION OF DIKES WITHOUT REQUISITE CONGRESSIONAL APPROVAL AND HAD THUS EXCEEDED ITS AUTHORITY. THE COURT STATED THAT THE TERM "DIKE" SHOULD BE USED IN ITS ORDINARY SENSE AND THAT A DIKE DID NOT NECESSARILY HAVE TO AFFECT THE NAVIGABILITY OF A STREAM TO BE DEFINED AS SUCH. THE COURT FURTHER FOUND THAT A PERMIT TO CONSTRUCT CAUSEWAYS HAD SIMILARLY BEEN ISSUED ULTRA VIRES BY THE CORPS. A PRIMARY FUNCTION DELEGATED TO THE DEPARTMENT OF TRANSPORTATION IS CONSERVATION OF NATURAL RESOURCES; PERMITTING STATE OR PRIVATE CONCERNS TO CONSTRUCT CAUSEWAYS WITHOUT PRIOR APPROVAL WOULD TEND TO FRUSTRATE PERFORMANCE OF THAT FUNCTION.

2119 FEDERAL SUPPLEMENT

UNITED STATES V. LINDSAY (GOVERNMENT'S ACTION AGAINST CITY FOR ALLEGED VIOLATION OF REFUSE ACT AND NEW YORK HARBOR ACT, AND FOR CREATION OF PUBLIC NUISANCE) [1973]

357 F SUPP 784 ED NY 1973

PLAINTIFF, US GOVERNMENT, ALLEGED VIOLATION OF REFUSE ACT AND NEW YORK HARBOR ACT AND CREATION OF A PUBLIC NUISANCE AGAINST DEFENDANT CITY OF NEW YORK. CITY'S DISCHARGES FROM STREETS AND SEWERS IN LIQUID STATE FLOW INTO THE SURROUNDING NAVIGABLE WATERS OF US. PLAINTIFF CHARGED SUCH DISPOSAL OF INDUSTRIAL POLLUTANTS VIA THE MUNICIPAL SEWER SYSTEM IS VIOLATION OF ACTS AND A PUBLIC NUISANCE UNDER FEDERAL COMMON LAW. DEFENDANT CITY ARGUED THAT IT FALLS WITHIN THE EXEMPTION CLAUSE WHICH PERMITS SEWAGE IN LIQUID STATE AND FURTHER CONTENDED THAT FEDERAL COMMON LAW MAY ONLY BE FASHIONED WHERE NO FEDERAL STATURE EXISTS. THE COURT FOUND DEFENDANT CITY PROPERLY WITHIN THE EXEMPTION CLAUSE EVEN THOUGH THE SEWAGE CONTAINED SOME INORGANIC MATTER. THE COURT FAS NOT PREPARED, AT THIS TIME, TO DETERMINE THE DEFENDANT'S CLAIM THAT PLAINTIFF MAY NOT RESORT TO FEDERAL COMMON LAW.

2120 FEDERAL SUPPLEMENT

SCENIC HUDSON PRESERVATION CONFERENCE V. CALLAWAY (SUIT BY CONSERVATIONISTS TO ENJOIN HYDROELECTRIC PLANT CONSTRUCTION) [1973]

370 F SUPP 162 SD NY 1973

SUIT WAS BROUGHT IN THE US DISTRICT COURT TO ENJOIN CONSTRUCTION OF A HYDROELECTRIC PLANT UNTIL THE DEFENDANT UTILITY COMPANY OBTAINED PERMITS FROM THE ARMY CORPS OF ENGINEERS. PLAINTIFFS SOUGHT TO FORBID CONDUCT CONSISTING OF DREDGING IN THE HUDSON RIVER FOR CONSTRUCTION OF INTAKE FACILITIES FOR THE UNDERGROUND POWERHOUSE AND THE DEPOSITING OF THE DREDGED MATERIAL INTO THE RIVER. PLAINTIFFS ARGUED THAT THE DEFENDANT WAS REQUIRED TO OBTAIN PERMITS FROM THE ARMY CORPS OF ENGINEERS PURSUANT TO THE RIVERS AND HARBORS ACT OF 1899 AND THE FEDERAL WATER POLLUTION CONTROL ACT OF 1972. THE DEFENDANT CONTENDED THAT THE PERMIT AUTHORITY OF THE CORPS WAS REMOVED BY THE FEDERAL POWER ACT OF 1920. THE COURT HELD THAT WHILE THE CORPS AUTHORITY TO GRANT PERMITS UNDER THE RIVERS AND HARBORS ACT WAS PREEMPTED BY THE FEDERAL POWER ACT, THE DEFENDANT WAS REQUIRED, NEVERTHELESS BY THE FEDERAL WATER POLLUTION CONTROL ACT TO SEEK A PERMIT FROM THE CORPS FOR DISCHARGE OF DREDGED OR FILL MATERIALS INTO THE HUDSON RIVER.

2121 FEDERAL SUPPLEMENT

TUG OCEAN PRINCE, INC. V. UNITED STATES (MITIGATION OF PENALTY IMPOSED BY FEDERAL WATER POLLUTION CONTROL ACT FOR DIL SPILLS)
[1977]

436 F SUPP 937 SD NY 1977

IN A COMBINED ACTION, PLAINTIFFS (OWNERS AND CHARTERERS OF A TUG) SOUGHT EXONERATION FROM LIABILITY ON THE GROUNDS THAT AN ACCIDENT CAUSING AN OIL SPILL INTO HUDSON RIVER WAS CAUSED BY THE GOVERNMENT'S FAILURE TO MAINTAIN ADEQUATE NAVIGATION AIDS. THE OWNER OF THE OIL-CARRYING BARGE SOUGHT TO RECOVER THE VALUE OF ALL OIL LOST FROM FITHER THE PLAINTIFFS OR THE GOVERNMENT. THE GOVERNMENT SOUGHT TO RECOVER THE COSTS OF THE POLLUTION CLEANUP FROM THE OTHER PARTIES, AND ALSO A CIVIL PENALTY FROM THE OWNER OF THE BARGE UNDER THE FEDERAL MATER POLLUTION CONTROL ACT (FWPCA). THE BARGE OWNER SOUGHT INDEMNITY FROM PLAINTIFFS FOR ANY LIABILITY HE MAY HAVE TO THE GOVERNMENT. IN AN EXTENDED OPINION, THE FEDERAL COURT FOR THE SOUTHERN DISTRICT OF NY HELD THAT THE PENALTY PROVIDED BY THE FWPCA AGAINST THE OWNER OF ANY VESSEL FROM WHICH OIL IS DISCRAFGED MAY BE MITIGATED BY THE OWNER'S LACK OF CULPABILITY. THE COURT ALSO HELD THAT THE COAST GUARD WAS NOT NEGLIGENT IN MAINTAINING NAVIGATION AIDS AND THAT THE TUG OWNERS WERE LIABLE FOR CLEANUP COSTS. HOWEVER. THIS LIABILITY WAS LIMITED TO \$100.00 PER GROSS TON OF THE TUG.

2122 FEDERAL SUPPLEMENT

TUG OCEAN PRINCE, INC. V. UNITED STATES (LIABILITY OF TUG BOAT OWNERS FOR CLEAN UP COSTS OF OIL SPILL CAUSED BY COLLISON WITH SUBMERGED ROCKS) [1977]

436 F SUPP 907 SD NY 1977

PLAINTIFF BARGE AND TUG OWNERS SOUGHT EXONERATION OR LIMITATION OF LIABILITY FOR OIL SPILL DAMAGE RESULTING FROM A BARGE COLLIDING WITH SUBMERGED ROCKS IN THE HUDSON RIVER. THE COURT CONCLUDED THAT THE GROUNDING WAS DUE TO A NAVIGATIONAL ERROR ON THE PART OF THE CREW, AND THIS NEGLIGENCE PREVENTED THE PLAINTIFFS FROM BEING ENTITLED TO EXONERATION FROM LIABILITY. THE COURT NOTED THAT THE PLAINTIFFS HAD THE BURDEN OF ESTABLISHING THEIR OWN LACK OF PRIVITY OF KNOWLEDGE OF THE NEGLIGENCE IN ORDER TO LIMIT THEIR LIABILITY. SINCE THE NEGLIGENCE WAS THE RESULT OF THE NEGLECT OF AN OTHERWISE COMPETENT OFFICER, AN EVENT WHICH IS NOT AN UNSEAWORTHY CONDITION IMPOSING OWNER RESPONSIBILITY, THE COURT FOUND THAT THE OWNER-PLANTIFFS WERE ENTITLED TO LIMIT THEIR LIABILITY. THE COURT ALSO FOUND THAT THE COAST GUARD WAS NOT LIABLE FOR NEGLIGENT MANTENANCE OF NAVIGATIONAL AIDS ABSENT SPECIFIC KNOWLEDGE OF A BUOY OUT OF PLACE. COURT LIMITED THE TUG OWNERS LIABILITY FOR CLEANUP COSTS TO \$100 PER GROSS TON OF TUG UNDER THE WATER QUALITY IMPROVEMENT ACT, AND PERMITTED THE ABSENCE OF CULPABILITY OF THE OWNERS TO INITIATE ADDITIONAL PENALTIES.

2123 FOOD SCIENCE DEPT AND COOPERATIVE EXTENSION

NEW JERSEY FISH INDUSTRY -- A ROUNDTABLE [1974]

RUTGERS UNIV, NEW BRUNSWICK, NJ NP

NEW JERSEY HAS OVER 200 MILES OF SEACOAST AND MANY MILES OF COASTAL INLETS AND BAYS. THESE AREAS ARE USED MAINLY FOR RECREATIONAL PURPOSES, AND TO A LIMITED AND DIMINISHING PURPOSE FOR COMMERCIAL FISHING. ON MARCH 4, 1974 AN IMPORTANT MEETING WAS HELD AT RUTGERS UNIVERSITY TO DISCUSS THE STATUS OF THE FISH INDUSTRY IN NJ. THE MEETING HAD THE TITLE: NEW JERSEY FISH INDUSTRY. IT WAS PLANNED AND CONDUCTED AS A ROUNDTABLE FOR FREE DISCUSSION AND INTERACTION AMONG EXPERTS AND INTERESTED PEOPLE WHO ATTENDED THE MEETING. THE BASIC QUESTIONS OF THE ROUNDTABLE ON THE NEW JERSEY FISH INDUSTRY WERE: 1) WHAT ARE THE PROBLEMS; 2) WHERE DO THE PROBLEMS EXIST; 3) WHAT INFORMATION AND RESOURCES ARE AVAILABLE TO SOLVE THESE PROBLEMS; 4) WHAT FURTHER STEPS ARE NECESSARY TO SOLVE THESE PROBLEMS, ON A SHORT-TERM BASIS; 5) WHAT ARE THE LONG-TERM IMPLICATIONS ASSOCIATED WITH THESE PROBLEMS. THE ROUNDTABLE WAS ATTENDED BY 26 PEOPLE WHO THOUGHT, LISTENED AND TALKED ABOUT THE NJ FISH INDUSTRY. THESE PROCEEDINGS ARE EDITED TRANSCRIPTS OF THOSE DISCUSSIONS. BECAUSE OF THE INFORMAL AND FREE-STYLE FORMAT OF THE MEETING, THE DIALOGUE TAKEN FROM THE TAPES HAD TO BE EDITED EXTENSIVELY FOR CONTINUITY AND MAXIMUM BENEFIT TO THE READER. THE ORIGINAL TAPES WILL BE KEPT ON FILE FOR THREE YEARS FOR THOSE WHO WISH TO HEAR THE ORIGINAL DIALOGUE OF THE ROUNDTABLE.

2124 FOURTH SINK MANAGEMENT GROUP, INC

TOWARD THE STATEWIDE RECOVERY OF RESOURCES FROM SOLID WASTES-- TECHNICAL AND MANAGEMENT STUDIES VOLUME [1976]

Ny DEC. ALBANY. NY 593 PP

THE BASELINE IMPLEMENTATION STRATEGY PRESENTED IN THIS REPORT CHARTS A COURSE FOR THE ORDERLY BUT EXPEDITIOUS DESIGN AND IMPLEMENTATION OF REGIONAL RESOURCES RECOVERY SYSTEMS AND OF THE INSTITUTIONAL FRAMEWORKS IN WHICH THE SYSTEMS CAN OPERATE OVER THE LONG TERM, IN A COORDINATED STATEWIDE NETWORK.

2125 GENERAL DYNAMICS CORP

POTENTIAL ENVIRONMENTAL EFFECTS OF AN OFFSHORE SUBMERGED NUCLEAR POWER PLANT VOLUME 11 [1971]

ELECTRIC BOAT DIV, GENERAL DYNAMICS CORP. GROTON, CT 303 PP NTIS-PB-208 282

VOLUME 2 IS A DESCRIPTIVE TREATISE AND COLLATION OF DATA ON THE REPRESENTATIVE OFFSHORE SITES, WHICH FORMS THE BASIS FOR APPLICATION OF THE ANALYTICAL MODELS TO THOSE SITES, AND FOR THE ASSESSMENT OF THE EFFECTS OF POWER PLANT WASTES ON THE MARINE BIOTA.

2126 GENERAL ELECTRIC

ENVIRONMENTAL ASSESSMENT OF DIELEKTROL-T CAPACITOR FLUIDS: FINAL REPORT [1977]

CAPACITOR PROD DEPT, GENERAL ELECTRIC CO, HUDSON FALLS, NY 30 PP

IN RESPONSE TO THE AGREEMENT BETWEEN GENERAL ELECTRIC AND NEW YORK STATE, GE CONDUCTED A SERIES OF STUDIES TO DETERMINE THE ENVIRONMENTAL COMPATIBILITY OF DIELEKTROL-T FLUIDS, DESIGNED TO REPLACE PCBS AS THE LIQUID DIELECTRIC FOR CAPACITORS. THIS REPORT PRESENTS THE FINDINGS OF THESE STUDIES AND CONCLUDES THAT THE USE OF THESE DIELEKTROL-T FLUIDS APPEARS TO BE ENVIRONMENTALLY ACCEPTABLE. THE FOLLOWING TYPES OF STUDIES WERE CARRIED OUT: (1) ACUTE TOXICITY TESTS ON FISH--EGGS, FRY AND ADULTS, DAPHNIA, BIRDS, RATS, AND SOIL MICROGANISMS; 2) SUBACUTE TOXICITY TESTS ON RATS--UP TO 90 DAY FEEDING STUDY; 3) BIOCONCENTRATION TESTS IN BLUEGILL SUNFISH AND CHANNEL CATFISH; 4) AMES TEST; 5) ENVIRONMENTAL FATE TESTS INCLUDING BIODEGREDATION, PHOTOCHEMICAL DEGREDATION, VOLATILIZATION AND SOIL LEACHING.

2127 GENERAL ELECTRIC

RESEARCH ON REMOVAL OR TREATMENT OF PCB IN LIQUID OR SEDIMENTS DREDGED FROM THE HUDSON RIVER: PROGRESS REPORT [1977]

CORPORATE RESEARCH & DEVELOP, GENERAL ELECTRIC CO. FAIRFIELD, CT

THE FIRST TASK, TO DEVELOP A MORE RAPID ANALYTICAL TECHNIQUE FOR PCBS IN RIVER SEDIMENTS, IS COMPLETE AND REVIEWED IN DETAIL.
STEAM DISTILLATION WAS FOUND TO BE MUCH FASTER THAN SOXHLET EXTRACTION AND ALMOST AS EFFECTIVE FOR HIGHLY CONTAMINATED
SEDIMENTS (PPM RANGE). HIGH PRESSURE LIQUID CHROMATOGRAPHY WAS CONSIDERED TO BE INFERIOR TO GAS CHROMATOGRAPHY FOR THIS
APPLICATION. WORK ON THE OTHER TASKS (BIODEGRADATION, SEDIMENT INCINERATION AND PYROLYSIS, OTHER DESTRUCTION TECHNIQUES AND
VOLATILIZATION STUDIFS) IS PRELIMINARY AT THIS TIME.

2128 GRUMMAY ECOSYSTEMS CORP

PROPOSAL FOR THE DEVFLOPMENT OF A COMPREHENSIVE CONCEPTUAL MODEL OF NEW YORK BIGHT [1973]

GRUMMAN ECOSYSTEMS CCRP, BETHPAGE, NY NP

THIS IS A PROPOSAL SUBMITTED TO NOAA TO CONTRACT GRUMMAN ECOSYSTEMS CORPORATIO TO CREATE A MANAGEMENT MODEL FOR THE NEW YORK

BIGHT

2129 GRUMMAN ECOSYSTEMS CORP; LAWLER, MATUSKY & SKELLY, ENGINEERS

WINTER CONDITIONS IN THE NEW YORK BIGHT. 1973-1974 [1974]

NY ASDA, ALBANY, NY 223 PP NTIS-PB-245 191

INITIAL RESULTS AND ANALYSIS OF AN OCEANOGRAPHIC AND MARINE BIOLOGICAL STUDY OF AN 800 SQ MILE AREA EXTENDING 15 MILES OFFSHORE SOUTH OF LONG ISLAND, NEW YORK--RELATED TO THE PROPOSED OFFSHORE SITING OF NUCLEAR POWER PLANTS--INDICATE: (1) THE WATERS ARE GENERALLY WELL MIXED, ISOTHERMAL, STRONGLY DRIVEN BY S WINDS AS TIDES, WITH TYPICALLY HIGHLY-PRODUCTIVE INSHORE MARINE BIOLOGICAL COMMUNITIES; (2) DESPITE EXTREME HYDROLOGICAL VARIABILITY RELATED TO SIGNIFICANT GEOGRAPHIC DIFFERENCES IN THE STUDY AREA, AND TAKING INTO ACCOUNT ANOMALIES IN THE VICINITY OF OFFSHORE DUMPSITES, ALL BIOLOGICAL COMMUNITIES FOLLOW A WELL-DEFINED SEASONAL SUCCESSION; (3) MOST OF THE CHEMICAL CONSTITUENTS SHOW GEOGRAPHICAL AS WELL AS TEMPORAL VARIATION, BUT AMMONIA WAS GENERALLY CONCENTRATED NEAR THE BOTTOM; (4) HUDSON RIVER WATERS PROBABLY CAUSE A PRONOUNCED HALOCLINE AND PYCNOCLINE DEVELOPED BY LATE JAN IN THE NORTHWEST QUADRANT, AND VERTICAL GRADIENTS OF SALINITY AND DENSITY ARE APPARENT ON ALL EDGES OF THE AREA BY MAR; (5) NANNOPLANKTON PREDOMINATES AMONG THE ALGAL STANDING CROP AND PRIMARY PRODUCTIVITY IN NOV-DEC BUT IS EQUALLY DIVIDED BETWEEY NET- AND NANNOPLANKTON BY MAR, WITH LARGER DIATOMS ASSUMING DOMINANCE; (6) ZOOPLANKTON AND FISH EGGS ARE MINIMAL IN JAN-FEB AND MOST ABUNDANT IN MAR.

2130 GRUMMAN ECOSYSTEMS CORP; LAWLER, MATUSKY & SKELLY, ENGINEERS

OCEANOGRAPHIC STUDIES TO ASSESS THE ENVIRONMENTAL IMPLICATIONS OF OFFSHORE SITING OF ELECTRIC GENERATION FACILITIES--NEW YORK FIELD STUDIES 1973-1974 [1975]

FINAL REP. NY ERDA. GRUMMAN ECOSYSTEMS CORP. BETHPAGE. NY NP

THE PURPOSE OF THE STUDY REPORTED HERETN WAS TO PROVIDE CONCUPRENT DATA ON PHYSICAL. CHEMICAL AND BIOLOGICAL PHENOMENA. OVER A BROAD 900 SQ MI AREA OF THE NEW YORK BIGHT JUST SOUTH OF LONG ISLAND, DURING THE PERIOD NOV 1973 TO OCT 1974. THE STUDY HAD A TWO FOLD OBJECTIVE: PRIMARILY, TO DETERMINE ANY SIGNIFICANT DIFFERENCES THAT EXIST WITHIN THE STUDY AREA THAT MIGHT AFFECT THE SUITABILITY OF SITING AN OFFSHORE POWER PLANT: SECONDARILY. TO CHARACTERIZE THE PHYSICAL. CHEMICAL. AND BIOLOGICAL CONDITIONS AND PROCESSES IN THE STUDY AREA OVER A ONE-YEAR PERIOD. PLACING THE DATA IN THE CONTEXT OF PREVIOUS STUDIES. AS MUCH OF THE DATA WERE NOT SYNOPTIC STATISTICAL TECHNIQUES WERE USED TO ANALYZE THE DATA DIFFERENCES AMONG STATIONS, REGIONS AND PERIODS OF THE YEAR. ALTHOUGH THE AREA IS SUBJECT TO VARIOUS EXTERNAL INFLUENCES THROUGHOUT THE YEAR AND DISPLAYS CONTINUOUSLY CHANGING ENVIRONMENTAL CHARACTERISTICS, IT NEWERTHELESS PROVED TO BE SURPRISINGLY HOMOGENEOUS. A FEW STATIONS ALSO STOOD DUT FROM THE OTHERS IN HAVING ANOMALOUSLY HIGH VALUES FOR CERTAIN VARIABLES. BASED ON THE DATA COLLECTED IT APPEARED THAT THE LEAST BIOLOGICAL, PHYSICAL AND CHEMICAL ACTIVITY OCCURRED IN THE EASTERN SECTION. IMPACTS DUE TO THE PHYSICAL PRESENCE OF THE PLANT AND ITS OPERATION WERE INVESTIGATED USING MATHEMATICAL MODELS ALONG WITH RESULTS OF EARLIER MODEL STUDIES. IT WAS CONCLUDED THAT FOR A PLANT SITUATED ABOUT 5 KM JFFSHORE. THE EFFECT OF THE THERMAL PLUME AND THE MODIFICATION OF LITTORAL DRIFT AT THE SHORELINE SHOULD BOTH BE SMALL. THE MAJOR THERMAL EFFECTS WOULD BE DUE TO ENTRAINMENT IN THE CONDENSER TUBES AND IN THE PLUME CONFINED TO A RELATIVELY SMALL AREA IN THE NEIGHBORHOOD OF THE DISCHARGE POINT. THE EFFECTS OF TOXIN AND OF MECHANICAL DAMAGE TO THE ENTRAINED ORGANISMS COULD POSSIBLY BE MORE SERIOUS THAN THE THERMAL STRESS. ON THE BASIS OF THIS SURVEY AND ANALYSIS, A NUMBER OF ADDITIONAL STUDIES THAT ARE NEEDED TO COMPLEMENT AND EXTEND THE PRESENT WORK FOR OFFSHORE POWER PLANT SITING WERE IDENTIFIED.

2131 HACKENSACK MEADOWLANDS DEVELOPMENT COMMISSION

WETLAND BIO-ZONES OF THE HACKENSACK MEADOWLANDS: AN INVENTORY [1975]

HACKENSACK MEADOWLANDS DEVEL COMM, MEADOWLANDS, NY NP

THE INFORMATION PRESENTED IN THIS REPORT IS PUT FORTH TO SERVE TWO PURPOSES. THE FIRST IS TO ORGANIZE INFORMATION GATHERED OVER A PERIOD OF YEARS BY STAFF AND CONSULTANTS OF THE MEADOWLANDS COMMISSION AS BASELINE DATA ON WHICH FURTHER FIELD INVESTIGATION WILL BUILD. TO THIS END, THE REPORT IS AN ONGOING PROJECT WHICH IS MEANT TO BE UPDATED BY FURTHER WORK OF STAFF. CONSULTANTS AND FRIENDS OF THE HACKENSACK MEADOWS. THE SECOND REASON STEMS FROM THE FIRST BUT SERVES A BROADER PURPOSE. OVER THE YEARS. PUBLIC OPINION ABOUT ENVIRONMENTAL CONDITIONS IN THE HACKENSACK MEADOWLANDS HAS BEGUN TO CHANGE. THE MEADOWS. ONCE CONSIDERED A WASTELAND, ARE BEING RECOGNIZED AS PRODUCTIVE AND VALUABLE. THE RECENTLY DEDICATED SAWMILL CREEK WILDLIFE MANAGEMENT AREA IS TESTIMONY TO THE CHANGE IN OPINION AND THE INTEREST BEING GENERATED ABOUT THE MEADOWS.

2132 HUDSON BASIN PROJECT

TASK GROUP REPORTS--10 VOLS [1974]

HUDSON BASIN PROJECT, POUGHKEEPSIE, NY NP

AT THE OUTSET, THE PROJECT DEFINED THE FOLLOWING TEN SUBJECT AREAS FOR THE ANALYSIS OF ENVIRONMENTAL PROBLEMS AND RELATED PUBLIC POLICIES: LAND USE/HUMAN SETTLEMENT; LAND USE/NATURAL RESOURCE MANAGEMENT; TRANSPORTATION; ENVIRONMENTAL SERVICE SYSTEMS; ENERGY SYSTEMS; WATER RESOURCES; AIR RESOURCES; BIOLOGICAL COMMUNITIES; HUMAN HEALTH; AND LEISURE TIME AND RECREATION. EACH SUBJECT AREA WAS ASSIGNED TO A 5 MAN TASK GROUP WHICH WORKED OVER A PERIOD OF APPROXIMATELY 5 MO TO PROVIDE AN INITIAL OVERVIEW OF THE REGION'S ENVIRONMENT.

2133 HUDSON BASIN PROJECT

STATUS 3--WHO'S WHO IN THE HUDSON BASIN PROJECT [1974]

HUDSON BASIN PROJECT, POUGHKEEPSIE, NY 11 PP

THIS COMPRESSED "WHO'S WHO" IN THE HUDSON BASIN PROJECT PRESENTS THE RANGE AND VARIETY OF PROFESSIONAL DISCIPLINES, TALENT AND EXPERIENCE AVAILABLE AMONG THE PROJECT'S PARTICIPANTS. IT SUBSTANTIATES THE DIVERSITY OF QUALIFICATION AND PERSPECTIVE IN THE ADVISORY PANEL AND IN EACH OF THE 10 TASK GROUPS. THE BIOGRAPHICAL INFORMATION RECEIVED VARIED CONSIDERABLY IN SPECIFICS; DETAIL HAS BEEN SACRIFICED FOR BREVITY.

2134 HUDSON BASIN PROJECT

ANATOMY OF AN ENVIRONMENT: FINAL REPORT [1976]

HUDSON BASIN PROJECT, POUGHKEEPSIE, NY 192 PP

THIS REPORT SUMMARIZES THE CONCLUSIONS AND RECOMMENDATIONS OF THE HUDSON BASIN PROJECT, A THREE-YEAR EFFORT TO EXAMINE THE PRINCIPAL ENVIRONMENTAL PROBLEMS AND ISSUES OF THE NY METROPOLITAN REGION AND THAT PART OF ITS HINTERLAND CONSISTING OF THE HUDSON RIVER WATERSHED. FUNDED BY THE ROCKEFELLER FOUNDATION'S QUALITY OF THE ENVIRONMENT PROGRAM, AND CARRIED OJT BY MID-HUDSON PATTERN, INC., THE PROJECT REPRESENTS AN EXPERIMENTAL EFFORT TO TEST HOW SUCH PROBLEMS CAN BE CONSIDERED ON A REGIONAL SCALE, AND WHETHER NEW PERCEPTIONS WOULD EMERGE WHICH, IN TIME, WOULD RESULT IN POLICIES AND PROGRAMS BENEFICIAL TO SOCIETY.

2135 HUDSON RIVER BASIN STUDY GROUP

HUDSON RIVER BASIN LEVEL B WATER AND RELATED LAND RESOURCES STUDY: GUIDELINES FOR IDENTIFYING AND EVALUATING SCENIC RESOURCES [1978]

TECH PAP NO 4. NY DEC. ALBANY. NY 106 PP

THE END PRODUCT OF THIS EFFORT WILL BE A REPORT SUBMITTED TO CONGRESS WHICH WILL: (1) ASSESS EXISTING AND PROJECTED WATER AND RELATED LAND RESOURCES NEEDS AND PROBLEMS; (2) ANALYZE THE EXTENT TO WHICH PRESENT PLANS AND PROGRAMS RESOLVE IDENTIFIED NEEDS AND PROBLEMS; AND (3) RECOMMEND ACTIONS TO MEET REMAINING UNRESOLVED NEEDS AND PROBLEMS WHICH ARE APPROPRIATE TO THE SCOPE OF THIS STUDY. THE AREAS OF STUDY (OR SELECTED FOCUSES) BASED ON AN ASSESSMENT OF THE PRIORITY NEEDS AND PROBLEMS ARE: (1) WATER MANAGEMENT, (2) RECREATION, (3) FLOOD DAMAGE REDUCTION, (4) DREDGED MATERIAL DISPOSAL, (5) INSTITUTIONAL ARRANGEMENTS FOR WATER SUPPLY, AND (6) CONSISTENCY. THE PROCEDURE FOR THIS STUDY IS (1) DEFINE SCENIC QUALITY, (2) DEVELOP METHOD TO EVALUATE SCENIC QUALITY, (3) REVIEW PREVIOUS STUDIES, (4) DEVELOP ACTUAL METHODOLOGY, (5) RELATION OF SCENIC VALUES TO OTHER VALUES IN PLANNING AND (6) DISCUSSION.

2136 HUDSON RIVER BASIN STUDY GROUP

HUDSON RIVER BASIN LEVEL B WATER AND RELATED LAND RESOURCES STUDY: HUDSON RIVER FISH AND WILDLIFE REPORT [1978]

NY DEC, ALBANY, NY NP

INFORMATION WAS GATHERED FROM HUDSON RIVER BASIN STUDY CONCERNING PLANNING, PROGRAM MANAGING OF WATER AND LAND RESOURCES IN THE HUDSON BASIN. THIS PAPER DISCUSSES WATER USE, QUALITY, PERMITS, PUBLIC ACCESS AND LAND USE.

2137 HUDSON RIVER BASIN STUDY GROUP

HUDSON RIVER BASIN LEVEL B WATER AND RELATED LAND RESOURCES STUDY: GLOSSARY OF TERMS IN STANDARD USE FOR NEW YORK STATE LAND USE-RELATED PROGRAMS [1979]

NY DEC, ALBANY, NY NP

THIS GLOSSARY OF TERMS IN STANDARD USE WAS DEVELOPED BY THE CONSISTENCY WORK GROUP OF THE HUDSON RIVER BASIN, LEVEL B, STUDY FOR USE BY THE MANAGERS OF PARTICIPATING PROGRAMS AND BY OTHER INTERESTED PERSONS TO FOSTER A GREATER UNDERSTANDING AND THEREFORE CLOSER RELATIONSHIPS AMONG SELECTED MAJOR LAND RELATED PROGRAMS IMPACTING DIRECTLY THE WATER RESOURCES OF NEW YORK STATE.

2138 HUDSON RIVER BASIN STUDY GROUP

THE WATER AND RELATED LAND RESOURCES OF THE HUDSON RIVER BASIN [1979]

NY DEC. ALBANY, NY NP

THE HUDSON RIVER BASIN LEVEL B STUDY PROPOSED TO ASSESS THE BASIN'S EXISTING AND PROJECTED WATER AND RELATED LAND NEEDS AND PROBLEMS, TO ANALYZE HOW WELL CURRENT PLANS AND PROGRAMS RESOLVED THESE NEEDS, AND TO RECOMMEND ACTION ON THOSE UNRESOLVED PROBLEMS WHICH FELL WITHIN THE SCOPE OF A LEVEL B STUDY. STUDY GUIDANCE DERIVES FROM THE FEDERAL PRINCIPLES AND STANDARDS FOR WATER AND RELATED LAND RESOURCES PLANNING WHICH BECAME EFFECTIVE OCT 25, 1973. THE OVERALL PURPOSE OF WATER AND RELATED LAND RESOURCES PLANNING IS TO PROMOTE THE QUALITY OF THE FOLLOWING NATIONAL OBJECTIVES: 1) TO ENHANCE THE QUALITY OF THE NATION'S OUTPUT OF GOODS AND SERVICES AND IMPROVING NATIONAL ECONOMIC EFFICIENCY AND 2) TO ENHANCE THE QUALITY OF THE ENVIRONMENT BY THE MANAGEMENT, CONSERVATION, PRESERVATION, CREATION, RESTRICTION, OR IMPROVEMENT OF THE QUALITY OF CERTAIN NATURAL AND CULTURAL RESOURCES AND ECOLOGICAL SYSTEMS. A SPECIFIC PLAN OF STUDY DEFINED DETAILED WORK ELEMENTS FOR THE PARTICIPATING AGENCIES AND THE MANNER IN WHICH THEY WOULD INTEGRATE WITH THE OVERALL PLANNING PROCESS. AT THE SAME TIME AN INITIAL PLAN WAS PREPARED. IT PRESENTED THE SITUATION THAT WOULD EXIST UNDER PREEXISTING PLANS AND PROGRAMS BY THE YEAR 2000, IF NO LEVEL B STUDY WERE MADE. THEN FOLLOWED A SERIES OF PLANS, ADDRESSED IN THE FIRST INSTANCE TO ECONOMIC DEVELOPMENT AND ENVIRONMENTAL QUALITY OBJECTIVES SEPARATELY.

THEN COMBINED IN A MORE BALANCED APPROACH. AT KEY POINTS THROUGHOUT, THE PUBLIC WAS INVITED TO CONTRIBUTE OPINIONS AND SUGGESTIONS IN WORKSHOPS AND INFORMATION MEETINGS. AN ASSESSMENT OF THE HUDSON BASIN'S IDENTIFIED NEEDS AND PROBLEMS TO THE YEAR 2000 PERMITTED FOCUSING OF THE LEVEL B STUDY ON THE FOLLOWING GENERAL AREAS: CONSISTENCY (COMPATIBILITY OF PROGRAMS AT DIFFERENT LEVELS), WATER RESOURCES MANAGEMENT, WATER SUPPLY, RECREATION, FLOOD DAMAGE REDUCTION, AND DREDGED MATERIAL DISPOSAL. THESE AREAS PROVIDED THE ORGANIZATIONAL FRAMEWORK BOTH FOR EXAMINING THE PROBLEMS AND FRAMING SOLUTIONS. THE FINAL RECOMMENDATIONS HAE ALSO INCLUDED AN INSTITUTIONAL FOCUS, WHICH COMPREHENSIVELY TIES TOGETHER TOTAL MANAGEMENT OF THE BASIN'S RESOURCES.

2139 HYDROSCIENCE, INC

WATER QUALITY EVALUATION FOR OCEAN DISPOSAL SYSTEM. SUFFOLK COUNTY. NY [1974]

HYDROSCIENCE, INC., WESTWOOD, NJ NP

DISINFECTED SECONDARY MUNICIPAL EFFLUENT IS TO BE CONVEYED FROM THE SUFFOLK COUNTY SOUTHWEST SEWER DISTRICT NO. 3 WATER POLLUTION CONTROL PLANT AT FLEET POINT ACROSS GREAT SOUTH BAY AND THE BARRIER BEACH TO THE ATLANTIC OCEAN IN THE VICINITY OF FIRE ISLAND INLET. THE PRINCIPAL PURPOSE OF THIS STUDY IS TO PROVIDE QUANTITATIVE ANALYTICAL PROGEDURES WITH WHICH TO DETERMINE THE EFFECTS OF WASTEWATER DISPOSAL AT VARIOUS ALTERNATIVE LOCATIONS ON WATER QUALITY IN THE ATLANTIC OCEAN AND GREAT SOUTH BAY. IN THIS REGARD, VARIOUS TYPES OF MATHEMATICAL WATER QUALITY MODELING STUDIES WERE CONDUCTED, TOGETHER WITH A FIELD AND LABORATORY DATA COLLECTION PROGRAM TO SUPPORT THE MODEL VERIFICATION AND APPLICATION. BY THESE MEANS, THE LOCATION OF THE TERMINAL SITE FOR THE MARINE OUTFALL STRUCTURE IS RECOMMENDED TO BE 3.5 MI OFF SHORE AND SOUTH OF CEDAR ISLAND BEACH. THIS SITE HAS BEEN SELECTED BECAUSE IT ASSURES TO THE MAXIMUM PRACTICAL EXTENT, THE MAINTENANCE OF PUBLIC HEALTH AND RECREATIONAL VALUES IN THE STUDY AREA, AND MINIMIZES ADVERSE EFFECTS ON GENERAL WATER QUALITY AND THE MARINE ECOSYSTEM.

2140 HYDROSCIENCE, INC

DEVELOPMENT OF A STEADY STATE WATER QUALITY MODEL OF THE INTERSTATE SANITATION DISTRICT WATERS. VOLUME 182 [1974]

INTERSTATE SANITATION COMM, NEW YORK, NY 229 PP

OVER THE PAST 15 YEARS THE WATER QUALITY OF THE NEW YORK HARBOR REGION HAS BEEN THE SUBJECT OF MANY ENGINEERING STUDIES. RECENTLY, MANY INVESTIGATORS HAVE APPLIED MATHEMATICAL MODELS TO THE SIMULATION OF WATER QUALITY CONDITIONS AS AFFECTED BY PRESENT AND ESTIMATED FUTURE LEVELS OF WASTE DISCHARGES. MOST MODELS WERE DEVELOPED FOR SPECIFIC PORTIONS OF THE SYSTEMS. GENERALLY FOR THE PURPOSE OF DEVELOPING DISCHARGE REGULATIONS. THE ACCURACY OF SIMULATION RESULTS OF SUCH MODELS WAS OFTEN LIMITED BY ESTIMATION OF CONSTITUENT CONCENTRATIONS AT MODEL BOUNDARIES, VALUES IN ACTUALITY AFFECTED BY THE VERY SYSTEM BEING MODELED. TO ORGANIZE THESE INDIVIDUAL MODELS SO AS TO IMPROVE ACCURACY, THIS COMPREHENSIVE MODEL OF NEW YORK HARBOR WAS DEVELOPED. THE INTENT OF THIS PROJECT WAS TO DEVELOP SUCH A MODEL, USING PREVIOUS MODELS WHEREVER POSSIBLE; TO VERIFY THE MODEL AGAINST SEVERAL SETS OF EXISTING WATER QUALITY DATA; TO MAKE RECOMMENDATIONS CONCERNING WEAKNESSES OF THE MODEL AND NECESSARY ADDITIONAL WORK; AND TO TRANSFER THE MODEL TO THE INTERSTATE SANITATION COMMISSION FOR ITS USE AS A PLANNING TOOL. THE RESULTING MODEL IS A STEADY STATE, FINITE SECTION, VERTICALLY-MIXED, ONE-AND-TWO DIMENSIONAL WATER QUALITY MODEL, CAPABLE OF SIMULATING SINGLE CONSERVATIVE (NON-REACTIVE) OR REACTIVE SUBSTANCES (E.G., CHLORIDE, COLIFORMS, RESPECTIVELY) OR THO COUPLED REATIVE SUBSTANCES (F.G., BOD AND DO, NH3-N AND NO3-N). THE STUDY AREA INCLUDES: HUDSON AND NORTH RIVERS. HACKENSACK RIVER. PASSAIC RIVER, NEWARK BAY, KILL VAN KULL, ARTHUR KILL, RARITAN RIVER, SOUTH RIVER, HARLEM RIVER, EAST RIVER, UPPER AND LOWER BAY, RARITAN BAY, JAMAICA BAY, ATLANTIC OCEAN AND PARTS OF LONG ISLAND SOUND. THE ABOVE WATERWAYS ARE DIVIDED INTO 284 MODEL SEGMENTS; A SOLUTION CONCENTRATION FOR A MODELED CONSTITUENT IS GENERATED FOR ALL 284 SEGMENTS BY EVERY RUN. THREE CALIBRATIONS-VERIFICATIONS WERE PERFORMED, FOR THE SUMMERS OF 1970, 1971, AND 1973. CHLORIDES AND DISSOLVED OXYGEN WERE VERIFIED FOR ALL THREE YEARS; FECAL COLIFORMS AND TEMPERATURES WERE SIMULATED FOR 1970, AND AMMONIA AND NITRATE VITROGEN WERE CALIBRATED FOR 1970. THIS REPORT CONSISTS OF TWO VOLUMES. VOLUME I CONTAINS AN ENGINEERING REPORT: THE THEORY OF THE MODEL, DISCUSSIONS OF THE PROCESS OF DEVELOPING THE MODEL, AND THE RESUTS OF CALIBRATION, VERIFICATION, SENSITIVITY AND SUB-SYSTEM ANALYSES. VOLUME 11 CONSISTS OF A USER'S GUIDE: DISCUSSION OF THE COMPUTER SOLUTION, A PROGRAM MANUAL, AND COMPLETE TABLES OF PARAMETER VALUES FOR ALL 284 SEGMENTS.

2141 HYDROSCIENCE, INC

DEVELOPMENT OF A STEADY-STATE WATER QUALITY MODEL FOR NEW YORK HARBOR VOL 1 OF 2 [1975]

HYDROSCIENCE, INC., WESTWOOD, NJ 302 PP

THE RESULTING MODEL IS A STEADY STATE, FINITE SECTION, VERTICALLY-MIXED, ONE-AND-TWO DIMENSIONAL WATER QUALITY MODEL, CAPABLE OF SIMULATING SINGLE CONSERVATIVE (NON-REACTIVE) OR REACTIVE SUBSTANCE (E.G., CHLORIDE, COLIFORMS, RESPECTIVELY) OR TWO COUPLED REACTIVE SUBSTANCES (E.G., BOD AND DO, NH3-N AND NO3-N). THE STUDY AREA INCLUDES: HUDSON AND NORTH RIVERS, HACKENSACK RIVER, PASSAIC RIVER, NEWARK BAY, KILL VAN KULL, ARTHUR KILL, RARITAN RIVER, SOUTH RIVER AND HARLEM RIVER.

2142 HYDROSCIENCE, INC

ESTIMATION OF PCB REDUCTION BY REMEDIAL ACTION ON THE HUDSON RIVER ECOSYSTEM [1978]

HYDROSCIENCE, INC., WESTWOOD, NJ NP

THE REPORT EXPLAINS THE POSSIBLE EFFECTS OF REMEDIAL ACTION TO REDUCE THE PCB SOURCES IN THE UPPER HUDSON, ON THE HUDSON RIVER ECOSYSTEM WITH PARTICULAR EMPHASIS ON THE LOWER HUDSON FISHERY. LIMITED DREDGING SHOWS A LOWER PCB CONCENTRATION BY 50% TO ABOUT 20-40 PPM WITH A LOWER FISH LEVEL BY 20% TO 8-12 PPM. EXTENSIVE DREDGING UPSTREAM MAY LOWER THE LEVELS BY 30-50% TO THE ACTION LEVEL. THE NO ACTION RESPONSE WILL TAKE LONGER THAN A DECADE FOR FLUSHING OUT OF PCB.

2143 HYDROSCIENCE, INC

ANALYSIS OF THE FATE OF PCBS IN THE ECOSYSTEM OF THE HUDSON ESTUARY [1979]

NY DEC. STONY BROOK, NY NP

AN ANALYSIS OF PCB CONCENTRATION IN THE FOOD WEB AND TOP PREDATORS OF THE HUDSON ESTUARY ECOSYSTEM IS CARRIED OUT BY MEANS OF A NONLINEAR SEVEN COMPARTMENT FOOD WEB MODEL AND AN AGE-DEPENDENT STRIPED BASS MODEL. THE ANALYSIS OF DATA AND MODEL RESULTS INDICATE FOOD CHAIN MAGNIFICATION OF ABOUT A FACTOR OF 10 FROM ESTIMATED PHYTOPLANKTON LEVELS OF ABOUT 1-2 MICROG/G (MICROG PCB/G BIOMASS, WET WEIGHT BASIS) TO STRIPED BASS LEVELS OF 10-20 MICROG/G. THE CALCULATIONS INDICATE THAT THE EXCRETION RATE AND THE MIGRATION INTO AND OUT OF HIGH PCB ENVIRONMENTS HAVE A SIGNIFICANT EFFECT ON THE STRIPED BASS PCB CONCENTRATION. THE ESTUARY WATER COLUMN PCB CONCENTRATION AVAILABLE FOR FOOD CHAIN ACCUMULATION IS ESTIMATED BETWEEN 0.05 MICROG/L (5D NG/L) IN THE UPPER ESTUARY AND 0.01 MICROG/L (10 NG/L) IN THE LOWER ESTUARY AND NEAR SHORE REGIONS. THE MODEL CALIBRATIONS INDICATE THAT 10-20% OF THE OBSERVED BODY BURDEN OF THE STRIPED BASS IS DUE TO DIRECT UPTAKE FROM THE WATER, WITH THE REMAINDER DUE TO ACCUMULATION FROM FEEDING ON CONTAMINATED PREY. PROJECTIONS INDICATE THAT IF A CONCENTRATION OF 0.01 MICROG/L WAS OBTAINED IN THE ESTUARY (APPROXIMATELY AN 80% REDUCTION), AS A RESULT OF REMEDIAL MEASURES, THEN THE STRIPED BASS BODY BURDENS OF JUVENILE AND 4 YEAR OLD FISH WOULD DECLINE TO 4-8 MICROG/G DEPENDING ON THE ASSUMED EXCRETION RATE. THIS CONCENTRATION RANGE IS AT LEAST TWICE THE NEWLY INSTITUTED ACTION LIMIT OF 2 MICROG/G. OLDER FISH UNDER A "WORST CASE" WOULD NOT DECLINE BELOW 15 MICROG/G. THE RESPONSE TIME TO REACH THESE LEVELS IS ESTIMATED TO BE 2-4 YEARS FROM THE TIME REDUCTION IN WATER CONCENTRATION IS ACCOMPLISHED. SIGNIFICANT REDUCTIONS IN THE PCB LEVELS IN THE STRIPED BASS WOULD ACCOMPANY THE ASSUMED 80% REDUCTION. HOWEVER, THE RESULIS INDICATE THE VIRTUAL IMPOSSIBILITY OF REDUCING STRIPED BASS BODY BURDENS OVER THE NEAR TERM TO THE LEVEL OF 2 MICROGIG DUE TO THE POTENTIAL FOR HIGH BIOACCUMULATION IN THE STRIPED BASS AND THE UBIQUITOUS PRESENCE OF PCBS. OTHER BENEFITS WOULD BE REALIZED FROM THE ASSUMED REDUCTION, AS FOR EXAMPLE, AMERICAN SHAD CONCENTRATION LEVELS WOULD PROBABLY BE BELOW 2 MICROGIG AND THE REDUCTION WOULD ALSO CONTRIBUTE TO A LESSENING OF THE STRESS IN THE ECOSYSTEM. THE UNCERTAINTIES IN THE ANALYSIS AND THE WIDF VARIATION IN AVAILABLE DATA INDICATE THE NEED FOR CONTINUED MONITORING AND MODEL DEVELOPMENT.

EXTENSIONS TO THE BASELINE STUDY OF CONTAMINANT LEVELS IN LIVING RESOURCES OF THE NORTH ATLANTIC [1980]

COOP RES REP 95. ICES, COPENHAGEN, DENMARK, 57 PP

THE US DATA PRESENTED HERE HAVE BEEN TAKEN FROM A MUCH LARGER COLLECTION OF DATA ON SUBSTANTIAL NUMBERS OF FINFISH AND SHELLFISH WHICH HAVE BEEN ANALYSED AS PART OF A PROGRAM DESIGNED TO ASSESS THE LEVELS OF METALS IN LIVING MARINE RESOURCES. THIS HAS BEEN CONDUCTED TO DETERMINE IF THERE ARE MAJOR PROBLEMS WHICH MIGHT PRECLUDE HUMAN CONSUMPTION OF SEAFOODS. THE US AUTHORITIES HAVE INDICATED THAT THIS PROGRAM OF ANALYSES WILL BE CONTINUED, EMPHASIZING ATTENTION TO ICES PROTOCOLS IN THE FUTURE. ANALYSES WILL BE DONE BY LABORATORIES WHICH HAVE PARTICIPATED IN ICES INTERCALIBRATION EXERCISES AND THE RESULTS HILL BE RELATABLE TO THE LABORATORIES WHICH HAVE CONDUCTED THEM. FOR THE DATA GIVEN HERE, IN MOST CASES THE SPECIES EXAMINED HAVE NOT CONTAINED LEVELS OF HEAVY METALS WHICH PRESENT A PUBLIC HEALTH PROBLEM, BASED ON CURRENT STANDARDS OR RECOMMENDATIONS. AS NOTED IN THIS REPORT, CERTAIN SPECIES COLLECTED FROM SPECIFIC GEOGRAPHIC AREAS HAVE SHOWN ELEVATED VALUES FOR COPPER. MORE RECENT STUDIES WOULD INDICATE THAT WHEN LARGE NUMBERS OF SAMPLES OF SURF CLAMS (SPISULA SOLIDISSIMA) ARE COLLECTED OVER A WIDE RANGE OF LATITUDES, FROM THE RELATIVELY UNPOLLUTED WATERS OF THE DELMARVA PENINSULA TO THE HEAVILY POLLUTED NEW YORK BIGHT, THERE IS A THO- TO THREE-FOLD INCREASE IN CERTAIN METALS. WHILE THESE LEVELS DO NOT POSE AN IMMEDIATE HEALTH PROBLEM, THEY DO SERVE AS AN ALERT THAT MONITORING OF SEVERAL SPECIES SHOULD CONTINUE TO DETERMINE IF THERE ARE TEMPORAL AND SPATIAL TRENDS TOWARD INCREASED BODY BURDENS OF CERTAIN MICROCONSTITUENTS OF CONCERN.

2145 INTERSTATE ELECTRONICS CORP

OCEAN WASTE DISPOSAL IN SELECTED GEOGRAPHIC AREAS [1973]

INTERSTATE ELECTRONICS CORP. ANAHEIM. CA NP

THIS REPORT PRESENTS THE RESULTS OF AN INTENSIVE FACT FINDING SURVEY OF OCEAN WASTE DISPOSAL PRACTICES IN SIX GEOGRAPHIC AREAS; NEW YORK BIGHT; CHARLESTON, SC; SEGMENTS OF THE GULF OF MEXICO COAST; SOUTHERN CA; SAN FRANCISCO; AND PUGET SOUND. OCEAN DISPOSAL SITES WITHIN THESE AREAS WERE SELECTED TO PROVIDE A REPRESENTATIVE CROSS SECTION OF OCEAN WASTE DISPOSAL PRACTICES IN THE US. CONCURRENT WITH A FIELD SURVEY AND PERSONAL INTERVIEW PROGRAM, DETAILED DATA AND INFORMATION RESEARCH WAS PERFORMED. THE SUM OF THE INFORMATION OBTAINED BY THIS COORDINATED PROGRAM WAS USED TO ESTABLISH A DATA BASE WHICH WILL BE USED TO RECOMMEND GUIDELINES FOR THE CONTROL OF OCEAN WASTE DISPOSAL.

2146 INTERSTATE SANITATION COMMISSION

1974 REPORT OF THE INTERSTATE SANITATION COMMISSION ON THE WATER POLLUTION CONTROL ACTIVITIES AND THE INTERSTATE AIR POLLUTION PROGRAM [1975]

INTERSTATE SANITATION COMM, NEW YORC, NY 63 PP

IN ITS ACTIVITIES FOR WATER POLLUTION ABATEMENT, THE COMMISSION'S PRIORITIES ARE: PRETREATMENT OF INDUSTRIAL WASTES, REMOVAL OF OILS FROM THE DISTRICT WATERS, COMPLIANCE MONITORING, THERMAL POLLUTION, ENFORCEMENT, AND COMBINED SEWERS. MORE THAN \$4.688 BILLION IS DESIGNATED FOR THE UPGRADING AND EXPANSION OF EXISTING SEWAGE TREATMENT SYSTEMS AND TO PROVIDE FOR A MINIMUM OF SECONDARY TREATMENT. THE COMMISSION IS RESPONSIBLE FOR MANAGING A 2 YR, 3-PHASE PROGRAM TO DEVELOP A VIABLE. AND COORDINATED SYSTEM FOR SEWAGE SLUDGE DISPOSAL IN THE NY-NJ METROPOLITAN AREA BY JUN 1976. A DESCRIPTION AND SCOPE OF THIS DISPOSAL MANAGEMENT PROGRAM IS CONTAINED IN THIS REPORT. DURING THIS PAST YEAR, THE COMMISSION CONTINUED TO OPERATE ITS DWY AUTOMATIC WATER QUALITY MONITORS AND THOSE THAT IT LEASES FROM THE US EPA. GRAPHS SHOWING THE MONTHLY HIGH, MINIMUM, AND AVERAGE VALUES FOR TEMPERATURE, DISSOLVED OXYGEN, PH, AND CONDUCTIVITY ARE PRESENTED. THE COMMISSION HAS CONTINUED TO COORDINATE THE AIR POLLUTION WARNING SYSTEM IN THE NJ-NY-CT AIR QUALITY CONTROL REGION. INSTRUMENTATION TO MEASURE DIONE AND OXIDES OF NITROGEN PARAMETERS WERE ADDED TO THE TWO MOBILE AIR UNITS TO INCREASE THEIR EFFECTIVENESS.

1975 REPORT OF THE INTERSTATE SANITATION COMMISSION ON THE WATER POLLUTION CONTROL ACTIVITIES AND THE INTERSTATE AIR POLLUTION PROGRAM [1976]

INTERSTATE SANITATION COMM. NEW YORK. NY 108 PP

WATER AND AIR POLLUTION ACTIVITIES OF THE COMMISSION ON TECHNICAL ASSISTANCE, PLANNING, LABORATORY ANALYSIS, MONITORING AND COORDINATION OF INTERSTATE PROBLEMS ARE DESCRIBED. AIR POLLUTION ACTIVITIES INCLUDE: CHARACTERIZATION OF PHOTO-CHEMICAL OXIDANTS, COORDINATION OF "CONTROL OF SUSPENDED PARTICULATES" PROJECT, AND INVESTIGATION OF RURAL SULFATES.

2 148 INTERSTATE SANITATION COMMISSION

NEW YORK--NEW JERSEY METROPOLITAN AREA SEWAGE SLUDGE DISPOSAL MANAGEMENT PROBLEM [1976]

INTERSTATE SANITATION COMM, NEW YORK, NY 68 PP

THE US EPA HAS ISSUED PERMITS CONTAINING CONDITIONS WHICH CALL FOR DISCONTINUANCE OF OCEAN DISPOSAL OF SLUDGE BY THE END OF 1981. THIS COMES AT A TIME WHEN THE REQUIRED UPGRADING OF THE SEWAGE TREATMENT PROCESSES IN THE NY-NJ METROPOLITAN AREA IS PRODUCING GREATLY ENLARGED TONNAGES OF SLUDGE. AT PRESENT, 700 TONS A DAY REQUIRE DISPOSAL. OF THIS AMOUNT 500 TONS IS DUMPED AT SEA. BY THE YEAR 2000 IT IS ESTIMATED THAT DAILY SLUDGE PRODUCTION FROM THE REGION'S PUBLIC TREATMENT PLANTS WILL TRIPLE. OCEAN DISPOSAL IS THE LEAST EXPENSIVE METHOD OF REMOVING SLUDGE FROM OUR POPULATION CENTERS. THEREFORE, IT IS VITAL THAT ANY PLAN DEVELOPED IN RESPONSE TO REQUIREMENTS FOR ABANDONMENT OF THE METHOD BE UNDERTAKEN FOR SOUND ENVIRONMENTAL REASONS AND THAT THE COSTS BE EQUITABLY DISTRIBUTED OVER THE REGION. THE ALTERNATIVE METHODS WHICH APPEAR TO BE MOST FEASIBLE FOR USE IN THE REGION ARE COMPOSTING FOLLOWED BY LAND SPREADING OF THE RESULTANT MATERIALS AND PYROLYSIS FOLLOWED BY CAREFULLY CONTROLLED DISPOSAL OF RESIDUES IN LANDFILLS. COMPOSTING PRODUCES A SUBSTANCE WHICH IS USABLE AS A SOIL CONDITIONER. AT PRESENT A DIFFICULTY IS THAT THE HEAVY METALS AND SYNTHETIC ORGANICS CONTENT OF ALMOST ALL THE REGION'S SLUDGES MAKES THEM TOO TOXIC FOR SAFE SPREADING ON AGRICULTURAL LANDS OR EVEN ON RECREATIONAL LANDS. HOWEVER, PRETREATMENT OF INDUSTRIAL WASTES COULD MAKE MANY OF THESE SLUDGE, AFTER TREATMENT BY COMPOSTING SUITABLE FOR LAND SPREADING, AT LEAST ON ACREAGES NOT USED FOR CROP PRODUCTION. PRETREATMENT WOULD ALSO ASSIST IN THOSE INSTANCES WHERE PYROLYSIS OR OTHER COMBUSTION METHODS MAY BE USED. THESE PROCESSES LEAVE SUBSTANTIAL QUANTITIES OF RESIDUES WHICH MUST BE DISPOSED. IF OCEAN DUMPING IS UNLAWFUL, THE MOST LIKELY MEANS OF DISPOSAL AVAILABLE WILL BE IN LANDFILLS. HOWEVER, LEACHING IS A PROBLEM. SO. LANDFILL SITES MUST BE CAREFULLY CHOSEN. MAINTAINED AND MONITORED. BY REDUCING THE TOXIC CONTENT OF SLUDGES, PRETREATMENT ALSO WOULD REDUCE THE TOXICITY OF THE RESIDUES LEFT BY THE COMBUSTION PROCESSES. FURTHER, PRETREATMENT IS IMPORTANT FOR THE REDUCTION OF TOXICITY IN THE SLUDGES REACHING THE REGION'S WATERS BY VIRTUE OF COMBINED SEWER OVERFLOWS. THESE OCCUR EVERY TIME THERE IS APPRECIABLE RAINFALL AND RESULT IN THE RAW DISCHARGE OF LARGE QUANTITIES OF SEWAGE AND ACCUMULATED SEWAGE SOLIDS. WHATEVER SUBSTANCES ARE IN THEM WHEN THEY LEAVE FACTORIES. COMMERCIAL ESTABLISHMENTS AND HOMES ARE FOUND IN THE SLUDGES WHEN THEY ARE DISCHARGED DIRECTLY FROM THE COMBINED SEWERS. INDUSTRIAL PRETREATMENT IS FEASIBLE, BUT PRETREATMENT FROM RESIDENTIAL FACILITIES AND FROM MANY COMMERCIAL ESTABLISHMENTS IS NOT. PRODUCT CONTROL IS A MEANS OF COPING WITH THE LATTER PROBLEM.

2149 INTERSTATE SANITATION COMMISSION

1977 REPORT OF THE INTERSTATE SANITATION COMMISSION ON THE WATER POLLUTION CONTROL ACTIVITIES AND THE INTERSTATE AIR POLLUTION PROGRAM [1978]

INTERSTATE SANITATION COMM, NEW YORK, NY 152 PP

THIS REPORT, WHICH IS PREPARED EACH YEAR, PROVIDES A RECORD OF THE WATER AND AIR POLLUTION ACTIVITIES OF THE INTERSTATE SANITATION COMMISSION ON TECHNICAL ASSISTANCE, PLANNING, LABORATORY ANALYSIS, MONITORING, AND COORDINATION OF INTERSTATE PROBLETS WHICH PROMOTE THE CONSTRUCTION OF WATER POLLUTION CONTROL PROJECTS WITHIN THE INTERSTATE SANITATION DISTRICT.

REPORT TO THE ATLANTIC COUNTY SEWERAGE AUTHORITY ON THE OCEAN MONITORING PROGRAM PHASE I [1979]

JOHN G. REUTTER ASSOC, CAMDEN, NJ 175 PP

THIS REPORT DETAILS THE RESULTS OF PHASE I OF THE ATLANTIC COUNTY SEWERAGE AUTHORITY'S OCEAN MONITORING PROGRAM. PHASE I WAS DESIGNED TO BE A BASELINE STUDY OF THE OCEAN ENVIRONMENT IN THE VICINITY OF THE ACSA'S OCEAN OUTFALL, PRIOR TO ITS OPERATION. THE REPORT CONTAINS INFORMATION ON BACKGROUND LEVELS OF 58 PHYSICAL AND CHEMICAL PARAMETERS SAMPLED WITHIN THE PHASE I STUDY AREA SURROUNDING THE SEWERAGE AUTHORITY'S OCEAN OUTFALL. ADDITIONALLY, INFORMATION IS PRESENTED ON COASTAL CURRENTS AND SEDIMENT TRANSPORT NEAR THE STUDY AREA, INDIGENOUS BIOTIC POPULATIONS, AND SEDIMENT PARTICLE SIZE ANALYSES. THE EFFORT FOR THIS BASELINE STUDY INVOLVED 22 FIELD SAMPLING TRIPS TO THE PHASE I STUDY AREA, AND OVER 10,000 LABORATORY ANALYSES DURING A PERIOD OF MORE THAN FOUR YEARS. INTERPRETATION OF THIS MASS OF DATA WAS FACILITATED THROUGH THE USE OF A COMPUTER-ASSISTED DATA MANAGEMENT AND REDUCTION SCHEME. THE RESULTS OF THIS INVESTIGATION CHARACTERIZE THE STUDY AREA AS AN ESSENTIALLY HEALTHY NEAR-SHORE ENVIRONMENT, TYPICAL OF THE SOUTHERN COASTAL REGIONS OF NJ. THE PHASE I DATA WILL BE USED EXTENSIVELY FOR COMPARISON DURING THE PHASE III EFFORT, WHEN A CONTINUING ASSESSMENT OF THE MARINE ENVIRONMENT NEAR THE ACSA OUTFALL WILL BE MADE.

2151 LAMONT-DOHERTY GEOLOGICAL OBSERVATORY

SYMPOSIUM ON THE GEOLOGICAL DEVELOPMENT OF THE NEW YORK BIGHT, OCT 19, 1977 [1978]

SUNY, ALBANY, NY NP

THIS PAPER CONTAINS CONTRIBUTIONS FROM MANY AUTHORS. TITLES INCLUDE: EARLY TRANSFORM FAULT MODEL APPLIED TO THE NEW YORK BIGHT; JURASSIC, CRETACEOUS, AND PALEOCENE HISTORY OF THE NEW YORK BIGHT SHELF, FROM SEISMIC AND WELL DATA; NEOCENE SEDIMENTATION IN THE NEW YORK BIGHT; THE GEOLOGIC HISTORY OF THE EAST COAST CONTINENTAL MARGIN OBTAINED FROM SUBMERSIBLE EXPLORATION; SUBSIDENCE HISTORY OF THE NEW YORK BIGHT; EVOLUTION OF THE NEW YORK BIGHT IN RELATION TO THERMAL AND MECHANICAL MODELS FOR ATLANTIC-TYPE CONTINENTAL MARGINS.

2152 LAWLER. MATUSKY & SKELLY. ENGINEERS

PCB "NO ACTION" ALTERNATIVE: INTERIM REPORT [1977]

LAWLER. MATUSKY & SKELLY. ENGINEERS. TAPPAN. NY 26 PP

THIS REPORT DESCRIBES THE METHODOLOGY BEING USED TO EVALUATE PCB TRANSPORT IN THE UPPER HUDSON RIVER. A ONE-DIMENSIONAL STEADY-STATE HYDROLOGIC MODEL, HEC-6, PREDICTS SEDIMENT TRANSPORT IN THE RIVER FROM HYDRAULICS. A PCB INVENTORY MODEL THEN INTEGRATES THE PCB DATA WITH THE CALCULATED TRANSPORT OF SEDIMENT, THUS ASSUMING THAT PCB TRANSPORT OCCURS WITH THE SEDIMENT TRANSPORT.

2153 LEAGUE OF WOMEN VOTERS EDUCATION FUND

THE HUDSON RIVER BASIN [1969]

LEAGUE OF WOMEN VOTEPS EDUCATION FUND, WASHINGTON, DC 40 PP

LAND AND WATER USE IN THE HUDSON RIVER BASIN IS THE SUBJECT OF THIS REPORT. PART I OF SIX PARTS DISCUSSES THE "CHALLENGE ON THE HUDSON", STRESSING THE DIFFICULTY OF MOBILIZING AN EFFORT TO PREVENT MAN FROM DESTROYING NATURE. IN PART II. ENTITLED "FACTS AND TRENDS", THE UPPER AND LOWER HUDSON BASINS ARE EXAMINED SEPARATELY. PART III EXAMINES DEMANDS ON THE WATER AND LAND IN SIX REPORTS DEALING WITH: (1) AGRICULTURE; (2) INDUSTRY; (3) HOUSING; (4) HIGHWAYS; (5) CONSERVATION; AND (6) WATER STORAGE. "ARE THE CHALLENGES BEING MET" IS THE TITLE OF PART IV; IT EXAMINES: (1) THE PURE WATERS PROGRAM; (2) WATER SUPPLY PLANNING; (3) ADMINISTRATIVE SYSTEMS FOR PLANNING AND IMPLEMENTATION OF WATER POLICY, INCLUDING THE DELAWARE RIVER BASIN EXAMPLE AND THE

"INTERSTATE-FEDERAL COMPACT FOR THE HUDSON"; AND (4) THE HUDSON RIVER VALLEY COMMISSION. PART V IS ENTITLED "BASIN MINIATURES" AND DISCUSSES THE HERKIMER-ONEIDA COUNTIES COMPREHENSIVE PLANNING PROGRAM IN NEW YORK. THE FINAL PART RELATES METHODS OF OBTAINING SUPPORT FOR A POLLUTION CONTROL PROJECT FROM THE LOCAL GOVERNMENT.

2154 LONG ISLAND REGIONAL PLANNING BOARD

DIL SPILL RESPONSE ACTIONS IN FIRE ISLAND INLET [1979]

LIRPB. HAUPPAUGE. NY 103 PP

THIS PAPER DISCUSSES THE NEED FOR ADEQUATE OIL SPILL CLEANUP, FOULING OF BEACHES, RESPONSE ACTIONS TO CONTAIN AND COLLECT SPILLAGE, CONTRACTORS WITH SPILL CLEANUP EQUIPMENT AND SUGGESTED IMPROVED STRATEGIES FOR CLEANUP.

2155 LONG ISLAND REGIONAL PLANNING BOARD

ASSESSMENT OF EXISTING MARICULTURE ACTIVITIES IN THE LONG ISLAND COASTAL ZONE AND POTENTIAL FOR FUTURE GROWTH [1979]

LIRPB, HAUPPAUGE, NY 141 PP

THE LIRPB REPORT, A MARINE FISHERIES SUBPLAN FOR NASSAU AND SUFFOLK COUNTIES (15 SEP 1978), DESCRIBED COMMERCIAL FISHING INDUSTRY ACTIVITIES IN THE LI REGION. ASSESSED THEIR RELATIVE IMPORTANCE. ANALYZED INDUSTRY MANAGEMENT, LAND USE, AND FACILITY PROBLEMS. AND DEVELOPED DOCK/PIER ACCESS. LAND USE. AND CHANNEL DREDGING RECOMMENDATIONS FOR BOTH THE DEEPWATER AND SHALLOW WATER SEGMENTS OF THE COMMERCIAL FISHING INDUSTRY. THE RECOMMENDATIONS WERE DESIGNED TO ASSURE THAT THE CONTINUED VIABILITY OF THE REGION'S COMMERCIAL FISHING INDUSTRY IS NOT CONSTRAINED BY LAND USE DECISIONS. THE SCOPE OF THE FISHERIES SUBPLAN DID NOT INCLUDE AN ANALYSIS OF EXISTING MARICULTURE ACTIVITIES ON LI. OR AN ASSESSMENT OF THE POTENTIAL OF EXPANDING THE CULTURE OF VARIOUS MARINE SPECIES IN LI WATERS. THIS PAPER ADDRESSES THESE BROAD TOPICS. WHICH ARE IMPORTANT TO THE FUTURE OF THE MARINE RELATED ECONOMY OF NY. FOR THE PURPOSE OF THIS STUDY A VERY BROAD VIEW OF THE TERM MARICULTURE AND ITS ASSOCIATED ACTIVITIES HAS BEEN TAKEN. MARICULTURE IS DEFINED AS THE CULTURE OR HUSBANDARY OF MARINE PLANTS OR ANIMALS UNDER CONTROLLED CONDITIONS. MARICULTURE-ACTIVITIES TYPICALLY SUBJECT THE ORGANISMS IN QUESTION TO AT LEAST ONE (BUT USUALLY MORE THAN ONE) MANIPULATION BEFORE THEIR EVENTUAL HARVEST OR CAPTURE. THE ACTIVITIES CAN BE GROUPED UNDER TWO BROAD CATEGORIES: PRIVATE MARICULTURE ACTIVITIES CONDUCTED BY PRIVATE INDUSTRY FOR THE COMMERCIAL MARKETING OF MARICULTURE PRODUCTS AND PUBLIC MARICULTURE ACTIVITIES CONDUCTED BY GOVERNMENT AGENCIES TO AUGMENT THE NATURAL STOCKS OF MARINE RESOURCES OR INCREASE THEIR AVAILABILITY FOR EITHER COMMERCIAL OR RECREATIONAL USE. MARICULTURE ACTIVITIES CAN BE EITHER EXTENSIVE OR INTENSIVE, DEPENDING ON THE DEGREE TO WHICH ENVIRONMENTAL CONDITIONS ASSOCIATED WITH THE CULTURE TECHNIQUE ARE ARTIFICIALLY MANIPULATED OR CONTROLLED BY MAN. EXTENSIVE ACTIVITIES. SUCH AS SPAWNER TRANSPLANTS AND TRANSPLANTING OYSTER SEED TO GROWOUT GROUNDS IN OPEN WATERS, RELY ON USE OF CULTURE SITES WHERE THE DEGREE OF ENVIRONMENTAL CONTROL IS MINIMAL. THE USE OF FISH REARING PENS, THE RAFT CULTURE OF SHELLFISH, AND THE OPERATION OF SHELLFISH HATCHERIES ARE INTENSIVE, BECAUSE OF THE HIGHER DEGREE OF CONTROL IMPOSED OVER CULTURE CONDITIONS. IN GENERAL. EXTENSIVE ACTIVITIES ARE LOWER IN COST THAN INTENSIVE ACTIVITIES. BUT HIGHER VIELDS PER UNIT AREA OR VOLUME CAN BE REALIZED THROUGH INTENSIVE CULTURE.

2156 LONG ISLAND STATE PARK AND RECREATION COMMISSION

SLUDGE IMPACT STUDY AS PART OF TASK 9.71 OF OPR WORK PROGRAM [1976]

LI STATE PARK AND RECREATION COMMISSION 33 PP

THE RECENT SLUDGE SITUATION ON LONG ISLAND PROVIDES A USEFUL MODEL THROUGH WHICH THE NEGATIVE EFFECTS OF AN OIL SPILL RESULTING FROM OCS OPERATIONS CAN BE ASSESSED A'ID MITIGATED. TASK 8.7, SUBTASK 1, OF THE OFFICE OF PARKS 8 RECREATION WORK PROGRAM WITHIN THE OCS DEVELOPMENT IMPACT STUDY PROVIDES FOR A REVIEW OF THE NEGATIVE EFFECTS OF OIL SPILLS GIVEN THEIR MAGNITUDES AND STRAND TIMES. IT IS FELT THAT AN EXAMINATION OF THE SLUDGE SITUATION IN THIS CONTEXT WILL PROVIDE USEFUL INSIGHT INTO POSSIBLE

NEGATIVE EFFECTS OF AN OIL SPILL ON LONG ISLAND'S RECREATION INDUSTRY. DEPENDING UPON THE SOURCE OF INFORMATION, THIS INDUSTRY CONTRIBUTES ANYWHERE FROM \$500-800 MILLION ANNUALLY TO THE REGION'S ECONOMY. ACCORDING TO THE LI ASSOC OF COMMERCE AND INDUSTRY, "TOURISM REPRESENTS ONE OF THE REGION'S LARGEST REVENUE AND JOB OPPORTUNITY SOURCES--\$790 MILLION ANNUALLY." OF THIS FIGURE, THE LIACI ESTIMATES SOME \$150 MILLION AS BEING "SUMMER MONTH" AND "OCEAN-ORIENTED." FROM THESE STATISTICS, THE LOSS TO LONG ISLAND'S BEACHES AND RELATED BUSINESS FOR ANY ONE OF THE 13 SUMMER WEEKENDS COULD BE IN EXCESS OF \$10 MILLION. ONE CAN GET A FEELING AS TO THE ACCURACY OF SUCH A STATEMENT WHEN THEY REALIZE THE SCOPE OF LONG ISLAND'S RECREATION INDUSTRY. LONG ISLAND IS THE SECOND (AFTER NYC) MOST POPULAR RECREATION TOURIST REGION IN THE STATE WITH THE OCEAN BEING THE NUMBER ONE APPEAL.

2157 LOS ANGELES TIMES

FIRM FINED \$200,000 FOR POLLUTING RIVER [1971]

LOS ANGELES TIMES XC:16

A \$200,000 FINE WAS IMPOSED FRIDAY UPON THE ANACONDA WIRE AND CABLE CO. FOR 100 UNLAWFUL DISCHARGES OF COPPER AND OTHER WASTES INTO THE HUDSON RIVER FROM ITS PLANT AT HASTINGS-ON-HUDSON, NY.

2158 MALCOLM PIRNIE, INC

PRELIMINARY APPRAISAL OF SEDIMENT TRANSPORT RELATIONS IN THE UPPER HUDSON RIVER [1976]

MALCOLM PIRNIE, INC., WHITE PLAINS, NY 41 PP

CALCULATED ESTIMATES OF SEDIMENT AND SUSPENDED MATERIAL MOVEMENT AND DEPOSITION BETWEEN BAKERS FALLS AND THE TROY DAM (UPPER HUDSON RIVER) ARE CONFIBMED BY FIELD MEASUREMENTS AT LOW, MEDIUM AND HIGH FLOOD FLOWS. THESE DATA DEMONSTRATE THAT THE HUDSON RIVER IS A RELATIVELY LOW SEDIMENT YIELDING STREAM WHICH IS SIGNIFICANTLY AFFECTED BY THE CHARACTERISTICS OF THE EIGHT RIVER POOLS IN THE STUDY REACH. EVEN AT HIGH FLOOD FLOWS (100-YR RECURRENCE INTERVAL) A RELATIVELY LOW VOLUME OF SEDIMENT AND OTHER SUSPENDED MATERIALS IS MOVED. HOWEVER, PCB CONTAMINATED SEDIMENTS AND SUSPENDED MATERIALS ARE CONTINUING TO MOVE OVER THE TROY DAM. CALCULATIONS OF PCB TRANSPORT BASED UPON CURRENTLY AVAILABLE MEASUREMENTS SHOW THAT A 0.1 PPB PCB THRESHOLD AT WATERFORD WILL BE EXCEEDED ABOUT 10 % OF THE TIME. PCB CONCENTRATIONS ON THE ORDER OF 10 PPB WILL BE EXPERIENCED FOR FLOOD FLOWS WITH A FIVE YEAR RETURN PERIOD. PCB LEVELS WILL REACH ABOUT 20 PPB FOR FLOOD FLOWS WITH RETURN PERIODS OF 50 TO 100 YRS. THESE FLOW-CJNCCENTRATION VALUES ARE BASED ON CURRENT OBSERVATIONS AND CAN BE EXPECTED TO CHANGE OVER TIME AS THE RIVER TENDS TO "FLUSH-OUT" PCB FROM THE UPPER HUDSON INTO THE ESTUARY. CONTAMINATED MATERIALS ORIGINATE PRIMARLY IN THE FORMER FORT EDWARD AND THE THOMPSON ISLAND POOLS WITH THE ASSUMPTION THAT THERE ARE CURRENTLY NO SIGNIFICANT DISCHARGES OF PCB TO THE UPPER HUDSON RIVER. THESE POOL AREAS CONTAIN THE HIGHEST MEASURED LEVELS OF CONTAMINATION AND ARE ALSO SUBJECT TO LOW INFLOWS OF UNCONTAMINATED MATERIALS WHICH MIGHT COVER EXISTING CONTAMINATED DEPOSITS. TO DETERMINE THE APPROPRIATE REMEDIAL ACTION, MORE REFINED DATA AND DETAILED ANALYSIS ARE REQUIRED. THE PURPOSE AND SCOPE OF ADDITIONAL FIELD INVESTIGATIONS, ENGINEERING STUDIES, ALTERNATIVE EVALUATIONS, AND ENVIRONMENTAL ASSESSMENT ARE PRESENTED.

2159 MANHATTAN COLLEGE; THE COLLEGE OF MOUNT SAINT VINCENT

A REMAINING RESOURCE: A SURVEY OF THE BRONX SHORELINE OF THE HUDSON RIVER [1973]

MANHATIAN COLLEGE AND COLLEGE OF MOUNT SAINT VINCENT, BRONX, NY 29 PP

THOUGH FAR FROM BEING AN "UNTOUCHED" NATURAL REGION, THE SHORELINE OF THE HUDSON RIVER MAY BE CONSIDERED ONE RESOURCE OF VALUE. A STUDY GROUP OF STUDENTS FROM MANHATTAN COLLEGE AND THE COLLEGE OF MT. ST. VINCENT SURVEYED THIS "RESOURCE" CONSISTING OF THE BRONX SHORELINE AND THE ADJACENT HUDSON RIVER. THE OBJECTIVES WERE TO TAKE STOCK OF ITS PRESENT CONDITION AND USAGE; IDENTIFY ANY ENVIRONMENTAL DETERIORATION OF THE LAND; EXAMINE THE GENERAL CONDITION OF THE PORTION OF THE RIVER ADJACENT TO THE SHORELINE; IDENTIFY ANY POSSIBLE SOURCES OF WATER POLLUTANTS FROM THE SHORELINE; AND PROPOSE DIRECTIONS TO SOLVING

ENVIRONMENTAL PROBLEMS PRESENT.

2160 MANHATTAN COLLEGE; THE COLLEGE OF MOUNT SAINT VINCENT

INTERFACE: WHERE THE RIVER MEETS A CITY: A WATER QUALITY AND LAND USE STUDY, OCT 1973-MARCH 1974 [1974]

ENVIRONMENTAL ACTION COUNCIL. MANHATTAN COLLEGE, NEW YORK. NY 49 PP

WE HAVE COME TO CONSIDER THE "NATURAL" AND URBAN ENVIRONMENTS AS SEPARATE ENTITITES. THE "NATURAL" ENVIRONMENT IS TO BE PRESERVED OR RESTORED FOR ITS BEAUTY, AND FOR ITS VALUE AS A RECREATIONAL SOURCE. IT IS TO BE HIKED IN. FISHED IN. AND TO BE "ESCAPED" TO ON HOT WEEKENDS IN THE SUMMER. IN CONTRAST, WE RESERVE OUR DAY-TO-DAY FUNCTIONING FOR THE "URBAN" ENVIRONMENT. HERE WE LIVE, WORK, STUDY AND SHOP AMIDST THE FIXTURES OF A MODERN DAY CONCRETE AND STEEL URBAN COMPLEX. THE YONKERS SHORELINE OF THE HUDSON RIVER STANDS AS AN EXAMPLE OF AN INTERFACE BETWEEN THESE TWO ENVIRONMENTS. IT ALSO STANDS AS AN EXAMPLE OF OUR INABILITY TO INCORPORATE THE TWO. WE COULD DISCUSS INDEFINITELY THE SEEMING INJUSTICE THAT OCCURRED SOMETIME IN THE PAST WHEN INDUSTRIAL AND COMMERCIAL DEVELOPMENT FIRST PUT DOWN EXCLUSIVE CLAIM TO THE YONKERS SHORELINE; THE REMOVAL OF THE GENERAL PUPLIC'S ACCESS TO THE RIVER BY PHYSICAL OBSTRUCTIONS: THE DETERIORATION OF THE RIVER'S WATER QUALITY DUE TO ITS USAGE AS A CONVENIENT SEWER FOR INDUSTRIES" AND MUNICIPALITIES" RAW WASTES. THE FACT REMAINS THAT COMMERCIAL AND INDUSTRIAL ACTIVITIES DID MAND ATE HOW THE SHORELINE WAS TO BE USED IN THE PAST. FOR BETTER OR FOR WORSE. IT IS ALSO TRUE. HOWEVER. THAT THE PUBLIC CONSCIOUSNESS TODAY MANDATES THAT THE POLLUTION OF THE RIVER BE ABATED AND THAT ALTERNATE USES OF THE WATERFRONT BE INVESTIGATED. PERHAPS NOW IS THE TIME TO GO BEYOND THE CONSERVATION OF OUR NATURAL ENVIRONMENT TO THE ACTUAL RESTORATION OF THIS ENVIRONMENT AND ITS INTERFACE WITH THE CITY. THE PURPOSE OF THIS REPORT IS TO AID IN THIS POSSIBLE RESTORATION. BY INITIALLY ASSESSING THE ENVIRONMENTAL CONDITIONS OF THE SHORELINE AND ADJACENT RIVER. AND FINALLY PROPOSING DIRECTIONS BY WHICH THE PRESENT ENVIRONMENTAL CONDITIONS MAY BE IMPROVED. SPECIFICALLY, OUR SIX-MONTH STUDY INCLUDED AN EVALUATION OF PRESENT LAND USE, A REVIEW OF PLANNING FOR THE REGION. A BIOLOGICAL INVESTIGATION OF THE HUDSON IN THE IMMEDIATE VICINITY OF THE SHORELINE. AN ASSESSMENT OF POLLUTION SOURCES FROM THE SHORELINE. AND A DISCUSSION OF THE GENERAL WATER QUALITY OF THE RIVER IN THE CONTEXT OF THE YONKERS' SHORELINE. SPECIFIC RECOMMENDATIONS CONCERNING LAND USE AND IMPROVEMENT OF THE HUDSON'S WASTE QUALITY AT YONKERS ARE PRESENTED IN THIS REPORT.

2161 MARINE ENVIRONMENTAL COUNCIL OF LONG ISLAND

LONG ISLAND ENVIRONMENTAL DIRECTORY 1977 [1977]

MECLI, SEAFORD, NY-26 PP

A LISTING OF ENVIRONMENTAL ORGANIZATIONS AND RELATED GROUPS OF LONG ISLAND INCLUDING ADDRESSES AND MAIN CONTACTS. PUBLICATIONS PUT OUT BY ANY GROUPS ARE LISTED. A LIST OF GOVERNMENTAL AGENCIES WHICH SUPPLY INFORMATION ARE ALSO INCLUDED.

2162 MARINE EXPERIMENT STATION

COASTAL AND OFFSHORE ENVIRONMENTAL INVENTORY CAPE HATTERAS TO NANTUCKET SHOALS [1972]

UNIV OF RI, KINGSTON, RI 367 PP

CHANGES IN THE QUALITY OF THE ENVIRONMENT AND THE COMMUNITIES ASSOCIATED WITH IT CLEARLY EMPHASIZE THE IMPORTANCE OF MONITORING EFFORTS IN ADDITION TO THE GATHERING OF BASELINE INFORMATION IN ORDER TO PROPERLY ASSESS THE EFFECTS OF SPECIFIC MAN-MADE OR NATURAL PHENOMENA. MONITORING, BASELINE STUDIES AND VARIOUS LEVELS OF COASTAL, OCEANIC AND ESTUARINE RESEARCH SHOULD BE SUPPORTED AND ACCELERATED IN ORDER TO ACQUIRE THE NECESSARY BACKGROUND INFORMATION. OF PARTICULAR RELEVANCE ARE CAREFULLY PLANNED AND EXECUTED EXPERIMENTS DESIGNED TO ANSWER SPECIFIC QUESTIONS IN A SYSTEMATIC MANNER. ONLY THE OUTCOMES OF EFFECTIVE RESEARCH PROGRAMS WILL PERMIT THE FORCE OF INTELLIGENT MANAGEMENT TO BEAR ON MAN'S INEVITABLY INCREASING ROLE IN COASTAL AREAS AND ESTUARINE PROCESSES.

2163 MARINE SCIENCES RESEARCH CENTER, SUNY AT STONY BROOK

AQUATIC DISPOSAL FIELD INVESTIGATIONS, EATONS NECK DISPOSAL SITE, LONG ISLAND SOUND; APPENDIX B: WATER-QUALITY PARAMETERS AND PHYSIOCOCHEMICAL SEDIMENT PARAMETERS [1978]

TECH REP D-77-6. US ARMY CORPS ENGINEER WES. VICKSBURG. MS 329 PP

SEVEN OCEANOGRAPHIC CRUISES AND THREE SEDIMENT CORING CRUISES, WHICH TOOK PLACE BETWEEN OCTOBER 30, 1974, AND MAY 29, 1975, WERE CONDUCTED IN WESTERN LONG ISLAND SOUND TO ASSESS THE BASELINE WATER COLUMN AND SEDIMENT PROPERTIES NEAR THE EATONS NECK DISPOSAL SITE. THE FOLLOWING POINTS SUMMARIZE OUR MAIN FINDINGS: (1) SEASONAL SPATIAL DISTRIBUTIONS OF NH4+ AND HO3- SHOW THAT BOTH THE EAST RIVER AS WELL AS THE LATERAL EMBAYMENTS ARE IMPORTANT NITROGEN SOURCES TO THE WESTERN PORTION OF LONG ISLAND SOUND; (2) INCREASED WATER COLUMN STABILITY COINCIDED WITH INCREASED CHLOROPHYLL A CONCENTRATION; (3) SEASONAL DEPTH AND WATER COLUMN AVERAGES OF NH4- AND HO3- SHOWED NITROGEN DEPLETION IN THE SURFACE LAYER; (4) OBSERVED SEASONAL CONCENTRATIONS OF NO3-WERE SIMILAR TO THOSE MEASURED BY GORDON RILEY (1955), BUT HIGHER CONCENTRATIONS OCCURRED LATER IN THE YEAR, AS DID THE PHYTOPLANKTON BLOOM; 5) OBSERVED PO4- CONCENTRATIONS WERE SEASONALLY ELEVATED OVER THOSE DETERMINED BY GORDON RILEY (1955) BY ABOUT 1 MICROLITER.

2164 MASSACHUSETTS INSTITUTE OF TECHNOLOGY

COMPUTER MODELS FOR ENVIRONMENTAL ENGINEERING AND RESEARCH IN NEAR-COASTAL ENVIRONMENTS [1977]

OPPORTUNITY BRIEF 8. MARINE INDUSTRY COLLEGIUM, MIT. CAMBRIDGE, MA 33 PP

SELECTED FIELD MEASUREMENTS USED WITH A FAMILY OF COMPUTER PROGRAMS THAT MODEL HYDRODYNAMIC CIRCULATION AND DISPERSION IN A BODY OF WATER PERMIT THE FORECASTING OF WHERE A SUBSTANCE, INTRODUCED AT SOME POINT, WILL BE TRANSPORTED AS A RESULT OF CURRENTS DRIVEN BY PREVAILING WINDS AND TIDES. BY MODELING THE DISPERSION OF A SUBSTANCE, IT IS FURTHER POSSIBLE TO MAKE PREDICTIONS ABOUT CONCENTRATIONS OF THE SUBSTANCE AT VARIOUS POINTS ALONG ITS TRAVELS. BRIEF DISCUSSIONS ARE PRESENTED ON THE USE OF SCALE MODELS AND MATHEMATICAL MODELS IN DESCRIBING NEAR-COASTAL ENVIRONMENTS, ADVANTAGES OF COMPUTER MODELS, THE IMPORTANCE OF FIELD MEASUREMENTS, AND THE SELECTION OF FINITE ELEMENT MODELS. SEA GRANT MODELS DEVELOPED FOR THIS ENVIRONMENT INCLUDE THE CIRCULATION MODELS CAFE-1 AND CAFE-2 AND DISPERSION MODELS DISPER-1 AND DISPER-2. THE MODELS WERE DEVELOPED FOR MASSACHUSETTS BAY AND HAVE BEEN TESTED IN STUDIES OF SAND AND GRAVEL MINING AND NUCLEAR POWER PLANT EFFLUENTS. THEY HAVE ALSO BEEN SUCCESSFULLY APPLIED TO POWER PLANT SITE EVALUATIONS IN NARRAGANSETT BAY, TO POTENTIAL STORM SURGE EFFECTS AT THE PROPOSED ATLANTIC ELECTRIC GENERATING STATIONS OFF THE NJ COAST, TO CURRENTS IN THE GREAT BAY ESTUARY, AND TO TIDAL FLUSHING OF POLLUTANTS IN BISCAYNE BAY. THESE WIDELY APPLICABLE MODELS FACILITATE THE STUDY OF ALTERNATIVES AND PROVIDE INFORMATION THAT PERMITS MORE INFORMED SELECTION OF FIELD MEASUREMENT SITES, REDUCING THE COSTS AND MINIMIZING THE AMOUNT OF DATA NEEDED FOR AN ADEQUATE ANALYSIS.

2165 MESA

ANNUAL SUMMARY OF RESEARCH RESULTS FOR FISCAL YEAR 1974--MESA NY BIGHT PROJECT. APPENDIX A [1975]

TM-ERL-MESA-2-APP-A. NOAA. BOULDER, CO 22 PP NTIS-PB+259 583

THE REPORT IS THE FIRST ANNUAL SUMMARY OF RESEARCH RESULTS OF THE NOAA'S MESA PROGRAM NEW YORK BIGHT PROJECT. IT SUMMARIZES THE SCIENTIFIC TECHNICAL AND ENGINEERING ACCOMPLISHMENTS OF THE PROJECT DURING FISCAL YEAR 1974 (FY74), THE LAST QUARTER OF FY73, NOT SUMMARIZED PREVIOUSLY. RESEARCH RESULTS ARE PRESENTED IN A CLASSICAL DISCIPLINE ORIENTATION, PHYSICAL, CHEMICAL, BIOLOGICAL AND GEOLOGICAL RESEARCH EFFORTS ARE DISCUSSED IN SOME DETAIL, INCLUDING SIGNIFICANT DATA AND RESULTS.

ANNUAL SUMMARY OF RESEARCH RESULTS FOR FISCAL YEAR 1974--MESA NY BIGHT PROJECT [1975]

TM-ERL-MESA-2. NOAA, BOULDER, CO 198 PP NTIS-PB-247 926

THE REPORT IS THE FIRST ANNUAL SUMMARY OF RESEARCH RESULTS OF THE NOAA'S MESA PROGRAM NEW YORK BIGHT PROJECT. IT SUMMARIZES THE SCIENTIFIC TECHNICAL AND ENGINEERING ACCOMPLISHMENTS OF THE PPOJECT DURING FISCAL YEAR 1974 (FY74), THE LAST QUARTER OF FY73, NOT SUMMARIZED PREVIOUSLY. RESULTS PERTINENT TO THE PRESSING ISSUE OF OCEAN DISPOSAL OF SEMAGE SLUDGE IN THE NEW YORK BIGHT. ACCOMPLISHED FROM THE LAST QUARTER OF FY73, THROUGH THE FIRST QUARTER OF FY75 ARE SUMMARIZED IN A SEPARATE REPORT ENTITLED OCEAN DUMPING IN THE NEW YORK BIGHT. RESEARCH RESULTS ARE PRESENTED IN A CLASSICAL DISCIPLINE ORIENTATION FOR PHYSICAL, CHEMICAL. BIOLOGICAL. AND GEOLOGICAL RESEARCH EFFORTS.

