# Nearshore fish communities of the mid-Hudson River estuary, 1985-2002 

Damien M. Drisco

Sean M. Moser
David O. Conover
Marine Sciences Research Center
State University of New York
Stony Brook, New York 11794-5000

## MARINE SCIENCES RESEARCH CENTER <br> sTATE UNIVERSITY OF NEW YORK

# Nearshore fish communities of the mid-Hudson River estuary, 1985-2002 

Damien M. Drisco<br>Sean M. Moser<br>David O. Conover<br>Marine Sciences Research Center<br>State University of New York<br>Stony Brook, New York 11794-5000

Participating Agencies:


NYS Department of Environmental Conservation

August 2003
Approved for Publication:

Special Report \#129
Reference 03-01

D. Conover

Dean and Director

$$
\begin{aligned}
& \text { MASIC } \\
& \times \\
& G O \\
& 1 \\
& .565 \\
& \text { no. } 129
\end{aligned}
$$


#### Abstract

Two hundred-ten seine hauls were completed in the 2002 young-of-the-year (YOY) striped bass survey in the Hudson River. A total of 4662 YOY striped bass were captured, resulting in a geometric mean catch per unit effort (CPUE) of 13.21 fish/haul. The Hudson River index of YOY striped bass abundance, based on the geometric mean CPUE of the 6 -week survey, was 13.32 fish/haul. This catch rate was slightly below the average historical geometric mean CPUE of 14.26. YOY striped bass grew at an estimated $0.78 \mathrm{~mm} /$ day between mid-July and the beginning of October. Catch rates of American Shad, alewife and blueback herring, continued from last year, to be below average in comparison with the historical records. Atlantic silverside catch rates were similar to the historical average. However, catch rates of both YOY and older white perch were respectively among the fifth and fourth highest recorded since data collection began in 1980. Composition of the catch was similar to previous years with Atlantic silversides, striped bass and white perch being the most abundant species in the catch. Air and water temperatures through the summer and autumn were near average, while salinities in the time period between sample week 1 and 8 were more than 2 ppt above average. In week 9 the salinity returned back to the historic level.


## Introduction

The striped bass (Morone saxatilis) is an anadromous species spawning in large river systems. Its native range extends from the St. Lawrence River, Nova Scotia, Canada to the St. Johns River, Florida (Scott and Scott 1988). Spawning occurs in the region above the salt wedge in the spring when river temperatures rise above $12^{\circ} \mathrm{C}$. Semibuoyant eggs and larvae drift down into the low salinity regions of the estuary. During the first summer of life, Hudson River striped bass reside in nearshore regions throughout the estuary and in coastal marine embayments (Boreman et al. 1988; McKown and Gelardi 2000). In the autumn, striped bass migrate to higher salinities in the lower estuary, the only known concentration area for overwintering YOY fish (Dovel 1992). Striped bass were introduced to the Pacific coast in the late 1800's where several sustaining populations have become established. Striped bass have also been introduced as a sport fish into reservoirs throughout the southern United States (Smith 1985).

Historically, this species has supported important commercial and recreational fisheries along the east coast of North America (Merriman 1941; Boreman and Austin 1985). Catches in the coastwide commercial fishery reached a peak in 1973 at 5.98 metric tonnes (mt), declining rapidly thereafter, falling below $2 \mathrm{mt} /$ year by the late 1970's (NMFS 1999). The Atlantic States Marine Fisheries Commission implemented a management strategy aimed at protecting the last successful yearclass (1982) in the Chesapeake Bay from harvest. Moratoria on commercial harvest of striped bass were issued for Maryland and Delaware waters. Following a strong recruitment event into the

Chesapeake Bay population in 1989, a limited fishery was re-established. Continued improvement in recruitment to the Chesapeake Bay population has allowed increases in harvest levels in recent years (Richards and Rago 1999). The commercial fishery in the Hudson River was closed and recreational harvest restricted in 1976 due to concerns over high levels of poly-chlorinated biphenols (PCBs) in fish flesh. The commercial fishery within the Hudson River remains closed (NMFS 1999). Since the late 1970's improvements in water quality in the Delaware River have allowed the increased production of striped bass in that system (Weisberg et al. 1996). Recent estimates indicate that Chesapeake Bay populations contribute $75 \%$ of the coastwide stock, with the Hudson River and Delaware Bay contributing 15 and $10 \%$ respectively (K. McKown, NYS DEC, personal communication).

Indices of the abundance of early life stages of striped bass to monitor annual recruitment patterns have been developed for several east coast populations, including the main tributaries to the Chesapeake Bay and the Hudson River (Goodyear 1985; McKown 1991; Heimbuch et al. 1992). The use of these indices as predictors of future population size is based on the assumption that recruitment level is determined prior to the life-stage surveyed (Bradford 1992). Goodyear (1985) validated the Maryland Department of Natural Resources YOY index based on its relationship to fishery harvests when those year-classes entered the fishery. Based on this result, a number of studies have been conducted to determine the factors regulating survival during the larval phase in the Chesapeake Bay population (Uphoff 1989; Secor and Houde 1995; McGovern and Olney 1996).

The index of YOY abundance in the Hudson River population was correlated with the abundance of age-1 fish, indicating its utility in predicting recruitment (McKown 1991). However, a more recent analysis, incorporating a longer time series, found that the abundance of age- 1 fish was more closely related to the severity of winter than to the abundance of YOY fish in the previous summer (Hurst and Conover 1998). Mortality of overwintering YOY striped bass in the Hudson River and Miramichi populations has been shown to be size-selective against smaller fish (Bradford and Chaput 1997; Hurst and Conover 1998). These analyses suggest that the first winter of life may play an important role in the recruitment dynamics of these northern populations.

Here we present the results of the 2001 young-of-the-year survey for the Hudson River population of striped bass and compare the results to previous years. We also include catch data on all species captured during the survey, and detailed catch data, including size-distributions, for a number of resource species.

## Methods

The survey is conducted between mid-July and early November in the Haverstraw-Tappan Zee region of the Hudson River (river miles 23-42; Figure 1). Within this stretch of river, 25 sites are sampled bi-weekly, 9 times. The 25 sites sampled during each bi-weekly survey are chosen from 36 potential fixed stations based on prevailing conditions (wind direction, speed and tide stage). Prior to 1985, stations were sampled 6 times between late August and early November. A subset of data from 1985 to 2002, covering the same period, is used to compare with data from 1980 to 1984.

Fish collections are made with a 200 foot x 10 foot ( 12 foot depth in the bag) beach seine with $1 / 4$ inch square mesh in the wings and $3 / 16$ inch square mesh in the bag ( $61 \mathrm{~m} \times 3 \mathrm{~m}$ with 6 mm wing mesh and 5 mm bag mesh) set by boat. The performance of the sampling gear and representation of the catch was rated for each set of the gear. Following each collection, measurements of air temperature, water temperature, dissolved oxygen and salinity were made in the immediate vicinity of the gear set using a YSI Model 85 probe. Environmental parameters such as wind direction and speed, tidal stage, wave height, cloud cover, precipitation were recorded. The types of any aquatic vegetation in the vicinity of the sampling site were recorded and the spatial coverage of vegetation at the site was estimated. While some sites were generally sampled at a particular tidal stage or time of day due to accessibility, others were sampled at all tidal stages and times of day.

All fish captured were sorted by species (where feasible young-of-the-year fish
were counted separately from older fish) counted and returned to the water. In the case of extremely high catch rates, a volumetric subsampling procedure was used to estimate catches of individual species. Young-of-the-year and older blue crab were the only invertebrates counted. The occurrence of shrimp and gelatinous zooplankton captured in each set of the net was noted, with a visual estimate of abundance. Up to 50 YOY striped bass and all older striped bass were measured from each haul. In addition, up to 30 individuals each of bluefish, crevalle jack, weakfish, summer flounder, winter flounder, Atlantic tomcod, American eel, American shad, alewife, blueback herring and Atlantic menhaden were measured (mm TL) from each collection. Atlantic silversides and YOY white perch were measured periodically throughout sampling. All measurements were made in the field and fish were returned to the water at the site of capture.

Scales were removed from above the lateral line between the first and second dorsal fins from all striped bass larger than 110 mm TL. These scales were pressed into acetate at $180^{\circ} \mathrm{C}$ and 2000 lbs ./foot2. The age of all fish larger than 110 mm was determined by visual analysis of the acetate impression of multiple scales under magnification.

All captured striped bass larger than 170 mm TL were tagged as part of the United States Fish and Wildlife Service coastwide tagging program. Tags were individually numbered floy type tags with $6.5 \times 19.25 \mathrm{~mm}$ oval anchor and 91 mm streamer. Several scales were removed from the fish half way between the pectoral and anal fin. An incision was made through the body wall and the tag anchor was inserted into the body cavity.

## Results and Discussion

During the 2002 sampling season, 9 sampling trips were conducted between July 15 and November 8. During this sampling, a total of 48232 fish and 1034 decapods were captured in 210 gear sets. This total included 4717 young-of-the-year striped bass and 179 older striped bass.

## Environmental conditions

Weekly average water temperatures generally decreased through the sampling season, from a high of $27.5^{\circ} \mathrm{C}$ on July $29-30$ to a low of $11.0^{\circ} \mathrm{C}$ on November 8 (Table 1). Air temperatures also generally decreased during the sampling season, ranging from 34 to $7.5^{\circ} \mathrm{C}$. River salinity fluctuated between 3 and 14 ppt through the sampling season. The highest average salinity on 10.9 ppt was recorded on September $9-10$ while the lowest average salinity on 5.0 ppt was recorded on November 5-8. Weekly average of dissolved oxygen levels were relatively high throughout the sampling season ranging from $6.05-8.36 \mathrm{mg} / \mathrm{L}$ and did not show any distinct seasonal pattern.

The environmental conditions during the 2002 sampling season are compared to historical patterns in Table 2 and Figure 2. In 2002 the river temperature was only slightly higher than the recorded historical mean temperature for the middle 6 sampling weeks (week 3-8). However, compared to the historical data the salinity in 2002 was unusually high (Figure 2 ). In the weeks 1 to 8 , salinities were consistently more than 8 ppt , which was approximately 2 ppt higher than historical records. At the end of the sampling season, week 9 (November 5-8), the salinity in 2002 fell back to historical mean
levels.

## Species composition

Fifty-two species of fish were captured in the Hudson River during the 2002 sampling season. Fish catches varied from a peak of 9240 in week 3 (August 12-13) to a minimum of 2272 in week 8 (October 21). The most abundant species captured during the 2002 sampling season were silverside spp. (21943 fish), followed by white perch (6607), striped bass (4896), bay anchovies (2805), Atlantic menhaden (2011), killifish (1158) and bluefish (609; Table 3). In 2002 there were no species that occurred in unusually large abundances nor were there any species that were notably absent from the beach seine survey. Catch composition during the 2002 sampling season is compared to historical catch composition in Tables 4 and 5. Detailed catch information is presented below for selected species.

## Striped bass Morone saxatilis

During the 2002 sampling season 4662 YOY striped bass were captured in 210 hauls, a mean CPUE of 22.2 and a geometric mean CPUE of 13.21 (Table 6). Between 1990 and 1985 catch data was collected in a period corresponding the last 6 weeks of the 2002 sampling season. In order to compare 2002 catch data with results obtained before 1985 the statistics on the final 6 weeks of catch data for 2002 is presented in table 6 together with historical records. In the final six weeks 2978 YOY striped bass were captured in 137 hauls, resulting in a mean CPUE of 21.74 and a geometric mean CPUE
of 13.32 (Figure 3). The 6-week geometric mean CPUE, used as the index of recruitment to the striped bass population was slightly below the historical average of 14.26. However in contrast to the 6 -week geometric mean CPUE, the 9-week geometric mean CPUE (13.21) was lower than the historical annual average of 20.64 (average since 1985).

Catch-per-unit-effort of YOY striped bass peaked during the fifth week of the survey at 46.44 fish/haul, where after the CPUE exponentially declined throughout the remaining sampling season. The lowest catch rate of 5.39 fish/haul was reached during the final week of the survey. This year's catch rate peaked unusually late in the sampling season (week 5). Also, in 2001 the catch rate peaked late in the season (week 4), but in most other years between 1985 and 2000, peak catch rates were observed in the first or second week of the survey. Catch patterns similar to that of 2001 and 2002, with peak catch rates in week 4 or 5 of the survey, were however observed in 1987, 1997, and 1999. The reason for the late peak in catch rate observed during some years is unknown. It has been hypothesized that YOY striped bass recruiting to the Western Long Island Sound early in the summer migrate back to the Hudson River nursery area later in the year. However, when comparing catch records in the Western Long Island Sound and the Hudson River Survey this hypothesis is not supported by observations. YOY striped bass has not been consistently observed in Western Long Island survey. In fact, the Western Long Island Sound catch records show that only in recent years (2000 and 2001) has YOY striped bass been observed in sufficient number to potentially affect the abundance of striped bass in the Hudson River survey. The years of high abundance recorded in the

Western Long Island Sound does not correspond to the years in the Hudson River with peak catch rates occurring late in the year.

Catch-per-unit-effort of YOY striped bass varied considerably across sites in 2002 (Table 7). The sites with the highest CPUE ( $>38$ fish/haul) were 8E, 7EE, and 7W, while the sites $21 \mathrm{E}, 16 \mathrm{E}$, and 12 E had the lowest catches ( $<10 \mathrm{fish} / \mathrm{haul}$ ). The distribution of catch among sites observed in 2002, is generally consistent with previous years, as the sites $8 \mathrm{E}, 7 \mathrm{EE}$ and 7 EW are commonly among those sites with the highest catch rates of YOY striped bass. Annual catch-per-unit-effort data for the full 9 week survey and the 6 -week subset are shown in Tables 8 and 9 .

Total length measurements were made on 4250 YOY striped bass during the 9 week survey, with fish ranging from 20 to 170 mm . The bi-weekly size-frequency distributions of YOY striped bass are shown in Table 10. Mean bi-weekly lengths of YOY striped bass captured during the 2002 sampling season are compared to previous years in table 11. Mean lengths of measured fish increased through the first six sampling weeks, and were relatively stable thereafter (Figure 4). The apparent cessation of growth in YOY striped bass based on observed fish lengths has been observed in most years of the study and may in part be due to a size-dependent emigration from the nursery area to the lower estuarine wintering grounds. Growth rate of YOY striped bass in the 2002 cohort, estimated from the regression of mean total length against date, was $0.78 \mathrm{~mm} /$ day through the first 6 weeks of the survey. This is the highest annual growth rate ever observed. Annual cohort growth rates ranged from $0.45 \mathrm{~mm} /$ day in 1990 to $0.72 \mathrm{~mm} /$ day in 1995. In an analysis of historical data, Hurst (2000) found that body sizes of YOY
striped bass in August and October were negatively related to density in the nursery area suggesting density dependent growth.

The age composition of striped bass captured between 1985 and 2002 is shown in Table 12. During the 9 week survey, 190 striped bass aged 1 to 3 were captured ranging in length from 80-379 mm TL (Table 13). Older striped bass were most abundant at site 12E, where CPUE was 2.43 followed by site 7EE with a CPUE of 2.38 (Table 14).

115 older striped bass ranging in length from 170 to 371 mm were tagged with internal anchor tags as part of the United States Fish and Wildlife Service coastwide tagging program. The majority of these $(\mathrm{n}=100)$ were age 1 .

## White perch Morone americana

6553 white perch were captured during sampling in 2002 . White perch were identified as either young-of-the-year or older based on observed size-distribution among the catch. Of the white perch captured, 2397 were YOY and 4156 were age-1 and older. Young-of-the-year white perch were most abundant at sites 8 E and 10W (Table 15). Catch-per-unit-effort of YOY white perch was highest in week 3 ( 28.48 fish/haul), and lowest in week 7 , when only 37 fish were captured in 22 hauls. Older white perch were most abundant at same sites as the YOY which were site 8 E , and 10 W (Table 16).

During the sampling season catch-per-unit-effort of older white perch declined from 52.32 fish/haul in week 2, to less than 5 fish/haul in the final three weeks of sampling. Mean catch rates of YOY and older white perch combined were 15.32 fish per haul.

Subsamples of YOY white perch were measured during weeks 1-6. The observed
mean lengths increased from 46.39 mm TL in week 2 to 76.93 mm TL in week 6 (Table 17). YOY white perch have not been systematically measured in the survey, precluding comparison of growth rates from previous years. Mean lengths of YOY white perch were consistently below those of their congener YOY striped bass. Older white perch were not measured during the survey.

Combined mean catch rates of YOY and older white perch in 2001 were 20.21 fish per haul. This rate was almost the same in 2000. In this year the combined catch rates were 21.44 fish per haul. These catch rates in 2002 were 15.32 which was well below the catch rates observed in the last two years. Through the entire study period, the highest catch rates of YOY white perch were 75.75 fish per haul in 1988 and 36.97 fish per haul in 1986 (Figure 5). Catch rates of less than 2 fish per haul occurred in 1995 and 1997. Catch rates of older perch were the highest observed since 1989. Two consecutive years of high catches of older perch may indicate a recovery of the white perch population in the Hudson that declined markedly during the 1980's (Wells et al. 1992).

## Atlantic tomcod Microgadus tomeod

During the 2002 sampling, 4 Atlantic tomcod were captured ranging in length from 95-154 mm. The bi-weekly size-frequency distribution of captured Atlantic tomcod is presented in Table 19. The CPUE of Atlantic tomcod in 2002 was 0.02 fish/haul. This was very low compared to the previous year where the CPUE was 0.65 fish/haul. Similar low catch rates have been observed in previous years. In 1993 and 1999 catches of 0.03 fish/haul were observed. High catches of 2.64 and 2.30 fish/haul were observed in 1988
and 1998 respectively (Figure 5).

## American eel Anguilla rostrata

We captured 35 American eel during sampling in 2002. The highest catch rates (0.2-1.2 fish/haul) were observed at sites $11 \mathrm{~W}, 10 \mathrm{~W}, 8 \mathrm{~W}, 16 \mathrm{E}, 13 \mathrm{E}, 4 \mathrm{E}$ and 12 W , (Table 20). The catch rate of $0.17 \mathrm{fish} /$ haul was the lowest since 1985 but similar to that observed in 2000 (Figure 6). The highest catches ( 0.78 fish/haul) occurred in 1988. American eel ranged in length from 100 to 640 mm TL, with an overall mean length of 332.09 mm . The bi-weekly size-frequency distributions of American eel are shown in Table 21.

## Bluefish Pomatomus saltatrix

608 YOY bluefish were captured during the 2002 sampling. They were captured through the first 8 weeks of the survey (Table 22). The bluefish spring cohort was present in the catches from week 1 to week 5 while the bluefish summer cohort was first observed in week 3 and was present in the catches until week 8 (Table 23). Bluefish CPUE was highest at sites $16 \mathrm{E}, 8 \mathrm{E}$ and 10 W . The mean CPUE was $2.83 \mathrm{fish} / \mathrm{haul}$ in 2002 (Table 22). Catch rates of YOY bluefish in 2002 were high, but lower than observed in 2001 (4.4 fish/haul). The highest bluefish abundances ever observed was in 1999 (figure 6). Bluefish captured in 2002 ranged in length from $60-240 \mathrm{~mm}$ TL (Table 23). Based on the size-frequency distributions (presented in Table 23), bluefish appeared to be relatively evenly split between the spring and summer cohorts spawned in the South

Atlantic Bight in March-April and in the Mid-Atlantic Bight in June-July (Munch and Conover 2000).

## Winter flounder Pleuronectes americanus

Mean catch rate of winter flounder in 2002 was 0.25 fish/haul. These tended to be captured in the southern half of the sampling region with peak catch rates occurring in the final weeks of the sampling season (Table 24). Historical extreme low and high catch rates in this survey were 0.17 and 2.51 fish/haul observed in 1987 and 1985 respectively (Figure 6). Winter flounder ranged in length from 45 to 179 mm , with a mean length of 93.13 mm . The bi-weekly size-frequencies are shown in table 25.

## American shad Alosa sapidissima

In 2002, 695 American shad were captured. American shad were most abundant at sites 21E, 18E, and 8E (Table 26). Weekly CPUE of American shad was highest in week 8 of sampling. Historically, peak CPUE of American shad occurs most commonly in weeks 1-2 or 8-9. Although higher than observed in 2000, the CPUE of American shad in 2001 of 3.22 fish/haul was the fifth lowest since 1985 (catch rates in 1998 were $0.43 \mathrm{fish} / \mathrm{haul}$ ). The highest catch rates of 22.18 fish/haul were observed in 1986 (Figure 7). American shad ranged from 55 to 109 mm with a mean length of 79.6 mm (Table 27).

## Alewife Alosa pseudoharengus and Blueback herring Alosa aestivalis

During sampling in 2002, we captured 155 alewife and 1658 blueback herring (Table 28 and 30). Alewife ranged in length from 51 to 122 mm TL with a mean of 80.78 mm TL (Table 29). Blueback herring measured 45 to 94 mm TL with a mean length of 73.20 mm TL (Table 31). The mean CPUE of alewife and blueback herring were 0.73 and 7.96 fish/haul respectively (Table 28 and 30). Catches of blueback herring were higher than observed in 2001 but still below the 16 year average CPUEs, with catch of blueback herring being the sixth lowest since 1985.

## Atlantic menhaden Brevoortia tyrannus

We captured 2164 Atlantic menhaden during sampling in 2002 (Table 32). Measured Atlantic menhaden ranged from 36 to 165 mm with a mean length of 83.89 mm TL (Table 33). The 2002 catch rate of 10.30 fish/haul was much higher than in 2001 where the catch rate was as low as 0.47 fish/haul (Figure 8 and Table 32).

