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**Abstract**

Two hundred-eight seine hauls were completed in the 2001 young-of-the-year (YOY) striped bass survey in the Hudson River. A total of 16,130 YOY striped bass were captured, resulting in a geometric mean catch per unit effort (CPUE) of 26.37 fish/haul. The Hudson River index of YOY striped bass abundance, based on the geometric mean CPUE of the 6-week survey, was 22.98 fish/haul. This catch rate was the third highest since 1980. YOY striped bass grew at an estimated 0.62 mm/day between mid-July and mid-September. Catch rates of other anadromous fish, American shad, alewife and blueback herring, were below average. However, catch rates of both YOY and older white perch were among the highest observed in over a decade. Composition of the catch was similar to previous years with Atlantic silversides, striped bass and white perch the most abundant species in the catch. Air and water temperatures through the summer and autumn were near average, while salinities were slightly above average.

## 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 °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 to 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 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 the 2001 data covering the same period is compared 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 m x 3 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 °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 x 19.25 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 2001 sampling season, 9 sampling trips were conducted between July 16 and November 8. During this sampling, a total of 48,232 fish and 482 blue crab were captured in 208 gear sets. This total included 16,130 young-of-the-year striped bass and 176 older striped bass.

**Environmental conditions**

Weekly average water temperatures generally decreased through the sampling season, from a high of 27.9 °C on August 15-16 to a low of 12.3 °C on November 8 (Table 1). Air temperatures also generally decreased during the sampling season, ranging from 28.4 to 9.9 °C. Average river salinity generally increased through the sampling season from a low of 4.2 ppt on July 16-17 to a high of 9.6 ppt observed on October 9-10. Dissolved oxygen levels were relatively high throughout the sampling period ranging from 4.6-7.2 mg/L and did not show any distinct seasonal pattern.

The environmental conditions during the 2001 sampling season are compared to historical patterns in Table 2 and Figure 2. River temperatures followed the general pattern of decreasing through the sampling season and were similar to historical averages. Salinity patterns were unusual during the 2000 sampling season (Figure 2). Salinity was higher than the historical average through much of the sampling season. This was especially true in during weeks 6-9 when salinities were consistently above 8 ppt, a time when salinity is generally decreasing. This pattern of high salinity late in the summer is similar to, but much less dramatic than the pattern observed in 2000 (Hurst and Conover

2001).

## Species composition

Forty-one species of fish were captured during the 2001 sampling season in the Hudson River. Fish catches varied from a peak of 12,521 in week 4 (August 28-29) to a minimum of 439 in week 9 (November 8). The most abundant species captured during the 2001 sampling season were the Atlantic silverside (19,557 fish), striped bass (16,306) white perch (8,748), bluefish (862) and killifish (503; Table 3). Although not abundant in samples, tautog, naked goby and pumpkinseed sunfish were more commonly captured than in recent years. Catch composition during the 2001 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 2001 sampling season 16,130 YOY striped bass were captured in 208 hauls, a mean CPUE of 77.6 and geometric mean CPUE of 36.37 (Table 6). Using only the final 6 weeks of catch data for comparison with earlier data, 12,345 YOY striped bass were captured in 135 hauls, resulting in a mean CPUE of 91.4 and a geometric mean CPUE of 22.98 (Figure 3). The 6-week geometric mean CPUE, used as the index of recruitment to this population was well above the historical average of 13.9, being the third highest since 1980. The 9-week geometric mean CPUE was also above the historical annual average of 20.7 (average since 1985).

Catch-per-unit-effort of YOY striped bass peaked during the fourth week of the survey at 262.68 fish/haul, falling to 58.2 fish/haul in week 6 (Table 7). The lowest catch rates of 1.75 fish/haul occurred during the final week of the survey. The temporal pattern of catch observed in 2001 was not the general pattern observed in most years of the study. Between 1985 and 2000, peak catch rates were observed in the first or second week of the survey in 14 years. Catch patterns similar to that of 2001, with peak catch rates in week 4 or 5 of the survey (or a an obvious second peak) were also observed in 1987, 1997, and 1999. YOY striped bass were very abundant in the marine embayments around the western end of Long Island in June and July of 2001, with catches dropping off rapidly by September (K. Mckown, NYSDEC, personal communication). It is unclear if the peak catches in the two regions represent separate recruitment events or if the later peak catches in the Hudson were of fish that had returned to the river following an early emmigration to coastal waters. The relationship of coastal and estuarine habitats as nursery areas for juvenile striped bass requires further research, as does the overall role of marine habitats in the stock dynamics of the Hudson River striped bass population.