2167 MESA

EVALUATION OF PROPOSED SEWAGE SLUDGE DUMPSITE AREAS IN THE NEW YORK BIGHT [1976]

TM-ERL-MESA-11. NOAA, BOULDER, CO 219 PP NTIS-PB-253 727

OCEAN DUMPING OF SEWAGE SLUDGE IN THE NEW YORK BIGHT HAS BEEN PRACTICED SINCE 1924. AMENDMENTS OF 1972 TO THE FWPCA REQUIRE THAT ALL SEWAGE TREATMENT PLANTS IN OPERATION ON 1 JULY 1977 PROVIDE A MINIMUM OF SECONDARY TREATMENT. IT HAS BEEN ESTIMATED THAT IF THE PRESENT PRACTICE OF OCEAN DUMPING CONTINUES, THIS UPGRADING OF TREATMENT IN THE NY/NJ METROPOLITAN AREA WILL TRIPLE THE VOLUME OF SEWAGE SLUDGE DUMPED AT THE PRESENT SEWAGE SLUDGE DUMPSITE IN THE NEW YORK BIGHT. CONCERNED THAT THE EXISTING NEW YORK HIGHT SEWAGE SLUDGE DUMPSITE MISHT NOT ACCOMMODATE THE ANTICIPATED THREE-FOLD INCREASE, THE EPA, REGION II SIGNED A LETTER OF UNDERSTANDING CONCERNING BASELINE SURVEYS AND EVALUATIONS OF THE PROPOSED INTERIM SEWAGE SLUDGE DISPOSAL SITE(S) IN THE NEW YORK BIGHT WITH NOAA'S MESA NEW YORK BIGHT PROJECT HAS STUDIED SIGNIFICANT FEATURES OF THE NEW YORK BIGHT ENVIRONMENT AND THE TWO PROPOSED ALTERNATIVE SEWAGE SLUDGE DUMPSITE AREAS. ONE SECTION SUMMARIZES SIGNIFICANT FEATURES OF THE NEW YORK BIGHT ENVIRONMENT AND THE THE TRANSPORT OF THE NEW YORK BIGHT ENVIRONMENT, AND 2-A, DRAWS APPLICABLE CONCLUSIONS ABOUT THE EFFECTS OF DUMPING SEWAGE SLUDGE AT ANY INTERIM DUMPSITE IN THIS ENVIRONMENT, AND PRESENTS SPECIFIC RECOMMENDATIONS RELATIVE TO DUMPING OPEATIONS AND MONITORING ACTIVITIES (FOR ADDITIONAL INFORMATION ON THE SELECTION OF THE PROPOSED ALTERNATIVE SEWAGE SLUDGE DUMPSITE AREAS, SEE SECTIONS II-A AND II-B).

2168 MESA

NEW YORK BIGHT PROJECT-1975. [1976]

SPEC REP. NOAA, BOULDER, CO 32 PP NTIS-PB-265 280

THE OBJECTIVE OF THE MESA PROGRAM IS TO IDENTIFY AND MEASURE THE IMPACT OF MAN ON THE MARINE ENVIRONMENT. THIS REQUIRES THAT WE: (1) DESCRIBE, UNDERSTAND, AND MONITOR PHYSICAL, GEOLOGICAL, CHEMICAL, AND BIOLOGICAL PROCESSES OF MARINE ENVIRONMENTAL SYSTEMS IN TERRITORIAL, BOUNDARY, AND INTERNATIONAL WATERS AROUND THE US; (2) ANALYZE IMPACTS OF NATURAL PHENOMENA OR MAN-MADE ALTERATIONS ON MARINE ENVIRONMENTS; AND (3) PROVIDE INFORMATION AND SPECIALIZED SUPPORT FOR THE EFFECTIVE MANAGEMENT OF MARINE AREAS AND FOR THE RATIONAL USE OF THEIR RESOURCES.

2169 MESA

LONG ISLAND BEACH POLLUTION: JUNE 1976 [1977]

MESA SPEC REP. NOAA, BOULDER, CO 85 PP

INFORMATION IS GIVEN ON THE NATURE AND POSSIBLE SOURCES OF FLOATING TRASH AND POLLUTANTS THAT WERE WASHED UP IN LARGE QUANTITIES ON MOST OF LONG ISLAND'S BEACHES DURING JUNE 1976. THE GENERAL ORIENTATION IS DEFINED AND THE ROLES PLAYED BY THE

FEDERAL, STATE AND LOCAL AGENCIES DURING THE BEACH POLLUTION EVENT ARE DESCRIBED. THE WASTE MATERIALS IDENTIFIED ON THE BEACHES ARE DESCRIBED; THEY INCLUDE TAR AND GREASE BALLS, SEWAGE-RELATED ITEMS, GARBAGE, TRASH, AND CHARRED WOOD. HISTORICAL SURFACE WIND DATA AND THE WIND CONDITIONS DURING JUNE 1976 WERE ANALYZED, SURFACE DRIFTER STUDIES WERE EXAMINED AND THE US COAST GUARD AND THE BROOKHAVEN NATIONAL LABORATORY SURFACE TRANSPORT MODELS WERE APPLIED TO THE EVENTS OF JUNE 1976. IT WAS CONCLUDED THAT PERSISTENT SOUTHERLY WIND-DRIVEN TRANSPORT WAS RESPONSIBLE FOR THE STRANDING OF THE FLOATABLES. SOUTHERLY SURFACE WINDS WITH ABOUT 9.0 KN VELOCITIES ARE NOT UNUSUAL FOR JUNE OVER THE BIGHT. THE HUDSON/ RARITAN ESTUARINE OUTFLOW IS A MAJOR SOURCE OF FLOATABLES TO THE WATERS OF THE NEW YORK BIGHT. IT ALSO SUGGESTED THAT SEWAGE SLUDGE DUMPING HAS BEEN A MINOR CONTRIBUTOR TO THE FLOATABLES FOUND ON THE BEACHES. IT IS UNDERSTOOD THAT EFFECTIVE CORRECTIVE MEASURES CANNOT TAKE PLACE UNTIL QUANTITATIVE DOCUMENTATION OF THE SOURCES OF FLOATABLES HAS BEEN ACCOMPLISHED.

2170 MESA

MESA NEW YORK BIGHT PROJECT ANNUAL REPORT FOR FISCAL YEAR 1977 [1978]

MESA. NYSG. ALBANY. NY 147 PP

MESA NEW YORK BIGHT PROJECT BACKGROUND, GOALS AND OBJECTIVES, ORGANIZATION, MANAGEMENT, FACILITIES, AND RESEARCH VESSELS ARE GIVEN. SCIENTIFIC RESEARCH RESULTS FOR THE FISCAL YEAR 1977 ARE DISCUSSED IN TERMS OF THE 11 PROJECT OBJECTIVES. EXTENSIVE WASHUP OF LITTER AND SEWAGE-RELATED MATERIALS ON LONG ISLAND BEACHES AND MASS MORTALITIES OF BENTHIC ORGANISMS ON THE NJ COAST OCCURRED IN 1976. IT IS SUGGESTED THAT CONCENTRATION ON MEAN ENVIRONMENT CONDITIONS IS NOT ADEQUATE FOR MANAGEMENT PURPOSES BUT THAT EXTREMES AND WORST CASES MUST BE EMPHASIZED. THE MOST SIGNIFICANT CHEMICAL CONTAMINANTS WERE CD, CHLORINATED PESTICIDES, HG, POLYNUCLEAR AROMATIC HYDROCARBONS, PCBS, AND PU. MERCURY CONCENTRATIONS IN SEVERAL FISH AND SHELLFISH EXCEEDED FOA LIMITS. THAT OF LOBSTERS HAVING A MEAN LEVEL OF 0.75 PPM AND A HIGH OF 2.31 PPM. SEWAGE SLUDGE WAS THE MAJOR SOURCE OF PCBS AND DDT. THE PROJECT RESPONDED TO 2 CRISES—A HUDSON RIVER OIL SPILL IN FEB AND ANOXIA MONITORING FOR RESULTS FROM THE ESCAPE OF RAW SEWAGE IN THE MARINE ECOSYSTEM DURING THE NYC 1976 POWER FAILURE. MEANS OF INFORMATION TRANSFER AND ADVISORY ACTIVITIES ARE DISCUSSED. APPENDICES INCLUDE BIBLIOGRAPHIES OF PUBLICATIONS OF THE PROJECT AND THOSE (BY OTHERS) RESULTING FROM ITS SUPPORT; GRANTS AND CONTRACTS; MESA—ASSOCIATED CRUISES; AND A LIST OF ADVISORY AND CONSULTATIVE SERVICES PROVIDED.

2171 MESA

CHEMICAL POLLUTANTS OF THE NEW YORK BIGHT; PRIORITIES FOR RESEARCH [1978]

MESA, NOAA, STONY BROOK, NY 217 PP

THE NEW YORK BIGHT MESA PROJECT OF NOAM IS AN 8 YR INTERDISCIPLINARY FIELD PROGRAM INVOLVING STUDIES OF THE NEW YORK BIGHT AND OF THE EFFECTS OF HUMAN INFLUENCES ON THIS ECOSYSTEM. THE SPECIFIC OBJECTIVE OF THE PROJECT IS TO DETERMINE THE FATES AND EFFECTS OF CONTAMINANTS IN THE NEW YORK BIGHT. THE CONCLUSIONS OF A PANEL OF EXPERTS WITH RESPECT TO CONTAMINANTS OF THE NEW YORK BIGHT ARE BASED ON INFORMATION AVAILABLE IN JUNE 1977. THE FOLLOWING TOPICS ARE DISCUSSED: SUBPANEL REPORTS ON HALOGENATED HYDROCARBONS, METALS, PETROLEUM HYDROCARBONS, ARTIFICIAL RADIONUCLIDES AND INDUSTRIAL SYNTHETIC ORGANIC CHEMICALS.

2172 META SYSTEMS. INC

AN OPERATIONAL FRAMEWORK FOR COASTAL ZONE MANAGEMENT PLANNING [1975]

META SYSTEMS. INC. CAMBRIDGE. MA 274 PP NTIS-P8-239 519

SINCE THE DECISION-MAKING AND PLANNING POWERS IN COASTAL REGIONS ARE DIFFERENT OVER A WIDE RANGE OF GOVERNMENTAL HODIES. A CONCEPIUAL FRAMEWORK FOR COASTAL ZONE MANAGEMENT IS NEEDED IN ORDER TO SIMPLIFY THE PROCESS. SUCH A FRAMEWORK HAS BEEN DEVELOPED WHICH ATTEMPTS TO DISTINGUISH CLEARLY WHERE IN THE COASTAL ZONE MANAGMENT PROCESS THE DECISIONS NEED BE MADE. THREE SETS OF FORMAL MODELS HAVE BEEN CONSTRUCTED TO AID PLANNING THE FIRST SET OF MODEL CHECKS FOR CONSISTENCY BETWEEN THE OVERALL

DEMANDDS PLACED UPON THE COASTAL ZONE AND THE ENVIRONMENTAL CARRYING CAPACITY OF THE ZONE. THE SECOND BET OF MODELS DEALS WITH IDENTIFYING THE APPROPRIATE GOALS TO BE USED AT THE VARIOUS LEVELS IN THE PLANNING HIERARCHY. THE THIRD SET OF MODELS DEVELOPS A MULTI-LEVEL PLANNING ALGORITHM TO PROVIDE FOR EFFICIENT TRANSFER OF INFORMATION BETWEEN THE LEVELS OF GOVERNMENT INVOLVED IN THE COASTAL ZONE MANAGEMENT PROCESS. THE MODELS HAVE BEEN TESTED ON THE COASTAL ZONE OF THE STATE OF CONNECTICUT.

2173 MIDDLE ATLANTIC COASTAL FISHERIES CENTER

A PROPOSAL BY MACEC FOR MESA FUNDING OF NEW YORK BIGHT BIOLOGICAL STUDIES [1973]

REP NO 13. NOAA, BOULDER, CO 20 PP

THE FOLLOWING PROPOSAL INCLUDES ONGOING AND PROPOSED BIOLOGICAL RESEARCH IN THE NEW YORK BIGHT CONDUCTED BY THE MIDDLE ATLANTIC COASTAL FISHERIES CENTER OR PROPOSED TO BE DONE BY CONTRACT. THE OVERALL OBJECTIVE OF MACFC NEW YORK BIGHT RESEARCH IS TO DEVELOP INFORMATION WHICH WILL ENABLE ASSESSMENT AND PREDICTION OF THE IMPACT OF MAN-INDUCED ENVIRONMENTAL CHANGES ON MARINE ECOSYSTEMS AND ON THE LIVING MARINE RESOURCES OF THE NEW YORK BIGHT. GENERAL APPROACHES INCLUDE THE FOLLOWING: THE STUDY AREA. DURING THE EARLY MESA PHASES. WILL BE THE APEX OF THE NY BIGHT (INCLUDING THE RARITAN BAY AREA). THE APEX AREA WILL BE FROM 73 40° W TO THE NEW JERSEY SHORE AND FROM 40 20° N TO THE LONG ISLAND SHORE. FIELD OPERATIONS WILL CONSIST OF (1) DETAILED. INTENSIVE DEMERSAL. BATHYPELAGIC AND PELAGIC SURVEYS. REPEATED SEASONALL! . (2) CONCURRENT DE TAILED BENTHOS SURVEYS BY GRAB SAMPLING, AND (3) SUPVEYS OF THE PRIMARY PRODUCTIVITY AND COMMUNITY RESPIRATION IN THE APEX AREA. THE APEX AREA WILL BE INTENSIVELY SURVEYED, IDEALLY EIGHT TIMES OVER TWO-YEAR PERIOD, ON A 1 MILE SQUARED GRID PATTERN (PENDING DEVELOPMENT OF A STRATIFIED SAMPLING BASED ON BOTTOM COMPOSITION). SAMPLING AT ALL THREE WATER LEVELS WILL BE BY STANDARDIZED GEAR SYSTEM IN USE IN OTHER AREAS WHEREBY SUITABLE CORRELATIONS MAY BE MADE AND EVALUATED. E.G. DEGREE OF INCIDENCE AND SEVERITY OF GROSS PATHOLOGY OF ADULT PREDATORS IN THE APEX MAY BE COMPARED WITH SIMILAR SPECIES IN OTHER COMPARABLE AREAS OUTSIDE THE APEX. THE NECESSARY SAMPLING INTENSITY WILL BY DETERMINED, TO ACCEPTABLE DEGREES OF UNCERTAINTY, BY CONCURRENT STUDIES ON AVAILABLE SAMPLES SUPPLEMENTED BY ADDITIONAL SAMPLES AT HISTORIC STATIONS WITHIN THE APEX. THE PRODUCTS OF THIS STUDY WILL BE (1)A MAP OF THE SPECIES DIVERSITY OF DEMERSAL FINFISH AND SHELLFISH ORGANISMS AS A FUNCTION OF BOTTOM COMPOSITION. (2) A MAP OF THE LOCATIONS. DEGREE OF INCIDENCE AND SEVERITY OF GROSS PATHOLOGY OF POLLUTANT CONTENT OBSERVED IN MEGABENTHIC ORGANISMS. SHELLFISH AND FINFISHES, AND (3) MAPS OF THE DISTRIBUTIONS AND ABUNDANCES OF PELAGIC AND BATHYPELAGIC LARVAL AND FISH SPECIES AS RELATED TO AREAS UNDER QUESTION AS TO CONTAMINATION. DURING EACH OF THE PROPOSED EIGHT INTENSIVE SURVEY CRUISES IN THE NY BIGHT APEX. GRAB SAMPLES (FIVE PER STATION) WILL BE TAKEN. A TOTAL OF 1.000 SAMPLES IN THE DEFINED 200 MI SQUARE AREA. AFTER CORE SAMPLES ARE TAKEN. THE BOTTOM SAMPLES WILL BE SEIVED ONBOARD TO THE 1.00 MM LEVEL (USING STANDARD PLASTIC SCREENS). STUDIES ON SPECIES DIVERSITY OF MACROFAUNA (>1.00 MM) WILL BE ROUTINELY MADE THROUGHOUT THE STUDY. ONE YEAR STUDIES TO ELUCIDATE THE POSSIBILITY OF FINDING SPECIFIC POLLUTANT INDICATOR SPECIES AMONG THE MEIOFAUNA (NEMATODES, CILIATES, FORAMINIFERANS) WILL BE DETERMINED BY USE OF APPROPRIATE DREDGES. BOTTOM COMPOSITION, RELATED DIRECTLY TO ORGANISMS FOUND, WILL BE DETERMINED BY USE OF CORE SAMPLES. CORE SAMPLES WILL ALSO BE USED TO DETERMINE (1) CONTENT OF POLLUTANTS IN SEDIMENTS. (2) NATURE OF THE PREDOMINANT MICROBIOLOGICAL SPECIES IN THE SEDIMENTS (AEROBIC/ANAEROBIC): (3) ORGANIC CARBON CONTENT OF SEDIMENTS. PRODUCTS OF THE STUDY WILL BE (1) A BOTTOM SURFICIAL COMPOSITON MAP, (2) A MAP OF THE ABUNDANCES DISTRIBUTION AND SPECIES DIVERSITY OF MACROFAUNA. (3) A MAP OF RELATIVE FINDINGS OF MEGABENTHOS MORTALITIES IN THE APEX. (4) MAPS OF THE DISTRIBUTION AND CONCENTRATIONS OF POLLUTANTS IN THE APEX. (5) MAPS OF THE PREVAILING CLIMATE IN THE SURFICIAL SEDIMENTS (AEROBIC) AN AEROBIC) AS INDICATED BY OBSERVED SPECIES OF MEIOFAUNAS AND MICROORGANISMS. AND BY STUDIES ON COMMUNITY RESPIRATION. FOR FY 1973, AND TASK DESCRIPTIONS.

2174 MIDDLE ATLANTIC COASTAL FISHERIES CENTER

SEMI-AYNUAL PROGRAM REVIEW--ECOSYSTEMS INVESTIGATIONS [1974]

NOAA. BOULDER. CO 16. PP

THIS REPORT ON ACCOMPLISHMENTS OF VARIOUS SUBTASKS OF ECOSYSTEMS INVESTIGATIONS INCLUDES BEHAVIORAL STUDIES, LABORATORY STUDIES, ENVIRONMENTAL IMPACT, BIOCHENICAL MODELING, BIOLOGICAL STUDIES AND GENERAL REPORTS.

2175 MIDDLE ATLANTIC COASTAL FISHERIES CENTER

CRUISE REPORT: NOAA SHIP DELAWARE II, 13-21 MAY 1974 [1974]

MACFC. NORTHEAST REGION. NMFS. NOAA. HIGHLANDS. NJ 16 PP

THE CRUISE OBJECTIVE WAS TO CHARACTERIZE IN TERMS OF CHEMICAL, BIOLOGICAL, AND GEOLOGICAL PARAMETERS, THE INTERIM DEEPMATER DUMPSITE 106 WITH THE USE OF DEEP SEA BOTTOM TRAWLS AND SMITH-MCINTYRE BOTTOM GRAB COLLECTIONS. DISTRIBUTION AND ABUNDANCE OF BENTHIC BIOTA WAS ASSESSED. SEDIMENT CHARACTERISTICS SUCH AS GRAIN SIZE WERE DETERMINED ALONG WITH HEAVY METALS COVCENTRATIONS IN SEDIMENTS AND BIOTA. WATER COLUMN TEMPERATURES WERE DETERMINED USING XBTS. MOVEMENTS OF THE DEEP SCATTERING LAYER WERE MONITORED. PRELIMINARY DATA ON THE FATE OF CONTAINERIZED RADIOACTIVE WASTES DISPOSED OF AT A DEEPMATER SITE LOCATED AT 38 30° N, 72 76° W WERE OBTAINED. ALL THIS INFORMATION IS TO BE USED TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT ON DWD 106.

2176 MIDDLE ATLANTIC COASTAL FISHERIES CENTER

A MULTILABORATORY COOPERATIVE STUDY OF CONTAMINANTS IN THE COASTAL ENVIRONMENT AND THEIR EFFECTS ON LIVING MARINE RESOURCES: SUMMARY REPORT OF OPERATIONS FROM MAY 1, 1972 TO DECEMBER 31, 1973 [1974]

NOAA, HIGHLANDS, NJ 202 PP

A COOPERATIVE VENTURE INVOLVING ALL NMFS LABORATORIES OF THE MIDDLE ATLANTIC COASTAL FISHERIES CENTER TO STUDY CONTAMINANTS IN MARINE ECOSYSTEMS OF THE NORTHEAST AND MIDDLE ATLANTIC COASTS WAS INITIATED IN THE SPRING OF 1971 WITH THE FOLLOWING OBJECTIVES: 1) DELINEATE THE CONTAMINANT LEVELS (WITH PARTICULAR EMPHASIS ON HG) IN LIVING MARINE RESOURCES AND THEIR ENVIRONMENT; 2) DETERMINE THE SPECIFIC EFFECTS OF WASTE DISPOSAL AREAS (1.E., OCEAN DUMPSITES) IN CONCENTRATING HARMFUL CONTAMINANT MATERITALS; 3) DETERMINE THE PATHOLOGICAL AND PHYSIOLOGICAL EFFECTS OF CONTAMINANTS ON SELECTED, TYPICAL MARINE ORGANISMS; 4) DEVELOP A MULTILABORATORY COOPERATIVE APPROACH TO THE STUDY OF THESE PROBLEMS AND THE ESSENTIAL METHODOLOGY TO CONDUCT A LONG-RANGE CONTAMINANT PROGRAM. THE ULTIMATE GOAL OF THE LONG-RANGE STUDY WAS TO IDENTIFY THE IMPACT OF CONTAMINANTS IN RELATION TO THE ABUNDANCE AND DISTRIBUTION OF LIVING MARINE RESOURCES. TO PROVIDE ESSENTIAL BASE LINES FOR REGULATORY ENFORCEMENT, AND TO PROVIDE SPECIFIC INFORMATION TO BALANCE WASTE DISPOSAL AND ECONOMICALLY VALUABLE RESOURCES.

2177 MIDDLE ATLANTIC COASTAL FISHERIES CENTER

MUTAGENICITY OF MARINE POLLUTANTS AS IT COULD BE AFFECTING INSHORE AND OFFSHORE MARINE FISHERIES [1975]

NMFS, WASHINGTON, DC 77 PP

CHEMICALS INTRODUCED IN THE LAST 30 OR SO YEARS AND PREVALENT NOW THROUGHOUT THE TERRESTRIAL AND AQUATIC ENVIRONMENT MAY HAVE EITHER OR BOTH, INDIVIDUALLY OR COLLECTIVELY POWERFUL MUTAGENIC, THAT IS, HEREDITARY ALTERING EFFECTS, JUST AS DOES RADIATION. THE DIVERSITY OF MUTAGENIC CHEMICALS IS SO GREAT THAT NO GROUP TERM WOULD COMPRISE THEM ALL. A FEW COMBINATIONS DF MUTATIONS UNDER CERTAIN CONDITIONS OF EXPOSURE WILL HAVE A PARTICULAR SELECTIVE VALUE AND HENCE BE CONSERVED BY NATURAL SELECTION. ALMOST ALL MUTATION, HOWEVER, ARE AT LEAST HARMFUL. SALTS OF HEAVY METALS ARE ONE OF THREE GROUPS OF SUBSTANCES NOW RECOGNIZED AS HAVING A SIGNIFICANT INFLUENCE ON CHROMOSOME BREAKAGE. CHROMOSOME DAMAGE MAY OCCUR AT SUB-TOXIC DOSES. THAT CERTAIN PESTICIDES—HERBICIDES, INSECTICIDES, FUNGICIDES—MAY BE CLASSIFIED AS ENVIRONMENTAL MUTAGENS, HAS BEEN AMPLY DEPONSTRATED. PESTICIDES ARE A NON-HOMOGENEOUS GROUP OF CHEMICALS WHOSE EFFECTS ON CHROMOSOMES RANGE FROM NO OBSERVABLE EFFECT TO ONE GREATER THAN THAT FOR WELL-KNOWN POWERFUL MUTAGENS EXPERIMENTALLY USED TO ALTER GENES. SUCH RECOGNIZED ENVIRONMENTAL MUTAGENS AS HEAVY METALS AND PESTICIDES, AS WELL AS MANY OTHER CHEMICALS, ARE ALSO MAJOR MARINE POLLUTANTS. MOST MUTATIONS ARE PROBABLY LETHAL. AND, FURTHER, THE EXPRESSION OF NORMAL, UNALTERED GENES AND CHROMOSOMES IS INTIMATELY INTERWOVEN INTO THE VERY DEVELOPMENT, HEALTH, VIGOR, AND REPRODUCTIVE PERFORMANCE OF ANY ORGANISM. THE EXTREME ATTITUDE OR POSITION THEN CANNOT BE TAKEN THAT THE EFFECTS OF ENVIRONMENTAL MUTAGENS COULD BE OF NO SERIOUS CONSEQUENCE TO THE COMMERCIAL MARINE FISHERIES MITHOUT CONCOMITANTLY ADDITIONAL MORTALITY AND REDUCED REPRODUCTIVE POTENTIAL WOULD BE OF NO MATTER TO THE FISHERIES. EVEN SHOULD COMMERCIAL FISH WITH MUTAGENIC CHEMICALS

AND ANY METABOLISM OF NON-MUTAGENS TO MUTAGENS IN FISH SHOULD EVENTUALLY AFFECT THE GENERAL MARKETABILITY OF ALL FISH. WORK BEING CONDUCTED ON THE GENERAL TOXICITY OF MARINE CONTAMINANTS, UNFORTUNATELY, DOES NOT SUFFICE FOR TESTING THE MUTAGENICITY OF SUCH CONTAMINANTS. AN ANIMAL OR PLANT MIGHT EXHIBIT NO CLINICAL SYMPTOMS OF POISONING BUT YET SHOW THE CELLULAR ALTERATIONS THAT ACCOMPANY THE MUTATION PROCESS IN THE LARGEST PORTION OF CASES. WAYS ARE INDICATED IN THIS REPORT THAT THE MUTAGENICITY OF MARINE CONTAMINANTS FOR COMMERCIAL SPECIES MIGHT BE RESEARCHED AS PART OF ALREADY ESTABLISHED TOXICOLOGICAL PROTOCOLS FOR FISH. AT THE VERY LEAST THESE STUDIES WOULD PROVIDE THE NEW, MORE SENSITIVE, MUCH-NEEDED PARAMETER FOR APPRAISING LONG-TERM, DIFFICULT-TO-MEASURE EFFECTS OF CHRONIC LOW-DOSE EXPOSURE TO MARINE POLLUTANTS.

2178 MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

AMENDMENT #1 TO THE ATLANTIC SQUID FISHERY MANAGEMENT PLAN AND SUPPLEMENT ENVIRONMENTAL IMPACT STATEMENT [1979]

MAFMC, 92 PP

THE FISHERY MANAGEMENT PLAN (FMP) FOR ATLANTIC SQUID WAS APPROVED BY THE ASSISTANT ADMINISTRATOR FOR FISHERIES, NOAA ON 6 JUNE 1979. THE FMP IS FOR FISHING YEAR 1979-1980 (1 APR 1979-31 MAR 1980). THE BASIC PURPOSE OF AMENDMENT #1 IS TO EXTEND THE FMP BEYOND FISHING YEAR 1979-1980. THE 1979-1980 FISHING YEAR OPTIMUM YIELD (OY) FOR ILLEX IS 30,000 METRIC TONS (MT) AND THE 1979-1980 FISHING YEAR OPTIMUM YIELD FOR LOLIGO IS 44,000 MT. THE US CAPACITY, BOTH HARVESTING AND PROCESSING, IS 10,000 MT OF ILLEX AND 14,000 MT OF LOLIGO. THE FOREIGN SURPLUS (TALFF) IS 20,000 MT OF ILLEX AND 30,000 MT OF LOLIGO. ANY VESSEL OWNER OR OPERATOR (FOREIGN AND DOMESTIC) DESIRING TO CATCH SQUID OR TRANSPORT OR DELIVER FOR SALE ANY SQUID MUST POSSESS THE APPROPRIATE VALID REGISTRATION OR PERMIT FROM THE NMFS. THIS DOES NOT APPLY TO INDIVIDUAL US FISHERMEN CATCHING SQUID FOR THEIR PERSONAL USE. FOREIGN FISHING FOR SQUID IS RESIRICTED TO 5 DESIGNATED AREAS. APPROPRIATE GEAR RESTRICTIONS ARE IMPOSED ON FOREIGN VESSELS FISHING FOR SQUID. PERIODIC REPORTS ON SQUID CATCHES MUST BE FILED BY FOREIGN AND DOMESTIC FISHERMEN. DOMESTIC DEALERS AND PROCESSORS MUST SUBMIT WEEKLY REPORTS ON ANY TRANSACTIONS INVOLVING SQUID. INCENTIVES ARE PROVIDED, AS DISCUSSED IN SECTION XIII-8. TO ENCOURAGE DEVELOPMENT OF THE DOMESTIC SQUID INDUSTRY. A REASSESSMENT OF THE ESTIMATED US HARVESTING CAPACITY FOR SQUID AILL BE CONDUCTED ANNUALLY.

2179 MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

FISHERY MANAGEMENT PLAN FOR THE ATLANTIC MACKEREL FISHERY OF THE NORTHWEST ATLANTIC OCEAN [1979]

FEDERAL REGISTER 44(179):53196-53258

THE BASIC PURPOSE OF THIS FMP IS TO MANAGE THE ATLANTIC MACKEREL FISHERY OFF THE EAST COAST OF THE US FOR OPTIMUM VIELD. AND TO CONSERVE PROTECT, AND REBUILD THIS FISHERY RESOURCE FOR FUTURE GENERATIONS. THIS PLAN FAVORS RECREATIONAL INTERESTS AND SEEKS TO RESTORE DOMESTIC FISHING OPPORTUNITIES TO LEVELS OF CATCH PER EFFORT EXPERIENCED IN THE PAST. THE QUOTA SET FOR COMMERCIAL INTERESTS EXCEEDS THE ANNUAL LEVEL OF HARVEST EXPERIENCED IN THE PAST AND IS. THEREFORE, NON RESTRICTIVE. THE PLAY DISCOURAGES THE EXPANSION AND DEVELOPMENT OF THE FISHERY IN THE NEAR FUTURE SO THAT THE RESOURCE CAN REPOPULATE TO A MORE DESIRABLE LEVEL OF ABUNDANCE. THE PROPOSED ACTION RECOMMENDED HEREIN SHOULD HAVE NO ADVERSE IMPACT ON THE ENVIRONMENT. ALTERNATIVES FOR WHICH COMMENTS ARE DESIRED ARE: 1. NO ACTION-NO ACTION TO LIMIT THE CATCHES OF ATLANTIC MACKEREL COULD RESULT IN AN ACCELERATION IN THE RATE OF DECLINE OF ATLANTIC MACKEREL STOCKS. THE DESTRUCTION OF THIS RESOURCE WOULD SERIOUSLY AFFECT THE LONG-RANGE VIABILITY OF THIS FISHERY, BOTH COMMERICAL AND RECREATIONAL, DOMESTIC AND FOREIGN. 2. CHANGES IN OPTIMUM YIELD--THIS FISHERY MANAGEMENT PLAN PROPOSES AN OPTIMUM YIELD BASED UPON THE BEST SCIENTIFIC EVIDENCE CURRENTLY AVAILABLE. ESTIMATED ECONOMIC AND SOCIAL IMPACT OF THE CATCH LEVEL TO THE US FISHING INDUSTRY AND AFFECTED COMMUNITIES. POSSIBLE INTERIM AND/OR LONG-TERM BILATERAL AGREEMENTS WITH CANADA FOR MANAGEMENT OF THIS TRANSBOUNDARY STOCK, THE POSSIBILITY OF THE GROWTH OF THE CANADIAN MACKEREL FISHERY BEYOND THAT LEVEL JUDGED MOST DESIRABLE BY THE US TO ACHIEVE THE OBJECTIVES OF THIS FMP. ANALYSIS OF HISTORICAL INCIDENTAL CATCHES OF MACKEREL BY FOREIGN FISHERIES FOR OTHER SPECIES, AND ENVIRONMENTAL CONSIDERATIONS. STOCK REBUILDING WOULD BE ACCELERATED BY CLOSING THE FISHERY OR SIGNIFICANTLY REDUCING THE CATCH IN THE US FCZ. HOWEVER. AN EVALUATION OF THE IMPACT OF THE SIZE OF THE ANTICIPATED COMMERCIAL AND RECREATIONAL CATCH ON THE TOTAL STOCK AS COMPARED TO THE COST OF ENFORCING A CLOSURE OR A REDUCTION MAKES THIS ALTERNATIVE UNACCEPTABLE AT THIS TIME. IF THE STOCKS DO NOT REBUILD AS ANTICIPATED WITH CURTAILMENT OF ONLY THE DIRECTED FOREIGN FISHERY, FURTHER DOMESTIC CONTROLS WILL BE NECESSARY. 3. REPORTING BY

PRIVATE BOAT OWNERS-THE MACKEREL ADVIRSORY SUBPANEL SUGGESTED THAT THE REPORTING REQUIREMENTS BE EXPANDED TO INCLUDE PRIVATE BOAT OWNERS. THE COUNCIL DID NOT INCLUDE THIS PROVISION IN THE PROPOSED PLAN BECAUSE OF THE COMPLEXITY OF THE ISSUE AND THE COST OF ENFORCING SUCH A PROVISION AND OF PROCESSING THE INFORMATION THAT WOULD THE SUPPLIED.

2180 MITRE CORPORATION

NEW YORK DREDGED MATERIAL DISPOSAL ALTERNATIVES WORKSHOP BIBLIOGRAPHY [1978]

MITRE CORP. MCLEAN, VA 43 PP

THIS BIBLIOGRAPHY ON DREDGED MATERIAL DISPOSAL COVERS THE YEARS 1899 TO 1977.

2181 MITRE CORPORATION

DISPOSAL OF DREDGED MATERIAL WITHIN THE NEW YORK DISTRICT. PRESENT PRACTICES AND CANDIDATE ALTERNATIVES VOL 2 [1979]

MITRE CORP. MCLEAN. VA 92 PP

THIS IS A PRELIMINARY EVALUATION OF THE FEASABILITY OF THE USE OF UPLAND DISPOSAL SITES FOR DUMPING OF DREDGED MATERIAL.

2182 MITRE CORPORATION

DISPOSAL OF DREDGED MATERIAL WITHIN THE NEW YORK DISTRICT. PRESENT PRACTICES AND CANDIDATE ALTERNATIVES VOL 1 [1979]

MITRE CORP, MC LEAN, VA 215 PP

VOLUME I CONTAINS A DISCUSSION OF THE PRESENT DREDGED MATERIAL DISPOSAL PROGRAM, ITS IMPACTS, GENERAL CONDITIONS IN THE NEW YORK BIGHT. AND AN EVALUATION OF THE 21 MOST FEASIBLE DISPOSAL ALTERNATIVES IDENTIFIED DURING THE PROJECT.

2183 NASA

MINUTES OF NASA/NOAA PLANNING MEETING -- NEW YORK BIGHT SPRING ACTIVITIES (1975)

NASA LANGLEY RESEARCH CENTER, LANGLEY, VA

THE PURPOSE OF THIS MEETING WAS TO DEVELOP THE OUTLINE AND MAJOR ELEMENTS OF THE DRAFT PLAN AND SCHEDULE FOR THE NASA/NOAA SPRING ACTIVITIES IN THE NEW YORK BIGHT.

2184 NASA

THE POLLUTION SOLUTION [1976]

FILM. FAM AUDIO-VISUAL BRANCH, NASA, WASHINGTON, DC

THE FILM SHOWS HOW THE NEWLY DEVELOPED LANDSAT IS BEING USED TO DETECT AND CHARACTERIZE THE EFFECTS OF HUMAN-CAUSED POLLUTION. THE FILM USES EXAMPLES OF AIR, LAND, AND WATER POLLUTION TO ILLUSTRATE THE CAPABILITY OF THE SENSOR/DATA-ANALYSIS COMBINED THE PRODUCE THE IMAGES. TOPICS INCLUDE THE EFFECTS OF STRIP MINING IN MD AND DUMPING OF GARBAGE OFF THE NJ COAST.

REPORT OF A COMPREHENSIVE WATER QUALITY STUDY SOUTH SHORE BAYS--NASSAU COUNTY, NY [1973]

NASSAU COUNTY DOH. MINEOLA. NY 204 PP

A COMPREHENSIVE WATER QUALITY STUDY OF THE SOUTH SHORE BAYS OF NASSAU COUNTY, CONDUCTED BY THE NASSAU COUNTY DEPARTMENT OF HEALTH, IS REPORTED HEREIN. LEVELS AND TRENDS IN WATER QUALITY WERE EVALUATED IN RELATION TO ASSIGNED STATE STANDARDS. SOURCES OF POLLUTION AND THEIR INDIVIDUAL AND COLLECTIVE WATER QUALITY IMPACTS WERE ALSO EVALUATED. ALTERNATE SOLUTIONS WERE REVIEWED IN TERMS OF THEIR EFFICACY IN PRESERVING AND RESTORING THE QUALITY OF THE BAY WATERS. NECESSARY ACTIONS FOR PLANVING A POLLUTION ABATEMENT PROGRAM ARE RECOMMENDED TO RESTORE WATER QUALITY TO ASSIGNED STANDARDS. DATA FROM STUDIES CONDUCTED BY SEVERAL AGENCIES AS WELL AS EXTENSIVE DATA COLLECTED BY THE HEALTH DEPARTMENT WERE USED.

2186 NASSAU COUNTY DEPT OF HEALTH

ATLANTIC OCEAN (EAST) WATER QUALITY SURVEY RESULTS [1973]

NASSAU COUNTY DOH, MINEOLA, NY NP

THE PURPOSE OF THIS REPORT IS TO SUMMARIZE THE CHEMICAL AND BACTERIOLOGICAL RESULTS OF THE SAMPLES COLLECTED BY THE DEPARTMENT OF HEALTH IN THE ATLANTIC OCEAN (EAST) DURING 1973.

2187 NASSAU COUNTY DEPT OF HEALTH

LONG ISLAND SOUND (EAST) WATER QUALITY SURVEY RESULTS [1974]

NASSAU COUNTY DOH, MINEOLA, NY NP

THE PURPOSE OF THIS PAPER IS TO SUMMARIZE THE CHEMICAL AND BACTERIOLOGICAL RESULTS OF THE SAMPLES COLLECTED BY THE HEALTH DEPARTMENT DURING 1974. THESE RESULTS REFLECT THE OVERALL WATER QUALITY IN THE EASTERN SOUND DURING THE SAMPLING PERIOD.

2188 NASSAU COUNTY DEPT OF HEALTH

ATLANTIC OCEAN (WEST) WATER QUALITY SURVEY RESULTS [1974]

NASSAU COUNTY DOH. MINEOLA. NY NP

THE PURPOSE OF THIS REPORT IS TO SUMMARIZE THE CHEMICAL AND BACTERIOLOGICAL RESULTS OF THE SAMPLES COLLECTED BY THE DEPARTMENT OF HEALTH IN THE ATLANTIC OCEAN (WEST) DURING 1974.

2189 NASSAU COUNTY DEPT OF HEALTH

HEMPSTEAD BAY, MIDDLE BAY, EAST BAY, SOUTH OYSTER BAY WATER QUALITY SURVEY RESULTS [1974]

NASSAU COUNTY DOH, MINEOLA, NY NP

THE PURPOSE OF THIS REPORT IS TO SUMMARIZE THE CHEMICAL AND BACTERIOLOGICAL RESULTS OF THE SAMPLES COLLECTED BY THE DEPARTMENT OF HEALTH IN HEMPSTEAD BAY DURING 1974. THESE RESULTS REFLECT THE OVERALL WATER QUALITY IN THE BAY DURING THE SAMPLING PERIOD.

LITTLE NECK BAY, MANHASSET BAY, HEMPSTEAD HARBOR (UPPER & LOWER, OYSTER BAY, COLD SPRING HARBOR WATER QUALITY SURVEY RESULTS [1974]

NASSAU COUNTY DOH, MINEOLA, NY NP

THE PURPOSE OF THIS REPORT IS TO SUMMARIZE THE CHEMICAL AND BACTERIOLOGICAL RESULTS OF THE SAMPLES COLLECTED BY THE DEPARTMENT OF HEALTH IN LITTLE NECK BAY DURING 1974. THESE RESULTS REFLECT THE OVERALL WATER QUALITY IN THE BAY DURING THE SAMPLING PERIOD.

2191 NASSAU COUNTY DEPT OF HEALTH

NASSAU COUNTY SOUTH SHORE BAYS SURFACE WATER QUALITY REPORT [1975]

NASSAU COUNTY DOH. MINEOLA. NY 14 PP

THIS REPORT SUMMARIZES THE DATA FROM THE DEPARTMENT'S BACTERIOLOGICAL AND CHEMICAL SURFACE WATER SAMPLING PROGRAM. THE REPORT COVERS THE PERIOD FROM OCT 1974 TO SEPT 1975. THE PARAMETERS MONITORED INCLUDE TOTAL AND FECAL COLIFORM. PH. ALKALINITY. SUSPENDED SOLIDS, CHLORIDES, DISSOLVED OXYGEN, BIOCHEMICAL OXYGEN DEMAND, AMMONIA, NITRATE AND NITRITE, TOTAL AND ORTHO-PHOSPHATES AND SALINITY. TURBIDITY DETERMINATIONS ARE ALSO PERFORMED. THE DATA IS PRESENTED IN APPENDICES I & II. APPENDIX I CONTAINS THE RAW DATA FROM BACTERIOLOGICAL SAMPLING ALONG WITH TIDE AND WEATHER CONDITIONS FOR ALL SAMPLE DAYS. APPENDIX I ALSO CONTAINS COMPUTER-REPRODUCED "SYMAPS" OF MOST OF THE SURFACE WATER AREAS SAMPLED. THE SYMAPS USE THE COLIFORM BACTERIA DATA FROM THE SPECIFIC SAMPLING LOCATIONS IN THE AREA TO ESTIMATE VALUES FOR BACTERIA LEVELS THROUGHOUT THE AREA. A DESCRIPTION OF THE "SYMAP" PROGRAM PRECEEDS THE MAPS IN APPENDIX 1. APPENDIX 11 CONTAINS ALL OF THE CHEMICAL SAMPLING DATA. IN ADDITION: THE DISSOLVED OXYGEN LEVELS AT THE CHEMICAL SAMPLING POINTS ARE SUMMARIZED IN GRAPHS FOR EACH AREA. THESE GRAPHS INDICATE THE AVERAGE. HIGHEST AND LOWEST DISSOLVED OXYGEN LEVELS AT THESE POINTS. AND ARE HELPFUL IN COMPARING THE AREAS WITH EACH OTHER AND WITH THE CLASSIFICATION STANDARDS. TOTAL AND FECAL COLIFORM AND DISSOLVED OXYGEN ARE THE KEY PARAMETERS FOR DETERMINING COMPLIANCE OF MARINE WATERS TO "BEST USE" STANDARDS ESTABLISHED BY NY. THESE STANDARDS HAVE CLASSIFIED ALL THE STATE'S SURFACE WATER AREAS SPECIFICALLY FOR THEIR BEST INTENDED USE. AND ESTABLISH MINIMUM LEVELS OF DISSOLVED OXYGEN AND MAXIMUM COLIFORM BACTERIA LEVELS WHICH DETERMINE WHETHER OR NOT THE AREAS MEET THE STANDARDS OF THEIR BEST USE CLASSIFICATION. MARINE WATERS ARE CLASSIFIED SA, SB, SC OR SD. WATERS WHOSE BEST USE WOULD BE SHELLFISHING ARE CLASSIFIED "SA" AND ARE REQUIRED TO HAVE A MEDIAN TOTAL COLIFORM LEVEL BELOW 70 MPN/100 ML. WATERS WHOSE CLASSIFICATION IS "SB" WOULD BE BEST USED FOR PRIMARY CONTACT RECREATION AND "SC" WATERS WOULD BE BEST USED FOR SECONDARY CONTACT RECREATION. TOTAL AND FECAL COLIFORM CRITERIA ARE PROGRESSIVELY LESS STRINGENT AS THE SHIFT IS MADE FROM SA TO SB TO SC CLASSIFICATIONS, BUT THE MINIMUM DISSOLVED DXYGEN LEVEL IS THE SAME. THIS MUST BE AT LEAST 5.0 MG/L AT ALL TIMES IN ORDER TO MEET SA, SB, AND SC CLASSIFICATIONS. TO MEET SD CLASSIFICATIONS, THE MINIMUM DISSOLVED OXYGEN LEVEL MUST BE AT LEAST 3.0 MG/L AT ALL TIMES, BUT THERE IS NO MAXIMUM COLIFORM LEVEL FOR SD CLASSIFIED WATERS. SD CLASSIFIED WATERS CANNOT MEET THE REQUIREMENTS OF THE OTHER USES. SOME WATERS ARE CLASSIFIED AS "I" WATERS. THESE ARE REQUIRED TO MEET THE SAME COLIFORM STANDARD AS SC CLASSIFIED WATERS, AND ARE ALSO BEST USED FOR SECONDARY CONTACT RECREATION. BUT THESE WATERS MUST HAVE A MINIMUM DISSOLVED DXYGEN LEVEL AT ALL TIMES OF AT LEAST 4.0 MG/L. TABLES 1 AND 2 SUMMARIZE THE CONFORMANCE OF THE SOUTH BAY SURFACE WATER AREAS WITH THE STANDARDS FOR THEIR ASSIGNED CLASSIFICATIONS. IT SHOULD BE NOTED THAT OUR SURFACE WATER SAMPLING RESULTS ARE SOMEWHAT DIFFICULT TO COMPARE WITH SB AND SC STANDARDS. THIS IS BECAUSE SAMPLING IS USUALLY DONE ONLY ONCE PER MONTH WHILE SB AND SC STANDARDS ARE BASED ON MEDIANS OR GEOMETRIC MEANS OF AT LEAST 5 SAMPLES COLLECTED DURING A 30 DAY PERIOD. FOR THE PURPOSE OF COMPARING THE AVAILABLE DATA WITH THE STANDARDS FOR THE AREAS, THE YEARLY MEDIAN FOR TOTAL COLIFORM AND YEARLY GEOMETRIC MEANS FOR TOTAL AND FECAL COLIFORM WERE USED AND LISTED IN TABLE 3. THIS TABLE ALSO CONTAINS THE LOWEST DISSOLVED DXYGEN READINGS OBTAINED AT THOSE LOCATIONS WHICH ARE ALSO CHEMICAL SAMPLING POINTS. WHERE SAMPLING RESULTS HAVE DISCLOSED THAT THESE AREAS DO NOT MEET THE STANDARDS FOR THEIR ASSIGNED CLASSIFICATION. THE RESULTS ARE ASTERISKED. THE LAST TABLE. TABLE 4. LISTS THE AREAWIDE AVERAGE COLIFORM LEVELS FOR THE SOUTH BAY SURFACE WATER AREAS AND CONVENIENTLY COMPARES THEM. MAPS LOCATING ALL OF THE BACTERIOLOGICAL AND CHEMICAL SAMPLING POINTS WHICH ARE ROUTINELY SAMPLED ARE INCLUDED AT THE END OF THIS SECTION. THESE MAPS ALSO INCLUDE THE ASSIGNED CLASSIFICATIONS FOR THE RESPECTIVE AREAS SAMPLED AND INDICATE WHICH POINTS ARE IN CONFORMANCE WITH THE ASSIGNED CLASSIFICATIONS.

NASSAU COUNTY NORTH SHORE BAYS SURFACE WATER QUALITY REPORT [1975]

NASSAU COUNTY DOH, MINEOLA, NY 17 PP

THIS REPORT SUMMARIZES THE DATA FROM THE DEPARTMENT'S BACTERIOLOGICAL AND CHEMICAL SURFACE WATER SAMPLING PROGRAMS. THE REPORT COVERS THE PERIOD FROM SEPT. 1974 TO QCT. 1975. THE PARAMETERS MONITORED INCLUDE TOTAL AND FECAL COLIFORM, PH. ALKALINITY. SUSPENDED SOLIDS. CHLORIDES. DISSOLVED OXYGEN. BIOCHEMICAL OXYGEN DEMAND. AMMONIA. NITRATE AND NITRITE. TOTAL AND ORTHO-PHOSPHATES AND SALINITY. TURBIDITY DETERMINATIONS ARE ALSO PERFORMED. THE DATA IS PRESENTED IN APPENDICES I AND II. APPENDIX I CONTAINS THE RAW DATA FROM BACTERIOLOGICAL SAMPLING ALONG WITH TIDE AND WEATHER CONDITIONS FOR ALL SAMPLE DAYS. APPENDIX I ALSO CONTAINS COMPUTER-PRODUCED "SYMAPS" OF MOST OF THE SURFACE WATER AREAS SAMPLED. THESE SYMAPS USE THE COLIFORM BACTERIA DATA FROM THE SPECIFIC SAMPLING LOCATIONS IN THE AREA TO ESTIMATE VALUES FOR BACTERIA LEVELS THROUGHOUT THE AREA. A DESCRIPTION OF THE SYMAP PROGRAM PRECEEDS THE MAPS IN APPENDIX I. APPENDIX II CONTAINS ALL OF THE CHEMICAL SAMPLING DATA. IN ADDITION. THE DISSOLVED OXYGEN LEVELS AT THE CHEMICAL SAMPLING POINTS ARE SUMMARIZED IN GRAPHS FOR EACH AREA. THESE GRAPHS INDICATE THE AVERAGE. HIGHEST AND LOWEST DISSOLVED OXYGEN LEVELS AT THESE POINTS. AND ARE HELPFUL IN COMPARING THE AREAS WITH EACH OTHER AND WITH THE CLASSIFICATION STANDARDS. TOTAL AND FECAL COLIFORM AND DISSOLVED DXYGEN ARE THE KEY PARAMETERS FOR DETERMINING COMPLIANCE OF MARINE WATERS TO "BEST USE" STANDARDS ESTABLISHED BY NEW YORK STATE. THESE STANDARDS HAVE CLASSIFIED ALL THE STATE'S SURFACE WATER AREAS SPECIFICALLY FOR THEIR BEST INTENDED USE. AND ESTABLISH MINIMUM LEVELS OF DISSOLVED OXYGEN AND MAXIMUM COLIFORM BACTERIA LEVELS WHICH DETERMINE WHETHER OR NOT THE AREAS MEET THE STANDARDS OF THEIR BEST USE CLASSIFICATION. MARINE WATERS ARE CLASSIFED SA. SB. SC OR SD. WATERS WHOSE BEST USE WOULD BE SHELLFISHING ARE CLASSIFED "SA" AND ARE REQUIRED TO HAVE A MEDIAN TOTAL COLIFORM LEVEL BELOW 70 MPN/100 ML. WATERS WHOSE CLASSIFICATION IS "SB" WOULD BE BEST USED FOR PRIMARY TONTACT RECREATION AND "SC" WATERS WOULD BE BEST USED FOR SECONDARY CONTACT RECREATION. TOTAL AND FECAL COLIFORM CRITERIA ARE PROGRESSIVELY LESS STRINGENT AS THE SHIFT IS MADE FROM SA TO SB TO SC CLASSIFICATIONS. BUT THE MINIMUM DISSOLVED OXYGEN LEVEL IS THE SAME. THIS MUST BE AT LEAST 5.0 MG/L AT ALL TIMES IN ORDER TO MEET SA. SB OR SC CLASSIFICATIONS. TO MEET SD CLASSIFICATIONS. THE MINIMUM DISSOLVED OXYGEN LEVEL MUST BE AT LEAST 3.0 MG/L AT ALL TIMES. BUT THERE IS NO MAXIMUM COLIFORM LEVEL FOR SD CLASSIFIED WATERS. SD CLASSIFIED WATERS CANNOT MEET THE REQUIREMENTS OF THE OTHER USES. SOME WATERS ARE CLASSIFIED AS "1" WATERS. THESE ARE REQUIRED TO MEET THE SAME COLIFORM STANDARD AS SC CLASSIFIED WATERS. AND ARE ALSO BEST USED FOR SECONDARY CONTACT RECREATION. BUT THESE WATERS MUST HAVE A MINIMUM DISSOLVED DXYGEN LEVEL AT ALL TIMES OF AT LEAST 4.0 MG/L. TABLES 1 AND 2 SUMMARIZE THE CONFORMANCE OF THE NORTH BAY SURFACE WATER AREAS WITH THE STANDARDS FOR THEIR ASSIGNED CLASSIFICATIONS. IT SHOULD BE NOTED THAT OUR SURFACE WATER SAMPLING RESULTS ARE SOMEWHAT DIFFICULT TO COMPARE WITH SB AND SC STANDARDS. THIS IS BECAUSE SAMPLING IS USUALLY DONE ONLY ONCE PER MONTH WHILE SB AND SC STANDARDS ARE BASED ON MEDIANS OR GEOMETRIC MEANS OF AT LEAST 5 SAMPLES COLLECTED DURING A 30 DAY PERIOD. FOR THE PURPOSE OF COMPARING THE AVAILABLE DATA WITH THE STANDARDS FOR THE AREAS, THE YEARLY MEDIAN FOR TOTAL COLIFORM AND YEARLY GEOMETRIC MEANS FOR TOTAL AND FECAL COLIFORM WERE USED AND LISTED IN TABLE 3. THIS TABLE ALSO CONTAINS THE LOWEST DISSOLVED OXYGEN READINGS OBTAINED AT THOSE LOCATIONS WHICH ARE ALSO CHEMICAL SAMPLING POINTS. WHERE SAMPLING RESULTS HAVE DISCLOSED THAT THESE AREAS DO NOT MEET THE STANDARDS FOR THEIR ASSIGNED CLASSIFICATION, THE RESULTS ARE ASTERISKED. THE LAST TABLE, TABLE 4, LISTS THE AREA-WIDE AVERAGE COLIFORM LEVELS FOR THE NORTH BAY SURFACE WATER AREAS AND CONVENIENTLY COMPARES THEM. MAPS LOCATING ALL OF THE BACTERIOLOGICAL AND CHEMICAL SAMPLING POINTS WHICH ARE ROUTINELY SAMPLED ARE INCLUDED AT THE END OF THIS SECTION. THESE MAPS ALSO INCLUDE THE ASSIGNED CLASSIFICATIONS FOR THE RESPECTIVE AREAS SAMPLED AND INDICATE WHICH POINTS ARE IN CONFORMANCE WITH THEIR ASSIGNED CLASSIFICATIONS.

2193 NASSAU COUNTY DEPT OF HEALTH

OFFSHORE SAMPLING RESULTS [1976]

NASSAU COUNTY DOH, MINEOLA, NY 14 PP

DATA IS PRESENTED FOR MAY 1975 AND SEPT 1975 DISTRIBUTIONS OF: TOTAL AND FECAL COLIFORM BACTERIA IN THE WATER COLUMN AND SEDIMENT, VOLATILE SOLIDS, BIOCHEMICAL OXYGEN DEMAND, TOTAL CHROMIUM, COPPER, LEAD, NICKEL AND ZINC.

NASSAU COUNTY WATER QUALITY ASSESSMENT REPORT--APPENDIX IV. REPORT ON THE IMPACT OF OCEAN SLUDGE DISPOSAL ON THE QUALITY OF NEARSHORE WATER AND SEDIMENT. SEPTEMBER 1975 SURVEY RESULTS [1976]

NASSAU COUNTY DOH. MINEOLA. NY 29 PP

SUBSEQUENT TO THE INITIAL OCEAN SAMPLING CRUISE, WHICH WAS CONDUCTED IN MAY 1975 AS PART OF THIS DEPARTMENT'S MUNICIPAL SLUDGE MONITORING PROGRAM IN THE NEW YORK BIGHT. A SECOND SURVEY WAS CONDUCTED DURING SEPT 1975. THE PURPOSE OF THIS FALL SURVEY WAS TO DETERMINE THE SEASONAL VARIATION IN BOTH WATER AND SEDIMENT QUALITY IN THE AREA NORTH OF THE SEWAGE SLUDGE DUMP SITE AND IS REPORTED HEREIN. THE RESULTS OF THE SEPT 1975 OFFSHORE SAMPLING CRUISE TEND TO SUBSTANTIATE THE PREDICTION ADVANCED IN THE INITIAL SLUDGE MONITORING REPORT ISSUED BY THIS DEPARTMENT IN MAR 1976, THAT DUE TO THE EXISTENCE OF BOTH A STRONG THERMOCLINE IN THE NEW YORK BIGHT AND THE ONSHORE CURRENT AND WIND CONDITIONS WHICH PREVAIL DURING THE SUMMER MONTHS, THERE APPEARS TO BE AN INCREASED SHOREWARD MOVEMENT OF SLUDGE FROM THE DUMPSITE TOWARD NASSAU COUNTY. THE BACTERIOLOGICAL WATER QUALITY FINDINGS DEMONSTRATE THE EFFECT OF THE THERMOCLINE WHICH ENTRAINS THAT PORTION OF THE SEWAGE SLUDGE. WHOSE BULK DENSITY IS LESS THAN THAT OF SEA WATER, IN THE UPPER LAYERS OF THE WATER COLUMN. THE SUSPENDED SLUDGE IS SUBSEQUENTLY SUBJECTED TO AMBIENT ADVECTION WHICH IS SHOREWARD TOWARDS LONG ISLAND DURING THE SUMMER MONTHS. THIS SUMMER CONDITION DIFFERS MARKEDLY FROM THE SPRING PERIOD DISPERSION CHARACTERISTIC WHICH DEMONSTRATES THE RAPID DECENT OF SLUDGE TO THE BOTTOM WITHIN THE IMMEDIATE AREA OF THE DUMPSITE. THE SHOREWARD TRANSPORT AND THE SUBSEQUENT DEPOSITION OF THE SUSPENDED SEWAGE SLUDGE DURING THE SUMMER PERIOD, RESULTS IN SIGNIFICANT INCREASES IN THE BACTERIOLOGICAL AND THE CHEMICAL CONCENTRATION LEVELS IN THE BOTTOM SEDIMENT NORTH OF THE SE4AGE SLUDGE DUMPSITE. THIS AREA OF DEPOSITION. AS DEFINED BY THE SEPT 1975 SURVEY, EXTENDS FROM THE DUMPSITE, WHICH IS LOCATED 12 MI SOUTH OF LONG ISLAND, TO WITHIN 5 TO 6 MI OF ATLANTIC BEACH. ALTHOUGH THERE WAS A TWO-FOLD INCREASE IN THE CONTAMINANT CONCENTRATION LEVELS IN THE BOTTOM SEDIMENTS DURING THE PERIOD FROM MAY TO SEPT 1975, WHICH INCLUDE COLIFORM BACTERIA, ORGANIC MATERIAL AND HEAVY METALS, THERE DID NOT APPEAR TO BE A SPATIAL EXTENSION OF THE CONTAMINATED AREA NORTH OF THE DUMPSITE TOWARDS ATLANTIC BEACH DURING THE SUMMER PERIOD OF 1975. THE COMPARISON OF THE MAY AND SEPTEMBER 1975 RESULTS DOES, THEREFORE, INDICATE A NET SEASONAL SHOREWARD TRANSPORT OF CONTAMINANTS RESULTING FROM THE OCEAN DISPOSAL OF SEWAGE SLUDGE TO WITHIN 5 TO 6 MI SOUTH OF ATLANTIC BEACH. BECAUSE OF THIS APPARENT SEASONAL TRANSPORT VARIATION. WHICH POTENTIALLY POSES A THREAT TO THE NEAR SHORE WATERS OF NASSAU COUNTY DURING THE RECREATIONAL SUMMER SEASON AND THE ANTICIPATED INCREASE IN THE AMOUNT OF OCEAN SLUDGE DISPOSAL, IT IS ESSENTIAL THAT THIS MONITORING PROGRAM CONTINUE TO INSURE THE PROTECTION OF THE PUBLIC HEALTH AND WELFARE. CONTINUED MONITORING ALSO NOW BECOMES ESPECIALLY IMPERATIVE IN LIGHT OF THE RECENT LONG ISLAND OCEAN BEACH POLLUTION PROBLEM WHICH PROBABLY WAS. IN PART, CAUSED BY THE OCEAN DISPOSAL OF SEWAGE SLUDGE. ALTHOUGH THE SEWAGE MATERIAL WHICH IMPAIRED THE BEACHES DURING JUNE AND JULY 1976 CONSISTED OF FLOATING DEBRIS. THE DISTINCT POSSIBLITY DOES EXIST THAT SEWAGE SLUDGE SUSPENDED IN THE WATER COLUMN COULD CONTAMINATE THE NEAR SHORE BATHING WATERS SHOULD THE ABNORMALLY PERSISTENT ONSHORE HYDROGRAPHIC AND METEOROLOGICAL CONDITIONS CONTINUE AND INCREASE IN MAGNITUDE.

2195 NASSAU COUNTY DEPT OF HEALTH

NASSAU COUNTY WATER QUALITY ASSESSMENT REPORT--APPENDIX III. DISTRIBUTION OF BENTHIC INVERTEBRATES IN THE NEARSHORE OCEAN SEDIMENTS OF NASSAU COUNTY, INCLUDING AREAS IMPACTED BY OCEAN DISPOSAL OF SEWAGE SLUDGE [1976]

NASSAU COUNTY DOH, MINEOLA, NY 56 PP

21 SEDIMENT SAMPLES WERE COLLECTED IN MAY OF 1975 FROM 2 OFFSHORE TRANSECTS SOUTH OF NASSAU COUNTY, LONG ISLAND. 13 SEDIMENTS FROM 1 TRANSECT WERE BELIEVED TO BE INFLUENCED BY SEWAGE SLUDGE DUMPING IN THE NEW YORK BIGHT. THE REMAINING 8 SEDIMENTS WERE RETRIEVED FROM AREAS THOUGHT TO BE CLEAN AND FREE FROM SLUDGE CONTAMINATION. STANDARD QUALITATIVE AND QUANTITATIVE MACRO-BENTHIC ANALYSIS (SIEVING, MICROSCOPIC EXAMINATION, ETC.) INDICATES THAT THE SEDIMENTS IN THE OFFSHORE AREAS STUDIED ARE NOT ABIOTIC. THERE ARE 36 LIVING INVERTEBRATES SPECIES IDENTIFIED AS INHABITANTS OF THE SEDIMENTS IN THESE AREAS. IN TRANSECT #1, SOUTH OF ATLANTIC BEACH, 8 SPECIES FROM 4 GENERA OF 3 PHYLA APPEAR AT MORE THAN 50% OF THE 13 STATIONS. FOUR OF THESE SPECIES ALSO APPEAR AT MORE THAN HALF OF THE 8 STATIONS IN TRANSECT #5 SOUTH OF JONES INLET. THESE 4 MOST NUMBEROUS AND WIDELY DISTRIBUTED ORGANISMS ARE THE ENOPLOIDID NEMATODES, THE DEPOSIT FEEDING BIVALVES NUCULA PROXIMA AND TELLINA AGILIS AND THE TENTACLE FEEDING POLYCHAETE WORM AMAGE AURICULA. THE HIGHEST DEGREE OF SPECIES DIVERSITY AND POPULATION DENSITY ARE FOUND IN THE SEDIMENTS AT STATION #6 IN TRANSECT #1, 5 NMI SOUTH OF ATLANTIC BEACH, AND THE OTHER STATION #6. 6 NMI SOUTH OF JONES

INLET. THROUGH BACTERIOLOGICAL AND CHEMICAL ANALYSIS, IT HAS BEEN DETERMINED THAT BOTH THESE AREAS ARE ON THE PERIPHERY AND EXPERIENCE THE LEADING EDGE OF ONSHORE SLUDGE MIGRATION. ENRICHED SILTY SANDS WITH CHARACTERISTIC DEPOSIT FEEDING FAUNA COMPRISE MOST OF THE SEDIMENTS OF TRANSECT #1, THE EXCEPTION BEING THE SANDY AREAS BENEATH THE SURFACE WATER DUMP SITE WHERE A DEPRESSED COMMUNITY OF NEMATODES AND TUBICULOUS POLYCHAETES WERE FOUND. HIGH ENERGY COMMUNITIES ARE FOUND IN THE RELATIVELY CLEAN SANDS OF TRANSECT #5, THE EXCEPTION BEING STATION #6 WHICH IS AN ENRICHED SILTY SAND COMMUNITY.

2196 NASSAU COUNTY DEPT OF HEALTH

NASSAU COUNTY WATER QUALITY ASSESSMENT REPORT -- APPENDIX 118 \$ 118. BATHING BEACH BACTERIOLOGICAL DATA SOUTH SHORE POINTS [1976]

NASSAU COUNTY DOH', MINEOLA, NY 136 PP

APPENDICES IIA AND IIB CONTAIN THE COMPUTER PRINT-OUTS OF THE BACTERIOLOGICAL SAMPLING RESULTS OF THE BATHING WATER QUALITY MONITORING PROGRAM. ALL OF THE PRINT-OUTS IN APPENDICES IA, IB, IIA AND IIB CONTAIN TIDE AND WEATHER INFORMATION FOR EACH SAMPLE RESULT.

2197 NASSAU COUNTY DEPT OF HEALTH

NASSAU COUNTY WATER QUALITY ASSESSMENT REPORT--APPENDIX IB. SURFACE WATER CHEMICAL DATA [1976]

NASSAU COUNTY DOH, MINEOLA, NY 146 PP

APPENDIX IB CONTAINS THE COMPUTER PRINT-OUT OF ALL OF THE CHENICAL RESULTS OF THE SURFACE WATER MONITORING PROGRAM. IN ADDITION. DISSOLVED OXYGEN LEVELS IN ALL OF THE SURFACE WATER AREAS ARE SUMMARIZED IN GRAPHICAL FORM.

2198 NASSAU COUNTY DEPT OF HEALTH

NASSAU COUNTY WATER QUALITY ASSESSMENT REPORT--APPENDIX IA. SURFACE WATER BACTERIOLOGICAL DATA [1976]

NASSAU COUNTY DOH, MINEOLA, NY 194 PP

SYMAP IS A COMPUTER PROGRAM FOR THE PRODUCTION OF MAPS AND DIAGRAMS WHICH GRAPHICALLY DEPICT SPATIALLY DISPOSED QUANTITATIVE AND QUALITATIVE INFORMATION. THE PROGRAM PERMITS RAW DATA OF MANY KINDS TO BE RELATED, AND AGGREGATED IN A VARIETY OF WAYS. THE SYMAP PROGRAM PLACES DATA INTO A PRE-ASSIGNED RANGE OF VALUES (LEVELS) AND THEN COMPARES NEIGHBORING DATA. THIS PROGRAM ASSUMES A CONTINUOUS VARIATION OR SLOPE BETWEEN THE DATA POINTS, SO THAT ITS TOW VALUES IN DIFFERENT LEVELS ARE NEAR EACH OTHER, THE CHARACTER VALUES INCREASE LINEARLY FROM THE LOWER TO THE HIGHER VALUE. THE BOUNDARY BETWEEN THE DIFFERENT LEVELS DEPENDS UPON THE RELATIVE STRENGTH AND THE PROXIMITY OF THE DATA. THE SYMAPS IN THIS REPORT UTILIZE YEARLY GEOMETRIC AVERAGES OF COLIFORM MPN'S. THESE LOG AVERAGES FIT ANTO A RANGE OF MINIMUM AND MAXIMUM VALUES, IN SUCH A WAY THAT EACH SAMPLING POINT HAS A VALUE THAT FALLS IN LEVEL 1, 2, 3, 4, OR 5. THE SAMPLING POINTS CONSIST OF SURFACE WATER AND BATHING BEACH POINTS. THESE POINTS ARE SAMPLED ON THE MAP AS NUMERALS (1-5), DEPENDING UPON WHICH LEVEL THE SAMPLING POINT CORRESPONDS TO. SURFACE WATER POINTS WERE SAMPLED FROM OCT 1975 THROUGH SEPT 1976. BATHING WATER AND SHORELINE POINTS WERE SAMPLED BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELINE POINTS WERE SAMPLED BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELINE POINTS WERE SAMPLED BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELINE POINTS WERE SAMPLED BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELINE POINTS WERE SAMPLED BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELINE POINTS WERE SAMPLED BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELINE POINTS WERE SAMPLED BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELINE POINTS WERE SAMPLED BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELINE POINTS WERE SAMPLED BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELY BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELY BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELY BETWEEN APP AND SEPT 1976. BATHING WATER AND SHORELY BETWEEN APP

NASSAU COUNTY WATER QUALITY ASSESSMENT REPORT [1976]

NASSAU COUNTY DOH, MINEOLA, NY 100 PP

THE REPORT CONSISTS OF A SUMMARY AND FIVE SECTIONS. SECTIONS 1 THROUGH 5 CONTAIN THE MONITORING RESULTS OF EACH OF THE FOLLOWING PROGRAMS: SUMMARY--COMBINES THE CONCLUSIONS OF THE FOLLOWING FIVE SECTIONS INTO AN OVERALL ASSESSMENT OF SURFACE WATER AND GROUNDWATER QUALITY; SECTION 1--SURFACE WATER BACTERIOLOGICAL AND CHEMICAL MONITORING PROGRAM, SAMPLING RESULTS FROM OCT 1975 THRU SEPT 1976; SECTION 2--BATHING WATER QUALITY BACTERIOLOGICAL MONITORING PROGRAM, SAMPLING RESULTS FROM APR 1976 TO SEPT 1976; SECTION 3--ATLANTIC OCEAN MACROBENTHIC STUDY, SAMPLING RESULTS FROM MAY 1976; SECTION 4--IMPACT OF OCEAN DISPOSAL OF SEWAGE SLUDGE ON ATLANTIC OCEAN MATER AND SEDIMENT QUALITY, SAMPLING RESULTS FROM SEPT 1975. (THIS JAS ORIGINALLY SCHEDULED TO BE AN ADDENDUM TO THE 1975 WATER QUALITY ASSESSMENT REPORT) SECTION 5 - GROUNDWATER CHEMICAL MONITORING PROGRAM - SAMPLING RESULTS FROM OCTOBER, 1975 THRU SEPTEMBER 1976 EIGHT APPENDICES HAVE ALSO BEEN PREPARED. THESE CONTAIN THE DETAILED, SPECIFIC DATA COLLECTED IN THESE MONITORING PROGRAMS.

2200 NASSAU COUNTY DEPT OF HEALTH

NASSAU COUNTY (NY) WATER QUALITY ASSESSMENT REPORT--APPENDIX IA. SURFACE WATER BACTERIOLOGICAL DATA [1978]

NASSAU COUNTY DOH. MINEOLA. NY 100 PP

THIS REPORT CONTAINS THE COMPUTER PRINTOUTS OF ALL OF THE BACTERIOLOGICAL RESULTS OF THE SURFACE WATER MONITORING PROGRAM.

2201 NASSAU COUNTY DEPT OF HEALTH

NASSAU COUNTY WATER QUALITY ASSESSMENT REPORT FOR 1977 [1978]

NASSAU COUNTY DOH. MINEOLA. NY 80 PP

THE 1977 REPORT CONSISTS OF A SUMMARY AND FOUR SECTION. CONTENTS ARE AS FOLLOWS: SUMMARY COMBINES THE CONCLUSIONS OF THE FOLLOWING FOUR SECTIONS INTO AN OVERALL ASSESSMENT OF SURFACE WATER AND GROUNDWATER QUALITY; SECTION 1--SURFACE WATER BACTERIOLOGICAL AND CHEMICAL MONITORING PROGRAM, SAMPLING RESULTS FROM OCT 1976 THRU SEPT 1977; SECTION 2--BATHING WATER QUALITY BACTERIOLOGICAL MONITORING PROGRAM, SAMPLING RESULTS FROM APR 1977 THRU SEPT 1977; SECTION 3--ATLANTIC OCEAN SPECIAL STUDIES: (A) IMPACT OF OCEAN DISPOSAL OF SEWAGE SLUDGE ON ATLANTIC OCEAN WATER AND SEDIMENT QUALITY--CONCLUSIONS FROM SAMPLING RESULTS OF MAY 1975 TO SEPT 1977; (B) IMPACT OF TREATED EFFLUENT DISCHARGED FROM THE CEDAR CREEK PARK WATER POLLUTION CONTROL PLANT ON ATLANTIC OCEAN WATER AND SEDIMENT QUALITY; SECTION 4--GROUNDWATER CHEMICAL MONITORING PROGRAM, SAMPLING RESULTS FROM OCT 1976 THRU SEPT 1977.

2202 NASSAU COUNTY DEPT OF HEALTH

OCEAN SLUDGE MONITORING CRUISE--OCTOBER 1978 [1978]

NASSAU COUNTY DOH, MINEOLA, NY 11 PP

THE PHYSICAL OBJECTIVES WERE TO RECOVER WATER COLUMN AND SEDIMENT SAMPLES FROM 49 STATIONS. HOWEVER, DUE TO SEA CONDITIONS AND TIME LIMITATIONS, THE EXTREME OFFSHORE POINTS AS WELL AS THE OFFSHORE POINTS ON THE EASTERN AND WESTERNMOST TRANSECTS WERE OMITTED FROM THIS SURVEY. WATER COLUMN SAMPLES, COLLECTED IN 6 L VAN-DORN BOTTLES, WERE OHTAINED FROM 1 M ABOVE THE BOTTOM AND 1 M BELOW THE SURFACE. THESE SAMPLES HERE SUBJECTED TO ROUTINE BACTERIOLOGICAL ANALYSIS (TOTAL AND FECAL COLIFORM) AND CHEMICAL ANALYSIS (SALINITY AND DISSOLVED OXYGEN). IN ADDITION, WATER COLUMN SAMPLES WILL BE EXAMINED MICROSCOPICALLY FOR PLANKTON AND KNOWN SEWAGE ARTIFACTS. SEDIMENT SAMPLES, COLLECTED WITH A SHIPEK GRAB, WERE DIVIDED FOR BACTERIOLOGICAL, CHEMICAL, AND BIO-GEOLOGICAL ANALYSIS. CHEMICAL ANALYSIS WILL INCLUDE VOLATILE SOLIDS, BIOCHEMICAL OXYGEN DEMAND, AND CONCENTRATION OF THE

FOLLOWING METALS: CADMIUM, CHROMIUM, COPPER, LEAD, AND ZING. BIO-GEOLOGICAL ANALYSIS WILL CONSIST OF PARTICLE SIZE DISTRIBUTION AND THE PRESENCE OF SEWAGE SLUDGE ARTIFACTS. OXIDATION REDUCTION MEASUREMENTS (EH) WERE ALSO TAKEN IMMEDIATELY FOLLOWING SEDIMENT RETRIEVAL. IN ADDITION TO THE ROUTINE SEDIMENT CHEMICAL ANALYSIS INDICATED, TEN SEDIMENT SAMPLES WERE COLLECTED FOR POLYCHLORINATED BIPHENYL (PCB) ANALYSIS.

2203 NASSAU COUNTY ENVIRONMENTAL MANAGEMENT COUNCIL

NASSAU COUNTY ENVIRONMENTAL PLAN REPORT. AUGUST 1974 [1974]

NASSAU COUNTY. ENVIRONM MANAG COUNCIL. MINEOLA. NY NP

THIS PLANNING REPORT INCLUDES A DISCUSSION OF MARINE ENVIRONMENTAL CONDITIONS AND ACTIVITIES.

2204 NATIONAL OCEAN SURVEY

UNITED STATES COAST PILOT 2: ATLANTIC COAST. CAPE COD TO SANDY HOOK [1973]

NOS. NOAA, ROCKVILLE, MD NP

THIS IS A SERIES OF BOOKS COVERING A WIDE VARIETY OF INFORMATION IMPORTANT TO NAVIGATORS OF US COASTAL AND INTRACOASTAL WATERS. SUBJECTS INCLUDE NAVIGATION REGULATIONS, OUTSTANDING LANDMARKS, CHANNEL AND ANCHORAGE PECULIARITIES, DANGERS, WEATHER, ICE, FRESHETS, ROUTES, PILOTAGES AND PORT FACILITIES. NEW EDITIONS ARE PUBLISHED ANNUALLY. COAST PILOTS ARE ALSO AVAILABLE FOR OTHER SECTIONS OF THE US COAST AND THE GREAT LAKES.

2205 NATIONAL OCEAN SURVEY

MARINE ECOSYSTEMS ANALYSIS PROGRAM, WAVE GAUGE AT AMBROSE LIGHT STATION (1975)

NOAA. ROCKVILLE. MD 30 PP

THIS DOCUMENT PROVIDES OPERATION AND MAINTENANCE INSTRUCTIONS FOR THE BAYLOR WAVE GAUGE THAT WAS INSTALLED ABOARD AMBROSE LIGHT STATION IN MARCH 1975. INFORMATION PERTAINING TO THE DATA PRESENTATION AND GAUGE CALIBRATIONS ALSO INCLUDED. THE SYSTEM INSTALLED ABOARD AMBROSE LIGHT STATION WAS LARGLY SUPPLIED BY THE ARMY CORPS OF ENGINEERS. COASTAL ENGINEERING RESEARCH CENTER (CERC). A NATIONAL WEATHER SERVICE TELEMETRY LINK PROVIDES WAVE DATA IN REAL TIME TO NWS OFFICES IN NYC. THE DATA IS ALSO SENT BY PHONE LINE TO CERE IN FT. BELVOIR, VA. WHEN EQUIPMENT CHANGES OR MODIFICATIONS ARE MADE TO THE WAVE MEASURING SYSTEM. REVISIONS TO THIS MANUAL WILL BE PROVIDED.

2206 NATIONAL OCEAN SURVEY

UNITED STATES COAST PILOT 3. ATLANTIC COAST. SANDY HOOK TO CAPE HENRY. 14TH ED. --- JULY 1976 [1976]

NOAA, ROCKVILLE, MD 244 PP NTIS-PB-253 461

THE NOS COAST PILOTS ARE A SERIES OF & NAUTICAL BOOKS THAT COVER A WIDE VARIETY OF INFORMATION IMPORTANT TO NAVIGATORS OF US COASTAL AND INTRACOASTAL WATERS. MOST OF THIS BOOK'S INFORMATION CANNOT BE SHOWN GRAPHICALLY ON THE STANDARD NAUTICAL CHARTS AND IS NOT READILY AVAILABLE ELSEWHERE. COAST PILOT SUBJECTS INCLUDE NAVIGATION REGULATIONS, OUTSTANDING LANDMARKS, CHANNEL AND ANCHORAGE PECULIARITIES. DANGERS, WEATHER, ICE, FRESHETS, ROUTES, PILOTAGE, AND PORT FACILITIES.

2207 NATIONAL OCEAN SURVEY

BASELINE REPORT OF ENVIRONMENTAL CONDITIONS IN DEEPWATER DUMPSITE 106. VOLUME 1: PHYSICAL CHARACTERISTICS [1977]

DUMPSITE EVALUATION-77-VOL 1. NOAA, ROCKVILLE, MD 232 PP NTIS-PB-272 578

THE BASELINE REPORT IS DIVIDED INTO THREE SECTIONS: PHYSICAL CHARACTERISTICS WHICH APPEAR AS VOLUME 1, BIOLOGICAL CHARACTERISTICS, VOLUME 2, AND CONTAINING RESULTS TOO DETAILED FOR THE MAIN BODY OF THE REPORT IS INCLUDED IN VOLUME 3. CHARACTERISTICS, VOLUME 3. AN APPENDIX, CONTAINING RESULTS TOO DETAILED FOR THE MAIN BODY OF THE REPORT IS INCLUDED IN VOLUME 3. CHARACTERIZATION RESULTS ARE CHIEFLY FROM THREE BASELINE CRUISES, BUT ALSO FROM DATA OBTAINED DURING TWO SUMMER 1976 EXPERIMENTAL CRUISES, AS WELL AS FROM NMFS SOURCES. THIS VOLUME CONTAINS THE FOLLOWING STUDIES: DEEPWATER DUMPSITE (DMD) 106, BATHYMETRY AND BOTTOM MORPHOLOGY; SIX DIVES TO THE LOWER CONTINENTAL SLOPE AND UPPER CONTINENTAL RISE SOUTHWEST OF HUDSON CANYON—GEOLOGICAL ASPECTS; GENERAL PHYSICAL OCEANOGRAPHY OF DWD 106; PHYSICAL OCEANOGRAPHY OF DWD 106, FEBRUARY—MARCH 1976; AND CLIMATIC STUDY OF NEW YORK BIGHT.

2208 NATIONAL OCEAN SURVEY

BASELINE REPORT OF ENVIRONMENTAL CONDITIONS IN DEEPWATER DUMPSITE 106. VOLUME 11: BIOLOGICAL CHARACTERISTICS [1977]

DUMPSITE EVALUATION-77-VOL 2. NOAA, ROCKVILLE, MD 270 PP NT15- PTB-272 579

BIOLOGICAL DATA OBTAINED ON THE BASELINE CRUISES PROVIDED LIMITED QUANTITATIVE COVERAGE OF THE REGION. TOGETHER WITH OTHER AVAILABLE DATA, THIS ALSO SUFFICED TO PROVIDE A QUALITATIVE BIOLOGICAL OVERVIEW OF THE REGION. A COMPLETE PICTURE IS NOT VET AVAILABLE AND DISTINGUISHING DUMPING EFFECTS FROM NATURAL VARIATIONS WILL CONTINUE TO BE A PROBLEM. THIS VOLUME CONTAINS THE FOLLOWING STUDIES: PHYTOPLANKTON IN THE VICINITY OF DEEPWATER DUMPSITE (DWD) 106; DWD 106--ZOOPLANKTON STUDIES; GELATINOUS ZOOPLANKTON AT DWD 106; APEX PREDATORS IN DWD 106; DISTRIBUTION AND ABUNDANCE OF MESOPELAGIC FISHES ON CRUISES 2 AND 3 AT DWD 106; OFFICE OF ORDER OF THE REGION. TO THE R

2209 NATIONAL OCEAN SURVEY

BASELINE REPORT OF ENVIRONMENTAL CONDITIONS IN DEEPWATER DUMPSITE 106. VOLUME III: CONTAMINANT INPUTS AND CHEMICAL CHARACTERISTICS-- APPENDIX [1977]

DUMPSITE EVALUATION-77-VOL 3. NOAA, ROCKVILLE, MD. 300 PP NTIS-PB- 272 580

BECAUSE OF THE IMPORTANCE OF POSSIBLE HEAVY METAL CONTAMINATION, CONSIDERABLE EMPHASIS WAS PLACED ON MEASURING CONCENTRATIONS OF A VARIETY OF METALS IN THE WATER COLUMN AND IN KEY ORGANISMS. ALTHOUGH IT DOES NOT SEEM THAT ADDITION OF CONTAMINANTS AT DWD 106 IS HAVING AN OBSERVABLE EFFECT ON THE WATER COLUMN, THE POSSIBILITY OF CONCENTRATION IN THE FOOD CHAIN MUST BE CONSIDERED PARTICULARLY. FOR HEAVY METALS SUCH AS HG. THIS VOLUME CONTAINS THE FOLLOWING STUDIES: A SUMMARY OF THE INPUT OF INDUSTRIAL WASTE CHEMICALS AT DWD 106 DURING 1974 AND 1975; RESULTS OF STUDIES ON THE DISTRIBUTION OF SOME TRANSITION AND HEAVY METALS AT DWD 106; RECENT ANALYSIS OF CU, CD AND PB AT DWD 106; AND FINAL REPORT ON HEAVY METALS IN SMALL PELAGIC FINISH, EUPHAUSID CRUSTACEANS, AND APEX PREDATORS, INCLUDING SHARKS, AS WELL AS ON HEAVY METALS AND HYDROCARBONS (C15+) IN SEDIMENTS COLLECTED AT STATIONS IN AND NEAR DWD 106. 10 APPENDICES CONTAINING DETAILED DATA ARE ALSO INCLUDED IN THIS VOLUME. (PORTIONS OF THIS DOCUMENT ARE NOT FULLY LEGIBLE.)

2210 NATIONAL TECHNICAL INFORMATION SERVICE

CONTAMINATION DISPERSION IN ESTUARIES NEW YORK HARBOR: HYDRAULIC MODEL INVESTIGATION. [1961]

REP 3. NTIS. SPRINGFIELD. VA 169 PP NTIS-AD-A081 412

THIS REPORT DESCRIBES AND GIVES THE RESULTS OF A SERIES OF NINE TESTS CONDUCTED ON THE NEW YORK HARBOR MODEL. THESE TESTS INVOLVED ASSUMED, SIMULATED ACCIDENTS OF NUCLEAR-POWERED VESSELS AT THE SIX LOCATIONS INDICATED AS RELEASE POINTS ON THE LOCATION MAP. ACCIDENTS WERE SIMULATED IN THE HUDSON AND EAST RIVERS (RELEASE POINTS 1 AND 2), IN THE UPPER AND LOWER NEW YORK BAYS (RELEASE POINTS 3 AND 6), AND IN THE KILLS (RELEASE POINTS 4 AND 5). THE DATA OBTAINED IN THE TESTS ARE PRESENTED IN FORMS SUITABLE FOR ANALYSIS, BUT NO ANALYSIS IS MADE. THE NEW YORK HARBOR MODEL IS OF THE FIXED-BED TYPE AND IS CONSTRUCTED TO LINEAR SCALE RATIOS, MODEL TO PROTOTYPE, OF 1:1000 HORIZONTALLY AND 1:100 VERTICALLY. TIDES AND TIDAL CURRENTS ARE GENERATED IN THE REPRODUCED PORTIONS OF THE RARITAN, HUDSON, AND EAST RIVERS BY SEPARATE BUT SYNCHRONIZED, SECONDARY, TWO-WAY FLOW-CONTROL DEVICES LOCATED AT THE MODEL LIMIT OF EACH STREAM. THUS, WITH THE PRIMARY OCEAN TIDE GENERATOR, FOUR SYNCHRONIZED TIDE GENERATORS ARE USED TO REPRODUCE THE FLOODING AND EBBING OF TIDES ON THE MODEL. THE SALINITY OF THE MODEL OCEAN IS MAINTAINED AT THE SAME SALINITY AS THE PROTOTYPE (THE SALINITY SCALE BEING 1:1); AND THE SCALED UPLAND DISCHARGE OF THE HUDSON RIVER IS INTRODUCED AT HYDE PARK, NY.

2211 NATIONAL TECHNICAL INFORMATION SERVICE

VARIATIONS OF COLIFROM BACTERIA AND OTHER POLLUTION INDICES IN SURFACE WATERS [1965]

NTIS. SPRINGFIELD, VA 15 PP NTIS-PB-250 541

DESPITE CONTINUING SEWAGE TREATMENT PLANT CONSTRUCTION, NEW YORK HARBOR HAS HAD A 10% ANNUAL INCREASE IN COLIFRON POLLUTION SINCE THE EARLY 1950°S. IT IS SUGGESTED THAT THIS INCREASE MIGHT BE DUE TO AN "AFTERGROWTH" OF THE ORGANISMS IN THE RECEIVING WATERS STIMULATED BY NUTRIENTS SUCH AS PHOSPHATE OR NITROGEN COMPOUNDS IN SECONDARY TREATMENT EFFLUENT. USING DATA DN VARIOUS STREAMS WITH IMPROVED WASTE SYSTEMS A STUDY WAS MADE TO DETERMINE WHETHER SIMILAR COLIFROM DENSITY INCREASES WERE OCCURRING AND IF THEY COULD BE CORRELATED WITH PHOSPHATE, DETERGENT, OR OTHER POLLUTION PARAMETERS.

2212 NATIONAL TECHNICAL INFORMATION SERVICE

NEW JERSEY COASTAL INLETS AND BEACHES, STUDY OF SANDY HOOK TO ISLAND BEACH STATE PARK [1978]

NTIS, SPRINGFIELD, VA 53 PP NTIS-AD-AJ82 629

A STUDY OF THE NAVIGATION, BEACH EROSION, AND STORM PROTECTION PROBLEMS AND NEEDS FOR THE AREA ALONG THE ATLANTIC COAST OF NJ FROM SANDY HOOK TO ISLAND BEACH STATE PARK WAS UNDERTAKEN. THE EXISTING FEDERAL NAVIGATION PROJECTS MANASQUAN RIVER AND SHARK RIVER WERE FOUND TO PROVIDE DEEP, WELL STABILIZED CHANNELS FOR COMMERCIAL AND RECREATIONAL BOATS. HOWEVER, EROSION WAS FOUND TO HAVE SERIOUSLY REDUCED THE WIDTH OF BEACHES IN THE STUDY AREA SUBJECTING PUBLIC AND PRIVATE PROPERTY TO STORM DAMAGE. A SUMMARY OF PROJECT ECONOMICS FOR STORM MEASURES IS PRESENTED.

2213 NATIONAL TECHNICAL INFORMATION SERVICE

TERRESTRIAL BIOLOGY: BOTANY, COASTAL BIOLOGY [1980]

PROC OF 2ND CONFERENCE ON SCIENTIFIC RESEARCH IN THE NAT'L PARKS, SAN FRANCISCO, CA, 26-30 NOV 1979. VOL 11. NTIS, SPRINGFIELD, VA 232 PP NTIS-PB81-100125

VOLUME 11 CONTAINS 4 PAPERS IN THE COASTAL BIOLOGY SECTION AND 11 IN THE PLANT ECOLOGY SECTION. COASTAL BIOLOGY COVERS: ESTABLISHMENT OF BEACH VEGETATION; SPARTINA PATENS ECOLOGY AND ITS RELATIONSHIP TO BARRIER BEACH MANAGEMENT. AND PLANT COMMUNITIES OF SANDY HOUK, NJ. PLANT ECOLOGY INCLUDES THE HISTORIC PLANT RESOURCES ON A HAWAIIAN ISLAND CRATER FLOOR; POST-FIRE SUCCESSION IN ISLE ROYALE NATIONAL PARK; THE PHYSIOLOGICAL ECOLOGY OF DESERT ANNUALS IN DEATH VALLEY NATIONAL MONUMENT; PINUS BALFOURIANA AND SALIX SETCHELLIANA ECOLOGY; SOIL CHARACTERISTICS AFFECTING PLANT DISTRIBUTION AND SUCCESSION IN REDWOOD AND

GRAND CANYON NATIONAL PARKS: AND CONIFER SPECIES INSTABILITY WITHIN THE FOREST-TUNDRA ECOTONE OF ROCKY MOUNTAIN NATIONAL PARK.