## Atlantic silversides Menidia menidia

Atlantic silversides were the most abundant species captured during sampling in 2002 (21943 fish captured). Atlantic silversides were most abundant at sites 11E, 15WS and 7EW where catch rates exceeded 200 fish/haul (Table 34). Catch rates exceeded 100 fish/haul at 5 additional sites. Catch rates peaked during the third week of sampling at 218.72 fish/haul, decreasing to 23.42 fish/haul in the eighth week of sampling. 1366 silversides were measured in 2002, ranging in length from 25 to 125 mm TL with a mean
of 77.25 mm (Table 35). Annual catch rates of Atlantic silversides in the survey are extremely variable, ranging from 7.9 fish/haul in 1989 to 191.9 fish/haul in 1994. The overall catch rate of silversides was 102.22 fish/haul, higher than observed in 2000 and 2001 (Figure 8).

## Blue crab Callinectes sapidus

We captured 427 blue crab during sampling in 2002. The majority of these (53\%) were young-of-the-year. YOY blue crab were most abundant at sites 13E, 17E and 16WN while older blue crab were most abundant at 14W, 13E and 17E (Tables 36 and 37). Catch rates peaked in week 5 for both YOY and older blue crab. Prior to 1998, no distinction in was made between YOY and older crab, so the time trend in catch rates are presented for the total numbers of blue crab. Catch rates in 2002 were 3.79 crab/haul, an intermediate level in the 17 year time series and similar to the catch rate of 2.32 crab/haul observed 2001 (Figure 8).

## Conclusions

Catch composition during the 2002 Hudson River beach seine sampling season was generally consistent with previous years. The most abundant species were Atlantic silversides, striped bass and white perch. Salinities in the sampling region were above the historical average except in November.

The abundance of striped bass was above those in recent years with peak catches occurring in the fifth week of sampling. The 6-week YOY striped bass index of
abundance was 12.32 ; just below the historical average of 14.18 . However, growth rates of YOY striped bass, based on length frequency progression, was $0.78 \mathrm{~mm} /$ day, the highest ever observed with fish reaching 112 mm by early-October.

Catch rates of American Shad, alewife and blueback herring, were below average in comparison with previous years. Atlantic silverside catch rates were similar to the historical average. Catch rates of both YOY and older white perch were the among fifth and fourth highest observed since recording began in 1980.

## Acknowledgments

This project was carried out under a cooperative agreement between the Marine Sciences Research Center of the State University of New York at Stony Brook (MSRC) and the New York State Department of Environmental Conservation (NYS DEC) governed under MOU \#000098. Funding for this project was provided by the Environmental Protection Fund of the NYS DEC. Kim McKown of the NYS DEC was critical to the success of this project. Many people from MSRC provided assistance with field sampling including Montserrat Suarez, Matt Walsh, Steve Arnott, and Amy Fenwick. Administrative support was provided by Lynn Bianchet, Bill Wise and Karen Pfister.

This is Special Report \#02-01 of the Marine Sciences Research Center, State University of New York at Stony Brook. This report also serves as Anadromous Fish Conservation Act P.L. 89-304 Project Completion Report for New York State, Project Number AFC-25.

## Literature Cited

Boreman, J. and H.M. Austin. 1985. Production and harvest of anadromous striped bass
stocks along the Atlantic coast. Transactions of the American Fisheries

Society 114:3-7. Boreman, J., R.J. Klauda, D.S. Vaughan and R.L. Kendall. 1988. Distributions of early | life stages of striped bass in the Hudson River Estuary, 1974-1979. In |
| ---: |
| Science, law, and Hudson River power plants. Edited by Barnthouse, L.W. |
| American Fisheries Scociety, Monograph 4. Bethesda, Maryland. |

Buckel, J.A., D.O. Conover, N.D. Steinberg

Table 1. Biweekly environmental conditions, Hudson River 2002


| Dates | WEEK | SALINITY |  |  |  | DISSOLVED OXYGEN |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | AVG | STD | MIN | MAX | AVG | STD | MIN | MAX |
| July 15-16 | 1 | 8.30 | 1.49 | 6 | 12 | 6.35 | 1.50 | 5 | 12 |
| July 29-30 | 2 | 8.04 | 1.65 | 6 | 10 | 6.24 | 1.27 | 5 | 11 |
| Aug 12-13 | 3 | 9.68 | 1.57 | 8 | 13 | 6.80 | 2.12 | 4 | 13 |
| Aug 26-27 | 4 | 9.46 | 1.86 | 7 | 14 | 6.92 | 1.79 | 5 | 11 |
| Sept 9-10 | 5 | 10.92 | 1.38 | 7 | 13 | 6.08 | 1.32 | 5 | 11 |
| Sept 23-24 | 6 | 9.21 | 2.18 | 3 | 13 | 6.05 | 0.52 | 5 | 7 |
| Oct 8-10 | 7 | 8.73 | 1.32 | 7 | 11 | 6.27 | 0.46 | 6 | 7 |
| Oct 21-22 | 8 | 7.25 | 1.11 | 6 | 10 | 7.44 | 0.53 | 7 | 8 |
| Nov 5-8 | 9 | 5.00 | 1.91 | 3 | 10 | 8.36 | 0.66 | 7 | 9 |

Table 2. Comparison of Physical data, 1985-2002

|  | Mean Air temperature |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 1 | 28.7 | 27.9 | 30.4 | 28.7 | 23.6 | 27.4 | 27.4 | 22.2 | 28.4 | 24.6 | 27.9 | 24.1 | 24.0 | 30.1 | 28.2 | 28.2 |  | 31.3 |
| 2 | 29.3 | 26.8 | 31.4 | 28.0 | 33.0 | 25.3 | 22.8 | 23.1 | 27.6 | 27.7 | 30.3 | 27.0 | 28.2 | 27.6 | 26.1 | 31.7 | 26.9 | 33.9 |
| 3 |  | 24.2 | 28.2 | 31.1 | 24.5 | 22.5 | 22.6 | 23.2 | 24.0 | 23.6 | 26.8 | 26.2 | 29.3 | 26.4 | 27.0 | 26.5 | 28.4 | 31.2 |
| 4 | 25.0 | 24.1 | 22.1 | 20.5 | 24.7 | 23.4 | 20.6 | 19.0 | 25.4 | 20.0 | 24.4 | 27.1 | 24.7 | 27.1 | 25.1 | 25.1 | 25.2 | 27.9 |
| 5 | 21.4 | 23.0 | 24.8 | 21.7 | 19.7 | 27.4 | 16.4 | 21.0 | 20.8 | 20.2 | 20.2 | 16.2 | 20.8 | 23.4 | 22.2 | 20.3 | 24.5 | 28.2 |
| 6 | 17.6 | 23.0 | 22.1 | 24.1 | 22.0 | 20.8 | 16.9 | 10.8 | 13.2 | 16.5 | 16.8 | 17.9 | 18.5 | 25.8 | 20.2 | 20.6 | 18.0 | 21.7 |
| 7 | 18.9 | 20.0 | 15.7 | 15.2 | 18.3 | 19.9 | 9.2 | 10.2 | 13.9 | 12.6 | 15.6 | 18.9 | 23.2 | 14.7 | 15.5 | 13.7 | 12.2 | 15.6 |
| 8 | 13.3 | 16.7 | 13.4 | 13.5 | 14.1 | 15.8 | 4.6 | 9.9 | 13.0 | 12.9 | 11.8 | 13.1 | 14.3 | 14.4 | 12.9 | 13.0 | 20.0 | 8.2 |
| 9 | 13.1 | 4.4 | 11.0 | 11.5 | 13.8 | 12.5 | 8.2 | 5.6 | 7.1 | 16.2 | 3.6 | 9.1 | 14.4 | 9.2 | 12.2 | 6.1 | 9.9 | 7.5 |
|  | Mean Water Temperature |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Week | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 1 | 26.5 | 25.2 | 28.0 | 26.5 | 24.3 | 27.2 | 28.0 | 25.5 | 26.9 | 27.9 | 26.9 | 24.0 | 24.5 | 25.1 | 28.5 | 24.6 | 26.0 | 26.0 |
| 2 | 27.0 | 26.1 | 28.4 | 26.9 | 27.2 | 26.3 | 26.4 | 24.5 | 26.7 | 29.7 | 29.4 | 26.4 | 25.8 | 26.5 | 27.6 | 27.0 | 27.2 | 27.5 |
| 3 | 27.9 | 25.4 | 28.4 | 27.4 | 25.5 | 25.8 | 25.0 | 24.0 | 26.1 | 28.0 | 28.0 | 25.8 | 25.8 | 26.5 | 27.5 |  |  | 27.4 |
| 4 | 25.6 | 23.9 | 23.6 | 22.2 | 25.2 | 25.4 | 24.7 | 23.4 | 26.0 | 25.3 | 25.4 | 26.3 | 24.0 | 26.8 | 24.8 | 23.3 | 27.0 | 26.8 |
| 5 | 22.3 | 22.6 | 24.0 | 21.5 | 23.6 | 24.5 | 21.1 | 23.0 | 25.3 | 21.1 | 23.0 | 20.8 | 23.0 | 20.4 | 24.7 | 19.6 | 25.1 | 25.0 |
| 6 | 19.8 | 21.5 | 21.1 | 22.0 | 22.1 | 19.6 | 19.5 | 16.5 | 18.5 | 21.7 | 20.3 | 20.6 | 20.9 | 25.1 | 20.4 | 19.5 | 20.5 | 23.1 |
| 7 | 19.0 | 19.1 | 14.4 | 17.7 | 17.4 | 18.8 | 15.1 | 13.9 | 17.2 | 18.1 | 19.8 | 15.9 | 20.1 | 19.0 | 15.5 | 16.1 | 14.4 | 20.1 |
| 8 | 15.6 | 15.9 | 13.2 | 14.0 | 16.4 | 18.2 | 12.3 | 12.6 | 14.9 | 16.5 | 17.2 | 11.5 | 13.2 | 16.0 | 13.8 | 12.1 | 17.6 | 15.6 |
| 9 | 13.7 | 11.5 | 9.6 | 11.0 | 13.4 | 13.7 | 10.0 | 10.0 | 11.3 | 16.2 | 12.7 | 8.1 | 13.8 | 11.6 | 11.8 | 8.8 | 12.3 | 11.0 |
|  |  |  |  |  |  |  |  |  | Mean S | Salinity |  |  |  |  |  |  |  |  |
| Week | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 1 | 5.8 | 4.5 | 6.0 | 7.4 | 4.4 | 11.9 | 7.5 | 3.0 | 6.2 | 6.0 | 5.6 | 0.6 | 6.1 | 4.0 | 5.1 | 1.6 | 4.2 | 8.30 |
| 2 | 4.5 | 4.8 | 6.8 | 6.5 | 7.4 | 5.8 | 8.4 | 3.9 | 9.3 | 3.9 | 5.5 | 2.2 | 6.7 | 3.3 | 8.6 | 1.2 | 7.1 | 8.04 |
| 3 | 3.7 | 2.6 | 7.2 | 6.1 | 5.9 | 4.9 | 7.7 | 0.8 | 6.1 | 7.0 | 6.2 | 4.2 | 5.3 | 6.8 | 8.1 | 2.0 | 7.5 | 9.68 |
| 4 | 3.9 | 2.5 | 6.9 | 6.3 | 8.6 | 3.4 | 7.8 | 4.7 | 6.9 | 3.9 | 8.8 | 3.7 | 7.2 | 4.8 | 9.6 | 1.7 | 8.5 | 9.46 |
| 5 | 7.1 |  | 4.5 | 5.8 | 7.1 | 6.7 | 8.1 | 5.8 | 5.1 | 6.2 | 9.1 | 4.7 | 6.9 | 7.9 | 8.6 | 3.5 | 9.0 | 10.92 |
| 6 | 6.0 | 4.3 | 3.8 | 5.0 | 7.4 | 5.1 | 6.4 | 6.3 | 4.4 | 5.5 | 9.6 | 2.6 | 6.2 | 6.3 | 1.5 | 2.9 | 8.3 | 9.21 |
| 7 | 2.6 | 5.0 | 3.5 | 5.0 | 3.2 | 6.0 | 6.8 | 5.1 | 4.5 | 4.0 | 8.0 | 5.3 | 6.6 | 5.6 | 3.3 | 6.7 | 9.6 | 8.73 |
| 8 | 3.8 | 4.6 | 5.8 | 5.4 | 5.4 | 2.4 | 7.0 | 3.1 | 4.7 | 5.4 | 2.3 | 1.5 | 8.2 | 4.8 | 3.9 | 7.1 | 8.0 | 7.25 |
| 9 | 5.7 | 5.4 | 2.2 | 6.4 | 3.7 | 3.7 | 6.4 | 4.4 |  | 6.8 | 0.6 | 0.3 | 6.1 | 5.6 | 1.9 | 6.5 | 9.1 | 5.00 |

Table 3. Species Composition of Catch in the Hudson River, 2002

| Species | Age | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \\ \hline \end{gathered}$ | week 2 <br> July 29- <br> 30 | week 3 <br> Aug. <br> 12-13 | week 4 <br> Aug. <br> 26-27 | week 5 Sept. 9-10 | week 6 Sept. 23-24 | week 7 <br> Oct. <br> 8-10 | week 8 Oct. 21-22 | week 9 <br> Nov. 5-8 | Weeks 4-9 Total | Weeks 1-9 <br> Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Diadromous |  |  |  |  |  |  |  |  |  |  |  |  |
| Alewife | 999 | 3 | 9 | 133 | 10 |  |  |  |  |  | 10 | 155 |
| American eel | 999 | 3 | 4 | 2 | 3 | 4 | 4 | 5 | 4 | 6 | 26 | 35 |
| American shad | 999 | 37 | 5 | 48 | 16 | 9 |  | 7 | 512 | 61 | 605 | 695 |
| Atlantic tomeod | 999 |  |  | 2 | 1 | 1 |  |  |  |  | 2 | 4 |
| Blueback herring | 999 |  |  |  | 1 |  |  |  | 235 | 1422 | 1658 | 1658 |
| Striped bass | 0 | 454 | 641 | 639 | 577 | 1161 | 416 | 444 | 261 | 124 | 2983 | 4717 |
| Striped bass | 1 | 8 | 8 | 19 | 18 | 39 | 22 | 39 | 15 | 11 | 144 | 179 |
| Estuarine |  |  |  |  |  |  |  |  |  |  | 0 | 0 |
| Hogchoker | 999 | 150 | 81 | 57 | 49 | 21 | 2 |  | 4 |  | 76 | 364 |
| Killifish spp. | 999 | 9 | 21 | 185 | 323 | 200 | 41 | 43 | 284 | 52 | 943 | 1158 |
| Striped anchovy | 999 |  |  | 10 | 1 | 2 |  |  |  |  | 3 | 13 |
| White perch | 0 | 103 | 494 | 712 | 561 | 206 | 115 | 37 | 73 | 96 | 1088 | 2397 |
| White perch | 1 | 354 | 1308 | 1013 | 307 | 630 | 340 | 103 | 60 | 95 | 1535 | 4210 |
| Freshwater |  |  |  |  |  |  |  |  |  |  |  |  |
| Bluegill | 999 | 1 | 36 | 157 | 56 | 26 | 9 |  |  | 2 | 93 | 287 |
| Brown bullead catfish | 999 | 1 |  |  |  |  |  |  |  |  | 0 | 1 |
| Carp | 999 | 1 | 5 | 1 |  |  | 1 |  |  | 6 | 7 | 14 |
| Gizzard shad | 999 | 6 | 14 | 1 | 1 | 4 | 2 |  |  |  | 7 | 28 |
| Hickory shad | 999 |  |  |  |  | 6 |  |  |  |  | 6 | 6 |
| Largemouth bass | 999 |  | 2 |  |  |  |  |  |  |  | 0 | 2 |
| Pumpkinseed | 999 |  |  |  |  |  | 1 |  |  |  | 1 | 1 |
| Red Finned Pickerel | 999 |  |  | 1 |  |  |  |  |  |  | 0 | 1 |
| Redbreast sunfish | 999 |  | 2 | 1 |  |  |  |  |  |  | 0 | 3 |
| Smallmouth bass | 999 |  |  |  |  |  |  |  |  | 1 | 1 | 1 |
| Spottail shiner | 999 |  | 1 |  |  |  |  |  |  |  | 0 | 1 |
| Tesselated darter | 999 | 10 | 3 |  | 1 | 2 |  |  |  |  | 3 | 16 |
| White catfish | 999 |  | 5 | 1 | 1 |  |  |  |  |  | 1 | 7 |
| Yellow perch | 999 |  |  |  | 1 |  | 1 |  |  |  | 2 | 2 |

Table 3. Species Composition of Catch in the Hudson River, 2002 (Cont.)

| Species | Age | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \end{gathered}$ | $\begin{gathered} \text { week } 2 \\ \text { July } 29 \text { - } \\ 30 \\ \hline \end{gathered}$ | week 3 Aug. 12-13 | week 4 Aug. 26-27 | week 5 Sept. $9-10$ | week 6 <br> Sept. <br> 23-24 | week 7 <br> Oct. <br> 8-10 | week 8 <br> Oct. <br> 21-22 | week 9 <br> Nov. <br> 5-8 | Weeks 4-9 <br> Total | Weeks 1-9 Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Marine |  |  |  |  |  |  |  |  |  |  |  |  |
| Atlantic menhaden | 0 | 25 |  | 9 | 19 | 45 | 35 |  | 8 | 12 | 119 | 153 |
| Atlantic menhaden | 1 | 627 | 254 | 25 |  | 3 | 1102 |  |  |  | 1105 | 2011 |
| Atlantic needlefish | 999 | 1 | 2 | 5 |  | 3 |  |  |  |  | 3 | 11 |
| Bay anchovy | 999 | 60 |  | 489 | 173 | 5 | 243 | 1451 | 221 | 163 | 2256 | 2805 |
| Bluefish | 0 | 80 | 44 | 181 | 167 | 80 | 40 | 16 | 1 |  | 304 | 609 |
| Bluefish | 1 | 1 | 1 |  |  |  |  |  |  |  | 0 | 2 |
| Butterfish | 999 |  |  |  |  |  |  |  |  | 1 | 1 | 1 |
| Crevalle jack | 999 |  |  | 13 | 1 | 1 |  | 1 |  |  | 3 | 16 |
| Inshore lizardfish | 999 |  | 8 | 2 | 2 | 2 |  |  | 2 |  | 6 | 16 |
| Lookdown | 999 |  | 1 |  |  |  |  |  |  |  | 0 | 1 |
| Naked Goby | 999 |  |  | 2 | 1 | 15 |  |  |  | 1 | 17 | 19 |
| Northern kingfish | 999 |  | 30 | 13 | 20 | 8 | 4 | 2 |  |  | 34 | 77 |
| Northern pipefish | 999 | 17 | 16 | 34 | 25 | 40 | 29 | 41 | 23 | 11 | 169 | 236 |
| Northern puffer | 999 | 1 | 5 |  |  |  |  |  |  |  | 0 | 6 |
| Northern searobin | 999 | 1 |  |  |  |  |  |  |  |  | 0 | 1 |
| Northern stargazer | 999 | 4 | 12 | 4 | 1 | 1 |  | 1 |  |  | 3 | 23 |
| Reef Butterflyfish | 999 |  |  |  |  | 1 |  |  |  |  | 1 | 1 |
| Silverside spp. | 999 | 2477 | 2291 | 5468 | 3453 | 3862 | 1492 | 1778 | 562 | 560 | 11707 | 21943 |
| Spot | 999 | 40 | 15 |  |  |  |  |  |  |  | 0 | 55 |
| Striped mullet | 999 |  |  | 4 | 3 | 4 | 5 |  |  |  | 12 | 16 |
| Striped searobin | 999 |  | 6 | 2 | 3 | 1 |  |  |  |  | 4 | 12 |
| Summer flounder | 999 | 11 | 3 | 3 |  |  | 3 | 9 | 2 |  | 14 | 31 |
| Weakfish | 999 | 2 | 1 | 2 | 2 | 1 | 1 |  |  |  | 4 | 9 |
| White mullet | 999 |  |  |  |  |  |  | 4 |  |  | 4 | 4 |
| Winter flounder | 999 | 1 | 14 | 2 | 2 | 3 | 1 | 11 | 5 | 15 | 37 | 54 |

Table 3. Species Composition of Catch in the Hudson River, 2002 (Cont.)

| Invertebrate | Age | week 1 July <br> 15-16 | week 2 <br> July 29 - <br> 30 | week 3 Aug. <br> 12-13 | week 4 <br> Aug. <br> 26-27 | week 5 <br> Sept. <br> 9-10 | week 6 Sept. 23-24 | week 7 Oct. <br> 8-10 | week 8 <br> Oct. <br> 21-22 | week 9 Nov. $5-8$ | Weeks 4-9 Total | Weeks 1-9 <br> Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bluecrab | 0 | 92 | 87 | 46 | 40 | 76 | 23 | 28 | 27 | 8 | 202 | 427 |
| Bluecrab | 1 | 43 | 85 | 74 | 30 | 88 | 10 | 18 | 14 | 6 | 166 | 368 |
| Mudcrab | 999 | 5 |  |  |  |  |  |  |  |  | 0 | 5 |
| Rangia | 999 | 27 | 40 | 68 | 3 | 34 |  | 3 | 19 | 40 | 99 | 234 |
| Total Inver |  | 167 | 212 | 188 | 73 | 198 | 33 | 49 | 60 | 54 | 467 | 1034 |