Catch-per-unit-effort of YOY striped bass varied considerably across sites in 2001 (Table 7). The sites with the highest CPUE (> 200 fish/haul) were 8E, 7EW, and 4E, while sites 13E, 16WS, and 8W had the lowest catches (<= 20 fish/haul). The distribution of catch among sites observed in 2001, is generally consistent with previous years, as the sites 8E, 7EE and 7EW 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 6,178 YOY striped bass during the 9 week survey, with fish ranging from 20 to 165 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 2000 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 be due to in part a size-dependent emigration from the nursery area to the lower estuarine wintering grounds. Growth rate of YOY striped bass in the 2001 cohort, estimated from the regression of mean total length against date, was 0.62 mm/day through the first 6 weeks of the survey. This is an average growth rate compared to previous years. Annual cohort growth rates ranged from 0.45 mm/day in 1990 to 0.72 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 2001 is shown in Table 12. During the 9 week survey, 176 striped bass aged 1 to 4 were captured ranging in length from 103-401 mm TL. Bi-weekly size-frequency distributions of older striped bass are shown in Table 13. Older striped bass were most abundant at site 9E, where 50 were captured during the survey, including 23 from one tow on September 10 (Table 14).

Seventy older striped bass ranging in length from 145 to 401 mm were tagged with internal anchor tags as part of the United States Fish and Wildlife Service coastwide tagging program. The majority of these (n=63) were age 1.

### White perch *Morone americana*

8,748 white perch were captured during sampling in 2001. 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, 4569 were YOY and 4179 were age-1 and older. Young-of-the-year white perch were most abundant at sites 8E and 4E (Table 15). At site 9E, 641 YOY white perch were captured during week 7, but were absent in the 6 other samples at this site. Catch-per-unit-effort of YOY white perch was highest in week 4 (59.64 fish/haul), and lowest in week 9, when only 5 fish were captured in 16 hauls. Older white perch were most abundant at sites 8E, 7EE and 4E (Table 16). Catch-per-unit-effort of older white perch declined during the sampling season from 102.08 fish/haul in week 2, to <=1 fish/haul in the final four weeks of sampling.

Subsamples of YOY white perch were measured during weeks 2-8. The observed mean lengths increased from 45.65 mm TL in week 2 to 80.89 mm TL in week 6. Mean lengths fell slightly during weeks 7 and 8 (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.

Mean catch rates of YOY and older white perch in 2000 were 21.97 and 20.09 fish per haul, respectively. 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 tomcod***

During the 2001 sampling, 136 Atlantic tomcod were captured ranging in length from 63-107 mm. These were captured almost exclusively during July and August (Table 18). Most of the Atlantic tomcod (87%) were captured in one haul at site 12W in the first week of sampling. The mean size of Atlantic tomcod captured was 85.71 mm TL. The bi-weekly size-frequency distributions of captured Atlantic tomcod is presented in Table 19. The CPUE of Atlantic tomcod in 2001 was 0.65 fish/haul, an intermediate level compared to previous years in the 9 week survey. Low catches of 0.03 fish/haul were observed in 1993 and 1999 and 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 2001. The highest catch rates ($\geq$0.5 fish/haul) were observed in the center of the sampling region on the western shore of the river, at sites 12W, 11W and 7W (Table 20). The catch rate of 0.17 fish/haul was the lowest since 1985 and similar to that observed in 2000 (Figure 6). The highest catches (0.78 fish/haul) occurred in 1988. American eel ranged in length from 108 to 733 mm TL, with an overall mean length of 312.5 mm. The bi-weekly size-frequecy distributions of American eel are shown in Table 21.

**Bluefish *Pomatomus saltatrix***

862 YOY bluefish were captured during the 2001 sampling. They were captured through the first 8 weeks of the survey, with two peaks in catches rates occurring in weeks 1 and 5 (Table 22). Bluefish CPUE was highest at sites 10W, 12E and 14E. The mean CPUE for the year was 4.14 fish/haul. Catch rates of YOY bluefish in 2001 were the fourth highest since 1985 and were the highest observed since 1988, with the exception of the extreme catches observed in 1999 (Figure 6). Bluefish captured in 2001 ranged in length from 54-275 mm TL. 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 2001 was 0.36 fish/haul. These tended to be captured in the southern half of the sampling region with peak catch rates occurring in the final week of sampling (Table 24). Most winter flounder (95%) were captured at sites on the eastern shore of the Hudson River. This pattern could be due to the more southerly distribution of eastern shore sampling sites (Figure 1). 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 24). Winter flounder ranged in length from 36 to 166 mm, with a mean length of 83.0 mm. The bi-weekly size-frequencies are shown in Table 25.

**American shad *Alosa sapidissima***

In 2001, 395 American shad were captured. American shad were most abundant at sites 7EE, 8E, and 7EW (Table 26). Weekly CPUE of American shad was highest in week 7 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 1.90 fish/haul was the fourth lowest since 1985 (catch rates in 1998 were 0.43 fish/haul). The highest catch rates of 22.18 fish/haul were observed in 1986 (Figure 7). American shad ranged from 47 to 100 mm with a mean length of 71.4 mm (Table 27).

**Alewife *Alosa pseudoharengus* and Blueback herring *Alosa aestivalis***

During sampling in 2001, we captured 66 alewife and 310 blueback herring. Alewife ranged in length from 51 to 122 mm TL with a mean of 66.15 mm TL. Blueback herring measured 43 to 79 mm TL with a mean length of 61.17 mm TL. The mean CPUE of alewife and blueback herring were 0.32 and 1.49 fish/haul respectively. Catches of both species were higher than observed in 2001 but still below the 16 year average CPUEs, with catch of blueback herring being the third lowest since 1985 (Figure 7).