2214 NCWQ

REPORT TO THE NATIONAL COMMISSION ON MATER QUALITY ON THE ENVIRONMENTAL IMPACT OF THE DISPOSAL OF WASTEWATER RESIDUALS. VOL 1 AND 2 [1976]

NCNG. WASHINGTON. DC 1031 PP NTIS-PB-251 371

AUTHORS EVALUATED THE IMPACT TO THE NATION AND "MINIMUM GEOGRAPHICAL AREAS" OF THE DISPOSAL OF RESIDUES PRODUCED FROM WASTEWATER TREATMENT REQUIRED TO MEET GOALS OF WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972 (PL 92-500). LAND DISPOSAL OF SLUDGES AND TREATED EFFLUENT WERE EMPHASIZED. INCINERATION AND OCEAN DISPOSAL OF SLUDGES WERE ALSO CONSIDERED. BASED ON A REVIEW OF RESIDUE PRODUCTION BY TREATMENT OR MANUFACTURING PROCESSES. MUNICIPAL AND INDUSTRIAL RESIDUE GENERATION RATES AND LOCATIONS WERE ESTIMATED. IMPACTS ON NATURAL VEGETATION, WILDLIFE AND GROUNDWATER WERE EVALUATED FOR LAND DISPOSAL TECHNIQUES. IMPACTS ON AIR QUALITY WERE EVALUATED FOR INCINERATION OF SLUDGE AS WELL AS AIR STRIPPING FOR AMMONIA REMOVAL FROM SEWAGE. OCEAN DISPOSAL WAS CONSIDERED BOTH IN GENERAL AND WITH EMPHASIS ON THE NEW YORK BIGHT. AUTHORS CONCLUDED THAT LOCAL IMPACTS OF LAND DISPOSAL COULD BE CONTROLLED AND MINIMIZED WITH CAREFUL SITE SELECTION AND DEVELOPMENT AND CAREFULLY CONTROLLED APPLICATION RATES. INCINERATION AND AIR STRIPPING SYSTEMS CAN CAUSE AIR POLLUTION PROBLEMS IF NOT PROPERLY DESIGNED, LOCATED AND OPERATED.

2215 NCWQ

ENVIRONMENTAL IMPACT ASSESSMENT. WATER QUALITY ANALYSIS: HUDSON RIVER [1976]

NCWQ. WASHINGTON. DC 533 PP NTIS-PB-251 099

A COMPREHENSIVE WATER QUALITY ANALYSIS AND ENVIRONMENTAL IMPACT ASSESSMENT AT THE HUDSON RIVER WAS UNDERTAKEN AS PART OF A NATIONAL ASSESSMENT OF ANTICIPATED ENVIRONMENTAL IMPACTS OF THEORETICALLY ACHIEVING DR NOT ACHIEVING THE REQUIREMENTS OF THE FWPCA AMENDMENTS OF 1972 (P.L. 92-500). AUTHORS (1) CHARACTERIZED HISTORICAL AND EXISTING WATER QUALITY AND ENVIRONMENTAL CONDITIONS, (2) PROJECTED RESULTANT WATER QUALITY, ASSUMING SPECIFIC LEVELS OF WASTEWATER TREATMENT TO POINT SOURCE EFFLUENTS ENTERING THE STUDY SITE, AND (3) ANTICIPATED BIOLOGICAL, ECOLOGICAL AND ENVIRONMENTAL EFFECTS. IMPACTS AND BENEFITS TO RESULT FORM PROJECTED CHANGES IN WATER QUALITY. THE SITE ASSESSMENT IS ONE OF 41 SIMILAR STUDIES CONCLUDED FOR THE ENVIRONMENTAL SCIENCES SECTOR OF THE COMMISSION.

2216 NESS

NESS PRESENTATION TO THE NASA'S EARTH RESOURCES PROGRAM FOR SUPPORT OF THE NOAA'S MESA PROGRAM IN THE NEW YORK BIGHT [1974]

NESS, WASHINGTON, DC 19 PP

THIS REPORT OUTLINES THE ORGANIZATION OF THE PROPOSED MESA-NYBP INCLUDING PROGRAM OBJECTIVES AND METHODS OF OPERATION.

2217 NESS

A SUMMARY OF REMOTE SENSING INVESTIGATIONS IN THE NEW YORK BIGHT [1979]

ENVIRONMENTAL RESEARCH INST OF MICHIGAN, ANN ARBOR, MI 157 PP

A NUMBER OF EXPERIMENTS WERE CONDUCTED USING SPECIFIC REMOTE SENSING TECHNIQUES AND DIRECTED TOWARD GATHERING AND ANALYZING

INFORMATION ON SIGNIFICANT OCEAN PARAMETERS OBSERVED IN THE NEW YORK BIGHT. THESE REMOTE SENSING EXPERIMENTS WERE CONDUCTED BY OR FOR THE NATIONAL ENVIRONMENTAL SATELLITE SERVICE OF NOAA IN APR 1973 AND APR 1975. THE DATA WERE COLLECTED FROM MULTI-ALTITUDE REMOTE SENSING OPERATIONS (INTERMEDIATE AND HIGH-ALTITUDE AIRCRAFT, AND THE LANDSAT-1 SATELLITE) AND FROM SURFACE OPERATIONS TO OBTAIN CONCURRENT IN SITU DATA. THE RESULTING DATA WERE ANALYZED TO OBTAIN INFORMATION ON CHLOROPHYLL-A DISTRIBUTION, SUSPENDED PARTICULATE CONCENTRATION, SECCHI DISK TRANSPARENCY, SEA SURFACE TEMPERATURE, WATER MASS CLASSIFICATION, AND CIRCULATION, BOTH AT THE SURFACE AND AT 10 M DEPTH. THE RESULTS PROVIDE SIGNIFICANT INFORMATION ON VARIOUS WATER CONSTITUENTS, INCLUDING THOSE RESULTING FROM SEWAGE AND ACID DUMPING, TIDAL PROCESSES, POLLUTANT DISPERSAL, AND OTHER DYNAMIC PROCESSES OCCURRING IN THE STUDY AREA, WITH PROPER PLANNING AND EXECUTION, REMOTE SENSING OPERATIONS CAN REPLACE OR SUPPLEMENT INFORMATION FROM OTHER SOURCES ON THESE PHENDMENA.

2218 NEW ENGLAND RIVER BASINS COMMISSION

HOW THE STUDY STANDS NOW: INVENTORY PHASE NEARLY COMPLETE: PLANNING PHASE BEGUN [1974]

NEW ENGLAND RIVER BASINS COMMISSION, BOSTON, MA 8 PP

THIS REPORT REPRESENTS THE COMPLETION OF THE DATA GATHERING PHASE OF THE LONG ISLAND SOUND STUDY AND ATTENTION HAS TURNED TO PREPARING ALTERNATIVE PLANNING PROPOSALS FOR THE FUTURE. PREVIOUSLY PUBLISHED INTERIM REPORTS ARE BRIEFLY DISCUSSED, INCLUDING REPORTS CONCERNING ELECTRIC POWER GENERATION, MINERAL RESQURCES AND MINING, FLOOD PLAINS, SOILS, EROSION AND SEDIMENTATION, AS WELL AS SOURCES AND MOVEMENT OF WATER. A SUMMARY OF GOALS AND OBJECTIVES, RECOMMENDATIONS AND SUGGESTIONS FROM THE CITIZEN ADVISORY COMMITTEE IS SET FORTH. GOALS WERE WRITTEN FOR NUMEROUS AREAS, INCLUDING LAND USE AND SOLID WASTE DISPOSAL, WATER MANAGEMENT (BOTH WATER QUALITY AND WATER SUPPLY), SHORELINE APPEARANCE AND DESIGN, EROSION, FLOOD DAMAGE, RECREATION, FISH AND WILDLIFE, TRANSPORATION, MINERALS AND MINING, ENERGY PRODUCTION AND NEEDED LEGAL MECHANISMS. LAND USE ISSUES ARE STUDIED FROM THE PLANNER'S PERSPECTIVE, AS PROTECTION OF WATER BODIES AND ESTUARINE AREAS CANNOT BE CONSIDERED IN ISOLATION FROM GENERAL METROPOLITAN AND URBAN GROWTH REQUIREMENTS. THE STUDY REGION IS CONSIDERED WITH THE NEW YORK METROPOLITAN AREA, AND POSSIBLE TRENDS AND DEVELOPMENT IMPLICATIONS SUCH AS HOUSING AND EMPLOYMENT ARE ANALYZED.

2219 NEW ENGLAND RIVER BASINS COMMISSION

A PLAN FOR LONG ISLAND SOUND [1975]

NEW ENGLAND RIVER BASINS COMMISSION, BOSTON, MA NP

14 VOLUMES DESCRIBE A PLAN TO CLEAN UP WATERS OF THE SOUND, OPEN SHORES, IMPROVE FISHING, REDEVELOP WATERFRONT AREAS. THE PLAN HAS A FOCUS ON 1990 NEEDS AGAINST A BACKDROP OF LONG RANGE, 50-YR NEEDS. INVOLVED AREAS OF THE PLAN ARE WATER QUALITY AND SUPPLY, LAND USE AND OPEN SPACE, RECREATION, SPORT FISHERIES AND WILDLIFE, SHORELINE APPEARANCE AND DESIGN, MARINE TRANSPORTATION, ELECTRIC POWER, COMMERCIAL FISHING, MINING, FLOOD DAMAGE REDUCTION, AND EROSION AND SEDIMENTATION. FINAL REPORT OF THE STUDY, WHICH OUTLINES A STRATEGY FOR SECURING THE BALANCED CONSERVATION AND DEVELOPMENT OF NATURAL RESOURCES OF THE SOUND AND ITS SHORELINE IN BOTH NY AND CT. THE PLAN FOR LONG ISLAND SOUND IS AN INCREMENT OF THE NEW ENGLAND RIVER BASINS COMMISSION COMPREHENSIVE, COORDINATED JOINT PLAN FOR THE WATER AND RELATED LAND RESOURCES OF ITS REGION, WHICH INCLUDES NEW ENGLAND AND THE NEW YORK PORTIONS OF LONG ISLAND SOUND.

2220 NEW ENGLAND RIVER BASINS COMMISSION

ASSESSMENT OF WATER AND RELATED LAND RESOURCES, 1975, INITIAL IDENTIFICATION OF WATER AND RELATED LAND PROBLEMS IN NEW ENGLAND [1975]

NEW ENGLAND RIVER BASINS COMMISSION, BOSTON, MA 363 PP NTIS-PB-250 614

EXISTING AND POTENTIAL WATER AND LAND RELATED PROBLEMS ARE GIVEN FOR THE 6 NEW ENGLAND STATES. AND CLINTON AND ESSEX COUNTIES

IN NY, AND THOSE PORTIONS OF LONG ISLAND BORDERING LONG ISLAND SOUND. STATES WERE SUBDIVIDED ALONG POLITICAL OR HYDROLOGICAL BOUNDARIES. FOR EACH STATE AN OVERVIEW IS GIVEN, FOLLOWED BY BRIEF DESCRIPTIONS OF PROBLEMS OF WATER SUPPLY AND QUALITY, FLOODING, DRAINAGE, EROSION AND SEDIMENTATION, LAND USE, RECREATION, PRESERVATION OF RESOURCES AND INSTITUTIONAL AND FINANCING NEEDS REGARDING WATER AND RELATED LANDS. A REGIONAL ASSESSMENT ADVISORY COMMITTEE, COMPRISED OF REPRESENTATIVES FROM STATES, PLANNING COMMISSIONS, AND FEDERAL AGENCIES, PROVIDED THE EXPERTISE IN IDENTIFYING PROBLEMS. GENERAL CONCERNS THROUGHOUT THE REGION INCLUDE THE FOLLOWING PROBLEM ISSUES: IMPACT OF ENERGY-RELATED OPERATIONS ON WATER SUPPLIES; INTRA-OR INTER-STATE DISAGREEMENTS OVER INTERBASIN WATER TRANSFERS; LACK OF FUNDING FOR LOCAL TREATMENT FACILITIES, FLOOD CONTROL, RECREATION FACILITIES AND ACQUISITION OF PRESERVATION OF NATURAL LANDS; NEED TO COORDINATE STATE AND LOCAL PROGRAMS TO AVOID OVERLAPPING RESPONSIBILITIES AND DUPLICATION OF EFFORT; THE LACK OF IMPLEMENTATION AND ENFORCEMENT OF EXISTING PROGRAMS AND LAWS; AND THE NEED FOR IMPROVED RESOURCE DATA ACQUISITION.

2221 NEW ENGLAND RIVER BASINS COMMISSION

INTERIM PLAN AND DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE DISPOSAL OF DREDGED MATERIAL IN LONG ISLAND SOUND: A NINETW-DAY REVIEW DRAFT [1979]

NEW ENGLAND RIVER BASINS COMMISSION. BOSTON. MA 55 PP

THIS INTERIM PLAN INVOLVES: (1) MONITORING OPEN WATER DISPOSAL AT SPECIFIC SITES IN LONG ISLAND SOUND; (2) ESTABLISH GUIDELINES TO EVALUATE POLLUTING CHARACTERISTICS OF MATERIALS TO BE DREDGED; (3) USING THE GUIDELINES CASE BY-CASE TO DETERMINE IF OPEN-WATER DISPOSAL SHOULD BE PERMITTED OR IF AN ALTERNATIVE SHOULD BE USED; (4) FROM DREDGING MANAGEMENT COMMITTEE; (5) DEVELOP LONG-TERM MANAGEMENT PROGRAM FOR DISPOSAL ALTERNATIVES.

2222 NEW YORK OCEAN SCIENCE LABORATORY

THE OCEANOGRAPHY OF THE NEW YORK BIGHT: PHYSICAL, CHEMICAL, BIOLOGICAL [1973]

TECH REP 0017. VOLS 1 AND 2. NYOSL, MINTAUK, NY NP

VOL. 1 CONTAINS THE PHYSICAL OCEANOGRAPHY OF THE WATERS OF THE NEW YORK BIGHT, SEPT AND NOV 1971; THE DISTRIBUTION OF PHYTOPLANKTON IN THE NEW YORK BIGHT, SEPT AND NOV 1971; A SURVEY OF THE ICHTHYOFAUNA OF THE NEW YORK BIGHT WITH EMPHASIS ON THE DISTRIBUTION OF PELAGIC EGGS AND LARVAE SEPT AND NOV 1971; THE BENTHIC ORGANISMS OF THE NEW YORK BIGHT, SEPT AND NOV 1971; LIMITED STUDY OF SPECIES AND SEDIMENTS.

2223 NEW YORK OCEAN SCIENCE LABORATORY

AN INTERDISCIPLINARY STUDY OF THE ESTUARINE AND COASTAL OCEANOGRAPHY OF BLOCK ISLAND SOUND AND ADJACENT NEW YORK COASTAL WATERS: GROUND TRUTH [1974]

TECH REP 0027. NYOSL, MONTAUK, NY 107 PP

A PROGRAM WAS ESTABLISHED TO STUDY THE CHARACTERISTICS OF THE WATERS OF BLOCK ISLAND SOUND AND THE NEW YORK BIGHT AS THEY RELATE TO ERTS IMAGERY. TEMPERATURE, SALINITY, DENSITY, OPTICAL CHARACTERISTICS, AND TIDAL CURRENTS WERE ANALYZED. THE ANNUAL TEMPERATURE REGIME IS LARGELY GOVERNED BY SOLAR RADIATION AND CORRELATES WITH THE MEAN MONTH TEMPERATURES IN THE ATMOSPHERE, LAGGED 1 MO. THE ANNUAL SALINITY REGIME IS REGULATED BY THE STREAM DISCHARGE ENTERING LONG ISLAND SOUND AND NEW YORK HARBOR. THE AVERAGE COEFFICIENT FOR BLOCK ISLAND SOUND IIN THE VISIBLE SPECTRAL BAND WAS 0.335, COMPARED TO A MEAN VALUE FOR THE NEW YORK BIGHT OF 0.663. OBSERVATIONS ON SPATIAL AND TEMPORAL DISTRIBUTION OF PARTICULATE PHOSPHATE (PO4), REACTIVE PO4, AND SOLUBLE ORGANIC PO4, NITRATE-N, SILICA, AND CHLOROPHYLL A INDICATE THE WATERS OF BLOCK ISLAND SOUND AND THOSE ALONG THE SOUTHERN SHORE OF LONG ISLAND WERE DEFICIENT IN N. WITH THE EXCEPTION OF PARTICULATE AND SOLUBLE ORGANIC P. NO SIGNIFICANT

CORRELATIONS WERE FOUND BETWEEN ANY MEASURED PARAMETER AND CHLOROPHYLL A. IN BLOCK ISLAND SOUND, CORRELATIONS OF 0.815 WERE FOUND PETWEEN PARTICULATE P AND CHLOROPHYLL A. NO CORRELATION WAS FOUND FOR THESE PARAMETERS IN THE NEW YORK BIGHT IN THE LATTER AREA, A CORRELATION OF 0.88 EXISTED BETWEEN SOLUBLE ORGANIC P AND CHLOROPHYLL A AT THE ENTRANCE TO NEW YORK HARBOR. A HIGH CORRELATION BETWEEN PHYTOPLANKTON AND SUSPENDED PARTICLES WAS FOUND IN BLOCK ISLAND SOUND (0.858) INDICATING PHYTOPLANKTON MAY CONTRIBUTE LARGELY TO THE SUSPENDED MATERIAL IN THIS REGION. THE LOWER CORRELATION BETWEEN THESE PARAMETERS IN THE NEW YORK BIGHT AND BLOCK ISLAND SOUND STATIONS, A RESULT OF ORGANIC ENRICHMENT CAUSED BY THE DISPOSAL OF SEWAGE SLUDGE IN THE NEW YORK BIGHT.

2224 NEW YORK OCEAN SCIENCE LABORATORY

MANAGEMENT OF THE SEA'S LIVING RESOURCES ALONG THE NORTHEAST COAST [1979]

PROC OF THE SEMINAR, 29 AUG 1979. NYOSL, MONTAUK, NY 52 PP

THE SEMINAR IS CONCERNED WITH REVIEWING THE LIVING RESOURCES IN THE WATERS OF THE NORTH ATLANTIC, THE ECONOMIC IMPLICATIONS OF THESE RESOURCES, CONCERN FOR OUR FUTURE DEVELOPMENT, AND THE STEPS THAT OUGHT TO BE TAKEN TO INSURE PROPER MANAGEMENT.

2225 NEW YORK SUPPLEMENT

BOARD OF HUDSON RIVER REGULATING DIST V. FONDA. J AND G RR (CONDEMNATION OF RIGHT-OF-WAY FOR CONSTRUCTION OF RESERVOIR) [1926]

127 MISC 866 AND 217 NYS 781 (SCT. 1926)

PLAINTIFF RIVER REGULATING DISTRICT SOUGHT TO CONDEMN PART OF DEFENDANT RAILROAD'S RIGHT-OF-WAY. PLAINTIFF WAS ACTING PURSUANT TO STATE LAW WHICH CREATED REGULATING DISTRICTS AND EMPOWERED THEM TO CONSTRUCT RESERVOIRS TO REGULATE THE FLOW OF STREAMS WHEN REQUIRED BY THE PUBLIC WELFARE. DEFENDANT CONTENDED THAT THE BOARD HAD NOT COMPILED WITH THE PREREQUISITES TO CONDEMNATION, ALLEGING THAT PLAINTIFF NEEDED THE PERMISSION OF THE INTERSTATE COMMERCE COMMISSION UNDER A FEDERAL LAW WHICH STATED THAT NAVIGABLE RIVERS COULD NOT BE OBSTRUCTED WITHOUT COMMISSION CONSENT. DEFENDANT ALSO ALLEGED THAT THE PROPERTY WAS NOT BEING TAKEN FOR A PUBLIC USE. THE COURT FOUND FOR PLAINTIFF. THE RIVER ON WHICH THE DAM AND RESERVOIR WOULD BE CONSTRUCTED WAS NOT A NAVIGABLE RIVER UNDER FEDERAL LAW. AS TO THE HUDSON RIVER, THE PROPOSED IMPROVEMENTS WOULD IMPROVE THE NAVIGABLE CAPACITY OF THE RIVER BY CONTROLLING THE FLOW DURING DRY AND FLOOD CONDITIONS. AS TO THE NATURE OF THE PUBLIC USE, IT WAS NOT FATAL TO THE PROJECT THAT PRIVATE INTERESTS WOULD ALSO BENEFIT. CONTROLLING THE FLOW OF STREAMS HAD SUFFICIENT BENEFITS FOR PUBLIC SAFETY AND HEALTH TO CONSTITUTE A PUBLIC USE.

2226 NEW YORK SUPPLEMENT

SCHIFFERDECKER V. BUSCH (TITLE TO LANDS UNDER WATER) [1927]

130 MISC 625 AND 225 NYS 106 (NY SUP CT. 1927)

PLAINTIFF SOUGHT TO ENFORCE A CONTRACT BETWEEN HIMSELF AS VENDOR AND DEFENDANT AS VENDEE OF A PIECE OF PROPERTY. DEFENDANT CONTENDED THAT PLAINTIFF HAD NOT FULFILLED HIS BARGAIN TO CONVEY THE PROPERTY UNENCUMBERED SINCE THERE WAS A WATER PIPE EASEMENT ACROSS ONE LOT TO SUPPLY WATER TO THE REMAINING PROPERTY AND THAT THE DEED PROFFERED DID NOT CONVEY THE LAND UNDER WATER ADJACENT TO THE PROPERTY. THE SUPREME COURT OF NY HELD FOR PLAINTIFF. THE WATER PIPE EASEMENT NO LONGER EXISTED SINCE PLAINTIFF OWNED ALL THE PROPERTY INVOLVED AND AND THEREFORE SUCH RIGHTS WERE MERGED IN HIM. THE OWNER OF UPLAND PROPERTY OWNS LAND UNDER WATER IN THE HUDSON RIVER, THUS PLAINTIFF'S CONVEYANCE OF THE UPLAND CONVEYED THE ADJACENT RIVER BED.

2227 NEW YORK SUPPLEMENT

PETITION OF ALGONQUIN GAS TRANSMISSION CO (GRANTED RIGHTS IN RIVERBEDS) [1956]

2 MISC 2D 997 AND 157 NYS 2D 748 (SCT. 1966)

PETITIONER GAS COMPANY WAS GRANTED A RIGHT TO CONSTRUCT A PIPCLINE IN AND UPON A STRIP OF LAND UNDER THE HUDSON RIVER. AFTER THE CONSTRUCTION OF THE LINES, RESPONDENT STATE ASSESSED THEM AS AN EXERCISE OF A SPECIAL FRANCHISE. THE COURT HELD THAT PETITIONER'S CLAIM THAT THE INTEREST IT ACQUIRED WAS AN EASEMENT RATHER THAN A FRANCHISE WAS CORRECT AND AS SUCH IT WAS NOT SUBJECT TO AN ASSESSMENT. THE STATE HAS TWO SEPARATE INTERESTS IN THE RIVER, OWNERSHIP OF THE SOIL UNDER THE WATER AND CONTROL OVER THE WATERS FOR THE BENEFIT OF THE PUBLIC. THE LATTER IS A SOVEREIGN POWER, BUT TITLE TO THE RIVER BED IS OWNERSHIP SIMILAR TO THAT OF A PRIVATE OWNER OF A PARCEL OF LAND. THE GRANTING OF RIGHTS IN REAL ESTATE IN THE BED OF THE RIVER IS A PROPERTY RIGHT AND NOT AN ATTRIBUTE OF SOVEREIGNTY AND IS THEREFORE AN EASEMENT.

2228 NEW YORK SUPPLEMENT

PEOPLE V. CONSOLIDATED EDISON CO. (EQUAL PROTECTION UNDER STATE CONSERVATION LAW) [1972]

336 NYS 2D 708 (NY SUP CT, 1972)

PLAINTIFF STATE (NY) SUES DEFENDANT POWER COMPANY TO RECOVER CIVIL PENALTY FOR VIOLATION OF SECTION OF STATE CONSERVATION LAW PROHIBITING TAKING OF FISH FROM BODY OF WATER BY SHUTTING AND DRAWING OFF WATER. DEFENDANT'S NUCLEAR POWER PLANT, TO COOL CONDENSERS, DREW WATER FROM A RIVER BY INTAKE PUMPS WHICH OVER A 4-DAY PERIOD KILLED APPROXIMATELY 130,000 FISH BY IMPALING THEM ON WIRE MESH SCREENS. DEFENDANT CONTENDED THAT BASED SOLELY ON ITS MEANS OF PRODUCING POWER IT WILL NOT BE AFFORDED EQUAL PROTECTION OF THE LAW AS THE STATUTE EXCLUDES HYDROELECTRIC POWER DAMS AND IMPOUNDMENTS. THE STATE ALLEGED THE EXISTENCE OF A LOGICAL BASIS FOR DIFFERENTIATING THE MEANS FOR PRODUCING POWER, SINCE A HYDROELECTRIC POWER DAM COULD BE REGULATED TO MINIMIZE FISH LOSS, WHEREAS THE NUCLEAR POWER OPERATION EFFECTS A CONTINUOUS FISH LOSS. ON CROSS MOTIONS FOR SUMMARY JUDGEMENT, THE NEW YORK SUPPRME COURT, SPECIAL TERM, HELD THAT APPLICATION OF THE STATUTE AGAINST THE NUCLEAR POWER PLANT WHILE EXCLUDING LIABILITY TO HYDROELECTRIC POWER FACILITIES, WAS NO DENIAL OF EQUAL PROTECTION OF THE LAW. STATE'S MOTION FOR SUMMARY JUDGEMENT GRANTED.

2229 NEW YORK SUPPLEMENT

DE RAHM V. DIAMOND (REVIEW OF GRANT OF CERTIFICATE FOR CONSTRUCTION OF A HYDROELECTRIC PLANT) [1973]

343 NY 2D 84 (NY, 1973)

PLAINTIFFS CONSERVATION GROUPS SOUGHT REVIEW OF THE ISSUANCE BY THE ENVIRONMENTAL CONSERVATION COMMISSIONER OF A CERTIFICATE THAT THE PROPOSED CONSTRUCTION OF A PUMPED STORAGE HYDROELECTRIC FACILITY ON THE HUDSON RIVER WOULD NOT VIOLATE APPLICABLE WATER QUALITY STANDARDS. PLAINTIFFS CHARGED THAT THE COMMISSIONER HAD ACTED ARBITRARILY AND CAPRICIOUSLY IN CERTIFYING THAT THE PROJECT WOULD NOT VIOLATE WATER QUALITY STANDARDS AND ALSO THAT HE HAD FAILED TO CONSIDER SEVERAL RELEVANT MATTERS IN MAKING HIS DETERMINATION. THE COURT RECOGNIZED THAT THE FEDERAL WATER POLLUTION CONTROL ACT RELINQUISHED TO THE STATES ONLY A NARROW AUTHORITY TO DETERMINE WHETHER THERE IS REASONABLE ASSURANCE THAT THE WATER QUALITY STANDARDS OF THE STATE ARE NOT VIOLATED AND THAT THE STATES WERE NOT GIVEN AUTHORITY TO CONSIDER MATTERS WITHIN THE JURISDICTION OF THE FEDERAL POWER COMMISSION. THE COURT THEREFORE FOUND THAT THE COMMISSIONER HAD CORRECTLY CONSIDERED ALL RELEVANT FACTORS WITHIN HIS JURISDICTION AND THAT HIS DECISION WAS REASONABLE. THE COURT REVIEWED THE COMMISSIONER'S SPECIFIC FINDING AS TO THE EFFECT ON FISH LIFE, SALTWATER INTRUSION, AND POSSIBLE THERMAL POLLUTION AND CONCLUDED THAT ALL WERE SUPPORTED BY THE FACTS.

2230 NJ DEP

PRESS ADVISORY: REPORT ON SEWAGE OUTFALLS [1976]

NJ DEP. TRENTON. NJ NP .

FROM THE END OF JUNE THROUGH SEPT OF THIS YEAR AN EXPLOSIVE ALGAL GROWTH "BLOOM" OCCURRED OFF THE NJ COAST. THE DECAY OF THE ALGAE ON THE OCEAN BOTTOM DEPRIVED FISH AND SHELLFISH OF OXYGEN AND RESULTED IN A SERIES OF FISH KILLS THAT AFFECTED THE OFFSHORE AREA FROM SANDY HOOK TO CAPE MAY. THE AFFECTED AREA USUALLY REMAINED FROM SEVERAL MILES TO 25 MILES OR MORE OFFSHORE. PERIODICALLY BOTTOM FISH AND ESPECIALLY SHELLFISH WERE REPORTED DEAD BY DIVERS OR COMMERCIAL FISHERMEN. FISHERY EXPERTS REPORTED HIGH MORTALITY IN THE SURF CLAMS OFFSHORE. ISOLATED PATCHES OF THE LOW OXYGEN WATER. ON SEVERAL OCCASIONS. MOVED CLOSE TO SHORE AND ENVELOPED FAST SWIMMING SURFACE SPECIES THAT HAD GENERALLY ESCAPED FROM THE OFFSHORE KILL. DECAYING ALGAE AND DEAD FISH WASHED ASHORE AT VARIOUS POINTS AS THE FISH KILL MOVED SOUTH. THE ALLEGED "BLACK TIDE" OF DECAYING ALGAE WASHING TO SHORE WAS. IN SEVERAL INSTANCES. ALLEGED TO BE SEWERAGE SLUDGE. NJ DEP INVESTIGATIONS HAVE SHOWN THAT, WHILE THERE HAVE BEEN ISOLATED BACTERIAL AND OTHER PROBLEMS THAT CAN BE ATTRIBUTED TO SEWAGE OUTFALLS THIS SUMMER. THE OVERWHELMING PROPORTION OF THE SHORE POLLUTION WAS ASSOCIATED WITH THE ALGAL BLOOM AND DECAY PROCESS. PUBLIC CONCERN OVER THE IMPLICATIONS OF THE "BLACK TIDE" HAS FOCUSED ON ALL POSSIBLE SOURCES THAT COULD CAUSE THE FERTILIZING OF THE OCEAN THAT LEAD TO THE ALGAL BLOOM. SEWAGE OUTFALLS ALONG THE COAST AND SLUDGE DUMPING OFF SANDY HOOK HAVE MOST FREQUENTLY BEEN CITED AS THE MOST LIKELY SOURCES OF THE NUTRIENTS THAT FED THE BLOOM. THIS REPORT SHOWS THAT THE PROPORTION OF THE TOTAL POLLUTION LOADS TO THE OCEAN AREA AFFECTED BY THE ALGAL BLOOM CONTRIBUTED BY NJ COASTAL OUTFALLS IS SMALL (AROUND 2%) COMPARED WITH OTHER SOURCES: MUNICIPAL WASTEWATER FROM OTHER COMMUNITIES IN THE NY-NJ METROPOLITAN AREA CONTRIBUTES 35% OF THE NITRATES AND 55% OF THE PHOSPHATES, WITH NY SOURCES MAKING UP MORE THAN TWICE THE NJ AMOUNTS OF THESE POLLUTANTS. THE NEXT MOST IMPORTANT MAN-MADE SOURCES OF NUTRIENTS ARE DREDGE SPOILS AND STORMWATER RUNOFF. FOLLOWED BY THE SLUDGE DISPOSAL SITE. PLANNING AND CONSTRUCTION OF REGIONAL SEWAGE TREATMENT PLANTS ALONG THE COAST IS PROCEEDING RAPIDLY. THE NEW PLANTS WILL RELIEVE THE BACK BAYS OF POLLUTION AND RESTORE BATHING AND SHELLFISH HARVESTING. NEW OUTFALLS WILL BE FURTHER OFFSHORE AND ALLOW A MORE RAPID DILUTION AND ASSIMILATION OF THE POLLUTANTS THAT REMAIN IN THE EFFLUENT AFTER HIGH LEVELS OF TREATMENT. NJ DEP IS ALSO COMMITTED TO THE CLEANUP OF THE OTHER NJ SOURCES OF OCEAN POLLUTION AND IS SEEKING ADDITIONAL FEDERAL MONIES AS WELL AS INTERSTATE COOPERATION TO DEAL WITH THE BULK OF THE COASTAL POLLUTION PROBLEM WHICH ORIGINATES IN THE NY-NJ METROPOLITAN AREA. NJ DEP IS ALSO COMMITTED TO ENCOURAGING RAPID DEVELOPMENT OF TECHNOLOGY AND INSTITUTIONAL ARRANGEMENTS TO IMPLEMENT LAND-BASED DISPOSAL OF SEWAGE SLUDGE TO RELIEVE THE OCEANS OF THIS BURDEN, AND IS BEGINNING TO EXPLORE THE CONTRIBUTION OF, AND POSSIBLE ALTERNATIVES FOR THE OCEAN DUMPING OF DREDGE SPOILS. THIS REPORT DOES NOT, HOWEVER, INDICATE WITH COMPLETE ASSURANCE THAT THE CURRENT POLLUTION CONTROL EFFORTS WILL BE ADEQUATE TO COMPLETELY AVOID FUTURE OCEAN FISH KILLS. IT IS STILL UNCERTAIN WHETHER THIS YEAR'S ALGAL BLOOM IS DUE TO AN ACCUMULATION OF A CONTINUING PHENOMENON WHILE MOVING AHEAD TO TREAT AND REMOVE THE WELL-RECOGNIZED SOURCES OF ORGANIC POLLUTION (E.G., SEWAGE AND SLUDGE), NJ DEP IS CAREFULLY ANALYZING THE POTENTIAL EFFECTIVENESS AND COSTS OF MORE ADVANCED TREATMENT AND OTHER MEASURES WHICH MAY BE NEEDED IN THE FUTURE TO REDUCE THE LIKLIHOOD OR EXTENT OF FUTURE "BLACK TIDES" OFF THE NJ SHORE.

2231 NJ DEP

INTERIM LAND USE AND DENSITY GUIDELINES FOR THE COASTAL AREA OF NEW JERSEY [1976]

NJ DEP. TRENTON, NJ NP

THESE GUIDELINES CONCERN LAND USE OF COASTAL AREAS INCLUDING FACILITY TYPES NOT CURRENTLY PRESENT IN THE COASTAL AREA, LAND AND WATER FEATURES. POLICIES AND REQUIREMENTS, ENERGY FACILITES.

2232 NJ DEP

THE "CALL OF INFORMATION" ON COASTAL ENERGY FACILITY SITING: AN ANALYSIS OF RESPONSES [1977]

NJ DEP. TRENTON. NJ NP

THE "CALL FOR INFORMATION" INVITED GOVERNMENT AND THE ENERGY INDUSTRY TO SUBMIT (A) SUGGESTED CRITERIA FOR LOCATING ENERGY AND ENERGY-RELATED FACILITIES WITHIN THE NJ COASTAL ZONE, (B) ANALYSES BY GOVERNMENTAL AND PRIVATE AGENCIES OR GROUPS OF THE NEED TO LOCATE ENERGY FACILITIES IN SPECIFIC SITES WITHIN NJ'S COASTAL ZONE, OR IN GENERALIZED PORTIONS THEREOF, AND (C) IDENTIFICATION OF THE LAND-USE PARAMETERS, APPROPRIATE TO THE VARIOUS TYPES OF FACILITIES WHICH MAY BE PROPOSED, NOW OR LATER.

FOR COASTAL SITING. ITS PURPOSE WAS TO ALLOW THE NJ DEP TO BASE ENERGY FACILITY SITING AND PLANNING ON REALISTIC ASSUMPTIONS RATHER THAN ON THEORETICAL AND POTENTIALLY UNWORKABLE PRECEPTS. THIS REPORT PRESENTS THE FINDINGS OBTAINED FROM THE DRAFT CALL AND THE FINAL CALL ISSUED 7 MO LATER. THE RESULTS OF THE INDUSTRIES' RESPONSES ARE TABULATED ON PAGE 4 SHOWING CLEARLY THAT THE ELECTRIC AND GAS UTALITIES GAVE SOME USEFUL INFORMATION WHILE THIS WAS TRUE OF ONLY A FEW OF THE OIL COMPANIES.

2233 NJ DEP

OCEAN DUMPING OF SLUDGE -- PROGRAM THROUGH PHASE OUT IN 1981 [1977]

STAFF REP. NJ DEP. TRENTON. NJ 40 PP

THIS REPORT SUMMARIZES THE HISTORY OF AND FUTURE PLANS FOR OCEAN DUMPING IN NJ.

2234 NJ DEP

NEW JERSEY COASTAL MANAGEMENT PROGRAM -- BAY AND SHORE SEGMENT AND DRAFT ENVIRONMENTAL IMPACT STATEMENT [1978]

NJ DEP, TRENTON, NJ AND NOAA, BOULDER, CO NP

THIS NJ COASTAL MANAGEMENT PROGRAM--BAY AND OCEAN SHORE SEGMENT HAS BEEN PREPARED TO DETERMINE AND DESCRIBE NJ'S STRATEGY TO MANAGE THE FUTURE PROTECTION AND DEVELOPMENT OF THE COAST. NJ IS SEEKING APPROVAL OF THE PROGRAM BY THE US DOC TO OBTAIN THE BENEFITS OF THE FEDERAL COASTAL ZONE MANAGEMENT ACT, WHICH WILL AIDE STATE EFFORTS TO MANAGE THE OFTEN CONFLICTING PRESSURES FACING THE COAST. THIS DOCUMENT SERVES AS A COMBINED COASTAL MANAGEMENT PROGRAM FOR THE BAY AND OCEAN SHORE SEGMENT AND AS A DRAFT ENVIRONMENTAL IMPACT STATEMENT, BECAUSE FEDERAL APPROVAL OF A STATE COASTAL MANAGEMENT PROGRAM IS CONSIDERED A "MAJOR ACTION" REQUIRING AN ENVIRONMENTAL IMPACT STATEMENT UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA). THE NJ DEP. OFFICE OF CZM PREPARED THE COASTAL PROGRAM IN PART WITH FUNDING PROVIDED BY NOAA. NJ IS PREPARING ITS COASTAL MANAGEMENT PROGRAM IN TWO PHASES. THE GEOGRAPHIC AREA ADDRESSED BY THIS FIRST PART OF THE NEW JERSEY COASTAL MANAGEMENT PROGRAM INCLUDES A 1,382 SQ MI LAND AREA AND RELATED COASTAL WATERS IN A REGION STRETCHING FROM THE RARITAN/BAY ALONG THE ATLANTIC OCEANFRONT TO THE DELAWARE BAY. THIS IS THE AREA DEFINED BY THE STATE LEGISLATURE IN THE COASTAL AREA FACILITY REVIEW ACT (CAFRA) OF 1973, PLUS TIDAL WETLAND AREAS INLAND OF THE CAFRA BOUNDARY WHICH ARE REGULATED UNDER THE WETLANDS ACT OF 1970. THIS REPORT DEFINES AND EXPLAINS THE COASTAL RESOURCE AND DEVELOPMENT POLICIES AND THE MANAGEMENT SYSTEM THE DEP AND THE DOE WILL USE IN MANAGING ACTIVITIES IN THIS COASTAL PROGRAM SEGMENT. THE COASTAL POLICIES ARE DIVIDED INTO THREE GROUPS: (1) LOCATION POLICIES EVALUATE SPECIFIC TYPES OF COASTAL LOCAIONS, SUCH AS WETLANDS AND PRIME FARM LAND; (2) USE POLICIES ARE DIRECTED AT DIFFERENT USES OF THE COASTAL ZONE, SUCH AS HOUSING AND ENERGY FACILITY DEVELOPMENT; AND (3) RESOURCE POLICIES FOCUS ON CONTROLLING THE EFFECTS OF DEVELOPMENT, SUCH AS WATER RUNOFF AND SOIL EROSION. THE MAJOR CHOICES AND BASIC DIRECTION PROVIDED IN THE MANY SPECIFIC POLICY STATEMENTS ARE REPRESENTED BY FOUR BASIC COASTAL POLICIES: 1) PROTECT THE COASTAL ECOSYSTEM; 2) CONCENTRATE RATHER THAN DISPERSE THE PATTERN OF COASTAL RESIDENTIAL COMMERCIAL, INDUSTRIAL, AND RESORT-ORIENTED DEVELOPMENT, AND ENCOURAGE THE PRESERVATION OF OPEN SPACE; 3) EMPLOY A METHOD FOR DECISION-MAKING WHICH ALLOWS EACH COASTAL LOCATION TO BE EVALUATED IN TERMS OF BOTH THE ADVANTAGES AND THE DISADVANTAGES IT OFFERS FOR DEVELOPMENT; 4) PROTECT THE HEALTH. SAFETY AND WELFARE OF PEOPLE WHO RESIDE, WORK, AND VISIT IN THE COASTAL ZONE.

2235 NJ DEP

NEW JERSEY COASTAL MANAGEMENT PROGRAM--BAY AND OCEAN SHORE SEGMENT AND ENVIRONMENTAL IMPACT STATEMENT [1978]

NJ DEP, TRENTON, NJ 350 PP

APPROVAL AND IMPLEMENTATION OF THE PROGRAM WILL ALLOW THE STATE TO MORE EFFECTIVELY IMPLEMENT EXISTING STATE MANAGEMENT WITHIN THE BAY AND OCEAN SHORE REGION. THE STATE WILL CONDITION, RESTRICT, OR PROHIBIT SELECTED LAND AND WATER USES IN SOME PARTS OF THE NJ COAST, WHILE ENCOURAGING DEVELOPMENT IN OTHER PARTS. EACH COASTAL MUNICIPALITY WILL RETAIN PRIMARY RESPONSIBILITY FOR

MANAGING LAND USE ALONG ITS COAST. THE IMPACTS OF THE NEW JERSEY COASTAL MANAGEMENT PROGRAM-BAY AND OCEAN SHORE SEGMENT WILL BE GENERALLY BENEFICIAL, ALTHOUGH THERE MAY BE SOME ADVERSE, SHORT-TERM ECONOMIC IMPACTS ON SOME COASTAL USERS, AND THE PROGRAM WILL ENTAIL THE IRREVERSIBLE COMMITMENT OF COASTAL RESOURCES.

2236 NJ DEP

WATER QUALITY CONDITION IN NEW JERSEY [1979]

NJ DEP, TRENTON, NJ 15 PP

THE PURPOSE OF THIS DOCUMENT IS TO PROVIDE A STATUS REPORT ON CURRENT WATER QUALITY IN THE STATE AND TO REPORT ON THE PROSPECTS FOR FUTURE ATTAINMENT OF WATER QUALITY GOALS STATEWIDE. A DETAILED ANALYSIS OF STATEWIDE WATER QUALITY IS PUBLISHED BIANNUALLY BY THE DIVISION OF WATER RESOURCES; THIS REPORT SUMMARIZES THE FINDINGS OF THE DOCUMENT FOR 1978.

2237 NJ DEP

OPTIONS FOR NEW JERSEY'S DEVELOPED COAST: A PREVIEW OF A STATE COASTAL MANAGEMENT PROGRAM FOR PARTS OF SALEM, GLOUCESTER, CAMDEN, BURLINGTON, MERCER, MIDDLESEX, SOMERSET, UNION, HUPSON, ESSEX, PASSAIC, AND BERGEN COUNTIES [1979]

NJ DEP, TRENTON, NJ 70 PP

THIS REPORT DESCRIBES 8 BASIC POLICIES FOR NJ COAST: (1) PROTECT AND ENHANCE THE COASTAL ECOSYSTEM; (2) CONCENTRATE THE PATTERN OF COASTAL, RESIDENTIAL COMMERCIAL, INDUSTRIAL AND RESORT DEVELOPMENT AND PRESERVE OPEN SPACE; (3) EMPLOY DECISION MAKING WHICH EVALUATES EACH COASTAL LOCATION BY THE ADVANTAGES AND DISADVANTAGES IT OFFERS FOR DEVELOPMENT; (4) PROTECT THE HEALTH AND WELFARE OF THOSE WHO INHABIT COASTAL ZONE; (5) PROMOTE PUBLIC ACCESS TO WATERFRONT; (6) MAINTAIN ACTIVE PORT & INDUSTRIAL FACILITIES; (7) MAINTAIN ENERGY FACILITIES AND SITE ADDITIONAL NECESSARY FACILITIES; (8) ENCOURAGE RESIDENTIAL, COMMERCIAL AND RECREATIONAL MIXED-USE REDEVELOPMENT OF THE DEVELOPED WATERFRONT.

2238 NJ DEP

FEDERAL CONSISTENCY IN NEW JERSEY'S COASTAL MANAGEMENT PROGRAM: A HANDBOOK [1979]

NJ DEP, TRENTON, NJ 31 PP

PART I ANSWERS THE "WHAT," "WHO" AND "WHERE" OF FEDERAL CONSISTENCY. PART II DESCRIBES THE "HOW," THE PROCEDURES THAT WILL BE FOLLOWED BY THE NJ DEP, OFFICE OF CZM IN CONDUCTING ITS CONSISTENCY REVIEWS. THESE PROCEDURES INCORPORATE THE MANDATORY REQUIREMENTS OF THE FEDERAL CONSISTENCY REGULATIONS (15 CFR PART 930, 43 FEDERAL REGISTER P.10510. MARCH 13,1978) INTO A REVIEW PROCESS THAT IS MODELED ON EXISTING STATE PERMIT REVIEW PROCESSES. RELEVANT FEDERAL REGULATIONS ARE CITED THROUGHOUT THE HANDBOOK. THESE GUIDELINES, WHICH PROVIDE CONSISTENCY REVIEW PROCEDURES FOR EACH OF THE FOUR CATEGORIES OF FEDERAL ACTIVITIES, HAVE BEEN DESIGNED WITH FOUR BASIC PRINCIPLES IN MIND: 1) ARRANGE EARLY CONSULTATION BETWEEN STATE AND FEDERAL OFFICIALS AND APPLICANTS; 2) AVOID UNNEEDED DUPLICATION OF INFORMATION; 3) KEEP INFORMATION REQUIREMENTS AT A MANAGEABLE LEVEL; 4) AVOID REDUNDANCY WHEN STATE COASTAL PERMITS ARE REQUIRED.

2239 NJ DEP

EASY ACCESS--A GUIDE THROUGH THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION [1980]

NJ DEP. TRENTON, NJ 30 PP

THIS DIRECTORY IS INTENDED TO HELP PUBLIC OFFICIALS AND CITIZENS LOCATE THE APPROPRIATE STAFF PERSON IN THE NJ DEP TO DEAL WITH ANY GIVEN PROBLEM. ALL PHONE NUMBERS HAVE AREA CODE 609 UNLESS OTHERWISE STATED.

2240 NJ DIVISION OF FISH. GAME AND SHELLFISH

REPORT ON OCEAN ALGAL BLOOM AND FISH KILL--JULY 27, 1976 [1976]

BASSETS CREEK RES STATION, NJ DIV OF FISH, GAME AND SHELLFISH, TRENTON, NJ 51 PP

THIS REPORT DESCRIBES THE 1976 FISH KILL. THE RESULTING DAMAGE AND ITS POSSIBLE CAUSES.

2241 NJ GEOLOGICAL SURVEY

LAND ORIENTED REFERENCE DATA SYSTEM (LORDS) [1974]

BULL 74. NJ GEOL SURVEY, TRENTON, NJ 151 PP

REGIONAL PLANS HAVE BEEN IN EXISTENCE FOR OVER FIFTY YEARS TO PROVIDE FACTUAL DATA ABOUT LAND USE AND SOCIO-ECONOMIC CONDITIONS UPON WHICH SOUND LONG RANGE DECISIONS FOR LAND USE AND DEVELOPMENT COULD BE BASED. THE GATHERING OF THE DATA, THE PREPARATION OF MAPS, THE PUBLICATION OF STATISTICS AND THE PREPARATION OF REPORTS ARE ALL TIME CONSUMING AND, WORST OF ALL, ONCE SET IN TYPE CANNOT BE EASILY CHANGED. IT IS THOUGHT THAT THE COMPUTER PROGRAM AND THE RELATED PAPERS, TAPES AND MACHINES WOULD ELIMINATE THIS DIFFICULTY IF ADEQUATE PROGRAMS COULD BE DEVELOPED. IT WOULD SEEM, HOWEVER, THAT IT WOULD BE MOST USEFUL TO THE CITIZENS OF NJ TO HAVE A BIT OF BOTH; MAPS AND PUBLICATIONS TO GIVE REGIONAL RELATIONSHIPS EVEN THOUGH FIXED IN TIME AND A FLEXIBLE SYSTEM OF SPECIFIC DATA RECOVERABLE FOR A SMALL AREA AND CAPABLE OF EASY UPDATE AND REVISION. IT IS BELIEVED THAT LORDS WITH ALL ITS PARTS MEETS THIS REQUIREMENT.

2242 NJ GEOLOGICAL SURVEY

LORDS-LAND ORIENTED REFERENCE DATA SYSTEM [1979]

BULL 74. NJ GEOL SURVEY. TRENTON, NJ NP

THE MANUAL, BULLETIN 74 HAS BEEN EXTENSIVELY REVISED. INSTEAD OF A SINGLE VOLUME COVERING THE ENTIRE STATE A SEPARATE SECTION IS AVAILABLE FOR EACH ATLAS SHEET. AN INDEX MAP OF THE COUNTIES AND MUNICIPALITIES ON THE ATLAS SHEET HAS BEEN SJPERIMPOSED WITH AN INDEX OF THE AREA COVERED BY EACH RECTANGULAR COORDINATE BLOCK. THIS IS FOLLOWED BY ABOUT THENTY ITEMS OF REFERENCE OR SUMMARY CONCERNING ENVIRONMENTAL FACTORS OR SOURCES OF INFORMATION NEEDED IN AN ENVIRONMENTAL ANALYSIS OF THE AREA COVERED BY THE ATLAS SHEET. A SPECIAL SECTION OF THE MANUAL ALSO CONTAINS A GAZETEER, SOME EXPLANATORY MATERIAL, AND VARIOUS APPENDICES IN REFERENCE TO THE ATLAS SHEETS. SOME ITEMS OF THE DESCRIPTIVE MATERIAL HAVE BEEN SUPPLEMENTED WITH SMALLER INDEX MAPS; SEVERAL ITEMS HAVE BEEN UPDATED AND SOME ITEMS HAVE BEEN ADDED, SUCH AS MAP EXCERPTS FOR EACH ATLAS SHEET FROM THE STATEWIDE REGIONAL MAPS COMPILED FROM THE ATLAS SHEET OVERLAYS.

2243 NJ MARINE SCIENCES CONSORTIUM

SEA GRANT COHERENT PROJECT--PROPOSAL FOR CONTINUING SUPPORT [1981]

NJ MARINE SCIENCES CONSORTIUM, FORT HANCOCK, NJ NP

A MULTIVOLUME COLLECTION OF PROPOSALS PRESENTED TO THE OFFICE OF SEA GRANT WITH DESCRIPTIONS OF PROJECTS TO BE CARRIED OUT FOR EACH OF THE GIVEN YEARS 1976-1981. PROJECT AREAS INCLUDE MARINE RESOURCES DEVELOPMENT, ENVIRONMENTAL RESERACH, ADVISORY

SERVICES, PROGRAM MANAGEMENT AND DEVELOPMENT. DESCRIPTIONS INCLUDE BUDGETS AND OBJECTIVES.

2244 NJ STATE ASSEMBLY

OIL FACTORIES IN RARITAN AND SANDY HOOK BAYS [1940]

NJSA SECS 23:9-108 TO 23:9-112

THESE SECTIONS DEAL WITH OIL FACTORIES IN RARITAN AND SANDY HOOK BAYS. SECTION 108 STATES THAT NO PERSON SHALL, FOR THE PURPOSE OF PRESSING OR OBTAINING OIL FROM FISH IN THESE WATERS OR ANY OF THE TRIBUTARIES THEREOF: (A) ERECT A FLOATING FACTORY, OR (B) PLACE ON BOARD A VESSEL WITH INTENT TO USE MACHINERY FOR SUCH PURPOSE. SECTION 109 FORBIDS THE FLOW INTO THESE WATERS OF ANY SOAP, PUHICE, DEBRIS, RESIDUUM OR REFUSE MATTER ARISING FROM THE PRESSING OR MANUFACTURING OF OIL FROM FISH. SECTION 110 PROVIDES THAT A VESSEL OR FLOATING ERECTION OF ANY KIND FOUND ON THESE WATERS CARRYING MACHINERY AND MATERIALS FOR MANUFACTURING OIL FROM FISH WILL BE FORFEITED TO THE STATE. SECTION 111 MAKES VIOLATION OF THESE PROVISIONS A MISDEMEANOR AND PUNISHABLE BY FINE OF \$200, OR IMPRISONMENT AT HARD LABOR NOT EXCEEDING ONE YEAR, OR BOTH. SECTION 112 ALLOWS THE INFORMER TO RECEIVE 1/2 OF ANY FINE AND FORFEITURE RECOVERED; THE OTHER 1/2 BEING PAID TO THE STATE WERESURY.

2245 NJ STATE ASSEMBLY

HUDSON RIVER BETWEEN NEW JERSEY AND NEW YORK [1940]

NJSA SECS 23:9-120

THIS SECTION DEALS WITH THE ARREST AND PUNISHMENT OF VIOLATIONS ON THE HUDSON RIVER BETWEEN NJ AND NY. IT PROVIDES THAT IF AND WHEN THE STATE OF NEW YORK SHALL ENACT A SIMILAR LAW FOR THE ARREST AND PUNISHMENT OF VIOLATIONS OF THE GAME OR FISH LAWS OF THIS OR THE STATE OF NEW YORK, COMMITTED OR ATTEMPED TO BE COMMITTED BY ANY PERSON OR PERSON FISHING IN THAT PORTION OF THE HUDSON RIVER LYING BETWEEN SUCH STATES, ANY GAME PROTECTOR, FISH WARDEN OR OTHER PERSON OF EITHER STATE, WHO IS AUTHORIZED TO MAKE ARRESTS FOR VIOLATIONS OF THE GAME AND FISH LAWS OF SUCH STATES, SHALL HAVE POWER AND AUTHORITY TO MAKE ARRESTS ON ANY PART OF SUCH RIVER BETWEEN SUCH STATES OR THE SHORE THEREOF AND TO TAKE THE PERSON OR PERSONS SO PERSECUTE SUCH PERSON OR PERSONS ACCORDING TO THE LAWS OF SUCH STATE.

2246 NJ STATE ASSEMBLY

FISH AND GAME LAWS--FISHWAYS IN DAMS [1940]

NJSA SECS 23:9-94 TO 23:9-97

THE FISH AND GAME BOARD IS HEREBY EMPOWERED TO EXAMINE ALL DAMS SPANNING THE RARITAN RIVER AND ITS TRIBUTARIES TO ASCERTAIN WHETHER SUCH DAMS HAVE GOOD AND EFFICIENT FISHWAYS CONSTRUCTED IN THEM. THE BOARD HAS THE POWER TO ORDER THE PARTY IN POSSESSION OF A DAM TO BUILD, REBUILD, OR REMODEL INEFFICIENT FISHWAYS. THE BOARD MUST GIVE EACH INDIVIDUAL SIXTY DAYS FROM RECEIPT OF NOTICE TO COMPLETE THE REQUIRED WORK. IF THE WORK ORDERED IS NOT DONE, THE BOARD MAY CAUSE IT TO BE DONE AT THE EXPENSE OF THE INDIVIDUAL AND MAY BRING ACTION IN A COURT OF LAW TO RECOVER THE COSTS INCURRED IN PERFORMING THE WORK.

2247 NJ STATE ASSEMBLY

LICENSE FOR TAKING OYSTERS OR CLAMS [1955]

NJSA SECS 50:2-1, 2-2, 50:2-6.1--6.2, 50:2-6.4

THE CITED SECTIONS REFER GENERALLY TO SHELLFISH AND SHELLFISHING. SECTIONS 50:2-1 THROUGH 50:2-6.4 REFER TO LICENSES FOR THE TAKING OF DYSTERS OR CLAMS. IN SECTION 60:2-1, THE STATUTE PROVIDES THAT A LICENSE IS REQUIRED TO CATCH OR TAKE DYSTER OR CLAMS FROM ANY NATURAL DYSTER OR CLAM GROUND IN NJ. SECTION 50:2-2 PROVIDES THAT LICENSES WILL BE ISSUED ONLY TO STATE RESIDENTS, EXCEPT THAT A LICENSE WILL BE ISSUED TO A NONRESIDENT FOR THE MONTHS OF JUN, JUL, AUG, AND SEPT. NY CITIZENS MAY HAVE A LICENSE TO TAKE CLAMS FROM RATITAN BAY, BUT NO NONRESIDENT LICENSE HOLDER MAY SELL THE DYSTERS OR CLAMS TAKEN UNDER THE LICENSE. SECTION 50:2-6 ALLOWS REVOCATION OF THE ABOVE MENTIONED LICENSE IF ANY PROVISION OF THIS TITLE OR ANY RULE OF REGULATION OF THE BOARD OF SHELL FISHERIES IS VIOLATED. SECTION 50:2-6.1 ALLOWS NO DREDGING OF SEA CLAMS WITHOUT A LICENSE. THIS LICENSE IS VALID ONLY FOR THE ATLANTIC OCEAN, AND NO BOAT OR VESSEL WILL BE LICENSED UNLESS ITS OWNER IS A RESIDENT OF NEW JERSEY; SECTION 50:2-6.2 PROVIDES THAT DREDGING MAY BE ONLY BY A SINGLE DREDGE ON EACH BOAT, AND THAT DREDGING MAY NOT BE DONE BETWEEN JUNE 1 AND SEPT 13 EACH YEAR WITHIN 1 MI OF MEAN LOW WATERMARK. FINALLY, SECTION 50:2-6.4 MAKES VIOLATORS OF THIS ACT, OR OF RULES AND REGULATIONS MADE AND PROMULGATED UNDER IT, LIABLE TO A FINE OF NOT LESS THAN \$50.00 NOR MORE THAN \$300.00 FOR THE FIRST OFFENSE, NOT LESS THAN \$100.00 NOR MORE THAN \$500.00 FOR ANY SUBSEQUENT OFFENSE. AND ANY PENALTY SHALL BE COLLECTED OR ENFORCED IN A SUMMARY MANNER. WITHOUT A JURY. IN ANY COURT OF COMPETENT JURISDICTION.

2248 NJ STATE ASSEMBLY

WATERS AND WATER SUPPLY [1966]

NJSA SECS 58: 22-1 TO 58:22-4

IN ORDER TO AUGMENT NATURAL WATER RESOURCES AND TO PROVIDE FOR ALONG-RANGE PROGRAM OF DEVELOPMENT THE DEPARTMENT OF CONSERVATION IS AUTHORIZED TO EXPEND \$39,500,000 FROM THE NEW JERSEY WATER BOND ACT, 1958, FOR: (1) A 55 BILLION GALLON RESERVOIR IN ROUND VALLEY, THE SOURCE OF WATERS FOR WHICH IS TO BE THE SOUTH BRANCH OF THE RARITAN RIVER OR THE DELAWARE RIVER; (2) A 10 BILLION GALLON RESERVOIR TO BE CONSTRUCTED BY DAMS ON SPRUCE RUN AND MULHOCKAWAY CREEK, TRIBUTARIES OF THE RARITAN RIVER; (3) CARRYING OUT A 10-YR PROGRAM OF GEOLOGICAL AND HYDROLOGICAL STUDIES TO DETERMINE GROUNDWATER RESOURCES; (4) DETERMINING THE FEASIBILITY OF UTILIZING GROUNDWATER STORAGE TO SUPPLEMENT RESERVOIR STORAGE AS A SOURCE OF WATER SUPPLY; (5) CONTINUING TO DESIGN MEANS OF IMPROVING STREAM FLOW IN THE RARITAN AND MILLSTONE WATERSHEDS AND TO AQUIRE REAL PROPERTY PURSUANT THERETO; AND (6) CONTINUING TO DESIGN MEANS TO IMPROVE STREAM FLOW IN ANY OTHER AREA.

2249 NJ STATE ASSEMBLY

PROTECTION OF THE PALISADES [1968]

NJSA SECS 12:3-29 TO 12:3-32

SECTION 12:3-29 PROVIDES THAT ANY LEASE OR GRANT OF SUBMERGED LAND BENEATH THE HUDSON RIVER ADJACENT TO THE PALISADES MUST CONTAIN TERMS PRESERVING THE UNIFORMITY AND CONTINUITY OF THE PALISADES. SECTION 12:3-30 ALLOWS BLASTING AND THE REMOVAL OF ROCK OR SIMILAR OPERATIONS BETWEEN THE PALISADES AND THE HIGHWATER MARK. WHEN DONE FOR IMPROVEMENT PURPOSES. SECTION 12:3-31 DEFINES THE BOUNDARIES OF THE PALISADES BY METES AND BOUNDS. SECTION 12:3-32 STATES THAT GRANTS MADE SOUTH OF THE PALISADES OR BEFORE 1898 ARE NOT AFFECTED BY SECTION 12:3-29.

2250 NJ STATE ASSEMBLY

HUDSON RIVER, NEW YORK HARBOR AND SANDY HOOK BAY [1968]

NJSA SECS 23:9-122 TO 23:9-125

THESE SECTIONS PERTAIN TO THE TAKING OF STURGEON IN THE HUDSON RIVER, NEW YORK HARBOR AND SANDY HOOK BAY. SECTION 122 PROVIDES THAT STURGEON TAKEN FROM THIS WATER MUST BE AT LEAST 22 INCHES IF THE SHORT-NOSED VARIETY AND 42 INCHES IF A SEA STURGEON. ANY STURGEON LESS THAN THESE LENGTHS MUST BE RETURNED IMMEDIATELY TO THE WATER. SECTION 123 PROHIBITS POSSESSION OR SALE OF

STURGEON LESS THAN THE LENGTH HEREIN PRESCRIBED. SECTION 124 PROVIDES THE TERM STURGEON SHALL INCLUDE FISH COMMONLY KNOWN AS PELICAN AND PINKSTER. SECTION 125 SPECIFIES THE FINE FOR VIOLATION OF THE PROVISIONS OF THIS ACT TO BE UP TO \$10 FOR EACH AND EVERY FISH SO CAUGHT AND HAD IN POSSESSION.

2251 NJ STATE ASSEMBLY

ESTABLISHMENT OF STATE CONTROL OVER SUBMERGED LANDS [1968]

NJSA SECS 12:3-1 TO 12:3-4

SECTIONS 12:3-1 TO 12:3-4 PROVIDE FOR EXAMINATION OF THE LIMITS OF THE STATE'S CONTROL OVER LAND UNDER TIDAL WATERS, AND FOR FIXING CERTAIN LIMITATIONS ON PRIVATE USE. SECTION 12:3-1 PROVIDES FOR APPOINTMENT OF A BOARD OF COMMISSIONERS TO SURVEY THE LAND UNDER NEW YORK BAY, THE HUDSON RIVER, KILL VAN KULL, NEWARK BAY, ARTHUR KILL, RARITAN BAY AND PARTS OF THE DELAWARE RIVER; TO ASCERTAIN THE RIGHTS OF THE STATE THERETO; AND TO FIX EXTERIOR LIMITS FOR PERMANENT OBSTRUCTIONS. SECTION 12:3-2 AUTHORIZES THE ESTABLISHMENT OF EXTERIOR BULKHEAD AND PIER LINES IN HUDSON RIVER TIDEWATERS, NEW YORK BAY, AND KILL VAN KULL AS REPORTED BY THE COMMISSION, SUBJECT TO SECTION 12:3-13 OR A SUBSEQUENT ACT. SECTION 12:3-3 PROHIBITS FILLING OR BUILDING BEYOND ESTABLISHED BULKHEAD LINES. PIERS MUST BE BUILT ACCORDING TO SIZE LIMITS, ALLOWING FREE WATER PASSAGE. SECTION 12:3-4 REPEALS THE WHARF ACT OF 1851, RESTORING, HOWEVER, NO ALLEGED RIGHT TO FILL LAND. ONLY THE DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT MAY ALLOW RECLAIMATION OF, AND BUILDING ON, LAND UNDER TIDEWATERS, UNLESS THE RIGHT WAS GRANTED BEFORE 1891. LATER GRANTS ARE REVOCABLE.

2252 NJ STATE ASSEMBLY

SURVEY OPERATIONS AND CONTROLS BY THE BOARD OVER SUBMERGED LANDS [1968]

NJSA SECS 12:3-13 TO 12:3-20

SECTIONS 12:3-13 TO 12:3-20 CONCERN STATE CONTROL OF BASINS, RIGHTS-OF-WAY, SURVEYING AND SETTING PRICES FOR SUBMERGED LANDS. SECTION 12:3-13 PERMITS THE COMMERCE AND NAVIGATION BOARD TO ALTER PIER LINES, BASINS, OR LINES OF SOLID FILLING IN NEW YORK BAY OR THE HUDSON RIVER. CHANGES SHALL BE FILED WITH THE SECRETARY OF STATE. SECTION 12:3-15 STATES THAT THE BOARD MAY SELL TO RIPARIAN OWNERS RIGHTS TO USE BASINS FOR DOCKING, RESERVING THE BASINS AS PUBLIC. SECTION 12:3-16 PROVIDES FOR THE FIXING OF PRICES FOR LAND, NOW OR FORMERLY SUBMERGED. SECTION 12:3-17 PERMITS THE BOARD SEXTENSION OF ITS SURVEYS TO ALL STATE TIDEWATERS, AS REQUESTED BY RIPARIAN OWNERS. UNDER SECTION 12:3-18, WHERE A RIGHT-OF-WAY SEPARATES THE UPLAND OF A RIPARIAN OWNER FROM THE TIDEWATER, HE SHALL STILL BE A RIPARIAN OWNER FOR PURPOSES OF STATE GRANTS. SECTION 12:3-19 PERMITS THE BOARD TO ESTABLISH EXTERIOR LINES AROUND ISLANDS, REEFS, AND SHOALS IN TIDAL WATERS, PROHIBITING OBSTRUCTIONS BEYOND THEM. NO GRANT PRIOR TO 1891 IS AFFECTED. SECTION 12:3-20 ALLOWS SUBMERGED LANDS AROUND ISLANDS, REEFS, OR SHOALS TO BE SOLD BY THE BOARD WITH THE GOVERNOR'S CONSENT.

2253 NJ STATE ASSEMBLY

RIPARIAN LANDS [1968]

NJSA SECS 12:3-1, 12:3-71

THE NJ LEGISLATURE HAS GIVEN THE COMMERCE AND NAVIGATION BOAPD AUTHORITY OVER ALL SUBMERGED LANDS WITHIN CERTAIN EXTERIOR BULKHEAD AND PIER LINES BOUNDING THE TIDEWATERS ADJACENT TO THE NJ COASTLINE. THE BOARD NOW HAS THE POWER TO MAKE SURVEYS.

LEASES AND GRANTS OF SUBMERGED LANDS CONTROLLED BY THE STATE. NAVIGABLE WATERS BEYOND THE EXTERIOR LINES ARE PROTECTED. GRANTS OF SUBMERGED LANDS MAY BE MADE BY THE BOARD TO POLITICAL SUBDIVISIONS WITHIN THE STATE. CONFIRMATORY LEASES AND GRANTS MAY BE MADE TO RIPARIAN OWNERS CLAIMING TITLE UNDER PRIOR AUTHORITY. THE STATE MAY RE-ENTER LAND HELD BY A DELINQUENT LESSEE AS PROVIDED IN THE ACT. MOORING OF BOATS TO RIPARIAN LANDS IS RESTRICTED AND VIOLATIONS MAY BE ACTED UPON BY THE BOARD. THE STATE

WAY ACQUIRE RIPARIAN LANDS AND SUBMERGED LANDS UNDER THE TIDEWATER. THE STATE, THROUGH THE COMMERCE AND NAVIGATION BOARD, MAY LEASE THESE LANDS FOR PURPOSES OF COMMERCIAL ENTERPRISES.

2254 NJ STATE ASSEMBLY

SHAD FISHING ON HUDSON RIVER [1968]

NJSA SECS 23:9-14, 23:9-116 TO 23:9-119(1940); 23:9-115 (SUPP 1968)

THESE SECTIONS PERTAIN TO SHAD FISHING ON THE HUDSON RIVER. SECTION 114 MAKES IT UNLAWFUL FOR ANY PERSON TO FISH WITH. FIX, FASTEN, DRAW OR DRIFT ANY NET, OF WHATEVER DESCRIPTION, FOR THE PURPOSE OF TAKING SHAD IN THE HUDSON RIVER WITHIN NJ WITHOUT A LICENSE TO DO SO. SECTION 115 PROVIDES THAT AFTER PAYMENT OF \$25 TO THE BOARD OF FISH AND GAME COMMISSIONERS FOR EACH NET. THE BOARD MAY ISSUE A LICENSE TO FISH FOR SHAD IN THE HUDSON RIVER FOR THE PERIOD MAR 15-JUN 15. NO SHAD SHALL BE TAKEN FROM FRIDAY NOON UNTIL SATURDAY MIDNIGHT. ANY NET SET PRIOR TO FRIDAY NOON MAY BE LIFTED AT THE NEXT HIGH WATER. SECTION 116 PROVIDES THAT NO NEI SHALL BE SET WITHIN 1500 FT OF ANY OTHER LICENSES NET IN THE ABOVE WATERS. THE NETS SHALL BE NUMBERED AS MAY BE DETERMINED BY THE BOARD. SECTION 117 MAKES IT UNLAWFUL FOR ANY PERSON TO TAKE FISH OUT OF ANY NET WITHOUT THE PERMISSION OF THE OWNER OF THE NET, AND FURTHER DECLARES IT TO BE UNLAWFUL TO WILLFULLY CUT, BREAK, OR MUTILATE ANY NET SET IN THE ABOVE MENTIONED WATERS. SECTION 118 PROVIDES THAT ALL LICENSES ISSUED UNDER THIS ARTICLE SHALL EXPIRE ON DEC 31 OF THE YEAR ISSUED. SECTION 119 MAKES ANY PERSON VIOLATING THIS ACT SUBJECT TO A FINE OF \$20 FOR EACH OFFENSE.

2255 NJ STATE ASSEMBLY

REPORT OF THE SPECIAL ASSEMBLY COMMITTEE TO THE NEW JERSEY GENERAL ASSEMBLY (PURSUANT TO ASSEMBLY RESOLUTION NO 32, JUNE 28, 1976) [1977]

NJ GENERAL ASSEMBLY, TRENTON, NJ 47 PP

ON JUN 28, 1976, THE NJ GENERAL ASSEMBLY UNANIMOUSLY PASSED ASSEMBLY RESOLUTION NUMBER 32, CREATING MA SPECIAL COMMITTEE OF THE GENERAL ASSEMBLY TO MEET WITH REPRESENTATIVES OF THE ASSEMBLY OF THE STATE OF NEW YORK. TO RECOMMEND APPROPRIATE MEASURES TO DEAL WITH THE POLLUTION OF THE COASTAL WATERS OF THE TWO STATES. THE COMMITTEE HAS BEEN CHARGED WITH THE TASK OF CONDUCTING AN INVESTIGATION INTO THE CAUSES AND SOURCES OF THE FOULING AND POLLUTION OF THE ATLANTIC OCEAN THAT HAS RESULTED IN BEACH CLOSINGS, ALGAL BLOOMS, AND RELATED MATTERS, AND TO MAKE WHATEVER RECOMMENDATIONS IT DEEMS APPROPRIATE TO ELIMINATE SUCH FOULING AND POLLUTION. FURTHER, THE CJMMITTEE IS REQUIRED TO ACCOMPANY SUCH RECOMMENDATIONS WITH ANY LEGISLATIVE BILLS WHICH IT MAY DESIRE TO RECOMMEND FOR ADOPTION BY THE LEGISLATURE. THE COMMITTEE HAS CONCERNED ITSELF PRIMARILY WITH THE PROBLEM OF OCEAN SLUDGE DUMPING, ALTHOUGH OTHER ASPECTS OF THE GENERAL MATTER OF OCEAN POLLUTION HAVE BEEN TAKEN INTO CONSIDERATION. HENCE, THIS REPORT WILL NECESSARILY CONCENTRATE ON THE PRACTICE OF OCEAN SLUDGE DISPOSAL AND THE VARIOUS LAND-BASED ALTERNATIVES WHICH HAVE COME TO LIGHT DURING THE COURSE OF THE COMMITTEE'S INVESTIGATION. THIS REPORT IS, OF COURSE, THE CULMINATION OF ITS WORK, ALONG WITH THE ACCOMPANYING RECOMMENDATIONS FOR FUTURE FEDERAL AND STATE LEGISLATIVE AND ADMINISTRATIVE ACTION.

2256 NJ WATER RESOURCES RESEARCH INSTITUTE

ANNUAL REPORT FISCAL YEAR FROM 1966-PRESENT [1966]

RUTGERS UNIV. NEW BRUNSWICK, NJ

THIS ANNUAL REPORT INCLUDES PROJECTS COMPLETED DURING THE GIVEN FISCAL YEAR, CONTINUING ALLOTMENT FUND PROJECTS, OTHER CONTINUING PROJECTS, NEW PROJECTS, TRAINING FUNCTIONS, AND PROGRAM-RELATED PUBLICATIONS.

SUMMARY OF STUDIES MADE RELATING TO NL OCEAN DISPOSAL SITE [1978]

NL INDUSTRIES, SAYREVILLE, NY 20 PP

A SUPERIOR METHODOLOGY TO ESTIMATE THE IMPACT OF AN OCEAN DISPOSAL OPERATION ON THE MARINE ENVIRONMENT CONSISTS OF EXTENSIVE BIOSURVEYS, SUPPLEMENTED BY LABORATORY STUDIES, OF THE DISPOSAL OPERATION AFTER THE SITE HAS BEEN IN USE FOR A NUMBER OF YEARS-SUCH SURVEYS AND STUDIES HAVE BEEN MADE OF NL'S DISPOSAL SITE, AND ARE REPORTED HEREIN. THE CONCLUSION REACHED IS THAT THERE IS MINIMAL, OR NO, EFFECT OF THE ACID WASTE DISPOSAL ON THE MARINE ENVIRONMENT. THERFORE, NL'S OCEAN DISPOSAL OPERATION MEETS THE REQUIREMENTS OF THE US EPA OCEAN DUMPING CRITERIA, WITH RESPECT TO HAVING MINIMAL, AND THEREFORE ACCEPTABLE IMPACT ON THE MARINE ENVIRONMENT.

2258 NMFS

THE EFFECTS OF WASTE DISPOSAL IN THE NEW YORK BIGHT. SECTION 5: CHEMICAL STUDIES [1972]

FINAL REPORT. SANDY HOOK SPORTS FISHERIES MARINE LAB, NMFS, HIGHLANDS, NJ 185 PP NTIS-AD-739 535

SAMPLES OF WATER, SEDIMENTS, AND ORGANISMS WERE COLLECTED FROM THE NEW YORK BIGHT AND ANALYZED TO DETERMINE THE DISTRIBUTION AND FATE OF SEWAGE SLUDGE, DREDGING SPOILS, AND ACID WASTES DISPOSED. SAMPLES WERE COLLECTED DURING 27 CRUISES FROM THE SURFACE, MID-DEPTH, AND BOTTOM IN AREAS WITH DEPTHS OF 23 TO 27 M. WATER SAMPLES WERE COLLECTED WITH A VAN DORN SAMPLER AND DIVIDED INTO SUBSAMPLES FOR ANALYSIS OF IRON, CHLOROPHYLL A, PHOSPHATE, NITRATE AND DO. SUBSAMPLES WERE STABILIZED WHERE NECESSARY. TEMPERATURE, SALINITY, TURBIDITY, AND PH WERE ALSO MEASURED. SEDIMENT SAMPLES WERE COLLECTED WITH PLASTIC PHLEGER CORING TUBES FROM THE UPPER 5 CM OF A SMITH-MCINTYRE GRAB, STORED IN PLASTIC BAGS, AND FROZEN FOR LATER ANALYSIS OF PETROCHEMICALS, COPPER, LEAD, CHROMIUM, MERCURY, PESTICIDE METABOLITES, AND DETERMINATION OF REDOX POTENTIAL. POPULATIONS OF BENTHIC ORGANISMS AND ZOOPLANKTON WERE ALSO DETERMINED. THE METHODS EMPLOYED FOR THE ANALYSES ARE DESCRIBED. FROM THE DATA, IT WAS CONCLUDED THAT: "(1) ACID WASTES TEND TO REMAIN IN A DISTINCT PATTERN AFTER DISPOSAL, (2) SEWAGE SLUDGE RESULTS IN TURBID, PHOSPHOROUS-RICH WATER CONTAINING PARTICULATE MATTER, (3) THERE WAS NO DEMONSTRABLE INCREASE IN PRIMARY PRODUCTIVITY AS A RESULT OF NUTRIFICATION, (4) BACTERIOLOGICAL ACTIVITY IN SLUDGE DEPLETES THE OVERLYING WATERS OF OXYGEN TO LEVELS INSUFFICIENT TO SUPPORT LIFE, (5) DREDGING SPOILS ON BOTTOM SEDIMENTS CONTAIN ENOUGH PETROLEUM TO HARM BOTTOM-DWELLING ORGANISMS, AND (6) THE HEAVY METALS, CU, PB, CR, AND HG, ORGINATING IN SEWAGE AND DREDGING SPOILS, WERE FOUND IN WATER, SEDIMENTS, AND ANIMAL TISSUES AT TOXIC LEVELS.

2259 NMFS

THE EFFECTS OF WASTE DISPOSAL IN THE NEW YORK BIGHT. SECTION 4: FINFISH STUDIES [1972]

FINAL REPORT. SANDY HOOK SPORTS FISHERIES MARINE LAB, NMFS, HIGHLANDS, NJ 24 PP NTIS-AD-739 534

A STUDY OF THE NEW YORK BIGHT WAS UNDERTAKEN TO DETERMINE THE EFFECTS OF SEWAGE SLUDGE ON BENTHIC FISHES. SEVERAL SAMPLING STATIONS WERE SELECTED FOR COMPARABILITY OF DEPTH TO STATION 70, THE DESIGNATED SEWAGE SLUDGE DISPOSAL SITE. GROUNDFISH WERE COLLECTED AT FREQUENT INTERVALS IN AND BEYOND THE AREA IMMEDIATELY AFFECTED BY THE SLUDGE USING TWO OTTER TRAVES WHICH WERE TOWED FOR 15 MINUTES AT 3 KNOTS. CAPTURED FISH WERE SORTED TO SPECIES, COUNTED AND A SUBSAMPLE MEASURED FOR TOTAL LENGTH. A SAMPLE OF 10 TO 20 YELLOWITAIL FLOUNDER (LIMANDA FERRUGINEA), WINTER FLOUNDER (PSEUDOPLEURONECTES AMERICANUS), LING (UROPHYCIS CHUSS), AND WHITING (MERLUCCIUS BILINEARIS), EACH WAS PRESERVED FOR ANALYSIS OF STOMACH CONTENTS. IDENTIFIABLE CONTENTS WERE ENUMERATED BY SPECIES WHENEVER POSSIBLE. WHOLE FISH WERE FROZEN AND SENT TO SEVERAL LABORATORIES FOR ANALYSIS OF HEAVY METALS AND PESTICIDES. FISH ACTIVELY FEED THROUGHOUT THE YEAR IN AND AROUND THE AREA OF SEWAGE SLUDGE DISPOSAL AS EVIDENCED BY THE INGESTED CARBON—RICH AGGREGATE PARTICLES, "BAND—AIDS", HAIR, AND CIGARETTE FILTERS. HEAVY METAL ANALYSIS OF FISH COLLECTED IN THIS AREA SHOWED ELEVATED LEVELS OF NI, CR, AND PB; IN SEVERAL FISH THE LEVELS EXCEEDED THE STANDARDS OF THE FEDERAL WATER POLLUTION CONTROL ADMINISTRATION (1968) DESIGNATED AS NORMALS FOR MARINE ANIMALS.

2260 NMFS

THE EFFECTS OF WASTE DISPOSAL IN THE NEW YORK BIGHT. SECTION 3: ZOOPLANKTON STUDIES [1972]

FINAL REPORT. SANDY HOOK SPORTS FISHERIES MARINE LAB, NMFS, HIGHLANDS, NJ 915 PP NTIS-AD-739 533

A COMPARATIVE ZOOPLANKTON STUDY WAS UNDERTAKEN AS PART OF A MULTIDISCIPLINARY STUDY OF THE EFFECTS OF OFFSHORE WASTE DISPOSAL ON THE WATERS OF THE NEW YORK BIGHT. THE EMPHASIS HAS BEEN PLACED ON COPEPODS BECAUSE THEY OCCUR IN THIS AREA THE YEAR ROUND AND ARE USUALLY THE PRINCIPAL CONSTITUENT OF ZOOPLANKTON. SAMPLES WERE COLLECTED BY NET TOWING (0.5M DIAMETER, N.). & MESH) AT SURFACE, MID-, AND BOTTOM DEPTHS AT 15 STATIONS AND PRESERVED IN 4% BUFFERED FORMALDEHYDE. LABORATORY COUNTS WERE MADE BY DILUTING THE SAMPLES TO A KNOWN VOLUME, MIXING UNTIL A UNIFORM SUSPENSION OCCURRED, AND THEN REMOVING 1 ML SUBSAMPLES UNTIL AT LEAST 300 COPEPODS WERE TALLIED AND IDENTIFIED. SETTLED AND DISPLACEMENT VOLUMES WERE MEASURED; ORGANISMS GREATER THAN 15 MM IN DIAMETER WERE NOT INCLUDED IN THE DISPLACEMENT VOLUME. IN CONJUNCTION WITH THE ZOOPLANKTON SAMPLES, TOTAL IRON, VITRATE AND THREE KINDS OF PHOSPHATES WERE MEASURED TO TRACE MOVEMENTS OF SEWAGE SLUPGE AND INDUSTRIAL ACID WASTES. OF THE SAMPLES COLLECTED (JANUARY 1969-APRIL 1970), THE AVERAGE NUMBER OF COPEPODS/M3 RANGED FROM 700 TO 41,000 AND WAS WITHIN THE RANGE REPORTED IN OTHER MIDDLE ATLANTIC COASTAL WATERS. STATISTICAL ANALYSES OF THE SAMPLES SHOWED A VERTICAL DISTRIBUTION PATTERN FOR THE ORGANISMS. THE DISPLACEMENT VOLUME OF OF SEWAGE, TRACE AMOUNTS TO 9.3 ML/CU, APPARENTLY HAD NO SHORT TERM EFFECTS ON THE NUMBER OF ORGANISMS FOUND; HONEVER, MOST WERE LIKELY TO BE KILLED IN ACID WATER OF CONCENTRATIONS 1: 1000 OR GREATER.

2261 NMFS

THE EFFECTS OF WASTE DISPOSAL IN THE NEW YORK BIGHT--FINAL REPORT [1972]

SANDY HOOK SPORT FISHERIES MARINE LAG. NMFS. HIGHLANDS. NJ 273 PP NTIS-AD-739 532

RESULTS OF STUDIES TO EVALUATE THE EFFECTS OF SOLID WASTE DISPOSAL ON THE MARINE ENVIRONMENT OF THE NEW YORK BIGHT ARE PRESENTED. SECTION TWO CONTAINS A STUDY OF THE DISTRIBUTION OF THE BENTHIC METOFAUNA AND MACROFAUNA RELATIVE TO THE WASTE DISPOSAL, BENTHIC MICROGIOLOGY, PATHOLOGICAL EFFECTS OF WASTES ON LARGER BENTHIC CRUSTACEANS AND AN INVESTIGATION OF THE BASIC CHEMICAL VARIABLES AFFECTING SPECIES DIVERSITY.

2262 NMFS

THE EFFECTS OF WASTE DISPOSAL IN THE NEW YORK BIGHT-SUMMARY FINAL REPORT [1972]

NMFS: HIGHLANDS: NJ 70 PP

A COMPREHENSIVE ANALYSIS IS PRESENTED OF THE EFFECTS OF WASTE DISPOSAL IN THE NEW YORK BIGHT. THE SUBJECTS INCLUDED BIOLOGICAL CHARACTERISTICS; PHYSICAL AND CHEMICAL PROPERTIES OF BOITOM SEDIMENTS AND WATER-BORNE PARTICLES; PHYSICAL AND CHEMICAL PROPERTIES OF THE MARINE ENVIRONMENT; AND SOURCES, DISPOSAL, AND MOVEMENT OF WASTE MATERIALS. EACH OF THESE SUBJECTS WAS FURTHER BROKEN DOWN INTO SUBHEADINGS INCLUDING APPROPRIATE LITERATURE SURVEYS, FIELD ACTIVITIES, AND LABORATORY STUDIES. THE COMPLETE FINAL DATA REPORT INCLUDES NINE SECTIONS: INTRODUCTION, BENTHIC STUDIES, ZOOPLANKTON STUDIES, FINFISH STUDIES, CHEMICAL STUDIES, SURFACE AND BOTTOM AATER MOVEMENT, CONCLUSIONS, LITERATURE CITED, AND A BIBLIOGRAPHY. PRESENT DISPOSAL PRACTICES HAVE: (1) DEGRADED THE MARINE BENTHIC COMMUNITIES OF THE NEW YORK BIGHT, (2) PRODUCED LARGE AMOUNTS OF FLOATABLE MATERIALS, AND (3) RESULTED IN DETERIORATED WATERS AND MARINE SEDIMENTS.

2263 NMFS

THE EFFECTS OF WASTE DISPOSAL IN THE NEW YORK BIGHT. SUMMARY FINAL REPORT [1972]

INFORMAL REP 2. SANDY HOOK SPORTS FISHERIES MARINE LAB, NMFS, HIGHLANDS, NJ 73 PP NTIS-AD-743 936

RESULTS ARE SUMMARIZED OF STUDIES CONDUCTED TO OBTAIN DATA TO ASSESS THE EFFECTS OF WASTE DISPOSAL ON THE MARINE ENVIRONMENT OF THE NEW YORK BIGHT.

2264 NMFS

THE EFFECTS OF WASTE DISPOSAL IN THE NEW YORK BIGHT. SECTIONS 7. 8. AND 9 [1972]

FINAL REP. SANDY HOOK SPORTS FISHERIES MAINE LAB, NMFS, HIGHLANDS, NJ 128 PP NTIS-AD-739 537

THESE ARE THE LAST THREE SECTIONS OF THE FINAL REPORT, DESCRIBING RESULTS OF STUDIES CONDUCTED TO OBTAIN DATA TO ASSESS THE EFFECTS OF WASTE DISPOSAL ON THE MARTIME ENVIRONMENT OF THE NEW YORK BIGHT: SECTION NO 7, CONCLUSIONS; SECTION NO 8, LITERATURE CITED; SECTION NO 9, BIBLIOGRAPHY.

2265 NMFS

PROCEEDINGS OF A WORKSHOP ON EGG. LARVAL AND JUVENILE STAGES OF FISH IN ATLANTIC COAST ESTUARIES [1973]

TECH PUB 1. MMFS, HIGHLANDS, NJ 338 PP

PAPERS COLLECTED FROM WORKSHOP HELD AT BEARS BLUFF LABORATORIES, SC IN 1968 INCLUDE SUCH MAJOR TOPICS AS RESEARCH TECHNIQUES, ESTUARINE HABITATS, DISTRIBUTION STUDIES, ENVIRONMENTAL ADAPTATIONS, RANGE AND DISTRIBUTION OF SOME ESTUARINE FISHES.

2266 NMFS

PHYSIOLOGICAL RESPONSE OF THE CUNNER, TAUTOGOLABRUS ADSPERSUS, TO CADMIUM [1974]

TECH REP NMFS-SSRF-681. NOAA, NMFS. SEATTLE, WA 35 PP

SIX ARTICLES ARE BROUGHT TOGETHER IN THIS REPORT ON THE RESPONSE OF THE CUNNER TO CADMIUM. THE CUNNER WAS EXPOSED TO SIX CONCENTRATIONS OF CADMIUM, AS CADMIUM CHLORIDE, FOR 96 HR. AT THE END OF THIS EXPOSURE PERIOD, TESTS OF BLOOD SERUM OSMOLALITY AND GILL TISSUE OXYGEN CONSUMPTION WERE PERFORMED. HIGH LEVELS OF THIS METAL RESULTED IN ABNORMALLY HIGH SERUM OSMOLALITY, AND AN EXPOSURE AS LOW AS 3 PPM REDUCED THE NORMAL RATE OF OXYGEN CONSUMPTION. THE HISTOPATHOLOGICAL EFFECTS OF ACUTE EXPOSURE OF THE CUNNER TO CADMIUM WERE MANIFESTED IN THE KIDNEY, INTESTINE, POIETIC TISSUE, EPIDERMIS AND GILL. THE RESULTS IMPLICATE RENAL FAILURE AS THE PROBABLE CAUSE OF DEATH SUBSEQUENT TO ACUTE EXPOSURE TO CADMIUM. CLEARANCE OF INTRACARDIALLY INJECTED BACTERIA FROM THE BLOOD OF CUNNERS EXPOSED TO 12 PPM CADMIUM WAS EXAMINED. THE RATE OF BACTERIAL UPTAKE IN THE CELLS OF THE LIVER AND SPLEEN WAS INCREASED, BUT THE BACTERIAL DEATH RATE WITHIN THESE CELLS WAS DECREASED. THE ACTIVITY OF TWO LIVER ENZYMES CHANGED SIGNIFICANTLY WITH EXPOSURE TO CADMIUM. CHEMICAL ANALYSES WERE MADE FOR UPTAKE AND CADMIUM RESIDUES WERE FOUND IN THE GILLS AND BLOOD OF FISH HELD IN CLEAN SEAWATER FOR 6 WK AFTER EXPOSURE TO CADMIUM, AS COMPARED TO FISH SACRIFICED IMMEDIATELY AFTER EXPOSURE.

2267 NOAA

DISASTER SURVEY TEAM ON THE EVENTS OF AGNES FINAL REPORT. A REPORT TO THE ADMINISTRATOR [1973]

' NOAA, BOULDER, CO 53 PP NTIS-PB80-131 626

HURRICANE AGNES, THE FIRST ATLANTIC HURRICANE OF THE 1972 SEASON CAUSED WHAT HAS BEEN TERMED THE GREATEST NATURAL DISASTER EVER TO BEFALL THIS NATION. FORMED FROM A DEPRESSION OFF THE COAST OF YUCATAN ON JUNE 15, THE STORM DEVELOPED AND MOVED SLOWLY NORTHWARD, DUMPING LARGE AMOUNTS OF RAIN ON WESTERN CUBA AND SPAWNING TORNADOES OVER THE FLORIDA PENINSULA AND KEYS. WHEN IT

CROSSED THE FLORIDA COAST NEAR PANAMA CITY ON JUNE 19, AGNES HAD DEGENERATED TO A TROPICAL STORM. THE STORM THEN MOVED OVER GA AND OUT INTO THE ATLANTIC, UP THE COAST TO NY, AND WESTWARD OVER NY AND PA. ALONG THE WAY, AGNES REGENERATED IN STRENGTH, PRODUCED EXCESSIVE AMOUNTS OF PRECIPITATION, AND CAUSED RIVERS AND STREAMS FROM THE CAROLINAS TO NEW YORK TO RISE TO RECORD OR NEAR-RECORD STAGES. A RECORD \$3.5 BILLION IN PROPERTY DAMAGE WAS CAUSED BY FLOODS AND FLASH FLOODS, AND 118 PERSONS WERE KILLED.