Table 4. Catch per unit of effort of all species in Hudson River survey, 1985-2002 weeks 4-9

| Di | Age | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alewife | 0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Alewife | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Alewife | 999 | 1.0 | 54.9 | 1.0 | 1.1 | 0.3 | 0.8 | 1.7 | 0.4 | 2.8 | 0.4 | 0.4 | 0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.5 | 0.1 | 4.4 | 0.4 | 0.1 | 0.1 |
| American eel | 999 | 0.2 | 0.6 | 0.9 | 0.8 | 0.8 | 0.4 | 0.2 | 0.5 | 0.6 | 0.4 | 0.4 | 0.4 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.5 | 0.1 | 0.3 | 0.1 | 0.1 | 0.2 |
| American shad | 0 | 0.0 | 0.0 | 0.9 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| American shad | 1 | 0.0 | 0.3 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| American shad | 999 | 4.0 | 21.6 | 8.0 | 10.7 | 9.0 | 10.5 | 27.0 | 8.0 | 8.8 | 11.5 | 7.7 | 1.1 | 10.5 | 1.6 | 11.9 | 3.1 | 2.8 | 2.3 | 0.2 | 5.4 | 1.0 | 2.2 | 4.4 |
| Atlantic tomcod | 999 | 0.2 | 1.8 | 5.6 | 1.0 | 1.3 | 1.8 | 2.2 | 1.8 | 3.8 | 2.3 | 1.3 | 0.1 | 0.8 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Blueback herring | 999 | 27.2 | 0.2 | 20.0 | 37.8 | 12.6 | 41.0 | 7.7 | 44.7 | 33.6 | 46.8 | 196.5 | 53.6 | 155.6 | 16.1 | 9.0 | 156.7 | 3.0 | 26.4 | 0.1 | 98.4 | 2.1 | 1.9 | 12.1 |
| Striped bass | 0 | 24.0 | 21.5 | 30.5 | 48.1 | 37.1 | 3.9 | 6.1 | 60.7 | 52.3 | 41.9 | 38.0 | 6.9 | 17.3 | 26.5 | 28.5 | 27.4 | 14.7 | 50.3 | 22.9 | 53.0 | 7.8 | 91.4 | 21.8 |
| Striped bass | 1 | 0.5 | 0.3 | 0.8 | 0.2 | 0.5 | 0.5 | 0.3 | 0.1 | 0.8 | 0.6 | 0.4 | 0.7 | 0.8 | 0.6 | 0.2 | 1.0 | 0.4 | 0.5 | 0.9 | 0.5 | 0.7 | 0.6 | 1.1 |
| Striped bass | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Striped bass (hatchery) | 0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.3 | 1.1 | 1.7 | 0.5 | 0.4 | 0.6 | 0.0 | 0.0 | 0.3 | 0.5 | 0.1 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Striped bass (hatchery) | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Striped bass (hatchery) | 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Estuarine |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fourspine stickleback | 999 | 0.2 | 0.5 | 0.6 | 0.7 | 0.4 | 1.8 | 1.2 | 2.6 | 1.2 | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hogchoker | 999 | 0.3 | 0.4 | 2.2 | 4.6 | 1.4 | 2.5 | 2.3 | 0.9 | 1.8 | 1.9 | 1.2 | 0.6 | 0.8 | 0.7 | 1.5 | 0.7 | 0.3 | 0.6 | 0.4 | 0.0 | 0.1 | 0.0 | 0.6 |
| Killifish spp. | 999 | 4.3 | 9.7 | 16.0 | 11.1 | 5.6 | 18.4 | 8.8 | 18.9 | 19.8 | 2.8 | 4.9 | 0.7 | 0.7 | 0.1 | 2.2 | 1.4 | 0.1 | 5.1 | 1.9 | 0.3 | 0.9 | 3.4 | 6.9 |
| Striped anchovy | 999 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Threespine stickleback | 999 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| White perch | 0 | 0.8 | 49.9 | 71.4 | 40.4 | 28.0 | 11.0 | 39.1 | 11.4 | 80.3 | 33.2 | 7.0 | 2.0 | 3.8 | 2.3 | 6.3 | 2.3 | 2.4 | 2.0 | 4.0 | 20.6 | 3.1 | 26.1 | 7.9 |
| White perch | 1 | 0.1 | 12.8 | 71.8 | 45.3 | 41.3 | 11.3 | 12.9 | 8.0 | 12.3 | 9.8 | 7.8 | 6.4 | 4.6 | 6.7 | 4.2 | 3.7 | 4.4 | 6.9 | 10.2 | 2.5 | 4.9 | 2.8 | 11.2 |
| White perch | 999 | 55.7 | 0.2 | 30.6 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Freshwater |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Black crappie | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bluegill | 999 | 0.0 | 0.0 | 0.0 | 0.1 | 0.4 | 0.1 | 0.6 | 0.4 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.7 |
| Brown bullead catfish | 999 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Carp | 999 | 0.1 | 0.1 | 0.2 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.0 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 |
| Chain pickerel | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Fallfish Gizzard shad | 999 999 | 0.0 0.0 | 0.0 0.1 | 0.0 0.0 | 0.0 0.1 | 0.0 0.1 | 0.0 0.0 | 0.0 0.0 | 0.0 0.3 | 0.0 0.0 | 0.0 0.0 | 0.0 0.0 | 0.0 0.1 | 0.0 0.0 | 0.0 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Golden shiner | 999 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 0.0 | 0.0 0.0 | 0.0 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 0.0 | 0.2 0.0 | 0.0 | 0.1 0.0 |
| Goldfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hickory shad | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Largemouth bass | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 4. Catch per unit of effort of all species in Hudson River survey, 1985-2002 weeks 4-9 (Cont.)

| Marine | Age | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cunner | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grey snapper | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Inshore lizardfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lookdown | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Naked Goby | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.3 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.2 | 0.0 | 0.2 | 0.1 |
| Northern kingfish | 999 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.3 | 0.0 | 0.0 | 0.2 | 0.1 | 0.0 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.4 | 0.3 | 0.0 | 0.0 | 0.1 | 0.2 |
| Northern pipefish | 99 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Northern pipefish | 999 | 0.4 | 1.0 | 1.5 | 1.0 | 1.1 | 2.3 | 0.9 | 1.7 | 4.4 | 1.9 | 2.0 | 1.2 | 0.6 | 0.8 | 0.4 | 1.5 | 0.2 | 4.0 | 1.5 | 0.7 | 0.1 | 2.4 | 1.2 |
| Northern puffer | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Northern sennet | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Northern stargazer | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Northern tonguefish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Permit | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pigfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Reef Butterflyfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Silver perch | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.4 | 0.5 | 16.9 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Silverside spp. | 999 | 5.7 | 14.5 | 10.0 | 9.1 | 2.2 | 23.9 | 98.2 | 16.9 | 157.7 | 8.1 | 73.0 | 40.8 | 54.7 | 69.7 | 146.0 | 197.8 | 63.1 | 147.7 | 126.6 | 71.4 | 60.1 | 91.7 | 85.5 |
| Smallmouth flounder | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Spanish mackerel | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Spot | 999 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Spotfin mojarra | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Spotted hake | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Striped mullet | 999 | 0.1 | 0.0 | 0.3 | 0.4 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Striped searobin | 999 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.4 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| Summer flounder | 999 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Tautog | 999 | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.6 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 |
| Weakfish | 999 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| White mullet | 999 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Windowpane flounder | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Winter flounder | 999 | 0.1 | 0.3 | 0.9 | 0.3 | 0.2 | 2.8 | 0.7 | 0.2 | 1.0 | 0.4 | 0.7 | 0.5 | 0.9 | 0.9 | 0.6 | 0.3 | 0.2 | 1.6 | 0.6 | 0.2 | 0.2 | 0.4 | 0.3 |

Table 4. Catch per unit of effort of all species in Hudson River survey, 1985-2002 weeks 4-9 (Cont.)

| Freshwater | Age | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pumpkinseed | 999 | 3.1 | 1.3 | 3.7 | 1.7 | 1.5 | 0.3 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 0.1 | 0.1 | 0.3 | 0.0 |
| Redbreast sunfish | 999 | 0.7 | 0.2 | 0.4 | 0.3 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Smallmouth bass | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Spottail shiner | 999 | 0.3 | 0.2 | 0.9 | 1.8 | 1.9 | 0.0 | 0.0 | 0.0 | 0.3 | 0.5 | 0.3 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 | 2.0 | 0.5 | 0.0 | 0.1 | 0.0 | 0.0 |
| Tesselated darter | 999 | 0.0 | 0.0 | 0.1 | 0.5 | 0.5 | 0.0 | 0.0 | 0.4 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.9 | 0.4 | 0.0 | 0.1 | 0.3 | 0.0 |
| White catfish | 999 | 0.0 | 0.1 | 0.1 | 0.8 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| White sucker | 999 | 0.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Yellow perch | 999 | 0.2 | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Invertebrate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Bluecrab | 0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 30.1 | 17.3 | 0.2 | 2.5 | 1.5 |
| Bluecrab | 1 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 1.0 | 0.3 | 0.3 | 1.2 |
| Bluecrab | 999 | 0.0 | 0.5 | 0.2 | 0.1 | 0.5 | 1.1 | 0.2 | 1.9 | 5.2 | 2.6 | 2.2 | 8.3 | 2.9 | 1.4 | 1.3 | 1.7 | 0.5 | 13.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Mudcrab | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Rangia | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |
| Terripan | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Marine |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Atlantic menhaden | 0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 50.8 | 0.2 | 0.9 |
| Atlantic menhaden | 1 | 0.2 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.1 |
| Atlantic menhaden | 999 | 0.5 | 7.1 | 0.3 | 4.0 | 0.1 | 1.3 | 8.6 | 6.3 | 0.1 | 0.2 | 0.0 | 0.2 | 4.2 | 0.1 | 4.2 | 0.1 | 0.5 | 0.1 | 21.7 | 128.6 | 0.0 | 0.0 | 0.0 |
| Atlantic needlefish | 999 | 0.2 | 0.3 | 0.7 | 0.1 | 0.0 | 1.1 | 0.1 | 0.3 | 0.3 | 0.7 | 0.6 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 1.8 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bay anchovy | 999 | 5.2 | 2.0 | 7.2 | 51.3 | 111.6 | 26.1 | 0.9 | 53.6 | 33.5 | 94.7 | 6.5 | 11.2 | 35.1 | 6.7 | 40.8 | 76.1 | 30.9 | 34.9 | 32.5 | 6.4 | 15.5 | 2.3 | 16.5 |
| Bluefish | 0 | 2.0 | 2.7 | 3.0 | 2.5 | 1.2 | 2.4 | 2.1 | 0.9 | 3.6 | 1.3 | 1.5 | 0.6 | 0.7 | 0.7 | 0.8 | 1.6 | 0.4 | 1.4 | 1.2 | 15.0 | 0.2 | 4.8 | 2.2 |
| Bluefish | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Butterfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Butterflyfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cornetfish, bluespotted | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Crevalle jack | 999 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.2 | 0.1 | 0.2 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 5. Catch per unit of effort of all species in Hudson Survey, 1985-2002 weeks 1-9

| Species | Age | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Diadromous |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Alewife | 999 | 1.3 | 1.4 | 0.8 | 2.5 | 0.5 | 0.7 | 0.1 | 0.0 | 0.0 | 0.4 | 0.4 | 0.2 | 3.3 | 0.1 | 2.7 | 0.3 | 0.3 | 0.7 |
| American eel | 999 | 0.6 | 0.3 | 0.5 | 0.8 | 0.5 | 0.6 | 0.5 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.4 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 |
| American shad | 999 | 10.1 | 22.2 | 6.8 | 11.5 | 11.9 | 11.2 | 1.0 | 12.0 | 2.1 | 10.3 | 2.2 | 8.3 | 11.0 | 0.4 | 3.9 | 0.8 | 1.9 | 3.3 |
| Atlantic tomcod | 999 | 1.9 | 1.6 | 1.2 | 2.6 | 1.6 | 1.3 | 0.1 | 1.4 | 0.0 | 0.1 | 0.0 | 0.5 | 0.2 | 2.3 | 0.0 | 0.6 | 0.7 | 0.0 |
| Blueback herring | 999 | 28.4 | 6.2 | 32.2 | 27.8 | 38.0 | 139.8 | 35.1 | 104.6 | 10.7 | 6.2 | 104.2 | 29.7 | 19.1 | 0.1 | 59.9 | 1.4 | 1.5 | 7.9 |
| Striped bass | 0 | 4.6 | 8.7 | 82.9 | 70.4 | 59.5 | 58.0 | 15.2 | 26.6 | 55.9 | 43.5 | 33.8 | 21.3 | 59.0 | 33.7 | 58.0 | 22.9 | 77.5 | 22.5 |
| Striped bass | 1 | 0.8 | 0.2 | 0.1 | 0.7 | 0.7 | 0.4 | 0.8 | 0.8 | 0.6 | 0.3 | 1.2 | 0.5 | 0.5 | 0.7 | 0.7 | 0.8 | 0.8 | 0.9 |
| Striped bass | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Striped bass (hatchery) | 0 | 0.9 | 1.2 | 0.6 | 0.3 | 0.4 | 0.0 | 0.0 | 0.2 | 0.3 | 0.1 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Striped bass (hatchery) | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Striped bass (hatchery) | 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Estuarine |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fourspine stickleback | 999 | 1.2 | 0.9 | 2.0 | 1.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hogchoker | 999 | 5.8 | 3.7 | 2.5 | 4.0 | 7.0 | 2.4 | 1.6 | 3.1 | 1.3 | 2.4 | 2.4 | 0.5 | 0.7 | 0.3 | 0.4 | 0.1 | 0.3 | 1.7 |
| Killifish spp. | 999 | 14.1 | 6.8 | 15.3 | 18.8 | 3.8 | 5.0 | 2.3 | 0.7 | 0.8 | 1.6 | 3.7 | 0.3 | 5.0 | 2.4 | 1.8 | 0.6 | 2.4 | 5.5 |
| Rainbow smelt | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Striped anchovy | 999 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Threespine stickleback | 999 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| White perch | 0 | 8.8 | 37.0 | 11.5 | 75.8 | 33.8 | 7.5 | 2.3 | 5.5 | 3.7 | 6.1 | 1.9 | 3.0 | 1.5 | 4.1 | 22.3 | 6.2 | 22.0 | 11.4 |
| White perch Freshwater | 1 | 20.5 | 28.9 | 15.7 | 20.2 | 26.6 | 10.7 | 9.8 | 6.4 | 7.7 | 7.8 | 11.1 | 7.0 | 5.6 | 9.7 | 6.9 | 16.1 | 20.1 | 20.0 |
| Black crappie | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bluegill | 999 | 0.0 | 0.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 1.4 |
| Brown bullead catfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Carp | 999 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.0 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 |
| Chain pickerel | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Fallfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Gizzard shad | 999 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.1 | 0.3 | 0.0 | 0.1 |
| Golden shiner | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Goldfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 5. Catch per unit of effort of all species in Hudson Survey, 1985-2002 weeks 1-9 (cont.)

| Species |  | Age | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Hickory shad | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Largemouth bass | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pumpkinseed | 999 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 0.0 | 0.3 | 0.0 | 0.0 | 0.1 | 0.2 | 0.0 |
| Red Finned Pickerel | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Redbreast sunfish | 999 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Smallmouth bass | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Spottail shiner | 999 | 0.0 | 0.0 | 0.0 | 0.3 | 1.3 | 0.4 | 0.1 | 0.0 | 0.0 | 0.2 | 0.1 | 0.2 | 1.9 | 0.6 | 0.1 | 0.2 | 0.1 | 0.0 |
| Tesselated darter | 999 | 0.0 | 0.0 | 0.3 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.0 | 0.2 | 3.5 | 0.8 | 0.0 | 0.2 | 0.4 | 0.1 |
| White catfish | 999 | 0.1 | 2.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| White sucker | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Yellow perch | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Invertebrate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Bluecrab | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 24.6 | 14.0 | 0.3 | 1.8 | 2.0 |
| Bluecrab | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 2.1 | 0.9 | 0.5 | 1.8 |
| Bluecrab | 999 | 1.7 | 0.3 | 1.4 | 4.7 | 3.0 | 2.7 | 6.2 | 5.5 | 1.2 | 1.2 | 2.1 | 0.6 | 13.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Mudcrab | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Painted turtle | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Rangia | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 |
| Terripan | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Marine |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Atlantic menhaden | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 47.5 | 0.5 | 0.7 |
| Atlantic menhaden | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.6 |
| Atlantic menhaden | 999 | 20.9 | 23.5 | 4.8 | 0.9 | 0.8 | 0.0 | 2.8 | 5.7 | 0.1 | 3.5 | 0.3 | 1.9 | 0.3 | 14.7 | 93.0 | 0.0 | 0.0 | 0.0 |
| Atlantic needlefish | 999 | 1.0 | 0.2 | 0.8 | 0.4 | 0.7 | 0.7 | 0.5 | 0.2 | 0.1 | 0.3 | 0.2 | 0.1 | 1.5 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Bay anchovy | 999 | 52.3 | 5.3 | 60.4 | 37.3 | 244.4 | 11.0 | 34.0 | 40.4 | 7.6 | 183.7 | 88.6 | 33.5 | 47.2 | 34.5 | 9.2 | 13.7 | 1.8 | 13.4 |
| Bluefish | 0 | 6.2 | 3.2 | 3.5 | 5.0 | 2.0 | 3.1 | 1.3 | 1.3 | 2.6 | 1.1 | 1.5 | 0.8 | 1.7 | 1.1 | 13.8 | 0.9 | 4.1 | 2.9 |
| Bluefish | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bonefish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Butterfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Butterflyfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Crevalle jack | 999 | 0.3 | 0.1 | 0.0 | 0.2 | 0.3 | 0.2 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 |
| Cunner | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grey snapper | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 5. Catch per unit of effort of all species in Hudson Survey, 1985-2002 Weeks 1-9 (cont.)

| Species | Age | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Inshore lizardfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| Lookdown | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Naked Goby | 999 | 0.0 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 | 0.1 | 0.4 | 0.0 | 0.2 | 0.1 |
| Northern kingfish | 999 | 0.2 | 0.0 | 0.0 | 0.2 | 0.1 | 0.1 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.4 | 0.4 | 0.1 | 0.0 | 0.1 | 0.4 |
| Northern pipefish | 99 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Northern pipefish | 999 | 2.4 | 0.9 | 1.7 | 3.7 | 1.5 | 2.1 | 2.6 | 0.8 | 0.7 | 0.4 | 2.1 | 0.2 | 3.6 | 1.3 | 1.2 | 0.2 | 1.8 | 1.1 |
| Northern puffer | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 |
| Northern searobin | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Northern sennet | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Northern stargazer | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Northern tonguefish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Permit | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pigfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Reef Butterflyfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Scup | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Silver perch | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.3 | 0.3 | 11.3 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Silverside spp. | 999 | 21.1 | 69.9 | 20.0 | 120.2 | 7.9 | 55.5 | 147.2 | 50.3 | 90.7 | 191.9 | 165.7 | 65.9 | 126.0 | 120.0 | 90.3 | 67.1 | 94.0 | 104.5 |
| Smallmouth flounder | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Spanish mackerel | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Spot | 999 | 0.5 | 3.1 | 0.3 | 0.8 | 0.0 | 1.7 | 0.0 | 0.0 | 1.0 | 0.3 | 0.0 | 0.4 | 0.0 | 0.1 | 0.2 | 0.1 | 0.0 | 0.3 |
| Spotfin mojarra | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Spotted hake | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Striped mullet | 999 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Striped searobin | 999 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.4 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.7 | 0.5 | 0.1 | 0.0 | 0.0 | 0.1 |
| Summer flounder | 999 | 0.2 | 0.4 | 0.0 | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 |
| Tautog | 999 | 0.0 | 0.1 | 0.0 | 0.5 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 |
| Triggerfish | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Weakfish | 999 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| White mullet | 999 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Windowpane flounder | 999 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Winter flounder | 999 | 2.5 | 0.9 | 0.2 | 0.8 | 0.3 | 0.8 | 0.7 | 1.3 | 1.1 | 0.4 | 0.6 | 0.2 | 1.8 | 0.6 | 0.2 | 0.4 | 0.4 | 0.3 |

