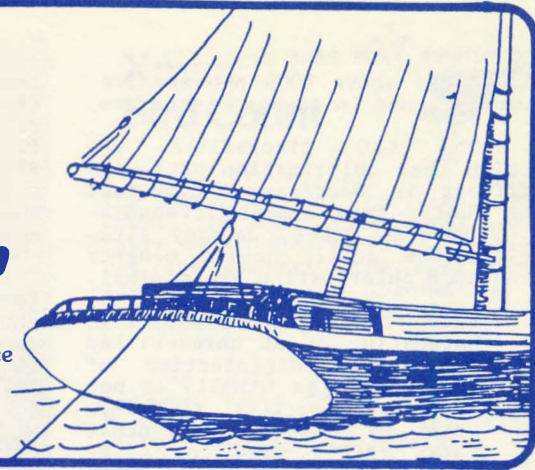


THE TAFFRAIL

By
Long Island Sound Taskforce
of
The Oceanic Society



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Environmental Leaders Workshop

The Fourth Annual Environmental Leaders Workshop has been rescheduled for Saturday, February 6, 1982. This change is a result of conflict with another environmental conference.

The purpose of this workshop is to bring together interested parties to discuss issues which affect Long Island Sound. Last year more than 125 people representing some 55 organizations gathered at the Stamford Marine Center for this day-long workshop. This year's Workshop will center on:

COASTAL ZONE MANAGEMENT - what is its future in Connecticut and New York under Reagan economics?

DISPOSAL SITE FOR WESTERN LIS - dredged material disposal without a Soundwide Dredge Management Plan.

TIDAL WETLANDS IN LIS - what remains, how to protect what remains, and how can marshes be used?

SHAPING ENVIRONMENTAL POLICIES IN THE 80's - what tactics and techniques can be used to shape policy?

The 1982 Environmental Leaders Workshop offers an opportunity for environmental leaders, government officials, industry representatives, and concerned individuals to gather under one roof to discuss issues common to all. Each issue will be addressed by a panel comprised of experts in the field. Participation from the audience is encouraged. The complete agenda and registration information will be forthcoming. Contact Whitney Tilt at LIST for further information. Save Saturday, February 6 for the 1982 Environmental Leader's Workshop.

Chlorine—Health or Hazard?

BY JUDITH CHANANIE

Every year, millions of gallons of chlorine are used to disinfect wastewater before it is discharged into the nation's waterways. Up until the last five years, chlorination of sewage was commonly accepted as an essential step in the purification of effluent. But in recent times, doubts have been raised about the necessity of this costly practice and the desirability of adding chlorine, a chemical reported to have deadly effects on fish and other aquatic life even at very small levels, into our rivers, lakes and oceans. Despite the growing body of scientific data supporting the criticisms of chlorination of wastewaters, the majority of treatment plants across the country continue the indiscriminate use of chlorine in the purification process.

Why is chlorination of sewage such a common practice? In 1972, Congress passed the Clean Water Act which commanded the Environmental Protection Agency to render all of the nation's waterways "fishable and swimmable" by July 1983. Though this mandate was later softened by an amendment, it nevertheless led to the massive development of sewage treatment plants across the country. Since 1972, the EPA has paid out \$14.3 billion towards the construction

of 3,557 sewage treatment plants, and continues to spend approximately \$12 billion annually in this endeavor. The EPA set a limit of bacterial discharge to minimize the spread of disease through water: a limit which virtually required the use of chlorine in most sewage treatment facilities. In July 1976, the EPA removed the limitation because of concern that chlorinated discharges were toxic to aquatic life; potential public health effects of chlorinated organics; and the cost of energy needed to produce chlorine. However, 50% of the states did not reduce their use of chlorine in response to the EPA action because many had geared their sewage treatment plants toward chlorination and had passed bacterial discharge limits similar to those set by the EPA in 1972.

In response to increasing criticisms about the widespread use of chlorine, the General Accounting Office (GAO), the investigative agency of Congress, performed a cost benefit analysis of domestic sewage chlorination and issued a report of its findings in August 1977. The GAO report determined that:

Chlorine discharges, even at low levels - roughly equivalent to a quart of laundry bleach in 2 million gallons of water - have been

shown to harm fish and other water life.