**Atlantic menhaden *Brevoortia tyrannus***

We captured 97 Atlantic menhaden during sampling in 2001. Measured Atlantic menhaden ranged from 34 to 135 mm with a mean length of 71.06 mm TL. The 2001 catch rate of 0.47 fish/haul was well below peak rates in 1998-2000. Catch rates of less than 1 fish/haul were also observed in 1988, 1988, 1990, 1993, 1995 and 1997 (Figure 8).

**Atlantic silversides *Menidia menidia***

Atlantic silversides were the most abundant species captured during sampling in 2001 (19,557 fish captured). Atlantic silversides were most abundant at sites 11E, 9E and 15WS where catch rates exceeded 200 fish/haul (Table 28). Catch rates exceeded 100 fish/haul at 4 additional sites. Catch rates peaked during the fifth week of sampling at 218.95 fish/haul, decreasing to 10.63 fish/haul in the final week of sampling. 1,172 silversides were measured in 2001, ranging in length from 23 to 125 mm TL with a mean of 79.70 mm (Table 29). 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 94.02 fish/haul, higher than observed in 2000 (Figure 8).

**Blue crab *Callinectes sapidus***

We captured 483 blue crab during sampling in 2001. The majority of these (79%) were young-of-the-year. YOY blue crab were most abundant at sites 15E, 13E and 12W while older blue crab were most abundant at 11E, 11W and 13E (Tables 30 and 31). Catch rates peaked in week 4 and week 2 of sampling for YOY and older blue crab, respectively. Prior to 1998, no distinction in was made between YOY and older crab, so the the time trend in catch rates are presented for the total numbers of blue crab. Catch rates in 2001 were 2.32 crab/haul, an intermediate level in the 17 year time series, but substantially below catch rates observed between 1997 and 1999 (Figure 8).

**Conclusions**

Catch composition during the 2001 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 was generally above average, especially during the second half of the sampling season.

The abundance of striped bass was above those in recent years with peak catches occurring in the fourth week of sampling. The 6-week YOY striped bass index of abundance was 22.98, the third highest since 1980. Growth rates of YOY striped bass, based on length frequency progression, was 0.62 mm/day with fish reaching 93.95 mm by early-October.

Catch rates of anadromous alosids, American Shad, alewife and blueback herring, were below average in comparison with previous years. Catch rates of both YOY and older white perch were the among highest observed in over a decade.

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## 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.

Bradford, M.J. 1992. Precision of recruitment predictions from early life stages of marine fishes. Fishery Bulletin 90:439-453.

Buckel, J.A., D.O. Conover, N.D. Steinberg and K.A. McKown. 1999. Impact of age-0 bluefish (*Pomatomus saltatrix*) predation on age-0 fishes in the Hudson River estuary: evidence for density-dependent loss of juvenile striped bass (*Morone saxatilis*). Canadian Journal of Fisheries and Aquatic Sciences 56:275-287.

National Marine Fisheries Service (NMFS) with the U.S. Fish and Wildlife Service and the Atlantic States Marine Fisheries Commission. 1999. Striped bass studies. 1999 Biennial report to Congress.

Dey, W.P. 1981. Mortality and growth of young-of-the-year striped bass in the Hudson River estuary. Transactions of the American Fisheries Society 110:151-157.

Dovel, W.L. 1992. Movements of immature striped bass in the Hudson estuary. In Estuarine research in the 1980's. Edited by Smith, C.L. State University of New York Press. Albany. pp 276-300.

Goodyear, C.P. 1985. Relationship between reported commercial landings and abundance of young striped bass in Chesapeake Bay, Maryland. Transactions of the American Fisheries Society 114:92-96.

Heimbuch, D.G., D.J. Dunning, and J.R. Young. 1992. Post-yolk-sac larvae abundance as an index of year class strength of striped bass in the Hudson River. In Estuarine Research in the 1980's. Edited by Smith, C.L. State Univ. New York Press. Albany, NY.

Hurst, T.P. 2000. Overwintering ecology of young-of-the-year striped bass (*Morone saxatilis*) in the Hudson River estuary. Marine Sciences Research Center. Stony Brook, State University of New York:181.

Hurst, T.P., and D.O. Conover. 1998. Winter mortality of young-of-the-year Hudson River striped bass (*Morone saxatilis*): size-dependent patterns and effects on recruitment. Canadian Journal of Fisheries and Aquatic Sciences 55:1122-1130.

Hurst, T.P. and D.O. Conover. 2001. Nearshore fish communities of the mid-Hudson River estuary, 1985-2000. Special Report #127 of the Marine Sciences Research Center, State University of New York at Stony Brook.

McGovern, J.C., and J.E. Olney. 1996. Factors affecting survival of early life stages and subsequent recruitment of striped bass on the Pamunkey River, Virginia. Canadian Journal of Fisheries and Aquatic Sciences 53:1713-1726.

Mckown, K.A., and R. Gelardi. 2000. An investigation of the 1998 Hudson River striped bass spawning success. New York State Department of Environmental Conservation.

McKown, K.A. 1991. Validation of the Hudson River young-of-the-year striped bass indices. Report to the Atlantic States Marine Fishery Commission.