Table 6. Hudson River YOY Striped bass index of abundance, 1980-2002

| 6 Week S <br> year | hauls | catch | CPUE | stdev | range | zeros | Geo. Mean Index | conf. Limits |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1980 | 150 | 3597 | 23.98 | 57.63 | 0-547 | 34 | 6.08 | 4.51-8.1 |
| 1981 | 131 | 2823 | 21.55 | 42.53 | 0-346 | 9 | 8.86 | 6.95-11.24 |
| 1982 | 143 | 4363 | 30.51 | 47.98 | 0-285 | 8 | 14.17 | 11.37-17.62 |
| 1983 | 148 | 7112 | 48.05 | 110.71 | 0-1178 | 8 | 16.27 | 12.58-20.96 |
| 1984 | 146 | 5418 | 37.11 | 89.84 | 0-906 | 6 | 15 | 12.03-18.65 |
| 1985 | 146 | 574 | 3.93 | 5.76 | 0-31 | 51 | 1.91 | 1.47-2.43 |
| 1986 | 147 | 904 | 6.15 | 8.97 | 0-55 | 34 | 2.92 | 2.29-3.67 |
| 1987 | 150 | 9100 | 60.67 | 157.77 | 0-1333 | 13 | 15.9 | 11.98-21.01 |
| 1988 | 145 | 7584 | 52.3 | 45.1 | 0-205 | 2 | 33.46 | 27.89-40.1 |
| 1989 | 150 | 6291 | 41.94 | 57.84 | 0-537 | 4 | 21.35 | 17.23-26.41 |
| 1990 | 142 | 5393 | 37.98 | 43.51 | 0-240 | 2 | 19.08 | 15.31-23.72 |
| 1991 | 140 | 959 | 6.85 | 7.95 | 0-41 | 30 | 3.6 | 2.84-4.52 |
| 1992 | 146 | 2526 | 17.3 | 15.51 | 0-83 | 5 | 11.44 | 9.63-13.56 |
| 1993 | 150 | 3975 | 26.5 | 34.31 | 0-230 | 7 | 12.59 | 10.08-15.67 |
| 1994 | 146 | 4159 | 28.49 | 31.73 | 0-246 | 4 | 17.64 | 14.74-21.09 |
| 1995 | 148 | 4035 | 27.26 | 45.03 | 0-389 | 2 | 16.15 | 13.67-19.06 |
| 1996 | 134 | 1964 | 14.66 | 18.4 | 0-143 | 6 | 8.93 | 7.41-10.72 |
| 1997 | 139 | 6989 | 50.28 | 63.53 | 0-328 | 6 | 22.3 | 17.41-28.48 |
| 1998 | 127 | 2909 | 22.91 | 24.09 | 0-135 | 6 | 13.39 | 10.85-16.47 |
| 1999 | 104 | 5514 | 53.02 | 79.63 | 1-524 | 0 | 26.64 | 21.12-33.54 |
| 2000 | 136 | 1064 | 7.82 | 16.57 | 0-120 | 32 | 3.16 | 2.43-4.05 |
| 2001 | 135 | 12345 | 91.44 | 220.55 | 0-1711 | 11 | 22.98 | 16.95-31.04 |
| 2002 | 137 | 2978 | 21.74 | 26.91 | 0-203 | 5 | 12.32 | 10.12-14.97 |
| 9 Week Survey $\square$ |  |  |  |  |  |  |  |  |
| year | hauls | catch | CPUE | stdev | range | zeros | Geo. Mean Index | conf. Limits |
| 1985 | 216 | 993 | 4.6 | 6.57 | 0-32 | 71 | 2.19 | 1.77-2.67 |
| 1986 | 222 | 1942 | 8.75 | 11.3 | 0-57 | 38 | 4.29 | 3.55-5.15 |
| 1987 | 225 | 18649 | 82.88 | 184.57 | 0-1432 | 13 | 25.12 | 20.09-31.34 |
| 1988 | 220 | 15488 | 70.4 | 85.38 | 0-869 | 2 | 42.16 | 36.33-48.89 |
| 1989 | 225 | 13398 | 59.55 | 86.16 | 0-642 | 4 | 28.42 | 23.79-33.92 |
| 1990 | 217 | 12592 | 58.03 | 64.66 | 0-473 | 2 | 29.8 | 24.9-35.63 |
| 1991 | 215 | 3275 | 15.23 | 22.57 | 0-160 | 32 | 6.56 | 5.35-7.99 |
| 1992 | 221 | 5875 | 26.58 | 25.5 | 0-142 | 5 | 16.94 | 14.67-19.53 |
| 1993 | 225 | 12588 | 55.95 | 74.17 | 0-402 | 7 | 23.32 | 19.13-28.39 |
| 1994 | 221 | 9624 | 43.55 | 50.38 | 0-367 | 4 | 25.71 | 22.1-29.89 |
| 1995 | 222 | 7465 | 33.63 | 44.57 | 0-389 | 2 | 20.15 | 17.53-23.15 |
| 1996 | 204 | 4346 | 21.3 | 25.83 | 0-188 | 6 | 12.76 | 10.94-14.85 |
| 1997 | 194 | 11444 | 58.99 | 71.05 | 0-412 | 7 | 27.92 | 22.8-34.15 |
| 1998 | 198 | 6673 | 33.7 | 34.47 | 0-183 | 6 | 19.18 | 16.16-22.73 |
| 1999 | 173 | 10031 | 57.98 | 69.34 | 1-524 |  | 33.82 | 28.64-39.91 |
| 2000 | 211 | 4830 | 22.89 | 51.89 | 0-416 | 32 | 7.17 | 5.73-8.92 |
| 2001 | 208 | 16130 | 77.55 | 180.11 | 0-1711 | 12 | 26.37 | 21.23-32.71 |
| 2002 | 210 | 4662 | 22.2 | 25.66 | 0-203 | 7 | 13.21 | 11.34-15.38 |

Table 7. YOY Striped bass catch by station, 2002

| STATION |  | riv mile | week 1 <br> July <br> 15-16 | $\begin{gathered} \text { week } 2 \\ \text { July } \\ 29-30 \\ \hline \end{gathered}$ | week 3 <br> Aug. <br> 12-13 | week 4 <br> Aug. <br> 26-27 | $\begin{aligned} & \text { week5 } \\ & \text { Sept. } \\ & 9-10 \\ & \hline \end{aligned}$ | week6 Sept. 23-24 | week 7 <br> Oct. <br> 8-10 | week 8 Oct. 21-22 | week 9 Nov. 5-8 | C/F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EAST |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 18E | 23 | 39 | 60 | 34 | 9 | 6 |  | 14 | 5 | 3 | 21.25 |
|  | 21 E | 23 | 21 | 25 | 6 | 10 | 6 | 5 |  | 1 | 3 | 9.63 |
|  | 17E | 24 | 16 | 41 | 18 | 18 | 19 | 3 | 31 | 9 | 8 | 18.11 |
|  | 16E | 25 | 8 | 6 | 25 | 7 | 2 | 5 | 11 | 13 | 0 | 8.56 |
|  | 15E | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 12E | 29 | 6 | 4 | 7 | 3 | 26 |  | 8 |  | 3 | 8.14 |
|  | 13E | 29 | 32 | 8 |  | 35 | 60 | 38 |  | 11 | 3 | 26.71 |
|  | 14E | 29 | 73 | 50 | 20 | 14 | 26 |  | 10 | 13 | 15 | 27.63 |
|  | 19E | 33 | 8 | 21 | 20 | 10 | 13 | 5 | 21 | 17 | 1 | 12.89 |
|  | 10E | 34 |  |  |  |  |  |  |  |  |  |  |
|  | 11E | 34 | 34 | 27 | 27 | 16 | 66 | 37 | 8 | 12 | 8 | 26.11 |
|  | 9E | 34 | 0 | 7 | 11 | 23 | 23 |  | 47 | 0 | 18 | 16.13 |
|  | 7E1 | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EE | 35 | 7 | 32 | 49 | 57 | 203 | 26 | 16 | 14 |  | 50.50 |
|  | 7EW | 35 | 0 | 22 | 47 | 11 | 12 | 18 | 21 | 13 | 1 | 16.11 |
|  | 8E | 35 |  | 40 | 152 | 60 |  | 7 | 97 | 2 | 3 | 51.57 |
|  | 6E | 36 |  |  |  |  |  |  |  |  |  |  |
|  | 3E | 39 | 5 | 20 | 6 | 17 | 81 | 8 |  | 4 | 8 | 18.63 |
|  | 4E | 39 | 3 | 5 | 5 | 20 | 110 | 43 | 31 | 13 | 0 | 25.56 |
|  | 5E | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 20E | 41 |  |  |  |  |  |  |  |  |  |  |
| WEST |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 15WN | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 15WS | 27 | 9 | 6 | 7 | 21 | 8 |  | 51 |  |  | 17.00 |
|  | 16WN | 27 | 2 | 13 | 8 | 57 | 3 |  | 5 | 11 | 0 | 12.38 |
|  | 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 13W | 29 |  |  |  |  |  |  |  |  |  |  |
|  | 14W | 29 | 30 | 17 | 15 | 30 | 38 | 7 | 18 | 19 | 0 | 19.33 |
|  | 12W | 30 | 5 | 6 | 24 |  | 77 | 5 | 11 | 6 | 9 | 17.88 |
|  | 11W | 32 | 1 | 25 | 17 | 11 | 43 | 26 | 12 | 2 |  | 17.13 |
|  | 10W | 35 |  | 40 | 39 | 19 | 32 | 13 |  | 6 | 3 | 21.71 |
|  | 9W | 35 |  |  | 19 |  | 43 |  | 11 | 9 | 3 | 17.00 |
|  | 8W | 36 | 55 | 41 | 50 | 34 | 28 | 48 | 3 | 4 | 4 | 29.67 |
|  | 7W | 37 | 33 | 79 | 11 | 38 | 76 | 38 | 8 | 49 | 10 | 38.00 |
|  | 3W | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 4W | 39 | 9 | 20 | 15 | 49 | 101 | 60 | 4 | 14 | 4 | 30.67 |
|  | 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 5W | 39 | 8 | 26 | 7 | 8 | 59 | 24 | 1 | 14 | 17 | 18.22 |
|  | 20w | 42 |  |  |  |  |  |  |  |  |  |  |
|  | Effort |  | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
|  | Catch |  | 404 | 641 | 639 | 577 | 1161 | 416 | 439 | 261 | 124 |  |
|  | C/E |  | 17.57 | 25.64 | 25.56 | 24.04 | 46.44 | 21.89 | 19.95 | 10.88 | 5.39 |  |

Table 8. CPUE of YOY Striped bass by station, weeks 1-9, 1985-2002

| STATION | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EAST |  |  |  |  |  |  |  |  |  |  |
| 18 E | 0.1 | 3.4 | 64.2 | 56.0 | 30.5 | 35.8 | 7.3 | 21.5 | 66.6 | 39.5 |
| 21 E | 0.0 | 1.0 | 70.3 | 23.5 | 111.8 | 70.2 | 1.0 | 24.6 | 89.8 | 42.3 |
| 17 E | 0.1 | 8.3 | 45.7 | 96.4 | 157.7 | 97.6 | 13.8 | 21.7 | 61.8 | 61.6 |
| 16E |  | 3.0 | 135.0 | 50.1 | 34.5 | 42.6 | 4.7 | 17.0 | 50.7 | 26.6 |
| 15E |  | 8.0 | 29.0 | 38.0 | 51.3 | 45.6 | 6.3 |  | 73.6 |  |
| 12 E | 2.0 | 1.9 | 35.4 | 49.7 | 36.5 | 39.8 | 0.9 | 18.4 | 57.3 | 29.9 |
| 13 E | 3.7 | 4.5 | 93.3 | 14.5 | 12.5 | 31.0 | 24.2 | 19.7 | 55.6 | 14.3 |
| 14E | 0.2 | 9.1 | 37.0 | 78.4 | 96.6 | 67.6 | 2.7 | 37.7 | 35.1 | 44.0 |
| 19E | 1.7 | 6.0 | 259.5 | 88.8 | 67.6 | 33.1 | 7.0 | 19.8 | 33.1 | 59.7 |
| 10 E | 1.0 |  |  |  |  |  |  |  |  |  |
| 11 E | 6.0 | 9.8 | 319.9 | 128.3 | 45.3 | 28.0 | 36.0 | 37.3 | 73.3 | 51.0 |
| 9 E | 1.0 | 6.0 | 47.4 | 37.0 | 42.9 | 57.3 | 17.0 | 35.5 | 73.0 | 55.8 |
| 7 El |  | 10.0 | 54.0 |  | 1.0 | 17.5 | 1.0 |  |  |  |
| 7EC | 15.5 |  |  |  |  |  |  |  |  |  |
| 7EE | 5.0 | 12.9 | 222.0 | 54.3 | 58.0 | 30.1 | 10.1 | 13.9 | 65.1 | 26.4 |
| 7EW | 5.9 | 10.8 | 358.7 | 66.3 | 99.8 | 52.5 | 7.9 | 26.5 | 57.3 | 28.1 |
| 8 E | 1.2 | 5.0 | 0.0 | 29.0 |  | 15.3 | 7.0 |  | 85.3 | 90.0 |
| 6 E | 1.3 | 1.9 | 38.9 | 51.8 | 31.0 |  |  |  |  |  |
| 3E | 4.1 | 4.9 | 46.9 | 29.9 | 24.4 | 21.9 | 6.7 | 13.1 | 17.4 | 46.8 |
| 4 E | 7.7 | 6.4 | 38.0 | 42.3 | 30.4 | 40.3 | 15.0 | 27.8 | 33.2 | 21.6 |
| 5 E | 5.0 | 18.3 | 9.0 | 25.8 | 26.0 | 34.0 | 16.0 | 13.5 | 186.0 | 11.0 |
| 1 E |  |  |  |  |  |  |  |  |  |  |
| 20E | 8.0 |  |  |  |  |  |  |  |  |  |
| WEST |  |  |  |  |  |  |  |  |  |  |
| 15WN | 0.7 |  | 63.3 | 32.3 | 53.3 | 53.5 | 3.0 | 32.5 | 11.0 | 105.0 |
| 15WS | 4.0 | 7.1 | 145.8 | 109.8 | 63.0 | 159.6 | 45.8 | 32.4 | 80.6 | 57.9 |
| 16WN | 4.0 | 15.3 | 53.1 | 89.6 | 62.2 | 162.4 |  | 22.3 | 48.4 | 11.0 |
| 16WS | 3.1 | 16.3 | 20.0 | 149.5 | 25.3 | 82.4 |  | 6.0 |  |  |
| 13W |  | 16.0 | 25.3 | 21.0 |  | 3.5 | 20.7 | 13.7 |  | 5.0 |
| 14W | 4.6 | 10.0 | 93.0 | 65.1 | 55.6 | 64.9 | 40.6 | 20.0 | 76.9 | 24.4 |
| 12W | 3.0 | 3.4 | 46.4 | 36.7 | 36.6 | 83.1 | 15.8 | 22.4 | 53.3 | 41.8 |
| 11W | 2.8 | 4.9 | 18.7 | 42.8 | 11.2 | 7.0 | 11.6 | 11.9 | 28.7 | 39.9 |
| 10W | 4.1 | 2.8 | 24.3 | 37.1 | 41.5 | 47.9 | 14.0 | 25.6 | 55.1 | 29.0 |
| 9W | 5.1 | 6.4 | 25.4 | 96.5 | 37.4 | 39.5 | 6.6 | 21.1 | 20.9 | 32.3 |
| 8W | 8.4 | 15.8 | 35.6 | 127.8 | 137.9 | 95.3 | 26.1 | 69.0 | 87.3 | 83.2 |
| 7W | 10.6 | 15.7 | 65.7 | 114.1 | 56.6 | 71.0 | 20.9 | 59.5 | 43.2 | 74.2 |
| 3W |  | 5.7 |  |  |  |  |  |  |  |  |
| 4W | 15.9 | 20.1 | 71.4 | 93.9 | 143.8 | 80.6 | 23.4 | 28.6 | 38.8 | 27.8 |
| 4WN |  |  |  |  |  |  |  |  |  |  |
| $\begin{gathered} 5 \mathrm{~W} \\ 20 \mathrm{~W} \end{gathered}$ | $10.3$ | 18.1 | 43.1 | 64.8 | 63.8 | 54.1 | 27.1 | 26.2 | 46.8 | 33.2 |
|  |  |  |  |  |  |  |  |  |  |  |
| Annual C/F | 4.6 | 8.75 | 82.88 | 70.4 | 59.55 | 58.03 | 15.23 | 26.58 | 55.95 | 43.55 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | , |  |  |

Table 8. (cont.)

| STATION | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EAST |  |  |  |  |  |  |  |  |
| 18E | 34.7 | 18.3 | 41.4 | 26.8 | 22.2 | 13.3 | 45.9 | 21.3 |
| 21 E | 59.4 | 46.1 | 26.1 | 44.4 | 38.6 | 12.2 | 27.3 | 9.6 |
| 17E | 34.2 | 18.0 | 27.5 | 48.6 | 48.2 | 12.3 | 30.1 | 18.1 |
| 16E | 38.7 | 14.3 | 23.2 | 38.8 | 37.8 | 4.6 | 30.1 | 8.6 |
| 15E |  |  | 48.0 | 80.0 | 126.0 | 7.0 | 40.5 |  |
| 12E | 31.1 | 11.3 | 10.9 | 20.9 | 51.9 | 11.0 | 9.6 | 8.1 |
| 13E | 82.3 | 13.0 | 44.4 | 22.3 | 47.5 | 4.6 | 24.5 | 26.7 |
| 14E | 33.4 | 20.0 | 41.1 | 58.5 | 48.8 | 22.6 | 36.5 | 27.6 |
| 19E | 31.8 | 16.5 | 109.8 | 30.4 | 15.2 | 16.0 | 57.8 | 12.9 |
| 10 E |  |  | 26.0 |  |  |  |  |  |
| 11 E | 129.4 | 27.4 | 124.9 | 69.7 | 79.5 | 73.2 | 159.2 | 26.1 |
| 9 E | 14.8 | 23.2 | 54.1 | 40.7 | 92.5 | 18.2 | 50.3 | 16.1 |
| 7E1 | 52.0 |  |  |  |  |  |  |  |
| 7EC |  |  |  |  |  |  |  |  |
| 7EE | 17.1 | 19.0 | 54.1 | 11.8 | 35.1 | 34.8 | 193.3 | 50.5 |
| 7EW | 42.7 | 12.3 | 31.6 | 27.7 | 35.6 | 51.7 | 231.0 | 16.1 |
| 8 E | 13.3 | 34.7 | 122.4 | 54.0 | 85.3 | 131.1 | 266.3 | 51.6 |
| $6 \mathrm{E} \quad 1{ }^{\text {c }}$ |  |  |  |  |  |  |  |  |
| 3E | 17.8 | 8.9 | 96.6 | 22.1 | 60.0 | 12.9 | 118.1 | 18.6 |
| 4E | 13.3 | 16.7 | 78.6 | 18.3 | 47.3 | 7.8 | 217.7 | 25.6 |
| 5 E | 10.5 | 22.3 | 28.0 | 24.0 |  | 11.0 |  |  |
| 1E |  |  |  |  |  |  |  |  |
| 20E |  |  |  |  |  |  |  |  |
| WEST |  |  |  |  |  |  |  |  |
| 15WN | 27.6 |  | 16.0 |  |  |  |  |  |
| 15WS | 22.8 | 8.1 | 153.8 | 56.6 | 149.0 | 13.9 | 48.3 | 17.0 |
| 16WN | 20.2 | 5.1 | 79.5 |  | 81.6 | 5.2 | 69.8 | 12.4 |
| 16WS | 51.0 |  |  | 15.0 |  | 24.0 | 16.0 |  |
| 13W |  |  |  |  |  |  |  |  |
| 14W | 26.6 | 12.2 | 36.9 | 29.2 | 54.2 | 19.8 | 70.8 | 19.3 |
| 12W | 21.7 | 14.6 | 26.3 | 24.9 | 106.8 | 7.8 | 37.0 | 17.9 |
| 11W | 31.1 | 38.2 | 4.0 | 22.0 | 78.6 | 32.3 | 39.2 | 17.1 |
| 10W | 17.3 | 18.2 | 53.4 | 16.3 | 33.6 | 18.3 | 34.4 | 21.7 |
| 9W | 20.3 | 12.3 | 41.3 | 30.1 | 26.6 | 11.2 | 20.0 | 17.0 |
| 8W | 34.5 | 34.1 | 41.4 | 28.6 | 26.4 | 6.0 | 34.2 | 29.7 |
| 7W | 35.6 | 54.3 | 68.3 | 14.3 | 45.8 | 17.5 | 52.0 | 38.0 |
| 3W |  |  |  |  |  |  |  |  |
| 4W | 35.1 | 31.3 | 97.7 | 37.3 | 51.8 | 33.7 | 86.9 | 30.7 |
| 4WN | 17.0 |  |  |  |  |  |  |  |
| 5W | 34.6 | 25.3 | 78.0 | 42.7 | 49.5 | 22.6 | 46.9 | 18.2 |
| 20W |  |  |  |  |  |  |  |  |
| Annual C/F | 33.63 | 21.3 | 58.99 | 33.7 | 57.98 | 22.89 | 77.55 | 22.2 |