2268 NOAA

THE CHEMICAL, PHYSICAL, AND SEDIMENTARY OCEANOGRAPHIC ASPECTS OF THE NEW YORK BIGHT APEX AS THEY RELATE TO THE OFFSHORE DUMPING OF WASTES-- AN INTERIM REPORT [1974]

AOML, NOAA, MIAMI, FL 124 PP

SEWAGE CONTRIBUTES A SIGNIFICANT AMOUNT OF CARBOHYDRATES TO SEDIMENT ORGANIC MATTER. DATA INDICATE THAT LONG ISLAND MUD IS POSSIBLY DERIVED IN PART FROM SEWAGE. THERE IS A SEAWARD FLOW OF BRACKISH WATER IN SURFACE LAYERS AND RETURN FLOW OF EXTERNAL WATER IN BOTTOM LAYERS. THERE EXISTS A CLOCKWISE EDDY OUTSIDE THE RIVER INFLUENCED REGION. 450 METRIC TONS SEWAGE SLUDGE ARE DUMPED PER DAY. NORTHWEST OF DUMPSITE, CHRISTIAENSEN BASIN IS A NATURAL ZONE OF MUD DEPOSITION AND IS SIGNIFICANTLY CONTAMINATED WITH SEWAGE SLUDGE.

2269 NOAA

BIBLIOGRAPHY OF THE NEW YORK BIGHT. PART 1--LIST OF CITATIONS [1974]

NOAA, ROCKVILLE, MD 194 PP NTIS-COM-74-50357

THE NEW YORK BIGHT EXTENDS FROM MONTAUK POINT, LONG ISLAND, TO CAPE MAY, NJ, AND FROM THE COASTLINE TO THE EDGE OF THE CONTINENTAL SHELF. THIS BIBLIOGRAPHY INCLUDES LITERATURE ON MARITIME LAW, ADMINISTRATION, AIR POLLUTION, METEOROLOGY, SOLID WASTE MANAGEMENT, AND NAVIGATION. IT ALSO INCLUDES LITERATURE OF LONG ISLAND SOUND AND THE HYDROLOGY AND REGIONAL GEOLOGY OF THE NEW YORK-NEW JERSEY COASTAL ZONE. THE BIBLIOGRAPHY CONSISTS OF TWO PARTS: A LIST OF CITATIONS OF PUBLISHED INFORMATION, AND A SET OF INDEXES (SEPARATELY BOUND). SPECIFIC SUBJECTS COVERED ARE: AQUATIC BIOLOGY; OCEANOGRAPHY; METEOROLOGY AND CLIMATOLOGY; GEOLOGY; LAW; ADMINISTRATION; SOCIOLOGY; AIR, WATER, SOLID MASTE AND THERMAL POLLUTION; INDUSTRIES; ENERGY; MINERAL EXTRACTION; TRANSPORTATION; FISHERIES AND RECREATION. IT COVERS THE PERIOD FROM 1951 THROUGH APRIL 1973.

2270 NOAA

BIBLIOGRAPHY OF THE NEW YORK BIGHT. PART 2--INDEXES [1974]

. NOAA, ROCKVILLE, MD 495 PP NTIS-COM-74-50357

THE NEW YORK BIGHT EXTENDS FROM MONTAUK POINT, LONG ISLAND, TO CAPE MAY, NJ. AND FROM THE COASTLINE TO THE EDGE OF THE CONTINENTAL SHELF. THIS BIBLIOGRAPHY INCLUDES LITERATURE ON MARITIME LAW, ADMINISTRATION, AIR POLLUTION, METEOROLOGY, SOLID WASTE MANAGEMENT, AND NAVIGATION. IT ALSO INCLUDES LITERATURE OF LONG ISLAND SOUND AND THE HYDROLOGY AND REGIONAL GEOLOGY OF THE NEW YORK-NEW JERSEY COASTAL ZONE. THE BIBLIOGRAPHY CONSISTS OF TWO PARTS: A SET OF INDEXES, AND A LIST OF CITATIONS OF PUBLISHED INFORMATION (SEPARATELY BOUND). SPECIFIC SUBJECTS COVERED ARE: AQUATIC BIOLOGY; OCEANOGRAPHY; METEOROLOGY AND CLIMATOLOGY; GEOLOGY; LAW; ADMINISTRATION; SOCIOLOGY; AIR, WATER, SOLID WASTE AND THERMAL POLLUTION; INDUSTRIES; ENERGY; MINERAL EXTRACTION; TRANSPORTATION; FISHERIES AND RECREATION.

DESCRIPTIVE REPORT--HYDROGRAPHIC : HUDSON CANYON NEW YORK BIGHT [1975]

NOAA. BOULDER. CO 45 PP

THIS IS A SURVEY OF AN AREA 70 NAUTICAL MILES FROM THE NJ COAST FROM AUG AND SEPT OF 1975 ON THE NOAA SHIP WHITING. HYDROGRAPHY WAS OBTAINED BY ECHO SOUNDERS OF 716 SQ MI OF BOTTOM. THIS SURVEY IS RECOMMENDED TO GUPERSEDE ALL PRIOR SURVEYS.

2272 NOAA

DESCRIPTIVE REPORT--HYDROGRAPHIC : NEW YORK BIGHT--25 MILES EAST OF BARNEGAT INLET [1975]

NOAA, BOULDER, CO 15 PP

THIS IS A SURVEY OF AREA OFFSHORE OF BARNEGAT INLET, NJ BETWEEN 39 54.0°N AND 39 20.0°N DURING JUNE AND JULY, 1975 ON THE NOAA SHIP WHITING CSS-29. HYDROGRAPHY WAS OBTAINED BY ECHO SOUNDERS. DEPTHS RANGED FROM 91 FT TO 155 FT. THIS SURVEY IS RECOMMENDED TO SUPERSEDE ALL PRIOR SURVEYS.

2273 NOAA

ANNUAL SUMMARY OF RESEARCH RESULTS FOR FISCAL YEAR 1974, MESA NEW YORK BIGHT PROJECT [1975]

TM-ERL-MESA-2. NOAA, BOULDER, CO 193 PP

THIS IS THE FIRST ANNUAL SUMMARY OF RESEARCH RESULTS OF NOAA'S MESA PROGRAM NEW YORK BIGHT PROJECT. IT SUMMARIZES THE SCIENTIFIC TECHNICAL AND ENGINEERING ACCOMPLISHMENTS OF THE PROJECT DURING FISCAL YEAR 1974 (FY74), THE LAST QUARTER OF FY73, NOT SUMMARIZED PREVIOUSLY. RESULTS PERTINENT TO THE PRESSING ISSUE OF OCEAN DISPOSAL OF SEMAGE SLUDGE IN THE NEW YORK BIGHT, ACCOMPLISHED FROM THE LAST QUARTER OF FY73, THROUGH THE FIRST QUARTER OF FY75 ARE SUMMARIZED IN A SEPARATE REPORT ENTITLED OCCEAN DUMPING IN THE NEW YORK BIGHT. RESEARCH RESULTS ARE PRESENTED IN A CLASSICAL DISCIPLINE ORIENTATION; PHYSICAL, CHEMICAL, BIOLOGICAL AND GEOLOGICAL RESEARCH EFFORTS ARE DISCUSSED IN SOME DETAIL. INCLUDING SIGNIFICANT DATA AND RESULTS.

2274 NOAA

ASSESSMENT OF OFFSHORE DUMPING; TECHNICAL BACKGROUND: PHYSICAL OCEANOGRAPHY, GEOLOGICAL OCEANOGRAPHY, CHEMICAL OCEANOGRAPHY
[1975]

TM-ERL-MESA-1. NOAA, BOULDER, CO 83 PP

PHYSICAL, GEOLOGICAL, AND CHEMICAL OCEANOGRAPHIC FEATURES OF THE NEW YORK BIGHT AND THEIR RELATIONSHIP TO WASTE AND SEWAGE DISPOSAL IN THE AREA ARE EXAMINED. THE INVESTIGATION INCLUDES STUDIES OF OCEAN CURRENTS, SEA FLOOR TOPOGRAPHY. SEDIMENTATION, METHODS OF SEWAGE DISPOSAL, AND THE CHEMICAL COMPOSITION OF SEWAGE. DATA FROM SAMPLING IN THE AREA ARE PRESENTED.

2275 NOAA

REPORT TO THE CONGRESS ON OCEAN DUMPING RESEARCH, JANUARY THROUGH DECEMBER 1974 PUBLIC LAW 92-532, TITLE 11, SECTION 201 [1975]

NOAA, WASHINGTON, DC 48 PP

THIS IS THE 2ND ANNUAL REPORT SUBMITTED TO CONGRESS ON THE FEDERALLY SPONSORED RESEARCH ON THE EFFECTS OF OCEAN DUMPING. AS REQUIRED UNDER SECTION 201. THE REPORT DESCRIBES SIGNIFICANT FEDERAL RESEARCH PROGRAMS AND ACTIVITIES CARRIED OUT IN 1974. IT

ALSO INCLUDES A SUMMARY OF 1974 STUDIES RELATIVE TO THE REQUIREMENTS OF SECTION 203. IT CONTAINS SECTIONS ON RESEARCH ON OCEAN DISPOSAL OF DREDGED AND NONDREDGED MATERIAL, DUMPSITE CHARACTERIZATIONS, COAST GUARD R AND G FOR OCEAN DUMPING SURVEILLANCE AND ENFORCEMENT, DREDGED MATERIAL DISPOSAL IN THE GREAT LAKES, AND RESEARCH ON ALTERNATIVES TO OCEAN DUMPING. DURING 1974 APPROXIMATELY 130 MILLION TONS OF MATERIAL WERE DUMPED IN US COASTAL WATERS. DREDGED MATERIAL ACCOUNTED FOR 118 MILLION TONS, OR OVER 90% OF THE TOTAL TONNAGE DUMPED IN 1974. THIS AMOUNT WAS TWICE THE DREDGED MATERIAL DEPOSITED IN THE OCEAN IN 1973. THE INCREASE WAS DUE TO FXTENSIVE FLOODING AND SILTING IN THE MISSISSIPPI RIVER BASIN IN RECENT YEARS. DREDGED MATERIAL IS AN ENVIRONMENTAL CONCERN BECAUSE OF THE LARGE QUANTITIES INVOLVED AND THE PRESENCE OF CONTAMINATED SEDIMENTS. THE OCEAN DISPOSAL OF WASTES OTHER THAN DREDGED MATERIALS OCCURS MAINLY IN THE NEW YORK BIGHT.

2276 NOAA

BASELINE INVESTIGATION OF DEEPWATER DUMPSITE 106 (MAY 1974) [1975]

DUMPSITE EVALUATION 75. NOAA, ROCKVILLE, MD 389 PP NTIS-PB- 252 657

IN 1974 NOAA INITIATED A PLANNED SERIES OF 3 SEASONAL BASELINE INVESTIGATIONS OF DEEPWATER DUMPSITE 106 TO ASSESS THE IMPACT OF PRESENT DUMPING ACTIVITIES AND TO PROVIDE A COMPARATIVE BASE FOR FUTURE ASSESSMENT. THIS REPORT CONTAINS THE DATA COLLECTED IN THE FIRST INVESTIGATION DONE IN MAY 1975. THE NOAA APPROACH IS AIMED AT DETERMINING A BASELINE--A DESCRIPTION OF THE BIOLOGICAL, GEOLOGICAL, CHEMICAL, PHYSICAL OCEANOGRAPHIC AND CLIMATIC CONDITIONS OF THE AREA, AGAINST WHICH FUTURE CHANGES CAN BE ASSESSED, AND FOR SELECTED RESEARCH STUDIES TO BE PERFORMED. SIGNIFICANT FINDINGS INCLUDE THE FOLLOWING: MOST HEAVY METALS IN THE FINFISH AND INVERTEBRATES SAMPLED SHOWED LITTLE VARIATION, WITH LEAD SHOWING GREATER VARIATION THAN OTHER METALS; DIVERSITY OF BENTHIC SPECIES WAS GREATER AND LESS VARIABLE ON THE SLOPE THAN ON THE SHELF. THE BIOMASS OF DEMERSAL SPECIES INCREASED AT THE SHELF BREAK AND REMAINED CONSTANT TO 2000 M WHERE IT DECREASED; NUMERICAL ABUNDANCE OF INDIVIDUALS CAUGHT SHOWED AN EXPECTED DECREASE WITH DEPTH; DIVERSITY OF IDENTIFIABLE SHELF SPECIES OF PLANKTON WAS FOUND TO BE GREATEST AT STATIONS NEAR THE HUDSON CANYON.

2277 NOAA

ASSESSMENT OF OFFSHORE DUMPING IN THE NEW YORK BIGHT, TECHNICAL BACKGROUND: PHYSICAL OCEANOGRAPHY, GEOLOGICAL OCEANOGRAPHY, AND CHEMICAL OCEANOGRAPHY [1975]

TR-ERL-332-MESA-3. NOAA, BOULDER, CO 83 PP

THIS REPORT DEALS WITH THE OFFSHORE DUMPING IN THE NEW YORK BIGHT, PRIMARILY ITS PHYSICAL, GEOLOGICAL, AND CHEMICAL OCEANOGRAPHIC EFFECTS. PHYSICALLY, THE ANALYSIS SHOWS TWO DISTINCT CIRCULATION REGIMES: (1) NEAR THE HARBOR MOUTH AND ALDNG THE NJ COAST, NEW YORK HARBOR DISCHARGE FLOWS SOUTHWARD PARALLEL TO THE NJ COAST; AT DEPTH, THERE IS A RETURN FLOW OF EXTERNAL WATER INTO THE ESTUAPY; (2) OUTSIDE THE REGION OF STRONGEST INFLUENCE FROM RIVER DISCHARGE, A PERSISTENT CLOCKWISE CIRCULATION OR EDDY APPEARS TO EXIST. GEOLOGICALLY, FINE-GRAINED WASTE DUMPED IN NEW YORK BIGHT IS ENTRAINED IN A CLOCKWISE CIRCULATION PATTERN AND IS DISPERSED TO THE NORTH. A SIGNIFICANT PORTION IS DEPOSITED IN THE LOW AREA (CHRISTIAENSEN BASIN) IMMEDIATELY NORTHWEST OF THE DUMPSITES. CHEMICALLY, THE DATA FROM WATER SAMPLING SHOW THAT NUTRIENT (NITRATES, SILICATES, AND PHOSPHATES) DISTRIBUTIONS ARE DOMINATED BY THE LOWER NOR NOR HAVE NOTHOUS. BOTTOM GRAB SAMPLES WERE ANALYZED FOR TOTAL ORGANIC CARBON AND TOTAL CARBOHYDRATES.

2278 NOAA

COLLECTED REPRINTS--1974. ATLANTIC OCEANOGRAPHIC AND METEOROLOGICAL LABORATORIES. VOLUME I [1976]

ANN REP NO 9. NOAA, BOULDER, CO 805 PP NTIS-PB-264 249

THIS REPORT BRINGS TOGETHER THE PUBLISHED RESEARCH RESULTS OF THE NOAA ATLANTIC OCEANOGRAPHIC AND METEOROLOGICAL LABORATORIES

(AOML), IT PROVIDES A SINGLE SOURCE FOR ARTICLES WHICH APPEARED IN VARIOUS SCIENTIFIC JOURNALS, AND THOSE WHICH APPEARED AS INTERNAL SCIENTIFIC AND TECHNICAL PUBLICATIONS, DURING 1974. THE AOML CONDUCT RESEARCH PROGRAMS TO STUDY THE PHYSICAL, CHEMICAL, AND GEOLOGICAL CHARACTERISTICS AND PROCESSES OF THE OCEAN WATERS, THE SEA FLOOR, AND THE ATMOSPHERE ABOVE THE OCEAN. (PORTIONS OF THIS DOCUMENT ARE NOT FULLY LEGIBLE).

2279 NOAA .

EVALUATION OF PROPOSED SEWAGE SLUDGE DUMPSITE AREAS IN THE NEW YORK BIGHT [1976]

TM-ERL-MESA-11. NOAA, BOULDER, CO 219 PP NTIS-PB-253 727

THE SECTIONS SUMMARIZE SIGNIFICANT FEATURES OF THE NEW YORK BIGHT'S MIDSHELF ENVIRONMENT AND ALTERNATIVE SEWAGE SLUDGE DUMPSITE AREAS 1-A AND 2-A, DRAWS APPLICABLE CONCLUSIONS ABOUT THE EFFECTS OF DUMPING SEWAGE SLUDGE AT ANY INTERIM DUMPSITE IN THIS .

ENVIRONMENT, AND PRESENTS SPECIFIC RECOMMENDATIONS RELATIVE TO DUMPING OPERATIONS AND MONITORING ACTIVITIES.

2280 NOAA

NOAA SCIENTISTS GET CLOSE LOOK AT HURRICANE'S EFFECT ON BIGHT [1976]

NOAA WEEK 7(43):1,3

THE NOAA SHIP KELEZ, ON HER WAY TO NEWPORT, RI, FOR MAINTENANCE, WAS RECALLED TO RECOVER CURRENT METER ARRAYS THAT HAD BEEN DEPLOYED THROUGHOUT THE NEW YORK BIGHT. THE KELEZ WAS ABLE TO RECOVER ALL 35 METERS, AND ABOUT 80% OF THE ASSOCIATED INSTRUMENTATION. IT WAS THE FIRST COMPREHENSIVE ARRAY OF CURRENT METERS TO SURVIVE A HURRICANE. THE MEASUREMENTS COLLECTED, WHEN AMALYZED, MAY PROVIDE NEW INFORMATION ON HURRICANE DRIVEN CURRENTS. THE CATAMARAN JOHNSON RESCANNED THE BOTTOM OF THE BIGHT, COLLECTING SONAR RECORDS ALONG 29 MI OF THE OCEAN BOTTOM TO SEE IF BOTTOM SEDIMENTS HAD BEEN REDISTRIBUTED. THE DATA HAVE NOT BEEN ANALYZED YET, BUT HURRICANE "BELLE" SEEMS TO HAVE HAD LITTLE EFFECT UPON THE BIGHT'S ECOSYSTEM.

2281 NOAA

PROGRAM DEVELOPMENT PLAN FOR OCEAN DUMPSITE RESEARCH AND MONITORING PROGRAM (ODRMP) [1976]

NOAA, BOULDER, CO NP

THIS PROGRAM DEVELOPMENT PLAN (PDP) DESCRIBES THE NOAA OCEAN DUMPSITE RESEARCH AND MONITORING PROGRAM (ODRMP), WHICH IS TO BE INITIATED DURING FISCAL YEAR 1977 IN RESPONSE TO PROVISIONS OF THE MARINE PROTECTION. RESEARCH. AND SANCTUARIES ACT OF 1972 (PUBLIC LAW 92-532). MAJOR SUBJECTS DISCUSSED INCLUDE REQUIREMENTS FOR THE CONDUCT OF STUDIES ON THE EFFECTS OF DCEAN DUMPING. GOALS AND OBJECTIVES, TECHNICAL APPROACH, SCHEDULES, MANAGEMENT PLAN, AND OTHER PERTINENT ELEMENTS OF THE PROGRAM INCLUDING COSTS AND BENEFITS. THIS PDP CONTAINS THE BASIC RATIONALE AND FRAMEWORK FOR THE ECONOMICAL AND EFFECTIVE IMPLEMENTATION OF THE ODRMP. THE ODRMP IS AN INTEGRATED SCIENTIFIC EFFORT DESIGNED TO MEET BOTH THE IMMEDIATE NEEDS OF THE OCEAN DUMPING REGULATORY AGENCIES AS WELL AS THE BROADER RESPONSIBILITIES PLACED ON NOAA TO CARRY OUT RESEARCH ON THE EFFECTS OF DUMPING IN THE MARINE ENVIRONMENT. THIS POP GIVES ATTENTION TO THE REQUIREMENTS LEVIED UPON NOAA TO PROVIDE DECISION-MAKING INFORMATION TO A VARIETY OF USERS. AMONG SUCH USERS ARE FEDERAL AND STATE ADMINISTRATORS. INDUSTRY. THE CONSERVATION COMMUNITY. AND THE GENERAL PUBLIC. IN PARTICULAR, THE US EPA AND THE ARMY CORPS OF ENGINEERS (COE) REGULATORY RESPONSIBILITIES ARE GIVEN SPECIAL CONSIDERATION. THE ULTIMATE GOAL OF THE ODRMP IS TO JUTAIN INFORMATION ON THE EFFECTS OF OCEAN DISPOSAL OF WASTE MATERIAL THAT WILL STRENGTHEN RESOURCE MANAGEMENT AND REGULATION DECISION PROCESSES. SUCH DECISIONS INCLUDE, BUT ARE NOT LIMITED TO: WHETHER OR NOT DUMPING SHOULD CONTINUE IN GIVEN AREAS, MEANS AND TECHNIQUES FOR DISPOSAL, CHOICE OF ALTERNATE OCEANIC SITES FOR DISPOSAL, ETC. THUS, THIS 13 MORE THAN MERELY A DATA COLLECTION AND PROCESSING PROCERAM. THE MAJOR TECHNICAL ELEMENTS OF THE ODRMP ARE DUMPSITE BASELINE ESTABLISHMENT, SELECTED EXPERIMENTAL STUDIES, AND MONITORING OF DUMPSITES. IN ADDITION, DATA COLLECTION, PROCESSING. AND ASSESSMENT EFFORTS ARE AN INTEGRAL ELEMENT OF THE PROGRAM. OUTPUT IS IN THE FORM OF COMPREHENSIVE REPORTS CONTAINING

SPECIFIC RECOMMENDATIONS WITH RESPECT TO OCEAN DUMPING OF WASTE MATERIALS.

2282 NOAA

REPORT TO THE CONGRESS ON OCEAN DUMPING RESEARCH, JANUARY THROUGH DECEMBER 1975, PUBLIC LAW 92-532, TITLE II, SECTION 201 [1976]

ANN REP NO 3. NOAA, BOULDER, CO 44 PP NTIS-PB-261 024

THIS IS THE THIRD ANNUAL REPORT TO THE CONGRESS ON THE STATUS OF FEDERALLY SPONSORED OCEAN DUMPING RESEARCH AS REQUIRED BY THE MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT OF 1972, TITLE II, SECTION 201. THE REPORT DESCRIBES PROGRESS MADE BY FEDERAL AGENCIES IN OCEAN DUMPING RESEARCH IN 1975, ELEMENTS OF INTERAGENCY COORDINATION, AND FUTURE PROGRAM DIRECTION. THIS REPORT ALSO INCLUDES A SUMMARY OF 1975 ACTIVITIES DIRECTED TO FULFILLING THE REQUIREMENTS OF TITLE II, SECTION 203, RESEARCH INTO DISPOSAL ALTERNATIVES TO OCEAN DUMPING. THE THREE CATEGORIES OF OCEAN-DUMPED MATERIALS DISCUSSED ARE DREDGED MATERIAL, MUNICIPAL WASTES.

2283 NOAA

THE NEW YORK BIGHT PROJECT -- 1975 [1976]

SPEC REP. NOAA, BOULDER, CO NP

DRIFTER AND CURRENT METER STUDIES SHOW THAT A CLOCKWISE GYRE DOMINATES THE INNER BIGHT CIRCULATION. RUTHENIUM-LABELED SAND TRANSPORT STUDIES INDICATE THAT LIMITED TRANSPORT OCCURS DURING MOST OF THE YEAR. ATMOSPHERIC INPUT ACCOUNT FOR 13% OF LEAD, 8% OF THE ZINC, 5% OF THE IRON AND 2% OF THE CADMIUM INPUT TO THE BIGHT. MEASURED CONCENTRATIONS OF COLIFORMS INDICATE BACTERIA CONTAMINATION TO DISTANCES OF 5NMI OFFSHORE OF LONG ISLAND. THE REPORT INCLUDES BIOLOGICAL INVESTIGATIONS OF BENTHIC INVERTEBRATES AND FIN ROT DISEASE IN FISH.

2284 NOAA

NEW YORK BIGHT PROJECT ANNUAL REPORT FOR FY 1976-76T [1977]

TM-ERL-MESA-25. NOAA, BOULDER, CO 91 PP. NTIS-PB-283 196

THE ANNUAL REPORT FOR FISCAL YEAR 1976-76 DESCRIBES MESA NEW YORK BIGHT PROJECT ACTIVITIES BETWEEN JULY 1, 1975, AND SEPTEMBER 30, 1976. SPECIFICALLY, IT SUMMARIZES RESEARCH EFFORTS SPONSORED BY THE PROJECT AND REVIEWS SIGNIFICANT TECHNICAL, OPERATIONAL, AND ADVINISTRATIVE ACHIEVEMENTS DURING THE PERIOD. IT IS USED AS A MANAGEMENT TOOL BY THE MESA PROGRAM OFFICE AND BY ADMINISTRATORS OF THE ERL AND NOAA. IT PROVIDES INFORMATION TO THE US CONGRESS AND TO THE OMB ON THE USE OF FUNDS ALLOCATED FOR RESEARCH INTO OCEAN DUMPING AND MARIYE ECOSYSTEMS ANALYSIS. FINALLY, THE REPORT DESCRIBES PROJECT ACTIVITIES TO GROUPS AND INDIVIDUALS WITH INTERESTS IN THE BIGHT, INCLUDING THE MESA NEW YORK BIGHT ADVISORY COMMITTEE, PROJECT INVESTIGATORS, USERS OF MESA-GENERATED INFORMATION, AND MEMBERS OF THE CONCERNED PUBLIC.

2285 NOAA

REPORT TO THE CONGRESS ON OCEAN POLLUTION, OVERFISHING, AND OFFSHORE DEVELOPMENT: JULY 1975 THROUGH SEPT 1976 [1977]

NOAA, WASHINGTON, DC 57 PP

PROGRAMS REPRESENTATIVE OF THOSE CONDUCTED BY THE NOAA IN COOPERATION WITH OTHER AGENCIES AND ORGANIZATIONS ARE SUMMARIZED. THE

FOLLOWING MAJOR AREAS WERE INVESTIGATED: IDENTIFICATION OF CONTAMINANTS AND THEIR SOURCES IN THE NEW YORK BIGHT, THE RELATIONSHIPS OF HEAVY METALS AND SELECTED MARINE ORGANISMS, THE EFFECTS OF PETROLEUM ON MARINE ANIMALS, THE STATUS AND EFFECTS OF OVERFISHING, ENVIRONMENTAL QUESTIONS RAISED BY DEEP-OCEAN MINING, AND ASSESSMENT OF THE ENVIRONMENTS OF POTENTIAL OFFSHORE OIL LEASE AREAS.

2286 NOAA

OXYGEN DEPLETION AND ASSOCIATED ENVIRONMENTAL DISTURBANCES IN THE MIDDLE ATLANTIC BIGHT IN 1976. A REPORT ON A SERIES OF INTERAGENCY WORKSHOPS HELD IN NOVEMBER AND DECEMBER 1976 [1977]

TECH REP 3. NOAA, BOULDER, CO 492 PP NTIS-PB-287 956

MAJOR AND ABNORMAL ENVIRONMENTAL EVENTS OCCURRED IN THE COASTAL WATERS OF THE MIDDLE ATLANTIC BIGHT IN THE SUMMER AND AUTUMN OF 1975. AN EXTENSIVE OFFSHORE PHYTOPLANKTON BLOOM BEGAN IN LATE WINTER AND PERSISTED UNTIL EARLY SUMMER. BOTTOM WATERS OVER AN ESTIMATED 4,300 SQ KM BECAME ANOXIC AND A HYDROGEN SULFIDE SYSTEM DEVELOPED IN PART OF THE AREA AFFECTED. FISH AND SHELLFISH DIED IN NUMBERS SUFFICIENT TO BE DESCRIBED, FOR AT LEAST ONE ECONOMIC SPECIES (SURF CLAM, SPISULA SOLIDISSIMA), AS A RESOURCE DISASTER. SEVEN WORKSHOPS WERE HELD DURING NOVEMBER AND DECEMBER, 1976, TO DISCUSS THE CAUSES AND CONSEQUENCES OF THE FISH KILLS OBSERVED OFF THE NEW JERSEY COAST DURING JULY, AUGUST, AND SEPTEMBER, 1976. THIS DOCUMENT CONTAINS SUMMARY REPORTS OF EACH OF THE WORKSHOPS. WITH APPENDICES CONSISTING OF INDIVIDUALLY AUTHORED PAPERS WHERE PERTINENT.

2287 NOAA

BASELINE REPORT OF ENVIRONMENTAL CONDITIONS IN DEEPWATER DUMPSITE 106. VOL 1: PHYSICAL CHARACTERISTICS [1977]

DUMPSITE EVALUATION 77-1-VOL 1.1. NOAA. BOULDER. CO 232 PP NTIS-PB- 272 578

THE BASELINE REPORT IS DIVIDED INTO 3 SECTIONS: PHYSICAL CHARACTERISTICS WHICH APPEAR AS VOLUME 1, BIOLOGICAL CHARACTERISTICS, VOLUME 2, AND CONTAMINANT INPUTS AND CHEMICAL CHARACTERISTICS, VOLUME 3. AN APPENDIX, CONTAINING RESULTS TOO DETAILED FOR THE MAIN BODY OF THE REPORT IS INCLUDED IN VOLUME 3. CHARACTERIZATION RESULTS ARE CHIEFLY FROM 3 BASELINE CRUISES, BUT ALSO FROM DATA OBTAINED DURING TWO SUMMER 1976 EXPERIMENTAL CRUISES, AS WELL AS FROM NMFS SOURCES. THIS VOLUME CONTAINS THE FOLLOWING STUDIES: DEEPWATER DUMPSITE 106, BATHYMETRY AND BOTTOM MORPHOLOGY, SIX DIVES TO THE LOWER CONTINENTAL SLOPE AND UPPER CONTINENTAL RISE SOUTHWEST OF HUDSON CANYON --GEOLOGICAL ASPECTS; GENERAL PHYSICAL OCEANOGRAPHY OF DEEPWATER DUMPSITE 106; PHYSICAL OCEANOGRAPHY OF DEEPWATER DUMPSITE 106, FEBRUARY-MARCH 1976; AND CLIMATIC STUDY OF NEW YORK BIGHT.

2288 NOAA

MARINE RELATED ACTIVITIES: AN ASSESSMENT OF THE ECONOMIC IMPACTS OF OCS ENERGY DEVELOPMENT [1977]

NOAA, BOULDER, CO 78 PP NTIS-PB-285 138

THE REPORT FOCUSES UPON THE POTENTIAL IMPLICATIONS OF PROSPECTIVE OUTER CONTINENTAL SHELF (OCS) ENERGY DEVELOPMENT ACTIVITIES TO MARINE RELATED RECREATIONAL ACTIVITY ON THE SOUTH SHORE OF LONG ISLAND, AND TO NEW YORK STATE'S ATLANTIC COMMERCIAL FISHERIES. THE CHARACTERISTICS AND ECONOMIC IMPORTANCE OF THESE ACTIVITIES ARE BRIEFLY INVENTORIED AND ASSESSMENT MADE CONCERNING THE POTENTIAL ADVERSE EFFECTS OF OCS ACTIVITIES ON RECREATIONAL EXPENDITURES, COMMERCIAL FISHERIES HARVESTS, AND RELATED ECONOMIC RAMIFICATIONS.

REPORT TO CONGRESS ON OCEAN DUMPING RESEARCH, JANUARY-DECEMBER, 1976 [1977]

NOAA. GOULDER. CO 21 PP

THIS ANNUAL REPORT TO CONGRESS CONCERNING RESEARCH ON SLUDGE DUMPING IN NEW YORK BIGHT AND INDUSTRIAL WASTE DISPOSAL AT DEEPWATER DUMPSITE 106 REPORTS ON ASSESSING INPUTS, DREDGED MATERIAL DUMPING, LONG ISLAND BEACH POLLUTION, THE NEW JERSEY ANOXIA EVENT, AND REMOTE SURVEILLANCE AND MONITORING. DUMPSITE 106 STUDY SHOWS DUPONT AND AMERICAN CYANAMID TO BE PRIMARY DUMPERS. WASTES HAVE SEVERAL PATHS INTO THE ECOSYSTEM WHICH MAY CAUSE DAMAGE.

2290 NOAA

REPORT TO THE CONGRESS ON OCEAN POLLUTION, OVERFISHING, AND OFFSHORE DEVELOPMENT--JULY 1975 THROUGH SEPTEMBER 1976 [1977]

ANN REP NO 4. NOAA, BOULDER, CO 59 PP NTIS-PB-277 762

THE PROGRAMS SUMMARIZED IN THIS REPORT ARE REPRESENTATIVE OF THOSE CONDUCTED BY NOAA, IN COOPERATION WITH OTHER AGENCIES AND ORGANIZATIONS, IN RESPONSE TO THE PROVISIONS OF THE MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT OF 1972, TITLE II, SECTION 202. THIS REPORT FOCUSES ON SIX MAJOR AREAS OF RESEARCH: STUDIES OF THE NEW YORK BIGHT, INVESTIGATIONS OF THE RELATIONSHIPS OF HEAVY METALS AND SELECTED MARINE ORGANISMS, EXPERIMENTS ON THE EFFECTS OF PETROLEUM ON MARINE ANIMALS, RESEARCH ON THE STATUS AND EFFECTS OF OVER-FISHING, WORK ON THE ENVIRONMENTAL QUESTIONS RAISED BY DEEP-OCEAN MINING, AND ASSESSMENT OF THE ENVIRONMENTS OF POTENTIAL OFFSHORE OIL LEASE AREAS.

2291 NOAA

COLLECTED REPRINTS 1975, VOLUME I [1977]

AOML, NOAA, MIAMI, FL 726 PP NTIS-PB-270 305

THIS IS THE TENTH ANNUAL PUBLICATION OF THE COLLECTED REPRINTS OF NOAA'S ATLANTIC OCEANOGRAPHIC AND METEOROLOGICAL LABORATORIES. THE AOML CONDUCT RESEARCH ON THE PHYSICAL, CHEMICAL, AND GEOLOGICAL CHARACTERISTICS AND PROCESSES OF THE OCEAN WATERS, THE SEAFLOOR, AND THE OVERLYING ATMOSPHERE. DURING 1975, THESE RESEARCH EFFORTS WERE CARRIED OUT BY FOUR MAJOR GROUPS: PHYSICAL OCEANOGRAPHY LABORATORY, MARINE GEOLOGY AND GEOPHYSICS LABORATORY, SEA-AIR INTERACTION LABORATORY, AND OCEAN REMOTE SENSING LABORATORY.

2292 NOAA

COLLECTED REPRINTS 1975, VOLUME II [1777]

AOML, YOAA, MIAMI, FL 384 PP NTIS-PB-270 306

THIS IS THE SECOND VOLUME OF THE TENTH ANNUAL PUBLICATION OF THE COLLECTED REPRINTS OF NOAA'S ATLANTIC OCEANOGRAPHIC AND METEOROLOGICAL LABORATORIES. THE REPRINTS IN THIS VOLUME ARE ARRANGED ALPHABETICALLY WITHIN EACH OF FOUR MAJOR GROUPS: PHYSICAL OCEANOGRAPHY LABORATORY, MARINE GEOLOGY AND GEOPHYSICS LABORATORY, SEA-AIR INTERACTION LABORATORY, AND OCEAN REMOTE SENSING LABORATORY.

2293 NOAA

COLLECTED REPRINTS 1976, VOLUME I [1977]

AOML, NOAA, MIAMI, FL 638 PP NTIS-PB-271 759

THIS VOLUME CONTAINS REPRINTS OF FIFTY-ONE PAPERS BY ATLANTIC OCEANOGRAPHIC AND METEOROLOGICAL LABORATORIES PERSONNEL WHICH HAVE APPEARED IN NUMEROUS SCIENTIFIC JOURNALS AND VARIOUS INTERNAL SCIENTIFIC AND TECHNICAL PUBLICATIONS. (PORTIONS OF THIS DOCUMENT ARE NOT FULLY LEGIBLE.)

2294 NOAA

LONG ISLAND BEACH POLLUTION: JUNE 1975 [1977]

MESA SPEC REP. NOAA, BOULDER, CO 87 PP NTIS-PB-266 980

INFORMATION IS GIVEN ON THE NATURE AND POSSIBLE SOURCES OF FLOATING TRASH AND POLLUTANTS THAT WERE WASHED UP IN LARGE QUANTITIES ON MOST OF LONG ISLAND'S BEACHES DURING JUNE 1976. THE GENERAL ORIENTATION OF THE REPORT IS DEFINED AND THE ROLES PLAYED BY THE FEDERAL, STATE AND LOCAL AGENCIES DURING THE BEACH POLLUTION EVENT ARE DESCRIBED. THE WASTE MATERIALS IDENTIFIED ON THE BEACHES ARE DESCRIBED; THEY INCLUDE TAR AND GREASE BALLS, SEWAGE-RELATED ITEMS, GARBAGE, TRASH, AND CHARRED WOOD. HISTORICAL SURFACE WIND DATA AND THE WIND CONDITIONS DURING JUNE 1976 WERE ANALYZED, SURFACE DRIFTER STUDIES WERE EXAMINED AND THE USCG AND BNL SURFACE TRANSPORT MODELS WERE APPLIED TO THE EVENTS OF JUNE 1976. IT WAS CONCLUDED THAT PERSISTENT SOUTHERLY WIND-DRIVEN TRANSPORT WAS RESPONSIBLE FOR THE STRANDING OF THE FLOATABLES. SOUTHERLY SURFACE WINDS WITH ABOUT 8.0 KNOT VELOCITIES ARE NOT UNUSUAL FOR JUNE OVER THE BIGHT. THE HUDSON/ RARITAN ESTUARINE OUTFLOW IS A MAJOR SOURCE OF FLOATABLES TO THE WATERS OF THE NEW YORK BIGHT. IT IS ALSO SUGGESTED THAT SEWAGE SLUDGE DUMPING HAS BEEN A MINOR CONTRIBUTOR TO THE FLOATABLES FOUND ON THE BEACHES. IT IS UNDERSTOOD THAT EFFECTIVE CORRECTIVE MEASURES CANNOT TAKE PLACE UNTIL QUANTITATIVE DOCUMENTATION OF THE SOURCES OF FLOATABLES HAS BEEN ACCOMPLISHED.

2295 NOAA

GUIDE TO INFORMATION ON RESEARCH IN MARINE SCIENCE AND ENGINEERING [1978]

NOAA, ROCKVILLE, MD 55 PP

THIS IS A DESCRIPTION OF INFORMATION SERVICES CONCERNING MARINE SCIENCE, INCLUDING ADDRESSES, SUBJECT TERMS, RESEARCH INFORMATION PACKAGES.

2296 NOAA

STATE OF NEW JERSEY COASTAL MANAGEMENT PROGRAM--BAY AND OCEAN SHORE SEGMENT AND FINAL ENVIRONMENTAL IMPACT STATEMENT [1978]

NOAA, BOULDER, CO 484 PP NTIS-PB-296 716

THE NEW JERSEY COASTAL MANAGEMENT PROGRAM--BAY AND OCEAN SHORE SEGMENT HAS BEEN PREPARED TO DETERMINE AND DESCRIBE NJ'S STRATEGY TO MANAGE THE FUTURE PROTECTION AND DEVELOPMENT OF THE COAST. THE GEOGRAPHIC AREA ADDRESSED BY THIS FIRST PART OF THE PROGRAM INCLUDES A 1,382 SQ MI LAND AREA AND RELATED COASTAL WATERS IN A REGION STRETCHING FROM THE RARITAN BAY ALONG THE ATLANTIC OCEANFRONT TO THE DELAWARE BAY. THIS DOCUMENT DEFINES AND EXPLAINS THE COASTAL RESOURCE AND DEVELOPMENT POLICIES AND THE MANAGEMENT SYSTEM THE NJ DEP AND THE DEPARTMENT OF ENERGY WILL USE IN MANAGING ACTIVITIES IN THIS COASTAL SEGMENT. THE COASTAL POLICIES ARE DIVIDED INTO THREE GROUPS: LOCATION POLICIES EVALUATE SPECIFIC TYPES OF COASTAL LOCATIONS, SUCH AS WETLANDS AND PRIME FARM LAND; USE POLICIES ARE DIRECTED AT DIFFÉRENT USES OF THE COASTAL ZONE, SUCH AS HOUSING AND ENERGY FACILITY DEVELOPMENT; AND RESOURCE POLICIES FOCUS ON CONTROLLING THE EFFECTS OF DEVELOPMENT, SUCH AS WATER RUNOFF AND SOIL EROSION, AND ON THE PROTECTION OF NATURAL AND CULTURAL RESOURCES. THE IMPACTS WILL BE GENERALLY BENEFICIAL, ALTHOUGH THERE MAY BE SOME ADVERSE, SHORT-TERM ECONOMIC IMPACTS ON SOME COASTAL USERS, AND THE PROGRAM WILL ENTAIL THE IRREVERSIBLE COMMITMENT OF COASTAL RESOURCES.

2297 NOAA

REPORT TO CONGRESS ON NOAA OCEAN DUMPING RESEARCH JANUARY -- DECEMBER 1977, DRAFT JULY 1978 [1978]

NOAA, BOULDER, CO 38 PP

THIS REPORT ON NOAA RESEARCH INCLUDES INFORMATION ON SEWAGE SLUDGE, INDUSTRIAL WASTES AND DREDGED MATERIALS PLUS A PROGRESS REPORT ON DEVELOPMENT OF REMOTE SENSING TECHNIQUES TO MONITOR DISPERSION OF DUMPED WASTES. TOXIC METALS (CR. FE, CU. AG) ARE PRESENT IN HIGH CONCENTRATIONS AT DUMPSITES. ANOXIC DREDGED MATERIALS CONTAIN HIGHLY TOXIC SULPHUR COMPOUNDS.

2298 NOAA

COLLECTED REPRINTS 1977, VOLUME I [1978]

AOML, NOAA, MIAMI, FL 689 PP NTIS-PB-294 452

THE ATLANTIC OCEANOGRAPHIC AND METEOROLOGICAL LABORATORIES CONDUCT RESEARCH PROGRAMS IN THE AREAS OF PHYSICAL, CHEMICAL, AND GEOLOGICAL OCEANOGRAPHY, SEA-AIR INTERACTIONS, AND MARINE ACOUSTICS. THE 1977 EDITION PRESENTS THE PAPERS PUBLISHED IN THAT YEAR PLUS A FEW THAT WERE PUBLISHED IN 1976 BUT WERE NOT AVAILABLE FOR INCLUSION IN THAT YEAR'S VOLUME.

2299 NOAA

COLLECTED REPRINTS 1977, VOLUME II [1378]

AOML, NOAA, MIAMI, FL 566 PP NTIS-PB-294 453

THIS IS VOLUME THO OF THE COLLECTED REPRINTS OF NOAA'S ATLANTIC OCEANOGRAPHIC AND METEOROLOGICAL LABORATORIES. THE REPORT DESCRIBES RESEARCH COMPLETED BY THE LABORATORIES IN THE SUBJECT AREAS OF PHYSICAL, CHEMICAL, AND GEOLOGICAL OCEANOGRAPHY, SEA-AIR INTERACTIONS, AND MARINE ACOUSTICS.

2300 NOAA

REPORT TO THE CONGRESS ON OCEAN DUMPING RESEARCH, JANUARY THROUGH DECEMBER 1977 [1978]

NOAA, WASHINGTON, DC 30, PP NTIS-PB-292 791

THIS REPORT DESCRIBES THE OCEAN DUMPING INVESTIGATIONS CARRIED OUT BY NOAA DURING CALENDAR YEAR 1977. IT FOCUSES UPON THREE MAJOR CATEGORIES OF POLLUTANT MATERIALS: SEWAGE SLUDGE, INDUSTRIAL WASTES, AND DREDGED MATERIALS. FIELD AND LABORATORY STUDIES RELATING TO THESE TYPES OF POLLUTANTS WERE COMPLETED DURING THE YEAR THAT APPLY TO SEVERAL MARINE AREAS. THE EFFECTS OF DUMPING INDUSTRIAL WASTES INTO DEEP WATERS WAS INVESTIGATED FOR A DISPOSAL SITE IN THE GULF OF MEXICO AND FOR A SITE IN THE ATLANTIC NEAR NJ. THE ENVIRONMENTAL EFFECTS OF SEWAGE SLUDGE AND DREDGED MATERIAL DISPOSAL WERE STUDIED IN THE REGION OF THE NEW YORK BIGHT.

2301 NOAA

UNITED STATES COAST PILOT 6. GREAT LAKES: LAKES ONTARIO, ERIE, HURON, MICHIGAN, AND SUPERIOR AND ST. LAWRENCE RIVER [1979]

NOAA, BOULDER, CO 523 PP NTIS-PB-296 484

COAST PILOTS SUPPLEMENT THE NAVIGATIONAL INFORMATION SHOWN ON THE NAUTICAL CHARTS AND ARE BASED UPON FIELD INSPECTIONS CONDUCTED BY THE NOS, INFORMATION PUBLISHED IN NOTICES TO MARINERS, AND REPORTS FROM NOAA SURVEY VESSELS, OTHER GOVERNMENT AGENCIES, STATE AND LOCAL GOVERNMENTS, CANADIAN MINISTRY OF TRANSPORT, MARITIME AND PILOTAGE ASSOCIATIONS, PORT AUTHORITIES, MARINERS, AND OTHERS. THIS VOLUME OF COAST PILOT-GREAT LAKES, LAKES ONTARIO, ERIE, HURON, MICHIGAN, AND SUPERIOR AND ST. LAWRENCE RIVER, CANCELS THE 1978 EDITION. THIS COAST PILOT GIVES INFORMATION ON: ST. LAWRENCE RIVER ABOVE ST. REGIS, LAKE ONTARIO, LAKE ERIE, DETHOIT RIVER, LAKE ST. CLAIR, ST. CLAIR RIVER, LAKE HURON, LAKE MICHIGAN, ST. MARYS RIVER, LAKE SUPERIOR, HUDSON RIVER, NEW YORK CANALS, AND LAKE CHAMPLAIN.

2302 NOAA

UNITED STATES COAST PILOT 2. ATLANTIC COAST: CAPE COD TO SANDY HOOK, 14TH ED [1979]

NOAA, BOULDER, CO 319 PP NTIS-PB-295 712

THE NOS COAST PILOTS ARE A SERIES OF NINE NAUTICAL BOOKS THAT COVER A WIDE VARIETY OF INFORMATION IMPORTANT TO NAVIGATORS OF US COASTAL AND INTRACOASTAL WATERS, AND THE WATERS OF THE GREAT LAKES. MOST OF THIS BOOK INFORMATION CANNOT BE SHOWN GRAPHICALLY ON THE STANDARD NAUTICAL CHARTS AND IS NOT READILY AVAILABLE ELSEWHERE. COAST PILOT SUBJECTS INCLUDE NAVIGATION REGULATIONS, OUTSTANDING LANDMARKS, CHANNEL AND ANCHORAGE PECULIARITIES, DANGERS, WEATHER, ICE, FRESHETS, ROUTES, PILOTAGE, AND PORT FACILITIES. THIS VOLUME OF COAST PILOT 2 CANCELS THE 13TH (JANUARY 1978) EDITION AND HAS INFORMATION ON THE FOLLOWING AREAS: CAPE COD TO SANDY HOOK; OUTER CAPE COD AND NANTUCKET SOUND; VINEYARD SOUND AND BUZZARDS BAY, NARRAGANSETT BAY; BLOCK ISLAND SOUND, EASTERN LONG ISLAND SOUND; WESTERN LONG ISLAND SOUND; SOUTH COAST OF LONG ISLAND; NEW YORK HARBOR; AND HUDSON RIVER.

2303 NOAA

INNER SHELF SEDIMENT TRANSPORT EXPERIMENT (INSTEP) PROPOSAL DATES: OCTOBER 1, 1978 THROUGH SEPTEMBER 30, 1979 [1979]

MARINE GEOLOGY AND GEOPHYSICS LAB, AOML, NOAA, MIAMI, FL 82 PP

THE INSTEP PROJECT (INNER SHELF SEDIMENT TRANSPORT EXPERIMENT) IS DESIGNED TO INVESTIGATE THE PATTERNS (RATES AND DIRECTIONS) OF SEDIMENT TRANSPORT ON THE INNER SHELF OF LONG ISLAND AND NEW JERSEY, AND TO ASSESS THE EXTENT TO WHICH THIS SEDIMENT TRANSPORT SYSTEM BEARS CONTAMINANTS FROM HUMAN ACTIVITY.

2304 NOAA

UNITED STATES COAST PILOT NO 3. ATLANTIC COAST: SANDY HOOK TO CAPE HENRY [1979]

NATIONAL OCEAN SURVEY, NOAA, ROCKVILLE, MD NP

THE NOS COAST PILOTS ARE A SERIES OF NINE NAUTICAL BOOKS THAT COVER A WIDE VARIETY OF INFORMATION IMPORTANT TO NAVIGATORS OF US COASTAL AND INTRACOASTAL WATERS, AND THE WATERS OF THE GREAT LAKES. MOST OF THIS BOOK INFORMATION CANNOT BE SHOWN GRAPHICALLY ON THE STANDARD NAUTICAL CHARTS AND IS NOT READILY AVAILABLE ELSEWHERE. SUBJECTS INCLUDE NAVIGATION REGULATIONS, OUTSTANDING LANDMARKS, CHANNEL AND ANCHORAGE PECULIARITIES, DANGERS, WEATHER, ICE, FRESHETS, ROUTES, PILOTAGE, AND PORT FACILITIES. THIS ISSUE OF COAST PILOT 3 CANCELS THE 15TH EDITION AND CONTAINS INFORMATION ON: SANDY HOOK TO CAPE HENRY, NEW JERSEY COAST, NEW JERSEY INTRACOASTAL WATERWAY, DELAWARE BAY, CHESAPEAKE AND DELAWARE CANAL, DELAWARE—MARYLAND—VIRGINIA COAST, CHESAPEAKE BAY ENTRANCE, CHESAPEAKE BAY, JAMES RIVER, YORK AND RAPPAHANNOCK RIVERS, POTOMAC RIVER, PATUXENT AND SEVERN RIVERS. EASTERN SHORE AND BALTIMORE TO HEAD OF CHESAPEAKE BAY.

REPORT TO THE CONGRESS ON OCEAN POLLUTION AND OFFSHORE DEVELOPMENT -- OCTOBER 1977 THROUGH SEPTEMBER 1978 [1980]

NOAA, BOULDER, CO 90 PP

THIS STUDY REPORTS WORK DONE BY NOAM ON EFFECTS OF OCEAN POLLUTION AND OFFSHORE DEVELOPMENT. IN FY 1978, POLLUTION STUDIES WERE CONCERNED WITH PETROLEUM HYDROCARBONS, CHLORINATED HYDROCARBONS, METALS AND BIOLOGICAL HAZARDS. ALSO. STUDIES WERE MADE ON THE EFFECTS OF CONTAMINANT INTERACTIONS ON ORGANISMS. IN FY 1978, A SYNTHESIS REPORT, "PERSPECTIVES ON THE NEW YORK BIGHT," COVERING THE NATURAL INTERRELATIONSHIPS OF THE AREA, AND EFFECTS OF HUMAN ACTIVITIES ON THESE, WAS PREPARED. INCLUDED IN THIS PUBLICATION ARE FIVE WATER COLUMN CHARACTERIZATION STUDIES, AND WORK ON TWO DIAGNOSTIC MODELS OF WATER CIRCULATION.

2306 NODC

PRELIMINARY ENVIRONMENTAL DATA BASE DIRECTORY FOR NEW YORK BIGHT AREA [1973]

NOAA, BOULDER, CO 149 PP

THROUGH SUPPORT FROM THE MESA PROGRAM, THE NODC OF THE ENVIRONMENTAL DATA SERVICE MADE A SURVEY TO IDENTIFY AND DESCRIBE FILES OF ENVIRONMENTAL DATA RELEVANT TO THE NEW YORK BIGHT. THIS DIRECTORY PRESENTS THE RESULTS OF THAT PRELIMINARY EFFORT. THERE IS A CONTRACT TO THE NYSG PROGRAM TO: 1) REFORMAT THE EXISTING ENTRIES TO A MORE COMPLETE DESCRIPTION, AND 2) DESCRIBE ADDITIONAL DATA BASES FOR THE BIGHT. WHILE IT IS REALIZED THAT THIS PRELIMINARY DIRECTORY IS FAR FROM COMPLETE, IT DOES CONTAIN SUFFICIENT INFORMATION TO MAKE IT USEFUL. THE FINAL DIRECTORY IS SCHEDULED FOR PUBLICATION IN 1974. THE DIRECTORY IS ORGANIZED INTO SIX SECTIONS OR CHAPTERS ACCORDING TO THE MAJOR DISCIPLINE INVOLVED IN THE COLLECTION OF THE DATA BASE. WITHIN CHAPTERS, FILES ARE BROKEN DOWN BY THE STATES WHERE THE DATA ARE HELD, IN ALPHABETICAL ORDER WITH DATA HELD BY THE FEDERAL GOVERNMENT LAST. THE GENERAL GOAL OF THIS DATA FILE IDENTIFICATION EFFORT IS TO ESTABLISH AN AUTOMATED INTERREACTIVE RETRIEVAL SYSTEM CONTAINING SEARCHABLE DESCRIPTIONS OF DATA FILES.

2307 NORTH EASTERN REPORTER

MAYO V. NEW YORK CENT RR (OWNERSHIP OF LAND UNDER BAYS) [1934]

189 NE 217 AND 263 NY 277 (NY, 1934)

PLAINTIFF CLAIMED TITLE TO LAND UNDER WATER IN THE HUDSON RIVER AS SUCCESSOR IN TITLE TO A COLONIAL PATENT WHICH INCLUDED LAND BENEATH THE SURFACE OF COVES AND BAYS OF THE RIVER. DEFENDANT RAILROAD CONTENDED THAT THE WATERS BENEATH WHICH THE LAND LAY WERE NJT BAYS AND THAT PLAINTIFF'S PROPERTY STOPPED AT THE HIGH WATER MARK. THE COURT OF APPEALS OF NEW YORK AFFIRMED JUDGEMENTS FOR PLAINTIFF AS TO PARCELS OF LAND FOUND TO LIE IN ACTUAL BAYS OR COVES. JUDGMENT WAS REVERSED AS TO ONE PARCEL LYING BENEATH AN ALLEGED BAY WITH HEADLANDS MORE THAN 5 MILES APART. WHERE A TRUE BAY IS FOUND, ITS DEPTH AND WIDTH ARE MANY TIMES GREATER THAN THE DISTANCE BETWEEN HEADLANDS. IN THE INSTANT CASE, THE COURT FOUND THE BODY OF WATER TO BE A BEND IN THE RIVER ONLY, WITH A DISTANCE BETWEEN HEADLANDS SO GREAT THAT THE RECEDING SHORE WAS WASHED BY THE TIDES WITHOUT HINDRANCE. THERE WAS NO TRUE SHELTERED HARBOR. AND THE WATERS WERE PART OF THE RIVER.

2308 NORTHEAST FISHERIES CENTER

MACROBENTHIC INVERTEBRATE FAUNA OF THE MIDDLE ATLANTIC BIGHT REGION PART 11. FAUNAL COMPOSITION AND QUANTITATIVE DISTRIBUTION
[1973]

NORTHEAST FISHERIES CENTER, WOODS HOLE, MA 395 PP

IN THE EARLY 1960'S A QUANTITATIVE SURVEY OF THE MACROBENTHIC INVERTEBRATE FAUNA WAS CONDUCTED IN THE MIDDLE ATLANTIC BIGHT REGION. PURPOSES OF THIS SURVEY WERE TO OBTAIN A PRELIMINARY MEASURE OF THE MACROBENTHIC STANDING CROP. PARTICULARLY IN TERMS

OF BIOMASS, AND SECONDARILY, TO DETERMINE THE PRINCIPAL TAXONOMIC COMPONENTS OF THE FAUNA AND LEARN THE GENERAL FEATURES OF THEIR DISTRIBUTION. SAMPLING WAS CONDUCTED AT 563 LOCATIONS: WATER DEPTHS REPRESENTED RANGED FROM 4 TO 3.030 M. AN AVALYSIS OF FAUNAL COMPOSITION AND QUANTITATIVE DISTRIBUTIONS, FROM THE SURVEY, ARE PRESENTED IN THIS REPORT. QUANTITIES ARE EXPRESSED IN TERMS OF DENSITY AND BIOMASS. DOMINANT TAXONOMIC COMPONENTS. IN NUMBERS OF INDIVIDUALS. IN DECREASING ORDER OF IMPORTANCE WERE: ARTHROPODA (46%), MOLLUSCA (25%), ANNELIDA (21%), ECHINODERMATA (4%), AND COELENTERATA (1%), DOMINANT IN BIOMASS, IN DECREASING ORDER OF IMPORTANCE WERE: MOLLUSCA (71%), ECHINODERMATA (12%), ANNELIDA (7%), ARTHROPODA (5%), AND ASCIDIACEA (2%), THE QUANTITY OF FAUNA, BOTH DENSITY AND BIOMASS, DECREASED SUBSTANTIALLY FROM SHALLOW TO DEEP WATER. ANOTHER MAJOR TREND WAS THE MARKED DECREASE IN QUANTITY FROM NORTH TO SOUTH WITHIN THE MIDDLE ATLANTIC BIGHT. BOTTOM SEDIMENT COMPOSITION STRONGLY INFLUENCED BOTH THE KIND AND QUANTITY OF MACROBENTHIC ANIMALS. COARSE-GRAINED SEDIMENTS GENERALLY SUPPORTED THE LARGEST QUANTITIES OF ANIMALS, INCLUDING MANY SESSILE FORMS. FINE-GRAINED SEDIMENTS USUALLY CONTAINED A DEPAUPERATE FAUNA; ATTACHED ORGANISMS WERE UNCOMMON. NO OBVIOUS CORRELATIONS WERE DETECTED BETWEEN THE AMOUNT OF ORGANIC CARBON IN BOTTOM SEDIMENTS AND THE QUANTITY OF BENTHIC ANIMALS PRESENT. MARKED SEASONAL CHANGES IN BOTTOM WATER TEMPERATURE WERE ASSOCIATED WITH AN ABUNDANT FAUNA COMPOSED OF DIVERSE FORMS. WHEREAS UNIFORM TEMPERATURES THROUGHOUT THE YEAR WERE ASSOCIATED WITH A SPARSE FAUNA COMPOSED OF A MODERATE VARIETY OF SPECIES. TAXONOMIC GROUPS THAT WERE DOMINANT IN A SIGNIFICANT NUMBER OF SAMPLES. IN TERMS OF NUMBER OF INDIVIDUALS, WERE: BIVALVIA, ANNELIDA, ECHINOIDEA, OPHIUROIDEA, CRUSTACEA, AND THE BATHYAL ASSEMBLAGE. GROUPS DOMINANT IN TERMS OF BIOMASS WERE: BIVALVIA, ANNELIDA, ECHINOIDEA, OPHIUROIDEA, HOLOTHUROIDEA, AND THE BATHYAL ASSEMBLAGE.

2309 NORTHEAST FISHERIES CENTER

MACROBENTHIC INVERTEBRATE FAUNA OF THE MIDDLE ATLANTIC BIGHT REGION. PART 1. COLLECTION DATA AND ENVIRONMENTAL MEASUREMENTS

NORTHEAST FISHERIES CENTER. WOODS HOLE. MA 34 PP

DATA PRESENTED IN THIS REPORT PERTAIN TO MACROBENTHIC INVERTEBRATE SAMPLES FROM THE MIDDLE ATLANTIC BIGHT REGION ANALYZED BY THE NMFS, NORTHEAST FISHERIES CENTER, WOODS HOLE, MA. THIS SERIES OF SAMPLES WAS COLLECTED BY THE COOPERATIVE EFFORT OF NMFS, WHOI, AND THE USGS. THESE SAMPLES CONSTITUTE PART OF A BROAD BIOLOGICAL AND GEOLOGICAL STUDY OF THE US CONTINENTAL MARGIN EXTENDING FROM NOVA SCOTIA TO FLORIDA. SOME RESULTS OF THE QUANTITATIVE ANALYSES OF THESE SAMPLES ARE GIVEN IN A COMPANION REPORT ENTITLED "MACROBENTHIC INVERTEBRATE FAUNA OF THE MIDDLE ATLANTIC BIGHT REGION: PART II. FAUNAL COMPOSITION AND QUANTITATIVE DISTRIBUTION."

2310 NORTHROP SERVICES. INC

SOURCE EMISSIONS CHARACTERIZATION AT THE HEMPSTEAD, NEW YORK REFUSE ENERGY RECOVERY SYSTEM [1980]

NORTHROP SERVICES. INC., RESEARCH TRIANGLE PARK. NC NP

THIS COLLECTION OF LETTERS AND PAPERS DEALS WITH THE REFUSE ENERGY RECOVERY SYSTEM INCLUDING ORGANIC ANALYSES, INCINERATOR EFFLUENT ANALYSES, EMISSIONS TESTING.

2311 NY ATOMIC AND SPACE DEVELOPMENT AUTHORITY

STUDY OF THE MARINE ENVIRONMENTAL CONSIDERATIONS PERTINENT TO THE OFFSHORE SITING OF NUCLEAR POWER FACILITIES. VOLUME I [1973]

NY ASDA, ALBANY, NY NP

IN A RECENT FORECAST OF THE LONG-TERM GROWTH OF NUCLEAR ENERGY AS A SOURCE OF ELECTRIC POWER, THE ATOMIC ENERGY COMMISSION PREDICTED THAT NUCLEAR POWER WILL BE PRODUCING OVER HALF OF THE NATION'S ELECTRICITY BY THE YEAR 2000. ROUGHLY 42 % OF TODAY'S TOTAL US DEMAND FOR ELECTRICAL ENERGY EXISTS WITHIN A 200 MI STRIP ALONG THE ATLANTIC GULF, AND PACIFIC COASTS, AND THAT PERCENTAGE IS EXPECTED TO INCREASE OVER THE NEXT THREE DECADES. THE FEDERAL POWER COMMISSION RECENTLY CONCLUDED AFTER A SIX

YEAR STUDY THAT THE NATION WOULD NEED 1.25 TRILLION KILDWATTS OF GENERATING CAPACITY BY 1990. THIS WILL REQUIRE THE
CONSTRUCTION OF AT LEAST A THOUSAND POWER PLANTS OF A MILLION KILOWATTS CAPACITY IN LESS THAN 20 YEARS. THIS PROBABLY
REPRESENTS A HEAT LOAD BEYOND THE COOLING CAPACITY OF AMERICAN RIVERS. IT IS QUITE POSSIBLE, THEREFORE, THAT BY THE END OF THE
CENTURY THE COASTS OF THE US WILL BE FRINGED WITH OFFSHORE NUCLEAR POWER PLANTS. SATISFACTORY PROCEDURES ARE THEREFORE URGENTLY
NEEDED TO ASSURE THE COMPATIBILITY OF NUCLEAR POWER PLANTS WITH THIS NEW ENVIRONMENT, BOTH TO MINIMIZE ADVERSE ENVIRONMENTAL
EFFECTS AND TO CAPITALIZE ON THE FLEXIBILITY IN SITING THAT THIS NEW MEDIUM PRESENTS.

2312 NY ATOMIC AND SPACE DEVELOPMENT AUTHORITY

SURVEY OF NEW YORK SURFACE WATER TEMPERATURES--AERIAL INFRARED SURVEYS OF THERMAL DISCHARGES FROM ELECTRIC GENERATING STATIONS INTO NEW YORK STATE WATERS. FINAL REPORT (1974)

NY ASDA, ALBANY, NY 65 PP NIIS-PB-244 998

QUANTITATIVE MEASUREMENTS OF COOLING WATER DISCHARGES FROM ELECTRIC GENERATING PLANTS INTO WATERWAYS ARE NEEDED IN ORDER TO EVALUATE THE ENVIRONMENTAL IMPACTS OF THESE DISCHARGES. AERIAL INFRARED SENSING ENABLES SYNOPTIC MAPPING OF THE TEMPERATURE DISTRIBUTION OVER A LARGE EXPANSE OF WATER SURFACE. APPLICATION OF THE INFRARED METHOD IS ILLUSTRATED BY A SERIES OF FLIGHTS MADE OVER THE HUDSON RIVER. THERMAL DISCHARGE PLUMES WERE MEASURED AT FOUR POWER STATIONS—ALBANY, DANSKAMMER POINT, INDIAN POINT AND LOVETT. EFFECTS OBSERVED INCLUDE TIDAL CURRENTS, LOCAL COUNTER-CURRENTS, RECIRCULATION OF DISCHARGED WATER, THERMAL STRIATION, AND MIXING.

2313 NY ATOMIC AND SPACE DEVELOPMENT AUTHORITY

A SURVEY OF NEW YORK SURFACE WATER TEMPERATURES. AERIAL INFRARED SURVEYS OF THERMAL DISCHARGES FROM ELECTRIC GENERATING STATIONS INTO NEW YORK STATE WATERS [1976]

NY ASDA, NEW YORK, NY NP NTIS-PB-244 398

THERMAL DISCHARGE PLUMES WERE MEASURED BY AERIAL INFRARED SENSING TECHNIQUES AT FOUR POWER STATIONS ON THE HUDSON RIVER:
ALBANY, DANSKAMMER POINT, INDIAN POINT AND LOVETT. INFRARED IMAGES AND RELATED TEMPERATURE CONTOUR MAPS ARE INCLUDED IN THE
REPORT WHICH INDICATE THAT THE EFFECTS OBSERVED INCLUDE TIDAL CURRENTS, LOCAL COUNTER-CURRENTS, RECIRCULATION OF DISCHARGED
WATER, THERMAL STRIATION AND MIXING. THE CAPABILITY OF THE INFRARED METHOD TO FILL THE CURRENT NEED FOR QUANTITATIVE DATA WITH
BROAD SYNOPTIC COVERAGE IS ILLUSTRATED.

2314 NY BUREAU OF PUBLIC WATER SUPPLY

INVENTORY -- COMMUNITY WATER SYSTEMS WITH SOURCES: NEW YORK STATE [1974]

NY DOH, ALBANY, NY 182 PP

SOME 15,810,805 PERSONS IN NEW YORK STATE ARE SERVED BY COMMUNITY WATER SYSTEMS WITH SOURCES. THIS IS APPROXIMATELY 91% OF THE TOTAL STATE POPULATION AS OF JANUARY 1, 1974. COMMUNITY WATER SUPPLY SYSTEMS WITH SOURCES IN THE STATE TOTAL 1135. IN SOME INSTANCES, A SINGLE SYSTEM OPERATED BY A LARGE WATER COMPANY SERVES A NUMBER OF COMMUNITIES. IN MOST CASES, AN INDIVIDUAL SYSTEM SERVES EACH COMMUNITY. THIS PAPER DESCRIBES SYSTEMS STATISTICS AND THE TREATMENT PROVIDED TO THE SYSTEM.

2315 NY DEC

SYMPOSIUM ON HUDSON RIVER ECOLOGY, 3D, BEAR MOUNTAIN, NY [1973]

NY DEC. ALBANY, NY NP

25 SHORT PAPERS DISCUSS VARIOUS ECOLOGICAL ASPECTS OF THE HUDSON RIVER ESTUARY. EMPHASIS IS ON AREAS ADJACENT TO POWER-GENERATING FACILITIES IN THE REGION OF HYDE PARK TO OSSINING. SUBJECTS INCLUDE FEDERAL, STATE, AND CITY POLLUTION CONTROL; VARIATIONS IN SALT-MOVEMENT PATTERNS; GENERAL WATER QUALITY; DISSOLVED OXYGEN, TEMPERATURE, AND CHLORIDE CONCENTRATIONS; TIDAL MARSH DESCRIPTION; ECOLOGICAL COMMUNITY STUDIES; AND THE PRACTICAL APPLICATION OF REMOTE SENSING TECHNIQUES IN WATER RESOURCES STUDIES.

2316 NY DEC

PURE WATERS PROGRESS IN NEW YORK STATE [1974]

NY DEC. ALBANY, NY 31 PP

302 PROJECTS ARE COMPLETED AND 40 ARE UNDER CONSTRUCTION UNDER THE \$1 BILLION PURE WATERS BOND ACT OF 1965. ESTIMATED ELIGIBLE COSTS EXCEED \$3 BILLION AND THE PLANTS WILL TREAT APPROXIMATELY 2.8 BILLION GALLONS OF SEWAGE DAILY. 15 PROJECTS, TO BE FINANCED UNDER THE ENVIRONMENTAL QUALITY BOND ACT OF 1972, ARE EITHER UNDER CONSTRUCTION OR IN THE LAST PRECONSTRUCTION STAGE AT AN ESTIMATED COST OF \$282 MILLION. CONSTRUCTION IS READY TO START ON THE FIRST PHASE OF 165 MORE PROJECTS AS SOON AS FEDERAL APPROVAL IS RECEIVED AND CONSTRUCTION PLANS AND SPECIFICATIONS ARE APPROVED FOR BID. SOME 300 NEW INDUSTRIAL TREATMENT FACILITIES HAVE BEEN CONSTRUCTED AND ABATEMENT SCHEDULES ADOPTED FOR ALL MAJOR POLLUTERS. A NETWORK OF 159 MONITORING STATIONS ALL IN OPERATION FOR CONTINUOUS EVALUATION OF WATER QUALITY. NEW AND MORE STRINGENT STREAM CLASSIFICATIONS AND STANDARDS HAVE BEEN ADOPTED FOR ALL WATERS FO THE STATE. ALL MAJOR POLLUTERS, MUNICIPAL AND INDUSTRIAL, ARE NOW UNDER COMMISSIONER'S ORDERS OR ON A SUPERVISED ABATEMENT SCHEDULE. 560 MILLION GALLONS/DAY OF INDUSTRIAL WASTES, RANGING FROM CHEESE TO TOXIC CHEMICALS, ARE BEING TREATED IN ACCORDANCE WITH STATE STANDARDS.

2317 NY DEC

PCB MONITORING IN THE UPPER HUDSON RIVER BASIN [1975]

DIVISION OF PURE WATERS. NY DEC. ALBANY. NY 110 PR

THIS REPORT DESCRIBES THE SURVEYS CONDUCTED DURING THE SUMMER OF 1975 TO IDENTIFY THE SCOPE AND SIGNIFICANCE OF PCB CONTAMINATION IN THE UPPER HUDSON RIVER BASIN AND DISCUSSES THE RESULTS OBTAINED. SAMPLING OF RIVER WATER AND SEDIMENTS, EFFLUENTS FROM THE GE HUDSON FALLS MANUFACTURING PLANTS, AND SOIL RUNOFF FROM THE MANUFACTURING PLANTS IDENTIFIED THIS INDUSTRY AND THEIR GROUNDS AS SIGNIFICANT SOURCES OF PCB TO THE HUDSON RIVER. OTHER POINT SOURCES OF PCBS ARE ALSO IDENTIFIED. RIVER SEDIMENTS AT LEAST 40 MILES DOWNSTREAM OF HUDSON FALLS ARE SIGNIFICANTLY CONTAMINATED WITH PCBS. TOTAL PCB LEVELS AS HIGH AS 3700 MICRO G/G DRY WT. WERE DISCOVERED. THE SIGNIFICANCE OF PCB CONTAMINATION OF THE RIVER IS BRIEFLY DISCUSSED WITH RESPECT TO OBSERVED PCB LEVELS IN FISH FLESH. VALUES AS HIGH AS 403 PPM (MICRO G/G FRESH WT) ARE REPORTED FOR AN AMERICAN EEL (ANGUILLA ROSTRATA) CAPTURED JUST DOWNSTREAM OF THE HUDSON FALLS AREA.

2318 NY DEC

WATER SAMPLING OFF JONES INLET AND ATLANTIC BEACH [1976]

MEMORANDUM. NY DEC. ALBANY NY 3 PP

THERE WERE NO SIGNIFICANT DIFFERENCES BETWEEN TOP AND BOTTOM DISSOLVED OXYGEN (DO) LEVELS SOUTH OF JONES BEACH. FURTHERMORE, THE BUTTOM SAMPLING INDICATED A FAIR REPRESENTATION OF FISH AND CRUSTACEANS. APPARENTLY, THAT PLUME OF WATER WITH EXTREME LOW BOTTOM DISSOLVED OXYGEN WHICH WAS NOTED RECENTLY BY THE NATIONAL MARINE FISHERIES SERVICE FIVE MILES SOUTH OF JONES INLET WAS NOT APPARENT IN THE SAMPLING DONE FROM THE "EMMELINE M." POSSIBLY, THE PLUME EITHER HAS DISSIPATED OR HAS MOVED. IN REVIEWING

THE DATA TAKEN SOUTH OF ATLANTIC BEACH, THERE DOES APPEAR TO BE A SLIGHT. THOUGH SIGNIFICANT, DIFFERENCE BETWEEN THE BOTTOM AND SURFACE DISSOLVED OXYGEN VALUES INDICATING A GREATER OXYGEN DEMAND I THE BOTTOM WATERS SOUTH OF ATLANTIC BEACH THAN FROM THOSE SOUTH OF JONES INLET. NEVERTHELESS, THE BOTTOM SAMPLES INDICATE A GREATER NUMBER AND VARIETY OF ANIMALS THAN WERE FOUND EASTERLY. YOU WILL ALSO NOTE THAT THERE IS NO SIGNIFICANT DIFFERENCE BETWEEN THE SURFACE AND BOTTOM TEMPERATURES FROM EITHER OF THE TWO SAMPLE AREAS.

2319 NY DEC

REVISED DRAFT WATER QUALITY MANAGEMENT PLAN LONG ISLAND SOUND-ATLANTIC OCEAN [1976]

DIVISION OF LAND RESOURCES AND FOREST MANAGEMENT. NY DEC. ALBANY. NY 297 PP

THIS IS NEW YORK STATE'S PLAN FOR POLLUTION ABATEMENT IN THE ATLANTIC OCEAN-LONG ISLAND SOUND PLANNING AREA. THE PLAN IDENTIFIES POLLUTION PROBLEMS, TREATMENT NEEDS, PRIORITIES, SCHEDULES FOR POLLUTION ABATEMENT AND GOVERNS STATE AND FEDERAL GRANT-IN-AIDS FOR ANY FUTURE TREATMENT WORKS AND ALL PERMITS ISSUED UNDER THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM. THIS IS ONE OF A SERIES OF PLANS TO COORDINATE THE STATE'S WATER WUALITY DECISIONS AND TO PROPERLY MANAGE SEVERAL BILLION DOLLARS IN PUBLIC FUNDS FOR POLLUTION ABATEMENT IN THE NEXT FIVE YEARS.

2320 NY DEC

PCB DATA IN HUDSON RIVER FISH, SEDIMENTS, WATER AND WASTEWATER FOR PCB TASK FORCE [1976]

NY HEALTH ADVISORY COUNCIL. ALBANY. NY 24 PP

THIS REPORT SUMMARIZES THE PERTINENT FINDINGS PRESENTED IN DETAIL IN TWO DEPARTMENTAL REPORTS "MONITORING OF PCB'S IN FISH TAKEN FROM THE HUDSON RIVER, OCTOBER 1975," (DIVISION OF FISH AND WILDLIFE) AND "PCB MONITORING IN THE UPPER HUDSON RIVER BASIN, OCTOBER 1975," (DIVISION OF PURE WATERS). AN ADDITIONAL REFERENCE IS THE TRANSCRIPT OF THE DEPARTMENT'S LEGAL PROCEEDINGS WITH THE GENERAL ELECTRIC COMPANY (FILE #2833, NYDEC, COMMENCED SEPTEMBER 8, 1975). DETAILS OF THE SAMPLING AND ANALYTICAL METHODS USED ARE DESCRIBED IN THE ABOVE REFERENCES.

2321 NY DEC

INTEGRATED PROJECT CONTROL: COORDINATION AND CONSISTENCY IN STATE WATER AND AIR QUALITY, COASTAL ZONE, AND LAND USE PLANNING [1976]

NY DEC. ALBANY, NY 167 PP

THIS REPORT DESCRIBES THE COMMONALITIES AND DIFFERENCES BETWEEN THE FOUR MAJOR STATEWIDE PLANNING PROGRAMS AND THE CURRENT EFFORTS TO ACHIEVE COORDINATION AND CONSISTENCY BETWEEN THEM. THE PROGRAMS INCLUDE WATER QUALITY PLANNING UNDER SECTION 208 OF THE FEDERAL WATER POLLUTION CONTROL ACT AS AMENDED, AIR QUALITY MAINTENANCE PLANNING, COASTAL ZONE MANAGEMENT PROGRAM DEVELOPMENT, AND LAND USE PLANNING AS CONDUCTED UNDER SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED, CHAPTER I IS AN INTRODUCTION, II SETS FORTH THE FEDERAL REQUIREMENTS FOR COORDINATION AND CONSISTENCY, AND III DISCUSSES PROGRAM ELEMENTS COMMON TO ALL FOUR PROGRAMS. RECOMMENDATIONS FOR IMPROVED COORDINATION AND CONSISTENCY ARE INCLUDED. THE OVERALL PURPOSE OF THE REPORT IS TO PROVIDE A MORE SYSTEMATIC FRAMEWORK THAN HAS BEEN AVAILABLE HERETOFORE FOR THE INTEGRATION OF WORK ACTIVITIES BETWEEN PROGRAMS.

2322 NY DEC

HUDSON RIVER PCB MONITORING: DATA SUMMARY--PAST, PRESENT, PROPOSED [1976]

NY DEC. ALBANY, NY 106 PP

THIS REPORT IS A COMPILATION OF EXISTING DATA ON PCB LEVELS IN THE HUDSON RIVER BASIN WATER, SEDIMENT AND BIOTA. INCLUDED IS A DESCRIPTION OF THE MONITORING ACTIVITIES OF THE NY DECUMPENAY AND PROPOSED AS A PART OF THE NY DECIGENERAL ELECTRIC SETTLEMENT. COST ESTIMATES, SAMPLING STATIONS AND PREVIOUS RESULTS ARE INCLUDED.

2323 NY DEC

ATLANTIC COASTAL SURVEY [1976]

PROGRESS REP. NY DEC. ALBANY, NY 30 PP

THE ATLANTIC COASTAL SURVEY WAS BEGUN IN JULY OF 1975. ITS PURPOSE IS "TO PROVIDE DATA FOR LONG TERM TREND DETERMINATION OF WATER QUALITY, WITH REGARD TO THE INFLUENCE OF WASTE TREATMENT DISCHARGES ON BENEFICIAL USES OF COASTAL WATERS, MAINLY CONTACT RECREATION, FISHING, AND SHELLFISHING." TO DATE, A TOTAL OF 13 CRUISES HAVE BEEN MADE. FOR SCHEDULING REASONS MOST CRUISES COVERED EITHER THE "WESTERN" (W-1 THRU W2-10) OR "EASTERN" (E-1 THRU E-7) LOOP STATIONS. DUE TO PROGRAM CONSTRAINTS OF THE VARIOUS AGENCIES INVOLVED, NOT ALL CRUISES RESULTED IN COMPLETE SAMPLE COLLECTION OR ANALYSIS. THE ATTACHED SHEETS SUMMARIZE EACH CRUISE ALONG WITH THE DATA OBTAINED. ALSO ENCLOSED ARE MAPS SHOWING SAMPLING POINTS AND A MEMO ENTITLED "SAMPLING PROGRAM FOR NYS ATLANTIC COASTAL AREA" WHICH OUTLINES THE PROGRAM AS IT WAS ORIGINALLY SET UP.

2324 NY DEC .

WATER QUALITY MANAGEMENT PLAN, LONG ISLAND SOUND-ATLANTIC OCEAN [1976]

NY DEC. NEW YORK. NY NP

THIS IS NY'S OFFICIAL PLAN FOR POLLUTION ABATEMENT IN THE ATLANTIC OCEAN-LONG ISLAND SOUND PLANNING AREA PREPARED BY THE NY DEC PURSUANT TO SECTION 303 (E) OF THE FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972. THE PLAN IDENTIFIES POLLUTION PROBLEMS, TREATMENT NEEDS, PRIORITIES, SCHEDULES FOR POLLUTION ABATEMENT AND GOVERNS STATE AND FEDERAL GRANTS-IN-AID FOR ANY FUTURE TREATMENT WORKS AND ALL PERMITS ISSUED UNDER THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM. THIS IS ONE OF SERIES OF BASIN WATER QUALITY PLANS BEING PREPARED STATEWIDE TO COORDINATE AND DIRECT THE STATE'S WATER QUALITY DECISIONS AND TO ASSURE WISE USE AND MANAGEMENT OF SEVERAL BILLION DOLLARS IN PUBLIC FUNDS FOR POLLUTION ABATEMENT DURING THE NEXT FIVE YEARS. THIS PLAN REPRESENTS THE FIRST OF A TWO-PHASE PLANNING PROCESS THAT WILL ULTIMATELY DEAL WITH LAND USE-WATER QUALITY INTERRELATIONSHIPS AND MEET REQUIREMENTS FOR PLANNING UNDER BOTH SECTIONS 303(E) AND 208 OF PL 92-500.

2325 NY DEC

NEW YORK STATE PROGRAM FOR THE CONTROL AND ABATEMENT OF WATER POLLUTION-FISCAL YEAR 1978 [1977]

NY DEC, ALBANY, NY 63 PP

THIS PROGRAM STRATEGY INTEGRATES THE EXPANDED WASTEWATER MANAGEMENT PLANNING EFFORT UNDERWAY IN NY WITH THE ONGOING ACTIVITIES OF WASTE DISCHARGE LOAD ALLOCATION, PERMIT ISSUANCE, WATER QUALITY MONITORING AND MUNICIPAL CONSTRUCTION. DURING FY 78, AREAWIDE MANAGEMENT PLANS (208) WILL BE COMPLETED IN DRAFT FORM. THEY ARE SCHEDULED FOR COMPLETION BY NOV 1978. THESE PLANS WILL SERVE AS THE FUTURE BASIS FOR PRIMARY DECISION-MAKING TO CORRECT IDENTIFIED WATER POLLUTION CONTROL PROBLEMS.

2326 NY DEC

NEW YORK STATE AND OUTER CONTINENTAL SHELF DEVELOPMENT -- AN ASSESSMENT OF IMPACTS [1977]

NY DEC. ALBANY, NY 178 PP

THIS STUDY, IS THE RESULT OF ONE STATE, NY, TAKING A COORDINATED APPROACH TO ITS WORK IN DEVELOPING ANSWERS TO QUESTIONS ABOUT THE IMPLICATIONS OF OIL AND GAS DRILLING ON THE ATLANTIC CONTINENTAL SHELF. IT IS INTENDED TO PROVIDE INFORMATION ON THE POTENTIAL IMPACTS OF OCS ACTIVITY—INFORMATION THAT CAN AID IN MAKING DECISIONS THAT WILL HELP MAXIMIZE BENEFITS AND MINIMIZE ADVERSE IMPACTS OF OUTER CONTINENTAL SHELF DEVELOPMENT. IT IS NOT INTENDED TO EITHER PROMOTE OR DISCOURAGE POTENTIAL OCS DEVELOPMENT, NOR IS IT INTENDED TO CONTRAST THE COSTS AND BENEFITS IN DIFFERENT SECTORS OF THE ECONOMY AND IN DIFFERENT REGIONS OF THE STATE, SUCH AS POTENTIAL JOB GAINS IN NYC VERSUS POTENTIAL LOSSES TO TOURISM AND RECREATION ON LONG ISLAND.

2327 NY DEC

ENVIRONMENTAL NEW YORK--A DIRECTORY [1977]

NY DEC. ALBANY, NY 156 PP

THE DIRECTORY IS DIVIDED INTO TWO MAIN SECTIONS. THE FIRST LISTS GOVERNMENT AND PRIVATE ORGANIZATIONS ON THE NATIONAL, STATE, AND REGIONAL LEVELS. THE SECOND, DIVIDED BY COUNTIES, LISTS GOVERNMENT AGENCIES AT THE COUNTY AND LOCAL LEVELS. FOLLOWED BY PRIVATE ORGANIZATIONS AT THOSE LEVELS. CITY, TOWN, AND VILLAGE ENTRIES ARE LISTED UNDER THE COUNTY IN WHICH THEY ARE LOCATED.

2328 NY DEC

DESCRIPTIVE DATA OF SEWAGE TREATMENT SYSTEMS IN NEW YORK STATE [1977]

NY DEC, ALBANY, NY NP

A PAMPHLET CONTAINING DESCRIPTIVE DATA ON PUBLIC SEWER SYSTEMS AND SEWAGE TREATMENT PLANTS IN NEW YORK STATE WAS FIRST PUBLISHED IN 1927 AND SUBSEQUENTLY REVISED AND UPDATED IN 1929, 1935, 1941 AND 1952. KNOWN AS THE NYS HEALTH DEPARTMENT BULLETIN NO. 20, THESE PUBLICATIONS SATISFIED A GENERAL DEMAND FOR THE DESCRIPTIVE INFORMATION THAT IS CONTAINED IN THE DOCUMENT. THE PRESENT ISSUE IS AN UPDATING OF THE FORMER BULLETIN 20 AND CONTAINS INFORMATION WHICH IS CURRENT THROUGH 1976. SEVERAL NOTABLE DIFFERENCES FROM PREVIOUS ISSUES ARE EVIDENT IN THE CURRENT VERSION. FOR EXAMPLE, PREVIOUS ISSUES CONTAINED INFORMATION ON COLLECTION AS WELL AS TREATMENT SYSTEMS. HOWEVER, SINCE ONE OF OUR OBJECTIVES AS WE REVISED THIS PAMPHLET WAS TO INCLUDE ONLY THAT INFORMATION WHICH GENERALLY WOULD NOT CONTINUALLY CHANGE, THIS WAS LIMITED TO ONLY EXISTING SEWAGE TREATMENT FACILITES.

2329 NY DEC

WATER QUALITY MANAGEMENT PLAN FOR THE LOWER HUDSON RIVER BASIN--SOUTH PORTION (SAUGERTIES TO BATTERY) [1977]

NY DEC. ALBANY, NY 77 PP

THIS REPORT CONSTITUTES THE NY DEC'S DRAFT PLAN FOR CONTROLLING POINT SOURCE WASTE DISCHARGES IN THE SOUTH PORTION OF THE LOWER HUDSON RIVER BASIN. THE AREA COVERED BY THIS PLAN IS THE LOWER HUDSON RIVER AND ITS TRIBUTARIES IN THE REGION INCLUDING ULSTER, DUTCHESS, ORANGE, PUTNAM, ROCKLAND, AND WESTCHESTER COUNTIES AS WELL AS THE WESTERN SIDE OF MANHATTEN. THIS PLAN HAS BEEN DRAFTED PURSUANT TO SECTION 303(E) REQUIREMENTS OF PL 92-500 (1972 AMENDMENTS TO THE FEDERAL WATER POLLUTION CONTROL ACT). IT WILL BE EXPANDED UNDER NY'S 208 PLANNING PROGRAM TO INCLUDE OTHER WATER QUALITY RELATED ITEMS SUCH AS NON-POINT SOURCE POLLUTION, URBAN STORMWATER RUNGFF AND RESIDUAL WASTE DISPOSAL. A SUMMARIZATION OF THE CONTENTS OF THIS PLAN WILL BE PRESENTED AT A PUBLIC HEARING IN NEW PALTZ ON DECEMBER 15, 1977. THIS HEARING WILL PROVIDE AN OPPORTUNITY FOR PUBLIC COMMENT ON THE PLAN. AFTER THE PUBLIC HEARING, THE PLAN WILL BE FINALIZED AND SUBMITTED TO EPA AS NY'S OFFICIAL WATER QUALITY PLAN FOR THE LOWER HUDSON RIVER--SOUTH PORTION.

2330 NY DEC: CT DEP

INTERIM PROGRAM FOR THE DISPOSAL OF DREDGED MATERIAL IN LONG ISLAND SOUND: A SUMMARY [1977]

NY DEC. ALBANY. NY 8 PP

A SUMMARY OF THE PROPOSED INTERIM PROGRAM FOR THE MANAGEMENT OF DREDGED MATERIAL IN AND AROUND LONG ISLAND SOUND HIGHLIGHTS THE ELEMENTS OF THAT PROGRAM AND GIVES A COMPREHENSIVE LONG ISLAND SOUND DREDGED MATERIAL DISPOSAL POLICY WHICH PROVIDES A HIGH LEVEL OF ENVIRONMENTAL PROTECTION.

2331 NY DEC

MARINE RELATED ACTIVITIES: AN ASSESSMENT OF THE ECONOMIC IMPACTS OF OCS ENERGY DEVELOPMENT [1977]

NY DEC. ALBANY, NY 78 PP NTIS-PB-285 198

THE REPORT FOCUSES UPON THE POTENTIAL IMPLICATIONS OF PROSPECTIVE OUTER CONTINENTAL SHELF (OCS) ENERGY DEVELOPMENT ACTIVITIES TO MARINE RELATED RECREATIONAL ACTIVITY ON THE SOUTH SHORE OF LONG ISLAND, AND TO NY'S ATLANTIC COMMERCIAL FISHERIES. THE CHARACTERISTICS AND ECONOMIC IMPORTANCE OF THESE ACTIVITIES ARE BRIEFLY INVENTORIED AND ASSESSMENT MADE CONCERNING THE POTENTIAL ADVERSE EFFECTS OF OCS ACTIVITIES ON RECREATIONAL EXPENDITURES, COMMERCIAL FISHERIES HARVESTS, AND RELATED ECONOMIC RAMIFICATIONS.

2332 NY DEC

WATER QUALITY MANAGEMENT PLAN FOR PLANNING AREA 11-02: UPPER HUDSON RIVER, HOOSIC RIVER BASIN [1977]

NY DEC. ALBANY, NY NP

THIS IS NY'S OFFICIAL PLAN FOR POLLUTION ABATEMENT IN THE UPPER HUDSON RIVER-HOOSIC RIVER BASIN AS PREPARED BY THE NY DEC.
PURSUANT TO SECTION 303(E) OF THE FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972 (PL 92-500). THE PLAN IDENTIFIES
POLLUTION PROBLEMS, STANDARDS, POINT SOURCE TREATMENT NEEDS, PRIORITIES, SCHEDULES FOR POLLUTION ABATEMENT AND GOVERNS STATE
AND FEDERAL GRANTS-IN-AID FOR ANY FUTURE TREATMENT WORKS AND ALL PERMITS ISSUED UNDER THE NATIONAL/STATE DISCHARGE ELIMINATION
SYSTEM. THIS IS ONE OF A SERIES OF BASIN WATER QUALITY PLANS BEING PREPARED STATEWIDE TO COORDINATE AND DIRECT THE STATE'S
WATER QUALITY DECISIONS ON A RIVER BASIN SCALE AND TO ASSURE WISE USE AND MANAGEMENT OF OF SEVERAL BILLION DOLLARS INPUBLIC
FUNDS FOR POLLUTIN APATEMENT DURING THE NEXT FIVE YEARS. THIS PLAN DEALS PRIMARILY WITH POINT SOURCES AND REPRESENTS THE FIRST
OF A TWO PHASE PLANNING PROCESS.