Merriman, D. 1941. Studies on the striped bass (*Roccus saxatilis*) of the Atlantic Coast. U.S. Fish and Wildlife Service Fishery Bulletin 50:1-77.

Munch, S.B., and D.O. Conover. 2000. Recruitment dynamics of bluefish (*Pomatomus saltatrix*) from Cape Hatteras to Cape Cod, 1973-1995. ICES Journal of Marine

Science 209:393-402.

Richards, R.A., and P.J. Rago. 1999. A case history of effective fishery management: Chesapeake Bay striped bass. North American Journal of Fisheries Management 19:356-375.

Scott, W.B., and M.G. Scott. 1988. Atlantic fishes of Canada. Canadian Bulletin of Fisheries and Aquatic Sciences 219.

Secor, D.H., E.D. Houde, and D.M. Monteleone. 1995. A mark-release experiment on larval srtiped bass *Morone saxatilis* in a Chesapeake Bay tributary. ICES Journal of Marine Sciences 52:87-101.

Smith, C.L. 1985. The Inland Fishes of New York State. New York State Department of Environmental Conservation. Albany.

Uphoff, J.H. 1989. Environmental effects on survival of eggs, larvae, and juvenile striped bass in the Choptank River, Maryland. Transactions of the American Fisheries Society 118:251-263.

Table 1. Biweekly environmental conditions, Hudson River 2001.

| | | AIR TEMPERATURE | | | | H20 TEMPERATURE | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dates | WEEK | AVG | STD | MIN | MAX | AVG | STD | MIN | MAX |
| July 16-17 | 1 | | | | | 26.0 | 1.7 | 23.7 | 30.4 |
| Aug. 1-2 | 2 | 26.9 | 3.0 | 23.0 | 32.0 | 27.2 | 1.4 | 24.9 | 29.5 |
| Aug. 15-16 | 3 | 28.4 | 3.4 | 23.0 | 34.0 | 27.9 | 0.8 | 26.4 | 29.1 |
| Aug. 28-29 | 4 | 25.2 | 3.0 | 21.0 | 30.0 | 27.0 | 1.2 | 24.7 | 30.0 |
| Sept. 10-11 | 5 | 24.5 | 4.0 | 16.0 | 29.0 | 25.1 | 1.3 | 22.9 | 29.0 |
| Oct. 2-3 | 6 | 18.0 | 4.4 | 10.0 | 26.0 | 20.5 | 1.9 | 18.4 | 28.3 |
| Oct. 9-10 | 7 | 12.2 | 4.3 | 5.0 | 21.0 | 14.4 | 3.2 | 9.0 | 20.0 |
| Oct. 22 | 8 | 20.0 | 2.7 | 16.0 | 24.0 | 17.6 | 1.3 | 15.7 | 20.0 |
| Nov. 8 | 9 | 9.9 | 3.1 | 4.0 | 14.0 | 12.3 | 0.7 | 10.6 | 13.4 |

| | | SALINITY | | | | DISSOLVED OXYGEN | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dates | WEEK | AVG | STD | MIN | MAX | AVG | STD | MIN | MAX |
| July 16-17 | 1 | 4.2 | 0.8 | 2.8 | 5.9 | 5.8 | 1.3 | 4.4 | 10.4 |
| Aug. 1-2 | 2 | 7.1 | 1.5 | 5.6 | 10.3 | 5.2 | 0.7 | 3.8 | 6.9 |
| Aug. 15-16 | 3 | 7.5 | 0.9 | 6.3 | 9.2 | 4.8 | 0.6 | 3.8 | 6.0 |
| Aug. 28-29 | 4 | 8.5 | 1.7 | 6.2 | 12.2 | 5.4 | 1.4 | 4.2 | 8.6 |
| Sept. 10-11 | 5 | 9.0 | 1.8 | 6.5 | 12.7 | 6.1 | 1.4 | 4.6 | 9.9 |
| Oct. 2-3 | 6 | 8.3 | 1.6 | 3.2 | 10.9 | 4.6 | 0.3 | 3.9 | 5.2 |
| Oct. 9-10 | 7 | 9.6 | 1.5 | 7.0 | 12.0 | | | | |
| Oct. 22 | 8 | 8.0 | 2.1 | 4.6 | 12.1 | 5.3 | 0.4 | 4.7 | 6.3 |
| Nov. 8 | 9 | 9.1 | 1.2 | 7.2 | 10.5 | 7.2 | 0.8 | 6.4 | 8.4 |

Table 2. Comparison of physical data, 1985-2000.