The GAO documented a number of such incidents. Major fish kills occurred in the lower James River in Virginia during 1973 and 1974, as a result of chlorine residuals from sewage treatment plants. Five to ten million bluefish, striped bass, weakfish, and menhaden died over a three week period in 1973. Following a reduction in the levels of residual chlorine in the sewage effluent, dead fish counts dropped from thousands to tens within two days. A similar experience occurred the following year. Another fish kill blamed on chlorine residuals was noted by the California Fish and Game Department in 1972 in the Sacramento River. Estimated losses of eggs, larvae, and fingerlings figured in the millions for salmon, and in the billions for striped bass and shad. In 1972 and 1974, University of California researchers performed studies of San Francisco Bay in response to periodic fish kills and deterioration of the fisheries. The studies suggested that chlorine in waste-waters may be the largest single source of toxicity entering San Francisco Bay. In laboratory tests, baby clams and oysters experienced 50% mortality at chlorine residuals less than 5 parts per billion (ppb). Chlorine

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discharges above 1000 ppb are frequently found in sewage discharges.

The GAO discredited the notion that chlorination of sewage effluent is necessary to protect the public from disease transmission through water. In many situations the public health benefits from such chlorination are minimal.

Except in areas of shellfish harvesting or of unrestricted irrigation, disinfection of treated wastes usually is not needed to protect swimmable water in cold weather months, water rarely used for swimming, or drinking water. When sewage disinfection is needed, present sewage chlorination practices generally result in excessive amounts of chlorine being discharged into waterways.

The GAO questioned the widespread use of chlorine on a number of grounds: 1) the few incidents of disease transmitted through water in the United States are generally not serious and are generally transmitted through inadequately treated drinking water; 2) sewage disinfection is not extensively practiced in other industrialized countries with public health experiences similar to those in this country; 3) widespread sewage disinfection is a recent phenomenon in the United States, with little accompanying improvement in public health; and 4) epidemiological studies attempting to relate bacterial levels in swimming waters with levels of illness have been inconclusive.

In addition, chlorine production is energy intensive and expensive. The cost of the 200,000 tons of chlorine used for sewage disinfection in 1976 was approximately \$40 million. Thus, a reduction in the use of chlorine would save a substantial amount of energy and money.

The GAO concluded that disinfection of sewage wastewater should not be required unless the public health benefit can be reasonably demonstrated. The agency faulted the EPA for not doing more to discourage unnecessary disinfection. According to the GAO, EPA policies were responsible for establishing year-round universal chlorination of sewage as a norm for water quality protection. Despite the EPA's removal of this standard, many states continue year-round chlorination. In Connecticut, for example, all 25 sewage treatment plants on Long Island Sound chlorinate year-round discharging effluent with a chlorine concentration of 0.5 to 1.0 parts per million.

Partly in response to the GAO report, the EPA reduced the permissible levels of chlorine residuals discharged from new plants to 10 ppb, or, in the case of salmonidae water (trout, salmon, whitefish), 2 ppb. Critics dispute whether these limits are meaningful since there are no realistic tests for these levels of residuals outside of a research laboratory. In addition, these limits do not solve the dilemma of chlorine combining with organic material to produce highly toxic chlorinated hydrocarbons. Despite the EPA's new limits, the use of chlorination has increased

To date, there has been no major national outcry against the chlorination of effluent. One can only guess why this is so. Perhaps, our Society's over-emphasis on cleanliness has created a very strong bias towards disinfection even when unnecessary. Perhaps also, the public is overly influenced by the medical profession's support for chlorination; a support that was cultivated by sanitary engineers, bacteriologists, and others in the water pollution control field. In a nation where many people accept the word of physicians as gospel, prevailing attitudes towards chlorination may not change until the medical profession publicly discredits the need for sewage disinfection. Many doubt that health officials will take such a stand for fear that someone will become ill and charge them with negligence. Since few people other than those in the fishing industry are directly affected by fish kills, chlorination will probably continue for quite some time.