Table 9. CPUE of YOY Striped bass by station, weeks 4-9 1980-2002

| STATION | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EAST |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18E | 13.7 | 30.8 | 24.2 | 36.7 | 23.1 | 0.2 | 2.8 | 27.8 | 68.3 | 36.0 | 15.0 | 2.6 | 17.3 |
| 21E |  |  |  |  |  | 0.0 | 1.0 | 65.5 |  | 60.5 | 50.8 | 0.8 | 15.7 |
| 17E | 9.3 | 17.6 | 35.7 | 91.7 | 36.8 | 0.2 | 7.0 | 46.5 | 96.3 | 73.3 | 57.6 | 5.8 | 13.0 |
| 16E | 6.3 | 4.0 | 20.0 | 21.4 | 11.0 |  | 3.0 |  | 48.7 | 15.2 | 22.3 | 1.3 | 12.8 |
| 15E | 24.0 |  |  | 302.6 | 52.8 |  | 8.0 | 29.0 | 38.0 | 10.0 | 10.0 | 6.3 |  |
| 12E | 2.7 | 3.5 | 8.4 | 24.3 | 10.4 | 2.8 | 1.8 | 17.5 | 29.0 | 20.0 | 21.8 | 1.0 | 17.6 |
| 13E | 6.3 | 4.0 |  |  | 11.0 | 4.5 | 4.5 | 46.3 | 17.0 | 12.5 | 31.0 | 8.5 | 12.0 |
| 14E | 35.5 | 10.6 | 15.0 | 42.2 | 11.8 | 0.2 | 4.3 | 30.2 | 51.0 | 42.3 | 28.0 | 2.0 | 15.7 |
| 19E |  |  |  |  | 20.7 | 2.2 | 2.8 | 121.8 | 21.3 | 34.2 | 22.8 | 4.8 | 11.5 |
| 10E |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11E |  | 22.5 | 9.6 | 26.4 | 7.3 | 2.8 | 2.5 | 163.8 | 62.4 | 59.0 | 22.4 | 22.2 | 33.8 |
| 9 E | 3.1 | 6.7 | 8.8 | 5.2 | 6.2 | 0.3 | 0.8 | 33.4 | 33.8 | 22.3 | 50.6 | 7.6 | 17.8 |
| 7E1 |  |  |  |  |  |  | 10.0 |  |  | 1.0 | 17.5 | 1.0 |  |
| 7EC |  |  | 94.0 |  |  | 0.0 |  |  |  |  |  |  |  |
| 7EE | 0.0 | 22.0 | 88.3 | 48.2 | 146.0 | 0.7 | 6.6 | 274.7 | 41.5 | 50.3 | 28.8 | 8.3 | 6.8 |
| 7EW | 19.7 | 10.0 | 66.0 | 35.7 | 215.3 | 2.5 | 5.0 | 406.6 | 37.5 | 106.3 | 54.6 | 8.0 | 23.2 |
| 8E | 38.5 | 11.0 | 103.3 | 45.0 | 48.2 | 1.5 | 5.0 | 0.0 | 16.3 |  | 15.3 | 3.5 |  |
| 6 E | 12.7 | 5.5 | 41.3 | 147.0 | 34.3 | 0.5 | 2.5 | 39.7 | 18.5 | 34.8 |  |  |  |
| 3E |  | 12.0 |  |  | 109.5 | 3.6 | 2.0 | 37.2 | 36.3 | 28.0 | 17.7 | 4.0 | 9.7 |
| 4E | 29.0 | 14.0 | 27.8 | 22.2 | 41.8 | 6.3 | 6.3 | 32.7 | 36.6 | 31.5 | 30.7 | 5.5 | 16.2 |
| 5 E | 28.5 | 29.8 | 20.7 | 14.5 | 53.0 | 5.0 |  | 9.0 | 26.0 | 21.0 | 17.0 | 9.2 | 13.5 |
| 1E |  |  |  | 5.0 |  |  |  |  |  |  |  |  |  |
| 20E |  |  |  |  |  |  |  |  |  |  |  |  |  |
| WEST |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15WN | 39.0 | 9.4 | 16.7 | 36.3 | 42.7 | 0.0 |  | 21.0 | 28.5 | 53.4 | 47.6 | 3.0 | 16.2 |
| 15WS | 20.6 | 10.2 | 8.4 | 81.3 | 26.0 | 2.6 | 5.5 | 9.8 | 67.7 | 22.0 | 77.5 | 15.6 | 17.4 |
| 16WN | 68.3 | 32.0 | 11.3 | 17.5 | 15.2 | 3.7 | 12.3 | 27.8 | 64.8 | 82.7 | 93.0 |  | 16.0 |
| 16WS | 60.3 | 29.6 | 8.5 | 49.7 | 11.0 | 2.8 | 15.2 | 3.7 | 50.7 | 32.8 | 44.0 |  | 6.0 |
| 13W | 10.2 | 14.7 | 17.3 |  |  |  |  | 25.3 | 21.0 |  | 3.5 | 2.3 | 6.0 |
| 14W | 45.3 | 55.5 | 17.8 | 33.3 | 4.2 | 5.7 |  | 71.5 | 58.2 | 36.7 | 39.6 | 9.5 | 8.3 |
| 12W | 8.3 | 9.7 | 12.0 | 10.8 | 7.0 | 2.7 | 1.4 | 35.8 | 40.7 | 36.8 | 65.2 | 9.5 | 10.2 |
| 11W | 137.0 | 9.4 | 12.2 | 8.0 | 5.0 | 2.7 | 2.2 | 12.5 | 45.6 | 13.2 | 6.6 | 7.5 | 13.2 |
| 10W | 21.6 | 22.2 |  | 15.4 | 7.5 | 3.3 | 2.0 | 20.7 | 37.2 | 24.2 | 29.5 | 9.0 | 16.4 |
| 9W | 27.7 | 61.3 | 13.3 | 16.3 | 12.0 | 5.2 | 5.0 | 24.4 | 86.8 | 30.3 | 36.0 | 4.7 | 18.6 |
| 8W | 19.0 | 26.8 | 15.0 | 29.8 | 18.3 | 10.5 | 15.5 | 23.5 | 99.2 | 47.8 | 29.8 | 8.2 | 42.8 |
| 7W | 4.3 | 47.0 | 51.0 | 46.7 | 34.3 | 11.3 | 10.0 | 13.2 | 97.2 | 61.5 | 74.6 | 8.5 | 42.8 |
| 3W | 12.2 | 10.3 | 23.4 | 8.0 |  |  | 2.0 |  |  |  |  |  |  |
| 4W | 15.3 | 26.2 | 41.8 | 37.5 | 38.0 | 18.0 | 15.8 | 52.0 | 95.0 | 69.0 | 73.0 | 12.5 | 20.0 |
| 4 WN |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5W | 7.8 | 20.6 | 38.4 | 44.0 | 39.8 | 8.3 | 15.0 | 27.3 | 39.4 | 33.0 | 40.6 | 9.5 | 19.0 |
| 20W |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Annual C/F | 23.98 | 21.55 | 30.51 | 48.05 | 37.11 | 3.93 | 6.15 | 60.67 | 52.3 | 41.94 | 37.98 | 6.85 | 17.3 |

Table 9. (Cont.)

| STATION | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EAST |  |  |  |  |  |  |  |  |  |  |
| 18E | 39.2 | 23.4 | 31.2 | 12.0 | 31.7 | 7.8 | 23.7 | 3.3 | 41.0 | 7.4 |
| 21 E | 18.5 | 30.0 | 30.8 | 16.3 | 10.5 | 17.3 | 36.3 | 2.0 | 10.2 | 5.0 |
| 17E | 31.7 | 60.3 | 14.0 | 12.3 | 19.2 | 35.5 | 18.3 | 1.0 | 22.2 | 14.7 |
| 16E | 30.8 | 16.8 | 13.0 | 7.2 | 12.2 | 15.2 | 31.7 | 1.7 | 20.2 | 6.3 |
| 15E | 12.5 |  |  |  |  |  |  | 5.0 | 44.0 |  |
| 12E | 13.7 | 8.2 | 14.0 | 10.5 | 9.5 | 12.5 | 60.3 | 3.5 | 10.7 | 10.0 |
| 13 E | 12.2 | 9.4 | 18.0 | 8.0 | 20.8 | 11.0 | 33.7 | 0.6 | 26.5 | 29.4 |
| 14E | 26.8 | 20.0 | 16.0 | 12.0 | 29.3 | 27.4 | 42.0 | 2.0 | 34.0 | 15.6 |
| 19E | 14.8 | 30.5 | 25.4 | 11.3 | 54.8 | 24.2 | 21.7 | 5.8 | 54.3 | 11.2 |
| 10E |  |  |  |  | 26.0 |  |  |  |  |  |
| 11 E | 19.8 | 44.8 | 146.0 | 31.4 | 115.0 | 50.7 | 61.6 | 14.0 | 205.0 | 24.5 |
| 9 E | 21.8 | 16.6 | 14.3 | 20.3 | 52.8 | 44.2 | 76.6 | 18.0 | 62.5 | 22.2 |
| 7E1 |  |  | 52.0 |  |  |  |  |  |  |  |
| 7EC |  |  |  |  |  |  |  |  |  |  |
| 7EE | 90.0 | 16.8 | 16.0 | 12.5 | 61.7 | 10.0 | 30.2 | 8.2 | 286.8 | 63.2 |
| 7EW | 57.3 | 25.6 | 47.0 | 10.5 | 36.7 | 33.2 | 27.0 | 17.3 | 327.8 | 12.7 |
| 8E | 70.7 | 70.8 | 11.3 | 34.3 | 130.0 | 56.6 | 48.4 | 36.2 | 345.7 | 33.8 |
| 6 E |  |  |  |  |  |  |  |  |  |  |
| 3E | 9.6 | 55.6 | 20.2 | 8.0 | 87.0 | 22.3 | 76.0 | 9.4 | 153.8 | 23.6 |
| 4E | 9.3 | 16.0 | 14.8 | 13.3 | 94.2 | 14.8 | 93.0 | 4.6 | 346.5 | 36.2 |
| 5 E |  | 11.0 | 18.0 | 19.0 |  | 24.0 |  |  |  |  |
| 1E |  |  |  |  |  |  |  |  |  |  |
| 20E |  |  |  |  |  |  |  |  |  |  |
| WEST |  |  |  |  |  |  |  |  |  |  |
| 15WN | 11.0 |  | 26.7 |  | 16.0 |  |  |  |  |  |
| 15WS | 56.4 | 55.0 | 16.3 | 6.5 | 78.3 | 22.5 | 176.8 | 3.2 | 56.6 | 26.7 |
| 16WN | 21.7 | 11.0 | 21.0 | 4.2 | 100.5 |  | 99.3 | 2.0 | 83.0 | 15.2 |
| 16WS |  |  |  |  |  | 12.8 |  |  |  |  |
| 13W |  |  |  |  |  |  |  |  |  |  |
| 14W | 30.7 | 16.8 | 18.2 | 8.8 | 25.5 | 23.3 | 48.5 | 6.7 | 48.8 | 18.7 |
| 12W | 8.0 | 37.2 | 12.0 | 8.3 | 14.8 | 13.8 | 134.8 | 3.8 | 28.0 | 21.6 |
| 11W | 17.2 | 32.3 | 23.3 | 10.5 |  | 37.0 | 101.8 | 27.2 | 37.5 | 18.8 |
| 10W | 24.3 | 17.0 | 13.3 | 11.7 | 47.7 | 17.2 | 13.0 | 5.4 | 47.0 | 14.6 |
| 9W | 15.3 | 13.8 | 21.4 | 6.8 | 45.6 | 5.5 | 15.2 | 3.2 | 20.2 | 16.5 |
| 8W | 35.8 | 38.5 | 24.4 | 17.7 | 36.7 | 13.5 | 16.2 | 5.5 | 53.7 | 20.2 |
| 7W | 13.8 | 36.8 | 31.5 | 36.5 | 60.2 | 13.7 | 23.0 | 13.0 | 37.3 | 36.5 |
| 3W |  |  |  |  |  |  |  |  |  |  |
| 4W | 15.5 | 17.8 | 40.8 | 24.3 | 71.8 | 19.0 | 103.0 | 8.0 | 90.8 | 38.7 |
| 4WN |  |  | 17.0 |  |  |  |  |  |  |  |
| 5W | 14.2 | 14.8 | 35.2 | 17.5 | 69.8 | 39.0 | 72.0 | 4.3 | 35.8 | 20.5 |
| 20W |  |  |  |  |  |  |  |  |  |  |
| Annual C/F | 26.5 | 28.49 | 27.26 | 14.66 | 50.28 | 22.91 | 53.02 | 7.82 | 91.44 | 21.74 |

Table 10. Size-frequency distribution of YOY Striped bass, Hudson River 2002

| TL | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \end{gathered}$ | $\begin{gathered} \text { week } 2 \\ \text { July } \\ 29-30 \\ \hline \end{gathered}$ | week 3 Aug. 12-13 | week 4 <br> Aug. <br> 26-27 | $\begin{gathered} \text { week } 5 \\ \text { Sept. } \end{gathered}$ $9-10$ | $\begin{gathered} \text { week } 6 \\ \text { Sept. } \\ 23-24 \end{gathered}$ | week 7 Oct. $8-10$ |  | week 9 <br> Nov. <br> 5-8 | $\begin{gathered} \text { weeks } \\ 4-9 \end{gathered}$ | $\begin{gathered} \text { weeks } \\ 1-9 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| <20 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 20-24 | 14 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| 25-29 | 51 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 56 |
| 30-34 | 55 | 20 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 77 |
| 35-39 | 59 | 50 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 110 |
| 40-44 | 45 | 99 | 17 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 163 |
| 45-49 | 45 | 91 | 57 | 6 | 1 | 0 | 0 | 0 | 0 | 7 | 200 |
| 50-54 | 51 | 84 | 94 | 35 | 2 | 0 | 0 | 0 | 1 | 38 | 267 |
| 55-59 | 45 | 54 | 57 | 66 | 10 | 2 | 0 | 2 | 0 | 80 | 236 |
| 60-64 | 47 | 59 | 65 | 94 | 38 | 4 | 3 | 3 | 0 | 142 | 313 |
| 65-69 | 15 | 45 | 39 | 71 | 67 | 23 | 5 | 9 | 5 | 180 | 279 |
| 70-74 | 2 | 43 | 27 | 47 | 94 | 44 | 7 | 13 | 8 | 213 | 285 |
| 75-79 | 0 | 35 | 36 | 46 | 84 | 33 | 15 | 18 | 3 | 199 | 270 |
| 80-84 | 0 | 16 | 28 | 29 | 126 | 48 | 24 | 19 | 8 | 254 | 298 |
| 85-89 | 0 | 10 | 33 | 20 | 93 | 47 | 14 | 22 | 8 | 204 | 247 |
| 90-94 | 0 | 2 | 25 | 26 | 76 | 34 | 30 | 23 | 7 | 196 | 223 |
| 95-99 | 0 | 0 | 20 | 37 | 82 | 37 | 26 | 21 | 10 | 213 | 233 |
| 100-104 | 0 | 1 | 18 | 32 | 47 | 25 | 18 | 16 | 7 | 145 | 164 |
| 105-109 | 0 | 0 | 4 | 22 | 48 | 33 | 28 | 18 | 12 | 161 | 165 |
| 110-114 | 0 | 0 | 2 | 26 | 46 | 23 | 38 | 19 | 15 | 167 | 169 |
| 115-119 | 0 | 0 | 0 | 9 | 31 | 13 | 39 | 21 | 9 | 122 | 122 |
| 120-124 | 0 | 0 | 1 | 5 | 24 | 24 | 23 | 13 | 13 | 102 | 103 |
| 125-129 | 0 | 1 | 0 | 1 | 12 | 13 | 27 | 15 | 5 | 73 | 74 |
| 130-134 | 0 | 0 | 0 | 1 | 4 | 7 | 31 | 5 | 3 | 51 | 51 |
| 135-139 | 0 | 0 | 1 | 0 | 2 | 3 | 35 | 14 | 6 | 60 | 61 |
| 140-144 | 0 | 2 | 1 | 0 | 0 | 1 | 19 | 3 | 1 | 24 | 27 |
| 145-149 | 0 | 0 | 0 | 0 | 1 | 1 | 8 | 1 | 2 | 13 | 13 |
| 150-154 | 0 | 0 | 0 | 1 | 0 | 0 | 5 | 2 | 0 | 8 | 8 |
| 155-159 | 0 | 0 | 0 | 0 | 2 | 0 | 9 | 1 | 1 | 13 | 13 |
| 160-164 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 2 |
| 165-169 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 3 |
| 170-174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175-179 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180-184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185-189 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190-194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195-199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \# measured | 431 | 619 | 528 | 577 | 891 | 415 | 407 | 258 | 124 | 2672 | 4250 |
| Mean | 43.74 | 54.62 | 66.71 | 76.59 | 88.11 | 93.20 | 112.78 | 100.98 | 104.25 | 92.16 | 22.66 |
| StdDev. | 12.56 | 15.14 | 17.93 | 19.56 | 17.46 | 18.38 | 22.27 | 21.38 | 21.12 | 78.62 | 27.43 |

Table 11. Biweekly size comparison of YOY Striped bass, 1985-2002

| YEAR |  | week 1 | week 2 | week 3 | week 4 | week 5 | week 6 | week 7 | week 8 | week 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2002 | Mean | 43.74 | 54.62 | 66.71 | 76.59 | 88.11 | 93.20 | 112.78 | 100.98 | 104.25 |
|  | StdDev | 12.56 | 15.14 | 17.93 | 19.56 | 17.46 | 18.38 | 22.27 | 21.38 | 21.12 |
| 2001 | Mean | 44.29 | 54.77 | 67.13 | 75.74 | 85.94 | 93.95 | 92.62 | 92.62 | 104.57 |
|  | StdDev | 10.00 | 13.21 | 12.81 | 12.65 | 13.10 | 15.92 | 16.49 | 17.59 | 10.80 |
| 2000 | Mean | 41.66 | 47.55 | 53.04 | 62.40 | 71.82 | 73.03 | 79.30 | 71.55 | 70.71 |
|  | StdDev | 9.93 | 10.77 | 11.76 | 13.27 | 14.79 | 15.40 | 17.53 | 8.06 | 4.92 |
| 1999 | Mean | 52.53 | 62.91 | 75.34 | 93.44 | 101.45 | 95.64 | 89.42 | 91.12 | 88.46 |
|  | StdDev | 11.43 | 10.90 | 14.86 | 20.11 | 18.39 | 22.37 | 21.01 | 24.39 | 24.14 |
| 1998 | Mean | 39.28 | 47.88 | 60.55 | 70.46 | 79.73 | 81.81 | 84.88 | 98.30 | 91.93 |
|  | StdDev | 11.93 | 12.68 | 11.81 | 14.15 | 11.85 | 15.03 | 13.15 | 15.23 | 15.21 |
| 1997 | Mean | 41.50 | 52.26 | 73.32 | 72.85 | 79.14 | 83.59 | 87.66 | 87.71 | 87.16 |
|  | StdDev | 9.19 | 11.12 | 10.00 | 12.98 | 13.48 | 13.79 | 13.61 | 12.23 | 15.10 |
| 1996 | Mean | 44.43 | 51.79 | 58.60 | 66.78 | 81.48 | 86.36 | 88.09 | 84.31 | 83.25 |
|  | StdDev | 12.02 | 12.45 | 13.49 | 12.25 | 17.56 | 19.53 | 16.02 | 17.03 | 16.46 |
| 1995 | Mean | 41.98 | 62.43 | 69.91 | 78.85 | 87.57 | 94.65 | 100.20 | 99.90 | 90.76 |
|  | StdDev | 8.95 | 11.20 | 11.38 | 11.19 | 12.99 | 16.21 | 18.29 | 20.34 | 20.04 |
| 1994 | Mean | 41.26 | 54.56 | 62.11 | 71.21 | 75.99 | 84.01 | 84.08 | 87.83 | 88.93 |
|  | StdDev | 8.77 | 10.82 | 11.76 | 13.69 | 14.37 | 15.55 | 13.21 | 14.61 | 13.45 |
| 1993 | Mean | 38.12 | 52.58 | 62.17 | 68.99 | 76.33 | 83.52 | 84.60 | 88.12 | 88.59 |
|  | StdDev | 8.13 | 11.53 | 12.35 | 13.30 | 13.40 | 14.83 | 13.41 | 16.38 | 19.19 |
| 1992 | Mean | 46.89 | 57.77 | 65.38 | 72.52 | 82.02 | 85.40 | 91.01 | 89.59 | 89.89 |
|  | StdDev | 10.82 | 12.47 | 12.31 | 12.60 | 12.08 | 14.46 | 15.25 | 15.26 | 15.57 |
| 1991 | Mean | 62.42 | 71.48 | 82.04 | 89.93 | 97.61 | 100.96 | 101.95 | 94.02 | 97.25 |
|  | StdDev | 15.45 | 14.34 | 15.00 | 18.54 | 18.56 | 22.94 | 27.32 | 27.51 | 22.83 |
| 1990 | Mean | 48.94 | 45.95 | 57.52 | 65.00 | 71.59 | 76.17 | 77.46 | 78.28 | 74.82 |
|  | StdDev | 23.57 | 15.70 | 14.99 | 13.42 | 13.91 | 13.66 | 13.97 | 14.32 | 16.01 |
| 1989 | Mean | 36.10 | 46.68 | 57.32 | 65.12 | 72.35 | 81.13 | 81.16 | 82.11 | 85.05 |
|  | StdDev | 9.36 | 9.40 | 10.84 | 11.29 | 11.02 | 12.20 | 12.64 | 12.45 | 14.17 |
| 1988 | Mean | 41.90 | 51.28 | 59.89 | 73.84 | 80.91 | 84.06 | 88.09 | 85.91 | 86.88 |
|  | StdDev | 10.56 | 15.28 | 14.67 | 15.53 | 16.32 | 15.82 | 17.16 | 18.63 | 16.43 |
| 1987 | Mean | 47.84 | 59.84 | 67.50 | 72.49 | 80.71 | 85.56 | 85.17 | 87.58 | 84.96 |
|  | StdDev | 9.52 | 9.61 | 10.61 | 10.71 | 10.71 | 11.97 | 13.41 | 13.53 | 15.29 |
| 1986 | Mean | 58.03 | 67.05 | 76.08 | 86.55 | 90.21 | 97.18 | 95.60 | 99.56 | 98.75 |
|  | StdDev | 7.14 | 10.68 | 13.08 | 11.94 | 11.32 | 15.94 | 14.00 | 22.23 | 16.34 |
| 1985 | Mean | 54.30 | 63.74 | 80.80 | 84.10 | 93.19 | 102.55 | 105.76 | 100.28 | 105.22 |
|  | StdDev | 7.34 | 11.29 | 11.04 | 10.60 | 14.13 | 14.90 | 17.51 | 12.88 | 19.18 |

Table 12. Age-distribution of Striped bass captured in the Hudson River Sampling, 1985-2002.