## Mean Air Temperature

| WEEK | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.0 | 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 | |
| 2.0 | 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 |
| 3.0 | | 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 |
| 4.0 | 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 |
| 5.0 | 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 |
| 6.0 | 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 |
| 7.0 | 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 |
| 8.0 | 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 |
| 9.0 | 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 |

## Mean Water Temperature

| WEEK | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.0 | 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 |
| 2.0 | 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 |
| 3.0 | 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 | 23.8 | 27.9 |
| 4.0 | 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 |
| 5.0 | 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 |
| 6.0 | 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 |
| 7.0 | 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 |
| 8.0 | 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 |
| 9.0 | 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 |

## Mean Salinity

| WEEK | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.0 | 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 |
| 2.0 | 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 |
| 3.0 | 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 |
| 4.0 | 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 |
| 5.0 | 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 |
| 6.0 | 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 |
| 7.0 | 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 |
| 8.0 | 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 |
| 9.0 | 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 |

Table 3. Species composition of catch in the Hudson River, 2001.

| Species | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | WEEKS 4-9 TOTAL | WEEKS 1-9 TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diadromous | | | | | | | | | | | |
| Alewife | 9 | 9 | 41 | 0 | 6 | 0 | 0 | 1 | 0 | 7 | 66 |
| American eel | 11 | 6 | 2 | 3 | 0 | 4 | 4 | 4 | 1 | 16 | 35 |
| American shad | 43 | 60 | 0 | 16 | 0 | 4 | 143 | 68 | 61 | 292 | 395 |
| Atlantic tomcod | 130 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 136 |
| Blueback herring | 7 | 38 | 2 | 0 | 0 | 0 | 0 | 146 | 117 | 263 | 310 |
| Striped bass (YOY) | 1641 | 1111 | 1033 | 6567 | 2323 | 1455 | 1558 | 414 | 28 | 12345 | 16130 |
| Striped bass (older) | 41 | 22 | 36 | 14 | 31 | 9 | 11 | 12 | 0 | 77 | 176 |
| Striped bass (hatchery) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Marine | | | | | | | | | | | |
| Atlantic menhaden (YOY) | 69 | 7 | 0 | 0 | 17 | 0 | 3 | 0 | 1 | 21 | 97 |
| Atlantic needlefish | 6 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 |
| Bay anchovy | 52 | 3 | 2 | 3 | 9 | 26 | 35 | 237 | 0 | 310 | 367 |
| Bluefish (YOY) | 105 | 65 | 42 | 57 | 518 | 61 | 9 | 5 | 0 | 650 | 862 |
| Crevalle jack | 1 | 6 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 11 |
| Inshore lizardfish | 0 | 1 | 4 | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 9 |
| Naked Goby | 0 | 1 | 1 | 6 | 10 | 4 | 13 | 0 | 0 | 33 | 35 |
| Northern kingfish | 0 | 0 | 1 | 12 | 3 | 0 | 0 | 0 | 0 | 15 | 16 |
| Northern pipefish | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 2 |
| Northern pipefish | 10 | 30 | 22 | 33 | 41 | 44 | 135 | 44 | 21 | 318 | 380 |
| Northern puffer | 0 | 1 | 0 | 9 | 2 | 0 | 0 | 0 | 0 | 11 | 12 |
| Northern searobin | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Northern stargazer | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Silver perch | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Silverside spp. | 344 | 2678 | 4152 | 3949 | 4160 | 1088 | 1633 | 1383 | 170 | 12383 | 19557 |
| Spot | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Striped mullet | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| Summer flounder | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Tautog | 0 | 0 | 1 | 20 | 6 | 3 | 8 | 0 | 0 | 37 | 38 |
| Weakfish | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| White mullet | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Winter flounder | 11 | 13 | 2 | 11 | 3 | 4 | 7 | 6 | 17 | 48 | 74 |
| Estuarine | | | | | | | | | | | |
| Hogchoker | 30 | 5 | 14 | 3 | 2 | 0 | 1 | 0 | 0 | 6 | 55 |
| Killifish spp. | 36 | 2 | 12 | 6 | 25 | 406 | 6 | 1 | 9 | 453 | 503 |
| White perch (YOY) | 58 | 349 | 636 | 1491 | 511 | 176 | 1313 | 30 | 5 | 3526 | 4569 |
| White perch (older) | 993 | 2450 | 362 | 268 | 70 | 0 | 25 | 11 | 0 | 374 | 4179 |

Table 3 (cont.)

| Species | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | WEEKS 4-9 TOTAL | WEEKS 1-9 TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freshwater | | | | | | | | | | | |
| Bluegill | 2 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 3 | 5 |
| Brown bullead catfish | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Carp | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 10 |
| Golden shiner | 6 | 0 | 1 | 12 | 0 | 0 | 0 | 0 | 0 | 12 | 19 |
| Largemouth bass | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Pumpkinseed | 0 | 5 | 5 | 31 | 3 | 1 | 0 | 0 | 0 | 35 | 45 |
| Redbreast sunfish | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Spottail shiner | 5 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 15 |
| Tesselated darter | 0 | 20 | 23 | 8 | 4 | 8 | 4 | 6 | 9 | 39 | 82 |
| White sucker | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Yellow perch | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 |
| TOTAL FISH CATCH | 3637 | 6908 | 6397 | 12521 | 7747 | 3297 | 4914 | 2372 | 439 | 31290 | 48232 |
| Invertebrate | | | | | | | | | | | |
| Bluecrab (YOY) | 27 | 1 | 8 | 133 | 68 | 48 | 59 | 27 | 9 | 344 | 380 |
| Bluecrab (older) | 10 | 38 | 16 | 11 | 4 | 9 | 12 | 2 | 0 | 38 | 102 |