The effects of chronic chlorination of sewage effluent on major estuaries like Long Island Sound and Chesapeake Bay is not known at this time. It is suspected that chlorine plays a role in the continued deterioration of the Chesapeake's productivity. Maryland's Department of Natural Resources (DNR) has led a fight to curb continued indiscriminate use of chlorine. The DNR has found the fight to be hard and frustrating. For Long Island Sound no fight has begun, but it would surely seem senseless to allow a known toxic to be dumped into the Sound where no health benefits can be proven.



Samples from one of Oceanic Society's research projects are off-loaded from the Zodiac tender. This Zodiac tender and its 28 hp Mariner outboard engine have been reliable workhorses for nearshore research as well as in the Society's education programs.

Draft EIS Issued

The Draft Environmental Impact Statement for the Designation of a Disposal Site for Dredged Material in Western Long Island Sound has been issued by the Army Corps of Engineers, New England Division. The Draft EIS compares the environmental and economic impacts of the proposed site, WLIS III, and a site off Bridgeport for open water disposal of dredged material. WLIS III lies within a triangle bordered by the old Stamford, South Norwalk, and Eaton's Neck disposal site. The proposed site lies approximately 4 nautical miles northwest of Eaton's Neck and 2.8 nautical miles southeast of Shippan Point.

The prime considerations addressed in the EIS are impacts on the lobster fishery and the economic hardship imposed on potential dredging projects because of transportation costs to current disposal sites.

The Draft EIS is available from the Army Corps of Engineers, New England Division, 424 Trapelo Road, Waltham, MA 02254 (617-894-2400 X 234). A 30-day review period is underway, ending 18 January 1982.

Whale Watch

On Saturday, October 24, 1981, 75 LIST members and friends boarded the Dolphin III for the first of two five-hour whale watches. At first, gusty winds and large swells threatened to rule the day making whale sighting next to impossible. But improved conditions were followed closely by the sighting of several humpback whales and the rest of the day was spent among dozens of humpbacks, hundreds of white-sided dolphins, and thousands of gannets and greater shearwaters.

On Sunday, our good luck continued as Captain Avellar and his Dolphin fleet traveled out on the last trip of the Fall whale watching season. Again, whales and seabirds were seen in such densities that even veteran whale watchers admitted that they were witnessing a special sight.

The Taskforce has organized its Spring '82 Whale Watch to Cape Cod on May 15-16. Further details in the March Taffrail.



Xmas Bird Count



The R/V Oceanic took part in the December 20 Christmas Bird Count. The 60th annual count undertaken by Audubon Societies throughout the country, the bird survey provides valuable information on the density and distribution of birds nationwide.

As part of the Greenwich-Stamford count the R/V Oceanic and a handful of birding enthusiasts braved frigid temperatures and winds to survey birdlife on the Sound from Darien's Long Neck Point to Manursing Island in Rye. Highlights of the trip included skeins of more than 4,200 brant overhead, and a purple sandpiper.

The Society and Taskforce were happy to be able to donate the Oceanic and staff time to the efforts of the Greenwich Audubon to provide coverage of the marine area.

Search and Rescue on the Sound

In Fiscal Year 1980, 201,122 people were aided by U.S. Coast Guard search and rescue operations (SAR). Conducting 93,726 sorties, the Coast Guard saved 6,868 lives and prevented the loss of over three billion dollars worth of property. Unfortunately, 1,821 people lost their lives in some form of boating accident.

The statistics show that the most common SAR case was a vessel disabled and adrift (41,028 cases) with propulsion trouble (27,216) on inland waters or within three miles of the coast (58,317). The vessel most commonly in trouble was a recreational vessel (52,702) between 16 and 39 feet in length (50,431). On Long Island Sound the figures remain high. For FY 80, the Coast Guard responded to 1,533 cases during which they assisted 3,838 people. During these operations, 77 lives were saved who otherwise would have perished. Unfortunately, 28 lives were lost.

SAR operations work out of 3 bases on Long Island Sound: Eatons Neck, New Haven, and New London. A fourth unit, Group Long Island Sound in New Haven, is responsible for coordinating operations involving more than one Coast Guard Station or sea-air searches. Eaton's Neck is ranked the fourth most productive SAR facility nationwide. This ranking is judged by the output of the SAR program in terms of lives saved, property loss prevented, persons otherwise assisted, etc. Eaton's Neck undertook a total of 1,286 sorties in FY 80. The contribution of the Coast Guard Auxiliary should not be overlooked. They were responsible for more than half of Eaton's Neck SAR cases. The Auxiliary with its 41,000 members had some impressive statis-

tics of its own nationwide during 1980. The Auxiliary awarded 279,584 Courtesy Marine Examinations; enrolled 449,345 students in its public safe boating courses; ran 45,688 support missions for the Coast Guard; and is further credited with saving 1,614 lives.