2333 NY DEC

WATER QUALITY MANAGEMENT PLAN FOR PLANNING AREA 11-04: UPPER HUDSON RIVER (HEADWATERS) [1977]

NY DEC. ALBANY. NY NP

THIS NY'S OFFICIAL PLAN FOR POLLUTION ABATEMENT IN THE UPPER HUDSON BASIN-HEADWATER AREA AS PREPARED BY THE NY DEC PURSUANT TO SECTION 303(E) OF THE FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972 (PL 92-500). THE PLAN IDENTIFIES POLLUTION PROBLEMS, STANDARDS, POINT SOURCE TREATMENT NEEDS, PRIORITIES, SCHEDULES FOR POLLUTION ABATEMENT AND GOVERNS STATE AND FEDERAL GRANTS-IN-AID FOR ANY FUTURE TREATMENT WORKS AND ALL PERMITS ISSUED UNDER THE NATIONAL/STATE DISCHARGE ELIMINATION SYSTEM. THIS IS ONE OF A SERIES OF BASIN WATER QUALITY PLANS BEING PREPARED STATEWIDE TO COORDINATE AND DIRECT THE STATE'S WATER QUALITY DECISIONS ON A RIVER BASIN SCALE AND TO ASSURE WISE USE AND MANAGEMENT OF SEVERAL BILLION DOLLARS IN PUBLIC FUNDS FOR POLLUTIN ABATEMENT DURING THE NEXT FIVE YEARS. THIS PLAN DEALS PRIMARILY WITH POINT SOURCES AND REPRESENTS THE FIRST OF A TWO PHASE

PLANNING PROCESS.

2334 NY DEC

WATER MANAGEMENT PLAN FOR PLANNING AREA 13-04: FISHKILL CREEK SUB-BASIN [1977]

NY DEC, ALBANY, NY NP

THIS REPORT DISCUSSES FISHKILL CREEK WHICH RISES IN THE CENTRAL PORTION OF DUTCHESS COUNTY AND FLOWS IN A GENERAL SOUTHWESTERLY DIRECTION TOWARDS ITS CONFLUENCE WITH THE HUDSON. IT DRAINS AN AREA OF APPROXIMATELY 204 SQ MI.

2335 NY DEC

WATER MANAGEMENT PLAN FOR PLANNING AREA 13-05: WAPPINGER CREEK SUB-BASIN [1977]

NY DEC, ALBANY, NY NP

THIS REPORT DISCUSSES WAPPINGER CREEK WITH ITS TRIBUTARIES, WHICH DRAINS ABOUT 218 SQ MI (139,691 ACRES) OF LAND LYING ENTIRELY WITHIN DUTCHESS COUNTY, NY AND FLOWS TO THE HUDSON RIVER AT NEW HAMBURG. THE WATERSHED INCLUDES PARTS OF THE TOWNS OF MILAN, PINE PLAINS, CLINTON, STANFORD, PLEASANT VALLEY, WASHINGTON, POUGHKEEPSIE, LAGRANGE AND WAPPINGER.

2336 NY DEC

WATER MANAGEMENT PLAN FOR PLANNING AREA 13-06: RONDOUT-WALLKILL SUB-BASIN [1977]

NY DEC, ALBANY, NY NP

THIS REPORT DISCUSSES THE RONDOUT CREEK WHICH HAS ITS SOURCE IN THE HEAVILY WOODED MOUNTAINS FORMING THE WITTEMBURG CHAIN. IT FLOWS SOUTHEASTERLY TO NAPANOCH, WHERE IT TURNS ABRUPTLY TO THE NORTHEAST AND ENTERS THE HUDSON RIVER AT KINGSTON.

2337 NY DEC .

WATER MANAGEMENT PLAN FOR PLANNING AREA 13-02: CROTON RIVER SUB-BASIN [1977]

NY DEC. ALBANY, NY NP

THE CROTON RIVER WATERSHED IS 378 SO MI IN AREA. THERE ARE SEVEN MAJOR STREAMS IN THE WATERSHED: MUSCOOT RIVER, WEST BRANCH CROTON RIVER, EAST BRANCH CROTON RIVER, TITICUS RIVER, CROSS RIVER, STONEHILL RIVER AND KISCO RIVER. THIS STUDY PERMITS THE COUNTY TO IDENTIFY AND CONTROL THE MOST SERIOUS RECOGNIZED WATER POLLUTION PROBLEMS INITIALLY, AND, OVER A PERIOD OF TIME, TO RESOLVE REMAINING PROBLEMS WITHIN THE FRAMEWORK OF AN ANNUAL CONTINUING PLANNING PROCESS.

2338 NY DEC

WATER MANAGEMENT PLAN FOR PLANNING AREA 13-07: ESOPUS CREEK SUB-BASIN [1977]

NY DEC, ALBANY, NY NP

THIS REPORT DISCUSSES ESOPUS CREEK WHICH ORIGINATES IN THE SOUTHWESTERN PORTION OF THE TOWN OF SHANDAKEN, ULSTER COUNTY AT AN

ELEVATION OF 2648 FT.

2339 NY DEC

HUDSON RIVER--PCB STUDY DESCRIPTION AND DETAILED WORK PLAN [1977]

BUREAU OF WATER RES. DIV OF PURE WATERS. NY DEC. ALBANY. NY NP

THIS BROCHURE PROVIDES A DESCRIPTION OF THE NY DEC PROGRAM CONCERNING THE ACTION BROUGHT AGAINST GENERAL ELECTRIC RELATING TO THE DISCHARGE OF PCBS INTO THE HUDSON RIVER. PART OF THE SETTLEMENT IS THE DEPARTMENT'S PROGRAM FOR MONITORING AND RECLAMATION OF THE RIVER.

2340 NY DEC

TOXIC SUBSTANCES IN NEW YORK'S ENVIRONMENT, AN INTERM REPORT, VOLUMES I & II [1979]

NY DEC, ALBANY, NY NP

THIS REPORT DESCRIBES THE NATURE AND AMOUNT OF TOXIC MATERIALS PRESENTLY IN THE ENVIRONMENT IN NEW YORK; OUTLINES WHAT THE STATE HAS DONE TO MANAGE TOXIC SUBSTANCES; PROPOSES NEW INITIATIVES FOR STATE ACTION; AND OFFERS RECOMMENDATIONS FOR NEW LEGISLATION AND FUNDING TO CONTROL IN-PLACE TOXICS. THE TECHNICAL BASIS FOR THE REPORT WAS PREPARED BY THE JOINT NY DEC-DOH TASK FORCE ON IN-PLACE TOXIC SUBSTANCES. TOXIC SUBSTANCES ARE MATERIALS WHICH CAUSE INJURY TO LIVING THINGS, EITHER IMMEDIATELY OR OVER THE LONG TERM. AS A RESULT OF INDUSTRIAL ACTIVITY, LARGE AMOUNTS OF SYNTHETIC ORGANIC CHEMICALS AND HEAVY METALS HAVE ENTERED THE AIR, WATER AND SOIL OF THE STATE. THESE MATERIALS CAUSE A VARIETY OF TOXIC EFFECTS AND DO NOT BREAK DOWN EASILY IN THE ENVIRONMENT. PAST DISPOSAL PRACTICES HAVE RESULTED IN CONCENTRATIONS OF THESE PERSISTENT TOXICS IN THREE PRINCIPAL ENVIRONMENTAL SINKS: LAND, GROUNDWATER, AND AQUATIC SEDIMENTS. FROM THESE SINKS, TOXIC MATERIALS MIGRATE CONTINUALLY TO AIR AND SURFACE WATER, FURTHER CONTAMINATE GROUNDWATER, AND ENTER THE FOOD SUPPLY, AFFECTING BOTH THE PUBLIC HEALTH AND THE ENVIRONMENT. VOL. II IS SEPARATE AND CONTAINS 8 APPENDICES: (1) LAND DISPOSAL SITES; (2) INFORMATION DOSSIERS; (3) CLOSED LONG ISLAND WATER SUPPLIES (4) AFFECTED WATER SUPPLIES; (5) RECOMMENDED ACTIONS; (6) CRITERIA FOR EMMINENT ENVIRONMENTAL HAZARD; (7) INVESTIGATION AND CONTROL PROCEDURES FOR WASTE SITES; (8) LEGISLATIVE RECOMMENDATIONS.

2341 NY DEC

QUARTERLY REPORT ON TOXIC SUBSTANCES IMPACTING ON FISH AND WILDLIFE [1979]

REP 1. VOL 3. NY DEC, ALBANY, NY 21 PP

THE REPORTS CONTAIN A SUMMARY OF CONTAMINANTS DATA ON VARIOUS SPECIES OF FISH AND WILDLIFE, AN INTERPRETATION OF DATA BY SPECIES AND/OR COLLECTION SITES, A STATEMENT OF ACTIONS TO BE TAKEN AS A RESULT OF INTERPRETATIONS, PERTINENT FACTS NOT PREVIOUSLY REPORTED AND A BRIEF DESCRIPTION OF WORK PLANNED DURING THE NEXT MONTH IN THE FIELD AND IN ANALYTICAL LABORATORIES OF THE DIVISION OF FISH AND WILDLIFE, BUREAU OF ENVIRONMENTAL PROTECTION, OR IN OTHER COOPERATING LABORATORIES. SPECIMENS ANALYZED ARE COLLECTED BY FIELD UNITS OF THE BUREAU OF FISHERIES AND BUREAU OF WILDLIFE.

2342 NY DEC

MONTHLY REPORT ON TOXIC SUBSTANCES IMPACTING ON FISH AND WILDLIFE [1979]

REP 12, VOL 2. NY DEC, ALBANY, NY 52 PP

THIS REPORT CONSISTS OF AN ANNUAL REVIEW OF THE ANALYSES PERFORMED DURING THE 12 MONTH PERIOD FROM MARCH 1978 THROUGH FEBRUARY 1979. PREVIOUSLY UNREPORTED ANALYSES FOR FEBRUARY 1979 ARE INCLUDED IN THE ANNUAL SUMMARIES. THE REPORTS CONTAIN A SUMMARY OF CONTAMINANTS DATA ON VARIOUS SPECIES OF FISH AND WILDLIFE. AN INTERPRETATION OF DATA BY SPECIES AND/OR COLLECTION SITES, A STATEMENT OF ACTIONS TO BE TAKEN AS A RESULT OF INTERPRETATIONS, PERTINENT FACTS NOT PREVIOUSLY REPORTED AND A BRIEF DESCRIPTION OF WORK PLANNED DURING THE NEXT MONTH IN THE FIELD AND IN ANALYTICAL LABORATORIES OF THE DIVISION OF FISH AND WILDLIFE, BUREAU OF ENVIRONMENTAL PROTECTION, OR IN OTHER COOPERATING LABORATORIES. SPECIMENS ANALYZED ARE COLLECTED BY FIELD UNITS OF THE BUREAU OF WILDLIFE.

2343 NY DEC

HUDSON RIVER PCB STUDY DESCRIPTION AND DETAILED WORK PLAN--IMPLEMENTATION OF PCB SETTLEMENT [1979]

TECH PAP 58. NY DEC. ALBANY. NY 54 PP

IN 1975, POLYCHLORINATED BIPHENYLS WERE RECOGNIZED AS A PROBLEM IN THE HUDSON RIVER. THE US EPA AND THE FWS ANALYZED SAMPLES OF FISH TAKEN FROM THE RIVER AND FOUND THAT PCB CONCENTRATIONS WERE SUBSTANTIALLY HIGHER THAN THE FDA LIMITS. THE FISH COULD THUS NOT LEGALLY BE SHIPPED FOR INTERSTATE SALE. ACTING ON THIS INFORMATION AND ADDITIONAL EVIDENCE COLLECTED BY THE MY DEC, THE DEPARTMENT CHARGED THE GENERAL ELECTRIC COMPANY (GE) WITH POLLUTING THE RIVER WITH THE TOXIC SUBSTANCE PCB. THE PAPER DISCUSSES THE SUBSEQUENT HEARINGS AND THE SETTLEMENT REACHED BETWEEN GE AND DEC. IT ALSO DESCRIBES THE HUDSON RIVER PROBLEM, STUDIES OF THE RIVER, PCB ENVIRONMENTAL IMPACT, REMOVAL TECHNOLOGIES, ESTIMATED COSTS OF IMPLEMENTATION AND OTHER ASPECTS OF THE SETTLEMENT.

2344 NY DEPT OF COMMERCE

NASSAU-SUFFOLK DISTRICT: PROFILE OF BUSINESS AND INDUSTRY; BUSINESS FACT BOOK PART 1 [1976]

NY DEPT OF COMMERCE, JERICHO, NY 24 PP

THE OUTLOOK FOR THE FUTURE OF THE NASSAU-SUFFOLK DISTRICT IS FOR CONTINUED GROWTH--SIMPLY BECAUSE THE AREA PROVIDES A FAVORABLE ENVIRONMENT FOR SUCH GROWTH. FOR INDUSTRY, IT OFFERS AN ALMOST LIMITLESS ACCESS TO BUSINESS AND TECHNICAL SERVICES, PROXIMITY TO LARGE CONSUMER AND INDUSTRIAL MARKETS, A HIGHLY SKILLED LABOR FORCE AND AN ENVIRONMENT SUITABLE FOR DEVELOPMENT AND EXPANSION. FOR ITS RESIDENTS, THE AREA OFFERS A FAVORABLE CLIMATE, COMFORTABLE AND MODERN HOUSING AND ABUNDANT RECREATIONAL FACILITIES. WHAT WAS ONCE A HAVEN OF PLEASURE FOR THE FEW HAS BECOME A THRIVING CENTER OF WATER AND LAND SPORTS FOR EVERYONE, WITH BOUNTIFUL OPPORTUNITIES FOR SWIMMING, BOATING, TENNIS, GOLF, HIKING AND NUMEROUS OTHER FORMS OF OUTDOOR RECREATION. THESE FACTORS AND MANY OTHERS MAKE THE DISTRICT A POPULAR PLACE IN WHICH TO LIVE AND WORK.

2345 NY DEPT OF HEALTH

WASTE TREATMENT HANDROOK--INDIVIDUAL HOUSEHOLD SYSTEMS [1975]

NY DOH, ALBANY, NY 35 PP

THE "WASTE TREATMENT HANDBOOK--INDIVIDUAL HOUSEHOLD SYSTEMS" HAS BEEN PRODUCED TO PROVIDE A UNIFORM BASIS FOR THE EFFECTIVE DESIGN, CONSTRUCTION AND MAINTENANCE JF HOUSEHOLD SEWAGE DISPOSAL SYSTEMS. IT HAS BEEN PREPARED FOR USE BY HOMEOWNERS, ENGINEERS, ARCHITECTS, BUILDERS, CONTRACTORS, LOCAL COMMUNITY AND HEALTH DEPARTMENT OFFICIALS WHO DEPEND UPON THESE SYSTEMS TO PROVIDE ADEQUATE DISPOSAL OF DOMESTIC SEWAGE IN A SAFE, SANITARY MANNER. THE NEW YORK STATE CODE OF RULES AND REGULATIONS (10 NYCRR 75) IDENTIFIES THIS BULLETIN AS THE BASIS FOR INDIVIDUAL SEWAGE DISPOSAL SYSTEMS STANDARDS. MATERIAL PRESENTED IN THIS BULLETIN REFLECTS THE PRACTICES AND EXPERIENCE OF THE NEW YORK STATE AND LOCAL DEPARTMENTS OF HEALTH, RECOMMENDATIONS OF FEDERAL AGENCIES, AND APPLICABLE STANDARDS OF THE NATIONAL SANITATION FOUNDATION AND UNDERWRITERS" LABORATORIES. MANY OF THE SUGGESTED DESIGNS AND CONSTRUCTION TECHNIQUES INCLUDED IN THIS BULLETIN REPRESENT RECENT IMPROVEMENTS IN SEWAGE DISPOSAL SYSTEM

TECHNOLOGY AND ARE THE PRODUCT OF INTENSIVE RESEARCH IN SOILS, HYDROLOGY AND WASTEWATER MANAGEMENT.

2346 NY DEPT OF HEALTH

OCCURRENCE OF NATURAL FLUORIDE IN COMMUNITY WATER SYSTEMS IN NEW YORK STATE -- A COMMUNITY WATER SUPPLY REPORT [1976]

NY DOH, ALBANY, NY 45 PP

STUDIES BEGINNING IN THE 1930'S PROVED THAT NATURAL OR SUPPLEMENTALLY ADDED FLUORIDE AT CONCENTRATIONS OF APPROXIMATELY 1.0 mg/1 had a definite beneficial effect in the reduction of the incidence of dental cavities. As a result of these studies, a number of community water systems in ny add appropriate amounts of fluoride to their drinking water to take advantage of this physiological effect. In relation to this procedure, it should be noted that a number of community water system sources in ny already contain natural fluoride at concentrations equal to or greater than 0.1 mg/1. This report has been prepared to provide a summarization of the occurrence of natural fluoride in the sources of ny's community water systems.

2347 NY DEPT OF HEALTH

A STUDY OF CHEMICALS IN WATER FROM SELECTED COMMUNITY WATER SYSTEMS WITH MAJOR EMPHASIS IN THE MOHAWK AND HUDSON RIVER BASINS

NY DOH, ALBANY, NY 64 PP

THE OBJECTIVES OF THIS FIFTH IN A SERIES OF 5 DRINKING WATER QUALITY INVESTIGATIONS WERE TO (1) DEFINE THE SEASONAL WATER QUALITY IN THE MOHAWK AND HUDSON RIVER DRAINAGE BASINS, (2) INVESTIGATE THE BENTHIC LOADING OF CHEMICALS IN THE BASINS BY ANALYZING SEDIMENT SAMPLES, (3) CONTINUE AND EXPAND THE NUMBER OF WATER SYSTEMS PREVIOUSLY INVESTIGATED WITH RESPECT TO CHEMICALS IN DRINKING WATER. THROUGHOUT THE YEAR, SAMPLES WERE TAKEN SELECTIVELY OF RAW WATER AND TREATED DRINKING WATER FROM SYSTEMS WITH GROUND AND SURFACE SOURCES. SOME 32,000 CHEMICAL ANALYSES WERE MADE ON SAMPLES OF WATER REPRESENTING SYSTEMS WITH 50% OF THE STATE POPULATION AND 54% OF THE RESIDENTS USING PUBLIC WATER SYSTEMS. THIS REPORT IS UNIQUE FROM THE PRECEEDING REPORTS IN THAT A SPECIAL SECTION EVALUATING THE REMOVAL OF COMPOUNDS FROM RAW WATER BY SELECTED FILTRATION SYSTEMS HAS BEEN INCLUDED. IT REPORTS DATA COLLECTED FROM MAY 1974 TO MAY 1975.

2348 NY DEPT OF HEALTH

COMMUNITY WATER SYSTEMS THAT PURCHASE ALL THEIR WATER: PUBLIC WATER SUPPLY GUIDE--AN INVENTORY [1977]

NY DOH. ALBAYY. NY 34 PP

SOME 998,553 PERSONS RECEIVE THEIR DRINKING WATER FROM HOST SYSTEMS IN NY. THIS REPRESENTS ABOUT 5% OF THE TOTAL STATE POPULATION AS OF JULY 1, 1976. A TOTAL OF 305 MUNICIPAL WATER SUPPLIES ARE IN THIS CATEGORY OF "SATELLITE" SYSTEMS, HAVING NO SOURCE OF THEIR OWN. INCLUDED HERE IS INFORMATION ON MUNICIPAL WATER SUPPLIED RECEIVING WHOLESALE WATER FROM A SOURCE SYSTEM THEN, IN TURN, RETAILING THIS WATER TO THEIR CUSTOMERS.

2349 NY DEPT OF HEALTH

OCCURENCE OF SODEUM IN COMMUNITY WATER SYSTEMS IN NEW YORK STATE--A COMMUNITY WATER SUPPLY REPORT [1977]

NY DOH, ALBANY, NY NP

THE HEALTH EFFECTS OF SODIUM IN DRINKING WATER HAVE BEEN OF INCREASING CONCERN IN RECENT YEARS. RESTRICTED SODIUM DIETS ARE

RECOMMENDED BY PHYSICIANS IN THE TREATMENT OF NUMEROUS CONDITIONS INCLUDING: HYPERTENSION, CONGESTIVE CARDIAC FAILURE, AND TOXEMIAS OF PREGNANCY. FOR INDIVIDUALS ON A VERY RESTRICTED SODIUM DIET, IT IS RECOMMENDED THAT A MAXIMUM SODIUM LEVEL OF 20 MG/1 BE PRESENT IN WATER USED FOR DRINKING AND COOKING. ABOUT 12% OF THE COMMUNITY WATER SYSTEMS SURVEYED CONTAINED SODIUM CONCENTRATIONS IN EXCESS OF 20 MG/1. THIS REPORT HAS BEEN PREPARED TO PROVIDE A SUMMARY OF THE OCCURRENCE OF SODIUM IN COMMUNITY WATER SYSTEMS IN NEW YORK STATE.

2350 NY DEPT OF PUBLIC WORKS

ANALYSIS OF AMBROSE CHANNEL SANDS [1974]

UNPUBL REP SUBMITTED TO NY OFFICE OF GENERAL SERVICES. NY DEPT OF PUBLIC WORKS. ALBANY. NY NP

THO SAMPLES DREDGED FROM THE WEST BANK OF AMBROSE CHANNEL AND COLLECTED ON NJ ROUTE 95, WERE ANALYZED FOR GRAIN SIZE DISTRIBUTION AND MINERALOGY. THE SAND COMPOSITION WAS 94% QUARTZ, 4% MICA AND CHLORITE, 1% SHELL, AND 1% OTHER, WHICH IS ACCEPTABLE FOR MOST USES. THE AMBROSE CHANNEL SANDS MET GRADATION REQUIREMENTS FOR GROUT SAND, FILTER SAND FOR SEWAGE, AND MOULDING SAND FOR FOUNDRY CASTINGS.

2351 NY DEPT OF STATE

NEW YORK STATE SERVICES TO LOCAL GOVERNMENTS [1976]

NY DEPT OF STATE. ALBANY. NY NP

THIS DIRECTORY HAS BEEN PREPARED BY THE DEPARTMENT OF STATE AS A SERVICE TO LOCAL OFFICIALS, IN PARTICULAR, AND INTERESTED CITIZENS, IN GENERAL, WHO NEED TO COMMUNICATE DIRECTLY WITH STATE AGENCIES. IT IS OUR HOPE THAT THIS PUBLICATION WILL FACILITATE SUCH COMMUNICATION AND THUS ENHANCE RELATIONSHIPS BETWEEN THE STATE AND ITS CONSTITUENTS. THE DIRECTORY OF STATE SERVICES DEPARTS FROM THE USUAL FORMAT BY ASSUMING THAT THE INDIVIDUAL IN NEED OF ASSISTANCE KNOWS THE PROBLEM OR SUBJECT AREA BUT NOT NECESSARILY THE APPROPRIATE PLACE TO FIND THE ANSWER. TO MEET THIS NEED WE HAVE ORGANIZED THE INFORMATION BY FUNCTION SO THAT ONE CAN LOOK UP SUCH DIVERSE SUBJECTS AS ARCHITECTURE, CEMETERIES, JOB TRAINING AND STATE-OWNED LAND, AND FIND DIRECTION TO APPROPRIATE AGENCY.

2352 NY DEPT OF STATE

THE NEW YORK STATE COASTAL MANAGEMENT PROGRAM -- INITIAL STATEWIDE BOUNDARY [1977]

NY DEPT OF STATE, ALPANY, NY 89 PP

THIS PAPER EXPLAINS THE PROCESS BY WHICH NEW YORK HAS DELINEATED AN INITIAL STATEWIDE COASTAL MANAGEMENT BOUNDARY. INCLUDED IS A COUNTY-BY-COUNTY WRITTEN DESCRIPTION OF THE BOUNDARY PREPARED TO ACCOMPANY THE STATEWIDE BOUNDARY MAPS. THIS BOUNDARY IS NOT YET FINAL. CHANGES MAY BE MADE AS A RESULT OF: MEETINGS WITH LOCAL OFFICIALS, CITIZENS AND INTEREST GROUPS IN THE FALL OF 1977; THE DESIGNATION BY THE STATE OF GEOGRAPHIC AREAS OF PARTICULAR CONCERN; FURTHER EXAMINATION OF "DIRECT AND SIGNIFICANT IMPACTS"; DEVELOPMENT OF LEGAL AND INSTITUTIONAL MECHANISMS FOR THE MANAGEMENT PROGRAM; AND STATEWIDE PUBLIC MEETINGS TO BE HELD IN FERRUARY AND MARCH OF 1978. ALL OF THESE TASKS WILL BE CARRIED OUT DURING THE THIRD YEAR COASTAL MANAGEMENT PROGRAM.

2353 NY DEPI OF TRANSPORTATION

STANDARD SPECIFICATIONS: CONSTRUCTION AND MATERIALS [1973]

NY DEPT OF TRANSPORTATION, ALBANY, NY NP

THIS REFERENCE MANUAL CONTAINS THE GRADATION REQUIREMENTS FOR MORTAR SAND, GROUT SAND, CONCRETE SAND, AND FILL, WHICH WERE USED IN THIS STUDY TO EVALUATE VARIOUS USES FOR LOWER BAY SANDS.

2354 NY DEPT OF TRANSPORTATION

THE OPERATION OF HOVERCRAFT IN THE NEW YORK CITY METROPOLITAN AREA. VOLUME I. A TECHNICAL EVALUATION [1975]

NY DOT. ALBANY. NY 79 PP NTIS-PB-251 234

THE REPORT, VOLUME 1 OF A TWO VOLUME SET, EXAMINES THE TECHNICAL FEASIBILITY OF USING AIR CUSHION VEHICLES (ACV) IN THE INLAND WATERWAYS OF THE NYC METROPOLITAN AREA. THIS EVALUATION WAS BASED ON 1973 TESTS WITH A WELLINGTON CLASS BH 7 HOVERCRAFT ALONG ROUTES REPRESENTING THE MAIN CORRIDORS OF ACTIVITY OF THE NYC REGIONAL WATERWAYS. THE HOVERCRAFT WAS A MILITARY CONFIGURATION WITHOUT WEAPONS, HEAVILY INSTRUMENTED FOR TRIAL AND TESTING FOR MILITARY PURPOSES, AND NOT INTENDED FOR USE AS A COMMERCIAL VEHICLE. DURING THE 3-DAY TRIALS, DATA WERE COLLECTED ON SPEED, DOCKING PROCEDURES, FUELING REQUIREMENTS, AIRPORT ACCESS, OPERATING NOISE LEVELS, AND OPERATIONAL FLEXIBILITY; AND OBSERVATIONS WERE MADE OF PERFORMANCE, COMFORT AND CONVENIENCE.

2355 NY DEPT OF TRANSPORTATION

MANAGEMENT STUDY OF THE METROPOLITAN TRANSPORTATION AUTHORITY [1976]

NY DOT. ALBANY. NY 78 PP

THE DEFICIT CONDITION HAS REACHED CRITICAL PROPORTIONS AND HAS CREATED THE NEED FOR A THOROUGH AND SEARCHING EXAMINATION OF MIA'S MANAGEMENT AND OPERATIONS. RESPONDING TO THIS NEED, GOVERNOR CAREY DIRECTED THE COMMISSIONER OF THE NY DOT, RAYMOND TO SCHULER, TO CONDUCT A COMPREHENSIVE MANAGEMENT STUDY OF THE MTA IN COOPERATION WITH THE MTA AND NYC TO ANALYZE MTA'S STRUCTURE, RESPONSIVENESS, FINANCING, AND OPERATIONS PHASE I INVOLVES THE PLANNING REQUIRED TO DOCUMENT MTA'S RESPONSIBILITIES AND OPERATIONS AND IDENTIFY POTENTIAL AREAS REQUIRING DETAILED STUDY. PHASES II AND III CONSIST OF INDEPTH ANALYSES OF THE AREAS IDENTIFIED DURING PHASE I TO DEVELOP RECOMMENDATIONS AND IMPLEMENTATION STRATEGIES TO MAKE IMPROVEMENTS IN STRUCTURE, CAPABILITIES, AND OPERATIONS. PHASE IV CONSISTS OF THOSE ACTIVITIES REQUIRED TO DISCUSS, APPROVE, AND INSTALL DESIRED CHANGES. IT IS EXPECTED THAT PHASE II WILL REQUIRE 18-24 MO TO COMPLETE. THIS PLANNING DOCUMENT PRESENTS THE RESULTS OF PHASE I OF OUR STUDY.

2356 NY DEPT OF TRANSPORTATION

LONG 1SLAND SOUND BRIDGE STUDY: EXECUTIVE SUMMARY AND RECOMMENDATIONS [1979]

NY DOT, ALBANY, NY 14 PP

REGIONAL RESIDENTS AND BUSINESS EXECUTIVES DIVIDED ABOUT EQUALLY IN TERMS OF THEIR FIRM SUPPORT FOR PUBLIC INVESTMENT IN A NEW BRIDGE, AND THEIR EXPECTATIONS AS TO ITS BENEFITS. SUPPORTERS PRIMARILY LOOKED TO ECONOMIC AND TRANSPORATION ACCESS IMPROVEMENTS, NON-SUPPORTERS TO BRIDGE COSTS, ENVIRONMENTAL AND COMMUNITY PROBLEMS. A SIGNIFICANT PROPORTION GAVE MIXED OR UNCERTAIN RESPONSES, OR ANTICIPATED NJ DIRECT IMPACT ON THEIR AREAS OR ACTIVITIES. A SIMILAR MIX OF VIEWS WAS OBTAINED FROM THE STUDY'S PUBLIC FORUMS AND FROM THE POLICY ADVISORY COMMITTEE. THE REGION AS A WHOLE AND EACH OF ITS SUBREGIONS WILL ENJOY SUBSTANTIAL INCREASES IN ECONOMIC ACTIVITY WITH OR WITHOUT A CROSS-SOUND BRIDGE. QUITE SUBSTANTIAL ADDITIONAL ECONOMIC GROWTH WOULD ACCRUE TO THE REGION WITH A NEW BRIDGE. A NEW BRIDGE ALONG WITH ITS APPROACH ROADS WOULD BE A GIGANTIC CONSTRUCTION INVESTMENT. COSTS ESTIMATES AT THE TIME OF CONSTRUCTION RANGE FROM \$1,028 MILLION TO \$1,973 MILLION. A RAILROAD BRIDGE WOULD BE SO TO 100 PERCENT MORE EXPENSIVE THAN A HIGHWAY BRIDGE AND A COMBINED RAILWAY; HIGHWAY BRIDGE WOULD INCREASE THE HIGHWAY BRIDGE COSTS BY \$1 SILLION.

2357 NY DEPT OF TRANSPORTATION

LONG ISLAND SOUND BRIDGE STUDY--SUMMARY OF FINDINGS [1979]

NY DEPT OF TRANSPORTATION, ALBANY, NY 70 PP

THIS STUDY UPDATES: TRAFFIC AND FINANCIAL ESTIMATES; ENVIRONMENTAL, LAND USE AND COMMUNITY IMPACTS; CONSTRUCTION AND MAINTENANCE COSTS; AND STRUCTURAL COSTS TO CARRY A RAILWAY. ENERGY CONSUMPTION HAS BEEN ESTIMATED. OPINIONS AND INTERESTS OF RESIDENTS AND BUSINESSMEN IN LONG ISLAND, CONNECTICUT AND RHODE ISLAND WERE SAMPLED. THE IMPACT OF A BRIDGE ON ECONOMIC DEVELOPMENT HAS BEEN EVALUATED, BOTH IN TERMS OF THE LARGE INVESTMENT OF CAPITAL DOLLARS AND REDUCTION IN TRAVEL TIME BETWEEN THE AREAS. IMPACTS ON THE ECONOMY--JOBS, HOUSING, INCOME, BUSINESS ACTIVITY--WERE ASSESSED FOR THE AREA AROUND THE SOUND. FEASIBLITY OF FAST, FREQUENT FERRY SERVICE IS ALSO CONSIDERED. THIS STUDY DID NOT ATTEMPT A DETAILED INVESTIGATION OF ALL IMPACTS, BUT RATHER PROVIDES CURRENT INFORMATION ABOUT THE NEED FOR A SOUND CROSSING, ITS BENEFITS, IMPACTS, COSTS AND ACCEPTABILITY IN THE LIGHT OF PRESENT AND FORESEEABLE CIRCUMSTANCES.

2358 NY DIVISION OF THE BUDGET

ORGANIZATION CHARTS--NEW YORK STATE GOVERNMENT [1980]

NY DIV OF THE BUDGET, ALBANY, NY NP

THE DIVISION OF THE PUDGET INCLUDES IN ITS ANNUAL EXECUTIVE BUDGET AN ORGANIZATION CHART OF EACH STATE AGENCY IN ORDER TO FACILITATE AN UNDERSTANDING OF AGENCY ADMINISTRATION. BECAUSE OF THE LIMITED DISTRIBUTION OF THE EXECUTIVE BUDGET, AND THE INTEREST EXPRESSED IN ORGANIZATION CHARTS OF STATE AGENCIES, WE HAVE PREPARED THIS BOOKLET OF SUCH CHARTS TO MAKE THEM MORE GENERALLY AVAILABLE. THE CHARTS REFLECT AGENCY ORGANIZATIONS AS OF SEPTEMBER 1, 1979. BECAUSE OF SPACE LIMITATIONS IT IS IMPRACTICAL TO CHART UNITS BELOW THE BUREAU LEVEL.

2359 NY HUDSON RIVER ENVIRONMENTAL SOCIETY

4TH SYMP ON HUDSON RIVER ECOLOGY, BEAR MOUNTAIN, NY [1976]

HUDSON RIVER ENVIRONMENTAL SOC, NEW YORK, NY NP

34 PAPERS PRESENT INFORMATION IN THREE BROAD CATEGORIES--PUBLIC AFFAIRS, WATER QUALITY, AND BIOLOGY. WATER-QUALITY TOPICS INCLUDE EFFECTS AND DISTRIBUTION OF TEMPERATURE, HEAVY METALS, OXYGEN, AND NATURAL RADIATION. A RADIOCESIUM-TRANSPORT MODEL AND A STEADY-STATE WATER-QUALITY MODEL ARE ALSO DESCRIBED. BIOLOGICAL TOPICS INCLUDE METHODOLOGIES, ABUNDANCE, DISTRIBUTION, AND OCCURRENCE OF VARIOUS ECOSYSTEM COMPONENTS.

2360 NY LEGISLATURE

POLLUTING STREAMS PROHIBITED [1968]

NY CONSERVATION LAW, SECTION 180 (MCKINNEY)

SECTION 180 PROVIDES POLLUTION PROTECTION FOR FISH. NO SEWAGE, DRAINAGE, DELETERIOUS OR POISONOUS SUBSTANCES MAY BE PLACED IN ANY WATERS IN SUCH QUANTITIES AS MAY BE INJURIOUS TO FISH LIFE AND PROPAGATION, OR INJURIOUS TO THE WATERS USED BY THE STATE FISH HATCHERIES. VESSELS MAY NOT DUMP OIL, ACID, ETC, INTO THE WATERS OF THE HUDSON OR MOHAWK RIVERS. FURTHER, NO SOLID SUBSTANCES, EXCEPT SNOW OR ICE, MAY BE DEPOSITED IN OR ON THE BANKS OF ANY STREAM INHABITED BY TROUT.

2361 NY LEGISLATURE

GRANTS OF LANDS UNDERWATER [1968]

NY CONSERVATION LAW, SEC 75, ART 6 (MCKINNEY SUPP 1975-76)

THIS SECTION AUTHORIZES GRANTS OF THE USE, OCCUPATION AND JURISDICTION OF LAND UNDER WATER. THE LANDS CONTEMPLATED BY THIS SECTION ARE THE SUBMERGED LANDS OF NAVIGABLE RIVERS AND LAKES INCLUDING THE HUDSON RIVER, THE FORMER BED OF THE ONONDAGA CREEK AND TIBBETTS BROOK, THE LAND ADJACENT TO AND SURROUNDING GREAT BARN ISLAND BUT NOT SO AS TO AFFECT NAVIGATION, THE LAND ADJACENT TO AND SURROUNDING STATEN ISLAND BUT WITHIN 500 FT FROM THE LOW WATER MARK, AND THE LAND ADJACENT TO AND SURROUNDING LONG ISLAND. SUCH GRANTS, EXCEPT IN SPECIAL CASES, ARE TO BE MADE ONLY TO THE OWNERS OF ADJACENT LAND AND MAY BE IN PERPETUITY FOR AGRICULTURAL, RECREATION, CONSERVATION OR OTHER SPECIFIED PURPOSES. VARIOUS LIMITATIONS ARE PLACED ON THE GRANTS ALLOWED. GRANTS MAY ALSO BE MADE TO THE US FOR THE PURPOSE OF IMPROVING NAVIGATION BUT CONCURRENT JURISDICTION BY NY AND THE US MUST BE MAINTAINED OVER SUCH LANDS. THIS SECTION HAS BEEN AMENDED AND IS SUPPLEMENTED.

2362 NY LEGISLATURE

PROPOSED WATER SUPPLY PROJECTS FOR SOUTHEASTERN NEW YORK [1973]

NY LEGISLATIVE TEMPORARY COMMISSION ON WATER SUPPLY NEEDS OF SOUTHEASTERN NY. ALBANY. NY 300 PP

LOCAL AND REGIONAL WATER SUPPLY PROJECTS TO OVERCOME WATER DEFICIENCIES THROUGH 2020 IN SOUTHEASTERN NY ARE DISCUSSED. AVAILABLE WATER SOURCES ARE INVENTORIED TO DETERMINE WHICH CAN BE DEVELOPED FOR PUBLIC WATER SUPPLY. CRITERIA TO APPLY IN PROJECT PROPOSAL DEVELOPMENT ARE PRESENTED TO MEASURE PROJECT VALUE. LOCAL PROJECTS RECOMMENDED IN PREVIOUS WATER SUPPLY STUDIES ARE REVIEWED TO DETERMINE IF THEY ARE FEASIBLE AND OFFER THE BEST ALTERNATIVES FOR WATER SUPPLY USE. IF DETERMINED TO BE FEASIBLE, ANTICIPATED YIELDS ARE SUBTRACTED FROM ANTICIPATED COUNTY AND REGIONAL SUPPLY DEFICITS. HOWEVER, A LARGE SUPPLY DEFICIT STILL REMAINS, WHICH MUST BE COMPENSATED FOR BY REGIONAL PROJECTS. 18 REGIONAL PROJECTS ARE DISCUSSED AND INCLUDE DATA CONCERNING SUPPLY CAPACITY, CONSTRUCTION STAGES, OPERATING AGENCIES, LAND REQUIREMENTS, AND COST. ALL PROJECTS ARE COMBINED INTO A REGIONAL PLAN TO OFFER DIFFERENT POSSIBILITIES FOR SUPPLYING REGIONAL DEFICITS THROUGH 2020. REGIONAL PLANS ARE FIRST DERIVED, ASSUMING A MIDDLE LEVEL OF POPULATION PROJECTION AND UNIVERSAL METERING, AND THE BEST ALTERNATIVE IS SELECTED. THIS PLAN IS INSPECTED TO SEE HOW THE COMBINATION AND TIMING OF PROJECTS WOULD CHANGE IF POPULATION PROJECTIONS AND UNIVERSAL METERING ASSUMPTIONS WERE MODIFIED. ADDITIONAL PROJECTS TO DEVELOP REGIONAL WATER SUPPLIES ARE THEN PROPOSED.

2363 NY LEGISLATURE

MEASURES TO REDUCE WATER CONSUMPTION IN SOUTHEASTERN NEW YORK [1973]

NY LEGISLATIVE TEMPORARY COMMISSION ON WATER SUPPLY NEEDS OF SOUTHEASTERN NY. ALBANY, NY 106 PP

PUBLIC WATER SUPPLY DEFICITS IN SOUTHEASTERN NY ARE ESTIMATED TO BE BETWEEN 410 AND 570 MGD IN 2000 AND BETWEEN 710 AND 1000 MGD IN 2020. MEASURES TO DECREASE EXPECTED NEEDS, INCLUDING UNIVERSAL METERING, REDUCTION OF LEAKAGE FROM WATER DISTRIBUTION SYSTEMS, INCREASED WATER PRICE TO CONSUMERS TO REDUCE DEMAND, REPLACEMENT OF RESIDENTIAL WATER-USING APPLIANCES AND FIXTURES BY THOSE USING LESS WATER, AND PUBLIC EDUCATION CAMPAIGNS, ARE ANALYZED. UNIVERSAL METERING FOR NYC IS RECOMMENDED TO ALLOW DETAILED ANALYSIS OF WHERE HIGH WATER USE AND POSSIBLE LEAKAGE OCCUR. METERING REQUIREMENTS MUST BE INCLUDED IN BUILDING CODES. USE OF WATER-SAVING TOILETS, SHOWER HEADS, AND APPLIANCES IS ENCOURAGED, PROMOTED THROUGH METERING, PUBLIC EDUCATION, AND HIGHER-PRICED WATER. WATER PRICING TO INFLUENCE CONSUMPTION IS RECOMMENDED. RETAIL PRICE FOR METERED WATER IN THE CITY SHOULD REMAIN AT \$.525 / 100 CU FT UNTIL ADDITIONAL INFORMATION IS OBTAINED TO DEVELOP A SOPHISTICATED PRICING SCHEDULE. AN INTENSE CAMPAIGN OF EDUCATION SIMILAR TO THE ONE USED DURING THE DROUGHT OF THE 1960'S IS RECOMMENDED ONLY IN THE EVENT OF WATER SHORTAGES, YET A LONG-RANGE PUBLIC EDUCATION CAMPAIGN SHOULD STRESS WATER-SAVING METHODS AND APPLIANCES, WATER PRICING, AND METERING.

2364 NY LEGISLATURE

LEGAL, OPERATIONAL AND FINANCIAL DATA ON WATER SUPPLY SYSTEMS [1973]

NY LEGISLATIVE TEMPORARY COMMISSION ON WATER SUPPLY NEEDS OF SOUTHEASTERN NY. ALBANY. NY 292 PP

RECOGNIZING THAT THE FUTURE ECONOMIC GROWTH AND PHYSICAL WELL-BEING OF THE SOUTHEASTERN PORTION OF NY, INCLUDING NYC AND THE COUNTIES OF NASSAU, SUFFOLK, WESTCHESTER, ROCKLAND, PUTNAM, ORANGE, ULSTER AND DUTCHESS WILL REQUIRE THE DEVELOPMENT OF VAST NEW SOURCES OF WATER AND RELATED WATER SUPPLY FACILITIES AND NOTING THAT EARLY, COMPREHENSIVE PLANNING IS ESSENTIAL IF THE LONG RANGE NEEDS OF THIS AREA FOR ADEQUATE WATER SUPPLY FACILITIES ARE TO BE MET WITH DUE REGARD FOR CONSERVATION, NATURAL BEAUTY, COST AND THE MOST EQUITABLE AND EFFICIENT UTILIZION OF THE WATER AND OTHER NATURAL RESOURCES OF THE STATE OF NY, THE LEGISLATURE IN 1969 DIRECTED THAT A STUDY OF THE SITUATION BE MADE. AMONG THE SPECIFIC RECOMMENDATIONS THAT THIS COMMISSION WAS DIRECTED TO MAKE ARE: (1) ALTERNATIVES FOR THE DEVELOPMENT OF ADDITIONAL WATER SUPPLY FACILITIES, AND (2) ALTERNATIVES FOR FINANCING AND ADMINISTERING THE CONSTRUCTION, OPERATION AND MAINTENANCE OF THE FACILITES, INCLUDING GOVERNMENTAL STRUCTURES AND A DELINATION OF THE AREAS OF PROPER STATE AND LOCAL RESPONSIBILITIES.

2365 NY LEGISLATURE

INSTITUTIONAL ARRANGEMENTS AND ALTERNATIVE FUTURES [1973]

NY LEGISLATIVE TEMPORARY COMMISSION ON WATER SUPPLY NEEDS OF SOUTHEASTERN NY, ALBANY, NY 255 PP

NUMEROUS INSTITUTIONS GOVERNING WATER SUPPLY IN SOUTHEASTERN NY ARE THE PRODUCT OF AD HOC RESPONSES TO INDIVIDUAL WATER NEEDS AND PRECLUDE A UNIFIED EFFORT TO MEET REGIONAL NEEDS. THIS REGIONAL APPROACH IS NEEDED TO ENCOMPASS SOURCE AS WELL AS SERVICE AREAS AND CAN FUNCTION MORE EFFICIFITLY AND EQUITABLY. 24 RECUMMENDATIONS ARE PRESENTED FOR REGIONAL WATER SUPPLY DEVELOPMENT, INCLUDING THE FOLLOWING EXAMPLES: A REGIONAL SELF-SUPPORTING CORPORATION SHOULD BE ESTABLISHED BY THE LEGISLATURE TO PLAN, DEVELOP, CONSTRUCT, AND OPERATE WATER SUPPLY FACILITIES AND TO TAKE OVER NYC'S EXISTING UPSTATE FACILITIES. COUNTIES AND NYC WOULD BE THE SOLE PURCHASES FROM THE REGIONAL SUPPLIER AND WOULD THEN RE-SELL TO LOCAL AUTHORITIES. FEDERAL, INTERSTATE, AND STATE ROLES SHOULD BE RESTRICTED TO RESEARCH DATA COLLECTION, PLANNING, REGULATION, AND FINANCIAL ASSIBTANCE FUNCTION. LOCAL GOVERNMENTS SHOULD CONSOLIDATE WATER SUPPLY AND RELATED SERVICES, AS WELL AS INTEGRATE WATER SUPPLY AND WASTE WATER DISPOSAL SERVICES. DEVELOPERS SHOULD CONSTRUCT WATER, SEWAGE, AND DRAINAGE SYSTEMS AT THEIR OWN EXPENSE, BUT MUNICIPALITIES SHOULD SERVICES.

2366 NY LEGISLATURE

EMERGENCY WATER SUPPLY TECHNOLOGY [1973]

NY LEGISLATIVE TEMPORARY COMMISSION ON WATER SUPPLY NEEDS OF SOUTHEASTERN NY, ALBANY, NY 122 PP

THIS REPORT INVESTIGATES NEW TECHNOLOGICAL METHODS WHICH MIGHT BE USED TO FURNISH NEEDED QUANTITIES OF FRESH WATER. FROM A REVIEW OF CURRENT LITERATURE, THE STATE-OF-THE-ART AND FEASIBILITY OF DESALINATION, INDUCED RAINFALL, RECLAMATION AND REUSE, AND RECHARGE ARE ANALYZED. TO ENCOURAGE AN EXCHANGE OF INFORMATION AND TO GET THE ADVANTAGE OF THEIR EXPERTISE, PORTIONS OF THIS REPORT WERE SENT TO THE OFFICE OF SALINE WATER, USGS, US EPA, CORPS OF ENGINEERS, NY DEC, NY ASDA, AND THE NY DOH. THE COMMENTS AND SUGGESTIONS FROM THESE AGENCIES WERE INCLUDED IN THE PREPARATION OF THIS REPORT.

2367 NY LEGISLATURE

WATER FOR TOMORROW [1975]

NY LEGISLATIVE TEMPORARY COMMISSION ON WATER SUPPLY NEEDS OF SOUTHEASTERN NY, ALBANY, NY NP

THIS COLLECTION OF REPORTS ON SOUTHEASTERN NY INCLUDES: THE SCOPE OF PUBLIC WATER SUPPLY NEEDS; MEASURES TO REDUCE WATER CONSUMPTION; EMERGING WATER SUPPLY TECHNOLOGY; PROPOSED WATER SUPPLY PROJECTS; INSTITUTIONAL ARRANGEMENTS AND FUTURE ALTERNATIVES: RECOMMENDATIONS OF THE COMMISSION.

2368 NY LEGISLATURE

SOLID JASTE MANAGEMENT IN NEW YORK STATE PROGRAM AUDIT 2.1.76 [1976]

NY LEGISLATIVE COMMISSION EXPENDITURE REVIEW, ALBANY, NY 108 PP

THE STATE HAS CONSOLIDATED ITS SOLID MASTE ACTIVITY IN ONE ADMINISTRATIVE UNIT. STATE EFFORT CONCENTRATES ON REGULATION OF EXISTING DISPOSAL FACILITIES, 100 % FINANCIAL ASSISTANCE FOR COMPREHENSIVE SOLID WASTE PLANNING, AND 50 % FINANCIAL ASSISTANCE FOR THE PLANNING AND CONSTRUCTION OF RESOURCE RECOVERY FACILITIES. REGULATIONS HAVE BEEN EFFECTIVE IN REDUCING THE NUMBER OF REFUSE DISPOSAL AREAS IN THE STATE OUTSIDE NYC FROM 1,600 IN 1963 TO 700 LANDFILLS IN 1975. HOWEVER, 244 (35 %) OF THESE REMAINING LANDFILLS IN ARE IN VIOLATION OF EXISTING REGULATIONS AND 98 OF THEM WERE REPORTED IN VIOLATION IN 1969. THIRTY-FOUR OF THE 41 INCINERATORS WERE IN VIOLATION OF AIR QUALITY STANDARDS. RESOURCE RECOVERY HAS NOT PROGRESSED PRIMARILY BECAUSE THE TECHNOLOGY IS NEW, EXPENSIVE, AND LARGELY UNPROVEN EXCEPT IN PROTOTYPE OPERATIONS. WHILE APPLICATIONS HAVE BEEN MADE FOR \$175 MILLION IN BOND FUNDS AVAILABLE SINCE 1972, THEY ARE BASED LARGELY ON INCOMPLETELY DEFINED PROJECTS WHICH STAKE CLAIMS TO PORTIONS OF THE BOND MONEY. FEW OF THE PROJECTS HAVE PROGRESSED BEYOND THE EARLY PLANNING STAGE.

2369 NY LEGISLATURE

STATE ENVIRONMENTAL PERMITS PROGRAM AUDIT 7.1.77 [1977]

NY LEGISLATIVE COMMISSION ON EXPENDITURE REVIEW, ALBANY, NY 116 PP

THE PROCESSING OF ENVIRONMENTAL PERMITS AT DEC FOR STREAM PROTECTION, FRESHWATER WETLANDS, AND AIR POLLUTION CONTROLS HAS PROCEEDED EXPEDITIOUSLY. THESE PERMITS ARE NORMALLY ISSUED BY DEC REGIONS AND DO NOT HAVE TO BE REFERRED TO THE HEADQUARTERS OF DEC IN ALBANY. TIDAL WETLANDS PERMITS WITH NO PUBLIC HEARINGS HELD, AVERAGED 3 MO TO PROCESS WITHIN DEC REGIONAL AND CENTRAL OFFICES. DEC TIDAL WETLANDS PERMITS ON WHICH A HEARING WAS HELD AVERAGED 10 MO AND POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS AVERAGED 7 MO TO PROCESS.

2370 NY OFFICE OF COMPTROLLER

AUDIT REPORT ON THE DIVISION OF MARINE AND COASTAL RESOURCES AND THE DIVISION OF LANDS AND FORESTS, DEPARTMENT OF ENVIRONMENTAL CONSERVATION [1976]

REP NO AL-ST-21-77. NY OFFICE OF COMPIROLLER. ALBANY. NY 23 PP

WE HAVE EXAMINED THE FINANCIAL AND OPERATING CONTROLS AND PRACTICES OF THE DIVISION OF MARINE AND COASTAL RESOURCES AND THE DIVISION OF LANDS AND FORESTS IN THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AS OF APRIL 30, 1976. OUR EXAMINATION WAS MADE IN ACCORDANCE WITH GENERALLY ACCEPTED AUDITING STANDARDS, AND ACCORDINGLY INCLUDED SUCH TESTS OF RECORDS AND SUCH OTHER AUDITING PROCEDURES AS WE CONSIDERED NECESSARY IN THE CIRCUMSTANCES. THE EXAMINATION WAS MADE PURSUANT TO THE COMPTROLLER'S AUDIT RESPONSIBILITIES, AS SET FORTH IN SECTION 1, ARTICLE V OF THE STATE CONSTITUTION AND SECTION 8, ARTICLE 2 OF THE STATE FINANCE LAW.

2371 NY OFFICE OF PARKS AND RECREATION

PEOPLE: RESOURCES: RECREATION 1978--NEW YORK STATEWIDE COMPREHENSIVE RECREATION PLAN [1978]

NY OFF OF PARKS AND RECREATION. ALBANY. NY 364 PP

THE PURPOSE OF THE STATEWIDE COMPREHENSIVE RECREATION PLAN (SCRP) IS TO PROVIDE PROGRAM AND POLICY DIRECTION AND GUIDANCE IN DEALING WITH THESE ISSUES AND RELATED MATTERS IN AN EFFICIENT, EFFECTIVE AND PROGRAMMATIC WAY. FURTHER, THE SCRP IDENTIFIES POTENTIALS AND OPPORTUNITIES AND ADVOCATES NEW PROGRAM DIRECTIONS. SERVING PEOPLE IS THE PRIMARY FOCAL POINT OF THE STATE'S PARK AND RECREATION SYSTEM COUPLED WITH THE RECOGNIZED NEED TO PROTECT FRAGILE LAND AND WATER RESOURCES. THE PLANNING THAT GOES INTO SCRP, IF IT IS TO BE MEANINGFUL, MUST BE CONDUCTED ON A CONTINUING BASIS AND ENCOMPASS THE ENTIRE RANGE OF HUMAN ACTIVITIES IN THE TOTAL ENVIRONMENT—SOCIAL, ECONOMIC AND PHYSICAL. DEMOGRAPHIC INCOME AND LEISURE TIME CHANGES, COUPLED WITH INCREASING URBANIZATION, ARE RESULTING IN EVER EXPANDING DEMANDS UPON A FIXED RESOURCE BASE. WE MUST CONTINUE TO PLAN AHEAD WITH BOLDNESS AND IMAGINATION IF FUTURE GENERATIONS ARE TO BE ABLE TO REFLECT BACK ON OUR STEWARDSHIP WITH PRIDE.

2372 NY OFFICE OF PLANNING COORDINATION

LONG ISLAND WATER RESOURCES [1970]

HUDSON PROJECT REP NYP 1/6. NY DEC. ALBANY, NY. 64 PP NTIS-PB-194 199

THE REPORT DISCUSSES THE UNIQUE PROBLEMS OF LONG ISLAND, STEMMING FROM ITS RELIANCE UPON A GROUNDWATER RESERVOIR. SUPPLEMENTED BY TABLES, MAPS AND GRAPHS, THE TEXT EXPLAINS AVAILABLE SUPPLIES, MAN-MADE PROBLEMS WHICH INFLUENCE SUPPLIES, PRESENT AND FUTURE WATER DEMANDS FOR DIVERSE PURPOSES AND ALTERNATIVE METHODS OF MEETING FUTURE DEMANDS. ALSO INCLUDED ARE SECTIONS FROM THE STATE CONSERVATION LAW, DESCRIBING THE PROCEDURE FOR FORMING A REGIONAL WATER RESOURCES PLANNING BOARD.

2373 NY SCIENTIST'S COMMITTEE FOR PUBLIC INFORMATION

SLUDGE MANAGEMENT ALTERNATIVES: WHAT WILL WE DO AFTER THE 1981 OCEAN DISPOSAL BAN? [1978]

NY SCIENTISTS COMMITTEE FOR PUBLIC INFORMATION, NEW YORK, NY 135 PP

TRANSCRIPT OF WORKSHOP WHERE EMINENT PANELISTS DISCUSS SLUDGE MANAGEMENT ALTERNATIVES

2374 NY SOIL AND WATER CONSERVATION COMMITTEE

NEW YORK CONFERENCE ON EROSION AND SEDIMENT--PROCEEDINGS [1974]

NY SOIL AND WATER CONSERVATION COMMITTEE, ALBANY, NY 43 PP

A DIALOGUE OF FOURTEEN SPEAKERS AT CONFERENCE WITH SUBJECTS INCLUDING A NATIONAL OVERVIEW, LAND USE PLANNING, CONSTRUCTION, AGRICULTURE AND FORESTRY, WATER.

2375 NY STATE LIBRARY

DICTIONARY CATALOG OF OFFICIAL PUBLICATIONS OF THE STATE OF NEW YORK (1979)

MONOGRAPHS DEC 18, 1973 TO DEC 29,1978. NYS LIBRARY, ALBANY. NY NP

THE DICTIONARY CATALOG CONTAINS ALL MONOGRAPHIC TITLE CATALOGED AT THE STATE LIBRARY DURING THE STATED PERIOD. THE DICTIONARY CATALOG IS NOT A TRUE CUMULATION OF THE CHECKLIST, OMITTING SERIALS AND EPHEMERA. A LIST OF CURRENT NEW YORK STATE SERIAL

TITLES MAY BE FOUND IN FEBRUARY ISSUES OF THE CHECKLIST. OLDER TITLES BEING CATALOGED FOR THE FIRST TIME APPEAR ON THIS LIST, EVEN THOUGH THEY HAVE NOT APPEARED ON THE CHECKLIST. THE DICTIONARY CATALOG PROVIDES FULL BIBLIOGRAPHIC DESCRIPTION FOR EACH MONOGRAPH INCLUDED, INCLUDING SUBJECT AND ADDED ENTRIES, NEW YORK STATE LIBRARY CLASSIFICATION, LIBRARY OF CONGRESS CARD NUMBER (WHEN AVAILABLE) AND OCLC IDENTIFICATION NUMBER. FULL BIBLIOGRAPHIC INFORMATION APPEARS ONLY UNDER THE MAIN ENTRY. ALL CATALOGING FOLLOWS THE ANGLO AMERICAN CATALOGING RULES (FIRST ED.), AND SUBJECT HEADINGS CONFORM TO LIBRARY OF CONGRESS SUBJECT HEADINGS (EIGHTH ED.).

2376 NY SUPREME COURT

WIESNER V CITY OF ALBANY (MUNICIPAL LIABILITY FOR TYPHOID EPIDEMIC CAUSED BY DEFECTIVE PIPELINE) [1928]

224 APP DIV 239; 229 NYS 622-626. NY SUP CT 1928

PLAINTIFF CITIZEN SUED DEFENDANT CITY FOR NEGLIGENCE IN CAUSING PLAINTIFF TO CONTRACT TYPHOID FEVER. DEFENDANT'S WATER SUPPLY WAS DERIVED FROM THE SEVERLY POLLUTED HUDSON RIVER. THE WATER WAS PURIFIED AND PUMPED UNDER THE ERIE CANAL TO THE CITY. THE PIPE RUNNING UNDER THE CANAL, MADE OF THIN METAL AND ENCASED IN CONCRETE, RUSTED THROUGH, AND WATERS OF THE CANAL, AS WELL AS UNTREATED HUDSON RIVER WATER WHICH HAD OVERFLOWED INTO THE CANAL, PASSED INTO THE WATER SUPPLY. DEFENDANT HAD NOTICE OF THE DEFECTIVE PIPE, BUT FAILED TO NOTIFY ITS CITIZENS THAT THE MUNICIPAL WATER WAS POLLUTED. AN EPIDEMIC OF TYPHOID BROKE OUT. PLAINTIFF ASSERTED THAT DEFENDANT WAS LIABLE FOR HIS ILLNESS BY NEGLECTING TO REPAIR THE PIPE OR NOTIFY ITS CITIZENS. THE SUPPEME COURT OF NEW YORK NOTED THAT PLAINTIFF MUST SHOW THAT THE TYPHOID ORIGINATED IN WATER POLLUTED THROUGH DEFENDANT'S NEGLIGENCE. HOWEVER, THIS COULD BE SATISFACTORILY ACCOMPLISHED BY SHOWING THAT BACILLI WERE INTRODUCED INTO PLAINTIFF'S SYSTEM THROUGH MUNICIPAL WATER, ALLOWING THE JURY TO INFER DEFENDANT'S LIABILITY. DETERMINING THAT THE EVIDENCE AMPLY SUPPORTED THE JURY VERDICT FOR PLAINTIFF, THE COURT HELD DEFENDANT LIABLE.

2377 NY SUPREME COURT

CLARKE V. ACKERMAN (JURISDICTION OF NEW YORK OVER HUDSON RIVER) [1935]

243 APP DIV 446; 278 NYS 75. NY SUP CT 1935

PLAINTIFF MOTOR CYCLIST SUED DEFENDANT NEW JERSEY MOTORIST FOR DAMAGES IN TORT RESULTING FROM AN AUTO ACCIDENT ON THE GEORGE WASHINGTON BRIDGE. PLAINTIFF ATTEMPTED TO OBTAIN "LONG-ARM" JURISDICTION OVER DEFENDANT BY THE NEW YORK STATUTE. ACCORDING TO ONE SECTION OF THE 1834 NEW YORK-NEW JERSEY TREATY, THE ACCIDENT OCCURRED ON THE NEW JERSEY SIDE OF THE BRIDGE. HOWEVER, ANOTHER SECTION OF THE TREATY PROVIDED THAT NEW YORK WOULD HAVE EXCLUSIVE JURISDICTION RESPECTING THE WATERS OF THE HUDSON RIVER, SUBJECT TO CERTAIN INCONSEQUENTIAL EXCEPTIONS. PLAINTIFF THEREFORE CONTENDED THAT JURISDICTION WAS PROPERLY OBTAINED OVER DEFENDANT. NEVERTHELESS, THE NEW YORK SUPREME COURT CONSTRUED THE LATTER TREATY PROVISION TO APPLY ONLY TO POLICE JURISDICTION OVER THE HUDSON RIVER, CONCLUDING THAT NEW JERSEY HAD NOT GIVEN UP SOVEREIGNTY OVER ITS PORTION OF THE RIVER. HENCE THE COURT HELD THAT JURISDICTION WAS NOT OBTAINED.

2378 NY SUPREME COURT

MAYO V WINDELS (DAMAGES FOR WATER DIVERSION) [1938]

255 APP DIV 22; 5 NYS2D 690. NY SUP CT 1938

PLAINTIFF SOUGHT TO INSTITUTE PROCEEDINGS TO DETERMINE DAMAGES TO PLAINTIFF FOR NEW YORK CITY'S EXCESS WATER DIVERSION FROM A RIVER. PURSUANT TO LEGISLATION, THE CITY HAD PREVIOUSLY CONSTRUCTED AN AQUEDUCT AND DAM TO DIVERT RIVER WATER TO THE CITY. THE CITY HAD PAID DAMAGES TO INJURED PARTIES BASED ON THE TOTAL DIVERSION OF THE RIVER WATERS IF SUCH TOTAL DIVERSION BECAME NECESSARY IN THE FUTURE. THE TOTAL DIVERSION WAS NOT ACCOMPLISHED BY THE ORIGINAL WORKS. MANY YEARS LATER, PURSUANT TO A SUPSEQUENT LAW, THE CITY CONSTRUCTED A NEW AQUEDUCT AND DAM BELOW THE ORIGINAL ONES WHICH RESULTED IN THE TOTAL DIVERSION OF

THE RIVER. PLAINTIFF SOUGHT DAMAGES FOR THIS DIVERSION. THE LOWER COURT FOUND THAT THE PRIOR AWARD FOR DAMAGES DID NOT COVER THE SUBSEQUENT DIVERSION SINCE THE CITY DID NOT ACQUIRE ANY RIGHTS THROUGH IT TO DIVERT WATERS BELOW THE ORIGINAL DAM AND AQUEDUCT. THE APPELLATE COURT REVERSED, HOLDING THAT THE ORIGINAL LAW AND AWARD COVERED ALL POSSIBLE DIVERSION OF WATER. ONE JUSTICE DISSENTED, FINDING THAT IT WAS CLEAR THAT THE PRIOR AWARD COVERED ONLY DIVERSION OF WATER BY THE SPECIFIC DAM AND AQUEDUCT CONSTRUCTED. IT DID NOT COVER NEW CONSTRUCTION BELOW THE OLD DAMS PURSUANT TO A LATER LEGISLATIVE ACT.

2379 NYC COUNCIL ON ECONOMIC EDUCATION

1974 FACT BOOK--TABLES AND CHARTS ON THE NEW YORK METROPOLITAN REGION [1974]

NYC COUNCIL ON ECONOMIC EDUCATION, NEW YORK, NY 166 PP

THIS FACT BOOK ON THE NEW YORK METROPOLITAN REGION INCLUDES TABLES AND CHARTS ON POPULATION, EMPLOYMENT, INCOME, WELFARE, HEALTH, EDUCATION, HOUSING, TRANSPORTATION AND PROTECTIVE SERVICES.

2380 NYC COUNCIL ON ECONOMIC EDUCATION

1980-81 FACT BOOK ON THE NEW YORK METROPOLITAN REGION [1979]

NYC COUNCIL ON ECONOMIC EDUCATION, NEW YORK, NY 135 PP

THIS CJNCISE ONE-VOLUME COLLECTION OF SELECTED ECONOMIC AND RELATED STATISTICS FOR NEW YORK CITY AND THE SURROUNDING AREA INCLUDES TABLES AND CHARTS ON: GEOGRAPHY AND POPULATION; BUSINESS ACTIVITY; LABOR FORCE, EMPLOYMENT, AND UNEMPLOYMENT; INCOME AND WAGES; SOCIAL INSURANCE AND WELFARE; PRICES AND BUPGETS; HEALTH; EDUCATION; HOUSING; TRANSPORTATION FISCAL.

2381 NYC COUNCIL ON THE ENVIRONMENT

CITIZEN'S POLICY GUIDE TO ENVIRONMENTAL PRIORITIES FOR NEW YORK CITY 1974-1984 [1974]

NYC COUNCIL ON THE ENVIRONMENT, NEW YORK, NY VOL 11--59 PP. VOL 11--79 PP. VOL 111--59 PP.

THESE THREE VOLUMES DISCUSS THE NYC ENVIRONMENT AND LIST POSSIBLE WAYS THAT EXISTING CONDITIONS MIGHT BE IMPROVED. VOLUME I DEALS 4ITH ENERGY AND DESCRIBES THE CITY'S NEEDS, SUPPLY, THE ECONOMIES OF ENERGY PRODUCTION AND THE ENVIRONMENTAL IMPACT OF PRODUCTION. VOLUME II DISCUSSES NYC'S PHYSICAL ENVIRONMENT DEALING WITH SUCH ISSUES AS PACKS AND OTHER RECREATIONAL FACILITIES AND LAND USE. VOLUME III DEALS WITH ALL TYPES OF TRANSPORTATION--SUBWAYS, BUSES, ETC.--AND THEIR EFFECTS ON THE CITY ENVIRONMENT.

2382 NYC DEPT OF CITY PLANNING

PLANNING PROPOSALS FOR THE SOUNDVIEW PENINSULA [1974]

NYC DEPT OF CITY PLANNING, NEW YORK, NY 57 PP

THIS WORK INCLUDES RECOMMENDATIONS FOR ZONING AND MAPPING ACTIONS THAT CAN HELP STABILIZE AND STENGTHEN THIS COMMUNITY AND MAKE IT A BETTER PLACE IN WHICH TO LIVE. THESE RECOMMENDED ZONING AND MAPPING ACTIONS WILL BE SCHEDULED FOR CONSIDERATION AT A PUBLIC HEARING TO BE HELD BY THE PLANNING COMMISSION JUNE 26, 1974 AT H.S. 131 IN SOUNDVIEW. THE CALL FOR: 1) REZONING THE HARDING PARK AREA FROM R5 TO R3-2; 2) REZONING THE CASTLE HILL DAY CAMP SITE FROM R5 TO C3; 3) DEMAPPING THE SOUTHERN EXTENSION OF THE BRONX RIVER PARKWAY SOUTH OF LAFAYETTE AVENUE; 4) DEMAPPING THE CLOVERLEAF AT RANDALL AND BRONX RIVER AVENUES; AND RANDALL AVENUE BETWEEN BRONX RIVER AVENUE AND THE BRONX RIVER.

2383 NYC DEPT OF CITY PLANNING

PROPOSALS FOR THE NORTH SHORE [1975]

NYC DEPT OF CITY PLANNING, NEW YORK, NY 118 PP

THE REPORT RECOMMENDS A SERIES OF DESIGN CONTROLS THAT RELATE NEW DEVELOPMENT TO THE WATERFRONT AND EXISTING COMMUNITIES. SPECIFICALLY IT IS RECOMMENDED THAT: 1) LAND UNDER WATER BETWEEN THE PIERHEAD AND BULKHEAD LINES SHOULD NOT BE INCLUDED IN CALCULATING PERMITTED DENSITY. IF SUCH LAND WERE INCLUDED, IT COULD RESULT IN EXCESSIVELY DENSE, BULKY PROJECTS THAT WOULD BLOCK THE WATERFRONT. 2) BUILDING HEIGHT SHOULD BE CONTROLLED SO THAT LOW BUILDINGS (A MAXIMUM OF 35 FT HIGH) WOULD BE OPPOSITE EXISTING COMMUNITIES, WITH HIGHER BUILDINGS, UP TO A MAXIMUM OF, 12 STORIES, ONLY PERMITTED BEYOND THE TRANSITIONAL ZONE IN THE INTERIOR OF THE SITE. 3) A 53-FT WIDE SHOREFRONT MARGIN, CONSISTING OF A 20-FT WATERFRONT ESPALANADE AND A 30-FT LANDSCAPED BUFFER BETWEEN THE WALKWAY AND THE DEVELOPMENT WOULD BE REQUIRED FOR THE FULL LENGTH OF ALL NEW WATERFRONT PROJECTS. 4) VIEWS OF THE WATERFRONT WOULD BE PROTECTED BY ESTABLISHING VISUAL CORRIDORS (GENERALLY EXTENSIONS OF EXISTING UPLAND STREETS) THROUGH NEW DEVELOPMENT SITES ON WHICH NO BUILDING WOULD BE ALLOWED. THESE VISUAL CORRIDORS COULD ALSO CONTAIN PHYSICAL LINKS TO THE SHOREFRONT WALKWAY, OR WHERE THIS IS NOT APPROPRIATE, A DIFFERENT CONNECTING PATH WOULD BE PROVIDED. STREET TREES WOULD BE REQUIRED EVERY 25 FEET BETWEEN THE CURB AND PROPERTY LINE. COMMERCIAL FACILITIES SHOULD BE CAREFULLY LOCATED WITHIN NEW DEVELOPMENTS AWAY FROM RESIDENTIAL STREETS. ONLY SITES F AND M WOULD HAVE COMMERCIAL FACILITIES THAT SERVE THE LARGER NEEDS AND MEIGHBORHOOD.

2384 NYC DEPT OF SANITATION

AN OVERVIEW OF REFUSE DISPOSAL AND RESOURCE RECOVERY IN NEW YORK CITY: ISSUES AND NEW DIRECTIONS [1979]

NYC DEPT OF SANITATION, NEW YORK, NY NP

THIS PAPER DISCUSSES PLANNING AND IMPLEMENTATION OF A COMPREHENSIVE SOLID WASTE MANAGEMENT SYSTEM FOR NEW YORK CITY.

2385 NYC DEPT OF WATER RESOURCES; NYC DEPT OF CITY PLANNING

NEW YORK CITY SECTION 208 STUDY AREAWIDE WASTE TREATMENT MANAGEMENT PLANNING--9 MONTH INTERIM OUTPUT [1973]

NYC DEPT OF WATER RESOURCES AND NYC DEPT OF CITY PLANNING, NEW YORK, NY NP

AREAWIDE WASTE MANAGEMENT PLANNING IS AN INTEGRAL PART OF THE MECHANISM DEVISED TO FURTHER THE OBJECTIVES SET FORTH IN THE FWPCA AMENDMENTS OF 1972. SECTION 208 PLANNING IS A LOCALLY CONTROLLED UNDERTAKING DESIGNED TO DEVELOP A COMPREHENSIVE POLLUTION CONTROL STRETAGY FOR MUNICIPAL AND INDUSTRIAL WASTEWATER, STORM RUNOFF, COMBINED SEWER DISCHARGES, AND OTHER POINT AND NON-POINT SOURCES OF POLLUTANTS. THE 208 PLANNING PROCESS IS LIMITED TO TWO YEARS FROM INCEPTION TO IMPLEMENTATION. THIS EXTREMELY SHORT TIME FRAME REQUIRES THAT ALL PLANNING, COORDINATING, AND REVIEW AGENCIES PERIODICALLY PROCESS PORTIONS OF THE WORK AND PRESENT THEM AS PART OF AN ONGOING PROGRAM OF PUBLIC PARTICIPATION AND MUNICIPAL GUIDANCE. THE 9-MONTH INTERIM OUTPUTS ARE STIPULATED BY THE US EPA GRANT CONDITIONS AND ARE DESIGNED TO SATISFY THE NEEDS OF LOCAL AGENCIES AND MUNICIPALITIES IN THEIR LOCAL (SECTION 201) FACILITY PLANNING PROCESSES. THE REQUIRED OUTPUTS MUST ADDRESS: 1) SERVICE AREA DELINEATION FOR MUNICIPAL WASTEWATER TREATMENT SYSTEMS; 2) EXISTING AND PROJECTED POPULATION AND LAND USE; AND 3) PROJECTED WASTE LOADS AND FLOWS FOR EACH SEWER SERVICE AREA. TO THIS END, THE NEW YORK CITY 238 STAFF HAS ASSEMBLED A SERIES OF TASK REPORTS WHICH HAVE BEEN GENERATED AS THE WORK HAS PROGRESSED. THE TASK REPORTS FOR THE FOLLOWING TASKS HAVE BEEN DRAWN UPON FOR THE PURPOSES OF THE 9-MONTH INTERIM OUTPUTS: TASK 112--NATURAL FEATURES; TASK 121--CURRENT LAND USE; TASK 122--CURRENT POPULATION; TASK 123--CURRENT ECONOMIC ACTIVITY; TASK 135--CURRENT SEMER SERVICE AREAS; BASELINE LAND USE; TASK 127--CURRENT AND REVIEW.

COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN FOR REFUSE DISPOSAL AND RECOVERY OF MATERIAL AND ENERGY RESOURCES [1977]

NY DEC, ALBANY, NY 22 PP

THIS REPORT OUTLINES THE CONSTRUCTION PROGRAM REQUIRED TO PHASE OUT THE USE OF SANITARY LANDFILLING AS THE MAJOR MEANS OF DISPOSING OF UF NEW YORK CITY'S SOLID WASTE. IN PLACE OF THE LANDFILLS, A NETWORK OF RESOURCE RECOVERY FACILITES, WHICH WILL RECOVER ENERGY AND MATERIALS MUST BE BROUGHT ON-LINE BY 1985. THE PLAN WHICH FOLLOWS MAKES RECOMMENDATIONS FOR THE CONSTRUCTION OF NEW PLANTS AT SPECIFIC SITES, ALLOCATION OF TONNAGES TO BE PROCESSED, AND CLASS OF TECHNOLOGY TO BE UTILIZED IN EACH PROJECT. RAPIDLY EVOLVING NEW TECHNOLOGY HAS REQUIRED OPTIONS TO BE SPECIFIED IN MANY CASES, WHICH WILL BE FULLY ANALYZED IN DETAILED FEASIBILITY STUDIES AS FOLLOW-UP WORK TO THE COMPREHENSIVE PLAN.

2387 NYC PLANNING COMMISSION

PRESERVATION OF NATURAL FEATURES AND SCENIC VIEWS IN NEW YORK CITY [1974]

NYC PLANNING COMMISSION, NEW YORK, NY 58 PP.

THIS REPORT AND ITS RECOMMENDATIONS REPRESENT A NEW SYSTEM FOR MANAGING THE CITY'S NATURAL ENVIRONMENTAL RESOURCES. OVER TIME, THIS PROGRAM CAN BE APPLIED TO THE WETLANDS AND RELATED NATURAL AREAS THROUGHOUT THE CITY.

2388 NYC PLANNING COMMISSION

PORTFOLIO, AN INFORMATION SYSTEM FOR COMMUNITY DISTRICTS: BRONX COMMUNITY DISTRICT 1-(12), BROOKLYN COMMUNITY DISTRICT 1-(18), MANHATTAN COMMUNITY DISTRICT 1-(12), QUEENS COMMUNITY DISTRICT 1-(14), STATEN ISLAND COMMUNITY DISTRICT 1-(3) [1979]

NYC PLANNING COMMISSION. NEW YORK. NY NP

A DESCRIPTION OF EACH NEW YORK CITY DISTRICT PROVIDES DATA AND MAPS ON LAND USE, POPULATION, HOUSING AND OTHER PERTINENT COMMUNITY ITEMS. THE PORTFOLIO REPLACES THE POPULAR COMMUNITY PLANNING HANDBOOK.

2389 NYS ERDA

A SURVEY OF NEW YORK SURFACE WATER TEMPERATURES. AERIAL INFRARED SURVEYS OF THERMAL DISCHARGES FROM ELECTRIC GENERATING STATIONS INTO NEW YORK STATE WATERS [1974]

NYS ERDA, ALBANY, NY 65 PP NTIS-PB-244 998

QUANTITATIVE MEASUREMENTS OF COOLING MATER DISCHARGES FROM ELECTRIC GENERATING PLANTS INTO WATERWAYS ARE NEEDED IN ORDER TO EVALUATE THE ENVIRONMENTAL IMPACTS OF THESE DISCHARGES. AERIAL INFRARED SENSING ENABLES SYNOPTIC MAPPING OF THE TEMPERATURE DISTRIBUTION OVER A LARGE EXPANSE OF WATER SURFACE. APPLICATION OF THE INFRARED METHOD IS ILLUSTRATED BY A SERIES OF FLIGHTS MADE OVER THE HUDSON RIVER. THERMAL DISCHARGE PLUMES WERE MEASURED AT FOUR POWER STATIONS—ALBANY, DANSKAMMER POINT, INDIAN POINT AND LOVETT. EFFECTS OBSERVED INCLUDE TIDAL CURRENTS, LOCAL COUNTER-CURRENTS, RECIRCULATION OF DISCHARGED WATER, THERMAL STRIATION AND MIXING.

2390 NYS ERDA

POWER GENERATION AND THE AQUATIC ENVIRONMENT -- SUMMARY OF A CONFERENCE [1977]

NYS ERDA, ALBANY, NY 58 PP

THE SUBJECTS DISCUSSED AT A CONFERENCE HELD SEPT 28-29, 1977 AT SUNY, STONY BROOK, NY INCLUDED ENTRAINMENT EFFECTS, REMOTE SENSING OF WATER QUALITY, THERMALLY INDUCED BIOLOGICAL EFFECTS, AND POWER PLANT INTAKE STRUCTURES. PAPER INCLUDES RECOMMENDATIONS OF THE WORKSHOP ON PLUME ENTRAINMENT AND IMPINGEMENT AND PLANT ENTRAINMENT.

2391 NYS ERDA

METHANE RECOVERY FROM SANITARY LANDFILLS; GAS RECOVERY SYSTEM INSTALLATION AND TESTING [1978]

NYS ERDA, ALBANY, NY 45 PP. NTIS-PB-296 622

IN SEPT 1977 A METHANE GAS RECOVERY PROGRAM WAS INITIATED BY THE NYS ERDA TO MINE THIS CLEAN ENERGY FROM FROM THE MUNICIPAL SOLID WASTES DEPOSITED AT THE NY FRESH KILLS LANDFILL IN STATEN ISLAND, NY. THIS FIRST INTERIM REPORT DETAILS THE SYSTEM DESIGN AND CONSTRUCTION; DOCUMENTS THE RESULTS OF A SIX-WEEK TEST PROGRAM CARRIED OUT IN MAY AND JUNE OF 1978.

2392 NYSG

MANAGING OUR COASTAL ZONE PROCEEDINGS OF A CONFERENCE ON COASTAL ZONE MANAGEMENT, FEB 20-21, 1973 [1973]

NYSG. ALBANY NY 78 PP

ISSUES COVERED INCLUDE PROBLEMS RELATED TO ELECTRICAL ENERGY PRODUCTION, WATER QUALITY, CONSERVATIVE USES OF RESOURCE, LAND USE PRESSURES, AND RECREATION. PROPOSALS FOR FUTURE RESEARCH AND PLANNING ARE ALSO INCLUDED.

2393 NYSG

NEW YORK'S SEA GRANT PROPOSAL [1975]

NYSG. ALBANY. NY NP

A MULTIVOLUME COLLECTION OF PROPOSALS AND DESCRIPTIONS OF SEA GRANT'S RESEARCH, EDUCATION, EXTENSION SERVICE AND MANAGEMENT ACTIVITIES UNDERTAKEN OR TO BE UNDERTAKEN FOR YEARS 1976-1983 IN THE FOLLOWING AREAS: OIL AND GAS, SAND AND GRAVEL, DREDGING AND SPOIL DISPOSAL, COASTAL EROSION, SHELLFISHERY, FINFISHERY, AQUACULTURE, SEAFOOD PROCESSING, RECREATION, CONTAMINANTS, ADVISORY SERVICES, AND EDUCATION.

2394 NYSG

NORTHEAST REGIONAL WORKSHOP--OCEAN POLLUTION RESEARCH PROGRAM [1978]

NYSG, ALBANY, NY NP

ON MARCH 16 AND 17, A DIVERSE GROUP OF 45 PEOPLE MET IN NEW YORK CITY TO ADDRESS THE CONCERNS OF ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD AND VA RECARDING OCEAN POLLUTION AND, ESPECIALLY, THE LONG TERM EFFECTS OF MAN'S ACTIVITIES ON THE SEA. THE PARTICIPANTS, SELECTED AND INVITED BY NYSG, REPRESENTED UNIVERSITIES (20), INDUSTRY (2), STATE, LOCAL AND REGIONAL GOVERNMENTS (10), LOCAL FEDERAL AGENCIES (10), AND PUBLIC INTEREST GROUPS (4). THEY WERE ASKED TO IDENTIFY REGIONAL CONCERNS REGARDING DICEAN POLLUTION AND THE RESEARCH NEEDED TO ASSUAGE THESE CONCERNS. THEN THEY WERE ASKED TO ASSIGN PRIORITIES TO THESE LISTS. THE NORTHEAST REGION IS VERY DIFFERENT FROM THE OTHER REGIONS; SOUTH OF CAPE COD IT IS HEAVILY URBANIZED AND, IF ANYTHING, OVERTHEAST REGION IS VERY DIFFERENT FROM THE OTHER REGIONS; SOUTH OF CAPE COD IT IS HEAVILY URBANIZED AND, IF ANYTHING, OVERDEVELOPED. LAND USE IS INTENSE, PROBABLY EXCEEDING 500 PEOPLE/SQ MI. IN FACT, THE REGION FROM BOSTON TO WASHINGTON, DC IS COMMONLY REFERRED TO AS A "MEGALOPOLIS." OVER 35,000,000 PEOPLE LIVE ALONG THIS NORTHEAST CORRIDOR. FROM CAPE COD NORTH THE AREA IS RURAL AND UNDERDEVELOPED. ME AND NH ARE CURRENTLY EXPERIENCING ABOVE AVERAGE INCREASES IN POPULATION, AND THIS TREND IS

EXPECTED TO CONTINUE. ALTHOUGH CITIZEN GROUPS HAVE FOUGHT EFFORTS, SUCCESSFULLY THUS FAR, AT LOCATING REFINERIES IN MAINE AND NEW HAMPSHIRE, SUCH EFFORTS ARE BOUND TO CONTINUE PARTICULARLY IF OIL RESERVES ARE LOCATED IN GEORGES BANK. THE WORTHEAST COAST FROM THE BALTIMORE CANYON NORTH ARE ABOUT TO EXPERIENCE INTENSE OIL EXPLORATION. THE MAJOR CONCERNS GENERATED BY THESE FACTS ARE THE SOCIOECONOMIC, SOCIAL AND POLITICAL IMPACTS OF URBANIZATION, THE NEED FOR IMPROVED WASTE HANDLING METHODS, AND THE NEED TO OBTAIN INFORMATION ABOUT THE MARINE ENVIRONMENT AND ECOSYSTEMS WHICH WILL MEET PRESENT AND ANTICIPATED MANAGEMENT NEEDS. THE WORKSHOP BEGAN WITH A PRESENTATION AND GENERAL DISCUSSION OF SECTION 202, TITLE II, OF P.L. 92-532, THE MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT OF 1972. THERE THEN FOLLOWED OVERVIEWS OF SEVERAL REGIONS OF THE NORTHEAST COAST. PARTICIPANTS DIVIDED INTO FOUR GEOGRAPHIC TASK GROUPS: NEW ENGLAND, NEW YORK BIGHT I, NEW YORK BIGHT II, AND MID-ATLANTIC. TWO HOURS LATER EVERYONE REASSEMBLED AND THEN SEPARATED INTO FOUR NEW TASK GROUPS, EACH EXAMINING THE EARLIER RESULTS IN AN HOLISTIC FASHION WITH SOME OVERALL RESEARCH PHILOSOPHIES IN MIND. THE CLOSING PLENARY SESSION BEGAN WITH THE PRESENTATION OF TASK GROUP CONCLUSIONS. THERE THEN FOLLOWED A DISCUSSION AND, SUBSEQUENT LISTING OF THOSE ELEMENTS WHICH SEEMED TO BE COMMON TO MANY OF THE REPORTS.

2395 NYSG

THE SECOND WAVE AND OTHER TALES. SEA GRANT IN NEW YORK [1978]

ANNUAL REP. 1976-77. NYSG. ALBANY. NY 53 PP NTIS-PB-287 903

THIS REPORT COVERS THE ACTIVITIES BY FACULTY AND STUDENTS OF SUNY AND CORNELL UNIVERSITY, AND SEA GRANT'S EXTENSION PEOPLE, RESEARCHERS, AND EDUCATORS, DURING THE SECOND AND THIRD YEARS (1976-77) SINCE THE PROGRAM WAS DESIGNATED A SEA GRANT COLLEGE. IT DESCRIBES IN NARRATIVE FROM THE HIGHLIGHTS OF THE SEA GRANT PROGRAM.

2396 NYSG

DISCOVER SEA GRANT [1979]

NYSG, CORNELL UNIV. ITHACA. NY 46 SLIDES

THIS REPORT EXPLAINS THE SEA GRANT EXTENSION PROGRAM, ITS RELATIONSHIP TO COOPERATIVE EXTENSION, CORNELL UNIVERSITY AND THE SUNY. IT IDENTIFIES SEA GRANT SPECIALISTS. THEIR FUNCTION AND LOCATION IN NEW YORK.

2397 NYSG

DISCOVER SEA GRANT IN NEW YORK [1979]

NYSG. ALBANY. NY 1 PP

THIS ILLUSTRATED PAMPHLET EXPLAINS HOW INDIVIDUALS, GROUPS, INDUSTRY AND LOCAL GOVERNMENTS CAN RECEIVE HELP FROM SEA GRANT. EXPLAINS SEA GRANT'S ROLE IN COASTAL PROTECTION, COMMERCIAL FISHING, COASTAL ACCESS, RECREATION AND TOURISM, USE OF FISH BY CONSUMERS AND YOUTH EDUCATION. LISTS REGIONAL OFFICE ADDRESSES.

2398 NYSG

RESOURCE MATERIALS 1980: AN ANNOTATED BIBLIOGRAPHY OF PUBLICATIONS AND AUDIO-VISUAL MATERIALS AVAILABLE FROM NEW YORK SEA GRANT [1980]

NYSG, ALBANY, NY NP

SEA GRANT IN NEW YORK IS A STATE AND FEDERAL PROGRAM DESIGNED TO HELP RESIDENTS SOLVE COASTAL PROBLEMS. WHEN INFORMATION IS LACKING, THE NYSG INSTITUTE PROVIDES FUNDS TO UNIVERSITY FACULTY FOR RESEARCH ON COASTAL ISSUES. THIS INFORMATION IS MADE AVAILABLE TO PEOPLE THROUGH THE SEA GRANT EXTENSION PROGRAM. PUBLICATIONS, REPORTS, SLIDES AND FILMS ARE JUST ONE WAY OF GETTING THE RESULTS OF RESEARCH TO THE PEOPLE WHO NEED THEM.

2399 NYU MEDICAL CENTER

WATER CHEMISTRY OF THE LOWER HUDSON RIVER [1970]

PAGES 53-75 IN WATER POLLUTION IN THE GREATER NEW YORK AREA--SYMPOSIUM. GORDON AND BREACH. NEW YORK. NY

STUDIES OF THE GENERAL WATER CHEMISTRY, TRACE ELEMENTS, RADIONUCLIDES, AND PESTICIDE RESIDUES IN THE LOWER HUDSON RIVER DURING THE PAST SIX YEARS INDICATE THAT THE RIVER IS NOT NOW GROSSLY DEGRADED BY POLLUTION, EXCEPT POSSIBLY IN LOCALIZED AREAS. HOWEVER, NUTRIENT LEVELS ARE HIGH ENOUGH TO CAUSE CONCERN ABOUT IMPENDING EXCESSIVE ALGAL GROWTHS; THE DISSOLVED OXYGEN IN THE HOT SUMMER MONTHS IS APPROACHING THE MINIMUM FOR SENSITIVE BIOTA; TRACE METALS ARE NOW PRESENT AT SUFFICIENT LEVELS TO CAUSE CONCERN ABOUT POSSIBLE TOXIC EFFECTS; PESTICIDE RESIDUE ACCUMULATIONS IN SOME FISH AND BIRDS CAUSE CONCERN FOR THE HEALTH OF THESE ORGANISMS; BUT RADIONUCLIDE LEVELS ARE FAR BELOW CONCENTRATIONS CONSIDERED TO BE HARMFUL TO AQUATIC BIOTA OR MAN. CLEARLY, THE ECOLOGY OF THE RIVER IS APPROACHING PROBLEM STATUS ON SEVERAL BASES. MANY OF THESE PROBLEMS ARE OF SUCH NATURE THAT THEIR SOLUTION CAN BE REALISTICALLY SOUGHT ONLY THROUGH COORDINATED MULTI-DISCIPLINARY EFFORTS.

2400 NYU MEDICAL CENTER

HUDSON RIVER ECOSYSTEM STUDIES--EFFECTS OF ENTRAINMENT BY THE INDIAN POINT POWER PLANT ON BIOTA IN THE HUDSON RIVER ESTUARY [1973]

AGENDA TO THE 1973 REP TO CON ED. NYU MEDICAL CENTER. TUXEDO. NY 56 PP.

THIS REPORT PRESENTS THE FINAL RESULTS OF STUDIES CONDUCTED AT INDIAN POINT DURING 1973 USING THE FULL COMPLEMENT OF AVAILABLE STRIPED BASS ICHTHYOFLANKTON DATA, WHICH HAVE BEEN ANALYZED USING SAMPLES MATCHED BY DATE, TIME AND DEPTH. THE REPORT IS PRESENTED IN TWO PARTS. THE FIRST PART IS ENTITLED "A PRELIMINARY ANALYSIS OF THE ABUNDANCE OF FOUR LIFE HISTORY STAGES OF STRIPED BASS (MORONE SAXATILIS) COLLECTED IN THE INTAKES OF INDIAN POINT UNIT I AND IN THE HUDSON RIVER IN FRONT OF INDIAN POINT." THE SECOND PART IS ENTITLED "LARVAL STRIPED BASS (MORONE SAXATILIS) LENGTH FREQUENCY ANALYSIS."