Table 4. Catch per unit effort of all species in Hudson River survey 1980-2001 weeks 4-9.

| Diadromous | age | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alewife | 999 | 1.0 | 55.1 | 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 |
| 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 |
| American shad | 999 | 4.0 | 22.0 | 8.9 | 11.0 | 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| Gizzard shad | 999 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.2 | 0.0 | 0.1 | 0.2 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |

Table 4. Catch per unit effort of all species in Hudson River survey 1980-2001 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| Spanish mackeral | 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 | 0.0 | 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 | 0.1 | 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 |
| 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 |
| **Invertebrate** | | | | | | | | | | | | | | | | | | | | | | | |
| Bluecrab | 999 | 0.0 | 0.6 | 0.6 | 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 | 31.9 | 18.3 | 0.5 | 2.8 |

Table 5. Catch per unit effort of all species in Hudson River Survey, 1985-2001 weeks 1-9.

| Diadromous | age | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| **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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| White perch | 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 |
| **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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |

Table 5. Catch per unit effort of all species in Hudson River Survey, 1985-2001 weeks 1-9 (cont.).

| Marine | age | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| Spanish mackeral | 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| **Invertebrate** | | | | | | | | | | | | | | | | | | |
| 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 | 27.5 | 16.1 | 1.2 | 2.3 |

Table 6. Hudson River YOY striped bass index of abundace, 1980-2001.

6 WEEK SURVEY

| year | hauls | catch | CPUE | std dev | 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 | 15.00 | 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 | 15.90 | 11.98-21.01 |
| 1988 | 145 | 7584 | 52.30 | 45.10 | 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 | 3.60 | 2.84-4.52 |
| 1992 | 146 | 2526 | 17.30 | 15.51 | 0-83 | 5 | 11.44 | 9.63-13.56 |
| 1993 | 150 | 3975 | 26.50 | 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 | 18.40 | 0-143 | 6 | 8.93 | 7.41-10.72 |
| 1997 | 139 | 6989 | 50.28 | 63.53 | 0-328 | 6 | 22.30 | 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 |

9 WEEK SURVEY

| year | hauls | catch | CPUE | std dev | range | zeros | geo. Mean index | conf. limits |
|---|---|---|---|---|---|---|---|---|
| 1985 | 216 | 993 | 4.60 | 6.57 | 0-32 | 71 | 2.19 | 1.77-2.67 |
| 1986 | 222 | 1942 | 8.75 | 11.30 | 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 | 70.40 | 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 | 29.80 | 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 | 25.50 | 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 | 21.30 | 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 | 33.70 | 34.47 | 0-183 | 6 | 19.18 | 16.16-22.73 |
| 1999 | 173 | 10031 | 57.98 | 69.34 | 1-524 | 0 | 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 |

Table 7. YOY striped bass catch by station, 2001.

| STATION | riv mile | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EAST | | | | | | | | | | | |
| 18E | 23 | 39 | 77 | | 160 | 21 | 9 | 8 | 7 | | 45.86 |
| 21E | 23 | 81 | 39 | 65 | 23 | 12 | 1 | 10 | 13 | 2 | 27.33 |
| 17E | 24 | | 78 | | 94 | 15 | 4 | 9 | 11 | 0 | 30.14 |
| 16E | 25 | 79 | 34 | 27 | 54 | | 24 | 9 | 9 | 5 | 30.13 |
| 15E | 27 | | | 30 | | | 119 | | 13 | 0 | 40.50 |
| 12E | 29 | 5 | 16 | 1 | 0 | 27 | 1 | 29 | 7 | 0 | 9.56 |
| 13E | 29 | | 22 | 15 | 15 | 40 | 50 | 33 | 21 | 0 | 24.50 |
| 14E | 29 | 88 | | 0 | 0 | 95 | 47 | 35 | 21 | 6 | 36.50 |
| 19E | 33 | 9 | 115 | 70 | 59 | 108 | 115 | 33 | 11 | 0 | 57.78 |
| 10E | 34 | | | | | | | | | | |
| 11E | 34 | 164 | 82 | 94 | 106 | 399 | 110 | | | | 159.17 |
| 9E | 34 | 43 | 41 | 18 | 121 | 51 | | 76 | 2 | | 50.29 |
| 7E1 | 35 | | | | | | | | | | |
| 7EC | 35 | | | | | | | | | | |
| 7EE | 35 | 68 | 23 | 21 | 1190 | 61 | | 154 | 29 | 0 | 193.25 |
| 7EW | 35 | 78 | 23 | 11 | 881 | 593 | 386 | 29 | 76 | 2 | 231.00 |
| 8E | 35 | 166 | 13 | 144 | 1711 | 234 | 115 | 3 | 11 | 0 | 266.33 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 58 | 35 | 119 | 288 | | 120 | 158 | 49 | | 118.14 |
| 4E | 39 | 28 | 68 | 42 | 1022 | | 28 | 333 | 3 | | 217.71 |
| 5E | 39 | | | | | | | | | | |
| 20E | 41 | | | | | | | | | | |
| WEST | | | | | | | | | | | |
| 15WN | 27 | | | | | | | | | | |
| 15WS | 27 | 44 | | 11 | 45 | 209 | 28 | 1 | | 0 | 48.29 |
| 16WN | 27 | 40 | | 20 | 77 | 150 | 60 | 178 | 33 | 0 | 69.75 |
| 16WS | 27 | | 16 | | | | | | | | 16.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 139 | 134 | 71 | 228 | 39 | 20 | 3 | 1 | 2 | 70.78 |
| 12W | 30 | 103 | 50 | 12 | 48 | 9 | 61 | 41 | 3 | 6 | 37.00 |
| 11W | 32 | 74 | 12 | 42 | 48 | 86 | 15 | 55 | 16 | 5 | 39.22 |
| 10W | 35 | 6 | 18 | 16 | 28 | 142 | 40 | 24 | 1 | | 34.38 |
| 9W | 35 | 34 | 24 | 1 | 2 | 32 | 18 | 41 | 8 | | 20.00 |
| 8W | 36 | 1 | 14 | 29 | | | 26 | 118 | 17 | | 34.17 |
| 7W | 37 | 96 | 30 | 89 | 27 | | 2 | 108 | 12 | | 52.00 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 95 | 88 | 62 | 290 | | 10 | 26 | 37 | | 86.86 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 103 | 59 | 23 | 50 | | 46 | 44 | 3 | | 46.86 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 1641 | 1111 | 1033 | 6567 | 2323 | 1455 | 1558 | 414 | 28 | |
| C/E | | 68.38 | 46.29 | 41.32 | 262.68 | 122.26 | 58.20 | 62.32 | 16.56 | 1.75 | |