| AGE | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 1185 | 2203 | 9183 | 9322 | 9449 | 9828 | 3188 | 5796 | 7591 | 7620 | 5899 | 4346 | 5987 | 5071 | 5720 | 2917 | 6178 |
| 1 | 84 | 43 | 27 | 151 | 144 | 58 | 154 | 156 | 108 | 57 | 245 | 93 | 87 | 129 | 118 | 149 | 168 |
| 2 | 13 | 3 | 3 | 6 | 12 | 9 | 11 | 7 | 23 | 5 | 23 | 5 | 10 | 15 | 4 | 11 | 7 |
| 3 | 0 | 4 | 0 | 1 | 0 | 2 | 3 | 2 | 6 | 0 | 5 | 3 | 2 | 1 | 0 | 1 | 0 |
| 4 | 0 | 3 | 0 | 1 | 0 | 0 | 1 | 4 | 1 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 6 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 8 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 0 | 0 |
| $>8$ | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 13. Size-frequency distribution of older Striped bass, Hudson River, 2002

| TL | $\begin{gathered} \text { week } 1 \\ \text { July } \\ \text { 15-16 } \end{gathered}$ | $\begin{gathered} \text { week } 2 \\ \text { July } \\ 29-30 \end{gathered}$ | week 3 Aug. 12-13 | $\begin{aligned} & \text { week } 4 \\ & \text { Aug. } \\ & 26-27 \end{aligned}$ | $\begin{aligned} & \text { week } 5 \\ & \text { Sept. } \\ & 9-10 \end{aligned}$ | week 6 <br> Sept. <br> 23-24 | week 7 Oct. $8-10$ | $\begin{gathered} \text { week } 8 \\ \text { Oct. } \\ 21-22 \end{gathered}$ | week 9 Nov. 5-8 | $\begin{gathered} \text { weeks } \\ 4-9 \\ \hline \end{gathered}$ | $\begin{aligned} & \text { weeks } \\ & 1-9 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| <20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40-59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60-79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80-99 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 100-119 | 6 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 7 |
| 120-139 | 2 | 5 | 10 | 1 | 1 | 2 | 2 | 0 | 0 | 6 | 23 |
| 140-159 | 0 | 2 | 5 | 3 | 1 | 1 | 3 | 4 | 0 | 12 | 19 |
| 160-179 | 0 | 1 | 3 | 5 | 15 | 2 | 7 | 2 | 2 | 33 | 37 |
| 180-199 | 0 | 0 | 0 | 6 | 11 | 5 | 8 | 3 | 2 | 35 | 35 |
| 200-219 | 0 | 0 | 0 | 1 | 4 | 5 | 12 | 5 | 3 | 30 | 30 |
| 220-239 | 0 | 0 | 0 | 1 | 2 | 3 | 5 | 2 | 3 | 16 | 16 |
| 240-259 | 0 | 1 | 2 | 0 | 4 | 2 | 1 | 0 | 0 | 7 | 10 |
| 260-279 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 4 | 4 |
| 280-299 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 3 |
| 300-319 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 320-339 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 2 |
| 340-359 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 360-379 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 380-399 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400-419 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420-439 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440-459 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460-479 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480-499 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \# measured | 9 | 9 | 21 | 18 | 42 | 22 | 41 | 17 | 11 | 151 | 190 |
| Mean | 112.33 | 152.00 | 149.33 | 169.78 | 197.02 | 203.91 | 199.27 | 191.94 | 214.73 | 196.11 | 184.88 |
| StdDev | 6.89 | 37.88 | 35.97 | 26.85 | 40.20 | 43.28 | 41.75 | 35.31 | 55.57 | 41.37 | 45.84 |

Table 14. Older Striped bass catch per station, 2002

|  |  |  | week 2 | week 3 | week | week | week 6 | week | week 8 | week 9 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| STATION | riv mile | $\begin{gathered} \text { July } \\ 15-16 \\ \hline \end{gathered}$ | $\begin{gathered} \text { July } \\ 29-30 \\ \hline \end{gathered}$ | $\begin{aligned} & \text { Aug. } \\ & 12-13 \end{aligned}$ | $\begin{gathered} \text { Aug. } \\ 26-27 \end{gathered}$ | $\begin{aligned} & \text { Sept. } \\ & 9-10 \\ & \hline \end{aligned}$ | $\begin{gathered} \text { Sept. } \\ 23-24 \\ \hline \end{gathered}$ | $\begin{aligned} & \text { Oct. } \\ & 8-10 \\ & \hline \end{aligned}$ | $\begin{gathered} \text { Oct. } \\ 21-22 \end{gathered}$ | $\begin{gathered} \text { Nov. } \\ 5-8 \\ \hline \end{gathered}$ | C/F |
| EAST |  |  |  |  |  |  |  |  |  |  |  |
| 18E | 23 | 0 | 0 | 0 | 0 | 0 |  | 0 | 1 | 2 | 0.38 |
| 21 E | 23 | 0 | 0 | 0 | 0 | 3 | 2 |  | 0 | 2 | 0.88 |
| 17 E | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0.33 |
| 16E | 25 | 0 | 0 | 0 | 0 | 0 | 9 | 1 | 4 | 0 | 1.56 |
| 15E | 27 |  |  |  |  |  |  |  |  |  |  |
| 12E | 29 | 1 | 1 | 0 | 3 | 7 |  | 4 |  | 1 | 2.43 |
| 13E | 29 | 0 | 0 |  | 0 | 0 | 0 |  | 3 | 0 | 0.43 |
| 14E | 29 | 0 | 0 | 0 | 0 | 2 |  | 1 | 2 | 1 | 0.75 |
| 19E | 33 | 0 | 2 | 0 | 0 | 6 | 1 | 2 | 1 | 0 | 1.33 |
| 10 E | 34 |  |  |  |  |  |  |  |  |  |  |
| 11 E | 34 | 0 | 1 | 5 | 0 | 1 | 1 | 0 | 0 | 0 | 0.89 |
| 9E | 34 | 2 | 0 | 1 | 1 | 2 |  | 3 | 0 | 0 | 1.13 |
| 7E1 | 35 |  |  |  |  |  |  |  |  |  |  |
| 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
| 7EE | 35 | 0 | 0 | 1 | 3 | 9 | 4 | 2 | 0 |  | 2.38 |
| 7EW | 35 | 2 | 0 | 5 | 2 | 0 | 2 | 2 | 2 | 0 | 1.67 |
| 8E | 35 |  | 0 | 0 | 2 |  | 0 | 7 | 0 | 1 | 1.43 |
| 6E | 36 |  |  |  |  |  |  |  |  |  |  |
| 3E | 39 | 1 | 3 | 0 | 0 | 2 | 0 |  | 0 | 3 | 1.13 |
| 4E | 39 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 0.78 |
| 5 E | 39 |  |  |  |  |  |  |  |  |  |  |
| 20E | 41 |  |  |  |  |  |  |  |  |  |  |
| WEST |  |  |  |  |  |  |  |  |  |  |  |
| 15WN | 27 |  |  |  |  |  |  |  |  |  |  |
| 15WS | 27 | 0 | 0 | 0 | 0 | 0 |  | 6 |  |  | 1.00 |
| 16WN | 27 | 0 | 0 | 0 | 7 | 0 |  | 0 | 0 | 0 | 0.88 |
| 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
| 13W | 29 |  |  |  |  |  |  |  |  |  |  |
| 14W | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0.22 |
| 12W | 30 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 11W | 32 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 0 |  | 0.63 |
| 10W | 35 |  | 0 | 1 | 0 | 2 | 0 |  | 0 | 0 | 0.43 |
| 9W | 35 |  |  | 0 |  | 0 |  | 0 | 0 | 0 | 0.00 |
| 8W | 36 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0.22 |
| 7W | 37 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0.56 |
| 3W | 39 |  |  |  |  |  |  |  |  |  |  |
| 4W | 39 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0.44 |
| 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
| 5W | 39 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0.33 |
| 20W | 42 |  |  |  |  |  |  |  |  |  |  |
| Effort |  | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
| Catch |  | 8 | 8 | 19 | 18 | 39 | 22 | 39 | 15 | 11 |  |
| C/E |  | 0.35 | 0.32 | 0.76 | 0.75 | 1.56 | 1.16 | 1.77 | 0.63 | 0.48 |  |

Table 15. YOY White perch catch by station, 2002

| STATION |  | riv mile | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \end{gathered}$ | $\begin{aligned} & \text { week } \\ & \text { 2 July } \\ & 29-30 \end{aligned}$ | week 3 Aug. 12-13 | $\begin{aligned} & \text { week } \\ & 4 \text { Aug. } \\ & 26-27 \end{aligned}$ | $\begin{gathered} \text { week } \\ 5 \text { Sept. } \\ 9-10 \end{gathered}$ | $\begin{gathered} \text { week } \\ 6 \text { Sept. } \\ 23-24 \end{gathered}$ | $\begin{gathered} \text { week } \\ 7 \text { Oct. } \\ 8-10 \end{gathered}$ | $\begin{aligned} & \text { week } \\ & 8 \text { Oct. } \\ & 21-22 \end{aligned}$ | $\begin{gathered} \text { week } \\ 9 \text { Nov. } \\ 5-8 \end{gathered}$ | C/F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EAST |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 18E | 23 | 5 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.63 |
|  | 21 E | 23 | 0 | 0 | 1 | 0 | 0 | 0 |  | 0 | 0 | 0.13 |
|  | 17 E | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 16E | 25 | 9 | 0 | 1 | 0 | 0 | 0 | 1 | 4 | 0 | 1.67 |
|  | 15E | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 12E | 29 | 2 | 0 | 0 | 1 | 0 |  | 0 |  | 0 | 0.43 |
|  | 13E | 29 | 3 | 27 |  | 9 | 65 | 19 |  | 5 | 0 | 18.29 |
|  | 14E | 29 | 2 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.25 |
|  | 19E | 33 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0.44 |
|  | 10E | 34 |  |  |  |  |  |  |  |  |  |  |
|  | 11 E | 34 | 0 | 2 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 1.00 |
|  | 9 E | 34 | 0 | 36 | 0 | 0 | 0 |  | 0 | 0 | 0 | 4.50 |
|  | 7 E 1 | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EE | 35 | 2 | 23 | 68 | 24 | 21 | 0 | 0 | 2 |  | 17.50 |
|  | 7EW | 35 | 4 | 11 | 17 | 4 | 0 | 4 | 1 | 11 | 0 | 5.78 |
|  | 8E | 35 |  | 188 | 411 | 287 |  | 22 | 1 | 0 | 0 | 129.86 |
|  | 6 E | 36 |  |  |  |  |  |  |  |  |  |  |
|  | 3E | 39 | 22 | 2 | 2 | 18 | 5 | 3 |  | 3 | 21 | 9.50 |
|  | 4E | 39 | 0 | 6 | 7 | 14 | 3 | 5 | 6 | 12 | 4 | 6.33 |
|  | 5 E | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 20E | 41 |  |  |  |  |  |  |  |  |  |  |
| WEST |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 15WN | 27 |  |  |  |  |  |  |  |  | า |  |
|  | 15WS | 27 | 12 | 0 | 28 | 67 | 0 |  | 9 |  |  | 19.33 |
|  | 16WN | 27 | 0 | 0 | 4 | 0 | 0 |  | 3 | 1 | 0 | 1.00 |
|  | 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 13W | 29 |  |  |  |  |  |  |  |  |  |  |
|  | 14W | 29 | 4 | 27 | 37 | 27 | 12 | 2 | 2 | 2 | 0 | 12.56 |
|  | 12W | 30 | 9 | 55 | 23 |  | 35 | 11 | 14 | 24 | 5 | 22.00 |
|  | 11W | 32 | 0 | 0 | 2 | 22 | 0 | 0 | 0 | 0 |  | 3.00 |
|  | 10W | 35 |  | 66 | 75 | 60 | 47 | 14 |  | 1 | 0 | 37.57 |
|  | 9W | 35 |  |  | 0 |  | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 8W | 36 | 7 | 35 | 25 | 4 | 0 | 0 | 0 | 0 | 0 | 7.89 |
|  | 7W | 37 | 22 | 15 | 0 | 13 | 2 | 19 | 0 | 5 | 0 | 8.44 |
|  | 3W | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 4W | 39 | 0 | 1 | 1 | 5 | 8 | 8 | 0 | 0 | 11 | 3.78 |
|  | 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 5W | 39 | 0 | 0 | 3 | 6 | 7 | 8 | 0 | 0 | 55 | 8.78 |
|  | 20W | 42 |  |  |  |  |  |  |  |  |  |  |
|  | Effort |  | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
|  | Catch |  | 103 | 494 | 712 | 561 | 206 | 115 | 37 | 73 | 96 |  |
|  | C/E |  | 4.48 | 19.76 | 28.48 | 23.38 | 8.24 | 6.05 | 1.68 | 3.04 | 4.17 |  |

Table 16. Older White Perch catch by station, 2002

| STATION |  | Riv. mile | week 1 week 2 week 3 week 4 week 5 week 6 week 7 week 8 week 9 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{gathered} \text { July } \\ 15-16 \\ \hline \end{gathered}$ | $\begin{gathered} \text { July } \\ 29-30 \end{gathered}$ | $\begin{aligned} & \text { Aug. } \\ & \text { 12-13 } \end{aligned}$ | $\begin{aligned} & \text { Aug. } \\ & 26-27 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Sept. } \\ & 9-10 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Sept. } \\ & \text { 23-24 } \end{aligned}$ | $\begin{aligned} & \text { Oct. } \\ & 8-10 \\ & \hline \end{aligned}$ | $\begin{gathered} \text { Oct. } \\ 21-22 \\ \hline \end{gathered}$ | Nov. 5-8 | C/F |
| EAST |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 18E | 23 | 0 | 0 | 1 | 4 | 0 |  | 17 | 1 | 0 | 2.88 |
|  | 21 E | 23 | 0 | 0 | 0 | 0 | 0 | 0 |  | 1 | 1 | 0.25 |
|  | 17E | 24 | 7 | 4 | 4 | 4 | 5 | 14 | 11 | 0 | 4 | 5.89 |
|  | 16E | 25 | 89 | 36 | 28 | 0 | 66 | 0 | 11 | 6 | 0 | 26.22 |
|  | 15E | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 12E | 29 | 10 | 32 | 2 | 0 | 9 |  | 1 |  | 0 | 7.71 |
|  | 13E | 29 | 35 | 26 |  | 18 | 2 | 10 |  | 2 | 0 | 13.29 |
|  | 14E | 29 | 1 | 1 | 0 | 0 | 0 |  | 3 | 2 | 0 | 0.88 |
|  | 19E | 33 | 0 | 482 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53.56 |
|  | 10E | 34 |  |  |  |  |  |  |  |  |  |  |
|  | 11 E | 34 | 7 | 0 | 36 | 7 | 0 | 0 | 0 | 0 | 0 | 5.56 |
|  | 9 E | 34 | 57 | 0 | 5 | 0 | 0 |  | 0 | 0 | 0 | 7.75 |
|  | 7E1 | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EE | 35 | 3 | 5 | 73 | 17 | 10 | 0 | 0 | 0 |  | 13.50 |
|  | 7EW | 35 | 52 | 10 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 14.56 |
|  | 8E | 35 |  | 342 | 73 | 88 |  | 11 | 0 | 0 | 0 | 73.43 |
|  | 6 E | 36 |  |  |  |  |  |  |  |  |  |  |
|  | 3E | 39 | 21 | 76 | 227 | 5 | 17 | 0 |  | 10 | 26 | 47.75 |
|  | 4E | 39 | 0 | 143 | 153 | 2 | 1 | 5 | 24 | 0 | 16 | 38.22 |
|  | 5E | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 20 E | 41 |  |  |  |  |  |  |  |  |  |  |
| WEST |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 15WN | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 15WS | 27 | 10 | 4 | 2 | 0 | 18 |  | 2 |  |  | 6.00 |
|  | 16WN | 27 | 0 | 2 | 0 | 0 | 1 |  | 5 | 1 | 1 | 1.25 |
|  | 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 13W | 29 |  |  |  |  |  |  |  |  |  |  |
|  | 14W | 29 | 3 | 5 | 24 | 6 | 10 | 9 | 10 | 1 | 0 | 7.56 |
|  | 12W | 30 | 1 | 9 | 45 |  | 23 | 21 | 7 | 14 | 3 | 15.38 |
|  | 11W | 32 | 1 | 0 | 0 | 22 | 0 | 3 | 9 | 1 |  | 4.50 |
|  | 10W | 35 |  | 39 | 31 | 10 | 450 | 138 |  | 0 | 0 | 95.43 |
|  | 9W | 35 |  |  | 0 |  | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 8W | 36 | 19 | 0 | 91 | 68 | 0 | 88 | 0 | 0 | 0 | 29.56 |
|  | 7W | 37 | 7 | 62 | 0 | 51 | 4 | 31 | 0 | 21 | 0 | 19.56 |
|  | 3W | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 4W | 39 | 2 | 14 | 121 | 1 | 11 | 8 | 2 | 0 | 13 | 19.11 |
|  | 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 5W | 39 | 29 | 16 | 28 | 4 | 3 | 2 | 1 | 0 | 31 | 12.67 |
|  | 20W | 42 |  |  |  |  |  |  |  |  |  |  |
| Effort |  |  | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
| Catch |  |  | 354 | 1308 | 1013 | 307 | 630 | 340 | 103 | 60 | 95 |  |
| C/E |  |  | 15.39 | 52.32 | 40.52 | 12.79 | 25.20 | 17.89 | 4.68 | 2.50 | 4.13 |  |

Table 17. Size-frequency distribution of YOY White Perch, Hudson River 2002

| TL | *week 1 July 15-16 | $\begin{gathered} \text { week } 2 \\ \text { July } \\ 29-30 \\ \hline \end{gathered}$ | week 3 Aug. 12-13 | week 4 Aug. 26-27 | week 5 Sept. 9-10 | week 6 Sept. 23-24 | ```**week 7 Oct. 8-10``` | ** week 8 Oct. 21-22 | ** week 9 <br> Nov. <br> 5-8 | weeks 4-9 | weeks 1-9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $<20$ | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 |
| 20-24 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 |
| 25-29 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 |
| 30-34 | 0 | 7 | 1 | 1 | 0 | 0 | - | - | - | 1 | 9 |
| 35-39 | 1 | 14 | 1 | 0 | 0 | 0 | - | - | - | 0 | 16 |
| 40-44 | 4 | 10 | 4 | 0 | 0 | 0 | - | - | - | 0 | 18 |
| 45-49 | 0 | 21 | 9 | 1 | 0 | 0 | - | - | - | 1 | 31 |
| 50-54 | 0 | 14 | 10 | 8 | 3 | 0 | - | - | - | 11 | 35 |
| 55-59 | 0 | 11 | 12 | 7 | 4 | 0 | - | - | - | 11 | 34 |
| 60-64 | 0 | 2 | 15 | 16 | 10 | 1 | - | - | - | 27 | 44 |
| 65-69 | 0 | 0 | 7 | 12 | 3 | 2 | - | - | - | 17 | 24 |
| 70-74 | 0 | 0 | 4 | 6 | 3 | 2 | - | - | - | 11 | 15 |
| 75-79 | 0 | 1 | 0 | 2 | 3 | 3 | - | - | - | 8 | 9 |
| 80-84 | 1 | 0 | 0 | 1 | 1 | 4 | - | - | - | 6 | 7 |
| 85-89 | 0 | 0 | 0 | 0 | 0 | 2 | - | - | - | 2 | 2 |
| 90-94 | 3 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 3 |
| 95-99 | 1 | 0 | 0 | 0 | 1 | 0 | - | - | - | 1 | 2 |
| 100-104 | 10 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 10 |
| 105-109 | 2 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 2 |
| 110-114 | 6 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 6 |
| 115-119 | 1 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 1 |
| 120-124 | 2 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 2 |
| 125-129 | 1 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 1 |
| 130-134 | 1 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 1 |
| 135-139 | 1 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 1 |
| 140-144 | 1 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 1 |
| 145-149 | 3 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 3 |
| 150-154 | 1 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 1 |
| 155-159 | 2 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 2 |
| 160-164 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 |
| 165-169 | 2 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 2 |
| 170-174 | 1 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 1 |
| 175-179 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 |
| 180-184 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 |
| 185-189 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 |
| 190-194 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 |
| 195-199 | 1 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 1 |
| >200 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 |
| \# Measured | 45 | 80 | 63 | 54 | 28 | 14 | - | - | - | 96 | 284 |
| Mean | 112.09 | 46.39 | 56.16 | 61.85 | 65.07 | 76.93 |  |  |  | 64.99 | 64.57 |
| StdDev. | 35.99 | 8.45 | 8.65 | 8.39 | 10.45 | 7.59 |  |  |  | 10.24 | 27.88 |

* adult ( $1+$ years) white perch were only measured during week 1
** YOY white perch were not measured in weeks 7-9

Table 18. Atlantic tomcod catch by station, 2002

| STATION | Riv.mile | week 1 July 15-16 | week 2 <br> July <br> 29-30 | week 3 Aug. 12-13 | week 4 Aug. 26-27 | week 5 Sept. 9-10 | week 6 Sept. 23-24 | week 7 Oct. 8-10 | week 8 Oct. <br> 21-22 | week 9 Nov. 5-8 | C/F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EAST |  |  |  |  |  |  |  |  |  |  |  |
| 18E | 23 | 0 | 0 | 0 | 1 | 0 |  | 0 | 0 | 0 | 0.13 |
| 21E | 23 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
| 17E | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 16E | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 15E | 27 |  |  |  |  |  |  |  |  |  |  |
| 12E | 29 | 0 | 0 | 0 | 0 | 0 |  | 0 |  | 0 | 0.00 |
| 13 E | 29 | 0 | 0 |  | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
| 14E | 29 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
| 19E | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 10E | 34 |  |  |  |  |  |  |  |  |  |  |
| 11 E | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 9 E | 34 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
| 7E1 | 35 |  |  |  |  |  |  |  |  |  |  |
| 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
| 7EE | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.00 |
| 7EW | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 8E | 35 |  | 0 | 1 | 0 |  | 0 | 0 | 0 | 0 | 0.14 |
| 6 E | 36 |  |  |  |  |  |  |  |  |  |  |
| 3E | 39 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
| 4E | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 5 E | 39 |  |  |  |  |  |  |  |  |  |  |
| 20E | 41 |  |  |  |  |  |  |  |  |  |  |
| WEST |  |  |  |  |  |  |  |  |  |  |  |
| 15WN | 27 |  |  |  |  |  |  |  |  |  |  |
| 15WS | 27 | 0 | 0 | 0 | 0 | 0 |  | 0 |  |  | 0.00 |
| 16WN | 27 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
| 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
| 13W | 29 |  |  |  |  |  |  |  |  |  |  |
| 14W | 29 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.11 |
| 12W | 30 | 0 | 0 | 0 |  | 1 | 0 | 0 | 0 | 0 | 0.13 |
| 11W | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.00 |
| 10W | 35 |  | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
| 9W | 35 |  |  | 0 |  | 0 |  | 0 | 0 | 0 | 0.00 |
| 8W | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 7W | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 3W | 39 |  |  |  |  |  |  |  |  |  |  |
| 4W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
| 5W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 20W | 42 |  |  |  |  |  |  |  |  |  |  |
| Effort |  | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
| Catch |  | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 |  |
| C/E |  | 0.00 | 0.00 | 0.08 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 |  |