2401 OAK RIDGE NATIONAL LAB

ENVIRONMENTAL IMPACT SECTION [1977]

PAGES 13-66 IN ENERGY DIV ANNUAL PROGRESS REP FOR PERIOD ENDING SEPT 30, 1976. ORNL, OAK RIDGE, TN

THE SECTION IS CONCERNED WITH PREPARATION OF ENVIRONMENTAL STATEMENTS AND ASSESSMENTS AND DEVELOPMENT OF ASSESSMENT METHODOLOGIES FOR ENERGY TECHNOLOGIES. DURING 1976, ACTIVITIES INVOLVED NUCLEAR, FOSSIL, AND GEOTHERMAL ENERGY; THIS WORK WAS SUPPORTED BY THE US ARMY, HUD, US ERDA, AND US NRC. TWO SPECIAL STUDIES—FONE ON THE EFFECTS OF POWER PLANT INTAKE STRUCTURES ON FISH INPINGEMENT AND ANOTHER ON MULTIPLE USES OF COOLING LAKES—WERE COMPLETED AND SHOULD SERVE AS REFERENCES FOR FUTURE ANALYSES. TWO RESEARCH PROJECTS SPONSORED BY NRC—THE UNIFIED TRANSPORT APPROACH (UTA) TO POWER PLANT ASSESSMENT AND THE ENVIRONMENTAL MONITORING DATA EVALUATION STUDY—WERE CONTINUED. THE PURPOSE OF THE UA PROGRAM IS TO DEVELOP FAST—TRANSIENT, ONE— AND TWO—DIMENSIONAL TRANSPORT MODELS FOR ESTIMATING THERMAL, RADIOLOGICAL, CHEMICAL, AND BIOLOGICAL IMPACTS IN COMPLICATED WATER 30DIES. THE IMPACT OF PUBLIC USE OF VARIOUS PRODUCTS THAT CONTAIN RADIOACTIVE ISOTOPE IS BEING EVALUATED. THE ENVIRONMENTAL IMPACT SECTIONS ASSISTANCE TO NRC EXPANDED TO INCLUDE ASSESSMENTS OF FUEL-FABRICATION FACILITIES BEING CONSIDERED FOR RELICENSING AND TWO URANIUM IN—SITU SOLUTION MINING FACILITY PROPOSALS. THE WORK FOR HUD COMPRISES AN ASSESSMENT OF THE FIRST APPLICATION OF MIUS IN A NEW TOWN DEVELOPMENT. A GENERIC ENVIRONMENTAL STATEMENT WAS PREPARED AND AN ENVIRONMENTAL

MONITORING PROGRAM FOR THE FACILITY WAS DESIGNED.

2402 OFFICE OF TECHNOLOGY ASSESSMENT

COASTAL EFFECTS OF OFFSHORE ENERGY SYSTEMS: AN ASSESSMENT OF OIL AND GAS SYSTEMS, DEEPWATER PORTS, AND NUCLEAR POWER PLANTS OFF THE COAST OF NEW JERSEY AND DELAWARE [1976]

OFFICE OF TECHNOLOGY ASSESSMENT, WASHINGTON, DC 302 PP

NO SIGNIFICANT DAMAGE TO THE ENVIRONMENT OR CHANGES IN LIFE PATTERNS IN EITHER NJ OR DE IS ANTICIPATED DURING THE OPERATION OF OIL AND NATURAL GAS DEVELOPMENT ON THE MID-ATLANTIC OUTER CONTINENTAL SHELF, THE INSTALLATION OF A DEEPWATER PORT TO ACCOMMODATE SUPERTANKERS IN THE MID-ATLANTIC AREA, AND THE CONSTRUCTION OF AT LEAST 2 FLOATING NUCLEAR POWER PLANTS AT PRESENTLY PROJECTED LEVELS. CAREFUL PLANNING, ENGINEERING, AND STRIGT OPERATIONAL MONITORING ARE REQUIRED FOR EACH OF THESE 3 SYSTEMS. FUTURE DEPLOYMENT OF OCEAN TECHNOLOGIES ON A LARGER SCALE COULD CREATE SERIOUS CONFLICTS AMONG USERS AND IMPOSE EXCESSIVE BURDENS ON OCEAN AND COASTAL ENVIRONMENTS. CHANGES IN FEDERAL PRACTICES ARE NECESSARY TO REDUCE DELAYS IN DETERMINING OFFSHORE GAS AND OIL RESOURCES. TO PROVIDE FULL ATTENTION TO STATE AND LOCAL NEEDS AND TO PROVIDE FULL ATTENTION TO STATE AND LOCAL MEEDS AND POTENTIAL IMPACTS. AND TO ASSURE STRICT ENFORCEMENT OF OPERATING STANDARDS TO MINIMIZE OCEAN AND COASTAL POLLUTION. THE SITING OF NUCLEAR PLANTS ON WATER MAY PRESENT UNIQUE ACCIDENT RISKS. TANKERS THAT WOULD USE DEEPWATER PORTS OFF NJ AND DE POSE A GREATER POLLUTION AND SAFETY THREAT THAN THE PORTS THEMSELVES. THERE ARE SPECIFIC ALTERNATIVES WHICH, IF SUBSTITUTED FOR EACH OF THE PROPOSED OFFSHORE PROJECTS. COULD SUPPLY EQUIVALENT AMOUNTS OF ENERGY TO THE MID-ATLANTIC REGION. NONE, HOWEVER, OFFERS CLEAR SOCIAL, ENVIRONMENTAL, OR ECONOMIC ADVANTAGES. POSSIBLE ACTIONS OF CONGRESS IN DEALING WITH OFFSHORE OIL AND GAS, DEEPWATER PORTS, AND FLOATING NUCLEAR POWER PLANTS ARE DELINEATED. PAST AND FUTURE GOVERNMENT ACTIONS IN PREPARING FOR THE 3 TECHNOLOGIES OFF NJ AND DE ARE ANALYZED. THE POSSIBLE ECONOMIC, POLITICAL, SOCIAL, INSTITUTIONAL, AND LEGAL IMPACTS OF IMPLEMENTING THE TECHNOLOGIES ARE PRESENTED. THE ALTERNATIVES TO THE TECHNOLOGIES OR THE IMPLICATIONS OF NOT IMPLEMENTING THEM ARE REVIEWED.

2403 OFFICE OF TECHNOLOGY ASSESSMENT

COASTAL EFFECTS OF OFFSHORE ENERGY SYSTEMS. AN ASSESSMENT OF OIL AND GAS SYSTEMS, DEEPWATER PORTS, AND NUCLEAR POWERPLANTS OFF THE COAST OF NEW JERSEY AND DELAWARE. VOL I. WORKING PAPERS 1 THRU 3 [1976]

US GPO, WASHINGTON, Dt 291 PP NTIS-PB-274 033

THIS REPORT EXAMINES THE EFFECTS OF THREE PROPOSED OFFSHORE ENERGY SYSTEMS ON THE COASTAL AREAS OF NJ AND DE. THE THREE SYSTEMS ARE: EXPLORATION FOR AND DEVELOPMENT OF OFFSHORE OIL AND GAS, DEEPWATER PORTS FOR SUPERTANKERS, AND FLOATING NUCLEAR POWER PLANTS. THE REPORT SPECIFICALLY DELINEATES POSSIBLE ACTIONS CONGRESS MAY WANT TO CONSIDER IN LEGISLATING FOR THE OFFSHORE ENERGY SYSTEMS, ANALYZES PAST AND FUTURE GOVERNMENT ACTIONS, PRESENTS THE POSSIBLE ECONOMIC, SOCIAL, POLITICAL, INSTITUTIONAL, AND LEGAL IMPACTS OF IMPLEMENTING THE TECHNOLOGIES, AND THE IMPLICATIONS OF NOT IMPLEMENTING THE TECHNOLOGIES FOR NJ AND DE.

2404 OFFICE OF TECHNOLOGY ASSESSMENT

COASTAL EFFECTS OF OFFSHORE ENERGY SYSTEMS. AN ASSESSMENT OF OIL AND GAS SYSTEMS, DEEPWATER PORTS, AND NUCLEAR POWER PLANTS OFF THE COAST OF NEW JERSEY AND DELAWARE. VOL II. PARTS 1 AND 2. WORKING PAPERS 4 THRU 10 [1976]

US GPO, WASHINGTON, DC 990 PP NTIS-PA-274 034

THIS REPORT CONSISTS OF 10 WORKING PAPERS PREPARED AS BACKGROUND MATERIAL FOR THE ASSESSMENT OF THE EFFECTS OF THREE PROPOSED OFFSHORE ENERGY SYSTEMS ON THE COASTAL AREAS OF NJ AND DE. THE THREE PROPOSED OFFSHORE ENERGY SYSTEMS ARE: EXPLORATION FOR AND DEVELOPMENT OF OFFSHORE OIL AND GAS, DEEPWATER PORTS FOR SUPERTANKERS, AND FLOATING NUCLEAR POWER PLANTS. THE 10 WORKING PAPERS COVER: FEDERAL AND STATE REGULATION OF THE THREE SYSTEMS, THE BIOLOGICAL IMPACTS. THE RISK OF OIL SPILLS IN DEVELOPING OIL AND

GAS RESOURCES AND OPERATING DEEPWATER PORTS, THE AIR AND WATER QUALITY IMPACTS, REGIONAL ENERGY SUPPLY AND DEMAND CONSIDERATIONS, THE FISCAL EFFECTS OF DEVELOPING THE THREE SYSTEMS, ENVIRONMENTAL STUDIES, A SAFETY ANALYSIS OF FLOATING NUCLEAR POWER PLANTS, AN ANALYSIS OF FUEL AND WASTE HANDLING OF FLOATING NUCLEAR POWER PLANTS, AND AN ANALYSIS OF THE ECONOMIC CONSIDERATIONS OF FLOATING NUCLEAR POWER PLANTS. (PORTIONS OF THIS DOCUMENT ARE NOT FULLY LEGIBLE).

2405 OFFICE OF WATER RESOURCE & TECHNOLOGY

PROCEEDINGS OF UNIVERSITY SEMINAR ON POLLUTION AND WATER RESOURCES. VOL XI:1975-1978 [1978]

OWRT, WASHINGTON, DC 235 PP NTIS-PB-293 898

THIS VOLUME INCLUDES: FUTURE DIRECTIONS OF THE PROGRAM OF THE OWRT (1978); WATER QUALITY AND POLLUTION--ISSUES INVOLVED IN THE DEVELOPMENT OF A NATIONAL WATER POLICY (1978); THE APPLICABILITY OF ULTRAVIOLET SPECTROPHOTOMETRY FOR WATER QUALITY ANALYSES; EFFICIENCY OF SLIPFORMS IN REINFORCED CONCRETE CONSTRUCTION OF WATER TOWERS (1978); PRECIPITATION AND SNOWFALL OVER NEW JERSEY (1978); REGIONAL GEOMORPHOLOGY OF THE INNER NEW JERSEY SHÆLF (1975); SIMULATION OF UNSTEADY FLOW IN NATURAL COMPOUND CHANNELS (1978); MOUNTAINOUS WINTER PRECIPITATION: A STOCHASTIC EVENT BASED APPROACH (1977); GROUNDWATER MONITORING AT SOLID WASTE DISPOSAL SITES--TWO CASE STUDIES (1977); SOME EFFECTS OF NOISE POLLUTION ON BIOACOUSTICS IN THE SEA (1978).

2406 O'BRIEN & GERE ENGINEERS, INC.

BIOACCUMULATION STUDY ON HOMARUS AMERICANUS [1979]

O'BRIEN & GERE ENGINEERS INC., NEW YORK, NY 47 PP

AS THE DISCHARGE OF INDUSTRIAL POLLUTANTS, THE FREQUENCY OF COASTAL OIL SPILLS AND THE DUMPING OF DREDGED AND REFUSE MATERIAL INTO THE OCEAN INCREASE, THERE IS A GROWING NEED TO UNDERSTAND THE IMPACT OF THESE PROCESSES ON THE MARINE ECOSYSTEM. ONE METHOD OF DETERMINING MAN'S IMPACT ON THE MARINE ECOSYSTEM IS TO ASSESS THE BIDACCUMULATION OF CONTAMINANTS BY ORGANISMS INDIGENOUS TO AREAS OF INTEREST. BIOACCUMULATION IS THE PROPENSITY OF LIVING ORGANISMS TO CONCENTRATE CHEMICAL CONSTITUENTS TO LEVELS IN EXCESS OF THOSE FOUND IN THEIR ENVIRONMENT. THIS PHENOMENON MAY OCCUR BY DIRECT UPTAKE FROM WATER OR SEDIMENTS, OR BY MEANS OF INGESTION OF FOOD ORGANISMS WHICH, THEMSELVES, MAY HAVE BIOACCUMULATED CHEMICAL CONSTITUENTS. THIS LATTER METHOD OF BIOACCUMULATION ENCOMPASSES THE PROCESS KNOWN AS "BIOMAGNIFICATION" IN WHICH CONCENTRATION FACTORS ARE ENHANCED BY VIRTUE OF THE POSITION OF A PARTICULAR SPECIES WITHIN A PARTICULAR FOOD CHAIN. BIOACCUMULATION MAY BE REVERSIBLE TO SOME DEGREE WITH RESPECT TO TRACE METALS. SPECIFIC DEPURATION RATES HAVE BEEN DETERMINED FOR INDIVIDUALS SPECIES WITH RESPECT TO A GIVEN TRACE METAL. HOWEVER, BIOACCUMULATION OF ORGANOHALOGENS IS GENERALLY BELIEVED TO BE NON-REVERSABLE DUE TO THEIR INCORPORATION INTO THE ORGANIC MATRIX OF LIVING TISSUES AND HIGH PARTITION COEFFICIENTS WITH RESPECT TO OIL/WATER PHASES. HENCE, BIDACCUMULATION IS A POTENTIALLY HARMFUL PROCESS TO BOTH THE MARINE SPECIES WHICH MAY CONCENTRATE CHEMICAL CONSTITUENTS TO TOXIC LEVELS AND MAN, THE ULTIMATE CONSUMER, WHO MAY STEADILY INCREASE HIS BODY BURDEN OF TOXIC AND CARCINGGENIC CHEMICAL CONSTITUENTS BY INGESTION OF CONTAMINATED FOODSTUFFS. THE SPECIES OF INTEREST IN THIS STUDY IS THE AMERICAN LOBSTER, HOMARUS AMERICANUS, A LARGE SEMI-MOBILE AND GENERALIZED MARINE PREDATOR OF THE OCEAN FLOOR WHICH HAS THE POTENTIAL TO ACCUMULATE CONTAMINANTS FROM ITS IMMEDIATE HABITAT. HOMARUS AMERICANUS ALSO IS A HIGHLY SOUGHT AFTER FOOD FISH WHICH COULD PRESENT TOXICOLOGICAL PROBLEM TO HUMANS THROUGH THOSE CONTAMINANTS CONCENTRATED IN IT TISSUES. AS OF 1770, THE COMMERICAL CATCH OF THE AMERICAN LOBSTER AS A FOOD FISH AVERAGED APPROXIMATELY 30 MILLION POUNDS (13.6 MILLION KG) ANNUALLY. AND THUS SUPPORTS A RELATIVELY LARGE FISHING INDUSTRY. LOBSTERS ARE COMMERCIALLY HARVESTED FROM THE DREDGED MATERIAL DISPOSAL SITE IN NEW YORK BIGHT AS WELL AS ALL OTHER SITES EXAMINED IN THIS REPORT. THE US ARMY ENGINEER DISTRICT, NEW YORK SEEKS TO DETERMINE WHETHER OCEAN DISPOSAL OF DREDGED MATERIAL IS SUBSTANTIALLY ENHANCING BIOACCUMULATION IN LOBSTERS OCCURRING AT THE DREDGED MATERIAL DISPOSAL SITE.

2407 PORT AUTHORITY OF NY AND NJ

1973 ANNUAL REPORT [1973]

PORT AUTHORITY OF NY AND NJ. NEW YORK, NY 72 PP

THIS ANNUAL REPORT DESCRIBES THE FUNCTIONS OF THE PORT AUTHORITY INCLUDING FUTURE PLANS, PATH TRANSPORTATION SYSTEM, MARINE TERMINALS. AIR TERMINALS, TUNNELS AND BRIDGES. ADMINISTRATION, AND FINANCIAL INFORMATION.

2408 PORT AUTHORITY OF NY AND NJ

THE NEW YORK-NEW JERSEY HARBOR--ITS SCOPE, WATERWAYS, COMMERCE, TERMINALS AND SHORELINE [1974]

PORT AUTHORITY OF NY AND NJ, NEW YORK, NY 46 PP

THIS DESCRIPTION OF THE PORT OF NEW YORK INCLUDES GEOGRAPHY, VESSEL TRAFFIC, COMMERCE, CHANNEL SYSTEM, TERMINAL DEVELOPMENT, HARBOR SERVICES.

2409 PORT AUTHORITY OF NY AND NJ

PEOPLE AND JOBS--A FORECAST OF POPULATION, HOUSEHOLDS, LABOR FORCE AND JOBS IN THE NEW YORK-NEW JERSEY-CONNECTICUT HETROPOLITAN REGION: 1975-1990 [1974]

PORT AUTHORITY OF NY AND NJ. NEW YORK, NY 72 PP

CHANGES IN POPULATION AND BUSINESS ARE THE BASIC DETERMINANTS OF THE KINDS OF TRANSPORTATION PROBLEMS AND REQUIREMENTS THAT THE NY-NJ-CT REGION WILL FACE DURING THE NEXT TWO DECADES. THE FORECAST OF POPULATION, HOUSEHOLDS, LABOR FORCE AND JOBS CONTAINED IN THIS REPORT WAS DEVELOPED TO ANSWER A NUMBER OF QUESTIONS THAT MUST BE DEALT WITH FOR EFFECTIVE PLANNING. BY HOW MUCH WILL THE REGION'S POPULATION GROW? WHICH OF ITS CONSTITUENT COUNTIES CAN EXPECT POPULATION GROWTH (OR DECLINES)? WHERE WILL THE JOBS AND ECJNOMIC ACTIVITIES ASSOCIATED WITH THEM BE LOCATED WITHIN THE REGION? HOW WILL JOB LOCATION AND THE LABOR FORCE RELATE TO EACH OTHER? THESE AND MANY OTHER QUESTIONS MUST BE ANSWERED BEFORE IDEAS CAN BE TRANSLATED INTO PLANS AND PLANS INTO REALITY. THE NEAL FORECAST COVERS, AT FIVE-YEAR INTERVALS, THE PERIOD TO THE YEAR 1990 AND APPLIES TO THE 22-COUNTY METROPOLITAN REGION, CONSISTING OF NJ'S 9 NORTHEASTERN COUNTIES, THE 5 COUNTIES OF NYC, 7 SUBURBAN NEW YORK STATE COUNTIES AND, BECAUSE OF ITS CLOSE AND GROWING TIES TO THE REGIONAL ECONOMY, CT'S FAIRFIELD COUNTY.

2410 PORT AUTHORITY OF NY AND NJ

OCEANBORNE FOREIGN TRADE: LIFEBLOOD OF THE PORT WHERE IT COMES FROM, WHERE IT GOES, HOW IT GETS THERE [1975]

PORT AUTHORITY OF NY AND NJ, NEW YORK, NY 48 PP

DATA SHOW THAT: 1) THE BI-STATE PORT IS CONTINUING TO SERVE IN ITS HISTORIC ROLE AS THE NATION'S PRIMARY GATEWAY FOR SEABORNE GENERAL CARGO FOREIGN TRADE. 2) VOLUME OF THE PORT'S IMPORTS AND EXPORTS IS GREATER THAN ANY OTHER US PORT AND ITS VALUE PER TON IS MORE THAN TWICE THAT OF ANY OTHER PORT. 3) CARGO TO AND FROM EVERY STATE IN THE CONTINENTAL US IS ROUTED THROUGH THIS PORT.

2411 POUCH TERMINAL, INC; CARVER-GREENFIELD CORP

AN ALTERNATE TO THE OCEAN DISPOSAL OF NEW YORK AND NEW JERSEY SEWAGE SLUDGES, INDUSTRIAL WASTES, OILY WASTES [1976]

POUCH TERMINAL, INC., STATEN ISLAND, NY AND CARVER-GREENFIELD CORP. NJ NP

THE CARVER-GREENFIELD PROCESS LOCATED AT THE POUCH TERMINAL SITE CAN PROVIDE A VIABLE ECONOMIC ALTERNATIVE TO OCEAN DISPOSAL

BARGING COSTS. SUBSTANTIAL REDUCTIONS IN COSTS/DRY TON CAN BE REALIZED WITH GOVERNMENT SUBSIDIES OF CONSTRUCTION COSTS. FURTHER REDUCTIONS CAN BE ACHIEVED IN BOTH BARGE TRANSPORATION COSTS AND PROCESSING COSTS IF THE MUNICIPAL SEWAGE SLUDGES ARE PRETHICKENED BY THE ADDITION OF WASTE OILS. IT IS ESTIMATED THAT IF THE SEWAGE SLUDGES WERE PRETHICKENED TO 8% THAT THE 4 CARVER-GREENFIELD PROCESS UNITS WOULD YIELD APPROXIMATELY \$7,500,000/YEAR IN SURPLUS ENERGY BASED ON OIL COSTS OF \$3.00/MILLION B.T.U.S (STEAM). THE PILOT PLANT (SEMI-WORKS) HAS BEEN DESIGNED TO HANDLE ALL OF THE WASTE MATERIALS THAT CAN BE EXPECTED TO BE PROCESSED IN THE PRODUCTION UNITS. FURTHER, BY ALLOCATING APPROXIMATELY 60% OF ITS PROCESS TIME TO HANDLING OILY WASTES (AS NOTED BEFORE). IT IS EXPECTED THAT THE ENTIRE CAPITAL INVESTMENT CAN BE PAID DOWN WITHIN 10 YEARS THRU THE SALE OF OIL.

2412 PUBLIC SERVICE ELECTPIC AND GAS COMPANY

ATLANTIC GENERATING STATION--UNITS 1 & 2 -- PRELIMINARY SITE DESCRIPTION REPORT, VOL 1 [1973]

PSE & G. TRENTON. NJ NP

THE ATLANTIC GENERATING STATION, INCORPORATING TWO BARGE MOUNTED NUCLEAR POWER PLANTS SUPPLIED BY THE DFFSHORE POWER SYSTEMS, WILL FOLLOW THE LICENSING PROCEDURE OF FILING A SEPARATE PSAR FOR THE PLANTS AND FOR THE SITE. THE PLANT PSAR IS BEING SUBMITTED BY OFFSHORE POWER SYSTEMS FOR THE AGENCY REVIEW. THE SITE PSAR AND ENVIRONMENTAL REPORT REQUIRES THE COLLECTION AND REPORTING OF CONSIDERABLE ON-SITE DATA WITH THE ASSISTANCE OF CONSULTANTS. IT IS CURRENTLY PLANNED TO SUBMIT THE SITE PSAR AND ENVIRONMENTAL REPORT IN MID 1973. A SITE DESCRIPTION, CONTAINED IN THIS DOCUMENT, IS A PRELIMINARY DOCUMENT DESCRIBING THE SITE AND THE PRINCIPAL CONSIDERATIONS FOR LICENSING TO THE DEGREE THAT IT IS KNOWN AT THE PRESENT TIME. AT A LATER DATE. AS STATED, A FORMAL SUBMITTAL OF A SITE PSAR AND ENVIRONMENTAL REPORT WILL BE MADE. MUCH OF THE INFORMATION CONTAINED IN THIS DOCUMENT WILL BE UPDATED AND UTILIZED IN THE PREPARATION OF THE SITE PSAR ALONG WITH ADDITIONAL INFORMATION DEVELOPED DURING THE INTERVENING TIME. THE PROPOSED SITE FOR THE ATLANTIC GENERATING STATION IS LOCATED IN THE ATLANTIC OCEAN WITHIN 3 MI OFFSHORE OF THE SOUTHEASTERN COAST OF NJ. THERE WILL BE TWO IDENTICAL PLATFORM MOUNTED NUCLEAR POWER PLANTS EACH EMPLOYING A PRESSURIZED WATER REACTOR NUCLEAR STEAM SUPPLY SYSTEM BY WESTINGHOUSE. A COMPLETE DESCRIPTION OF THE PLANT IS CONTAINED IN THE PLANT PSAR BY OFFSHORE POWER SYSTEMS. THE RATED CORE THERMAL RATING OF EACH UNIT IS 3411MMT AND THE NET ELECTRICAL OUTPUT IS 1150MME. THE ENGINEERED SAFETY SYSTEMS ARE DESIGNED FOR THERMAL RATING OF S779MMT. PRESENT SCHEDULE IS FOR UNIT NO. 1 TO BE COMPLETED AND PLACED IN COMMERCIAL OPERATION IN JAN 1981.

2413 PUBLIC SERVICE ELECTRIC AND GAS COMPANY

ATLANTIC GENERATING STATION--UNITS 1 AND 2--PRELIMINARY SITE DESCRIPTION REPORT, VOL 2 [1973]

PSE & G. TRENTON, NJ NP

IN JAN 1972, A REPORT WAS ISSUED FOR PSE & G ENTITLED "ECOLOGICAL CONSIDERATIONS FOR OCEAN SITES OFF NEW JERSEY FOR PROPSED NUCLEAR GENERATING STATIONS." PART ONE REPORTED AVAILABLE ECOLOGICAL DATA PERTINENT TO THE NJ COAST IN THE VICINITY OF THE PLANT SITES. PART TWO DISCUSSED THE PROBLEMS AND MADE PREDICTIONS REGARDING POWER PLANTS IN THIS AREA. SOME BIOLOGICAL COLLECTIONS WERE MADE IN OCT, NOV, AND DEC, 1971. BEGINNING IN JAN 1972, A MORE THOROUGH SAMPLING PROGRAM WAS BEGUN FOR FISHES AND INVERTEBRATES IN AN AREA FROM ISLAND BEACH STATE PARK TO ATLANTIC CITY, NJ. AFTER MAR 1, 1972, ALL COLLECTIONS MADE WERE IN THE VICINITY OF THE PROPOSED SITE AND EXTENDING IN THE AREA FROM MANAHAWKIN CAUSEWAY, LONG BEACH ISLAND, TO ATLANTIC CITY. FROM MAR-AUG THERE WAS A STEADY INCREASE IN THE SCOPE OF THE STUDY. THE OBJECTIVE OF THE STUDY WAS TO GAIN A BASIC UNDERSTANDING OF THE ECOLOGY OF THE AREA. THE BAYS, INLETS, AND OCEAN WERE STUDIED TO DETERMINE THE MOVEMENTS OF ORGANISMS BETWEEN THESE AREAS, AND TO DETERMINE THE IMPORTANCE OF EACH AREA TO THE ECOLOGY OF THE ORGANISMS COLLECTED. DURING THIS FIRST YEAR, SAMPLING GEAR AND TECHNIQUES HAVE PEEN DEVELOPED AND MODIFIED FOR MAXIMUM EFFICIENCY. IT IS PRIMARILY THE 1972 DATA WHICH ARE DISCUSSED IN THIS REPORT.

LEGAL AND INSTITUTIONAL FRAMEWORK FOR LONG ISLAND SOUND MANAGEMENT PREPARED FOR NEW ENGLAND RIVER BASINS COMMISSION [1974]

RAYMOND, PARISH & PINE INC., TARRYTOWN, NY 24 PP

A LONG TERM, COMPREHENSIVE MANAGEMENT PROGRAM FOR LONG ISLAND SOUND MUST PRESERVE, RESTORE AND UTILIZE ITS RESOURCES. IT MUST ESTABLISH AND IMPLEMENT COMPATIBLE POLICIES, CRITERIA, GUIDELINES AND STANDARDS FOR DECISION-MAKING IN THE AREAS OF LAND AND WATER USE, AND WATER AND AIR QUALITY. IN THE COURSE OF THIS STUDY, THE DIRECTION OF CURRENT LEGAL THINKING IN THIS AREA AND THE EXISTING POLITICAL AND INSTITUTIONAL TRADITIONS WERE CONSIDERED AS A BASIS FOR THE FORMULATION OF ALTERNATIVES AND SUGGESTED APPROACHES TO THE MANAGEMENT OF THE SOUND. WHAT FOLLOWS SETS FORTH THE EXISTING INSTITUTIONAL REGIME, THE CRITERIA AND CHARACTERISTICS FOR ANY RECOMMENDED OPTION, AN ANALYSIS OF THOSE OPTIONS CONSIDERED, AND FINALLY, ONE APPROACH WHICH THE STUDY FEELS JOULD ACHIEVE EFFECTIVE MANAGEMENT OF THE SOUND.

2415 RAYTHEON CO

NEW YORK BIGHT SUMMARIZATION, SURVEYS I.II.III [1975]

BASELINE SURVEY PERFORMED FOR US EPA. RAYTHEON CO. PORTMOUTH. RI NP

THIS REPORT PRESENTS SUMMARIZATIONS OF DATA COLLECTED DURING 3 BASELINE SURVEYS OF THE PROPOSED ALTERNATE OCEAN DISPOSAL SITE FOR NYC AREA SEWAGE SLUDGE. THE SCOPE OF THESE SURVEYS WAS IN ACCORD WITH THE PROPOSED BASELINE MONITORING REQUIREMENTS FOR NEW OCEAN DISPOSAL SITES AS DEFINED BY THE US EPA IN SECTION 228 OF THE DRAFT OCEAN DISPOSAL CRITERIA. THIS REPORT CONTAINS DATA SUMMARIZATION IN ACCORD WITH EPA CONTRACT 68-01-2770 FOR THE THREE-CRUISE SUMMARY. THESE SURVEYS WERE CONDUCTED OVER THE PERIOD OF SEPTEMBER 1974 THROUGH AUGUST 1975. THE VOLUMES ARE: 1) PHYTOPLANKTON, 2) MICROZODPLANKTON, 3) MACROZOOPLANKTON, 4) NEUSTONIC ZOOPLANKTON, 5) EPIBENTHIC ZOOPLANKTON, 6) ICHTHYOPLANKTON, 7) FINFISH, 8) DREDGE INVERTEBRATES, 9) TRAWL INVERTEBRATES, 10) INFAUNA: SMITH-MCINTYRE GRAB, 11) CHEMICAL AND PHYSICAL PARAMETERS.

2416 REGIONAL MARINE RESOURCES COUNCIL

PROCEEDINGS OF THE WETLANDS MANAGEMENT SEMINAR [1973]

LI REGIONAL PLANNING BOARD, HAUPPAUGE, NY 131 PP

PAPERS ARE PRESENTED ON THE VALUES OF WETLANDS, BOTH NATURAL AND MANAGED, THE STATE-OF-THE-ART FOR WETLAND MANAGEMENT, PRESENT GUIDELINES FOR WETLAND MANAGEMENT AT FEDERAL, STATE AND LOCAL LEVELS, AND RESEARCH NEEDS FOR WETLAND MANAGEMENT.

2417 REGIONAL MARINE RESOURCES COUNCIL

GUIDELINES FOR LONG ISLAND COASTAL MANAGEMENT [1973]

LI REGIONAL PLANNING BOARD, HAUPPAUGE, NY 42 PP

THIS PAPER SUGGESTS MANAGEMENT GUIDELINES OR GENERALIZED PROCEDURES TO BE FOLLOWED IN THE PROCESS OF POLICY PLANNING, DECISION AND ACTION AT THE LOCAL LEVEL, REPRESENTING THE INTEGRATION OF SCIENTIFIC INFORMATION AND LOCAL POLITICAL, SOCIAL AND ECONOMIC REALITIES IN THE FOUR AREAS OF COAST STABILIZATION AND PROTECTION, DREDGING AND DREDGE SPOIL DISPOSAL, INTEGRATED WATER SUPPLY AND WASTEWATER DISPOSAL, AND WETLANDS MANAGEMENT. A BIBLIOGRAPHY IS INCLUDED.

2418 REGIONAL MARINE RESOURCES COUNCIL

GUIDELINES FOR THE MANAGEMENT OF LONG ISLAND HARD CLAM RESOURCES [1974]

LI REGIONAL PLANNING BOARD, HAUPPAUGE, NY 25 PP

THIS PAPER DESCRIBES THE HISTORY AND PROBLEMS OF LONG ISLAND'S HARD CLAM (MERCENARIA MERCENARIA) INDUSTRY. IT DISCUSSES 'SCIENTIFIC RESEARCH REQUIREMENTS, ADMINISTRATIVE RESEARCH REQUIREMENTS, AND PLANNING GUIDELINES FOR SCIENTIFIC MANAGEMENT OF HARD CLAM RESOURCES.

2419 REGIONAL MARINE RESOURCES COUNCIL

PROCEEDINGS OF THE SEMINAR ON DREDGING/DREDGE SPOIL DISPOSAL AND COAST STABILIZATION/PROTECTION [1974]

LI REGIONAL PLANNING BOARD, HAUPPAUGE, NY 125 PP

PAPERS ON DREDGING TECHNOLOGY, REGULATORY PROCEDURES, DREDGING AND SPOIL DISPOSAL ACTIVITIES ON LI, RESEARCH ACTIVITIES, STATE-OF-THE-ART ON BEACH EROSION AND STABILIZATION, NOTES ON THE NATIONAL SHORELINE STUDY, AND FEDERAL BEACH EROSION ACTIVITIES ON LI ARE DISCUSSED IN THESE PROCEEDINGS.

2420 REGIONAL MARINE RESOURCES COUNCIL

PROC OF SEMINAR ON ENERGY ALTERNATIVES FOR LONG ISLAND [1974]

LI REGIONAL PLANNING BOARD, HAUPPAUGE, NY 124 PP

THIS SEMINAR FOCUSED ON THE FOLLOWING TOPICS: ENERGY CONSERVATION MEASURES AND PROGRAMS FOR BUILDINGS AND VARIOUS MODES OF TRANSPORTATION, USE OF SOLAR HEATING AND COOLING, ENERGY FROM WINDS AND THERMAL GRADIENTS, ENERGY FROM SOLID WASTES, AND FEDERAL ENERGY LEGISLATION.

2421 REGIONAL MARINE RESOURCES COUNCIL

PROCEEDINGS OF THE SEMINAR ON DIL SPILL PREVENTION, CONTAINMENT, AND CLEAN-UP TECHNOLOGY, AUGUST 27, 1973, HAUPPAUGE, NY [1975]

LI REGIONAL PLANNING BOARD, HAUPPAUGE, NY 131 PP

THESE PROCEEDINGS FOCUS ON A VARIETY OF TOPICS: THE NATURE OF THE OIL SPILL PROBLEM, ENVIRONMENTAL EFFECTS OF OIL SPILLS, OIL SPILL REGULATION, CONTINGENCY PLANS, AUTHORITIES, EQUIPMENT TO CONTAIN AND REMOVE SPILLED OIL FROM THE SEA SURFACE, RESEARCH AND DEVELOPMENT PROJECTS TO IMPROVE THE CAPABILITY OF HANDLING SPILLS, AND REACTIONS OF LOCAL OFFICIALS TO PROPOSED ATLANTIC OUTER CONTINENTAL SHELF OIL PRODUCTION ACTIVITIES.

2422 REGIONAL PLANNING ASSOCIATION, INC

THE MID-HUDSON: A DEVELOPMENT GUIDE [1973]

REGIONAL PLAN ASSOC INC., NEW YORK, NY NP

THE CENTRAL MESSAGE OF THE REPORT IS SIMPLE: (1) FOSTER URBAN GROWTH IN AND AROUND THE PREVIOUSLY URBANIZED PLACES, SPECIFICALLY THE SEVEN PROPOSED GROWTH CENTERS, AND (2) ACTIVELY DISCOURAGE GROWTH IN THE OPEN COUNTRYSIDE, WHERE IT WOULD BE ECOLOGICALLY AND SOCIALLY DESTRUCTIVE.

2423 RIVKIN ASSOCIATES . INC

GUIDING THE COASTAL AREA OF NEW JERSEY--THE BASIS AND BACKGROUND FOR INTERIM LAND USE AND DENSITY GUIDELINES [1976]

NJ DEP. TRENTON. NJ 137 PP

WORK ON THIS STUDY BEGAN IN JULY, 1975. IN THE SUCCEEDING 8 MONTHS, THE CONSULTANTS SPENT CONSIDERABLE TIME BOTH IN THE COASTAL AREA AND IN TRENTON. FIELD INVESTIGATIONS WERE MADE AND EXISTING STUDIES, REPORTS, AND PLANS DEALING WITH THE PHYSICAL, ECONOMIC, AND SOCIAL ENVIRONMENT OF THE AREA WERE REVIEWED. CLOSE CONTACT WAS MAINTAINED WITH THE STAFFS OF THE MJ DEP. THE DEPARTMENT OF COMMUNITY AFFAIRS, AND THE DEPARTMENT OF LABOR AND INDUSTRY WHO CONTRIBUTED SIGNIFICANTLY TO THE STUDY. NUMEROUS MEETINGS WERE HELD WITH BUILDERS, ENVIRONMENTAL GROUP REPRESENTATIVES, PUBLIC OFFICIALS, AND TECHNICAL EXPERTS IN VARIOUS FIELDS RELATING TO THE COASTAL ECOSYSTEM. COUNTY PLANNERS WERE PARTICULARLY IMPORTANT CONTACTS, REVIEWERS, AND CRITICS. THIS REPORT PRESENTS THE RESULTS OF THE ANALYSIS AND THE RECOMMENDATIONS FOR THE GUIDELINES.

2424 RUTGERS UNIVERSITY

OIL SPILLS: REACTION AND RESPONSIBILITY IN NEW JERSEY [1977]

RUTGERS UNIV. NEW BRUNSWICK. NJ 8 PP

THIS PAMPHLET DESCRIBED THE GOVERNMENTAL REACTIVE CAPACITY TO OIL SPILLS AND ALSO EXPLAINED HOW TO REPORT AN OIL SPILL TO THESE AGENCIES. THE MAJOR FEDERAL RESPONSIBILITY RESTED WITH THE COAST GUARD; THE MAJOR LAW AUTHORIZING STATE RESPONSE WAS THE NEW JERSEY WATER QUALITY IMPROVEMENT ACT, THE OFFICE OF SPECIAL SERVICES ENFORCED IT. THE TWO MOST IMPORTANT ELEMENTS IN RESPONDING TO AN OIL SPILL ARE CONTAINMENT AND CLEAN-UP. THE MAJOR FEATURES OF THE NJ SPILL COMPENSATION AND CONTROL ACT WERE INCLUDED.

2425 R.M. FIELD AND ASSOC

LONG ISLAND SOUND REGIONAL STUDY--LAND MANAGEMENT, A POLICY GUIDE TO LAND USE [1974]

R.M. FIELD AND ASSOC, WESTPORT, CT 77 PP.

THE WORK GROUP HAS ATTEMPTED TO PRESENT AN OVERVIEW OF THE SOUND AREA AND ITS FUTURE, PAYING PARTICULAR ATTENTION TO THE DEMANDS THAT ANTICIPATED URBANIZATION WILL PLACE ON A LIMITED LAND SUPPLY. THE REPORT SUGGESTS THE CONTEXT IN WHICH NOT ONLY SPECIFIC PROBLEMS BUT SIGNIFICANT OPPORTUNITIES WILL ARISE, AND PRESENTS A POLICY FRAMEWORK FOR GOVERNMENTAL ACTION AT ALL LEVELS. SINCE THIS IS A REGION-WIDE, SOUND-ORIENTED STUDY, A DETAILED LAND-USE PLAN WOULD BE INAPPROPRIATE. SUCH PLANNING IS WITHIN THE PROVINCE OF REGIONAL, COUNTY, OR LOCAL PLANNING AGENCIES. THE EMPHASIS IS THEREFORE, ON POLICIES AND PROGRAMS REQUIRING BASINWIDE ACTION ORIENTED TOWARD WATER AND RELATED LAND RESOURCES, WITH PRIMARY ATTENTION FOCUSED ON THOSE AREAS BORDERING THE SOUND ITSELF.

2426 R.M. FIELD AND ASSOC

LONG ISLAND SOUND REGIONAL STUDY--LAND USE--INVENTORY REPORT [1974]

R.M. FIELD AND ASSOC, WESTPORT, CT 173 PP

AS AN INVENTORY REPORT, THIS DOCUMENT DETAILS EXISTING LAND USE PATTERNS IN THE STUDY AREA, IDENTIFIES PROBLEMS AND ISSUES, PRESENTS TENTATIVE LONG-RANGE ESTIMATES OF LAND DEMAND AND LAND CAPACITIES, AND TRIES TO PUT IN PROPER FOCUS THE VARIOUS CURRENT PLANS AND POLICIES THAT HAVE ISSUED FROM DIFFERENT PLANNING JURISDICTIONS IN THE STUDY AREA. THIS REPORT COMES AT A TIME WHEN URBAN GROWTH PATTERNS ARE RECEIVING CLOSER SCRUTINY THAN EVER BEFORE, PARTICULARLY AS SUCH GROWTH MAY AFFECT CRITICAL AREAS WITHIN THE COASTAL ZONE.

2427 SCHOOL OF LANDSCAPE ARCHITECTURE

GUIDELINES FOR IDENTIFYING AND EVALUATING SCENIC RESOURCES [1978]

TECH PAP 4. NY DEC, ALBANY, NY 106 PP

THIS STUDY RECOGNIZES TWO TYPES OF SCENIC RESOURCES: UNIQUE AND OUTSTANDING FEATURES AND LANDSCAPE CHARACTER AREAS. UNIQUE AND OUTSTANDING FEATURES INCLUDE SCENIC SITES THAT ARE RARE WITHIN THE AREA UNDER STUDY OR THAT REPRESENT OUTSTANDING EXAMPLES OF A TYPE OF VISUAL FEATURE. LANDSCAPE CHARACTER AREAS ARE AREAS OF RELATIVELY HOMOGENOUS VISUAL CHARACTER AND ENCOMPASS THE ENTIRE LAND AREA UNDER STUDY. THE DESIGNATION OF LANDSCAPE CHARACTER AREAS RECOGNIZES THAT THE WHOLE LANDSCAPE CONSTITUTES A VISUAL RESOURCE THAT BEARS VALUE. SCENIC RESOURCES STUDIES ARE UNDERTAKEN FOR ESSENTIALLY TWO CLOSELY RELATED PURPOSES: (1) TO IDENTIFY AND EVALUATE SCENIC RESOURCES MERITING PROTECTION OR ENHANCEMENT AS PART OF A LAND PLANNING PROCESS, AND (2) TO EVALUATE THE VISUAL IMPACTS ON THE LANDSCAPE OF PROPOSED DEVELOPMENTS AS PART OF AN ENVIRONMENTAL IMPACT ASSESSMENT PROCESS. TO DATE, MUCH WORK HAS DEALT WITH THE LATTER AREA, BUT INCREASING RECOGNITION OF THE VALUE OF SCENIC RESOURCES PLANNING HAS NECESSITATED STUDIES DEALING WITH BOTH ASPECTS. IT IS BELIEVED, INDEED RECOGNIZED UNDER FEDERAL AND STATE LAW, THAT AESTHETIC RESOURCES REPRESENT VALUES WHICH ARE SIGNIFICANT FACTORS FOR RESOURCE PLANNING AND MANAGEMENT DECISIONS. IN RESPONSE TO THESE LEGAL REQUIREMENTS. TECHNIQUES HAVE BEEN DEMANDED BY WHICH WE CAN MEASURE EXACT SCENIC VALUES AND SCENIC IMPACTS FOR COMPARISON WITH OTHER QUANTIFIABLE VALUES. ON THE OTHER HAND, CRIES HAVE ARISEN THAT BEAUTY IS SO MUCH "IN THE EYE OF THE BEHOLDER" THAT IT IS FOOLISH, EVEN SACRILEGIOUS, TO ATTEMPT ANY SUCH OBJECTIVE EVALUATION. REGARDLESS, MANY PEOPLE FROM PROFESSIONS AS DIVERSE AS LANDSCAPE ARCHITECTURE, PSYCHOLOGY, GEOLOGY, AND GEOGRAPHY HAVE TAKEN THE CHALLENGE TO FIND SOLUTIONS SOMEWHERE BETWEEN THESE EXTREMES. IN PRESENTING THIS REPORT, WE ARE CONVINCED THAT THE VISUAL QUALITY OF A LANDSCAPE, LIKE THAT OF A PAINTING OR A SCULPTURE, CAN NEVER BE REDUCED TO A FORMULA. ON THE OTHER HAND, WE ARE EQUALLY CONVINCED, FROM TESTED EVIDENCE, THAT, FROM . VIEWERS' MANY INDIVIDUAL RESPONSES TO LANDSCAPES. SURPRISINGLY COMMON PATTERNS OF RESPONSE FREQUENTLY EMERGE. A DELICATE BALANCE BETWEEN THE SUBJECTIVE AND THE OBJECTIVE CAN BE APPROACHED. THE GUIDEBOOK PRESENTED IN THIS REPORT REPRESENTS A COMPILATION OF TECHNIQUES FROM TESTED STUDIES AT THE FRONTIER OF THIS AREA OF RESEARCH.

2428 SCIENCE APPLICATIONS, INC

NEW YORK BIGHT PROJECT: PROJECT DEVELOPMENT AND TECHNICAL DEVELOPMENT PLAN [1977]

SCIENCE APPLICATIONS, INC., LA JOLLA, CA 229 PP NTIS PB-276 014

THE MESA PROJECT DEVELOPMENT PLAN HAS BEEN JOINTLY PREPARED BY THE MESA PROGRAM OFFICE AND THE NEW YORK BIGHT PROJECT STAFF AND REPRESENTS THE OVERALL PLAN FOR PROJECT IMPLEMENTATION. THE PLAN DESCRIBES A SYSTEMATIC APPROACH TO ACHIEVING SPECIFICALLY IDENTIFIED GOALS AND OBJECTIVES THAT HAVE BEEN DELEGATED TO THE DEPARTMENT OF COMMERCE FOR PROTECTION OF THE MARINE ENVIRONMENT. THE OVERALL GOALS OF THE PROJECT ARE TO DEVELOP A COMPREHENSIVE UNDERSTANDING OF THE PROCESSES AND INTERRELATIONSHIPS OF THE ECOSYSTEM AND TO DETERMINE THE FATE AND EFFECTS OF POLLUTANTS AND OTHER MAN-RELATED STRESSES ON THE NEW YORK BIGHT. MORE SPECIFIC GOALS INCLUDE PLANNING FOR FUTURE ACTIONS SUCH AS MONITORING OF THE BIGHT, OIL AND GAS DEVELOPMENT, OFFSHORE NUCLEAR POWER GENERATION, AND THE DEVELOPMENT OF ALTERNATIVES TO EXISTING WASTE DISPOSAL STRATEGIES.

2429 SOCIETY OF ECONOMIC PALEONTOLOGISTS AND MINERALOGISTS

OCEAN DUMPING AND MARINE POLLUTION: GEOLOGICAL ASPECTS OF WASTE DISPOSAL [1979]

51ST AYN MEETING, SOC ECON PALEON MINERAL, WASHINGTON, DC 268 PP

SOME PAPERS PRESENTED AT A SYMPOSIUM CONVENED DURING THE 51ST ANNUAL MEETING OF THE SOCIETY OF ECONOMIC PALEONTOLOGISTS AND MINERALOGISTS IN WASHINGTON DC IN JUNE 1977 ARE PRESENTED. THE SOURCE OF MATERIALS DUMPED AT SEA, THEIR FATES, AND SOME STATISTICS ON VOLUMES AND THE NATURE OF WASTES ARE REVIEWED. THE DYNAMICS OF SOLID WASTES DISPOSAL AND DREDGE SPOIL, THE SEDIMENTARY MATERIAL EXCAVATED FROM CHANNELS, HARBORS, AND OTHER NAVIGABLE WATERWAYS, ARE EMPHASIZED. THE FOLLOWING TOPICS ARE INCLUDED: WASTE DISPOSAL AND DREDGING ACTIVITIES-THE GEOLOGICAL PERSPECTIVE; SHELF-SEDIMENT DYNAMICS AND SOLID-WASTE DISPOSAL;

STABILITY OF DREDGED MATERIAL DEPOSITED SEAWARD OF THE COLUMBIA RIVER MOUTH; GEOLOGIC EFFECTS OF OCEAN DUMPING ON THE NEW YORK BIGHT INNER SHELF; MUD DEPOSITS NEAR THE NEW YORK BIGHT DUMPSITES; ORIGIN AND BEHAVIOR; DEPOSITIONAL CHARACTERISTICS OF SEDIMENTS AT A LOW ENERGY OCEAN DISPOSAL SITE, SAVANNAH, GA; CONTAINMENT OF PARTICULATE WASTES AT OPEN-WATER DISPOSAL SITES; DREDGING AND DISPOSAL IN CHESAPEAKE BAY, 1975-2025; THE PROBLEM OF MISPLACED SEDIMENT; 2 WASTE DISPOSAL SITES ON THE CONTINENTAL SHELF OFF THE MIDDLE ATLANTIC STATES-OBSERVATIONS MADE FROM SUBMERSBLES; MATHEMATICAL MODELING PREDICTIONS OF THE GEOLOGICAL EFFECTS OF SEWAGE SLUDGE DUMPING ON THE CONTINENTAL SHELF; DISTRIBUTION OF SUSPENDED PARTICULATE MATTER NEAR SEWASE OUTFALLS IN SANTA MONICA BAY, CA; AND DREDGED MATERIAL, OCEAN DISPOSAL, AND THE REGULATORY MAZE.

2430 SOMERSET COUNTY PLANNING BOARD

SEWERAGE SYSTEMS REPORT: SOMERSET COUNTY, NJ [1972]

SOMMERSET CO. SOMMERVILLE, NJ 71 PP

AN INVENTORY IS PRESENTED OF EXISTING SANITARY SEWERAGE FACILITIES IN SOMERSET COUNTY; IT COVERS 21 CITIES AND TOWNSHIPS WITHIN THE COUNTY AND THREE REGIONAL SEWERAGE AUTHORITIES. EACH SEWERAGE SYSTEM IN THE COUNTY IS DISCUSSED IN SOME DETAIL AND VARIOUS TABLES ARE INCLUDED WHICH COVER SUCH FEATURES AS LEVEL OF TREATMENT, WASTEWATER FLOW, TYPES OF WASTES HANDLED, AND LENGTH OF SEWER LINES. THE COUNTY HAS A LONG HISTORY OF PROVIDING SANITARY SEWERS AND USING COORDINATED SYSTEMS AND PLANNING. THIS IS PARTLY THE CASE BECAUSE OF THE GREAT NEED FOR WASTEWATER DISPOSAL CAUSED BY THE HIGH LEVELS OF URBANIZATION AND INDUSTRIALIZATION IN PARTS OF THE COUNTY. THE SOMERSET COUNTY MASTER PLAN FOR LAND USE CALLS FOR LARGE AREAS OF THE COUNTY TO REMAIN IN LOW DENSITY DEVELOPMENT AND THIS WILL BE CLOSELY RELATED TO THE FUTURE PROVISION AND LOCATION OF SANITARY SEWERS.

2431 SOMERSET COUNTY PLANNING BOARD

WATER SUPPLY AND DISTRIBUTION [1973]

SOMMERSET COUNTY, SOMMERVILLE, NJ 180 PP

SOMERSET COUNTY, STRATEGICALLY POSITIONED WITHIN ONE OF THE WORLD'S MOST HEAVILY URBANIZED AREAS--BETWEEN THE CONSTANTLY EXPANDING NEW YORK AND PHILADELPHIA METROPOLITAN REGION. IS CHANGING FROM A PREDOMINANTLY RURAL ENVIRONMENT TO AN URBAN-SUBURBAN AREA. WATER RESOURCES ARE SEEN AS KEY DETERMINANTS IN FORMULATING OVERALL COUNTY POLICY. THE BASIC PURPOSES OF THIS REPORT ARE TO COORDINATE WATER RESOURCE PLANNING WITH THE COMPREHENSIVE PLANNING PROCESS, TO HELP CREATE A COUNTY-WIDE WATER SUPPLY NETWORK, AND TO PROMOTE LOCAL AND REGIONAL COORDINATION. THE APPROACH IS TO REVIEW PAST WATER RESOURCE DEVELOPMENT IN THE COUNTY AND THEN LOOK AT FACTORS RELATED TO THE FUTURE NEED FOR WATER SUPPLY SYSTEMS. CHAPTERS ON GROUNDWATER AND GEOLOGY, SURFACE WATER AND WATER QUALITY, EXISTING WATER SUPPLY SYSTEMS, PRESENT AND FUTURE WATER DEMAND, AND A VERY GENERAL WATER SUPPLY PLAN ARE INCLUDED. THE RECOMMENDATIONS OF THE PLAN INCLUDE THE INTERCONNECTION OF ALL PUBLIC WATER SUPPLY SYSTEMS, THE DISCOURAGEMENT OF NEW, SMALL WATER SUPPLY SYSTEMS, THE USE OF SYSTEM EXTENSIONS TO CONTROL URBAN GROWTH, THE PROTECTION AND ACQUISITION OF FLOOD PLAIN AREAS, THE FORMULATION OF JONING AND SUBDIVISION ORDINANCES BASED ON DETAILED STUDIES OF SOILS AND GEOLOGY, THE POSSIBLE USE OF QUARRY SITES FOR WATER STORAGE, THE STUDY OF GROUNDWATER RESOURCES IN THE COUNTY AND EXPANSION OF THE STATE TESTING PROGRAM TO INSURE INTENSE MONITORING OF QUALITY OF SURFFACE WATER RESOURCES.

2432 SPERRY RAND CORP

SYSTEM STUDY FOR SURVEILLANCE OF OCEAN DUMPING OPERATIONS [1971]

SYSTEMS MANAGEMENT DIV, SPERRY RAND CORP, GREAT NECK, NY 219 PP NTIS-AD-735 378

A STUDY OF SURVEILLANCE OF OCEAN DUMPING OPERATIONS IN THE NEW YORK BIGHT IS DESCRIBED. GENERAL REQUIREMENTS, SYSTEM APPROACHES, AND SYSTEM SPECIFICS ARE DISCUSSED. APPLICABLE CANDIDATE SYSTEMS ARE DESCRIBED AND ARE RATED USING CUSTOMIZED EVALUATION AND ANALYSIS TECHNIQUES. INCLUDING CONSIDERATION OF TOTAL COST OF OWNERSHIP. THE PREFERRED SYSTEM THUS DEFINED IS

DESCRIBED IN THE TEXT AND IN APPENDED HARDWARE PROCUREMENT AND INSTALLATION SPECIFICATIONS. THE PREFERRED SYSTEM UTILIZED LORAN A FOR POSITION FIXING, DRAFT SENSING FOR DETECTING THE OCCURRENCE OF DUMP, AND MEANS FOR RECORDING THESE AS WELL AS IMPORTANT EVENTS. FOR MAXIMUM APPLICATION FLEXIBILITY, A DUMP DETECTION SUBSYSTEM IS ADDED TO A BASIC SYSTEM. THE BASIC SYSTEM, CONTAINED IN A SINGLE BLACK-BOX, REQUIRES MINIMAL VESSEL PREPARATION AND HAS THE ADVANTAGES OF TRANSPORTABILITY IN THAT IT CAN BE PLACED ABOARD A VESSEL UPON SHORT NOTICE. NO SYSTEM CONFIGURATION REQUIRES A CONNECTION BETWEEN A TOWED DUMPER AND THE TOWING TUG. FURTHERMORE, THE PREFERRED SYSTEM REQUIRES NO MAJOR DEVELOPMENT EFFORT. THE SYSTEM CONCEPT INVOLVES THE RECORDING EVERY SIX MINUTES OF VESSEL POSITION AS DETERMINED BY AUTOMATIC TRACKING LORAN RECEIVERS, THE RECORDING OF IMPORTANT EVENTS AS THEY VALVE STATUS.

2433 SPORT FISHING INSTITUTE

A SYMPOSIUM ON THE BIOLOGICAL SIGNIFICANCE OF ESTUARIES [1971]

SPORT FISHING INSTITUTE, WASHINGTON, DC 111 PP

USING THE CONCEPT THAT AN ESTUARINE ZONE IS AN AREA OF ECOLOGICAL TRANSITION BETWEEN FRESHWATER AND SALT WATER AS WELL AS AN ENVIRONMENTAL SYSTEM, THE 1970 SPORT FISHING INSTITUTE SYMPOSIUM PRESENTED ASPECTS OF BIOLOGICAL, CHEMICAL, AND GEOLOGICAL MECHANISMS ALONG WITH PRESENT AND PROJECTED LEGAL AND SOCIOPOLITICAL INFLUENCES AT WORK UPON ESTUARIES. SIX CONTRIBUTORS REPRESENTED UNIVERSITY DEPARTMENTS OF OCEANOGRAPHY AND FISHERIES, BIOLOGICAL LABORATORIES, RESEARCH INSTITUTES, AND THE US DEPARTMENT OF THE INTERIOR, BUREAUS OF COMMERCIAL FISHERIES, SPORT FISHERIES AND WILDLIFE. TOPICS WERE AS FOLLOWS: THE BIOLOGY OF THE ESTUARY; THE TEXAS WATER PLAN AND ITS EFFECT ON ESTUARIES; STRIPED BASS AND WATER DEVELOPMENT IN THE SACRAMENTO-SAN JOAQUIN ESTUARY; THE BIOLOGICAL EFFECTS OF ESTUARIES ON SHELLFISH OF THE MIDDLE ATLANTIC; THE EFFECTS OF POLLUTION ON ESTUARIES OF THE NORTHWEST PACIFIC COAST; AND THE SIGNIFICANCE OF AN ESTUARY ON THE BIOLOGY OF AQUATIC ORGANISMS OF THE MIDDLE ATLANTIC REGION.

2434 SUFFOLK COUNTY ARCHAEOLOGICAL ASSOCIATION

READINGS IN LONG ISLAND ARCHAEOLOGY AND ETHNOHISTORY--SELECTIONS FROM THE NEW YORK STATE ARCHAEOLOGICAL ASSOCIATION BULLETIN

NYS ARCHAELOG ASSOC, STONY BROOK, NY 440 PP

A HISTORY OF HOW ARCHAEOLOGY WAS CONDUCTED IN COASTAL NEW YORK FROM 1954 TO 1977. PAPERS DATED POST-1972 INCLUDE:
PALEOECOLOGICAL IMPLICATIONS OF OYSTER MIDDENS ALONG THE LOWER HUDSON VALLEY; C-14 DATING OF MARINE SHELL; THE LOWER HUDSON AS
A FJORD AND SEA LEVEL RISE: DISCUSSION ON AGE RELATIONSHIP OF OYSTER SHELL MIDDENS AND THE CULTURAL MATERIALS FOUND WITH THEM.

2435 TEXAS INSTRUMENTS

HUDSON RIVER ENVIRONMENTAL STUDY IN THE AREA OF OSSINING, VOL 1: BIOTA AND ENVIRONMENTAL SUMMARY [1973]

CONSOLIDATED EDISON CO, VERPLANCK, NY NP

THIS PRELIMINARY REPORT IS BEING PRESENTED TO CONSOLIDATED EDISON FOR TWO REASONS: IT SERVES TO SUMMARIZE THE STATUS OF THE OSSINING ENVIRONMENTAL STUDY; IT INCLUDES PRELIMINARY RECOMMENDATIONS FOR THE CHARACTERISTICS OF A GENERATING STATION COMPLYING WITH ENVIRONMENTAL REGULATIONS. BIOLOGICAL FIELD SAMPLING BEGAN ON 1 MAY 1972, AND DATA THROUGH OCTOBER 1972 HAVE BEEN ANALYZED AND PRESENTED IN THIS PRELIMINARY REPORT. ALSO PRESENTED ARE THE RESULTS TO DATE OF SUBCONTRACT STUDIES WHICH BEGAN IN THE FALL.

2436 TEXAS INSTRUMENTS

HUDSON RIVER ENVIRONMENTAL STUDY IN THE AREA OF OSSINING. VOL II: TEMPERATURE DISTRIBUTION [1973]

CONSOLIDATED EDISON CO. VERPLANCK, NY NP

THE RESULIS SHOW THAT THE 1600 MW PLANT EXCEEDS THE NEW YORK STATE THERMAL CRITERIA BY 0.38 F WHILE THE 1200 MW PLANT EXCEEDS THE CRITERIA BY 0.26 F. AS PLANT SIZE DECREASED THE TIME DURING WHICH THE THERMAL CRITERIA WAS EXCEEDED DECREASED FROM SIX TO FOUR HOURS. THIS BEHAVIOR SUGGESTS TWO PATHS MERITING FURTHER INVESTIGATION. FIRST, SMALLER PLANTS SHOULD BE CONSIDERED SUCH AS A 800 MW OR A 600 MW PLANT. THE SECOND ALTERNATIVE TO BE INVESTIGATED IS SYNCHRONIZING THE OPERATION OF THE OSSINING PLANT WITH THE OPERATION OF THE OTHER PLANTS ON THE RIVER SO THAT THE THERMAL BUDGET WOULD NOT BE EXCEEDED DURING THE TWO OR THREE DAYS A YEAR ON WHICH THE WORST CASE CONDITIONS OCCUR.

2437 TEXAS INSTRUMENTS

HUDSON RIVER ENVIRONMENTAL STUDY IN THE AREA OF OSSINING, VOL III: AIR QUALITY AND NOISE [1973]

CONSOLIDATED EDISON CO. VERPLANCK, NY NP

THE PURPOSES OF THIS REPORT ARE: 1) TO PRESENT A PRELIMINARY EVALUATION OF THE AIR QUALITY OF WESTCHESTER COUNTY AND ADJOINING ROCKLAND COUNTY AS IT PRESENTLY EXISTS, 2) TO PRESENT A PRELIMINARY EVALUATION OF THE IMPACT WHICH THE PROPOSED FACILITY WILL HAVE ON THE AIR QUALITY, AND 3) TO SUGGEST MINIMUM STACK HEIGHTS FOR THE PROPOSED PLANT THAT WOULD ASSURE COMPLIANCE WITH AIR QUALITY STANDARDS. THE ASSESSMENT OF THE IMPACT WHICH THE PLANT WILL HAVE ON THE AMBIENT AIR QUALITY IS THEORETICAL. THE METHODS USED REPRESENT THE CURRENT STATE-OF-THE-ART.

2438 TRI-STATE REGIONAL PLANNING COMMISSION

PROPOSED HIGH SPEED LONG ISLAND SOUND FERRY--STUDY DESIGN [1973]

TRI-STATE REGIONAL PLANNING COMM, NEW YORK, NY 18 PP

THE STATES OF CT AND NY, IN CONJUNCTION WITH THE TRI-STATE REGIONAL PLANNING COMMISSION, SEEK TO EVALUATE THE FEASIBILITY OF ONE OR MORE IMPROVED FERRY SERVICES ACROSS LONG ISLAND SOUND. THE EFFECTS ON DIVERSION, INDUCED TRAVEL, AND DEVELOPMENT OF SEVERAL VARIABLES, PARTICULARLY HIGH SPEEDS, FREQUENT SERVICE, AND VARIOUS FARES, NEED TO BE DETERMINED. THE STUDY IS ESTIMATED TO COST \$90,000. THE DESIRED EVALUATION SHOULD BE COMPREHENSIVE: IT SHOULD CONSIDER ALL TECHNOLOGIES WHICH CAN BE OPERATIONAL BY ABOUT 1976, VARIOUS STRATEGIES FOR OPERATING AND PRICING THE SERVICE(S), AND IMPACTS ON TRAVEL, ON THE SOUND, AND ON THE SHORES.

2439 TRI-STATE REGIONAL PLANNING COMMISSION

THE TRI-STATE COASTAL ZONE MANAGEMENT PERSPECTIVES [1975]

TRI-STATE REGIONAL PLANNING COMM, NEW YORK, NY 48 PP

THE GOAL OF MANAGEMENT IN THIS REGION, COMPOSED OF THE STATES OF CT, NJ, AND NY, IS TO ACCOMODATE THE ECONOMIC, CULTURAL AND LEISURE NEEDS OF THE PEOPLE REQUIRING LOCATION IN THE COASTAL ZONE AND TO RESTORE OR ENHANCE THE NATURAL CHARACTER AND FUNCTIONS OF THE ZONE. THE REPORT COVERS THE STATUS OF THIS WATER-RELATED AREA AT PRESENT AND PROBLEMS AND PERSPECTIVES CONCERNING THE MARINE COMPLEX, RECREATION POWER GENERATION, SHIPPING, WASTE DISPOSAL, LAND DEVELOPMENT, AND MANAGING THE ZONE. THE ZONE, WHICH STRETCHES OVER 1200 MI, HAS A SIGNIFICANT AMOUNT OF RESIDENTIAL, NON-RESIDENTIAL AND RECREATION LAND USES AS WELL AS EXTENSIVE HARBORFRONT WHICH IS MAKING THE TRANSITION FROM PURELY INDUSTRIAL USES. ALMOST 40% OF THE ZONE IS STILL OPEN

AND EVEN THE HARBOR IS 1/3 UNDEVELOPED OR IN TRANSITION. FOUR STRATEGIES ARE RECOMMENDED: ESTABLISH STRICT SITE REGULATIONS FOR ACTIVITIES SEEKING LOCATION IN THE ZONE; RESERVE CERTAIN AREAS FOR HEAVY USES THAT NEED WATER-ORIENTED LOCATION SUCH AS SHIPPING, SEWAGE TREATMENT AND POWER GENERATION; ENCOURAGE THE COMBINATION OF RECREATION, OPEN SPACE, SCENIC AMENITY, ETC., WITH NECESSARY ECONOMIC "HEAVY" USES; AND SET ENVIRONMENTAL TOLERANCE STANDARDS. AN ADMINISTRATIVE MECHANISM SHOULD BE SET UP THAT CAN ADMINISTER REGULATIONS, CONTROL DEVELOPMENT, RESOLVE CONFLICTS, AND ACQUIRE LAND AND WATER. STATISTICS ARE GIVEN ON THE VARIOUS AREAS ON CONCERN. CONSIDERATIONS ARE BROAD, FOR EXAMPLE, WITH REGARD TO POWER GENERATION ENERGY SOURCES SUCH AS THE SUN., FUEL CELLS, NUCLEAR FUSION, GEOTHERMAL ENERGY AND WIND POWER ARE CONSIDERED.

2440 ULSTER COUNTY PLANNING BOARD

ANALYSIS OF COMPREHENSIVE WATER SUPPLY AND SEWAGE DISPOSAL STUDIES [1971]

ULSTER COUNTY PLANNING BOARD, KINSTON, NY 19 PP NTIS-PB-200 816

COMPREHENSIVE WATER SUPPLY AND SEWERAGE STUDIES AND RECOMMENDATIONS OF TWO CONSULTING ENGINEERING FIRMS RETAINED BY NEW YORK STATE TO STUDY CONDITIONS IN ULSTER COUNTY WERE ANALYZED. GROUNDWATER SUPPLIES ARE BEING POLLUTED IN SOME AREAS BY IMPROPERLY FUNCTIONING SEPTIC TANKS AND DISPOSAL FIELDS. THE SOIL IN ULSTER COUNTY IS MOSTLY UNSUITABLE FOR SEWAGE DISPOSAL BY THIS MUNICIPAL SEWERAGE AND WATER SUPPLY SYSTEMS. SOURCES INVESTIGATED TO OBTAIN ADEQUATE WATER SUPPLIES UNTIL THE YEAR 2020 WERE GROUND ATER, THE HUDSON RIVER, NEW IMPOUNDMENTS, AND THE NEW YORK CITY AQUEDUCTS. THE COUNTY PLANNING BOARD FEELS THAT TAPPING THE AQUEDUCTS IS PREFERABLE: HOWEVER, IF THIS PROVES IMPOSSIBLE, THE BOARD WOULD NOT HESITATE TO USE HUDSON RIVER WATER FOR LONG TERM NEEDS. THE BOARD FAVORS A REGIONAL APPROACH RATHER THAN THE DEVELOPMENT OF SEPARATE MUNICIPAL SYSTEMS. FINANCING APPEARS TO BE THE MAJOR OBSTACLE. THE ASSIMILATIVE CAPACITIES OF THE STREAM IN THE COUNTY WILL BE REDUCED IN FUTURE YEARS. THEREFORE IT WILL BE NECESSARY TO EMPLOY TERTIARY WASTEWATER TREATMENT IN MANY AREAS. THE PROBLEM OF WATER FOR SEWERAGE ASSIMILATION IS JUST BEGINNING IN ULSTER COUNTY. NEW RIPARIAN LEGISLATION BY THE STATE IS NEEDED IF CHAOS IS TO BE AVOIDED. IN ADDITION, POPULATION LIMITS WILL LIKELY BE NEEDED TO MAINTAIN THE ECOLOGICAL BALANCE OF THE COUNTY. GREATER FEDERAL AND STATE SUBSIDIES ARE RECOMMENDED TO FINANCE THE EXTENSION OF TRUNK LINE SEWERS BEYOND BOUNDARIES OF EXISTING MUNICIPAL SEWER

2441 US ARMY CORPS OF ENGINEERS

SURFACE WATER SUPPLY CAPABILITIES OF NORTHERN NJ RIVER BASINS, NORTHEASTERN UNITED STATES WATER SUPPLY STUDY [1968]

US ARMY CORPS ENG, NEW YORK, NY NP

YIELDS, USING HISTORIC AND SYNTHETIC HYDROLOGY, HAVE BEEN OBTAINED FOR THE MAJOR UTILITIES AND SURFACE WATER SUPPLY SYSTEMS IN THE HACKENSACK, PASSAIC, RARITAN, SHARK AND NAVESINK RIVER BASINS. THESE SERVICE A HEAVILY POPULATED AND HIGHLY INDUSTRIALIZED TEN COUNTY AREA OF NORTHERN NJ. YIELDS HAVE BEEN OBTAINED BY SIMULATION OF THE FACILITIES AND ACTUAL OPERATION OF THE SURFACE WATER SYSTEMS. EXISTING FACILITIES AND PRESENT OPERATING PROCEDURES ARE SIMULATED FIRST. CERTAIN OPERATING RULES, INCLUDING RESTRICTIONS ON PUMPED DIVERSIONS AND REQUIRED RESERVOIR RELEASES, ARE THEN RELAXED AND THE INCREASED YIELDS FOUND. FINALLY, PLANNED SYSTEM IMPROVEMENTS ARE INCORPORATED IN THE SIMULATION, IN ADDITION TO THE RELAXED RULES, TO OBTAIN MAXIMUM EXPECTED FUTURE YIELDS. MAJOR REPORT CONCLUSIONS INCLUDE: 1) THE RARITAN RIVER BASIN. IN THE CONTEXT OF A PRESENT DEMAND OF 141 MGD ON ITS RESOURCES. IS WATER-RICH. ITS EXISTING TOTAL RESOURCES ARE EQUAL TO 223% (315 Mgd) OF ITS CURRENT DEMAND. UPON COMPLETION OF PLANNED FACILITIES, THE TOTAL WATER RESOURCE WILL BE 316% (445 MgD) OF CURRENT DEMAND. 2) DISTRIBUTION OF THESE RESOURCES AMONG THE RARITAN UJILITIES IS WELL BALANCED AND REDISTRIBUTION BY INTER-UTILITY TRANSFERS AND REALLOCATION OF BASIN RESERVES IS RELATIVELY EASY TO DO. THIS PROVIDES FLEXIBILITY IN MEETING CHANGING LOCAL SERVICE AREA GROWTH RATES. 3) THE PASSAIC AND HACKENSACK BASINS, AGAIN IN CONTEXT OF THE PRESENT DEMAND OF EACH OF 280 AND 89 MGD, RESPECTIVELY, ARE RELATIVELY WATER-SHORT. EXISTING RESOURCES OF EACH BASIN ARE ABOUT 120% (342 AND 107 MGD) OF THE CURRENT DEMAND ON EACH. RELAXATION OF OPERATING RULES IN BOTH WILL BRING THIS FACTOR TO 134% (119 MGD) IN THE HACKENSACK AND 126% (353 MGD) IN THE PASSAIC. THE PASSAIC BASIN VIELD CAN BE INCREASED TO 144% (402 MGD) OF THE CURRENT PASSAIC DEMAND BY JOINT SYSTEM OPERATION OF THE PEQUANNOCK. WAYAQUE AND LITTLE FALLS SYSTEMS, AND BY INCREASING THE TREATMENT CAPACITY AT LITTLE FALLS BY 75 MGD. DISTRIBUTION OF THE RESOURCES AMONG

THE VARIOUS PASSAIC BASIN UTILITIES IS CURRENTLY SOMEWHAT IMBALANCED. JOINT SYSTEM OPERATION AND INTER-UTILITY TRANSFERS CAN IMPROVE THIS SUBSTANTIALLY. 4) INTER-BASIN TRANSFER FROM THE RARITAN TO THE PASSAIC AND FROM THE PASSAIC TO THE HACKENSACK, MAKING USE OF EXISTING FACILITIES, RELAXED OPERATING RULES AND EXISTING UTILITY TRANSMISSION INTER-CONNECTIONS, CAN PROVIDE AT LEAST 140% OF ITS CURRENT DEMAND TO EACH UTILITY IN THE THREE BASINS. 5) PROVISION OF PLANNED SUPPLY IMPROVEMENTS IN THE RARITAN, INCLUDING INCREASED ROUND VALLEY STORAGE, THE CONFLUENCE RESERVOIR AND PUMPING STATION, DELAMARE AND RARITAN CANAL RENOVATION AND SIX MILE RUN RESERVOIR, AND 126 MGD OF ADDITIONAL TRANSMISSION FROM THE RARITAN TO THE PASSAIC, AND OF 40 MGD FROM THE PASSAIC TO THE HACKENSACK, JOINT SYSTEM OPERATION IN THE PASSAIC, AND SOME 245 MGD OF ADDITIONAL TREATMENT, CAN PROVIDE 190% OF ITS CURRENT DEMAND TO EACH UTILITY IN THE THREE BASINS. 6) TRANSFER OF 300 MGD OF DELAMARE RIVER WATER AND OF 104 MGD OF HUDSON RIVER WATER INTO THE PASSAIC BASIN, AND OF ANOTHER 160 MGD OF HUDSON RIVER WATER INTO THE HACKENSACK BASIN, IN ADDITION TO THE IMPROVEMENTS DESCRIBED ABOVE, WILL PROVIDE EACH UTILITY IN THE THREE BASINS WITH 300% OF ITS CURRENT DEMAND. A SUMMARY OF RESULTS FOR EACH BASIN AND FOR THE INTEGRATED BASIN IS FOUND AT THE END OF THE CHAPTER ON THAT BASIN.

2442 US ARMY CORPS OF ENGINEERS; NJ DEPT OF CONSERVATION AND ECONOMIC DEVELOPMENT

PASSAIC RIVER BASIN WATER RESOURCES DEVELOPMENT INFORMATION BULLETIN [1968]

US ARMY CORPS ENG, NEW YORK, NY NP

THIS BULLETIN CONTAINS, FOR CONSIDERATION OF LOCAL INTERESTS, A COMPREHENSIVE BASIN WIDE PLAN FOR DEVELOPMENT OF THE WATER RESOURCES OF THE PASSAIC RIVER BASIN IN THE INTEREST OF FLOOD CONTROL, WATER STORAGE AND SUPPLY, RECLAMATION, RECREATION, CONSERVATION, AND POLLUTION ABATEMENT. ACCEPTANCE OF THIS PLAN AND AN EXPRESSION FROM THE STATE AND OTHER LOCAL INTERESTS TO COMPLY WITH THE CONDITIONS OF LOCAL COOPERATION ARE REQUIRED FOR THE ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT, TO COMPLETE AND TO PROCESS THE REPORT THROUGH CHANNELS TO CONGRESS FOR AUTHORIZATION OF THE PLAN.

2443 US ARMY CORPS OF ENGINEERS

NAVIGATION PROJECT, NEWARK BAY, HACKENSACK AND PASSAIC RIVERS, NEW JERSEY: FINAL ENVIRONMENTAL IMPACT STATEMENT [1971]

US ARMY CORPS ENG, NEW YORK, NY 43 PP NTIS-PB-199 973F

THE NAVIGATION PROJECT INVOLVES WIDENING THE EXISTING 35-FT CHANNEL, WIDENING AND DEEPENING THE EXISTING 32-FT CHANNEL, DEEPENING THE 12-FT CHANNEL, AND ESTABLISHMENT OF MANEUVERING AREAS. THE PROJECT IS LOCATED IN NEW JERSEY. THE WIDENING WILL RESULT IN REDUCTION OF TANKER AND BARGE ACCIDENTS BY ENHANCING THE GENERAL NAVIGATION SAFETY FEATURES OF THE WATERWAY AND ALSO WILL PROVIDE FOR THE EFFICIENT AND SAFE SHIPMENT AND RECEIPT OF WATERBORNE COMMODITIES, THEREBY ALLEVIATING THE POTENTIAL OF A SERIOUS OIL SPILL. COMMENTS ON THE ENVIRONMENTAL STATEMENT WERE SUBMITTED TO THE CORPS OF ENGINEERS BY THE FOLLOWING AGENCIES: TRI-STATE TRANSPORTATION COMMISSION; BERGEN COUNTY PLANNING BOARD; PASSAIC COUNTY PLANNING; TRI-STATE STAFF; MIDDLESEX COUNTY PLANNING BOARD; DEPT OF PLANNING-ECONOMIC DEVELOPMENT-CONSERVATION, ESSEX COUNTY; UNION COUNTY PLANNING BOARD. COMMENTS WERE MADE CONCERNING OIL SPILLS, DISPOSAL OF DREDGINGS, AND ASSOCIATED ENVIRONMENTAL AND ECOLOGICAL DAMAGE THAT MAY RESULT. THE CORPS LISTED TEMPORARY TURBIDITY AND ODORS DURING DREDGING OPERATIONS AND BRIEF WATER QUALITY DEGRADATION DURING DUMPING OPERATIONS AS THE ONLY ADVERSE ENVIRONMENTAL EFFECTS.

2444 US ARMY CORPS OF ENGINEERS

NAVIGATION PROJECT, CATSKILL CREEK, NEW YORK: FINAL ENVIRONMENTAL IMPACT STATEMENT [1971]

US ARMY CORPS ENG, NEW YORK, NY 26 PP NTIS-PB-198 896F

THE IMPROVEMENT PLAN PROVIDES FOR AN 1800 FT FLARED ENTRANCE CHANNEL THAT WILL TAPER FROM A WIDTH OF 250 FT AT THE 12 FT CONTOUR IN THE HUDSON RIVER TO A WIDTH OF 100 FT IN CATSKILL CREEK, ALL AT A DEPTH AT MEAN LOW WATER OF 12 FT. AN INNER CHANNEL 350 FT IN LENGTH, 100 FT WIDE, AND 8 FT DEEP AT MEAN LOW WATER WILL ALSO BE PROVIDED. THE PROJECT WILL PROVIDE PASSAGE FOR

RECREATIONAL BOATS AND TUGS WITH TANK BARGES. CHANNELIZATION WILL BE HYDRAULIC DREDGE METHODS WITH MATERIAL DISPOSAL CONFINED BY RETAINING DIKES. A TEMPORARY INCREASE IN WATER TURBIDITY WILL OCCUR DURING CONSTRUCTION. BUT IT WILL HAVE A MINIMUM IMPACT ON WATER QUALITY. NO ADVERSE IMPACTS UPON FISH AND WILDLIFE RESOURCES WILL RESULT. THE ALTERNATIVE CONSIDERED WAS NO DEVELOPMENT WHICH WOULD RETAIN THE EXISTING ENVIRONMENT WITH ITS INCREASING OIL SPILL HAZARDS FOR TANK BARGES. IRREVERSIBLE COMMITMENTS OF RESOURCES WILL BE LIMITED TO CONSTRUCTION LABOR. COMMENTS OF OTHER AGENCIES ARE INCLUDED.

2445 US ARMY CORPS OF ENGINEERS

MAINTENANCE OF THE NEWARK BAY, HACKENSACK AND PASSAIC RIVERS, NAVIGATION PROJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT [1971]

US ARMY CORPS ENG. NEW YORK. NY 11 PP NTIS-PB-205 337D

THIS PROPOSED NAVIGATION PROJECT IS NECESSARY TO SATISFY GROWING DEMANDS FOR SHIPPING FACILITIES IN THE NEWARK BAY AREA. THE PROJECT WILL CONSIST OF MAINTENANCE DREDGING AND WILL ASSURE CONTINUED LOW COMMODITY TRANSPORTATION COSTS AND IMPROVED CHANNELS. DREDGING OF CHANNELS AND MANEUVERING SPACES WILL YIELD DIRECT ECONOMIC BENEFITS TO RESIDENTS WITHIN THE NEW YORK-NEW JERSEY METROPOLITAN AREA. THE GREATER SAFETY OF THE CHANNELS WILL BENEFIT BUSINESS AND RESIDENTS IN THE AREA BY DECREASING THE CHANCES OF COLLISIONS AND OIL SPILLAGE. FISH AND WILDLIFE RESOURCES IN THE AREA ARE OF NEGLIGIBLE VALUE AS A RESULT OF THE POLLUTION CAUSED BY INDUSTRIAL AND COMMERCIAL ACTIVITY AND THE DISCHARGE OF SANITARY EFFLUENT. THE DREDGING OPERATION MAY CAUSE SHORT-TERM TURBIDITY AND NOXIOUS ODORS. DREDGED MATERIAL WILL BE DISPOSED OF AT SEA.

2446 US ARMY CORPS OF ENGINEERS

HUDSON RIVER CHANNEL. NEW YORK--OPERATION AND MAINTENANCE ACTION: DRAFT ENVIRONMENTAL IMPACT STATEMENT [1971]

US ARMY CORPS ENG, NEW YORK, NY 6 PP NTIS-PB-205 3350

THE PROPOSED ACTION INVOLVES MAINTENANCE DREDGING OF THE HUDSON RIVER CHANNEL BETWEEN NJ AND NYC. WORK WILL BE PERFORMED BY HOPPER DREDGE WITH THE SPOIL DISPOSAL IN THE ATLANTIC. THE ACTION WILL PERMIT CONTINUED SAFE AND ECONOMIC USE OF THE EXISTING FEDERAL CHANNEL BY MAINTAINING AUTHORIZED PROJECT DIMENSIONS. THE IMPROVEMENT WILL PERMIT EFFICIENT DELIVERY OF PETROLEUM PRODUCTS AND OTHER COMMODITIES TO CONTINUE, THEREBY YIELDING ECONOMIC BENEFITS TO A DENSELY POPULATED REGION. ADDITIONALLY, MAINTENANCE WILL PROVIDE FOR SAFER HANDLING OF VESSELS, LESSENING THE POSSIBILITY OF OIL AND OTHER SPILLS. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS INCLUDE A TEMPORARY INCREASE IN TURBIDITY WITH RESULTING IMPACT ON WATER QUALITY AND SLIGHT DAMAGE TO BENTHIC LIFE THROUGH REMOVAL OF BOTTOM MATERIALS. THE ONLY ALTERNATIVE IS NO DEVELOPMENT.

2447 US ARMY CORPS OF ENGINEERS

FLOOD CONTROL IMPROVEMENT ON ESOPUS CREEK AT KINGSTON, NEW YORK; HUDSON RIVER, NEW YORK: FINAL ENVIRONMENTAL IMPACT STATEMENT [1971]

US ARMY CORPS ENG, NEW YORK, NY 21 PP NTIS-PB-200 543F

THE PROPOSED IMPROVEMENT IS DESIGNED TO PROVIDE FLOOD PROTECTION FOR LANDS ALONG THE RIGHT BANKS OF ESOPUS CREEK, INCLUDING A SHOPPING CENTER AND AN URBAN RENEWAL PROJECT. WORKS WILL CONSIST OF 1,667 FT OF LEVEES AND 872 FT OF FLOODWALLS. THE BENEFIT-COST RATIO IS 1.2 TO 1.0. THE AREA IS AN ALLUVIAL VALLEY WITH STREAM MEANDERS AND FLAT VALLEYS. THE PROJECT WILL ENHANCE LAND VALUES AND PERMIT USE OF LAND FOR URBAN RENEWAL. BEAUTIFICATION MEASURES INCLUDE THE PLANTING OF TREES AND SHRUBBERY. IMPROVEMENTS WILL NOT SIGNIFICANTLY AFFECT FISH AND WILDLIFE; HOWEVER, FISH AND WILDLIFE ENHANCEMENT IS NOT ANTICIPATED. ADVERSE ENVIRONMENTAL EFFECTS INCLUDE THE REMOVAL OF LARGE TREES, RESTRICTION OF RIVER ACCESS, AND LOSS OF WETLANDS. THE PROJECT, HOWEVER, WILL PREVENT UNCONTROLLED ENVIRONMENTAL DEGRADATION FROM FLOODING. ALTERNATIVES INCLUDE RESERVOIR STORAGE SPACE. A DIVERSION TUNNEL, CHANNEL DEEPENING AND WIDENING. AND FLOOD PROOFING STRUCTURES. A "NO DEVELOPMENT ALTERNATIVE" WOULD CAUSE ENVIRONMENTAL LOSSES OF \$60,000 ANNUALLY. THERE WILL BE NO SIGNIFICANT IMPACT ON LONG-TERM WILDLIFE

HABITAT PRODUCTIVITY. COMMENTS OF INTERESTED AGENCIES ARE INCLUDED.

2448 US ARMY CORPS OF ENGINEERS

CONTROL OF WATER CHESTNUT WITH 2,4-D AMINE: ENVIRONMENTAL IMPACT STATEMENT [1971]

US ARMY CORPS ENG, NEW YORK, NY 27 PP NTIS-AD-784 351

THIS ENVIRONMENTAL IMPACT STATEMENT DESCRIBES THE METHOD TO BE EMPLOYED FOR ERADICATING WATERCHESTNUT. LARGE, DENSE STANDS ARE TO BE CHEMICALLY TREATED AND SMALL INFESTATIONS ARE TO BE HAND-PULLED. SPRAYING IS DONE BOTH BY HAND AND BY BOAT. THE CHEMICAL FORMULATION FOUND TO GIVE THE BEST RESULTS IS UNDILUTED 2,4-D AT FOUR POUNDS ACID EQUIVALENT APPLIED AT A MINIMUM RATE OF 1+2 GALLON/ACRE. NO SPRAYING WILL TAKE PLACE IN THE IMMEDIATE VICINITY OF WATER SUPPLY INTAKES NOR FOR A DISTANCE OF 1000 FT UPSTREAM OF THE INTAKE. CONTROL OF WATERCHESTNUT IN THE HUDSON AND MOHAWK RIVERS WOULD OPEN UP ABOUT 1000 ADDITIONAL ACRES OF NEW WATER FOR SPORT FISHING AND ABOUT 350 ACRES FOR HUNTING. BOATING, A RECREATIONAL ACTIVITY HAMPERED BY THE EXISTENCE OF WATERCHESTNUT, WOULD NO LONGER BE RESTRICTED DUE TO THE WEED. THE ADVERSE ENVIRONMENTAL EFFECTS ARE THE PROFILIGATION OF DUCKWEED DUE TO THE RELEASE OF NUTRIENTS FROM THE DETERIORATING WATERCHESTNUT PLANTS. CUTTING HAS PROVED COSTLY AND INEFFICIENT AND ARR SPRAYING HAD DRIFT PROBLEMS. THERE HAVE BEEN NO OBSERVABLE NEGATIVE LONG TERM EFFECTS ON FISH OR WATERFOWL AS A CONSEQUENCE OF USING 2,4-D.

2449 US ARMY CORPS OF ENGINEERS

AQUATIC PLANT CONTROL PROGRAM, HUDSON AND MOHAWK RIVERS, NEW YORK: FINAL ENVIRONMENTAL IMPACT STATEMENT [1971]

US ARMY CORPS ENG, NEW YORK, NY 17 PP NTIS-PB-200 003F

THE AUTHORIZED PROJECT PROVIDES FOR WORK LEADING TO THE CONTROL AND PROGRESSIVE ERADICATION OF WATERCHESTNUT IN AND FROM THE WATERS WITHIN THE HUDSON AND MOHAWK RIVERS BY HAND-PULLING AND HAND AND BOAT-SPRAYING. THE CONTROL OF WATERCHESTNUT WOULD INCREASE RECREATION ACTIVITY, MAINTAIN ADEQUATE WATER VELOCITIES FOR IN-TAKE SYSTEMS, CONTROL MOSQUITO AND BLACKFLY PROBLEMS AND INCREASE FISH PRODUCTION. AS THE DYING WATERCHESTNUT PLANTS START TO DETERIORATE THERE IS A NUTRIENT RELEASE INTO THE WATER, AND TREMENDOUS DUCKWEED BLOOMS FORM. USUALLY THE TIDE PULLS THE DUCKWEED OUT OF THE BAYS INTO THE OPEN RIVER, CREATING LONG GREEN STREAKS THAT ARE QUITE NOTICEABLE. THE ONLY SUCCESSFUL ALTERNATIVE TO THE USE OF BOAT OR HAND-SPRAYED 2,4-D IS PULLING THE WEEDS BY HAND AND REMOVING THEM FROM THE WATER. THE PROGRAM MIGHT HAVE FAVORABLE BIOLOGICAL EFFECTS BY FREEING FISH PASSAGES AND FOOD SOURCES FOR WATERFOAL. OTHER THAN MATERIAL AND LABOR COSTS THERE DOES NOT APPEAR TO BE ANY IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES OVER A PERIOD OF TIME.

2450 US ARMY CORPS OF ENGINEERS

MAINTENANCE OF THE NEW YORK AND NEW JERSEY CHANNELS. NAVIGATION PROJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT [1972]

US ARMY CORPS ENG. NEW YORK, NY 11 PP NTIS-PB-206 393D

THE PROPOSED ACTION CONSISTS OF DREDGING NEW YORK AND NEW JERSEY CHANNELS TO THEIR AUTHORIZED PROJECT DIMENSIONS. THE EXISTING PROJECT COMPRISES THE WATERWAY EXTENDING AROUND STATEN ISLAND, NY, FROM ITS INTERSECTION WITH THE MAIN SHIP CHANNEL IN LOWER NEW YORK BAY, GENERALLY FOLLOWING THE BOUNDARY LINE BETWEEN NEW YORK AND NEW JERSEY. THE DREDGED SPOILS WILL BE DEPOSITED IN A DESIGNATED DISPOSAL AREA IN THE ATLANTIC OCEAN. THE PROJECT WILL PERMIT CONTINUED SAFE AND ECONOMICAL USE OF THE CHANNELS WITH DIRECT BENEFITS OF SHIP TRANSPORTATION. THERE WILL BE REMOVAL OF BOTTOM SUBSTRATA AND TEMPORARY TURBIDITY WITH ASSOCIATED EFFECTS ON THE LOCAL MARINE LIFE. UPSETTING THE BOTTOM MATERIAL DURING DREDGING COULD CAUSE A REDUCTION IN THE NUTRIENTS NEEDED TO SUSTAIN FISH LIFE, BUT THIS SHOULD BE MINOR AND SHORT-LIVED. THE ONLY ALTERNATIVES CONSIDERED WERE NO ACTION AND ALTERNATE DISPOSAL SITES.