Table 9. CPUE of YOY striped bass by station, weeks 4-9, 1980-2001.

| SITE | 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 |
| 9E | 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 | |
| 6E | 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 |
| 5E | 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 |
| 4WN | | | | | | | | | | | | | |
| 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.)

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

Table 10. Size-frequency distribution of YOY striped bass, Hudson River 2001

| TL | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | weeks 4-9 | weeks 1-9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| <20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 |
| 25-29 | 43 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51 |
| 30-34 | 117 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 166 |
| 35-39 | 127 | 64 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 192 |
| 40-44 | 165 | 75 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 244 |
| 45-49 | 187 | 95 | 46 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 329 |
| 50-54 | 147 | 103 | 81 | 15 | 0 | 0 | 0 | 0 | 0 | 15 | 346 |
| 55-59 | 78 | 105 | 104 | 43 | 4 | 0 | 0 | 0 | 0 | 47 | 334 |
| 60-64 | 52 | 99 | 90 | 120 | 16 | 2 | 6 | 5 | 0 | 149 | 390 |
| 65-69 | 16 | 91 | 107 | 140 | 41 | 21 | 21 | 11 | 0 | 234 | 448 |
| 70-74 | 1 | 63 | 76 | 185 | 75 | 36 | 46 | 35 | 0 | 377 | 517 |
| 75-79 | 0 | 42 | 80 | 127 | 103 | 78 | 90 | 37 | 0 | 435 | 557 |
| 80-84 | 1 | 11 | 51 | 106 | 108 | 105 | 116 | 52 | 0 | 487 | 550 |
| 85-89 | 2 | 2 | 37 | 82 | 119 | 122 | 109 | 51 | 3 | 486 | 527 |
| 90-94 | 0 | 2 | 26 | 72 | 89 | 103 | 115 | 52 | 2 | 433 | 461 |
| 95-99 | 0 | 0 | 10 | 42 | 71 | 77 | 56 | 32 | 2 | 280 | 290 |
| 100-104 | 0 | 0 | 3 | 26 | 32 | 61 | 59 | 31 | 8 | 217 | 220 |
| 105-109 | 0 | 0 | 2 | 7 | 28 | 49 | 45 | 29 | 3 | 161 | 163 |
| 110-114 | 0 | 0 | 0 | 8 | 13 | 49 | 41 | 19 | 7 | 137 | 137 |
| 115-119 | 0 | 0 | 0 | 0 | 9 | 38 | 28 | 7 | 1 | 83 | 83 |
| 120-124 | 0 | 0 | 0 | 5 | 6 | 17 | 22 | 5 | 0 | 55 | 55 |
| 125-129 | 0 | 0 | 0 | 0 | 2 | 17 | 12 | 6 | 2 | 39 | 39 |
| 130-134 | 0 | 0 | 0 | 0 | 3 | 7 | 8 | 5 | 0 | 23 | 23 |
| 135-139 | 0 | 0 | 0 | 0 | 1 | 6 | 5 | 5 | 0 | 17 | 17 |
| 140-144 | 0 | 0 | 0 | 0 | 1 | 2 | 5 | 0 | 0 | 8 | 8 |
| 145-149 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 0 | 6 | 6 |
| 150-154 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 |
| 155-159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 3 |
| 160-164 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 5 | 5 |
| 165-169 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 2 |
| 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 | 949 | 809 | 717 | 980 | 721 | 794 | 790 | 390 | 28 | 3703 | 6178 |
| Mean | 44.29 | 54.77 | 67.13 | 75.74 | 85.94 | 93.95 | 92.62 | 92.62 | 104.57 | 87.23 | 74.05 |
| StdDev. | 10.00 | 13.21 | 12.81 | 12.65 | 13.10 | 15.92 | 16.49 | 17.59 | 10.80 | 16.67 | 22.76 |