Table 19. Size-frequency distribution of Atlantic Tomcod, Hudson River 2002

| TL | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \\ \hline \end{gathered}$ | $\begin{gathered} \text { week } 2 \\ \text { July } \\ 29-30 \\ \hline \end{gathered}$ | week 3 Aug. 12-13 | week 4 Aug. 26-27 | week 5 Sept. $9-10$ | week 6 Sept. 23-24 | week 7 <br> Oct. <br> 8-10 | week 8 <br> Oct. <br> 21-22 | week 9 Nov. 5-8 | weeks 4-9 | $\begin{gathered} \text { weeks } \\ 1-9 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $<20$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25-29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30-34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35-39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40-44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55-59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60-64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65-69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70-74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75-79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80-84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85-89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90-94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95-99 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 100-104 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105-109 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 110-114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115-119 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 120-124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125-129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130-134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135-139 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140-144 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145-149 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150-154 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 155-159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160-164 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165-169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170-174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175-179 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180-184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185-189 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190-194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195-199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \# Measured | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 4 |
| Mean |  |  | 103.00 | 150.00 | 115.00 |  |  |  |  | 132.50 | 117.75 |
| StdDev. |  |  | 8.49 |  |  |  |  |  |  | 24.75 | 22.77 |

Table 20. American eel catch per station, 2002


Table 21. Size-frequency distribution of American eel, Hudson River 2002

| TL | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \end{gathered}$ | $\begin{gathered} \text { week } 2 \\ \text { July } \\ 29-30 \\ \hline \end{gathered}$ | $\begin{gathered} \text { week } 3 \\ \text { Aug. } \\ 12-13 \\ \hline \end{gathered}$ | $\begin{gathered} \text { week } 4 \\ \text { Aug. } \\ 26-27 \end{gathered}$ | week 5 Sept. $9-10$ | $\begin{gathered} \text { week } 6 \\ \text { Sept. } \\ 23-24 \end{gathered}$ | week 7 <br> Oct. <br> 8-10 | $\begin{gathered} \text { week } 8 \\ \text { Oct. } \\ 21-22 \\ \hline \end{gathered}$ | week 9 Nov. 5-8 | weeks $4-9$ | weeks $1-9$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $<20$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40-59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60-79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80-99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100-119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 |
| 120-139 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 |
| 140-159 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 4 |
| 160-179 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 5 | 5 |
| 180-199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200-219 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220-239 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 240-259 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 260-279 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 280-299 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 300-319 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 3 | 3 |
| 320-339 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 2 |
| 340-359 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 360-379 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 380-399 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400-419 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 420-439 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 440-459 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460-479 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 480-499 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500-519 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 3 |
| 520-539 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 540-559 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 |
| 560-579 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 580-599 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 600-619 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 620-639 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 640-659 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 660-679 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 680-699 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 700-719 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 720-739 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $740-759$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 760-779 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 780-799 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 800-819 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 820-839 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 840-859 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 860-879 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 880-899 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $>900$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \# Measured | 2 | 4 | 2 | 3 | 4 | 4 | 5 | 4 | 6 | 26 | 34 |
| Mean | 485.50 | 477.50 | 259.00 | 455.00 | 503.00 | 386.00 | 229.60 | 246.75 | 139.33 | 303.54 | 332.09 |
| StdDev. | 105.36 | 150.14 | 164.05 | 172.55 | 145.16 | 96.99 | 89.46 | 225.62 | 19.37 | 178.30 | 179.56 |

Table 22 Older Bluefish catch by station, 2002

| STATION |  | riv mile | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \end{gathered}$ | $\begin{gathered} \text { week } 2 \\ \text { July } \\ 29-30 \end{gathered}$ | week3 <br> Aug. <br> 12-13 | $\begin{gathered} \text { week } \\ 4 \text { Aug. } \\ 26-27 \end{gathered}$ | week 5 Sept. 9-10 | week 6 Sept. 23-24 | $\begin{gathered} \text { week } \\ 70 \mathrm{ct.} \\ 8-10 \end{gathered}$ | week 8 Oct. 21-22 | week 9 Nov. 5-8 | C/F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| East |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 18E | 23 | 1 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.13 |
|  | 21 E | 23 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
|  | 17E | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 16E | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 15 E | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 12E | 29 | 0 | 0 | 0 | 0 | 0 |  | 0 |  | 0 | 0.00 |
|  | 13 E | 29 | 0 | 0 |  | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
|  | 14E | 29 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 19E | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 10E | 34 |  |  |  |  |  |  |  |  |  |  |
|  | 11 E | 34 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.11 |
|  | 9E | 34 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 7E1 | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EE | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.00 |
|  | 7EW | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 8E | 35 |  | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0.00 |
|  | 6E | 36 |  |  |  |  |  |  |  |  |  |  |
|  | 3E | 39 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
|  | 4E | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 5E | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 20E | 41 |  |  |  |  |  |  |  |  |  |  |
| West |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 15WN | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 15WS | 27 | 0 | 0 | 0 | 0 | 0 |  | 0 |  |  | 0.00 |
|  | 16WN | 27 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 13W | 29 |  |  |  |  |  |  |  |  |  |  |
|  | 14W | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 12W | 30 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 11W | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.00 |
|  | 10W | 35 |  | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
|  | 9W | 35 |  |  | 0 |  | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 8W | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 7W | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 3W | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 4W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 5W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 20W | 42 |  |  |  |  |  |  |  |  |  |  |
| Effort |  |  | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
| Catch |  |  | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| C/E |  |  | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |  |

Table 23. Size-frequency distribution of Bluefish, Hudson River 2002

| TL | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \end{gathered}$ | $\begin{gathered} \text { week } \\ \text { July } \\ 29-30 \end{gathered}$ | week 3 Aug. 12-13 | $\begin{gathered} 3 \text { week } 4 \\ \text { Aug. } \\ 26-27 \end{gathered}$ | $\begin{gathered} 4 \text { week } 5 \\ \text { Sept. } \\ 9-10 \\ \hline \end{gathered}$ | week 6 Sept. $23-24$ | week 7 Oct. $8-10$ | $\begin{gathered} \text { week } 8 \\ \text { Oct. } \\ 21-22 \end{gathered}$ | week 9 <br> Nov. <br> 5-8 | weeks <br> 4.9 | weeks 1-9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $<20$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40-59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60-79 | 0 | 0 | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 6 |
| 80-99 | 10 | 2 | 16 | 26 | 17 | 0 | 0 | 0 | 0 | 43 | 71 |
| 100-119 | 40 | 2 | 10 | 37 | 21 | 13 | 0 | 0 | 0 | 71 | 123 |
| 120-139 | 14 | 22 | 60 | 24 | 16 | 16 | 3 | 0 | 0 | 59 | 155 |
| 140-159 | 0 | 17 | 46 | 20 | 5 | 5 | 1 | 1 | 0 | 32 | 95 |
| 160-179 | 2 | 1 | 29 | 15 | 6 | 5 | 6 | 0 | 0 | 32 | 64 |
| 180-199 | 0 | 0 | 8 | 12 | 3 | 0 | 3 | 0 | 0 | 18 | 26 |
| 200-219 | 0 | 0 | 0 | 3 | 7 | 0 | 1 | 0 | 0 | 11 | 11 |
| 220-239 | 1 | 0 | 0 | 1 | 3 | I | 0 | 0 | 0 | 5 | 6 |
| 240-259 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 260-279 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 280-299 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300-319 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 320-339 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340-359 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 360-379 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 380-399 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400-419 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420-439 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440-459 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460-479 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480-499 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500-519 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 520-539 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 540-559 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 560-579 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 580-599 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 600-619 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 620-639 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 640-659 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 660-679 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 680-699 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 700-719 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $720-739$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 740-759 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 760-779 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 780-799 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 800-819 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 820-839 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 840-859 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 860-879 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 880-899 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \# Measured | 68 | 45 | 172 | 139 | 80 | 40 | 15 | 1 | 0 | 275 | 560 |
| Mean | 116.74 | 142.24 | 137.12 | 129.61 | 130.98 | 131.83 | 171.93 | 147.00 |  | 132.70 | 132.89 |
| SrdDev. | 34.01 | 59.31 | 25.91 | 34.26 | 40.51 | 25.98 | 32.05 |  |  | 36.11 | 36.11 |

Table 24. Winter flounder catch by station, 2002

| STATION | Riv. mile | week 1 July <br> 15-16 | week 2 <br> July <br> 29-30 | week 3 <br> Aug. <br> 12-13 | week 4 <br> Aug. <br> 26-27 | $\begin{array}{r} \text { week } 5 \\ \text { Sept. } \\ 9-10 \\ \hline \end{array}$ | week 6 Sept. 23-24 | week 7 Oct. 8-10 | week 8 Oct. <br> 21-22 | week 9 Nov. 5-8 | C/F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| East |  |  |  |  |  |  |  |  |  |  |  |
| 18E | 23 | 0 | 3 | 0 | 0 | 1 |  | 1 | 2 | 1 | 1.00 |
| 21 E | 23 | 0 | 2 | 0 | 2 | 0 | 0 |  | 0 | 0 | 0.50 |
| 17E | 24 | 0 | 4 | 1 | 0 | 1 | 0 | 3 | 0 | 2 | 1.22 |
| 16E | 25 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0.56 |
| 15E | 27 |  |  |  |  |  |  |  |  |  |  |
| 12E | 29 | 0 | 0 | 0 | 0 | 0 |  | 1 |  | 0 | 0.14 |
| 13E | 29 | 0 | 0 |  | 0 | 0 | 1 |  | 0 | 2 | 0.43 |
| 14E | 29 | 1 | 2 | 1 | 0 | 1 |  | 1 | 0 | 0 | 0.75 |
| 19E | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.22 |
| 10E | 34 |  |  |  |  |  |  |  |  |  |  |
| 11E | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 9 E | 34 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
| 7E1 | 35 |  |  |  |  |  |  |  |  |  |  |
| 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
| 7EE | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.00 |
| 7EW | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 8E | 35 |  | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0.00 |
| 6E | 36 |  |  |  |  |  |  |  |  |  |  |
| 3E | 39 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
| 4E | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 5 E | 39 |  |  |  |  |  |  |  |  |  |  |
| 20E | 41 |  |  |  |  |  |  |  |  |  |  |
| West |  |  |  |  |  |  |  |  |  |  |  |
| 15WN | 27 |  |  |  |  |  |  |  |  |  |  |
| 15WS | 27 | 0 | 0 | 0 | 0 | 0 |  | 1 |  |  | 0.17 |
| 16WN | 27 | 0 | 0 | 0 | 0 | 0 |  | 3 | 1 | 3 | 0.88 |
| 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
| 13W | 29 |  |  |  |  |  |  |  |  |  |  |
| 14W | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 12W | 30 | 0 | 1 | 0 |  | 0 | 0 | 0 | 0 | 4 | 0.63 |
| 11W | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.00 |
| 10W | 35 |  | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
| 9W | 35 |  |  | 0 |  | 0 |  | 0 | 0 | 0 | 0.00 |
| 8W | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 7W | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 3W | 39 |  |  |  |  |  |  |  |  |  |  |
| 4W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
| 5W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.11 |
| 20W | 42 |  |  |  |  |  |  |  |  |  |  |
|  | Effort | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
|  | Catch | 1 | 14 | 2 | 2 | 3 | 1 | 11 | 5 | 15 |  |
|  | C/E | 0.04 | 0.56 | 0.08 | 0.08 | 0.12 | 0.05 | 0.50 | 0.21 | 0.65 |  |

Table 25. Size frequency distribution of Winter flounder, Hudson River 2002

| TL | week 1 July 15-16 | $\begin{gathered} \text { week } 2 \\ \text { July } \\ 29-30 \end{gathered}$ | week 3 Aug. 12-13 | week 4 <br> Aug. <br> 26-27 | week 5 Sept. 9-10 | week 6 Sept. 23-24 | $\begin{aligned} & \text { week } 7 \\ & \text { Oct. } \\ & 8-10 \end{aligned}$ | $\begin{gathered} \text { week } 8 \\ \text { Oct. } \\ 21-22 \end{gathered}$ | week 9 Nov. 5-8 | weeks <br> 4-9 | weeks 1-9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $<2$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25-29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30-34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35-39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40-44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 50-54 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 55-59 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 60-64 | 0 | 2 | 0 | 0 | 0 | I | 0 | 0 | 0 | 1 | 3 |
| 65-69 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 |
| 70-74 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 4 |
| 75-79 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 3 |
| 80-84 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 3 |
| 85-89 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 3 |
| 90-94 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 95-99 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 4 | 4 |
| 100-104 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 2 |
| 105-109 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 5 | 5 |
| 110-114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 |
| 115-119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 120-124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 |
| 125-129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130-134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 |
| 135-139 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 140-144 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145-149 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150-154 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155-159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160-164 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165-169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170-174 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 175-179 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| 180-184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185-189 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190-194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195-199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >200 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| \# Measured | 1 | 14 | 2 | 2 | 3 | 2 | 11 | 5 | 15 | 38 | 55 |
| Mean | 58.00 | 67.43 | 53.00 | 138.50 | 76.67 | 120.50 | 97.27 | 101.80 | 112.47 | 105.63 | 93.13 |
| StdDev. |  | 33.05 | 5.66 | 91.22 | 3.51 | 79.90 | 27.18 | 12.32 | 18.72 | 30.44 | 35.53 |

Table 26. American Shad catch per station, 2002

| STATION | riv mile | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \end{gathered}$ | $\begin{gathered} \text { week } 2 \\ \text { July } 29- \\ 30 \end{gathered}$ | week 3 <br> Aug. <br> 12-13 | week 4 <br> Aug. <br> 26-27 | week5 Sept. 9-10 | week6 Sept. 23-24 | $\begin{gathered} \text { week } 7 \\ \text { Oct. } \\ 8-10 \end{gathered}$ | $\begin{gathered} \text { week } 8 \\ \text { Oct. } \\ 21-22 \end{gathered}$ | week 9 <br> Nov. 5-8 | C/F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| East |  |  |  |  |  |  |  |  |  |  |  |
| 18E | 23 | 0 | 0 | 0 | 0 | 3 |  | 0 | 51 | 0 | 6.75 |
| 21 E | 23 | 0 | 0 | 2 | 0 | 0 | 0 |  | 330 | 8 | 42.50 |
| 17E | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 90 | 4 | 10.44 |
| 16E | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 12 | 4 | 2.11 |
| 15 E | 27 |  |  |  |  |  |  |  |  |  |  |
| 12E | 29 | 0 | 0 | 0 | 0 | 0 |  | 0 |  | 7 | 1.00 |
| 13E | 29 | 0 | 0 |  | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
| 14E | 29 | 0 | 0 | 0 | 0 | 0 |  | 0 | 5 | 14 | 2.38 |
| 19E | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 10 E | 34 |  |  |  |  |  |  |  |  |  |  |
| 11 E | 34 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0.33 |
| 9E | 34 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 4 | 0.50 |
| 7E1 | 35 |  |  |  |  |  |  |  |  |  |  |
| 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
| 7EE | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.00 |
| 7EW | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0.44 |
| 8E | 35 |  | 2 | 24 | 2 |  | 0 | 0 | 0 | 12 | 5.71 |
| 6 E | 36 |  |  |  |  |  |  |  |  |  |  |
| 3E | 39 | 1 | 0 | 0 | 0 | 0 | 0 |  | 2 | 0 | 0.38 |
| 4E | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0.44 |
| 5 E | 39 |  |  |  |  |  |  |  |  |  |  |
| 20 E | 41 |  |  |  |  |  |  |  |  |  |  |
| West |  |  |  |  |  |  |  |  |  |  |  |
| 15 WN | 27 |  |  |  |  |  |  |  |  |  |  |
| 15WS | 27 | 0 | 0 | 0 | 0 | 0 |  | 0 |  |  | 0.00 |
| 16WN | 27 | 0 | 0 | 0 | 0 | 0 |  | 0 | 3 | 1 | 0.50 |
| 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
| 13W | 29 |  |  |  |  |  |  |  |  |  |  |
| 14W | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0.22 |
| 12W | 30 | 5 | 3 | 19 |  | 4 | 0 | 0 | 4 | 0 | 4.38 |
| 11 W | 32 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |  | 0.25 |
| 10W | 35 |  | 0 | 0 | 0 | 0 | 0 |  | 5 | 0 | 0.71 |
| 9W | 35 |  |  | 0 |  | 0 |  | 0 | 2 | 5 | 1.40 |
| 8W | 36 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.33 |
| 7W | 37 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 1 | 0 | 1.44 |
| 3W | 39 |  |  |  |  |  |  |  |  |  |  |
| 4W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.11 |
| 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
| 5W | 39 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0.56 |
| 20W | 42 |  |  |  |  |  |  |  |  |  |  |
| Effort |  | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
| Catch |  | 37 | 5 | 48 | 16 | 9 | 0 | 7 | 512 | 61 |  |
| C/E |  | 1.61 | 0.20 | 1.92 | 0.67 | 0.36 |  | 0.32 | 21.33 | 2.65 |  |

Table 27. Size-frequency distribution of American Shad, Hudson River 2002

| TL | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \\ \hline \end{gathered}$ | $\begin{gathered} \text { week } 2 \\ \text { July } 29- \\ 30 \end{gathered}$ | week 3 Aug. 12-13 | week 4 <br> Aug. <br> 26-27 | $\begin{aligned} & \text { week } 5 \\ & \text { Sept. } \\ & 9-10 \end{aligned}$ | week 6 <br> Sept. <br> 23-24 | week 7 <br> Oct. <br> 8-10 | week 8 Oct. 21-22 | week 9 Nov. 5-8 | weeks 4-9 | weeks 1-9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $<20$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25-29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30-34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35-39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40-44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55-59 | 21 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 22 |
| 60-64 | 13 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 19 |
| 65-69 | 2 | 1 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 12 |
| 70-74 | 1 | 0 | 16 | 3 | 2 | 0 | 0 | 1 | 1 | 7 | 24 |
| 75-79 | 0 | 0 | 9 | 8 | 3 | 0 | 2 | 10 | 2 | 25 | 34 |
| 80-84 | 0 | 0 | 11 | 1 | 2 | 0 | 2 | 42 | 26 | 73 | 84 |
| 85-89 | 0 | 0 | 3 | 1 | 1 | 0 | 2 | 46 | 17 | 67 | 70 |
| 90-94 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 25 | 3 | 30 | 30 |
| 95-99 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 2 | 7 | 8 |
| 100-104 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 105-109 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 110-114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115-119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 120-124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125-129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130-134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135-139 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140-144 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145-149 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150-154 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155-159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160-164 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165-169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170-174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175-179 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180-184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185-189 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190-194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195-199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \# Measured | 37 | 5 | 48 | 16 | 9 | 0 | 7 | 131 | 52 | 215 | 305 |
| Mean | 59.84 | 63.40 | 75.46 | 73.50 | 79.78 |  | 83.14 | 85.85 | 84.38 | 84.24 | 79.55 |
| Stdev | 3.24 | 2.30 | 6.31 | 7.81 | 6.74 |  | 5.30 | 5.37 | 4.89 | 6.41 | 10.30 |

Table 28. Alewife catch by station, 2002

| STATION | riv mile | week 1 July 15-16 | week 2 July 29-30 | week 3 Aug. 12-13 | week 4 Aug. 26-27 | week 5 <br> Sept. <br> 9-10 | week 6 Sept. <br> 23-24 | week 7 Oct. 8-10 | week 8 Oct. <br> 21-22 | week 9 Nov. 5-8 | C/F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| East |  |  |  |  |  |  |  |  |  |  |  |
| 18E | 23 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
| 21 E | 23 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
| 17E | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 16E | 25 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 1.11 |
| 15E | 27 |  |  |  |  |  |  |  |  |  |  |
| 12E | 29 | 0 | 0 | 0 | 0 | 0 |  | 0 |  | 0 | 0.00 |
| 13E | 29 | 0 | 0 |  | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
| 14E | 29 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
| 19E | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 10E | 34 |  |  |  |  |  |  |  |  |  |  |
| 11 E | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 9 E | 34 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
| 7E1 | 35 |  |  |  |  |  |  |  |  |  |  |
| 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
| 7EE | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.00 |
| 7EW | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 8E | 35 |  | 6 | 123 | 8 |  | 0 | 0 | 0 | 0 | 19.71 |
| 6 E | 36 |  |  |  |  |  |  |  |  |  |  |
| 3E | 39 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
| 4E | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 5 E | 39 |  |  |  |  |  |  |  |  |  |  |
| 20E | 41 |  |  |  |  |  |  |  |  |  |  |
| West |  |  |  |  |  |  |  |  |  |  |  |
| 15WN | 27 |  |  |  |  |  |  |  |  |  |  |
| 15WS | 27 | 0 | 0 | 0 | 0 | 0 |  | 0 |  |  | 0.00 |
| 16WN | 27 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
| 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
| 13W | 29 |  |  |  |  |  |  |  |  |  |  |
| 14W | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 12W | 30 | 2 | 1 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0.38 |
| 11W | 32 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |  | 0.25 |
| 10W | 35 |  | 2 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.29 |
| 9W | 35 |  |  | 0 |  | 0 |  | 0 | 0 | 0 | 0.00 |
| 8W | 36 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.11 |
| 7W | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 3W | 39 |  |  |  |  |  |  |  |  |  |  |
| 4W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
| 5W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 20W | 42 |  |  |  |  |  |  |  |  |  |  |
|  | Effort | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
|  | Catch | 3 | 9 | 133 | 10 | 0 | 0 | 0 | 0 | 0 |  |
|  | C/E | 0.13 | 0.36 | 5.32 | 0.42 |  |  |  |  |  |  |