2451 US ARMY CORPS OF ENGINEERS

MAINTENANCE OF THE HUDSON RIVER CHANNEL, NEW YORK, NAVIGATION PROJECT: FINAL ENVIRONMENTAL STATEMENT (1972)

US ARMY CORPS ENG, NEW YORK, NY 12 PP

THE HUDSON RIVER CHANNEL NAVIGATION PROJECT INCLUDES SEVERAL PHASES THAT DEAL WITH ENVIRONMENTAL, ECONOMIC, SOCIAL, AND SAFETY ASPECTS. MAINTENANCE DREDGING OF THE HUDSON RIVER CHANNEL IS AN EXISTING FEDERAL NAVIGATION PROJECT. THE CHANNEL IS LOCATED IN THE HUDSON RIVER BETWEEN NJ AND NYC. THE PROJECT WAS AUTHORIZED BY THE RIVER AND HARBOR ACTS. IT PROVIDES FOR: A CHANNEL, 45 FT DEEP AND 2,000 FT WIDE IN THE AREA OF THE UPPER NEW YORK BAY TO W 40TH STREET, MANHATTAN, AND 48 FT DEEP AND 2,000 FT WIDE TO 59TH STREET FOR A TOTAL LENGTH OF APPROXIMATELY 6 MI; A CHANNEL, 40 FT DEEP FOR THE FULL WIDTH OF THE RIVER, EXTENDING FROM DEEP WATER IN UPPER NEW YORK BAY OFF ELLIS ISLAND TO W 59TH STREET, MANHATTAN, FOR A LENGTH OF APPROXIMATELY 6 MI; AND A CHANNEL, 30 FT DEEP, 750 FT WIDE, ALONG THE WEEHAWKIN-EDGEWATER WATERFRONT, FOR A LENGTH OF 5 MI.

2452 US ARMY CORPS OF ENGINEERS

HYDRAULIC MODELS PREDICT ENVIRONMENTAL EFFECTS [1972]

WORLD DREDGING MAR CONSTRUCTION 8(13):38-42

A GENERAL DESCRIPTION OF THE FACILITIES AND WORK OF THE US ARMY ENGINEER WATERWAYS EXPERIMENT STATION (WES) IN VICKSBURG, MI, IS GIVEN. THE WES HYDRAULIC LABORATORY HAS ABOUT 60 HYDRAULIC MODELS IN OPERATION AT ANY ONE TIME. AMONG THEM, THE FOLLOWING ARE MENTIONED: A MODEL OF MOBILE BAY, AL, TO TEST THE EFFECTS OF THE PROPOSED THEODORE SHIP CHANNEL ON THE GENERAL ENVIRONMENT; AN ESTUARY MODEL OF THE JAMES RIVER IN THE CHESAPEAKE BAY TO DETERMINE THE EFFECT OF PROPOSED DREDGING OF THE NAVIGATION CHANNEL; A MODEL FOR THE FEDERAL NAVIGATION CHANNELS IN THE HUDSON RIVER BETWEEN THE BATTERY AND THE GEORGE WASHINGTON BRIDGE TO STUDY THE IMPROVEMENT OF PRESENT NECESSARY DREDGING OPERATIONS. THE STUDIES UNDERTAKEN BY WES ARE OF A MULTIDISCIPLINARY CHARACTER RANGING FROM ECOLOGICAL AND BIOLOGICAL TO ENGINEERING ASPECTS OF WATERWAYS PROBLEMS. THE STAFF OF WES COVERS A WIDE RANGE OF SPECIALITIES. A SYSTEM ANALYSIS APPROACH IS EMPHASIZED IN INTEGRATING DIFFERENT ASPECTS OF A PROBLEM, USING RESULTS FROM MODELS, FIELD MEASUREMENTS, AND OTHER DATA SOURCES. INSTRUMENTATION FOR MONITORING OF ENVIRONMENTAL VARIABLES AS WELL AS REMOTE SENSING AND PROFILING ARE DEVELOPED. DIFFERENT TECHNIQUES ARE DEVELOPED TO STUDY PARTICULAR WATERWAYS PROBLEMS SUCH AS TIDAL MODELING, DISPERSION OF EFFLUENTS, SHOALING OF CHANNELS AND PROTECTION FROM HURRICANE SURGES.

2453 US ARMY CORPS OF ENGINEERS

WATER RESOURCES DEVELOPMENT IN NEW YORK [1973]

US ARMY CORP ENG, NEW YORK, NY NP

THIS PAMPHLET IS A COMPILATION OF WATER RESOURCES ACTIVITIES NOW BEING CARRIED OUT BY THE CORPS OF ENGINEERS IN THE STATE OF NEW YORK. THESE PROJECTS, AND THE ADMINISTRATION OF CERTAIN LAWS, CLASSIFIED AS CIVIL FUNCTIONS, HAVE BEEN ASSIGNED BY CONGRESS TO THE DEPARTMENT OF THE ARMY FOR ACCOMPLISHMENT BY THE CORPS OF ENGINEERS.

2454 US ARMY CORPS OF ENGINEERS

WATER SUPPLY, WASTEWATER MANAGEMENT ASPECTS FOR NORTHERN NEW JERSEY, NEW YORK CITY, WESTERN CONNECTICUT, METROPOLITAN AREA [1973]

NEBOLSINE, THOTH, MCPHEE ASSOC, NORWOOD, NJ NP

THE REPORT SURVEYS WASTEWATER LEGISLATION, REVIEWS EACH STATE'S WASTEWATER MANAGEMENT PROGRAM, EXISTING WATER QUALITY AND

FUTURE WATER QUALITY OF POTENTIAL POTABLE WATER SOURCES IN THE STUDY AREA. IT EXAMINES WASTEWATER MANAGEMENT PROGRAMS IN SPECIFIC AREAS AS A MEANS OF PROTECTING WATER QUALITY AND ENHANCING WATER YIELD THROUGH WATER RECOVERY, REUSE, OR PROPER MANAGEMENT. THE REPORT EVALUATES THE POSSIBILITY OF USING TREATED WASTEWATER AS A SUPPLEMENTAL WATER SUPPLY SOURCE. PRELIMINARY COST ESTIMATES OF SELECTED WASTEWATER MANAGEMENT PROGRAMS ARE DEVELOPED. FINALLY, A REVIEW OF WASTEWATER TECHNOLOGY AS APPLIES TO A MANAGEMENT PROGRAM IS PRESENTED TO INCLUDE WASTEWATER TREATMENT, WASTEWATER REUSE, LAND ORIENTATED SYSTEMS AND PROBLEMS CAUSED BY SPECIFIC CONTAMINANTS.

2455 US ARMY CORPS OF ENGINEERS

MAINTENANCE OF THE NEWARK BAY, HACKENSACK AND PASSAIC RIVERS NAVIGATION PROJECT, NEW JERSEY: FINAL ENVIRONMENTAL IMPACT STATEMENT [1973]

US ARMY CORPS ENG. NEW YORK. NY 36 PP

THIS FINAL ENVIRONMENTAL IMPACT STATEMENT DEALS WITH THE MAINTENANCE OF THE NEWARK BAY, THE HACKENSACK AND PASSAIC RIVERS NAVIGATION PROJECT, IN NJ. BEFORE CONCLUDING THAT THE PROJECT WAS WITHIN THE ENVIRONMENTAL GUIDELINES, THE FOLLOWING WERE CONSIDERED: ENVIRONMENTAL IMPLICATIONS, SOCIAL WELL-BEING, ENGINEERING, ECONOMIC AND OTHER PUBLIC INTEREST CONSIDERATIONS. THE FEASIBILITY AND REPERCUSSIONS OF DREDGING FOR NAVIGATION PURPOSES WERE EMPHASIZED, AS THE AREA IS A MAJOR LINK IN THE NORTHEAST SHIPPING CORRIDOR. PLANS FOR THE PREDGING AND CHANNELIZATION WERE APPROVED, NOTING THE DENSE INDUSTRIALIZATION OF THE AREA AND THE DEPENDENCY OF A MAJOR PORTION OF THE MIDWEST UPON UNHINDERED ACCESS TO THE HARBOR. FISH AND WILDLIFE RESOURCES OF THE AREA WERE NEGLIGIBLE SINCE INDUSTRIAL AND COMMERCIAL ACTIVITIES AND THE DISCHARGE OF SANITARY EFFLUENT BY LOCAL COMMUNITIES HAVE ALREADY POLLUTED THE SURROUNDING WATERS. LARGE AMOUNTS OF POLLUTING SUBSTANCES ENTER THE WATER DAILY, ESPECIALLY FROM INDUSTRIAL SOURCES.

2456 US ARMY CORPS OF ENGINEERS

MAINTENANCE DREDGING. BRONX RIVER. NEW YORK: FINAL ENVIRONMENTAL IMPACT STATEMENT [1973]

US ARMY CORPS ENG. NEW YORK. NY 34 PP

THE BRONX RIVER, RUNNING THROUGH A HIGHLY URBANIZED SECTION OF BRONX COUNTY, NY REQUIRES MAINTENANCE DREDGING OF THE FEDERAL CHANNEL AND TURNING BASIN TO THE AUTHORIZED PROJECT DIMENSIONS. THIS AREA IS HIGHLY POLLUTED, OFFERING ONLY NOMINAL WILDLIFE HABITAT, BUT TO MINIMIZE THE IMPACT ON FISH, DREDGING WILL BE SCHEDULED DURING THE WINTER MONTHS. DISPOSAL OF 83,000 CU YDS OF SPOIL HAS BEEN PLANNED IN THE NEW YORK BIGHT. PAST DUMPING HAS RESULTED IN SEVERE DEPRECIATION OF ENVIRONMENTAL QUALITY OF THE BIGHT, WHICH HAS RECOVERED ONLY SLOWLY. AN ALTERNATE DISPOSAL SITE MAY EXIST AT COVEN POINT IN JERSEY CITY, NJ, WHERE A LARGE INDUSTRIAL DEVELOPMENT IS BEING PLANNED, REQUIRING LAND FILL. THE CORPS OF ENGINEERS WILL CONTINUE INVESTIGATION OF THIS ALTERNATIVE, WHICH WILL MINIMIZE THE ADVERSE ENVIRONMENTAL EFFECTS OF OCEAN DISPOSAL. ABANDONMENT OF THE NAVIGATION PROJECT WOULD DEPRIVE THE AREA OF INDUSTRY ACCESS BY WATER REQUIRING USE OF RAIL AND TRUCKS WHICH WOULD INCREASE THE LEVEL OF NOISE AND AIR POLLUTION.

2457 US ARMY CORPS OF ENGINEERS

FINAL ENVIRONMENTAL STATEMENT--EAST RIVER, NEW YORK SPUR CHANNEL TO ASTORIA WATERFRONT [1973]

US ARMY CORPS ENG. NEW YORK. NY NP

THIS PROJECT PROPOSES TO DEEPEN THE SPUR CHANNEL FROM THE EAST RIVER TO THE ASTORIA WATERFRONT, QUEENS COUNTY, NY TO 35 FT IN EARTH AND 37 FT IN ROCK AT MEAN LOW WATER FOR A WIDTH OF 400 FT AND DEEPEN THE TURNING BASIN TO THE SAME DEPTHS. DISPOSAL OF THE EXCAVATED MATERIALS WOULD BE IN THE APPROVED DUMPING GROUND IN THE NEW YORK BIGHT. THE ENVIRONMENTAL IMPACTS ARE EXCAVATION OF ABOUT 850,000 CU YDS OF BOTTOM MATERIALS, ENHANCED ECONOMY OF COMMODITY TRANSPORTATION AND GREATER SAFETY OF NAVIGATION THAT

WOULD REDUCE POSSIBILITY OF DISCHARGE OF POLLUTANTS INTO THE WATER CAUSED BY ACCIDENTS. ADVERSE ENVIRONMENTAL EFFECTS INCLUDE CONSTRUCTION DISTURBANCE DUE TO DISRUPTION OF CHANNEL BOTTOM AND ASSOCIATED LIFE OVER AT LEAST 130 ACRES, GENERATION OF TURBIDITY. AND LIBERATION OF GASES.

2458 US ARMY CORPS OF ENGINEERS

MAINTENANCE OF GREAT SOUTH BAY CHANNEL AND PATCHOGUE RIVER AND LONG ISLAND INTRACOASTAL WATERWAY, NEW YORK NAVIGATION PROJECTS:

US ARMY CORPS ENG. NEW YORK. NY 22 PP

THIS PROJECT PROPOSES MAINTENANCE DREDGING OF THE EXISTING FEDERAL NAVIGATION PROJECT IN GREAT SOUTH BAY AND PATCHOGUE RIVER, AND THE LONG ISLAND INTRACOASTAL WATERWAY, NY TO THEIR AUTHORIZED PROJECT DIMENSIONS. THE WORK WOULD BE PERFORMED BY CONTRACT DREDGE WITH SPOILING ON BEACHES GENERALLY BELOW MEAN HIGH WATER, OR WITHIN THE BAYS TO PRODUCE NEW WETLAND AREAS. THE PROPOSED ACTION WOULD PERMIT THE CONTINUATION OF EFFICIENT AND SAFE DELIVERY BY WATER OF PETROLEUM PRODUCTS AND OTHER COMMODITIES TO PATCHOGUE. RECREATIONAL BOATING AND COMMERCIAL FISHING BOATS WOULD ALSO BENEFIT FROM THIS ACTION BY AFFORDING THEM SAFE NAVIGATION OF THE SOUTH BAYS OF LONG ISLAND. ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE A VOIDED: IF SPOIL IS PLACED IN OPEN WATER, TURBIDITY AND SMOTHERING OF BENTHIC ORGANISMS WOULD ACCOMPANY THE DREDGING AND DISPOSAL OF SPOIL. DREDGING WOULD REMOVE BENTHIC ORGANISMS, INCLUDING SHELLFISH.

2459 US ARMY CORPS OF ENGINEERS

FINAL ENVIRONMENTAL IMPACT STATEMENT: NEW YORK HARBOR--COLLECTION AND REMOVAL OF D'RIFT [1975]

US ARMY CORPS ENG. NEW YORK, NY 170 PP

PRIORITY AREA ONE OF LIBERTY STATE PARK IS ONE SECTION OF NEW YORK HARBOR CONTAINING DERELICT VESSELS AND NON-REPAIRABLE AND REPAIRABLE SHORE STRUCTURES WHICH CONTRIBUTE TO THE DRIFT PROBLEM. ALTHOUGH THE SHORT-TERM EFFECTS OF DRIFT COLLECTION WILL DISRUPT THE LOCAL AQUATIC AND TERRESTRIAL COMMUNITIES, IN THE LONG-TERM THE ECOLOGICAL SYSTEM SHOULD EXPERIENCE AN INCREASE IN PRODUCTIVITY. LOCAL WATER QUALITY SHOULD IMPROVE AS THE REMOVAL OF DRIFT CREATES BETTER FLUSHING CONDITIONS. IMPROVED WATER QUALITY AND PROTECTION OF THE MARSH WILL THUS ALLOW FOR AN EXPANSION OF THE LOCAL BIOTA.

2460 US ARMY CORPS OF ENGINEERS

GREAT SOUTH BAY AND ADJOINING LESSER BAYS AND INLETS LONG ISLAND, NEW YORK--FEASIBILITY REPORT ON A WATER AND RELATED LAND. RESOURCE STUDY [1975]

US ARMY CORPS ENG. NEW YORK. NY NP

THERE IS NO NEED AT THIS TIME FOR A BROAD-SCOPED SURVEY OF THE WATER AND RELATED LAND RESOURCES OF THE GREAT SOUTH BAY SYSTEM AS ENVISIONED BY THE BASIC LEGISLATION, AS AMENDED. THE DEVELOPMENT, USE AND GENERATION OF FINDINGS FROM A SUITABLE MATHEMATICAL MODEL OF THE GREAT SOUTH BAY SYSTEM IS NOT FEASIBLE WITHIN THE TIME FRAME AVAILABLE UNDER SECTION 76 OF THE WATER RESOURCES DEVELOPMENT ACT OF 1974 (PL 93-251). HOWEVER, A MATHEMATHICAL MODELING PROGRAM IS PRESENTLY BEING PREPARED BY THE NASSAU-SUFFOLK REGIONAL PLANNING BOARD PURSUANT TO SECTION 208 OF THE FWPCA OF 1972 (PL 92-50). THIS MODELING PROGRAM IS BEING DESIGNED TO SPECIFICALLY ADDRESS THE MATER POLLUTION AND WATER QUALITY MANAGEMENT PROBLEMS IDENTIFIED. THERE IS A NEED FOR A COMPREHENSIVE DATA COLLECTION AND MANAGEMENT PROGRAM FOR THE GREAT SOUTH BAY SYSTEM WHICH SHOULD BE CONDUCTED ON A CONTINUING BASIS TO ACCURATELY DEFINE EXISTING PROBLEMS, ENVIRONMENTAL CONDITIONS AND THEIR INTERRELATIONSHIPS, AND TO DETERMINE THE TRENDS OF THESE PROBLEMS IN ORDER TO IDENTIFY POTENTIAL PROBLEMS. LOCAL INTERESTS HAVE THE MANAGEMENT ABILITY TO CONDUCT SUCH A DATA MANAGEMENT PROGRAM AND TO ORGANIZE A PROGRAM OF STUDY FOR ADDRESSING THE REMAINING PROBLEMS AND NEEDS THAT ARE BEYOND THE JURISDICTIONAL RESPONSIBILITIES OF THE COPPS OF ENGINEERS AND OTHER FEDERAL AGENCIES.

2461 US ARMY CORPS OF ENGINEERS

FINAL ENVIRONMENTAL IMPACT STATEMENT: ROCKAWAY INLET TO NORTON POINT, NEW YORK (CONEY ISLAND AREA) BEACH EROSION CONTROL PROJECT [1976]

US ARMY CORPS ENG, WASHINGTON, DC 25 PP

THIS REPORT DESCRIBES THE BEACH EROSION CONTROL PROJECT FOR CONEY ISLAND AND BRIGHTON BEACHES, BROOKLYN, NY. THE PROJECT CONSISTS OF THE PLACEMENT OF BEACH FILL, CONSTRUCTION OF TWO TERMINAL STONE GROINS WHICH WILL INCLUDE SAFETY FEATURES FOR RECREATIONAL FISHING AND NAVIGATION CONSISTING OF SMOOTH-TOPPED WALKWAY, RAILING, AND A FIXED RED LIGHT. IMPACTS ARE RELATED TO BETTER BEACH RECREATION, SPORT FISHING, ENHANCEMENT OF THE LOCAL ECONOMY, AND REDUCTION IN TIDAL INUNDATION DUE TO RELATIVELY MILD STORMS. ADVERSE IMPACTS ARE THOSE RELATED TO CONSTRUCTION. THESE INCLUDE: DISRUPTION OF PRESENT MARINE LIFE CAUSED BY WITHDRAWAL OF MATERIALS FROM OFFSHORE SOURCES AND SUBSEQUENT PLACEMENT ON BEACH. ALTERNATIVES CONSIDERED INCLUDE, BEACH PROTECTION, NON-STRUCTURAL, STRUCTURAL AND "NO" ACTION PLANS.

2462 US ARMY CORPS OF ENGINEERS

FIRE ISLAND INLET TO MONTAUK POINT LONG ISLAND, NEW YORK BEACH EROSION AND HURRICANE PROJECT--OFFSHORE BORROW INVESTIGATION AND EVALUATION AND SIDE SCAN SURVEY--MORICHES INLET TO SHINNECOCK INLET REACH [1979]

US ARMY CORPS ENG. NEW YORK. NY NP

THIS REPORTS GEOPHYSICAL INVESTIGATION UNDERTAKEN BY OFFSHORE, INC. WITH RAAMOT ASSOC, P.C. IN THE ATLANTIC OCEAN AREA OFFSHORE OF THE MORICHES INLET TO SHINNECOCK INLET REACH. THE PURPOSE OF THIS INVESTIGATION WAS TO EVALUATE AND LOCATE SUITABLE SOURCES OF SAND SEDIMENT WHICH COULD BE USED FOR BEACH RESTORATION AND DUNE CONSTRUCTION ALONG THE SHORE OF THIS REACH.

2463 US ARMY CORPS OF ENGINEERS

FIRE ISLAND INLET TO MONTAUK POINT LONG ISLAND, NEW YORK--BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT SUPPLEMENT NO. 2 TO GENERAL DESIGN MEMORANDUM NO. 1: MORIGHES TO SHINNECOCK REACH [1980]

US ARMY CORPS OF ENG, NEW YORK, NY 4 PP

THIS PAPER PROVIDES UPDATED INFORMATION TO EVALUATE BEACH FILL AND DUNE CONSTRUCTION IN THE AREA OF WESTHAMPTON BEACH. IT CONTAINS MODIFICATIONS TO THE BASIC DESIGN, COST AND ECONOMIC DATA CONTAINED IN DESIGN MEMORANDUM NO. 1.

2464 US ARMY CORPS OF ENGINEERS

DREDGED MATERIAL DISPOSAL MANAGEMENT PROGRAM FOR THE PORT OF NEW YORK AND NEW JERSEY: INCREMENTAL IMPLEMENTATION PLAN [1980]

US ARMY CORPS ENG, NEW YORK, NY NP

THE CONTINUED VIABILITY OF THE PORT OF NY AND NJ JILL BE DEPENDENT UPON THE IMPLEMENTATION OF A SOUND DREDGED MATERIAL DISPOSAL MANAGEMENT PROGRAM WHICH IS IN THE TOTAL PUBLIC INTEREST. THE PLAN CONTAINED IN THIS REPORT OUTLINES THE NEW YORK DISTRICT'S PLAN TO INCREMENTALLY IMPLEMENT THE ALTERNATIVES RECOMMENDED IN VOLUME I ("PRESENT PRACTICES AND CANDIDATE ALTERNATIVES") OF THE OVERALL REPORT PREPARED BY THE MITRE CORPORATION. THE PURPOSE OF THE PLAN IS TO: 1) IDENTIFY INFORMATION AND APPROPRIATE INVESTIGATION AND STUDY NEEDS NECESSARY FOR IMPLEMENTATION OF EACH POTENTIAL DISPOSAL OPTION; 2) GATHER PERTINENT INFORMATION AND CONDUCT NECESSARY STUDIES AND INVESTIGATIONS FOR EACH ALTERNATIVE; 3) INCREMENTALLY IMPLEMENT THE FEASIBLE OPTIONS INTO AN OVERALL DREDGED MATERIAL MANAGEMENT PROGRAM FOR THE PORT OF NY AND NJ.

2465 US COAST GUARD

US COAST GUARD OIL POLLUTION INVESTIGATION AND CONTROL SCHOOL: ON-SCENE COORDINATOR'S MANUAL [1973]

GOVERNMENT REP ANNOUNC 73(11):86 ABS ONLY NTIS-AD-758 510

THE REPORT IS A HANDBOOK FOR WATER POLLUTION INVESTIGATORS. IT INCLUDES APPLICABLE LAWS, THE MIRANDA CASE, CRIMINAL INVESTIGATIVE PROCEDURES, REPORT WRITING GUIDELINES, SAMPLE REPORTS, PHOTOGRAPHIC TECHNIQUES, EVIDENCE GATHERING, AND AN OUTLINE OF TANKER/TERMINAL OIL TRANSFER OPERATIONS.

2466 US COAST GUARD

EXPLOSION AND FIRE ON BOARD THE UNMANNED TANK BARGE OCEAN 80 AT CARTERET, NEW JERSEY ON 25 OCTOBER 1972 WITHOUT LOSS OF LIFE [1975]

USCG, GROTON, CT 30 PP NTIS-AD-A011 033

ON OCT 25, 1972, THE TANK BARGE OCEAN 80 WAS LOADING GASOLINE AND FUEL OIL AT THE GENERAL AMERICAN TRANSPORTATION CORPORATION TERMINAL, ARTHUR KILL, CARTERET, NJ. ABOUT 0600, A FIRE AND SEVERAL EXPLOSIONS OCCURRED ON THE BARGE. BEFORE THE RESULTANT FIRES WERE EXTINGUISHED, THE BARGE WAS DESTROYED AND THE TERMINAL AND NEARBY FACILITIES WERE DAMAGED SUBSTANTIALLY. THE NATIONAL TRANSPORTATION SAFETY BOARD (NTSB) DETERMINES THAT THE PROBABLE CAUSE OF THE CASUALTY WAS THE IGNITION, BY AN UNIDENTIFIED SOURCE, OF GASOLINE WHICH SPILLED FROM OVERFLOWING CARGO TANKS ON THE OCEAN 80. A MAJOR CONTRIBUTING FACTOR WAS THE FAILURE OF THE BARGE TANKERMAN AND THE TERMINAL DOCKMAN TO ADHERE TO PRESCRIBED CARGO TRANSFER PROCEDURES. THE NTSB'S RECOMMENDATIONS LISTED IN THIS REPORT ARE ADDRESSED TO THE US CG.

2467 US COAST GUARD

SS C.V. SEA WITCH--SS ESSO BRUSSELS (BELGIUM): COLLISION AND FIRE IN NEW YORK HARBOR ON 2 JUNE 1973 WITH LOSS OF LIFE [1975]

USCG, GROTON, CT 74 PP NTIS-AD-A021 429

ON 2 JUNE 1973, THE SS C.V. SEA WITCH LOST STEERING CONTROL IN NEW YORK HARBOR. THE SHIP MOVED OUT OF THE CHANNEL AND STRUCK AND PENETRATED THE ANCHORED BELGIAN TANKSHIP SS ESSO BRUSSELS WHICH WAS LOADED WITH CRUDE OIL. THE 31,000 BARRELS OF OIL FROM THREE RUPTURED TANKS IGNITED AND THE RESULTING FIRE ENGULFED BOTH SHIPS. THE MASTER AND TWO CREWMEMBERS DIED ABOARD THE SEA WITCH. THE MASTER AND TEN CREWMEMBERS OF THE ESSO BRUSSELS DIED AFTER ABANDONING SHIP, ONE CREWMEMBER DIED ABOARD SHIP, AND ONE CREWMEMBER IS MISSING. SOME NEARBY BEACHES WERE POLLUTED, AND DAMAGE TO THE SHIPS AND CARGO AMOUNTED TO ABOUT \$23 MILLION. THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINES THAT THE PROBABLE CAUSE WAS A MECHANICAL FAILURE IN THE STEERING SYSTEM OF THE SEA WITCH AND THE LACK OF ADEQUATE AND TIMELY ACTION BY THE CREW TO CONTROL THEIR SHIP AFTER THE FAILURE OCCURRED. THE CAUSE OF THE LOSS OF STEERING WAS THE DEFICIENT DESIGN OF THE SYSTEM WHICH DID NOT PROVIDE TWO SEPARATE AND INDEPENDENT STEERING CONTROL SYSTEMS" AS REQUIRED BY 46 CFF 58.25. THE CAUSE OF THE FIRE, POLLUTION, AND DEATHS AFTER THE COLLISION WAS THAT THE IMPLICABLY DESIGNED BOW OF THE SEA WITCH PENETRATED THE HULL OF THE ESSO BRUSSELS INSTEAD OF ABSORBING THE CRASH ENERGY.

2468 US COMPTROLLER GENERAL

REPORT TO THE CONGRESS: PROBLEMS AND PROGRESS IN REGULATING OCEAN DUMPING OF SEWAGE SLUDGE AND INDUSTRIAL WASTES [1977]

US GENERAL ACCOUNTING OFFICE, WASHINGTON, DC 61 PP

A REPORT DISCUSSING THE DUMPING OF TOXIC WASTES BEYOND SAFETY LEVELS IN THE OCEAN. COAST GUARD SURVEILLANCE HAS BEEN MINIMAL. EPA HAS MADE PROGRESS IN PHASING OUT DUMPING OF INDUSTRIAL WASTES BUT MUNICIPAL WASTE DUMPING IS EXPECTED TO CONTINUE TO RISE.

PROPOSED ALTERNATIVES TO DUMPING ARE ASSESSED IN TERMS OF THE TOTAL ENVIRONMENT.

2469 US COMPTROLLER GENERAL

REPORT TO THE CONGRESS: SEWAGE SLUDGE--HOW DO WE COPE WITH IT? [1978]

US GENERAL ACCOUNTING OFFICE, WASHINGTON, DC 37 PP

THIS REPORT ADDRESSES PROBLEMS MUNICIPALITIES FACE IN SELECTING AND IMPLEMENTING SLUDGE MANAGEMENT SYSTEMS THAT DISPOSE OF SLUDGE IN A SAFE, BENEFICIAL, AND COSI-EFFECTIVE MANNER AND ACTIONS THE FEDERAL GOVERNMENT SHOULD TAKE TO HELP THEM. SEWAGE SLUDGE DISPOSAL IS A GROWING PROBLEM BEGAUSE THE NATION'S SLUDGE VOLUME IS INCREASING DRAMATICALLY; IT IS EXPECTED TO DOUBLE IN SIZE BY 1987. AT THE SAME TIME, CERTAIN SLUDGE DISPOSAL METHODS ARE BEING PHASED OUT, AND USE OF OTHERS IS BEING RESTRICTED. ALSO, DEVELOPMENT AND IMPLEMENTATION OF NEW DISPOSAL METHODS IS BEING HAMPERED FOR A NUMBER OF REASONS.

2470 US CONGRESS

LEGISLATION FACILITATING NEGOTIATION OF AN INTERSTATE COMPACT RESPECTING THE HUDSON RIVER [1966]

80 STAT 847, 1966

UNDER THIS FEDERAL STATUTE THE STATES OF NJ, VT, MA, AND CT MAY NEGOTIATE WITH EACH OTHER AND THE US FOR THE PURPOSE OF ESTABLISHING A COMPACT DEALING WITH THE PRESERVATION, RESTORATION, UTILIZATION, AND DEVELOPMENT OF THE NATURAL, SCENIC, HISTORIC, AND RECREATIONAL RESOURCES OF THE HUDSON RIVER. THE SECRETARY OF THE INTERIOR SHALL REPRESENT THE US IN SUCH NEGOTIATIONS AND REPORT TO THE PRESIDENT NOT LATER THAN JULY 1, 1968. IN NEGOTIATING THE COMPACT THE FOLLOWING SHALL BE CONSIDERED: (1) ENCOURAGEMENT OF ALL BENEFICIAL USES OF THE LANDS AND WATERS OF THE RIVERWAY; (2) ENCOURAGEMENT OF LOCAL AND STATE AUTONOMY IN PLANNING AND ACTION; (3) THE NEED TO ABATE WATER POLLUTION; (4) THE NEED TO PRESERVE, ENHANCE, AND REHABILITATE THE SCENIC BEAUTY OF THE RIVERWAY; (5) THE NEED TO PROTECT FISH AND WILDLIFE; AND (6) THE NEED TO PRESERVE AND DEVELOP ARCHEOLOGICAL AND HISTORIC SITES. ALL DEPARTMENTS, AGENCIES, AND INSTRUMENTALITIES OF THE US SHALL CONSULT WITH THE SECRETARY OF THE INTERIOR CONCERNING ANY PLANS AFFECTING THE HUDSON RIVER UNTIL SUCH TIME AS THE STATES AND THE US HAVE HAD AN OPPORTUNITY TO NEGOTIATE A COMPACT.

2471 US CONGRESS

PUBLIC HEARING ON RELOCATING SEWAGE SLUDGE OCEAN DUMPING SITES MAY 31-JUNE 1, 1977, TOMS RIVER, NJ [1977]

CONGRESSIONAL HEARING, US GPO, WASHINGTON, DC 103 PP

THE MAJOR TOPICS COVERED BY THE HEARING WERE: A) WHETHER OR NOT SLUDGE DUMPING AT THE PRESENT NEW YORK BIGHT SITE WAS THE CAUSE OF FISH KILLS IN 1976; B) THE POTENTIAL AND PRESENT IMPACTS OF SLUDGE DUMPING AT THE PRESENT SITES; C) BENEFITS THAT WOULD ENSUE FROM CESSATION OF DUMPING; D) ADVERSE EFFECTS OF DUMPING ON NEW SITES; E) THE BALANCE BETWEEN THE COST OF USING MORE DISTANT SITES AND THE BENEFITS THAT WOULD RESULT; F) THE NEED FOR AN EIS TO SUPPORT ANY RELOCATION OF SLUDGE DUMPING SITES; G) THE STATUTORY REQUIREMENTS THAT SITES OFF THE CONTINENTAL SHELF SHALL BE UTILIZED WHERE FEASIBLE.

2472 US DEPT OF COMMERCE

COUNTY OF ORANGE, NY FOR A FOREIGN-TRADE ZONE IN THE TOWN OF NEW WINDSOR, NY: RESOLUTION AND ORDER APPROVING APPLICATION [1978]

FEDERAL REGISTER 43(93):20526

THE FOREIGN-TRADE ZONES BOARDS APPROVED THE APPLICATION OF THE COUNTY OF ORANGE, NY, FOR A GRANT OF AUTHORITY FOR ESTABLISHING, OPERATING, AND MAINTAINING A GENERAL PURPOSE FOREIGN TRADE ZONE CONSISTING OF 2 SITES WITHIN THE TOWN OF NEW WINDSOR, ADJACENT TO THE NEW YORK CITY CUSTOMS PORT OF ENTRY.

2473 US DEPT OF COMMERCE

DELAWARE II CLAM SURVEY 78-01, INFORMATION REPORT (COVERING THE MID-ATLANTIC SHELF LONG ISLAND TO CAPE HATTERAS) 4 JAN-11 FEB 1978 [1978]

NOAA, WOODS HOLE, MA 20 PP

THE DISTRIBUTION OF SURF CLAMS (SPISULA SOLIDISSIMA) AND OCEAN QUAHOGS (ARCTICA ISLANDICA) DURING THE RECENTLY COMPLETED OCEAN CLAM SURVEY IS SHOWN ON CHARTS AND TABLES OF STATION DATA. THE SURVEY AREA WAS THE CONTINENTAL SHELF OF THE MIDDLE ATLANTIC BIGHT AND SOUTHERN NEW ENGLAND, FROM CAPE HATTERAS, NC, NORTHWARD TO NANTUCKET, MA. STATION DEPTHS WERE FROM NEAR SHORE TO ABOUT 73.2 M (40 FATHOMS). A HYDRAULIC CLAM DREDGE WITH A 48-INCH-WIDE KNIFE WAS TOWED AT EACH STATION FOR 4 MIN AND AT ABOUT 0.5 KNOTS. THE WATER SUPPLY TO THE DREDGE WAS FROM A DECK-MOUNTED ENGINE AND PUMP THROUGH CONVENTIONAL CLAM HOSE.

2474 US DEPT OF COMMERCE

MARINE RECREATIONAL FISHERY STATISTICS SURVEY, ATLANTIC AND GULF COASTS, 1979 [1980]

CURRENT FISHERY STATISTICS NO 8063. US DEPT OF COMMERCE, WASHINGTON, DC NP

SOME OF THE PROBLEMS ENCOUNTERED DURING THE 1979 SURVEY WERE INHERENT IN THE COMPLEX NATURE OF THE METHODOLOGY. EXPERIENCE GAINED IN CONDUCTING THE SURVEY CONTRIBUJED TO IMPROVEMENT IN MANY OF THESE AREAS AS THE PROCEDURES WERE ADJUSTED TO REFLECT EXPERIENCE GAINED. OTHER PROBLEMS, INCLUDING WEATHER CONDITIONS AND HUMAN BEHAVIOR, WERE BEYOND THE CONTROL OF THE RESEARCHERS AND COULD OCCUR IN ANY SURVEY OF THIS TYPE. NONETHELESS, THE 1979 ESTIMATES PRESENTED HERE REPRESENT THE BEST ESTIMATES OF RECREATIONAL MARINE FISHING ACTIVITY AVAILABLE, ESPECIALLY WHEN THE DATA ARE INTERPRETED AT THE SUBREGION LEVEL. THE LISTING OF CAUTIONS IS NOT INTENDED TO SUGGEST THAT THE DATA ARE UNRELIABLE. RATHER, IT IS PRESENTED AS AN AGENDA FOR IMPROVEMENTS, AND TO INCREASE THE UTILITY AND RELIABILITY OF THE RESULTS EVEN FURTHER.

2475 US DEPT OF ENERGY

AN EXAMINATION OF THE INTEGRATED EFFECTS OF ADOPTING VARIOUS ENERGY CONSERVATION AND LOAD LEVELING POLICIES FOR THE METROPOLITAN AREA OF NEW YORK CITY--FINAL REPORT [1978]

US DOE, WASHINGTON, DC NP

THIS PROJECT IS A SYSTEMATIC ATTEMPT TO INTEGRATE THE VARIOUS OPPORTUNITIES FOR ENERGY CONSERVATION WITH SAYING ACTIONS SUCH AS PEAK LOAD PRICING. VARIOUS APPROACHES TO ENERGY CONSERVATION AND LOAD LEVELING WERE CONSIDERED, RANGING FROM SUCH PURELY ECONOMIC MEASURES AS THE APPLICATION OF THE OVERLAPPING PRINCIPLES OF INCREMENTAL COST AND PEAK RESPONSIBILITY PRICING, TO THE ADOPTION OF NEW REGULATIONS, SUCH AS EFFICIENCY STANDARDS FOR NEW APPLIANCES AND THERMAL PROTECTION STANDARDS FOR BUILDINGS.

2476 US DEPT OF ENERGY

DUTCHESS COUNTY PYROLYSIS PROJECT. DRAFT FEASIBILITY REPORT OF THREE SITES [1979]

US DOE, WASHINGTON, DC 45 PP

FOUR SITES NEAR THE HUDSON RIVER IN DUTCHESS COUNTY, NY WERE EVALUATED FOR LOCATING A SOLID WASTE PUROX PYROLYSIS PLANT. BASED ON A COMPARISON OF GEOLOGIC CONDITIONS, TOPOGRAPHY, CONSTRUCTION COSTS, AVAILABLE UTILITIES, AND LAND USE COMPATIBILITY, THE ARLINGTON SITE IS RECOMMENDED.

2477 US DEPT OF HEALTH, EDUCATION AND WELFARE

POLLUTION OF THE HUDSON RIVER AND ITS TRIBUTARIES [1965]

US HEW, WASHINGTON, DC NP

THIS REPORT CONTAINS SOME INFORMATION RELATED TO THE HUDSON ESTUARY, ALTHOUGH IT IS DIFFICULT TO SEPARATE THE INFORMATION ON THE RIVER FROM THAT RELATING STRICTLY TO THE ESTUARY, INFORMATION ON RECREATION AND SHIPPING IN THE ESTUARY IS PROVIDED, INCLUDING A LIST OF PUBLIC BEACHES AND WATERFRONT PARKS.

2478 US DEPT OF INTERIOR

PRESERVATION OF HEMPSTEAD AND SOUTH OYSTER BAY, LONG ISLAND WETLANDS [1961]

US DEPT OF INTERIOR, WASHINGTON, DC 36 PP

THIS DESCRIPTION OF THREATENED WETLANDS INCLUDES FISH AND WILDLIFE RESOURCES, HUMAN NEEDS, FUTURE NEEDS, WETLAND VULVERABILITY.
RECOMMENDATIONS INCLUDE THE DEDICATION OF SEVERAL MANAGMENT UNITS TO FISH AND WILDLIFE CONSERVATION, REFUGE AREAS, DEVELOPMENT
OF 4.880 ACRES TO IMPROVE WATERFOWL USE.

2479 US DEPT OF INTERIOR

FOCUS ON THE HUDSON [1966]

US GPO. WASHINGTON. DC 50 PP

THE MAIN EMPHASIS OF THE REPORT IS ON THE DEVELOPMENT AND MAINTENANCE OF THE RECREATIONAL VALUE OF THE HUDSON. BASIC ISSUES OF WATER POLLUTION, INADEQUATE PUBLIC ACCESS TO THE RIVER, UNCOORDINATED APPROACHES TO PLANNING, AND CONFLICTING LAND USAGE ARE DISCUSSED IN LIGHT OF THEIR EFFECTS ON THE RECREATIONAL ENVIRONMENT. IT IS RECOMMENDED THAT THE STATES OF NY AND NJ AMEND LEGISLATION, TO PERMIT STATE ZONING REVIEW AND CONTROL OVER LOCAL MUNICIPALITIES ALONG THE RIVER, AND AMEND TAXING POLICIES TO ENCOURAGE USE OF CONSERVATION EASEMENTS AND LAND USE TOOLS FOR PRESERVATION OF HISTORIC SITES. A LAND ACQUISITION PROGRAM IS PROPOSED TO DEVELOP AND REVITALIZE THE WATERFRONT, WHICH HAS FALLEN INTO DISUSE IN MANY AREAS. POSSIBLE PROGRAMS FOR THE PROTECTION AND DEVELOPMENT OF FISH AND WILDLIFE ARE PRESENTED. INDUSTRIAL, COMMERCIAL, RESIDENTIAL, AND INSTITUTIONAL LAND USES SHOULD BE FITTED INTO AN OVERALL PLAN FOR PRESERVING AND PROTECTING THE SCENIC AND RECREATIONAL VALUES OF THE HUDSON. TO THIS END A FEDERAL-INTERSTATE COMPACT IS RECOMMENDED. THE SCOPE OF ITS RESPONSIBILITIES, JURISDICTION, AND AUTHORITY IS DEFINED.

2480 US DEPT OF INTERIOR

MONITORING OF PCBS IN FISH TAKEN FROM THE HUDSON RIVER [1975]

US DEPT OF INTERIOR, WASHINGTON, DC NP

THE DATA DERIVED FROM THE FISH FLESH AMALYSES CLEARLY INDICATES THAT SPECIFIC WATERWAYS OR PORTIONS OF WATERWAYS CONTAIN LEVELS OF PCBS ABOVE THE LEVEL RECOMMENDED AS "ACTIONABLE" BY THE FDA. ONE SUCH WATERWAY IS THE HUDSON RIVER AT AND BELOW THE FORT EDWARD STATION. AN EXAMINATION OF THE EXISTING DATA WILL SHOW THAT TOTAL PCB LEVELS SUBSTANTIALLY EXCEED THE FDA'S RECOMMENDED

STANDARD AND LEVELS FOUND IN SIMILAR SPECIES SAMPLED FROM OTHER WASTESHEDS. A COMPARISON OF THE DATA DERIVED FROM FISH ANALYSES OF SPECIES TAKEN FROM THE HUDSON RIVER AT VARIOUS STATIONS INDICATES A NOTABLE DIFFERENCE IN PCB CONCENTRATION. THE TWO UPPERMOST STATIONS ON THE RIVER (CORINTH AND GLENS FALLS) INDICATE ONLY TRACE CONCENTRATIONS OF PCBS AS AROCLOR 1242/1016 AND TRACE AROCLOR 1254. HOWEVER, LOWER STATIONS (FORT EDWARD, 5 MI BELOW FORT EDWARD AND STILLWATER) INDICATE VERY HIGH LEVELS OF THE CONTAMINANT IN ALL SPECIES SAMPLED. THIS DIFFERENCE BETWEEN TWO STATIONS, ABOVE GLENS FALLS AND BELOW FORT EDWARD, INDICATES THAT PCBS ARE ENTERING THE AQUATIC ENVIRONMENT BETWEEN THE STATIONS AND THAT FISH, A "SINK" FOR PCBS, ARE ACCUMULATING HIGH LEVELS OF THE CONTAMINANT.

2481 US DEPT OF INTERIOR

PEOPLE AND THE SOUND: OUTDOOR RECREATION [1975]

NEW ENGLAND RIVER BASINS COMMISSION. BOSTON. MA 112 PP

THIS ARTICLE PRESENTS INFORMATION ON PROJECTED DEMAND AND SUPPLY OF WATER-RELATED AND OPEN SPACE RECREATION ACTIVITIES IN THE LONG ISLAND SOUND AREA.

2482 US DEPT OF INTERIOR

NATIONAL URBAN RECREATION STUDY NY/NEWARK/JERSEY CITY [1977]

US BUREAU OF OUTDOOR RECREATION, NEW YORK, NY 347 PP

PHYSICAL, ECONOMIC, AND SOCIAL BARRIERS PREVENT URBAN RESIDENTS FROM UTILIZING EXISTING RECREATIONAL RESOURCES. THE GREATEST NEEDS OF RECREATION USERS ARE FOR TRAINED PERSONNEL SENSITIVE TO COMMUNITY NEEDS AND FOR ADDITIONAL FACILITIES. ADEQUATE RECREATIONAL SERVICES FOR HANDICAPPED PERSONS ARE NOT AVAILABLE IN PHILADELPHIA/WILMINGTON/TRENTON. THERE IS A LACK OF COORDINATION AMONG GOVERNMENTAL ENTITIES.

2483 US DEPT OF INTERIOR

GATEWAY NATIONAL RECREATION AREA--NEW YORK/NEW JERSEY GENERAL MANAGEMENT PLAN AUGUST 1979 [1979]

DENVER SERVICE CENTER. DENVER. CO 180 PP

THE PLAN PROPOSES DESIGN AND DEVELOPMENT OF THE PARK IN THREE STAGES, BASED LARGELY ON PENDING LAND TRANSFERS AND PROJECTIONS OF IMPROVED WATER QUALITY, ACCESS MODIFICATIONS, AND CHANGING VISITOR NEEDS. THE ESTIMATED LIFE OF THE PLAN IS 20 YRS, DEPENDING ON THE TIMING OF FUNDS MADE AVAILABLE BY CONGRESS. BASED ON THIS, EACH STAGE WILL BE APPROXIMATELY 7 YRS. THE ACTIONS EXPECTED TO TAKE PLACE IN STAGE II AND III OF GATEWAY DEVELOPMENT ARE DESCRIBED BRIEFLY IN THE INTRODUCTION TO "THE PLAN" SECTION. STAGE I ACTIONS, WHICH HAVE BEEN FURTHER SUBDIVIDED INTO TWO PHASES IN ORDER TO MINIMIZE DISTURBANCES TO EXISTING USE PATTERNS, MONITOR ACCESS IMPROVEMENTS AND REDUCE IMPACTS ON NEIGHBORING COMMUNITY RESIDENTS, ARE DISCUSSED IN DETAIL IN THE BODY OF THAT SECTION. EACH PHASE WILL BE ABOUT 3 1/2 YRS.

2484 US DEPT OF INTERIOR

GATEWAY NATIONAL RECREATION AREA--NEW YORK/NEW JERSEY FINAL ENVIRONMENTAL STATEMENT AUGUST 1979 [1979]

DENVER SERVICE CENTER. DENVER. CO 255 PP

THIS SUMMARY OF ENVIRONMENTAL IMPACTS ON THE GATEWAY PARKS INCLUDES RECOMMENDATIONS ON THE FOLLOWING: 1) RESTORATION AND/OR

PRESERVATION FROM EXTENSIVE USE OF MORE THAN 2/3 OF THE PARK'S NATURAL LANDS, INCLUDING NEARLY ALL MARSHES AND WETLANDS, BEACHGRASS DUNES, FORESTS, AND OTHER IDENTIFIED SIGNIFICANT FEATURES; 2) INCREASED DIVERSITY OF RECREATIONAL OPPORTUNITIES FOR ALL SEGMENTS OF THE REGIONAL POPULATION; 3) INCREASED YEAR-ROUND USE OF THE PARK BECAUSE OF THE DEVELOPMENT OF GATEWAY VILLAGES AND OTHER RECREATIONAL LANDS AND FACILITIES; 4) IMPROVED PUBLIC ACCESS TO THE PARK BECAUSE OF THE INTRODUCTION OF FERRY SERVICE BY OTHER AGENCIES OR INTERESTS; 5) INCREASED USE OF THE PARK BY DISADVANTAGED PEOPLE BECAUSE OF THE EXPANSION OF THE OUTREACH PROGRAM; 6) LOSS OF EXCLUSIVE USE OF 30ME PARKLANDS BY PRIVATE BEACH CLUB MEMBERS AND LOCAL COMMUNITY RESIDENTS; 7) POTENTIAL ECONOMIC GAINS FOR LOCAL AND REGIONAL BUSINESSES BECAUSE OF INCREASED VISITOR USE OF COMMERCIAL ESTABLISHMENTS IN THE VICINITY OF THE PARK AND BECAUSE OF NEW CONSTRUCTION AND RESDURCES MANAGEMENT PROGRAMS; NEW JOB OPPORTUNITIES AT THE PARK; 8) ADAPTIVE RESTORATION, INTERPRETATION, AND/OR USE OF IMPORTANT MILITARY AND CIVIL AVIATION FEATURES AT THE PARK WITHIN DESIGNATED HISTORIC DISTRICTS: 9) INCREASED EFFECTIVENESS OF PARK MANAGEMENT AND PLANNING ACTIVITIES.

2485 US DEPT OF TRANSPORTATION

WEST SIDE HIGHWAY PROJECT--ADMINISTRATIVE ACTION FINAL ENVIRONMENTAL IMPACT STATEMENT AND SECTION 4(F) STATEMENT [1974]

US DOT. WASHINGTON. DC NP

THE PROPOSED FEDERAL HIGHWAY ADMINISTRATION ACTION IS THE CONSTRUCTION OF AN INTERSTATE SYSTEM HIGHWAY WHICH WILL REPLACE THE NOW-CLOSED WEST SIDE HIGHWAY BETWEEN THE BATTERY AND W. 42ND ST. ON THE WEST SIDE OF THE BOROUGH OF MANHATTAN IN NYC. THE 4.2-MI REPLACEMENT FACILITY WILL HAVE CONNECTIONS WITH THE BATTERY PARK UNDERPASS. THE BROOKLYN-BATTERY TUNNEL (1-278), THE HOLLAND TUNNEL (I-78). W. 14TH ST.. THE LINCOLN TUNNEL (I-495). AND THE EXISTING ELEVATED WEST SIDE HIGHWAY AT 42ND ST. FOR MOST OF ITS LENGTH. THE 6-LANE FACILITY WILL BE A DEPRESSED. COVERED AND VENTILATED SECTION IN LANDFILL IN THE HUDSON RIVER BETWEEN THE BULKHEAD AND PIERHEAD LINES. DURING THE PEAK HOUR, THE INSIDE LANE IN EACH DIRECTION WILL BE DESIGNED TO ACCOMMODATE EXPRESS BUSES AND HIGH-OCCUPANCY VEHICLES, AND WILL HAVE CONNECTIONS TO OTHER EXISTING BUS LANES AND FACILITIES WITHIN THE CORRIDOR. WEST STREET/12TH AVENUE WILL BE RECONSTRUCTED IN ITS PRESENT RIGHT-OF-WAY. FOR MOST OF ITS LENGTH THE RECONSTRUCTED WEST STREET WILL BE A 4-LANE LOCAL STREET WITH 6-LANE SECTIONS ONLY AT THE SOUTHERN AND NORTHERN PORTIONS OF THE PROJECT. THE PROPOSED ACTION IS REFERRED TO IN THIS FINAL ENVIRONMENTAL IMPACT STATEMENT AS THE MODIFIED OUTBOARD ALTERNATIVE. THE MODIFIED OUTBOARD ALTERNATIVE WILL ACT AS A CATALYST FOR THE ORDERLY REDEVELOPMENT OF MANHATTAN'S LOWER WEST SIDE. THE HIGHWAY DESIGN AND THE LAND USE POLICIES ASSOCIATED WITH IT HAVE BEEN DEVELOPED TO RESPOND TO CURRENT SOCIAL AND ECONOMIC TRENDS WITHIN THE CORRIDOR. AS WELL AS CITY AND COMMUNITY OBJECTIVES FOR THE FUTURE. THE CONSTRUCTION OF THE MODIFIED OUTBOARD WILL NOT GENERATE PRECIPITOUS ALTERATIONS OF SOCIAL AND ECONOMIC CONDITIONS, BUT RATHER A CONTINUATION OF EXISTING DEVELOPMENT PATTERNS AND AN ENCOURAGEMENT OF DESIRABLE TRENDS WHICH ARE ALREADY IN EVIDENCE. AS A RESULT OF THE CONSTRUCTION OF THE HIGHWAY IN LANDFILL, A TOTAL OF 234 ACRES OF LAND, INCLUDING 181 ACRES OF NEW LANDFILL, WILL BE MADE AVAILABLE FOR NEW USES. 31 ACRES WILL BE UTILIZED FOR INTERCHANGES AND RAMPS, AND 110 ACRES WILL BE AVAILABLE FOR NEW DEVELOPMENT. THE REMAINING 93 ACRES, MOST OF WHICH WILL BE ON THE COVER OVER THE HIGHWAY. WILL BE A CONTINUOUS PARK ALONG THE HUDSON RIVER WATERFRONT FROM LOWER MANHATTAN TO MIDTOWN.

2486 US DEPT OF TRANSPORTATION

WEST SIDE HIGHWAY PROJECT--SECTION 6 OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT: COMMENTS AND RESPONSES ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT [1976]

US DOT. WASHINGTON. DC NP

THIS VOLUME OF PUBLIC HEARING TRANSCRIPTS, EXHIBITS, PUBLIC AGENCY COMMENTS AND WRITTEN STATEMENTS CONSTITUTES THE OFFICIAL WEST SIDE HIGHWAY PUBLIC RECORD. THE DEFICIAL WEST SIDE HIGHWAY PROJECT REVIEW PERIOD BEGAN ON APRIL 25, 1974 WITH THE PUBLICATION AND DISTRIBUTION OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT. FROM THAT DATE THE FIVE ALTERNATIVES DESCRIBED, COMPARED AND EVALUATED IN THE DEIS, HAVE UNDERGONE CLOSE AND EXTENSIVE PUBLIC SCRUTINY. FOUR PUBLIC HEARING SESSIONS WERE HELD IN JUNE AND SEPTEMBER OF 1974, ATTENDED BY OVER 1,000 INTERESTED CITIZENS, 210 OF WHOM GAVE ORAL TESTIMONY. SOME 105 WRITTEN STATEMENTS WERE RECEIVED FROM THE PUBLIC BY MAIL FOR INCLUSION IN THE RECORD, ALONG WITH LENGTHY TECHNICAL EVALUATIONS PREPARED BY LOCAL COMMUNITY BOARD CONSULTANTS. IN ADDITION, 25 CITY, STATE AND FEDERAL GOVERNMENT AGENCIES SUBMITTED COMMENTS ON THE

DEIS. THE OFFICIAL REVIEW PERIOD ENDED OCTOBER 28, 1974 BUT SINCE THEN THE WEST SIDE HIGHWAY PROJECT HAS RECEIVED A NUMBER OF ADDITIONAL COMMENTS BOTH WRITTEN AND ORAL AND THESE ARE INCLUDED AS WELL.

2487 US EPA

OXYGEN DYNAMICS OF RARITAN RIVER BASIN 1970 [1970]

US EPA. NEW YORK, NY NP

A TOTAL OF 24 STATIONS WERE SELECTED THROUGHOUT THE BASIN FOR PHYTOPLANKTONIC OXYGEN STUDIES. FROM THESE, REPRESENTATIVE STATIONS WERE CHOSEN FOR 24 HOUR OXYGEN CURVES, BENTHIC UPTAKE STUDIES, AND PERIPHYTON AND HIGHER PLANT OXYGEN PRODUCTION.

2488 US EPA

PRE-CONFERENCE REPORT FOR WATER QUALITY STANDARDS SETTING/REVISION CONFERENCE, NEW JERSEY ATLANTIC COASTAL AREA [1972]

US EPA, NEW YORK, NY NP

THIS PAPER DESCRIBES THE NATURE OF THE POLLUTION PROBLEM, SOURCES OF POLLUTION, EXISTING WATER QUALITY STANDARDS, AND POSES ENGINEERING SYSTEMS TO ACCOMPLISH POLLUTION CONTROL FOR THE STUDY AREA. IT PROPOSES IMPLEMENTATION SCHEDULES FOR DEVELOPMENT AND CONSTRUCTION OF REQUISITE DOMESTIC SEWAGE POLLUTION ABATEMENT AND DISPOSAL FACILITIES.

2489 US EPA

WASTEWATER TREATMENT FACILITIES CONSTRUCTION GRANTS FOR NASSAU AND SUFFOLK COUNTIES, NEW YORK: FINAL ENVIRONMENTAL IMPACT STATEMENT [1972]

US EPA. NEW YORK. NY 327 PP

NASS AU AND SUFFOLK COUNTIES ON LONG ISLAND HAVE REQUESTED FUNDS. FROM THE US EPA FOR CONSTRUCTION OF NEW SEWAGE TREATMENT PLANTS AND OUTFALLS AND ADDITIONS AND ALTERNATIVES OF EXISTING SEWAGE TREATMENT PLANTS AND SEWERS. THE IMPACT OF THIS PROJECT WILL BE TO REDUCE THE QUANTITY OF WATER IN THE LONG AQUIFERS WHILE IMPROVING GROUNDWATER QUALITY. THE HIGHLY TREATED EFFLUENT WILL BE INTRODUCED INTO THE MARINE ENVIRONMENT. WASTE SLUDGE PRODUCED AT THE TREATMENT PLANTS WILL REQUIRE DISPOSAL IN A MANNER THAT WILL NOT SIGNIFICANTLY DISRUPT THE ENVIRONMENT. SEPTIC TANK SERVICE IN SUFFOLK COUNTY WITH RESULTING POLLUTION OF GROUNDWATER RESOURCES WILL BE ALLEVIATED BY COLLECTION AND TREATMENT. ADVERSE EFFECTS INCLUDE LOWERING OF GROUNDWATER LEVELS, INCREASED SALT WATER ENCROACHMENT, AND POSSIBLE CONTAMINATION OF MARINE AREAS AT THE SITES OF EFFLUENT AND SLUDGE DISPOSAL. ALTERNATIVES INCLUDE NON-STRUCTURAL CONTROLS AND REGIONAL COLLECTION SYSTEMS FOR SEWERING; TREATMENT PLANT EMPLOYMENT OF VARIOUS PROCESSES TO OBTAIN SECONDARY TREATMENT EFFLUENT QUALITY OR ADVANCED WASTE TREATMENT PROCESSES TO PRODUCE AN EFFLUENT SUITABLE FOR DOMESTIC REUSE OR TO DO NOTHING. COMMENTS FROM INTERESTED AGENCIES ARE INCLUDED.

2490 US EPA

COMBINED SEWER OVERFLOW STUDY FOR THE HUDSON RIVER CONFERENCE [1973]

OFFICE OF RESEARCH AND MONITORING, US EPA, WASHINGTON, DC 287 PP

A DETAILED EXAMINATION WAS CONDUCTED OF TEN COMBINED SEWER OVERFLOW SYSTEMS WITHIN THAT PORTION OF THE HUDSON RIVER BASIN LYING WITHIN THE INTERSTATE SANITATION DISTRICT. THE WORK INCLUDED THE IDENTIFICATION AND STUDY OF THESE COMBINED SEWERE SYSTEMS IN ORDER TO DETERMINE THEIR LOCATION, PHYSICAL CHARACTERISTICS, AND SERVICE AREAS. THE PROCEDURE EMPLOYED INCLUDED THE PHYSICAL

EXAMINATION OF EACH SYSTEM'S REGULATORS TO DETERMINE THEIR LOCATION, TYPE, DIMENSIONS, AND CONDITION. A STUDY OF AVAILABLE RECORDS WAS MADE TO DETERMINE WHERE POSSIBLE, TRUNK LINE FLOW, INTERCEPTOR LINE DESIGN CAPACITY, AND CHARACTERIZATION OF THE DRAINAGE AREA SERVED BY EACH REGULATOR WHICH INCLUDED POPULATION AND LAND USE. TEN SUMMARY TABLES AND FORTY REGULATOR LOCATION FIGURES ARE INCLUDED IN THE REPORT. DRY WEATHER AND WET WEATHER SAMPLING WAS ALSO CONDUCTED. BYPASS LOADINGS FOR SEVERAL POLITION PARAMETERS HAVE BEEN CALCULATED DURING STORM FLOW CONDITIONS BASED UPON THIS SAMPLING. RECOMMENDATIONS FOR MINIMIZING COMBINED SEWER OVERFLOWS ARE INCLUDED.

2491 US EPA

CONTINGENCY PLAN FOR SPILLS OF OIL AND OTHER HAZARDOUS MATERIALS FOR INLAND WATERS OF REGION 11 [1973]

US EPA. NEW YORK. NY NP

THIS PLAN, INCLUDING THE ANNEXES, PROVIDES FOR A PATTERN OF COORDINATED AND INTEGRATED RESPONSE BY DEPARTMENTS AND AGENCIES OF THE FEDERAL GOVERNMENT TO PROTECT THE ENVIRONMENT FROM THE DAMAGING EFFECTS OF POLLUTION DISCHARGES. IT PROMOTES THE COORDINATION AND DIRECTION OF FEDERAL AND STATE RESPONSE SYSTEMS AND ENCOURAGES THE DEVELOPMENT OF LOCAL GOVERNMENT AND PRIVATE CAPABILITIES TO HANDLE SUCH DISCHARGES. THE OBJECTIVES OF THIS PLAN ARE TO PROVIDE FOR EFFICIENT, COORDINATED AND EFFECTIVE ACTION TO MINIMIZE DAMAGE FROM OIL AND HAZARDOUS SUBSTANCE DISCHARGES, INCLUDING CONTAINMENT, DISPERSAL AND REMOVAL. THE PLAN PROVIDES FOR: (1) ASSIGNMENT OF DUTIES AND RESPONSIBILITY AMONG FEDERAL DEPARTMENTS AND AGENCIES IN COORDINATION WITH STATE AND LOCAL AGENCIES; (2) A SYSTEM OF SURVEILLANCE AND REPORTING DESIGNED TO INSURE THE EARLIEST POSSIBLE NOTICE OF DISCHARGES OF OIL AND HAZARDOUS SUBSTANCES TO APPROPRIATE FEDERAL AGENCY; (3) ESTABLISHMENT OF A REGIONAL CENTER TO PROVIDE COORDINATION AND DIRECTION FOR OPERATIONS IN CARRYING OUT THE PLAN; (4) PROCEDURES AND TECHNIQUES TO BE EMPLOYED IN IDENTIFYING, CONTAINING, DISPERSING, AND REMOVING OIL AND HAZARDOUS SUBSTANCES; (5) A SCHEDULE, PREPARED IN COOPERATION WITH THE STATES, IDENTIFYING DISPERSANTS AND OTHER CHEMICALS, IF ANY, THAT MAY BE USED IN CARRYING OUT THE PLAN; AND (6) A SYSTEM WHEREBY THE STATE OR STATES AFFECTED BY A DISCHARGE MAY BE REIMBURSED FOR REASONABLE COSTS INCURRED IN THE REMOVAL OF SUCH DISCHARGE.

2492 US EPA

OCEAN DUMPING IN THE NEW YORK BIGHT--FACTS AND FIGURES JULY 1973 [1973]

SURVEILLANCE AND ANALYSIS DIV, US EPA, EDISON, NJ 15 PP

WHAT GOES INTO THE SEA IS EVERYBODY"9 BUSINESS. AT PRESENT, SOLID AND LIQUID WASTES ARE BEING SHIPPED TO SEA FOR DISPOSAL IN SUCH QUANTITIES THAT MARINE DISPOSAL HAS BECOME OF EXTREME CONCERN, PARTICULARLY IN THE NEW YORK BIGHT AREA WHERE MORE THAN 70% OF ALL SLUDGE DUMPING IN THE NATION OCCURS JUST 12 MILES OFF THE COASTS OF NEW YORK AND NEW JERSEY. IN ADDITION, ALMOST 60% OF ALL INDUSTRIAL WASTES DISPOSED OF IN THIS MANNER IN THE USA, ARE DUMPED IN APPROVED SITES IN WATERS CONTIGUOUS TO BOTH STATES. IT IS IMPORTANT TO NOTE THAT WASTE ACID MAKES UP OVER 90% OF THE TOTAL INDUSTRIAL WASTES GOING TO SEA IN THIS AREA.

2493 US EPA

WASTEWATER TREATMENT FACILITIES CONSTRUCTION GRANTS FOR THE LOWER RARITAN RIVER BASIN AND FOR THE SOUTH SHORE OF RARITAN BAY: FINAL ENVIRONMENTAL IMPACT STATEMENT [1973]

US EPA, NEW YORK, NY 353 PP

FUNDS HAVE BEEN REQUESTED FROM THE EPA BY THE SEWERAGE AUTHORITIES OF MIDDLESEX AND MONMOUTH COUNTIES, NJ, FOR PROJECTS WHICH INVOLVE ADDITIONS AND ALTERATIONS TO AN EXISTING SEWAGE TREATMENT PLANT. THE WATERS OF RARITAN BAY, CONFIGUOUS TO THE STATE OF NEW YORK WILL BE AFFECTED AS WILL BE THE ATLANTIC OCEAN, EAST OF ATLANTIC HIGHLANDS, NJ. THE ENVIRONMENTAL IMPACT OF THE PROJECT CONSISTS OF IMPROVING THE QUALITY OF RECEIVING WATERS BY PROVIDING SECONDARY TREATMENT OF WASTEWATER PRIOR TO DISCHARGE, ALLOWING CESSATION OF WASTEWATER DISCHARGE INTO INLAND STREAMS

THAT HAVE LOW ASSIMILATIVE CAPACITIES, AND PROVIDING THE CONCERNED COMMUNITIES WITH CENTRALIZED SEWAGE TREATMENTS. THE HIGHLY TREATED EFFLUENT WILL BE INTRODUCED INTO THE MARINE ENVIRONMENT AND THERE WILL BE A WASTE SLUDGE PRODUCED AT THE TREATMENT PLANT, ADVERSE ENVIRONMENTAL EFFECTS INCLUDE FURTHER LOWERING OF GROUNDWATER LEVELS, INCREASED SALTWATER ENCROACHMENT, AND POSSIBLE CONTAMINATION OF THE MARINE ENVIRONMENT AT THE SITES OF EFFLUENT AND SLUDGE DISPOSAL. ALTERNATIVES TO THE PROJECT ARE NO ACTION, VARIOUS DEGREES OF EXPANSION IN THE SERVICE AREA, A REGIONAL SEWERAGE SYSTEM WITH BAY OUTFALL AND A REGIONAL SEWERAGE SYSTEM WITH OCEAN OUTFALL.

2494 US EPA

DOCUMENTATION FOR ESOO1--A STEADY-STATE, ONE DIMENSIONAL, ESTUARINE WATER QUALITY MODEL AND 2 SUPPLEMENTARY VOL: ADDENDUM TO ESOO1: VERIFICATION OF MODEL FOR NEW YORK HARBOR; ADDENDUM TO ESOO1: SOURCE DECK FOR ESOO2 (FOR 18M 1130) [1973]

US EPA. NEW YORK. NY 161 PP

IN ITS PRESENT FORM, ESUM IS CAPABLE OF MODELLING GENERAL ONE-DIMENSIONAL ESTUARINE SYSTEMS FOR A VARIETY OF SUBSTANCE CONCENTRATIONS. THE PROGRAM REQUIRES SEGMENTATION OF THE SYSTEM BEING MODELLED INTO SECTIONS WITHIN WHICH THE VARIOUS GEOMORPHOLOGICAL, PHYSICAL AND HYDROLOGICAL PARAMETERS OF THE ESTUARY ARE CONSTANT. THE SECTIONS ARE THEN CONNECTED MATHEMATICALLY, THE JUNCTION POINTS OF THESE SEGMENTS BEING BOUNDARY POINTS WHERE THESE PARAMETERS CAN CHANGE. SEVERAL TYPES OF JUNCTIONS ARE ALLOWED INCLUDING TRIPLE JUNCTIONS, DAMS, ETC., WHICH IN COMBINATION ALLOW THE MODELLING OF NUMEROUS TYPES OF CONFIGURATIONS.

2495 US EPA

BRIEFING REPORT -- OCEAN DUMPING IN THE NEW YORK BIGHT SINCE 1973 [1974]

SURVEILLANCE AND ANALYSIS DIV, US EPA, EDISON, NJ 47 PP

THIS BRIEFING DOCUMENT BROADLY SUMMARIZES THE POSITION AND ACTIVITIES OF REGION II IN CARRYING OUT ITS RESPONSIBILITIES FOR RESOLVING THE COMPLEX ENVIRONMENTAL PROBLEMS ASSOCIATED WITH THE PRACTICE OF OCEAN DISPOSAL OF MUNICIPAL SLUDGES AND INDUSTRIAL WASTES IN THE NEW YORK BIGHT. OUR RESPONSIBILITIES BEGAN ON APRIL 5, 1973, THE EFFECTIVE DATE OF THE MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT OF 1972.

2496 US EPA

EVALUATION OF THE NEW JERSEY POTABLE WATER PROGRAM [1974]

US EPA, NEW YORK, NY NP

THE STUDY WAS UNDERTAKEN BY THE WATER SUPPLY BRANCH, US EPA, REGION II. THE STUDY INVOLVED EVALUATION OF THE FOLLOWING ASPECTS OF THE NEW JERSEY BUREAU OF POTABLE WATER: 1) THE NJ LAWS, REGULATIONS AND POLICIES PERTAINING TO THE POTABLE WATER PROGRAM; 2) THE ORGANIZATION OF THE STATE PROGRAM AND ITS ACTIVITIES; 3) THE AVAILABLE, PHYSICAL AND PERSONNEL RESOURCES TO ACCOMPLISH THE PROGRAM OBJECTIVES; 4) A SELECTED REPRESENTATIVE SAMPLE OF PUBLIC WATER SUPPLIES WAS SURVEYED AND SAMPLED TO DETERMINE COMPLIANCE.

2497 US EPA

NATIONAL WATER QUALITY INVENTORY. 1974 REPORT TO THE CONGRESS. VOLUME I [1974]

OFFICE OF WATER PLANNING AND STANDARDS, US EPA, WASHINGTON, DC 305 PP NTIS-PB-257 627

THIS FIRST SYSTEMATIC INQUIRY OF WATER QUALITY IN US WATERWAYS WAS PREPARED BY THE US EPA PURSUANT TO THE 1972 FWPCA. IT IS ORGANIZED INTO 3 SECTIONS: WATER QUALITY STATUS, POINT SOURCE INVENTORY, AND WATER QUALITY GOALS. THE FIRST SECTION CONCENTRATES ON THE LARGEST RIVERS, AND WATERS NEAR THE LARGEST CITIES. TABLES AND FIGURES ARE PRESENTED SHOWING DEGREE OF POLLUTION, WATER TEMPERATURE, STREAM FLOW, TURBIDITY, COLOR, DISSOLVED OXYGEN, BIOCHEMICAL OXYGEN DEMAND, PH, ALKALINITY, FILTRABLE AND NONFILTRABLE RESIDUE, ORGANIC NITROGEN, AMMONIA, NITRITE PLUS NITRATE, PHOSPHATE, HARDNESS, AND COLIFORMS. RIVERS COVERED STATISTICALLY ONLY ARE: HUDSON, DELAWARE, SUSQUEHANNA, POTOMAC, ALABAMA-COOSA, ARKANSAS, RED, BRAZOS, RID GRANDE, COLORADO, SACRAMENTO, YUDON, BOSTON HARBOR, CHICAGO METROPOLITAN, DETROIT METROPOLITAN, AND LOS ANGELES HARBOR. EIGHT RIVERS ARE COVERED IN GREATER DETAIL: MISSISSIPPI, MISSOURI, OHIO, TENNESSEE, DETROIT AREA, COLUMBIA, SNAKE, AND WILLAMETTE. THE SECOND SECTION GIVES SUMMARY STATISTICAL INFORMATION ON POINT SOURCES OF POLLUTION, INCLUDING PERMIT APPLICATIONS, MUNICIPAL DISCHARGES BY STATE, AND INDUSTRIAL DISCHARGES BY INDUSTRY. SECTION THREE DESCRIBES PLANNING GOALS AND GIVES BRIEF, DESCRIPTIVE ASSESSMENTS OF WATER QUALITY PROBLEMS BY STATE. THE REPORT'S GENERAL CONCLUSION IS THAT POLLUTANTS RECEIVING THE MOST WIDESPREAD CONTROLS (SUCH AS OXYGEN-DEMANDING LOADS AND BACTERIA) ARE IMPROVING, BUT EUTROPHICATION-ASSOCIATED NUTRIENTS (NITROGEN AND PHOSPHORUS) ARE WORSENING.

2498 US EPA

OCEAN DISPOSAL IN THE NEW YORK BIGHT--TECHNICAL BRIEFING REPORT #1 [1974]

SURVEILLANCE AND ANALYSIS DIV. US EPA. EDISON, NJ 15 PP

(1) EPA'S POSITION THAT THE PRESENT SEWAGE SLUDGE DISPOSAL GROUND BE MOVED BY 1976 IS STILL FIRM. IN ADDITION, IT IS RECOMMENDED THAT THE DREDGE SPOIL SITE, WHICH PRESENTLY INFLUENCES AND IMPACTS THE SLUDGE SITE, BE MOVED AT THE SAME TIME. FROM A TECHNICAL STANDPOINT, TO MOVE ONE WITHOUT THE OTHER WOULD BE SHORTSIGHTED, AND TO SAY THE LEAST, ENVIRONMENTALLY UNWISE. (2) AN ORDERLY AND ENVIRONMENTALLY ACCEPTABLE PLAN HAS BEEN DEVELOPED WITH THE ULTIMATE GOAL OF PHASING OUT OCEAN DISPOSAL OF MUNICIPAL SLUDGES BY 1981. A RECOMMENDATION TO IMMEDIATELY MOVE THE PRESENT DISPOSAL SITE, FOUNDED ON EMOTIONALISM RATHER THAN TECHNICAL DATA, COULD PROVE ENVIRONMENTALLY DISASTROUS. (3) RENEWED CLAIMS AND REPORTS THAT THE SLUDGE MASS IS MOVING TOWARD THE LONG ISLAND SHORE AT AN ALARMING AND UNPRECEDENTED RATE HAVE NOT BEEN SUBSTANTIATED. IN FACT, OUR REPORT PRESENTS CONTRADICTORY DATA, NOT FROM THE STANDPOINT OF DISCLAIMING THE FINDINGS OF PRIVATE RESEARCHERS--SINCE EPA HAS ALSO FOUND "BLACK MAYONNAISE™ ONE-HALF MILE FROM SHORE AT RANDOM LOCATIONS--BUT IN TECHNICALLY DISAGREEING COMPLETELY WITH THE CONCLUSIONS DRAWN BY THESE SCIENTISTS. (4) SURF ZONE STUDIES ALONG THE BEACHES OF LONG ISLAND AND NEW JERSEY CLEARLY INDICATE THAT THE WATER IS SAFE FOR CONTACT RECREATION. THE ABSENCE OF PATHOGENS IN THE SURF ZONE WATERS PROVIDES FURTHER VERIFICATION OF EXCELLENT WATER QUALITY. (5) NEAR SHORE CRUISES HAVE ALSO INDICATED EXCELLENT QUALITY WATER, AND THE ABSENCE OF "SEWAGE SLUDGE" IN THE SEDIMENTS. THE "BLACK MAYONNAISE" FOUND AT RANDOM LOCATIONS ONE-HALF MILE FROM THE BEACH HAS BEEN IDENTIFIED AS NATURAL DECAYED ORGANIC MATERIAL NOT OF HUMAN ORIGIN. (6) RESULTS OF TRANSECT CRUISES GIVE FURTHER SUPPORT TO EPA'S STATED POSITION THAT THE ORGANIC MATERIAL NEAR SHORE IS RELATED TO INLAND OCCURRENCES AND NOT ASSOCIATED WITH A MASSIVE MOVEMENT OF MATERIAL FROM THE DISPOSAL SITE. IF, IN FACT, THERE WAS A MASSIVE MOVEMENT TOWARD SHORE, ONE WOULD EXPECT TO FIND A GRADUAL DIMINUTION OF POLLUTANT LEVELS FROM THE DISPOSAL SITE TO THE SHORE AREA. THE DATA PRESENTED CLEARLY INDICATE THAT THIS IS NOT THE CASE. (7) THE LEADING EDGE OF THE SLUDGE MASS. ASSOCIATED WITH THE SEWAGE SLUDGE DISPOSAL SITE. IS STILL LOCATED APPROXIMATELY 5 1/2-6 MILES FROM THE SHORE OF LONG ISLAND, THUS NEGATING THE URGENCY TO MOVE THE PRESENT DISPOSAL SITE BEFORE THE SCHEDULED 1976 CLOSURE.

2499 US EPA

PROGRESS REPORTS ON PACTERIAL WATER QUALITY AT WESTERN LONG ISLAND BEACHES AND NORTHERN NEW JERSEY BEACHES: MAY 15, 1974-AUG 18, 1975 [1974]

SURVEILLANCE AND ANALYSIS DIV, US EPA, EDISON, NJ 58 PP

A COLLECTION OF FIVE REPORTS ON THE CONTINUING BACTERIOLOGICAL SURVEY OF THE SURF ZONE ALONG WESTERN LONG ISLAND AND NORTHERN NEW JERSEY. THE DATA SHOW THAT THE SURF ZONE WATERS IN THE AREAS SAMPLED CONTINUE TO BE OF HIGH BACTERIOLOGIC QUALITY AND ACCEPTABLE FOR CONTACT RECREATION. WITHIN THIS ACCEPTABLE RANGE, THERE HAS BEEN A SLIGHT GENERAL INCREASE IN COLIFORM DENSITY,

BUT THIS CAN READILY BE ASSOCIATED WITH INCREASED RAINFALL AND THE ENSUING RUNOFF. THE DATA ARE BY NOW EXTENSIVE ENOUGH TO SHOW PERSISTENT LOCAL EFFECTS FROM INFLUENT WATERS OF LAND ORIGIN. THE FLOW FROM RARITAN BAY, FROM THE MANASQUAN RIVER, AND POSSIBLY FROM THE SHARK RIVER. THE DATA PATTERN CAN BE UNDERSTOOD AT PRESENT IN TERMS OF THE FACTORS MENTIONED. THERE IS NO EVIDENCE OF SYSTEMATIC WATER QUALITY DEGRADATION, OR OF DISTINCT INFLUENCE FROM OTHER SOURCES SUCH AS THE SLUDGE DUMPING GROUNDS IN THE BIGHT.

2500 US EPA

RESEARCH AND DEVELOPMENT IN REGION II--LISTING OF RESEARCH GRANTS AND CONTRACTS ACTIVE DURING FISCAL YEAR 1974 [1974]

US EPA. NEW YORK. NY 22 PP

THIS REPORT CONTAINS INFORMATION ON RESEARCH GRANTS AND CONTRACTS IN REGION II, ACTIVE DURING FY 1974, AWARDED BY EPA'S OFFICE OF RESEARCH AND DEVELOPMENT. THE LISTED PROJECTS ARE ARRANGED IN GROUPS ACCORDING TO THEIR PROGRAM MEDIUM, AND WITHIN EACH GROUP BY STATE OR TERRITORY.

2501 US EPA

DIRECTORY OF ENVIRONMENTAL GROUPS--SUMMER 1975 [1975]

US EPA, NEW YORK, NY 26 PP

THIS IS A DIRECTORY OF ENVIRONMENTAL ORGANIZATIONS IN NY, NJ, PUERTO RICO AND THE VIRGIN ISLANDS, ARRANGED BY STATE, GIVING PURPOSE AND A SYNOPSIS OF ONGOING PROGRAMS. ALSO INCLUDED IS A LISTING OF CITY AND STATE ENVIRONMENTAL AGENCIES AND THE NAMES OF PERSONS SERVING AS CONTACTS FOR THE PUBLIC.

2502 US EPA

OCEAN DISPOSAL IN THE NEW YORK BIGHT TECHNICAL BRIEFING REPORT NUMBER 2 [1975]

SURVEILLANCE AND ANALYSIS DIV. US EPA, EDISON, NJ 86 PP

THE EPA, REGION II, HAS EXPRESSED ITS DESIRE TO PREVENT OR STRICTLY REGULATE OCEAN DUMPING. OVER THE PAST TWO YEARS, THE REGION HAS IMPLEMENTED A SERIES OF PROGRAMS AIMED AT PHASING OUT OCEAN DUMPING. THE INITIAL PHASE OF THIS COMPREHENSIVE PROGRAM WAS TO ESTABLISH A PERMIT PROGRAM TO REGULATE DUMPING. ANOTHER STEP WAS TO INITIATE A PROGRAM TO IDENTIFY ENVIRONMENTALLY ACCEPTABLE, TECHNICALLY FEASIBLE AND VIABLE ALTERNATIVES TO OCEAN DISPOSAL. A COMPREHENSIVE SAMPLING PROGRAM INDICATES THAT WATER ALONG LONG ISLAND AND NJ BEACHES ARE SAFE FOR SWIMMING AND THE LEADING EDGE OF THE SLUDGE MASS IS STILL 5 1/2-6 MI FROM THE LISTORY OF THE STATE OF THE ST

2503 US EPA

KIN-BUC LANDFILL INVESTIGATION 2/27/76-3/23/76 [1)76]

SURVEILLANCE AND ANALYSIS DIV, US EPA, EDISON, NJ NP

DYE TRACING STUDY OF KIN-BUC LANDFILL IN EDISON, NJ ILLUSTRATED THAT MATERIALS (LIQUIDS) DUMPED ON THE PILE FIND THEIR WAY TO RARITAN RIVER. PERSONNEL OPERATING IN THE AREA CAN EXPECT TO BE ADVERSELY AFFECTED WITH REGARD TO PERSONAL HEALTH. COMPLETE ABSORPTION OF THE LIQUID MATERIAL BY THE SOLID WASTE IS BEYOND THEORETICAL CAPABILITY.

2504 US EPA

IN THE MAJTER OF ENVIRONMENTAL IMPACT STATEMENT [1976]

S & S REPORTING CO. INC., NEW YORK, NY 143 PP

THIS IS A TRANSCRIPT OF A SERIES OF MEETINGS HELD FOR THE PURPOSE OF PUBLIC COMMENTS ON AN ENVIRONMENTAL IMPACT STATEMENT RELATING TO THE OCEAN DUMPING OF SEWAGE SLUDGE IN THE NEW YORK BIGHT.

2505 US EPA

MULTI-FEDERAL AGENCY MONITORING STRATEGY IN THE NEW YORK BIGHT-- CALENDAR YEAR 1977 [1977]

US EPA, WASHINGTON, DC NP

THIS IS A REVIEW OF MONITORING PLANS BY FEDERAL AGENCIES (EPA, NOAA, USCG, NASA) IN THE NEW YORK BIGHT DURING CALENDAR YEAR 1977.

2506 US EPA

NEW YORK BIGHT WATER QUALITY SUMMER OF 1977 [1977]

US EPA, NEW YORK, NY 94 PP

THE PURPOSE OF THIS REPORT IS TO DISSEMINATE TECHNICAL INFORMATION GATHERED BY THE US EPA, REGION II, DURING THE 1977 NEW YORK BIGHT WATER QUALITY MONITORING PROGRAM. THE MONITORING PROGRAM WAS CONDUCTED USING AN EPA HELICOPTER FOR WATER QUALITY SAMPLE COLLECTION. DURING THE SUMMER PERIOD OF MAY 15 TO SEPT 30, 1977, 195 STATIONS WERE SAMPLED EACH WEEK. THE BIGHT SAMPLING PROGRAM WAS CONDUCTED 6 DAYS A WEEK AND CONSISTED OF FOUR SEPARATE SAMPLING NETWORKS. THE BEACH STATION NETWORK GATHERED BACTERIOLOGICAL WATER QUALITY INFORMATION AT 26 LONG ISLAND COAST STATIONS AND 19 NJ COAST STATIONS. THE NEW YORK BIGHT STATION NETWORK GATHERED CHEMICAL AND BACTERIOLOGICAL INFORMATION AT 20 STATIONS IN THE INNER NEW YORK BIGHT. THE PERPENDICULAR NETWORK CONSISTED OF 10 TRANSECTS WITH 4 STATIONS ON EACH TRANSECT. 5 TRANSECTS EXTENDED SOUTH FROM THE LONG ISLAND COAST AND 5 TRANSECTS EXTENDED EAST FROM THE NJ COAST. THE TRANSECTS COVERED THE INNER BIGHT FROM JONES BEACH ON LONG ISLAND TO STRATHMERE ALONG THE NJ COAST. SAMPLES WERE COLLECTED FOR DISSOLVED OXYGEN AND OTHER CHEMICAL PARAMETER ANALYSIS. THE LAST NETWORK CONSISTED OF A SERIES OF STATIONS LOCATED OFF ATLANTIC CITY, NJ. THESE SAMPLES WERE ALSO COLLECTED FOR DISSOLVED OXYGEN AND OTHER CHEMICAL PARAMETER ANALYSIS. ALL WATER QUALITY SAMPLES WERE COLLECTED USING A KEMMERER, SAMPLER. THE RESULTS INDICATED THAT, WHILE THERE WERE SOME MINOR WATER QUALITY PROBLEMS. THE WATER QUALITY OF THE NEW YORK BIGHT APEX WAS GENERALLY EXCELLENT. DISSOLVED OXYGEN LEVELS WERE GOOD ALONG THE LONG ISLAND COAST AND DID NOT DROP TO "STRESSFUL" LEVELS FOR SIGNIFICANT LENGTHS OF TIME IN THE BIGHT. DISSOLVED OXYGEN DEPRESSION WAS MORE PRONOUNCED OFF THE NJ COAST THAN OFF THE LONG ISLAND COAST. BACTERIOLOGICAL DATA INDICATED TOTAL AND FECAL COLIFORM DENSITIES AT THE BEACHES ALONG BOTH THE NJ AND LONG ISLAND COASTS WERE WELL BELOW ACCEPTABLE LIMITS FOR WATER CONTACT RECREATION. THE NUTRIENT DATA INDICATED THAT A SUBSTANTIAL QUANTITY OF THE NUTRIENT MATERIAL LEAVING THE LOWER BAY AREA MOVES SOUTH ALONG THE NJ COAST. INDICATING A POSSIBLE NUTRIENT SOURCE FOR RECURRENT ALGAE BLOOMS OFF THE NJ COAST.

2507 US EPA

OCEAN DUMPING IN THE UNITED STATES--1377 FIFTH ANNUAL REPORT OF THE EPA ON ADMINISTRATION TITLE I [1977]

US EPA, WASHINGTON, DC 65 PP

THIS IS THE 5TH ANNUAL REPORT OF THE US EPA TO THE CONGRESS ON THE IMPLEMENTATION OF TITLE I OF THE MARINE PROTECTION,

RESEARCH, AND SANCTUARIES ACT OF 1972, AS AMENDED. THE ACT BECAME AFFECTIVE APRIL 23, 1973, AND SINCE THAT TIME ALL OCEAN DUMPING OF WASTE MATERIALS TRANSPORTED FOR THE PURPOSE OF DUMPING HAS BEEN REGULATED UNDER PERMITS ISSUED BY EPA EXCEPT FOR DREDGED MATERIAL, WHICH IS REGULATED BY THE US ARMY CORPS OF ENGINEERS (USA COE). THIS REPORT COVERS EPA HEADQUARTERS AND REGIONAL PERMIT OPERATIONS, RESEARCH PROJECTS BY EPA'S OFFICE OF RESEARCH AND DEVELOPMENT (ORD), AND OTHER PROGRAM ACTIVITIES DURING THE CALENDAR YEAR 1976. A CALENDAR OF HEADQUARTERS AND REGIONAL ACTIVITIES DURING 1976 IS PROVIDED. PREVIOUS ANNUAL REPORTS BY EPA INCLUDED INFORMATION OF USA COE ACTIVITIES RELATED TO THE ISSUANCE OF PERMITS FOR THE OCEAN DUMPING OF DREDGED MATERIAL AND ON SURVEILLANCE AND MONITORING ACTIVITIES OF THE USCG ON OCEAN DUMPING OPERATIONS. UNDER AMENDMENTS TO THE ACT PASSED IN 1976, BOTH THE USA COE AND THE USCG WILL SUBMIT SEPARATE REPORTS OF THEIR ACTIVITIES IN IMPLEMENTING TITLE I OF THE ACT. THIS EPA REPORT, THEREFORE, DOES NOT CONTAIN A DISCUSSION OF THE ACTIVITIES OF THESE TWO AGENCIES UNDER THE ACT, EXCEPT AS THESE ACTIVITIES IMPACT THE RESPONSIBILITIES OF EPA. PROGRAM RESPONSIBILITIES UNDER THE ACT ARE DIVIDED AMONG EPA HEADQUARTERS AND THE 7 EPA COASTAL REGIONS AND SUPPORTED BY RELATED ORD RESEARCH ACTIVITIES. THE REGIONS ARE RESPONSIBLE FOR ALL ACTIVITIES RELATING TO THE ISSUANCE OF SPECIAL AND INTERIM PERMITS FOR DUMPING IN THE RESPECTIVE REGIONS. THE REGIONS ARE ALSO DELEGATED SOME RESPONSIBILITY FOR THE MANAGEMENT OF OCEAN DUMPING SITES. EPA HEADQUARTERS IS RESPONSIBLE FOR ALL OTHER PROGRAM ACTIVITIES, INCLUDING THE DESIGNATION OF OCEAN DUMPING SITES, ISSUANCE OF EMERGENCY, RESEARCH, AND GENERAL PERMITS, AND COORDINATION OF REGIONAL ACTIVITIES.

2508 US EPA

OCEAN DUMPING IN THE UNITED STATES--SIXTH ANNUAL REPORT OF THE ENVIRONMENTAL PROTECTION AGENCY ON ADMINISTRATION OF TITLE I

US EPA. WASHINGTON, DC 53 PP

THIS IS THE US EPA'S 6TH ANNUAL REPORT TO THE CONGRESS ON THE IMPLEMENTATION OF TITLE I OF THE MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT OF 1972. AS AMENDED (MPRSA). THE REPORT COVERS THE AGENCY'S AUTHORITIES AND RESPONSIBILITIES IN CARRYING OUT THE OCEAN DUMPING PROGRAM AND REVIEWS THOSE PROGRAM ACTIVITIES CONDUCTED WITHIN EPA HEADQUARTERS. THE REGIONS. AND THE OFFICE OF RESEARCH AND DEVELOPMENT DURING THE CALENDAR YEAR 1977. THREE OTHER AGENCIES HAVING RESPONSIBLITIES UNDER THE MPRSA. THE US ARMY CORPS OF ENGINEERS, THE USCG, AND NOAA, WILL EACH SUBMIT SEPARATE REPORTS ON THEIR ACTIVITIES IN IMPLEMENTING THE ACT. THEREFORE, THIS REPORT DOES NOT CONTAIN A DISCUSSION OF THEIR ACTIVITIES UNDER THE ACT EXCEPT AS THEY IMPACT THE RESPONSIBILITIES OF EPA. DURING 1977. THE AMOUNT OF OCEAN DUMPING DECLINED BY 12 % FROM THE LEVEL OF DUMPING IN 1976. REGION 11 (NEW YORK) CONTINUES TO BE THE MOST ACTIVE AREA, WITH APPROXIMATELY 7,300,000 TONS OF MATERIALS DUMPED IN AND ADJACENT TO THE NEW YORK BIGHT AND OFF THE COAST OF PUERTO RICO UNDER PERMITS ISSUED FOR MUNICIPAL AND INDUSTRIAL WASTES, CONSTRUCTION DEBRIS, AND INCINERATION OF WOOD DEBRIS. IN THE PERMIT PROGRAM SECTION, TABLE V SUMMARIZES THE TOTAL AMOUNT OF DUMPING DURING 1977 (BY GEOGRAPHIC AREA) AND PRESENTS AN ANNUAL COMPARISON OF AMOUNTS DUMPED UNDER EPA PERMIT DURING PRECEDING YEARS. A SUMMARY OF INFORMATION ON OCEAN DUMPING PERMITS ISSUED BY CONTRACTING PARTIES TO THE INTERNATIONAL OCEAN DUMPING CONVENTION, IS INCLUDED IN THE SECTION DISCUSSING THE DELIBERATIONS OF THE CONVENTION. ACCOMPLISHMENTS ARE BEING MADE IN ESTABLISHING AGREEMENTS ON MAJOR ITEMS OF HIGH PRIORITY OF WORK IN CLARIFYING THE PROVISIONS AND REQUIREMENTS OF THE CONVENTION. A JOINT EPA-US AIR FORCE PROJECT ON INCINERATION AT SEA OF HERBICIDE ORANGE WAS SUCCESSFULLY COMPLETED DURING AUG AND SEPT 1977. A BRIEF DESCRIPTION OF THE PROJECT IS INCLUDED IN THE SECTION ON INCINERATION AT SEA, AND A DETAILED REPORT IS BEING PREPARED FOR PUBLICATION IN THE NEAR FUTURE. THE NOV 1977 AMENDMENT TO THE MPRSA MANDATES THE TERMINATION OF OCEAN DUMPING OF SEWAGE SLUDGE BY DEC 31, 1981, PLACING EVEN GREATER EMPHASIS ON ALTERNATIVES TO OCEAN DUMPING AND COMPLIANCE WITH IMPLEMENTATION SCHEDULES IN TRANSITIONING TO THE CHOSEN ALTERNATIVES. THE SECTION ON IMPLEMENTING ALTERNATIVES TO OCEAN DUMPING GIVES DESCRIPTIONS OF THE AVAILABLE ALTERNATIVES, THE ASSOCIATED TECHNOLOGIES AND GUIDELINES THAT HAVE BEEN DEVELOPED THROUGH RELATED ENVIRONMENTAL LEGISLATION, AND DISCUSSES THE CONTINUING STUDIES DIRECTED TOWARD FURTHER DEVELOPMENT.