As the budgetary restraints on USCG continue to tighten, the role of the Auxiliary becomes increasingly important. It should also be understood that enforcement activities and the like are mandated for the USCG; Search and Rescue operations are discretionary. This means that the Coast Guard must give mandated activities priority. If time and personnel allow, the USCG can then undertake SAR.

For 1981, SAR is up in Long Island Sound. Though the figures have not yet published, statistics for the 1981 boating season (May 15-September 15) show a 7% increase in total SAR cases. The number of lives saved is not available but the number of lives lost was up dramatically -- 34 people died in some form of recreational boating accidents and an additional 2,650 persons were injured, requiring medical treatment.

A look at the boating statistics for 1980 reveals the following: the majority of accidents occurred on days that were described as calm water, light wind with good visibility; 42% of the reported accidents involved collision with another vessel, 11% involved capsizing, 10% involved collision with a fixed object; at the time of accident 46% were described as cruising while the second most common operation was water-skiing (9%); finally informa-

tion on the operator at the time of accident shows 46% were 26-50 years old with 30% having over 500 hours of experience. Of the 6,954 operators involved in boating accidents 45% were judged to be at fault to some degree. In the cases where information was available, 53% of the operators had no formal boating education.

The Karen E incident brought boating safety into the limelight. If one lesson is to be learned from the accident, it is the need for education. The operator of any boat must have a working knowledge of the boat, waters being navigated, and safe boating practices.

The following is excerpted from the 1981 second issue of "Safe Boating." The Statements were taken from accident reports submitted to a large insurance company. It says it all.

BOATING SAFETY IS TOUGH BECAUSE:

"I collided with a stationary boat coming the other way"

"The guy was all over the lake. I had to swerve a number of times before I ran over him."

"The other boat attempted to cut in front of me, so, with my bow, I removed his engine." "When I saw that I couldn't avoid the collision, I gave it more gas and crashed the other boat."

"The swimmer had no idea which way to go, so I ran over him."

"The indirect cause of this accident was a little guy in a small boat with a big mouth."

"Coming home, I docked in the wrong slip and collided with a boat I don't have."

Winter Offerings

February:

Environmental Leader's Workshop on Saturday, February 6. See Page One for details.

Coastal Navigation - starting Feb. 18 (5 sessions)

Celestial Navigation - starting Feb. 25 (12 sessions)



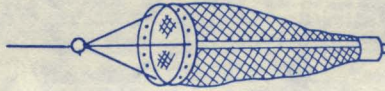
May:

State of the Sound Conference at SUNY at Stony Brook -- The Science of Dredging: What is the Hard Evidence?

White Water Canoeing on the Housatonic River

Whale Watch Weekend in Provincetown, Cape Cod - May 15 and 16. Space limited, reserve now.

Research Cruise aboard the R/V Oceanic.



March:

A Look at Blue Whales in the Gulf of the St. Lawrence

Natural History of Long Island Sound



May/June:

Basic Sailing Course (4 lectures, 2 sessions on the water)

Sea Camp '82 starts July 5th. Ask to be put on our mailing list for the brochure.

Research Cruises aboard the R/V Oceanic will be offered once a month May through September.

Dates and details about future course offerings and events will appear in upcoming Taffrails. For more information, write or call LIST (203-327-9786).

April:

Fishing the Sound: Where to Find Them and How to Catch Them

Sailing with Horizon Sails:

Weather for Sailors

Passagemaking and Cruising

"Go for It," Small boat sailing



BEST WISHES FOR THE NEW YEAR



Director's Note: Remember to Renew!

As the Taskforce enters 1982 we will be updating our membership roles. If you have received a renewal notice and do not reply, this will be your last Taffrail. Invest in Long Island Sound, renew to the Taskforce.



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