Table 29. Size-Frequency distribution of Alewife, Hudson River 2002

| TL | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \end{gathered}$ | week 2 July $29-30$ | week 3 <br> Aug. <br> 12-13 | week 4 Aug. 26-27 | week 5 Sept. 9-10 | week 6 Sept. 23-24 | week 7 <br> Oct. <br> 8-10 | week 8 Oct. 21-22 | week 9 <br> Nov. <br> 5-8 | weeks 4-9 | weeks 1-9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $<20$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25-29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30-34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35-39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40-44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 50-54 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 55-59 | 0 | 3 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 9 |
| 60-64 | 0 | 2 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 10 |
| 65-69 | 0 | 0 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 10 |
| 70-74 | 0 | 0 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 9 |
| 75-79 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 4 |
| 80-84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85-89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90-94 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 95-99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100-104 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 105-109 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 110-114 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 115-119 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 120-124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125-129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130-134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135-139 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140-144 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145-149 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150-154 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155-159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160-164 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165-169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170-174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175-179 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180-184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185-189 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190-194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195-199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \#measured | 3 | 7 | 40 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 60 |
| Mean | 91 | 61.57 | 85.35 | 72.9 |  |  |  |  |  | 72.9 | 80.78 |
| StdDev | 8.72 | 5.41 | 22.47 | 5.59 |  |  |  |  |  | 5.59 | 20.44 |

Table 30. Blueback herring catch per station, 2002

| STATION |  | riv mile | week 1 <br> July <br> 15-16 | week 2 July 29-30 | week 3 Aug. 12-13 | week 4 <br> Aug. <br> 26-27 | week 5 Sept. 9-10 | week 6 Sept. 23-24 | week 7 Oct. 8-10 | week 8 Oct. 21-22 | week 9 Nov. 5-8 | C/F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| East |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 18E | 23 | 0 | 0 | 0 | 0 | 0 |  | 0 | 1 | 808 | 101.13 |
|  | 21 E | 23 | 0 | 0 | 0 | 0 | 0 | 0 |  | 170 | 32 | 25.25 |
|  | 17 E | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 1 | 6.44 |
|  | 16E | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 3.78 |
|  | 15E | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 12E | 29 | 0 | 0 | 0 | 0 | 0 |  | 0 |  | 0 | 0.00 |
|  | 13E | 29 | 0 | 0 |  | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
|  | 14E | 29 | 0 | 0 | 0 | 0 | 0 |  | 0 | 1 | 444 | 55.63 |
|  | 19E | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 10E | 34 |  |  |  |  |  |  |  |  |  |  |
|  | 11 E | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 9E | 34 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 7 El | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EE | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |  | 0.13 |
|  | 7EW | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.11 |
|  | 8E | 35 |  | 0 | 0 | 0 |  | 0 | 0 | 0 | 97 | 13.86 |
|  | 6E | 36 |  |  |  |  |  |  |  |  |  |  |
|  | 3E | 39 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
|  | 4E | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 5 E | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 20E | 41 |  |  |  |  |  |  |  |  |  |  |
| West |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 15WN | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 15WS | 27 | 0 | 0 | 0 | 0 | 0 |  | 0 |  |  | 0.00 |
|  | 16 WN | 27 | 0 | 0 | 0 | 1 | 0 |  | 0 | 0 | 3 | 0.50 |
|  | 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 13W | 29 |  |  |  |  |  |  |  |  |  |  |
|  | 14W | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.22 |
|  | 12W | 30 | 0 | 0 | 0 |  | 0 | 0 | 0 | 3 | 0 | 0.38 |
|  | 11W | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.00 |
|  | 10W | 35 |  | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
|  | 9W | 35 |  |  | 0 |  | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 8W | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.11 |
|  | 7W | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.11 |
|  | 3W | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 4W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 5W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 20W | 42 |  |  |  |  |  |  |  |  |  |  |
| Effort |  |  | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
| Catch |  |  | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 235 | 1422 |  |
| C/E |  |  |  |  |  | 0.04 |  |  |  | 9.79 | 61.83 |  |

Table 31. Size-Frequency distribution of Blueback herring, Hudson River 2002

| TL | week 1 July 15-16 | week 2 <br> July <br> 29-30 | week 3 Aug. 12-13 | week 4 Aug. 26-27 | week 5 Sept. 9-10 | week 6 Sept. 23-24 | week 7 Oct. 8-10 | week 8 Oct. <br> 21-22 | week 9 Nov. 5-8 | weeks 4-9 | weeks 1-9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $<20$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25-29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30-34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35-39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40-44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 6 | 6 |
| 55-59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 18 | 19 | 19 |
| 60-64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 15 | 16 | 16 |
| 65-69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 31 | 33 | 33 |
| 70-74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 32 | 40 | 40 |
| 75-79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 33 | 35 | 35 |
| 80-84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 13 | 28 | 28 |
| 85-89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 7 | 22 | 22 |
| 90-94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 2 | 11 | 11 |
| 95-99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100-104 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105-109 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110-114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115-119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 120-124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125-129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 130-134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135-139 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140-144 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145-149 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150-154 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155-159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160-164 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165-169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170-174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175-179 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180-184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185-189 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190-194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195-199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \# Measured | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 54 | 157 | 212 | 212 |
| Mean |  |  |  | 49.00 |  |  |  | 83.06 | 69.96 | 73.20 | 73.20 |
| StdDev |  |  |  |  |  |  |  | 10.02 | 9.07 | 11.02 | 11.02 |

Table 32. Atlantic Menhaden catch per station, 2002

| STATION |  | riv mile | $\begin{gathered} \text { Week } 1 \\ \text { July } \\ 15-16 \\ \hline \end{gathered}$ | week 2 July 29-30 | week 3 Aug. 12-13 | week 4 Aug. 26-27 | week 5 Sept. 9-10 | week 6 Sept. 23-24 | week 7 Oct. 8-10 | week 8 Oct. 21-22 | week 9 Nov. 5-8 | $\mathrm{C} / \mathrm{F}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| East |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 18E | 23 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 21 E | 23 | 0 | 0 | 0 | 0 | 0 | 2 |  | 0 | 0 | 0.25 |
|  | 17E | 24 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0.11 |
|  | 16E | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 15E | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 12E | 29 | 0 | 0 | 1 | 0 | 0 |  | 0 |  | 0 | 0.14 |
|  | 13E | 29 | 27 | 126 |  | 0 | 0 | 1093 |  | 0 | 0 | 178.00 |
|  | 14E | 29 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 19E | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 10E | 34 |  |  |  |  |  |  |  |  |  |  |
|  | 11 E | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 9E | 34 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 7E1 | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EE | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.00 |
|  | 7EW | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 8E | 35 |  | 128 | 0 | 0 |  | 5 | 0 | 0 | 0 | 19.00 |
|  | 6E | 36 |  |  |  |  |  |  |  |  |  |  |
|  | 3E | 39 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0.00 |
|  | 4E | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 5 E | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 20E | 41 |  |  |  |  |  |  |  |  |  |  |
| West |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 15WN | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 15WS | 27 | 0 | 0 | 0 | 0 | 0 |  | 0 |  |  | 0.00 |
|  | 16WN | 27 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 13W | 29 |  |  |  |  |  |  |  |  |  |  |
|  | 14W | 29 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0.33 |
|  | 12W | 30 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 11W | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.00 |
|  | 10W | 35 |  | 0 | 0 | 0 | 0 | 1 |  | 0 | 0 | 0.14 |
|  | 9W | 35 |  |  | 0 |  | 0 |  | 0 | 0 | 0 | 0.00 |
|  | 8W | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 7W | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 3W | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 4W | 39 | 600 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 69.33 |
|  | 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 5W | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
|  | 20W | 42 |  |  |  |  |  |  |  |  |  |  |
|  |  | Effort | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
|  |  | Catch | 627 | 254 | 25 | 0 | 3 | 1102 | 0 | 0 | 0 |  |
|  |  | C/E | 27.26 | 10.16 | 1.00 |  | 0.12 | 58.00 |  |  |  |  |

Table 33. Size-Frequency distribution of Atlantic Menhaden, Hudson River 2002

| TL | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \\ \hline \end{gathered}$ | $\begin{gathered} \text { week } 2 \\ \text { July } \\ 29-30 \\ \hline \end{gathered}$ | week 3 <br> Aug. <br> 12-13 | week 4 Aug. 26-27 | week 5 Sept. 9-10 | week 6 Sept. <br> 23-24 | week 7 Oct. 8-10 | week 8 Oct. 21-22 | week 9 Nov. 5-8 | weeks 4-9 | weeks 1-9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $<20$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25-29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30-34 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| 35-39 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| 40-44 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 45-49 | 0 | 0 | 2 | 6 | 1 | 2 | 0 | 0 | 0 | 9 | 11 |
| 50-54 | 0 | 0 | 1 | 2 | 1 | 8 | 0 | 0 | 0 | 11 | 12 |
| 55-59 | 0 | 0 | 1 | 5 | 0 | 9 | 0 | 0 | 0 | 14 | 15 |
| 60-64 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 3 |
| 65-69 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 1 | 6 | 6 |
| 70-74 | 0 | 0 | 0 | 1 | 9 | 2 | 0 | 1 | 2 | 15 | 15 |
| 75-79 | 0 | 0 | 0 | 1 | 17 | 2 | 0 | 4 | 2 | 26 | 26 |
| 80-84 | 0 | 0 | 0 | 0 | 9 | 3 | 0 | 0 | 2 | 14 | 14 |
| 85-89 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 1 | 7 | 7 |
| 90-94 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 4 | 4 |
| 95-99 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 2 |
| 100-104 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 105-109 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 |
| 110-114 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 4 |
| 115-119 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 120-124 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 125-129 | 0 | 0 | 6 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 7 |
| 130-134 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 135-139 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 140-144 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 145-149 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150-154 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 155-159 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 160-164 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 165-169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170-174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175-179 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180-184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185-189 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190-194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195-199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \#measured | 3 | 0 | 28 | 19 | 48 | 34 | 0 | 8 | 12 | 121 | 152 |
| Mean | 37.67 |  | 118.14 | 57.42 | 84.50 | 70.83 |  | 89.25 | 88.42 | 77.11 | 83.89 |
| StdDev | 2.08 |  | 33.38 | 11.20 | 18.37 | 17.58 |  | 11.71 | 12.81 | 19.39 | 28.20 |

Table 34. Atlantic silversides catch per station, 2002


Biweekly Mean air Temperature,1985-2002


Biweekly mean water temperature, 1985-2002


Biweekly mean salinity, 1985-2002


Figure 2.


Figure 3.


Figure 4. Growth of YOY striped bass in the 2002 cohort.




Figure 5.


Figure 6.



Figure 7.




Figure 8.

## ;

Table 35. Size-Frequency distribution Atlantic silversides, Hudson River 2002

| TL | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \end{gathered}$ | $\begin{gathered} \text { week } 2 \\ \text { July } \\ \text { 29-30 } \end{gathered}$ | week 3 <br> Aug. $12-13$ | $\begin{gathered} \text { week } 4 \\ \text { Aug. } \end{gathered}$ $26-27$ | week 5 <br> Sept. <br> 9-10 | week 6 <br> Sept. <br> 23-24 | $\begin{gathered} \text { week } 7 \\ \text { Oct. } \end{gathered}$ $8-10$ | $\begin{gathered} \text { week } 8 \\ \text { Oct. } \\ 21-22 \end{gathered}$ | week 9 <br> Nov. 5-8 | weeks 4-9 | weeks 1-9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $<20$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25-29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 30-34 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 35-39 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 40-44 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 4 |
| 45-49 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 3 | 4 | 7 |
| 50-54 | 5 | 10 | 4 | 3 | 0 | 0 | 0 | 1 | 4 | 8 | 27 |
| 55-59 | 10 | 12 | 1 | 8 | 1 | 3 | 0 | 0 | 10 | 22 | 45 |
| 60-64 | 19 | 28 | 14 | 19 | 5 | 15 | 3 | 0 | 12 | 54 | 115 |
| 65-69 | 14 | 22 | 34 | 22 | 18 | 17 | 8 | 4 | 3 | 72 | 142 |
| 70-74 | 6 | 22 | 36 | 45 | 57 | 27 | 19 | 11 | 4 | 163 | 227 |
| 75-79 | 4 | 10 | 32 | 31 | 44 | 46 | 30 | 22 | 12 | 185 | 231 |
| 80-84 | 1 | 5 | 19 | 19 | 30 | 33 | 35 | 24 | 20 | 161 | 186 |
| 85-89 | 0 | 0 | 6 | 7 | 18 | 26 | 33 | 30 | 18 | 132 | 138 |
| 90-94 | 0 | 0 | 2 | 6 | 8 | 23 | 20 | 29 | 32 | 118 | 120 |
| 95-99 | 0 | 0 | 0 | 3 | 4 | 8 | 11 | 14 | 21 | 61 | 61 |
| 100-104 | 0 | 0 | 0 | 1 | 1 | 1 | 10 | 10 | 20 | 43 | 43 |
| 105-109 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 8 | 10 | 10 |
| 110-114 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 4 |
| 115-119 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 120-124 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 125-129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130-134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135-139 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140-144 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145-149 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150-154 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155-159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160-164 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165-169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170-174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175-179 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180-184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185-189 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190-194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195-199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \# Measured | 60 | 114 | 151 | 165 | 186 | 200 | 172 | 148 | 170 | 1041 | 1366 |
| Mean | 63.28 | 64.54 | 72.34 | 72.78 | 76.94 | 78.73 | 83.67 | 85.35 | 84.45 | 80.16 | 77.25 |
| StdDev | 7.44 | 8.71 | 8.91 | 9.75 | 7.70 | 9.87 | 9.95 | 10.52 | 15.79 | 11.68 | 12.35 |

Table 36. YOY blue crab catch by station, 2002

| STATION |  | riv mile | $\begin{gathered} \text { week } 1 \\ \text { July } \\ 15-16 \\ \hline \end{gathered}$ | $\begin{gathered} \text { week } 2 \\ \text { July } \\ 29-30 \\ \hline \end{gathered}$ | week 3 <br> Aug. <br> 12-13 | week 4 Aug. 26-27 | week 5 Sept. 9-10 | week 6 Sept. 23-24 | week 7 <br> Oct. <br> 8-10 | week 8 Oct. 21-22 | week 9 Nov. 5-8 | C/F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| East |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 18E | 23 | 6 | 3 | 1 | 0 | 0 |  | 3 | 0 | 0 | 1.63 |
|  | 21 E | 23 | 16 | 1 | 0 | 0 | 2 | 0 |  | 0 | 0 | 2.38 |
|  | 17 E | 24 | 11 | 10 | 12 | 3 | 3 | 0 | 8 | 2 | 0 | 5.44 |
|  | 16E | 25 | 6 | 10 | 3 | 2 | 0 | 0 | 11 | 0 | 0 | 3.56 |
|  | 15 E | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 12E | 29 | 2 | 2 | 1 | 1 | 1 |  | 2 |  | 0 | 1.29 |
|  | 13 E | 29 | 4 | 19 |  | 13 | 29 | 5 |  | 7 | 1 | 11.14 |
|  | 14E | 29 | 7 | 5 | 3 | 0 | 0 |  | 1 | 0 | 1 | 2.13 |
|  | 19E | 33 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 2 | 0 | 0.67 |
|  | 10E | 34 |  |  |  |  |  |  |  |  |  |  |
|  | 11 E | 34 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 5 | 1 | 1.11 |
|  | 9E | 34 | 1 | 0 | 0 | 1 | 0 |  | 0 | 0 | 0 | 0.25 |
|  | 7E1 | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EE | 35 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0.25 |
|  | 7EW | 35 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0.11 |
|  | 8E | 35 |  | 0 | 0 | 1 |  | 4 | 0 | 6 | 0 | 1.57 |
|  | 6 E | 36 |  |  |  |  |  |  |  |  |  |  |
|  | 3E | 39 | 8 | 0 | 1 | 0 | 3 | 3 |  | 0 | 0 | 1.88 |
|  | 4E | 39 | 1 | 3 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 1.00 |
|  | 5 E | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 20E | 41 |  |  |  |  |  |  |  |  |  |  |
| West |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 15WN | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 15WS | 27 | 1 | 0 | 0 | 2 | 0 |  | 0 |  |  | 0.50 |
|  | 16WN | 27 | 2 | 15 | 3 | 6 | 12 |  | 2 | 0 | 1 | 5.13 |
|  | 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 13W | 29 |  |  |  |  |  |  |  |  |  |  |
|  | 14W | 29 | 0 | 4 | 1 | 3 | 3 | 0 | 0 | 0 | 0 | 1.22 |
|  | 12W | 30 | 4 | 1 | 5 |  | 13 | 4 | 1 | 1 | 4 | 4.13 |
|  | 11W | 32 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 |  | 0.50 |
|  | 10W | 35 |  | 2 | 0 | 0 | 0 | 0 |  | 1 | 0 | 0.43 |
|  | 9W | 35 |  |  | 2 |  | 0 |  | 0 | 0 | 0 | 0.40 |
|  | 8W | 36 | 0 | 0 | 5 | 0 | 0 | 3 | 0 | 0 | 0 | 0.89 |
|  | 7W | 37 | 17 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2.33 |
|  | 3W | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 4W | 39 | 1 | 3 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 1.11 |
|  | 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 5W | 39 | 4 | 5 | 4 | 2 | 1 | 0 | 0 | 2 | 0 | 2.00 |
|  | 20W | 42 |  |  |  |  |  |  |  |  |  |  |


| Effort | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catch | 92 | 87 | 46 | 40 | 76 | 23 | 28 | 27 | 8 |
| C/E | 4.00 | 3.48 | 1.84 | 1.67 | 3.04 | 1.21 | 1.27 | 1.13 | 0.35 |

Table 37. Older blue crab catch by station, 2002

| STATION |  | riv mile | Week 1 July 15-16 | $\begin{gathered} \text { week } 2 \\ \text { July } \\ 29-30 \\ \hline \end{gathered}$ | week 3 <br> Aug. <br> 12-13 | week 4 Aug. 26-27 | week 5 Sept. 9-10 | week 6 Sept. 23-24 | week 7 Oct. $8-10$ | week 8 Oct. 21-22 | week 9 Nov. 5-8 | C/F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| East |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 18E | 23 | 0 | 9 | 1 | 2 | 0 |  | 1 | 0 | 0 | 1.63 |
|  | 2IE | 23 | 4 | 2 | 0 | 2 | 0 | 0 |  | 0 | 0 | 1.00 |
|  | 17E | 24 | 2 | 15 | 11 | 1 | 1 | 0 | 1 | 0 | 0 | 3.44 |
|  | 16E | 25 | 6 | 4 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 1.67 |
|  | 15E | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 12E | 29 | 3 | 1 | 0 | 2 | 3 |  | 2 |  | 0 | 1.57 |
|  | 13 E | 29 | 5 | 5 |  | 5 | 6 | 3 |  | 2 | 0 | 3.71 |
|  | 14E | 29 | 2 | 5 | 2 | 0 | 0 |  | 1 | 0 | 0 | 1.25 |
|  | 19E | 33 | 0 | 0 | 10 | 0 | 1 | 1 | 0 | 0 | 0 | 1.33 |
|  | 10 E | 34 |  |  |  |  |  |  |  |  |  |  |
|  | 11E | 34 | 2 | 2 | 12 | 2 | 0 | 0 | 0 | 1 | 0 | 2.11 |
|  | 9 E | 34 | 0 | 2 | 0 | 0 | 0 |  | 2 | 0 | 0 | 0.50 |
|  | 7 El | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EC | 35 |  |  |  |  |  |  |  |  |  |  |
|  | 7EE | 35 | 1 | 2 | 4 | 3 | 3 | 0 | 0 | 0 |  | 1.63 |
|  | 7EW | 35 | 1 | 2 | 2 | 0 | 4 | 0 | 0 | 1 | 0 | 1.11 |
|  | 8 E | 35 |  | 1 | 0 | 1 |  | 0 | 0 | 2 | 0 | 0.57 |
|  | 6 E | 36 |  |  |  |  |  |  |  |  |  |  |
|  | 3E | 39 | 5 | 1 | 1 | 0 | 5 | 1 |  | 1 | 3 | 2.13 |
|  | 4E | 39 | 0 | 6 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1.00 |
|  | 5 E | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 20 E | 41 |  |  |  |  |  |  |  |  |  |  |
| West |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 15 WN | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 15WS | 27 | 0 | 2 | 0 | 0 | 1 |  | 2 |  |  | 0.83 |
|  | 16WN | 27 | 0 | 5 | 3 | 3 | 0 |  | 0 | 0 | 0 | 1.38 |
|  | 16WS | 27 |  |  |  |  |  |  |  |  |  |  |
|  | 13W | 29 |  |  |  |  |  |  |  |  |  |  |
|  | 14W | 29 | 3 | 2 | 5 | 2 | 54 | 0 | 4 | 2 | 0 | 8.00 |
|  | 12W | 30 | 1 | 0 | 5 |  | 2 | 3 | 2 | 2 | 0 | 1.88 |
|  | 11W | 32 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 1 |  | 0.75 |
|  | 10W | 35 |  | 1 | 3 | 1 | 0 | 1 |  | 0 | 0 | 0.86 |
|  | 9W | 35 |  |  | 3 |  | 0 |  | 0 | 0 | 0 | 0.60 |
|  | 8W | 36 | 1 | 1 | 9 | 2 | 3 | 1 | 0 | 0 | 0 | 1.89 |
|  | 7W | 37 | 4 | 4 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1.22 |
|  | 3W | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 4W | 39 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1.00 |
|  | 4WN | 39 |  |  |  |  |  |  |  |  |  |  |
|  | 5W | 39 | 0 | 8 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1.22 |
|  | 20W | 42 |  |  |  |  |  |  |  |  |  |  |
|  |  | fort | 23 | 25 | 25 | 24 | 25 | 19 | 22 | 24 | 23 |  |
|  |  | atch | 43 | 85 | 74 | 30 | 88 | 10 | 18 | 14 | 6 |  |
|  | C |  | 1.87 | 3.40 | 2.96 | 1.25 | 3.52 | 0.53 | 0.82 | 0.58 | 0.26 |  |


figure 1
NYS DEC YOY STRIPED BASS SEINE STATIONS