2509 US EPA

PCBS IN LOWER HUDSON RIVER SEDIMENTS: A PRELIMINARY SURVEY [1977]

SURVEILLANCE AND ANALYSIS DIV, US EPA, EDISON, NJ 40 PP

IN DEC, 1976, EPA CONDUCTED A SCREENING SURVEY FOR PCBS IN THE LOWER HUDSON RIVER SEDIMENTS. CORES WERE TAKEN FROM A HELICOPTER AT 28 STATIONS LOCATED BETWEEN ALBANY AND NYC USING A PFLEGER CORER. THE RESULTS SHOWED THAT PCBS ARE WIDELY DISTRIBUTED THROUGHOUT THE LOWER HUDSON SEDIMENTS. AREAS OF HIGHEST PCB CONCENTRATION WERE IN THE VICINITY OF ALBANY, NY, PEEKSKILL, NY, AND PIERMONT, NY. THE PCB-LADEN SEDIMENTS APPEARED TO BE CONCENTRATED IN SHALLOW PROTECTED AREAS. THE HIGHEST TOTAL PCB VALUES RECORDED WERE 58.3 MG/KG DRY WT JUST SOUTH OF ALBANY, NY AND 56.4 MG/KG DRY WT AT PIERMONT, NY.

2510 US EPA

REGION II 1975-76 ERAMS SUMMARY; DATA REPORT [1977]

US EPA, NEW YORK, NY NP

THE DATA PRESENTED ON REGION II SITES ARE EXTRACTED FROM ERAMS (ENVIRONMENTAL RADIATION AMBIENT MONITORING SYSTEM) QUARTERLY REPORTS COVERING THE PERIOD FROM JANUARY 1975 TO DECEMBER 1976. DRINKING WATER AND SURFACE WATER SAMPLES ARE COMPARED TO NEW EPA DRINKING WATER STANDARDS, WHICH WENT INTO EFFECT JUNE 24, 1977.

2511 US EPA

A FIVE-YEAR WATER QUALITY MANAGEMENT PROGRAM 1978-1983 [1978]

US EPA, WASHINGTON, DC NP

THIS BOOKLET SUMMARIZES THE DRAFT AGREEMENT BETWEEN THE STATE OF NEW YORK AND THE US EPA, REGION II. THE AGREEMENT REPRESENTS A JOINT EFFORT TO BRIDGE THE GAPS WHICH NOW EXIST BOTH BETWEEN PROGRAMS AND BETWEEN LEVELS OF JURISDICTION, RESPONSIBILITY, AND INTEREST. IT WILL PROVIDE THE NECESSARY VEHICLE TO INTEGRATE DIVERSE WATER PROGRAMS, TO RELATE PLANNING EFFORTS DIRECTLY TO OPERATIONAL PROGRAMS AND WILL ASSURE THE CONTINUED DEVELOPMENT AND IMPLEMENTATION OF THE STATE'S WATER QUALITY MANAGEMENT PROGRAM.

2512 US EPA

DECISION ON PROPOSALS TO RELOCATE SEWAGE SLUDGE DUMPING IN THE MID-ATLANTIC BIGHT [1978]

US EPA, WASHINGTON, DC 36 PP

THIS REPORT PRESENTS FINDINGS AND CONCLUSIONS REPRESENTING EPA'S DECISION ON THE VARIOUS SITE RELOCATION ALTERNATIVES PROPOSED ON MAY 6, 1977. THE DISPOSAL OF NY/NJ SLUDGE SHOULD NOT BE RELOCATED TO EITHER THE 60-MILE OR 106-MILE SITE AT THE PRESENT TIME. MONITORING OF SLUDGE DUMPING AT THE 106-MILE SITE CANNOT BE ACHIEVED BETWEEN NOW AND 1980. FOR THE IMMEDIATE FUTURE, PHILADELPHIA SHOULD CONTINUE TO DUMP SEWAGE SLUDGE OF ITS PRESENT OCEAN DUMPSITE.

2513 US EPA

DISPERSION OF SEWAGE SLUDGE DISCHARGED INTO NEW YORK BIGHT PHYSICAL OCEANOGRAPHIC DATA--DECEMBER 1974 [1978]

ENVIRON RES LAB. US EPA. CORVALLIS. OR 53 PP

THIS VOLUME CONTAINS PHYSICAL OCEANOGRAPHIC DATA COLLECTED AT THE SEWAGE SLUDGE DISPOSAL SITE NEAR THE NEW YORK BIGHT APEX, DEC 18-21, 1974. AN OPTICAL TRACER METHOD WAS USED TO MEASURE THE WATER COLUMN DISTRIBUTION OF WASTE MATERIAL WITH TIME AFTER PROFILES WITH DEPTH WERE TAKEN FOR 2 TO 4 HR AFTER WASTE DISCHARGE. AMBIENT TEMPERATURE-SALINITY-DENSITY PROFILES AND CURRENT MEASUREMENTS WERE ALSO TAKEN. THIS REPORT COVERS A PERIOD FROM JUNE 1974 TO MAY 1975 AND WORK WAS COMPLETED AS OF MAY 1976.

2514 US EPA

DISPERSION OF SEWAGE SLUDGE DISCHARGED INTO NEW YORK BIGHT VOL 11: PHYSICAL OCEANOGRAPHIC DATA AND LABORATORY ANALYSES--1975

ENVIRON RES LAB. US FPA, CORVALLIS, OR 202 PP

THIS VOLUME CONTAINS DATA ON THE DISPERSION OF SEWAGE SLUDGE SUBSEQUENT TO ITS DISPOSAL AT A SITE NEAR THE NEW YORK BIGHT APEX. CRUISES WERE MADE IN MAY, JULY AND OCTOBER 1975. AN OPTICAL TRACER METHOD WAS USED TO MEASURE THE WATER COLUMN DISTRIBUTION OF WASTE MATERIAL FOR 2 TO 4 HRS AFTER DISCHARGE. DIRECT MEASUREMENTS OF THE CONCENTRATION OF SUSPENDED MATERIAL WERE MADE. AMBIENT TEMPERATURE-SALINITY-DENSITY PROFILES WERE TAKEN. CURRENTS WERE MEASURED BY MOORED AND PROFILING INSTRUMENTS AND BY DROGUE TRACKING. LABORATORY ANALYSES ON THE SETTLING CHARACTERISTICS, DENSITIES, AND OPTICAL PROPERTIES OF SEWAGE SLUDGES FROM THE NEW YORK CITY AREA ARE PRESENTED.

2515 US EPA

ENVIRONMENTAL IMPACT STATEMENT ON THE OCEAN DUMPING OF SEWAGE SLUDGE IN THE NEW YORK BIGHT, SEPT 1978 [1978]

US EPA, NEW YORK, NY 226 PP PLUS APPENDICES

THE RESULTS OF THIS REEXAMINATION ARE SET FORTH IN DETAIL IN THE FINAL EIS. BASICALLY, THEY CONFIRM EPA'S FINDING IN THE DRAFT EIS THAT THE EXISTING SITE IS NOT A THREAT TO PUBLIC HEALTH OR WATER QUALITY, AND CAN REASONABLY CONTINUE IN USE PROVIDED THAT IT IS CLOSELY MONITORED AND THAT AN ALTERNATE SITE IS AVAILABLE SHOULD MONITORING EVER INDICATE THE NEED FOR RELOCATION. SINCE THERE IS NO PRESENT NEED FOR RELOCATION, IMMEDIATE USE OF AN ALTERNATE SITE WOULD RESULT IN THE UNNECESSARY CONTAMINATION OF STILL ANOTHER AREA OF THE NEW YORK BIGHT. IN ADDITION TO REEXAMINING THE PRESENT SITUATION, THE FINAL EIS EXPLAINS THE STEPS THAT EPA IS TAKING TO INSURE THAT SLUDGE DUMPING IS PHASED OUT BY DECEMBER 31, 1981, A DEADLINE THAT HAS PROGRESSED FROM A MATTER OF EPA POLICY TO A LEGAL REQUIREMENT UNDER THE MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT. DESCRIPTIONS OF ENVIRONMENT, PROPOSED AREAS FOR SITES, IMPACTS OF PROPOSED ACTION, RELATIVE REGULATIONS AND REPORTS ARE PRESENTED IN THIS PAPER.

2516 US EPA

FINAL DESIGNATION OF DISPOSAL SITES FOR OCEAN DUMPING [1978]

FEDERAL REGISTER 44(98):29052-29053

EPA DESIGNATED AS APPROVED OCEAN DUMPING SITES THE EXISTING SEWAGE SLUDGE DUMPSITE IN THE NEW YORK BIGHT APEX AND AN ALTERNATE DUMPSITE IN THE NEW YORK BIGHT FOR USE IN THE VENT THAT THE EXISTING SITE CANNOT SAFELY ACCOMMODATE ANY MORE SEWAGE SLUDGE.
DISPOSAL SHALL BE LIMITED TO SEWAGE SLUDGE GENERATED BY OPERATIONS WITH OCEAN DUMPING PERMITS IN FORCE ON JANUARY 1, 1979. THE PERIOD OF USE EXPIRES DECEMBER 31, 1931.

2517 US EPA

FINAL ENVIRONMENTAL IMPACT STATEMENT ON THE OCEAN DUMPING OF SEWAGE SLUDGE IN THE NEW YORK BIGHT [1978]

US EPA, WASHINGTON, DC 221 PP

SINCE THE EARLY 1900s, SEWAGE SLUDGE GENERATED AT MUNICIPAL WASTEWATER TREATMENT PLANTS IN THE NY-NJ METROPOLITAN AREA HAS BEEN DISPOSED OF BY OCEAN DUMPING. SOME OF THE OLDER PLANTS IN THE METROPOLITAN AREA PROVIDE ONLY PRIMARY WASTEWATER TREATMENT; THEY MUST BE UPGRADED IN THE NEXT FEW YEARS TO PROVIDE AT LEAST SECONDARY TREATMENT IN COMPLIANCE WITH THE FWPCA (ALSO KNOWN AS THE

CLEAN JATER ACT). THIS WILL MEAN AN INCREASE IN THE VOLUME OF SLUDGE THAT MUST BE DISPOSED. THE EXISTING SENAGE SLUDGE DUMP SITE IS LOCATED IN THAT SECTION OF THE ATLANTIC OCEAN KNOWN AS THE NEW YORK BIGHT. ABOUT 4.0 MILLION CU M (5.3 MILLION CU YD) OF SEWAGE SLUDGE WERE DUMPED HERE IN 1977. THE VOLUME WILL STEADILY INCREASE AS TREATMENT PLANTS ARE UPGRADED; BY 1981 IT IS EXPECTED TO BE ABOUT 1-1/2 TIMES GREATER THAN THE 1977 VOLUME. CONCERN OVER THE POSSIBLE EFFECTS OF DUMPING INCREASING VOLUMES OF SLUDGE AT THE EXISTING DUMPSITE LED THE US EPA TO CONSIDER.

2518 US EPA

NEW YORK BIGHT WATER QUALITY SUMMER OF 1978 [1978]

SURVEILLANCE AND ANALYSIS DIV. US EPA. NEW YORK. NY 56 PP

THE PURPOSE OF THIS REPORT IS TO DISSEMINATE TECHNICAL INFORMATION GATHERED BY THE US EPA, REGION II, DURING THE 1978 NEW YORK BIGHT WATER QUALITY MONITORING PROGRAM. THE MONITORING PROGRAM WAS CONDUCTED USING AN EPA HELICOPTER FOR WATER QUALITY SAMPLE COLLECTION. DURING THE SUMMER PERIOD OF MAY 1 TO SEPT 30, 1978, 143 STATIONS WERE SAMPLED EACH WEEK. THE BIGHT SAMPLING PROGRAM WAS CONDUCTED 6 DAYS A WEEK AND CONSISTED OF FOUR SEPARATE SAMPLING NETWORKS. THE BEACH STATION NETWORK GATHERED BACTERIOLOGICAL WATER QUALITY INFORMATION AT 26 LONG ISLAND COAST STATIONS AND 40 NJ COAST STATIONS. THE NEW YORK BIGHT STATION NETWORK GATHERED CHEMICAL AND BACTERIOLOGICAL INFORMATION AT 20 STATIONS IN THE INNER NEW YORK BIGHT. THE PERPENDICULAR NETWORK CONSISTED OF 13 TRANSECTS WITH FOUR STATIONS ON EACH TRANSECT. FOUR TRANSECTS EXTENDED SOUTH FROM THE LONG ISLAND COAST AND NINE TRANSECTS EXTENDED EAST FROM THE NJ COAST. THE TRANSECTS COVERED THE INNER BIGHT FROM JONES BEACH ON LONG ISLAND TO STRATHMERE ALONG THE NJ COAST. SAMPLES WERE COLLECTED FOR DISSOLVED OXYGEN AND OTHER CHEMICAL PARAMETER ANALYSIS. THE LAST NETWORK CONSISTED OF A SERIES OF STATIONS LOCATED IN RARITAN BAY, NJ. THESE SAMPLES WERE ALSO COLLECTED FOR PHYTOPLANKTON ANALYSIS AND NUTRIENT ANALYSIS. THE RESULTS INDICATED THAT, WHILE THERE WERE SOME MINOR WATER QUALITY PROBLEMS, THE WATER QUALITY OF THE NEW YORK BIGHT APEX WAS GENERALLY EXCELLENT. DISSOLVED OXYGEN LEVELS WERE GOOD ALONG THE LONG ISLAND COAST AND DID NOT DROP TO "STRESSFUL" LEVELS FOR SIGNIFICANT LENGTHS OF TIME IN THE BIGHT. THE MOST SIGNIFICANT DISSOLVED DXYGEN DEPRESSION OCCURRED OFF THE NJ COAST DURING SEPT. THE LOWEST VALUES OBTAINED DURING THIS TIME WERE IN THE 1 TO 2 MG/L RANGE. ALTHOUGH. A VALUE OF LESS THAN 1 MG/L WAS RECORDED OFF SEASIDE HEIGHTS. BY THE END OF SEPT, DISSOLVED OXYGEN LEVELS HAD RECOVERED TO NORMAL ALONG THE ENTIRE NJ COAST. BACTERIOLOGICAL DATA INDICATED TOTAL AND FECAL COLIFORM DENSITIES AT THE BEACHES ALONG BOTH THE NJ AND LONG ISLAND COASTS WERE WELL BELOW ACCEPTABLE LIMITS FOR WATER CONTACT RECREATION.

2519 US EPA

RESPONSE TO PUBLIC INPUT ON THE NYS/EPA AGREEMENT [1978]

US EPA. NEW YORK. NY

A SIGNIFICANT AMOUNT OF PUBLIC COMMENT HAS BEEN RECEIVED ON THE DRAFT NEW YORK STATE/EPA AGREEMENT. THE COMMENT FALLS IN THREE CATEGORIES: 1) INPUT RECEIVED AT PUBLIC MEETINGS HELD IN EACH OF THE SIX DESIGNATED AND EIGHT NON-DESIGNATED AREAS OF THE STATE; 2) TESTIMONY RECEIVED AT THE PUBLIC HEARINGS HELD IN BUFFALO, ROCHESTER, ALBANY AND NEW YORK CITY; 3) WRITTEN COMMENTS ON THE AGREEMENT SENT TO EPA AND NYSDEC. THIS DOCUMENT PRESENTS A SUMMARY OF THE PUBLIC COMMENT WHICH WAS RECEIVED, AND DESCRIBES HOW THE AGREEMENT HAS BEEN OR WILL BE MODIFIED TO RESPOND TO IT. IT SHOULD BE EMPHASIZED THAT THE SUMMARY OF PUBLIC COMMENT DOES NOT ATTEMPT TO RESTATE ALL THE COMMENTS WHICH WERE RECEIVED. COMMENTS WERE GROUPED BY TOPIC, ANALYZED, AND BRIEFLY PARAPHRASED. THE TOTAL PUBLIC RECORD IS CITED IN APPENDIX A AND IS AVAILABLE FOR REVIEW AT THE EPA NEW YORK OFFICE AND THE NYSDEC ALBANY OFFICE.

2520 US EPA

THE EFFECTS OF SEWERING ON LONG ISLAND'S SHELLFISHING INDUSTRY A SUPPLEMENT TO THE 1972 FINAL ENVIRONMENTAL IMPACT STATEMENT ON WASTE JATER TREATMENT FACILITIES CONSTRUCTION GRANTS FOR NASSAU AND SUFFOLK COUNTIES, NEW YORK [1978]

US EPA, WASHINGTON, DC 91 PP

SPECIFIC EFFECTS OF PRESENT SEWERING PROGRAMS ON THE SHELL FLSHING INDUSTRY ARE NOT ASSESSABLE WITH THE INFORMATION AVAILABLE. MEASURES SUCH AS GROUNDWATER RECHARGE AND STREAM FLOW AUGMENTATION ARE BEING DEVELOPED TO SATISFY WASTEWATER TREATMENT NEEDS AND MAINTAIN FRESH TO SALT WATER BALANCE IN THE BAY.

2521 US EPA

ENVIRONMENTAL IMPACT STATEMENT ON WASTEWATER TREATMENT FACILITIES CONSTRUCTION GRANTS FOR THE RAMAPO RIVER BASIN, NEW YORK--DRAFT FEBRUARY, 1979 [1979]

US EPA, NEW YORK, NY NP

THIS DRAFT EIS ADDRESSES TWO MAJOR ISSUES: WHETHER WASTEWATER FLOWS GENERATED IN THE RAMAPO RIVER BASIN, NY, SHOULD BE TRANSFERRED OUT OF THE BASIN AND WHETHER PROJECTED POPULATION GROWTH WILL CAUSE ADVERSE SECONDARY ENVIRONMENTAL IMPACTS. IT EVALUATES PREVIOUS WASTEWATER MANAGEMENT SYSTEMS, WHICH CALLED FOR TRANSFER OF FLOWS TO THE HUDSON RIVER, AND CONCLUDES THAT INTRABASIN MANAGEMENT IS THE MOST ENVIRONMENTALLY SOUND, COST-EFFECTIVE, AND IMPLEMENTABLE ALTERNATIVE. IN NO CASE WILL THE PROJECTED POPULATION OVERSTRESS AREAWIDE RESOURCES; AIR QUALITY STANDARDS WILL NOT BE VIOLATED AND SUFFICIENT WATER SUPPLIES EXIST. IN SOME CASES, HOWEVER, PROJECTED DEVELOPMENT COULD ENCROACH UPON ENVIRONMENTALLY SENSITIVE INCLUDING FLOOD PLANES, AQUIFERS RECHARGE AREAS, AND STEEP SLOPES. TO AVOID THESE IMPACTS, PROVISIONS SHOULD BE MADE IN LOCAL ZONING AND LAND USE PLANS TO ENCOURAGE CLUSTER DEVELOPMENT ON ENVIRONMENTALLY SOUND LANDS.

2522 US EPA

ANNUAL REPORT TO CONGRESS JAN-DEC 1979 ON ADMINISTRATION OF THE MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT OF 1972, AS AMENDED (P.L. 92-532) AND IMPLEMENTING THE INTERNATIONAL LONDON DUMPING CONVENTION [1980]

OFFICE OF WATER PROG. US EPA. WASHINGTON, DC 41 PP

THIS IS A LIST OF OCEAN DUMPING PERMITS GRANTED BY EPA IN 1979. SUMMARIES OF BASELINE AND MONITORING SURVEYS OF OCEAN SITES FOR SITE DESIGNATION ARE INCLUDED. WINTER AND SUMMER SURVEYS WERE DONE AT EACH SITE, ENFORCEMENT IS CARRIED OUT BY THE COAST GUARD. VIOLATIONS HAVE DECREASED CONSIDERABLY IN THE LAST THREE YRS.

2523 US EPA

FINAL ENVIRONMENTAL IMPACT STATEMENT FOR 106-MILE OCEAN WASTE DISPOSAL SITE DESIGNATION [1980]

MARINE PROTECTION BRANCH, US EPA, WASHINGTON, DC 480 PP

THE 106-MILE SITE HAS BEEN USED FOR OCEAN DISPOSAL SINCE 1961. SINCE THAT TIME, IT HAS RECEIVED A WIDE VARIETY OF WASTE MATERIALS WITH NO APPARENT LONG-TERM ADVERSE IMPACT. SHORT-TERM IMPACTS OF CURRENT DUMPING ARE KNOWN TO OCCUR-PRIMARILY ON THE PLANKTON IN THE BARGE WAKE. OTHER IMPACTS ARE STILL SUBJECTS OF RESEARCH STUDIES UNDERWAY AT THE SITE. EPA'S SITE MANAGEMENT POLICIES MITIGATE ADVERSE IMPACTS BY REGULATING AMOUNTS AND KINDS OF WASTES, AND DISCHARGE FREQUENCIES AND RATES. NONE OF THE ENVIRONMENTAL IMPACTS OF WASTE DISPOSAL AT THE 106-MILE SITE IS KNOWN TO CAUSE IRREVERSIBLE DAMAGE TO THE SITE ENVIRONMENT. THE ALTERNATIVES CONSIDERED IN THIS EIS ARE (1) NO ACTION, WHICH WOULD REQUIRE THE USE OF LAND-BASED METHODS FOR THE SHUTDOWN OF THE WASTE-PRODUCING MANUFACTURING PROCESSES, AND (2) USE OF ANOTHER OCEAN SITE FOR THESE WASTES—THE NEW YORK BIGHT ACID WASTES SITE, THE DELAWARE BAY ACID WASTE SITE, OR THE NORTHERN AND SOUTHERN AREAS NEAR THE HUDSON CANYON.

REGION II GUIDE TO PUBLIC PARTICIPATION IN WASTEWATER FACILITIES PLANNING DESIGN AND CONSTRUCTION [1980]

US EPA. WASHINGTON. DC NP

IN SEPT 1979, 10 MONTHS AFTER THE PUBLICATION OF PUBLIC PARTICIPATION REGULATIONS FOR PROGRAMS UNDER THE CLEAN WATER ACT; THE SAFE DRINKING WATER ACT AND THE RESOURCE CONSERVATION AND RECOVERY ACT, REGION II PUBLISHED AN INTERIM GUIDE TO INTERPRET THE REGULATIONS. THE GUIDE WAS DESIGNED TO IDENTIFY MEASURES AND CRITERIA THAT WOULD BE USED BY THE REGIONAL OFFICE IN DETERMINING THE LEVEL OF CITIZEN PARTICIPATION PROGRAMS MANDATED BY THE US EPA REGULATIONS. THE REGULATIONS LEAVE MUCH TO THE DISCRETION OF THE REGIONAL ADMINISTRATOR AS TO WHAT CONSTITUTES AN ACCEPTABLE PROGRAM. RECOGNIZING THAT IT IS IMPORTANT FOR GRANTEES, CONSULTANTS, STATE AND REGIONAL STAFF TO MAKE THE SAME DETERMINATION ON A GIVEN PROJECT, GIVEN THE SAME FACTS, A SET OF MEASURES OF SIGNIFICANCE WERE ESTABLISHED FOR USE BY ALL PARTIES.

2525 US ERL

OCEAN DUMPING IN THE NEW YORK BIGHT [1975]

TR-ERL-321-MESA-Z. EPL. NOAA, BOULDER, CO 78 PP

THE NEW YORK BIGHT EXTENDS SEAWARD OVER 15,000 MI2 (39,000 KM2) FROM LONG ISLAND AND NJ TO THE EDGE OF THE CONTINENTAL SHELF, ABOUT 30-100 NM1 (150-180 KM) OFFSHORE. WASTES FROM 20 MILLION PEOPLE ARE DISCHARGED TO THE BIGHT. THESE WASTES ARRIVE BY A VARIETY OF ROUTES: OCEAN DUMPING, OUTFALL SEWERS, AIR POLLUTION, RIVER DISCHARGE, LAND RUNOFF, THERMAL DISCHARGES, VESSEL WASTES, AND OCCASIONAL SPILLS. ALTHOUGH IMPACTS OF THESE WASTES ON THE MARINE ENVIRONMENT ARE NOT CLEARLY UNDERSTOOD, THERE IS EVIDENCE THAT THE WATERS, BOTTOM SEDIAENTS, AND LIVING RESOURCES ARE UNDER STRESS. IN 1973, THE AMOUNT OF RAW AND DIGESTED SEWAGE SLUDGE WAS 150 MILLION FT3 (4.3 x 10Exp6 M3). AN AVERAGE OF 260 MILLION FT3 (7.4 x 10Exp6 M3)/YR OF DREDGED SPOILS WERE DUMPED EACH YEAR BETWEEN 1965 AND 1970. DURING THE SAME PERIOD, AN AVERAGE OF 72 MILLION FT3 (2.0 x 10Exp6 M3)/YR OF WASTE ACID AND AN AVERAGE OF 16 MILLION FT3 (0.5 x 10Exp6 M3)/YR OF CONSTRUCTION AND DEMOLITION DEBRIS WERE DUMPED INTO THE NEW YORK BIGHT. THE HAZARDS OF THIS DUMPING ARE NOT KNOWN; HOWEVER, ABOVE NORMAL INCIDENCE OF FIN ROT DISEASE IN FISH IN THE AREA AND THE CLOSING OF THE AREA OF SHELLFISHING ARE INDICATIONS THAT SOMETHING IS WRONG. THE AMOUNT OF SLUDGE THAT MOVES NORTHWARD TO THE VICINITY OF LONG ISLAND BEACHES IS UNKNOWN; THERE IS NO EVIDENCE OF MASSIVE SHOREWARD MOVEMENT OF THE SLUDGE, OR OF IMMINENT BACTERIOLOGICAL HAZARD TO THE BEACHES. MEANWHILE, IT IS RECOMMENDED THAT INTERIM USE OF ALTERNATIVE DUMPSITES BE AVOIDED AND THAT LAND-BASED DISPOSAL ALTERNATIVES BE DEVELOPED. BEFORE FINAL DECISIONS CAN BE MADE TO SOLVE THE PROBLEMS IDENTIFIED, FURTHER STUDIES OF VARIOUS ALTERNATIVE SOLUTIONS ARE REQUIRED.

2526 US ERL

NEW YORK BIGHT PROJECT. PROJECT DEVELOPMENT PLAN AND TECHNICAL DEVELOPMENT PLAN [1977]

US ERL, BOULDER, CO 227 PP

THE NEW YORK BIGHT WAS SELECTED FOR THE INITIAL PROJECT BECAUSE OF THE SIGNIFICANCE AND URGENCY OF ITS ENVIRONMENTAL PROBLEMS. THE BIGHT IS THE RECIPIENT OF THE NATION'S LARGEST OCEAN DUMPING OPERATION. THE MESA NEW YORK BIGHT PROJECT DEVELOPMENT PLAN DESCRIBES A SYSTEMATIC APPROACH TO ACHIEVING SPECIFICALLY IDENTIFIED GOALS AND OBJECTIVES THAT HAVE BEEN DELEGATED TO THE DEPARTMENT OF COMMERCE FOR PROTECTION OF THE MARINE ENVIRONMENT. THE OVERALL GOALS OF THE PROJECT ARE TO DEVELOP A COMPREHENSIVE UNDERSTANDING OF THE PROCESSES AND INTERRELATIONSHIPS OF THE ECOSYSTEM AND TO DETERMINE THE FATE AND EFFECTS OF POLLUTANTS AND OTHER MAN-RELATED STRESSES ON THE NEW YORK BIGHT. THE PROJECT PRIORITIES FOCUS ON THE THREE SIGNIFICANT CONTAMINANT SOURCES IN THE BIGHT APEX: ESTUARINE INPUTS AND COASTAL OUTFALLS, DREDGE MATERIALS, AND SEWAGE SLUDGE. THE PROJECT IS GUIDED EVEN MORE SPECIFICALLY BY THE REQUIREMENTS OF USER AGENCIES IN PLANNING FOR FUTURE ACTIONS SUCH AS MONITORING OF THE BIGHT, OIL AND GAS DEVELOPMENT, OFFSHORE NUCLEAR POWER GENERATION, AND THE DEVELOPMENT OF ALTERNATIVES TO EXISTING WASTE DISPOSAL STRATEGIES.

2527 US FAA

NEW YORK OFFSHORE AIRPORT FEASIBILITY STUDY. VOL III: AIRPORT CONFIGURATION, ANCILLARY FUNCTIONS, AIRPORT CONSTRUCTION, ENVIRONMENT PROTECTION, FINANCIAL ANALYSIS AND COMMUNITY IMPACT [1974]

US FAA, WASHINGTON, DC 393 PP NTIS-AD-003-798

THIS REPORT DETAILS ALL THE TECHNICAL ASPECTS OF THE DEVELOPMENT OF THE STUDY OF THE FEASIBILITY OF ESTABLISHING AN OFFSHORE AIRPORT TO SERVE NEW YORK CITY. VOLUME 3 STUDIES AIRPORT CONFIGURATION ANCILLARY FUNCTION, AIRPORT CONSTRUCTION, ENVIRONMENT PROTECTION, FINANCIAL ANALYSIS AND COMMUNITY IMPACT.

2528 US HOUSE OF REPRESENTATIVES

WASTE DISPOSAL IN THE COASTAL WATERS OF NEW YORK HARBOR [1970]

HEARING BEFORE SUBCOMMITTEE ON RIVERS AND HARBORS, COMMITTEE ON PUBLIC WORKS, US HOUSE OF REPRESENTATIVES, FEBRUARY 23, 1970. US GPO, WASHINGTON, DC 112 PP

THIS HEARING TOOK TESTIMONY ON AMENDMENTS TO THE ACT OF JUNE 29, 1888, RELATING TO THE PREVENTION OF OBSTRUCTIVE AND INJURIOUS DEPOSITS IN NEW YORK HARBOR. THE AMENDMENTS WOULD TERMINATE ALL PERMITS AND LICENSES WHICH ALLOWED WASTE DISPOSAL IN THE NEW YORK BIGHT WATERS OF NEW YORK HARBOR. THE GOVERNOR OF NEW JERSEY PRESENTED MATERIAL ON SLUDGE BARGING TO THE SEA. THE CITIZENS AGAINST WATER POLLUTION PRESENTED THEIR POLICY STATEMENT ON SEWAGE TREATMENT PLANT SLUDGE DISPOSAL. THE SANDY HOOK MARINE LABORATORY OF THE DEPARTMENT OF THE INTERIOR PRESENTED A STUDY OF THE EFFECTS OF WASTE DISPOSAL IN THE NEW YORK BIGHT AREA INCLUDING: WATER ANALYSES, SEDIMENT ANALYSES, TISSUE ANALYSES, BENTHIC STUDIES, PELAGIC STUDIES, AND HYDROGRAPHIC STUDIES. GRAB SAMPLE SLIDES SHOWING THE EFFECTS OF DISPOSAL AND HUMAN POLLUTION IN THE AREA ARE ALSO INCLUDED.

2529 US HOUSE OF REPRESENTATIVES

STORM KING MOUNTAIN (PUMP STORAGE PLANT) [1974]

HEARINGS BEFORE SUBCOMMITTEE ON FISHERIES, COMMITTEE ON MERCHANT MARINE AND FISHERIES, US HOUSE OF REPRESENTATIVES, 93 CONG 2D SESS, FEB 19-20, 1974. US GPO, WASHINGTON, DC

WHEN CONSTRUCTION OF THE STORM KING PUMP STORAGE PLANT WAS FIRST APPROVED IN 1971, THE FEDERAL POWER COMMISSION REPORTED THAT THE PROJECT'S IMPACT ON THE ENVIRONMENT WOULD BE MINIMAL. HOWEVER, SIGNIFICANT NEW EVIDENCE HAS SURFACED WHICH INDICATES THAT THE PROJECT MAY CREATE ADVERSE ENVIRONMENTAL EFFECTS, THE MOST NOTABLE BEING A DRASTIC REDUCTION IN FISH POPULATIONS IN THE AFFECTED AREA. PRESENTED AT THESE HEARINGS WERE STATEMENTS AND TESTIMONY FROM VARIOUS CONCERNED INDIVIDUALS AND ORGANIZATIONS INCLUDING ENVIRONMENTAL, CONSERVATION, AND FISHERMEN'S GROUPS GENERALLY OPPOSED TO THE STORM KING PROJECT, AND CONSOLIDATED EDISON CO IN FAVOR OF THE PROJECT. ADDENDA TO THE HEARINGS INCLUDE GRAPHS AND STATISTICAL ANALYSES OF THE STORM KING PROJECT.

2530 US HOUSE OF REPRESENTATIVES

POLYCHLORINATED BIPHENYLS [1975]

HEARINGS BEFORE SUBCOMMITTEE ON FISHERIES AND WILDLIFE CONSERVATION AND THE ENVIRONMENT, COMMITTEE ON MERCHANT MARINE AND FISHERIES, US HOUSE OF REPRESENTATIVES, JAN 28-30, 1975. US 600, WASHINGTON, DC 278 PP

POLYCHLORINATED BIPHENYLS ARE CHEMICALS WHICH ARE VALUED BECAUSE THEY PROMOTE EFFICIENT USE OF ELECTRICITY IN TRANFORMERS AND CAPACITORS. UNFORTUNATELY. PCBS ARE HARMFUL TO THE ENVIRONMENT. PCBS ARE ENVIRONMENTALLY MOBILE CHEMICALS WHICH FIND THEIR WAY INTO OUR NATION'S WATERS AND BIOACCUMULATE IN THE FOOD CHAIN. THE MOST SERIOUS PRESENT THREAT TO HUMAN HEALTH IS POSED BY THE

CONSUMPTION OF FISH WHICH CONTAIN HIGHER PCB CONCENTRATIONS THAN THE FDA GUIDELINES OF FIVE PARTS PER MILLION (PPM). RESPECTIVE CONCENTRATIONS OF UP TO 165 PPM AND 350 PPM HAVE RECENTLY BEEN FOUND IN FISH IN LAKE MICHIGAN AND IN THE HUDSOL RIVER. TO DETERMINE WHAT FUTURE ACTION CONGRESS SHOULD TAKE WITH REGARD TO PCBS, THE SUBCOMMITTEE HELD THREE DAYS OF HEARINGS AT WHICH REPRESENTATIVES FROM INDUSTRY, ADMINISTRATIVE OFFICIALS, AND ENVIRONMENTAL EXPERTS TESTIFIED. DEVELOPMENT OF ALTERNATIVE CHEMICALS, CAREFUL CONTROL OF INDUSTRIAL DISCHARGES OF PCBS, AND LEGISLATIVE BANNING OF ALL USE OF PCBS WERE SOME OF THE PROPOSED SOLUTIONS TO THE PCB PROBLEM. FINALLY, WHILE ALL AGREE THAT THE USE OF PCBS SHOULD BE ELIMINATED, THERE IS DISAGREEMENT AS TO HOW SOON INDUSTRY CAN DEVELOP AND IMPLEMENT CHEMICAL SUBSTITUTES FOR THEM.

2531 US HOUSE OF REPRESENTATIVES

OCEAN DUMPING HEARINGS [1976]

SUBCOMMITTEE ON OCEANOG, SUBCOMMITTEE ON FISH & WILDLIFE CONSERV, COMMITTEE ON MERCHANT MARINE AND FISHERIES, US HOUSE OF REPRESENTATIVES, US GPO, WASHINGTON, DC 86 PP

JOINT CONGRESSIONAL HEARINGS ON THE OCEAN DUMPING ACT AND ASSESSMENT OF THE EPA'S IMPLEMENTATION OF THE ACT IN THE NEW YORK BIGHT INCLUDED TESTIMONY FROM GERALD HANSLER, REGIONAL ADMINISTRATOR, EPA IN NEW YORK CITY; SCOTT B. LILLY, POWER AUTHORITY OF THE STATE OF NEW YORK; COL. THOMAS C. HUNTER, JR., US ARMY COE, NEW YORK; JOHN P. MUGLER, JR., ENVIRONMENTAL QUALITY PROFRAM OFFICE, NASA; CHARLES SAMOWITZ, COMMISSIONER, DEPT. OF WATER RESOURCES, NYC; AND CDR LAWRENCE SWANSON, MESA NEW YORK BIGHT PROJECT. NOAA.

2532 US HOUSE OF REPRESENTATIVES

LONG ISLAND SOUND DREDGE-SPOIL DUMPING [1980]

HEARING BEFORE THE SUBCOMMITTEE ON NATURAL RESOURCES & ENVIRONMENT; COMMITTEE ON SCIENCE & TECHNOLOGY, US HOUSE OF REPRESENTATIVES, 96TH CONGRESS, 13 OCT 1979 (NO 97), US GPO, WASHINGTON, DC NP

THIS TRANSCRIPT OF HEARINGS CONCERNING US ARMY CORPS OF ENGINEERS DREDGE-SPOIL DUMPING IN LONG ISLAND SOUND USING CAPPING SEDIMENTS TO CONTAIN CONTAMINATED SPOILS.

2533 US HOUSING AND URBAN DEVELOPMENT

METHODOLOGY FOR EVALUATING TECHNICAL CONSIDERATIONS IN THE DEVELOPMENT OF ENGINEERING, LAND USE AND ENVIRONMENTAL MODIFICATION ALTERNATIVES TO THE NASSAU-SUFFOLK COMPREHENSIVE DEVELOPMENT PLAN [1975]

US HUD, WASHINGTON, DC 406 PP NTIS-P830-171 374

CONCERNS WITH AIR AND WATER POLLUTION ARE MANDATING CHANGES IN THE NASSAU-SUFFOLK COMPREHENSIVE DEVELOPMENT PLAN IN NEW YORK STATE. THIS TECHNICAL AND STATISTICAL REPORT DESCRIBED METHODOLOGIES FOR IDENTIFYING AND SELECTING TECHNICAL AND LAND USE ALTERNATIVES TO THE PLAN. CHARTS AND TABLES LIST RATES OF DISCHARGE FOR THE SIGNIFICANT POLLUTANTS ASSOCIATED WITH EACH LAND USE AND ITS SUPPORT ACTIVITIES. THE ABILITY OF VARIOUS WASTE TREATMENT TECHNOLOGIES TO REMOVE THESE POLLUTANTS FROM THE AIR OR WATER IS ASSESSED, WHILE OTHER TABLES LIST THE ENVIRONMENTAL IMPACTS OF VARIOUS USES ON DIFFERENT COASTAL LANDFORMS. THE DISCUSSION ALSO DEALS WITH THE ABILITY OF THE BIOTA TO TOLERATE DIVERSE POLLUTANTS. DATA ON POLLUTION SUSCEPTIBILITY CAN BE USED AS TOOLS FOR EVALUATING ENVIRONMENTAL MODIFICATIONS AND LAND USES. A MODEL IS DEVELOPED TO AGGREGATE POLLUTION LOADINGS FROM BOTH GIVEN AND OPTIMAL LAND USE CONFIGURATIONS TO STUDY RESULTANT POLLUTANT CONCENTRATIONS IN MARINE WATERS. MODEL RUNS FOR BOTH THE GREAT SOUTH BAY DRAINAGE BASIN AND THE ENTIRE COASTAL ZONE OF LONG ISLAND ARE INCLUDED. THESE RUNS ARE COMBINED WITH POLLUTION SUSCEPTIBILITY METHODOLOGY TO ANALYZE THE PATCHOGUE/BELLPORT REGION, A TYPICAL COASTAL ZONE. TECHNICAL MAPPING TECHNIQUES.

2534 US NATIONAL PARK SERVICE

MASTER PLAN--FIRE ISLAND NATIONAL SEASHORE, NEW YORK [1975]

US DEPT OF INTERIOR. WASHINGTON. DC 378 PP

FIRE ISLAND, A 32 MI-LONG BARRIER ISLAND PARALLELING THE SOUTHERN COAST OF LONG ISLAND, AND SITUATED LESS THAN 60 MI FROM NYC. PROVIDES A RECREATIONAL RESOURCE OF EXCEPTIONAL VALUE. APPROXIMATELY 26 MI OF FIRE ISLAND ARE INCLUDED WITHIN FIRE ISLAND NATIONAL SEASHORE, WHICH WAS AUTHORIZED BY CONGRESS IN 1964 TO PRESERVE "CERTAIN RELATIVELY UNSPOILED AND UNDEVELOPED BEACHES, DUNES. AND OTHER NATURAL FEATURES" FOR THE USE AND ENJOYMENT OF FUTURE GENERATIONS. THE 19.311-ACRE SEASHORE IS MANAGED BY THE NATIONAL PARK SERVICE (NPS) IN ACCORDANCE WITH THE ADMINISTRATIVE POLICIES FOR RECREATION AREAS OF THE NATIONAL PARK SYSTEM. THE PARK IS DIVIDED INTO A SEASHORE DISTRICT AND A DEVELOPMENT DISTRICT. WHICH DIFFER IN THE DEGREE OF FEDERAL LAND-USE CONTROL. IN THE LARGELY UNDEVELOPED SEASHORE DISTRICT, WHICH CONTAINS ALL FEDERAL AND NON-FEDERAL PUBLIC RECREATIONAL LANDS AS WELL AS SCATTERED INHOLDINGS OF BOTH IMPROVED AND UNIMPROVED PRIVATE PROPERTY, THE SECRETARY OF THE INTERIOR HAS THE AUTHORITY TO CONDEMN PRIVATE PROPERTY WHENEVER ITS USE AND/OR DEVELOPMENT CONFLICTS WITH STANDARDS PROMULGATED BY THE SECRETARY. IN THE DEVELOPMENT DISTRICT. WHICH EMBRACES 20 PRIVATE COMMUNITIES SCATTERED THROUGHOUT THE WESTERN HALF OF FIRE ISLAND. THE SECRETARY HAS THE AUTHORITY TO ISSUE CERTAIN STANDARDS. WHICH MUST BE INCORPORATED INTO THE ZONING ORDINANCES OF THE TWO LONG ISLAND MUNICIPALITIES AND THE TWO FIRE ISLAND VILLAGES THAT GOVERN FIRE ISLAND'S COMMUNITIES. DEVELOPMENTS NOT IN CONFORMITY WITH THESE STANDARDS MAY BE SUBJECT TO CONDEMNATION. THE AUTHORITY TO CONDEMN AND ACQUIRE PRIVATE PROPERTY IS LESS CONSTRAINED IN THE SEASHORE DISTRICT THAN IN THE DEVELOPMENT DISTRICT. IN NOV 1974. THE NPS OWNED 51 % OF THE FAST LANDS WITHIN THE SEASHORE HOUNDARY (ABOUT 2,692 ACRES) PLUS ABOUT 91 ACRES OF SUBMERGED LANDS IN GREAT SOUTH BAY--FOR A TOTAL OF 2,783 ACRES. ON FIRE ISLAND, NPS LANDS LIE PRIMARILY IN THE CENTRAL AND EASTERN PARTS OF THE ISLAND. ABOUT 96.3% OF THE FEDERALLY OWNED FIRE ISLAND LANDS ARE SITUATED EAST OF THE COMMUNITY OF POINT O' WOODS; DNLY 3.7 % ARE WEST OF THIS COMMUNITY. REMAINING FAST OR SUBMERGED LANDS ARE MANAGED BY NUMEROUS OTHER INTERESTS. INCLUDING THE STATE OF NEW YORK. SUFFOLK COUNTY. SEVERAL LONG ISLAND TOWNS. TWO INCORPORATED FIRE ISLAND VILLAGES, AND A HOST OF PRIVATE LANDOWNERS. THE VARIED LANDOWNERSHIP, LAND USE, AND DEVELOPMENT OF LANDS ON FIRE ISLAND MAKE THE NATIONAL SEASHORE ONE OF THE MOST COMPLEX UNITS OF THE NATIONAL PARK SYSTEM.

2535 US NATIONAL PARK SERVICE

QUESTIONS AND ANSWERS CONCERNING THE DRAFT MASTER PLAN AND ENVIRONMENTAL IMPACT STATEMENT -- FIRE ISLAND NATIONAL SEASHORE [1975]

US DEPT OF THE INTERIOR, WASHINGTON, DC 14 PP

SEASHORE BOUNDARIES OF FIRE ISLAND ARE DEFINED TOGETHER WITH DIVISIONS INTO SEASHORE AND DEVELOPMENT DISTRICT. CONCERNS OF THE MASTER PLAN ARE RESOURCE MANAGEMENT AND FEDERAL INVOLVEMENT IN COMMUNITIES; RECREATIONAL DEVELOPMENT; PUBLIC ACCESS FROM MAINLAND; OVERLAND-VEHICLE USE REGULATION.

2536 US NATIONAL WEATHER RECORDS CENTER

CLIMATOLOGICAL SUMMARIES, VISIBILITIES BELOW ONE-HALF MILE AND CEILINGS BELOW 200 FEET. VOL 26: NEWARK, NEW JERSEY, NEWARK AIRPORT FINAL REPORT [1969]

US NWRC. ASHEVILLE, NC 33 PP

CLIMATOLOGICAL TABLES OF VISIBILITIES BELOW 1/2 MILE AND CEILINGS BELOW 200 FEET FOR NEWARK, NJ AIRPORT ARE DETAILED FOR THIS REPORT.

2537 US NATIONAL WILDLIFE FEDERATION

STATEMENT OF KENNETH S. KAMLET ON BEHALF OF THE NATIONAL WILDLIFE FEDERATION AT PUBLIC HEARING BEFORE THE US EPA ON THE

DESTRABILITY OF RELOCATING OCEAN DUMPSITES FOR THE DISPOSAL OF MUNICIPAL SEWAGE SLUDGE, TOMS RIVER, NEW JERSEY, MAY 31-JUNE 1, 1977 [1977]

US NAT WILDLIFE FED. WASHINGTON, DC 32 PP

ON THE BASIS OF THE FACTORS ANALYZED IN DISCUSSION, IT WAS CONCLUDED THAT NEITHER OF THE EXISTING SLUDGE DUMPS SHOULD BE RELOCATED AT THE PRESENT TIME. THIS CONCLUSION IS BASED PRINCIPALLY ON THE LACK OF DEMONSTRABLE NEED FOR AND DESIRABILITY OF SUCH A MOVE, THE UNCERTAIN BUT POTENTIALLY SERIOUS ADVERSE CONSEQUENCES OF RELOCATION TO FITHER THE 106-SITE OR THE 60-MILE SITE, AND THE POTENTIAL NEGATIVE IMPACT OF RELOCATION ON THE ENFORCEABILITY OF EXISTING PHASE-DUT DEADLINES. SHOULD THE NEED FOR A MOVE ARISE, RELOCATION OF PHILADELPHIA SLUDGE TO THE 106-SITE, AND OF NEW YORK AND NEW JERSEY SLUDGE TO EITHER THE 60-MILE OR THE 106-MILE SITE, MAY THEN BECOME APPROPRIATE. THE LIKELIHOOD OF SUCH A NEED ARISING IN THE FORESEEABLE FUTURE SEEMS GREATER IN THE PHILADELPHIA SITUATION THAN IN THE NEW YORK BIGHT AREA.

2538 US NRC

OPERATION OF INDIAN POINT NUCLEAR GENERATING PLANT, UNIT NO. 3. CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. DOCKET NO. 50-286. VOLUME II [1975]

US NRC. WASHINGTON. DC 400 PP

THIS IS VOLUME II OF THE FINAL ENVIRONMENTAL STATEMENT FOR THE ISSUANCE OF AN OPERATING LICENSE TO CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. FOR THE INDIAN POINT NUCLEAR GENERATING PLANT, UNIT NO. 3 (DOCKET NO. 50-286), LOCATED IN WESTCHESTER COUNTY, NY. II HAS BEEN PREPARED BY THE OFFICE OF NUCLEAR REACTOR REGULATION OF THE NRC. VOLUME II CONTAINS APPENDICES TO VOLUME I ON THE FOLLOWING SUBJECTS: THERMAL DISCHARGES TO THE HUDSON RIVER; SUPPLEMENTAL INFORMATION RELATING TO BIOLOGICAL MODELS; RADIATION EFFECTS OF AQUATIC BIOTA; CONDITIONS, ASSUMPTIONS AND PARAMETERS USED IN CALCULATING RADIOACTIVE RELEASES; METEOROLOGY FOR RADIOLOGICAL DISPERSION CALCULATIONS; LIFE HISTORY INFORMATION OF IMPORTANT FISH SPECIES IN THE HUDSON RIVER NEAR INDIAN POINT; ADDITIONAL INFORMATION ON COOLING TOWERS CONSIDERED AS ALTERNATIVES; AND DATA AND CALCULATIONS FOR ASSESSMENT OF PREDICTED ELECTRICAL DETAIND. ALSO INCLUDED ARE COMMENTS ON THE DRAFT ENVIRONMENTAL STATEMENT BY GOVERNMENTAL AGENCIES AND BY PRIVATE ORGANIZATIONS AND INDIVIDUALS.

2539 US NRC

FINAL ENVIRONMENTAL IMPACT STATEMENT: GREENE COUNTY NUCLEAR POWER PLANT [1979]

US NRC. WASHINGTON. DC 739 PP

CONSTRUCTION OF THE GREENE COUNTY NUCLEAR POWER PLANT, 20 MI NORTH OF KINGSTON IN GREENE COUNTY, NY, IS PROPOSED. THE PLANNED FACILITY WOULD BE LOCATED ON A 263-ACRE SITE ON THE WEST BANK OF THE HUDSON RIVER. IT WOULD CONSIST OF A PRESSURIZED WATER REACTOR WITH A DESIGN THERMAL OUTPUT OF 3760 MEGAWATTS THERMAL THAT WOULD DRIVE A STEAM TURBINE GENERATOR TO PRODUCE A GROSS ELECTRICAL OUTPUT OF 1277 MEGAWATTS ELECTRICAL (MWE), PROVIDING A NET RATING OF 1191 MWE. THE STATION WOULD TRANSMIT POWER TO THE LEEDS SUBSTATION BY MEANS OF TWO 13-MI, SINGLE-CIRCUIT 345-KILOVOLT (KV) LINES THAT WOULD ORIGINATE AT A 345-KV SWITCHYARD PLANNED AT THE PROJECT SITE. THE ESTIMATED PLANT AND TRANSMISSION LINE CONSTRUCTION COSTS AMOUNT TO \$1.7 BILLION.

2540 US PUBLIC HEALTH SERVICE

VARIATIONS OF COLIFORM BACTERIA AND OTHER POLLUTION INDICES IN SURFACE WATERS [1965]

WATER QUALITY SECTION. US PHS. WASHINGTON. DC 17 PP NTIS-PB-250 541

A 10% ANNUAL INCREASE IN COLIFORM POLLUTION IN NEW YORK HARBOR WATERS SINCE THE EARLY 1950°S -- A PERIOD MARKED BY CONTINUING

SEWAGE TREATMENT PLANT CONSTRUCTION IN THE AREA--MAY HAVE BEEN A DIRECT RESULT OF THE IMPROVED TREATMENT PRACTICE, AS SUGGESTED BY COMPARISONS WITH DATA FROM OTHER SOURCES. BLAME FOR THE BACTERIAL POLLUTION WAS FIRST ASSIGNED TO AN "AFTERGROWTH" OF ORGANISMS IN THE RECEIVING WATERS STIMULATED BY NUTRIENTS SUCH AS PHOSPHATE OR NITROGEN COMPOUNDS IN SECONDARY TREATMENT EFFLUEYT. BUT STUDIES OF MARKED COLIFORM INCREASES AT 5 INLAND LOCATIONS WITH IMPROVED WASTE TREATMENT PROGRAMS OF RELATIVELY RECENT ORIGIN SHOW THAT PHOSPHATE, DETERGENT AND OTHER POLLUTION PARAMETERS DO NOT CLEARLY CORRELATE WITH COLIFORM INCREASES. HOWEVER, EXAMINATION OF LOS ANGELES" HYPERION TREATMENT PLANT AND ITS EFFECTS ON THE WATER OF SANTA MONICA BAY SUGGEST THAT NEW YORK HARBOR'S COLIFORM PROBLEM IS DUE TO THE CHANGED BEHAVIOR OF SUSPENDED SOLIDS IN THE EFFLUENTS. AT SANTA MONICA BAY, SUSPENDED SOLIDS IN PRIMARY EFFLUENT SETTLED WITH A RATE COEFFICIENT FOUR TIMES THAT FOR SECONDARY EFFLUENT, AND THE COLIFORMS ASSOCIATED WITH THE SOLIDS WERE, OF COURSE, SIMILARLY AFFECTED. ANALYSIS OF THIS SETTLING PROCLIVITY DIFFERENTIAL SHOWS THAT SUCH COLIFORM INCREASES MAY BE EXPECTED WHEN IMPROVED TREATMENT, BUT NOT EFFLUENT CHLORINATION, IS PROVIDED.

2541 US RAILWAY ADMINISTRATION

ANALYSIS OF RAILROAD OPERATED FERRY AND LIGHTERAGE OPERATIONS [1975]

US RAILWAY ADMIN. WASHINGTON. DC. 245 PP NTIS-PB-239 029

THIS STUDY PRESENTS A PRELIMINARY ANALYSIS OF THE MARINE OPERATIONS OF THE RAILROADS IN REORGANIZATION AND EXAMINES ALTERNATIVE APPROACHES TO MEETING THE TRANSPORTATION NEEDS OF THE SHIPPERS NOW SERVED. THE STUDY CONCERNS ITSELF WITH THREE MAJOR OPERATIONS: THE ANN ARBOR RAILROAD CAR FERRY ON LAKE MICHIGAN; THE PENN CENTRAL CARFLOAT FROM CAPE CHARLES, VA TO NORFOLK, VA; AND THE LEHIGH VALLEY AND PENN CENTRAL CARFLOAT OPERATIONS FROM NJ TO BROOKLYN. IN ADDITION, LIGHTERAGE SERVICE IN NEW YORK HARBOR IS ANALYZED.

2542 US SENATE

HUDSON RIVERWAY--LICENSE APPLICATIONS [1970]

5 US CODE CONG AND ADMIN NEWS: 1433-1435

THE SENATE INTERIOR AND INSULAR AFFAIRS COMMITTEE HEREIN RECOMMENDS PASSAGE OF AN AMENDMENT TO EXISTING LEGISLATION. THE EXISTING ACT PROVIDES FOR REGULATION OF WATER RESOURCES OF THE HUDSON RIVERWAY. IT GRANTS CONGRESSIONAL CONSENT TO AN INTERSTATE COMPACT RELATING TO THE PRESERVATION AND DEVELOPMENT OF THE NATURAL, HISTORIC, AND RECREATIONAL RESOURCES OF THE HUDSON RIVER BASIN. IN ORDER TO PROTECT THE RESOURCES OF THE RIVER BASIN WHILE COMPACT NEGOTIATIONS WERE BEING HELD, THE ACT PROVIDES FOR CONSULTATION BETWEEN THE SECRETARY OF THE INTERIOR AND ANY AGENCIES CONTEMPLATING ACTIVITY WITHIN OR AFFECTING THE RIVERWAY. THE ACT FURTHER SETS FORTH LICENSE REQUIREMENTS ACTIVITIES WHICH MIGHT AFFECT THE RESOURCES OF THE HUDSON RIVERWAY. THE AMENDMENTS HEREIN UNDER CONSIDERATION WOULD EXTEND THE DEADLINES CONTAINED IN THE EXISTING ACT. THE COMMITTEE NOTES THAT ALTHOUGH THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 IMPOSES MORE RIGOROUS REQUIREMENTS ON APPROVAL OF PROPOSED ACTIVITIES HAVING ENVIRONMENTAL IMPACT, THE AMENDMENTS UNDER CONSIDERATION WOULD PROVIDE INTERIM PROTECTION WHILE THE PROCEDURES OF THAT ACT ARE STILL BEING ESTABLISHED. THE COMMITTEE REPORT INCLUDES A LETTER FROM THE DEPARTMENT OF THE INTERIOR EXPRESSING APPROVAL OF THE PROPOSED AMENDMENT.

2543 US SENATE

DEEP WATER PORTS [1973]

HEARING BEFORE THE SUBCOMMITTEE ON AIR AND WATER POLLUTION, COMMITTEE ON PUBLIC WORKS, US SENATE, 93D CONGRESS, FEB 26, 1973 (NO 93-H4). US GPO, WASHINGTON, DC 95 PP

US SENATE SUBCOMMITTEE HEARINGS WERE HELD CONCERNING BILLS S. 180 AND S. 836, DESIGNED TO AMEND THE FWPCA TO REQUIRE THE APPROVAL OF ADJACENT COASTAL STATES PRIOR TO THE CONSTRUCTION OF CERTAIN OFFSHORE FACILITIES. PROPOSED DEEPWATER PORTS OFF THE

COASTS OF NJ AND DE WERE EXAMINED. THE BILLS WOULD REQUIRE THE APPROVAL OF EACH OF THE ADJACENT COASTAL STATES FOR THE INITIATION OF DEEPWATER PORT CONSTRUCTION. THE ECONOMIC BENEFITS FROM DEEPWATER PORTS WERE WEIGHED AGAINST POTENTIAL DAMAGE TO THE ENVIRONMENT FROM THE SPILLAGE OF OIL.

2544 IIS SENATE

PUBLIC HEARING BEFORE THE SENATE ENERGY, AGRICULTURE AND ENVIRONMENT COMMITTEE ON ASSEMBLY, NO 2373 AND ASSEMBLY, NO 2387

US GPO. WASHINGTON, DC 97 PP

THIS REPORT CONTAINS MINUTES AND DIALIGUE OF A PUBLIC HEARING TO CONSIDER ASSEMBLY BILLS 2373 AND 2387, ACTS CREATING A RAHWAY RIVER FLOOD CONTROL AUTHORITY AND A GREEN BROOK FLOOD CONTROL AUTHORITY.

2545 US SUPREME COURT REPORTS

HENRY FORD AND SON, INC V LITTLE FALLS FIBRE CO (LIABILITY FOR LOSS OF WATER HEAD CAUSED BY FLASHBOARDS ON DOWNSTREAM DAM) [1930]

PAGES 140-142 IN 280 US 369. 50 SUPREME COURT REPORTS

PLAINTIFF RAPARIAN OWNER SOUGHT TO ENJOIN DEFENDANT FEDERAL LICENSEE FROM PLACING FLASHBOARDS ON A FEDERAL DAM WHICH DECREASED PLAINTIFF'S WATER HEAD. DEFENDANT WAS LICENSED TO USE SURPLUS WATER FROM THE FEDERAL DAM TO GENERATE ELECTRICITY FOR PRIVATE USE. THE FLASHBOARDS RAISED THE POOL TWO FEET, DECREASING THE HEAD OF PLAINTIFF'S UPRIVER DAM COMMENSURATELY. DEFENDANT ASSERTED THAT THE FEDERAL AUTHORITY TO REGULATE NAVIGATION RENDERED IT IMMUNE AS A FEDERAL AGENT AND THAT THERE WAS NO TAKING OF PLAINTIFF'S PROPERTY. PLAINTIFF ASSERTED THAT THE FLASHBOARDS WERE NOT AUTHORIZED BY THE WATER POWER ACT AND THAT THEIR USE CONSTITUTED A FIFTH AMENDMENT TAKING. REJECTING THE CONTENTIONS OF BOTH PARTIES, THE COURT OBSERVED THAT THE WATER POWER ACT PROVIDED THAT LICENSEES SHOULD BE LIABLE FOR DAMAGES OCCASIONED BY LICENSED PROJECTS, AND PROHIBITED INTERFERENCE WITH STATE LAW IN WATER APPROPRIATION AND CONTROL. IN AFFIRMING, THE COURT HELD THAT THESE PROVISIONS SUPPORTED THE LOWER COURT'S AWARD OF DAMAGES AN INJUNCTION TO PLAINTIFF.

2546 USGS

WATER RESOURCES INVESTIGATIONS IN NEW JERSEY [1972]

WATER RESOURCES DIV. USGS. TRENTON. NJ NP

THIS IRREGULARLY PUBLISHED PERIODICAL CITES CURRENT RESEARCH AND LISTS SELECTED REFERENCES ON WATER IN NEW JERSEY.

2547 USGS

SOURCES AND MOVEMENTS OF WATER-AN INTERIM REPORT [1973]

WATER RESOURCES DIV. USGS. WASHINGTON. DC 50 PP

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KNOWLEDGE ABOUT THE SOURCES, DISTRIBUTION AND MOVEMENT OF WATER IN THE LONG ISLAND SOUND REGION IS SUMMARIZED. CLIMATOLOGICAL FACTORS SUCH AS TEMPERATURE, WIND AND CLOUD COVER THAT AFFECT ELEMENTS OF THE HYDROLOGIC SYSTEM ARE ALSO DISCUSSED. THE REGION HAS AN ABUNDANT SUPPLY OF FRESH WATER DERIVED FROM PRECIPITATION AND FROM INFLOWING STREAMS. OF THE TOTAL PRECIPITATION FALLING ON THE LAND EACH YEAR, ABOUT HALF RETURNS TO THE ATMOSPHERE BY EVAPOTRANSPIRATION. WHILE THE REMAINDER ULTIMATELY DISCHARGES TO

STREAMS AND THE SOUND, EITHER DIRECTLY BY OVERLAND FLOW OR INDIRECTLY BY DOWNWARD PERCOLATION TO THE WATER TABLE. LONG ISLAND IS UNDERLAIN BY A LARGE GROUNDWATER RESERVOIR OF GENERALLY GOOD QUALITY. IT MEETS ALMOST ALL THE ISLAND'S FRESH WATER NEEDS. LONG ISLAND SOUND IS A 1,300 SQ MI WATER BODY WITH ESTUARINE CHARACTERISTICS IN ITS WESTERN AND CENTRAL PARTS AND EMBAYMENT CHARACTERISTICS IN ITS EASTERN THIRD. CIRCULATION IS CONTROLLED PRINCIPALLY BY TIDAL CURRENTS MODIFIED BY FRESH WATER INFLOW. WEATHER CONDITIONS AND TOPOGRAPHY. SURFACE TIDAL CURRENT PATTERNS IN THE CENTRAL AND EASTERN SOUND ARE ELLIPTICAL AND COUNTER-CLOCKWISE IN DIRECTION. AT THE EASTERN END, SURFACE WATER FLOWS INTO BLOCK ISLAND SOUND, WHILE MORE DENSE AND SALINE BOTTOM WATERS FLOW INTO LONG ISLAND SOUND. AT THE WESTERN END, SURFACE WATER FROM THE EAST RIVER FLOWS INTO THE SOUND AND BOTTOM WATERS MOVE INTO THE EAST RIVER.

2548 USGS

WATER RESOURCES INVESTIGATIONS IN NEW YORK [1973]

WATER RESOURCES DIV. USGS. ALBANY. NY NP

THIS IRREGULARLY PUBLISHED PERIODICAL CITES CURRENT RESEARCH AND LISTS SELECTED REFERENCES ON WATER IN NEW YORK.

2549 USGS

HYDROLOGIC UNIT MAP--1974. STATE OF NEW JERSEY [1974]

USGS. RESTON. VA NP

THIS MAP AND ACCOMPANYING TABLE SHOW HYDROLOGIC UNITS THAT ARE BASICALLY HYDROGRAPHIC IN NATURE. THE CATALOGING UNITS SHOWN WILL SUPPLANT THE CATALOGING UNITS PREVIOUSLY USED BY THE USGS IN ITS CATALOG OF INFORMATION ON WATER DATA (1966-72). THE PREVIOUS USGS CATALOG-INDEXING SYSTEM WAS BY MAP NUMBER AND LETTER, SUCH AS 49M. THE BOUNDARIES AS SHOWN HAVE BEEN ADAPTED FROM "THE CATALOG OF INFORMATION ON WATER DATA" (1972), "WATER RESOURCES REGIONS AND SUBREGIONS FOR THE NATIONAL ASSESSMENT OF WATER AND RELATED LAND RESOURCES" BY THE US WATER RESOURCES COUNCIL (1970), "RIVER BASINS OF THE UNITED STATES" BY THE US SOIL CONSERVATION SERVICE (1963, 1970), "RIVER BASIN MAPS SHOWING HYDROLOGIC STATIONS" BY THE INTER-AGENCY COMMITTEE ON WATER RESOURCES, SUBCOMMITTEE ON HYDROLOGY (1961), AND STATE PLANNING MAPS.

2550 USGS

HYDROLOGIC UNIT MAP--1974, STATE OF NEW YORK [1974]

USGS, RESTON, VA NP

THIS MAP AND ACCOMPANYING TABLE SHOW HYDROLOGIC UNITS THAT ARE BASICALLY HYDROGRAPHIC IN NATURE. THE CATALOGING UNITS SHOWN WILL SUPPLANT THE CATALOGING UNITS PREVIOUSLY USED BY THE USGS IN ITS CATALOG OF INFORMATION ON WATER DATA (1966-72). THE PREVIOUS USGS CATALOG-INDEXING SYSTEM WAS BY MAP NUMBER AND LETTER, SUCH AS 49M. THE BOUNDARIES AS SHOWN HAVE BEEN ADAPTED FROM "THE CATALOG OF INFORMATION OF WATER DATA" (1972), "WATER RESOURCES REGIONS AND SUBREGIONS FOR THE NATIONAL ASSESSMENT OF WATER AND RELATED LAND RESOURCES" BY THE US WATER RESOURCES COUNCIL (1970), "RIVER BASINS OF THE UNITED STATES" BY THE US SOIL CONSERVATION SERVICE (1963, 1970), "RIVER BASIN MAPS SHOWING HYDROLOGIC STATIONS" BY THE INTER-AGENCY COMMITTEE DN WATER RESOURCES, SUBCOMMITTEE ON HYDROLOGY (1961), AND STATE PLANNING MAPS.

2551 USGS

WATER RESOURCES DATA FOR NEW JERSEY, WATER YEAR 1977, VOL 1: ATLANTIC SLOPE BASINS, HUDSON RIVER TO CAPE MAY [1978]

WATER-DATA REP NJ-77-1. WATER RESOURCES DIV. USGS. TRENTON. NJ 491 PP

WATER RESOURCES DATA FOR THE 1977 WATER YEAR FOR NEW JERSEY CONSIST OF RECORDS OF STAGE, DISCHARGE, AND WATER QUALITY OF STREAMS; STAGE, CONTENTS, AND WATER QUALITY OF LAKES AND RESERVOIRS; AND WATER LEVELS AND WATER QUALITY IN WELLS AND SPRINGS. THIS VOLUME OF THE REPORT, ATLANTIC SLOPE BASINS AND HUDSON RIVER TO CAPE MAY, CONTAINS DISCHARGE RECORDS FOR 66 GAGING STATIONS; TIDE SUMMARIES FOR 7 STATIONS; STAGE AND CONTENTS FOR 15 LAKES AND RESERVOIRS; WATER QUALITY FOR 37 GAGING STATIONS, 159 PARTIAL-RECORD FLOW STATIONS, 1 RESERVOIR, AND 147 WELLS; AND WATER LEVELS FOR 11 OBSERVATION WELLS. ALSO INCLUDED ARE 50 CREST-STAGE PARTIAL-RECORD STATIONS AND 45 LOW-FLOW PARTIAL-RECORD STATIONS. ADDITIONAL WATER DATA WERE COLLECTED AT VARIOUS SITES, NOT PART OF THE SYSTEMATIC DATA COLLECTION PROGRAM, AND ARE PUBLISHED AS MISCELLANEOUS MEASUREMENTS. THESE DATA REPRESENT THAT PART OF THE NATIONAL WATER DATA SYSTEM OPERATED BY USGS AND COOPERATING STATE AND FEDERAL AGENCIES IN NEW JERSEY.

2552 USGS

WATER RESOURCES SUMMARY, LONG ISLAND, NEW YORK [1979]

USGS, ALBANY, NY NP

THIS IS A MONTHLY REPORT OF STREAM FLOW, GROUNDWATER LEVELS. AND PRECIPITATION FOR LONG ISLAND. FOR PERIODS AT THE END OF EACH MONTH, TABLES PRESENT DATA ON PRELIMINARY WATER LEVEL IN WELLS AND WATER LEVELS IN THE WATER TABLE AND ARTESIAN WELLS.

2553 USGS

WATER RESOURCES DATA FOR NEW JERSEY. WATER YEAR 1978. VOL 1: ATLANTIC SLOPE BASINS. HUDSON RIVER TO CAPE MAY [1979]

USGS, ST LOUIS, MS 568 PP NTIS-PB80-116528

WATER RESOURCES DATA FOR THE 1978 WATER YEAR FOR NJ CONSIST OF RECORDS OF STAGE, DISCHARGE, AND WATER QUALITY OF STREAMS; STAGE, CONTENTS, AND WATER QUALITY OF LAKES AND RESERVOIRS; AND WATER LEVELS AND WATER QUALITY IN WELLS AND SPRINGS. THIS VOLUME OF THE REPORT CONTAINS DISCHARGE RECORDS FOR 72 GAGING STATIONS; TIDE SUMMARIES FOR 7 STATIONS; STAGE AND CONTENTS FOR 15 LAKES AND RESERVOIRS; WATER QUALITY FOR 39 STATIONS, 154 PARTIAL-RECORD STATIONS, AND 185 WELLS; AND WATER LEVELS FOR 18 OBSERVATION WELLS. ALSO INCLUDED ARE 45 CREST-STAGE PARTIAL-RECORD STATIONS AND 38 LOW-FLOW PARTIAL-RECORD STATIONS. ADDITIONAL WATER DATA WERE COLLECTED AT VARIOUS SITES, NOT PART OF THE SYSTEMATIC DATA COLLECTION PROGRAM, AND ARE PUBLISHED AS MISCELLANEOUS MEASUREMENTS. THESE DATA REPRESENT THAT PART OF THE SYSTEMATIC DATA COLLECTION PROGRAM, AND ARE PUBLISHED AS MISCELLANEOUS MEASUREMENTS. THESE DATA REPRESENT THAT PART OF THE NATIONAL WATER DATA SYSTEM OPERATED BY USGS AND COOPERATING STATE AND FEDERAL AGENCIES IN NJ.

2554 USGS

WATER RESOURCES DATA FOR NEW YORK, WATER YEAR 1979, VOL 2: LONG ISLAND [1980]

WATER RESOURCES DIVISION, USGS, ALBANY, NY NP

WATER RESOURCES DATA FOR THE 1979 WATER YEAR FOR NY CONSIST OF RECORDS OF STAGE, DISCHARGE, AND WATER QUALITY OF STREAMS; STAGE, CONTENTS, AND WATER QUALITY OF LAKES AND RESERVOIRS; WATER QUALITY OF PRECIPITATION; ANDWATER LEVELS AND WATER QUALITY OF GROUND WATER WELLS. THIS VOLUME CONTAINS RECORDS FOR WATER DISCHARGE AT 17 GAGING STATIONS; WATER QUALITY AT 17 GAGING STATIONS, 610 WELLS, AND 3 PRECIPITATION STATIONS; AND WATER LEVELS AT 130 OBSERVATION WELLS. ALSO INCLUDED ARE DATA FOR 79 LOW-FLOW PARTIAL-RECORD STATIONS. ADDITIONAL WATER DATA WERE COLLECTED AT VARIOUS SITES NOT INVOLVED IN THE SYSTEMATIC DATA COLLECTION PROGRAM AND ARE PUBLISHED AS MISCELLANEOUS MEASUREMENTS AND ANALYSES. THESE DATA TOGETHER WITH THE DATA IN VOLUME 1 REPRESENT THAT PART OF THE NATIONAL WATER DATA SYSTEM OPERATED BY THE USGS IN COOPERATION WITH STATE, FEDERAL. AND OTHER

AGENCIES IN NY.

2555 USGS

WATER RESOURCES DATA FOR NEW YORK, WATER YEAR 1979, VOL 1: NEW YORK EXCLUDING LONG ISLAND [1980]

WATER RESOURCES DIVISION, USGS, ALBANY, NY NP

WATER RESOURCES DATA FOR THE 1979 WATER YEAR FOR NY CONSIST OF RECORDS OF STAGE, DISCHARGE, AND WATER QUALITY OF STREAMS; STAGE, CONTENTS, AND WATER QUALITY OF LAKES AND RESERVOIRS; AND WATER LEVELS AND WATER QUALITY OF GROUNDWATER WELLS. THIS VOLUME CONTAINS RECORDS FOR WATER DISCHARGE AT 187 GAGING STATIONS; STAGE ONLY AT 22 GAGING STATIONS; STAGE AND CONTENTS AT 12 GAGING STATIONS AND 18 OTHER LAKES AND RESERVOIRS; WATER QUALITY AT 60 GAGING STATIONS AND 43 WELLS; AND WATER LEVELS AT 44 OBSERVATION WELLS. ALSO INCLUDED ARE DATA FOR 133 CREST-STAGE AND 15 LOW-FLOW PARTIAL-RECORD STATIONS. ADDITIONAL WATER DATA WERE COLLECTED AT VARIOUS SITES NOT INVOLVED IN THE SYSTEMATIC DATA-COLLECTION PROGRAM AND ARE PUBLISHED AS MISCELLANEOUS MEASUREMENTS AND ANALYSES. THESE DATA TOGETHER WITH THE DATA IN VOLUME 2 REPRESENT THAT PART OF THE NATIONAL WATER DATA SYSTEM OPERATED BY THE USGS AND COOPERATING STATE, LOCAL, AND FEDERAL AGENCIES IN NY.

2556 USGS

WATER RESOURCES DATA FOR NEW JERSEY, WATER YEAR 1979. VOL 1: ATLANTIC SLOPE BASINS, HUDSON RIVER TO CAPE MAY [1980]

USGS. ST LOUIS. MS 357 PP NTIS-PB81-119802

WATER RESOURCES DATA FOR THE 1979 WATER YEAR FOR NJ CONSIST OF RECORDS OF STAGE, DISCHARGE, AND WATER QUALITY OF STREAMS;
STAGE, CONTENTS, AND WATER QUALITY OF LAKES AND RESERVOIRS; AND WATER LEVELS AND WATER QUALITY OF GROUND WATER. THIS VOLUME OF
THE REPORT CONTAINS DISCHARGE RECORDS FOR 75 GAGING STATIONS; TIDE SUMMARIES FOR ONE STATION; STAGE AND CONTENTS FOR 15 LAKES
AND RESERVOIRS; WATER QUALITY FOR 111 SURFACE WATER SITES AND 110 WELLS; AND WATER LEVELS FOR 35 OBSERVATION WELLS. ALSO
INCLUDED ARE DATA FOR 44 CREST-STAGE PARTIAL-RECORD STATIONS AND 47 LOW-FLOW PARTIAL-RECORD STATIONS.

2557 VELZY ASSOCIATES, INC

DUTCHESS COUNTY PYROLYSIS PROJECT. DRAFT FEASIBILITY REPORT OF THREE SITES [1979]

VELZY ASSOC. INC., MINEOLA, NY 45 PP

4 SITES NEAR THE HUDSON RIVER IN DUTCHESS COUNTY, NY WERE EVALUATED FOR LOCATING A SOLID WAS TE PUROX PYROLYSIS PLANT. BASED ON A COMPARISON OF GEOLOGIC CONDITIONS, TOPOGRAPHY, CONSTRUCTION COSTS, AVAILABLE UTILITIES, AND LAND USE COMPATIBILITY, THE ARLINGTON SITE IS RECOMMENDED.

2558 WALL STREET JOURNAL

US SAYS GM POLLUTES HUDSON RIVER; COMPANY PROMISES QUICK ACTION [1970]

WALL STREET JOURNAL CLXXVI(119):12

GENERAL MOTORS CORP. WAS CHARGED BY THE FEDERAL GOVERNMENT WITH DISCHARGING POLLUTANTS INTO THE HUDSON RIVER. THE COMPANY IMMEDIATELY SAID IT IS PREPARED TO SPEED CONSTRUCTION OF A NEW WASTE TREATMENT FACILITY.

2559 WATER RESOURCE ENGINEERS, INC.

DEVELOPMENT OF A COMPREHENSIVE CONCEPTUAL MODEL OF THE NEW YORK BIGHT [1973]

WATER RESOURCE ENGINEERS, INC., SPRINGFIELD, VA 44 PP

FEW COASTAL AREAS IN THE COUNTRY HAVE BEEN SO STRONGLY INFLUENCED BY MAN'S PRESENCE AS THE NEW YORK BIGHT. IT IS CROSSED BY SOME OF THE MOST HEAVILY TRAVELED SHIPPING LANES IN THE WORLD, AND THE NATION'S MOST POPULOUS AREA LONG HAS CONSIDERED IT AS THE ULTIMATE DUMPING SITE. THE HUDSON RIVER, WHICH EMPTIES INTO THE APEX OF THE BIGHT, IS NOT NOTED FOR THE PURITY OF ITS WATERS. ON THE OTHER HAND, A VARIETY OF FISH AND OTHER SEAFOOD ARE TAKEN FROM THE BIGHT, AND ITS NEAR SHORE WATERS ARE USED EXTENSIVELY FOR RECREATION. THE ECOLOGY OF THE BIGHT IS QUITE COMPLEX AND IS UNDERSTOOD ONLY IN A BROAD SENSE. THE THRUST OF THE MESA PROJECT IS TO FURTHER THE UNDERSTANDING OF THE FORCES WHICH GOVERN THE BEHAVIOR OF THE BIGHT IN ORDER TO ASSESS MAN'S IMPACT IN THE PROCESS CHAIN. ONE FACET OF THIS UNDERTAKING IS THE DEVELOPMENT OF A SET OF ECOLOGIC MODELS TO PREDICT THE RESPONSE OF THE BIGHT TO CHANGING CONDITIONS. THE PROJECT PROPOSED HERE IS THE FIRST STEP TOWARD MODEL DEVELOPMENT, I.E., CONCEPTUALIZATION OF THE MODEL STRUCTURE AND OF THE PHENOMENA TO BE INCLUDED IN IT.

2560 WEST PUBLISHING COMPANY

NEW YORK LAW FINDER--A NEW MODERN INDEX FOR CO-ORDINATED RESEARCH PROVIDING COMPREHENSIVE REFERENCES [1979]

WEST PUBLISHING CO, ST. PAUL, MN 1055 PP

THE NEW YORK LAW FINDER COORDINATES LEGAL RESEARCH BY PROVIDING A MASTER INDEX TO THE CONTENT OF BASIC PRIMARY AND SECONDARY LEGAL PUBLICATIONS. TEXTS, TREATISES, ENCYCLOPEDIAS, STATE AND FEDERAL STATUTES, COURT RULES, FORM BOOKS AND DIGESTS ARE INDEXED AND REFERENCES TO THEIR CONTENT SUPPLIED UNDER MORE THAN 1,000 DESCRIPTIVE TOPIC HEADINGS.

2561 WESTINGHOUSE ELECTRIC CORP

ORGANIZATIONS WITH INTERESTS IN THE NEW YORK BIGHT, A SUPPLEMENT TO THE FINAL REPORT PROGRAM DEVELOPMENT PLAN FOR THE MESA-NY BIGHT REGIONAL PROJECT [1972]

OCEANIC DIV. WESTINGHOUSE ELECTRIC CORP. ANNAPOLIS. MD 206 PP

ESSENTIAL TO THE MANAGEMENT OF THE MESA-NYB PROJECT IS THE MAINTENANCE OF A COMPREHENSIVE CURRENT AWARENESS OF OTHER ORGANIZATIONS WITH INTERESTS IN THE NEW YORK BIGHT. SUCH AN AWARENESS IS THE INFORMATION BASE ON WHICH THE MANAGEMENT FUNCTION OF PROJECT COMMUNICATION CAN BE CARRIED OUT. THIS INFORMATION BASE WILL AID THE MANAGEMENT TEAM IN THE PLANNING PHASES OF THE PROJECT TO: (1) ACCOMMODATE USERS' CHANGING NEEDS, AND (2) IDENTIFY AND COORDINATE OVERLAPPING PROGRAMS IN ORDER TO MINIMIZE DUPLICATION OF EFFORT. ORGANIZATIONS CAN BE CATEGORIZED ACCORDING TO THEIR PRIMARY INTEREST IN THE NY BIGHT, AS FOLLOWS: (1) DATA GENERATORS INCLUDING THOSE ORGANIZATIONS INVOLVED IN SCIENTIFIC RESEARCH PROJECTS OR ONGOING DATA COLLECTION ACTIVITIES WHICH YIELD RAW OR REDUCED DATA ON THE NY BIGHT; (2) DATA USERS INCLUDING ORGANIZATIONS WHICH REQUIRE SCIENTIFIC BASELINE DATA ON THE NEW YORK BIGHT FOR PURPOSES OF PUBLIC RESOURCE MANAGEMENT PLANNING AND FOR PUBLIC INFORMATION, SUCH AS STATE AND REGIONAL PLANNING AGENCIES, FEDERAL AND STATE REGULATORY AGENCIES, PROFESSIONAL AND TRADE ASSOCIATIONS, AND PUBLIC INTEREST GROUPS; (3) USERS OF NY BIGHT RESOURCES, INCLUDING ORGANIZATIONS WHICH PHYSICALLY MAKE USE OF NY BIGHT WATERS, SHORELINES, AND OCEAN BOTTOMS FOR INDUSTRIAL, MUNICIPAL, COMMERCIAL, AND RECREATIONAL PURPOSES.

2562 WESTINGHOUSE ELECTRIC CORP

PROGRAM DEVELOPMENT PLAN FOR THE MESA-NEW YORK BIGHT REGIONAL PROJECT [1972]

OCEANIC DIV, WESTINGHOUSE ELECTRIC CORP. ANNAPOLIS. MD 358 PP NTIS- COM-73-10756

THE NEW YORK BIGHT IS A COASTAL ZONE REGION WHERE PAST DECISIONS HAVE HAD UNDESTRABLE IMPACTS ON THE MARINE ENVIRONMENT. BUT WHERE PRESSING NEEDS FORCED DECISIONS REGARDLESS OF AVAILABILITY OF COMPLETE DATA. BOTH SCIENTIFIC AND ADMINISTRATIVE MECHANISMS ARE REQUIRED TO DIRECT ACTION. THE MESA PROGRAM IS DEVELOPING A PLAN FOR SUCH DECISION-MAKING. AN INITIAL CONCEPTUAL MODEL BASED ON ECOLOGICAL DATA, CONTINUALLY UPDATED, IS USED. WITH THIS MODEL, FURTHER DATA REQUIREMENTS CAN BE IDENTIFIED. SPECIFIC TECHNICAL GOALS FOR THE 5-YR PERIOD INCLUDE PROVISION OF AN ENVIRONMENTAL DATA BASE, SYSTEMATIC ANALYSIS OF THE SOURCE AND FATE OF POLLUTANTS, DEVELOPMENT OF PROCEDURAL MODELS, AND ESTABLISHMENT OF REGIONALIZED MONITORING SYSTEMS. RESULTS MUST BE ORIENTED TO ISSUES PRESSING FOR ACTION, SO TECHNICAL INTEGRATION, USER-DIRECTED ORIENTATION, ORGANIZATIONAL PARTICIPATION, AND ADEQUATE FEEDBACK WILL ENHANCE PROJECT UTILITY. AS THE PROJECT UNFOLDS, BENEFITS DERIVED WILL INCLUDE DEEPENED UNDERSTANDING OF THE ECOSYSTEM, DEVELOPMENT OF MECHANISM FOR AIRING AND RESOLVING ISSUES, DEVELOPMENT OF A COMPREHENSIVE AND INTERDISCIPLINARY MECHANISM TO ACQUIRE DATA, IMPROVED ACCESS TO DATA, AND IMPROVED COORDINATION OF PUBLIC AND PRIVATE RESOURCES TO MEET COMMON GOALS.

2563 WOODWARD-CLYDE CONSULTANTS

ROCKAWAY BEACH EROSION CONTROL PROJECT, DREDGE MATERIAL RESEARCH PROGRAM, OFFSHORE BORROW AREA, RESULTS OF PHASE II-DREDGING STUDIES [1975]

US ARMY CORPS ENG. NEW YORK. NY NP

THIS IS A CONTINUATION OF A STUDY TO INDICATE THE ENVIRONMENTAL IMPACT OF REMOVING SAND FROM AN OFFSHORE BORROW AREA WITHIN LOWER NEW YORK HARBOR. SAMPLING WAS CARRIED OUT IN OCT 1975, AFTER DREDGING HAD CEASED. WITHIN THE DREDGED AREA DISSOLVED OXYGEN WAS LOW, TEMPERATURE, CONDUCTIVITY, AND PH WERE HIGH, AND CHLORINITY AND TRANSPARENCY WERE LOW AT THE SURFACE AND HIGH AT DEPTH RELATIVE TO MEASUREMENTS OUTSIDE THE DREDGED AREA. THE SHIPEK SEDIMENT SAMPLES FROM THE DREDGED BORROW AREA CONTAINED FEWER SPECIES, LOWER BIOMASS, AND FEWER INDIVIDUALS. NEPHTYIDAE ARE MORE COMMON WITHIN THE DREDGED AREA THAN OUTSIDE; AMPHIPODS ARE LESS COMMON. INDIVIDUALS FROM THE DREDGED AREA WERE SMALLER THAN ELSEWHERE. THIS REPORT CONTAINS THE ONLY DATA ON BENTHIC FAUNA IN ANY DREDGED AREA OF LOWER BAY. IT IS PARTICULARLY VALUABLE BECAUSE THIS DATA CAN BE COMPARED WITH PREDREDGING BASELINE DATA, REPORTED IN PHASE I OF THE STUDY.

2564 WOODWARD-CLYDE CONSULTANTS

ROCKAWAY BEACH EROSION CONTROL PROJECT, DREDGE MATERIAL RESEARCH PROGRAM, OFFSHORE BORROW AREA, RESULTS OF PHASE 1-PREDREDGING STUDIES [1975]

US ARMY CORPS ENG, NEW YORK, NY NP

THIS IS THE FIRST REPORT OF A PROJECT TO ASSESS THE ENVIRONMENTAL IMPACT OF REMOVING SAND FROM AN OFF-SHORE BORROW AREA BETWEEN AMBROSE CHANNEL AND ROCKAWAY POINT. THE OVERALL OBJECTIVES OF THESE STUDIES ARE TO EVALUATE: (1) THE EFFECTS OF DREDGING ON THE BENTHIC MACROINVERTEBRATES OF THE BORROW AREA, (2) THE EFFECTS OF DREDGING ON SOME WATER AND SEDIMENT CHARACTERISTICS WITHIN AND OUTSIDE THE PORROW AREA, (3) THE NATURE AND EXTENT OF REPOPULATION WITHIN THE BORROW AREA BY BENTHOS, AND (4) THE RATE OF SHOALING IN THE BORROW AREA AFTER DREDGING HAS BEEN COMPLETED. 4 TASKS WERE COMPLETED DURING THE PREDREDGING PERIOD BETWEEN MAR-JUN 1975: (1) SURVEY OF EXISTING LITERATURE ON THE BENTHIC FAUNA AND WATER CHEMISTRY IN THE BORROW AREA, (2) SAMPLING AND ANALYSIS OF BENTHIC FAUNA IN THE BORROW AND REFERENCE AREAS, (3) ASSESSMENT OF WATER QUALITY, AND (4) IDENTIFICATION OF CHARACTERISTICS OF THE BORROW AREA SEDIMENTS. THE WATER QUALITY PARAMETERS MEASURED WERE TEMPERATURE, DISSOLVED DXYGEN, CHLORINITY, PH, CONDUCTIVITY, AND TRANSPARENCY; ALL FELL WITHIN RANGE OF VALUES REPORTED BY PREVIOUS WORKERS. NO TEMPERATURE OR SALINITY STRATIFICATION WAS NOTED, WHICH IS UNUSUAL. SHIPEK SEDIMENT SAMPLES CONTAINED 94% BY WEIGHT FINE TO MEDIUM SAND. SEDIMENT WAS WELL SORTED. A TOTAL OF 51 SPECIES OF BENTHIC INVERTEBRATES WERE IDENTIFIED IN SAMPLES FROM SHIPEK, TRAWL AND CLAM DREDGES. SPISULA SOLIDISSIMA DOMINATED THE LIVE ASSEMBLAGE AT ALL STATIONS. MOST INDIVIDUALS WERE VERY SMALL.

MARITIME HISTORY OF NEW YORK [1973]

HASKELL HOUSE PUBLISHERS, NEW YORK, NY 341 PP

THIS IS AN ILLUSTRATED ACCOUNT OF GROATH OF THE PORT FROM 1524 WHEN DISCOVERED BY GIOVANNI DA VARRAZANO, TO 1941 AND PROJECTIONS FOR THE FUTURE.

2566 208 AREAWIDE MANAGEMENT PLANNING PROGRAM OFFICE

WATER QUALITY MANAGEMENT PLAN--SUMMARY [1979]

208 AREAWIDE WASTE TREATMENT MANAGEMENT PLANNING PROGRAM, NEW YORK, NY 19 PP

THE PLAN IS THE IMPROVEMENT OF WATER QUALITY IN NY HARBOR THROUGH THE YEAR 2000. SPECIFIC GOALS ARE: 1) ATTAIN FEDERAL QUALITY GOAL OF "FISHABLE, SWIMMABLE WATERS, AHERE ATTAINABLE"; 2) OPEN NEW BEACHES AND RESTORE QUALITY OF PRESENT BEACHES; 3) RESTORE SOME SHELLFISHING WITH IMPROVED CONDITIONS; 4) IMPROVE WATER QUALITY IN LOCAL TRIBUTARIES; 5) STRENGTHEN FISCAL SUPPORT FOR WATER QUALITY MANAGEMENT. THE SUMMARY GIVES 37 RECOMMENDATIONS FOR THIS PLAN.