Table 11. Biweekly size comparison of YOY striped bass, 1985-2001.

| | | week 1 | week 2 | week 3 | week 4 | week 5 | week 6 | week 7 | week 8 | week 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 TL | 41.7 | 47.5 | 53.0 | 62.4 | 71.8 | 73.0 | 79.3 | 71.6 | 70.7 |
| | STD | 9.9 | 10.8 | 11.8 | 13.3 | 14.8 | 15.4 | 17.5 | 8.1 | 4.9 |
| 1999 | mean TL | 52.5 | 62.9 | 75.3 | 93.4 | 101.4 | 95.6 | 89.4 | 91.1 | 88.5 |
| | STD | 11.4 | 10.9 | 14.9 | 20.1 | 18.4 | 22.4 | 21.0 | 24.4 | 24.1 |
| 1998 | mean TL | 39.3 | 47.9 | 60.6 | 70.5 | 79.7 | 81.8 | 84.9 | 98.3 | 91.9 |
| | STD | 11.9 | 12.7 | 11.8 | 14.2 | 11.9 | 15.0 | 13.1 | 15.2 | 15.2 |
| 1997 | mean TL | 41.5 | 52.3 | 73.3 | 72.8 | 79.1 | 83.6 | 87.7 | 87.7 | 87.2 |
| | STD | 9.2 | 11.1 | 10.0 | 13.0 | 13.5 | 13.8 | 13.6 | 12.2 | 15.1 |
| 1996 | mean TL | 44.4 | 51.8 | 58.6 | 66.8 | 81.5 | 86.4 | 88.1 | 84.3 | 83.2 |
| | STD | 12.0 | 12.4 | 13.5 | 12.3 | 17.6 | 19.5 | 16.0 | 17.0 | 16.5 |
| 1995 | mean TL | 42.0 | 62.4 | 69.9 | 78.8 | 87.6 | 94.7 | 100.2 | 99.9 | 90.8 |
| | STD | 9.0 | 11.2 | 11.4 | 11.2 | 13.0 | 16.2 | 18.3 | 20.3 | 20.0 |
| 1994 | mean TL | 41.3 | 54.6 | 62.1 | 71.2 | 76.0 | 84.0 | 84.1 | 87.8 | 88.9 |
| | STD | 8.8 | 10.8 | 11.8 | 13.7 | 14.4 | 15.6 | 13.2 | 14.6 | 13.4 |
| 1993 | mean TL | 38.1 | 52.6 | 62.2 | 69.0 | 76.3 | 83.5 | 84.6 | 88.1 | 88.6 |
| | STD | 8.1 | 11.5 | 12.4 | 13.3 | 13.4 | 14.8 | 13.4 | 16.4 | 19.2 |
| 1992 | mean TL | 46.9 | 57.8 | 65.4 | 72.5 | 82.0 | 85.4 | 91.0 | 89.6 | 89.9 |
| | STD | 10.8 | 12.5 | 12.3 | 12.6 | 12.1 | 14.5 | 15.3 | 15.3 | 15.6 |
| 1991 | mean TL | 62.4 | 71.5 | 82.0 | 89.9 | 97.6 | 101.0 | 101.9 | 94.0 | 97.3 |
| | STD | 15.4 | 14.3 | 15.0 | 18.5 | 18.6 | 22.9 | 27.3 | 27.5 | 22.8 |
| 1990 | mean TL | 48.9 | 46.0 | 57.5 | 65.0 | 71.6 | 76.2 | 77.5 | 78.3 | 74.8 |
| | STD | 23.6 | 15.7 | 15.0 | 13.4 | 13.9 | 13.7 | 14.0 | 14.3 | 16.0 |
| 1989 | mean TL | 36.1 | 46.7 | 57.3 | 65.1 | 72.4 | 81.1 | 81.2 | 82.1 | 85.0 |
| | STD | 9.4 | 9.4 | 10.8 | 11.3 | 11.0 | 12.2 | 12.6 | 12.4 | 14.2 |
| 1988 | mean TL | 41.9 | 51.3 | 59.9 | 73.8 | 80.9 | 84.1 | 88.1 | 85.9 | 86.9 |
| | STD | 10.6 | 15.3 | 14.7 | 15.5 | 16.3 | 15.8 | 17.2 | 18.6 | 16.4 |
| 1987 | mean TL | 47.8 | 59.8 | 67.5 | 72.5 | 80.7 | 85.6 | 85.2 | 87.6 | 85.0 |
| | STD | 9.5 | 9.6 | 10.6 | 10.7 | 10.7 | 12.0 | 13.4 | 13.5 | 15.3 |
| 1986 | mean TL | 58.0 | 67.0 | 76.1 | 86.5 | 90.2 | 97.2 | 95.6 | 99.6 | 98.8 |
| | STD | 7.1 | 10.7 | 13.1 | 11.9 | 11.3 | 15.9 | 14.0 | 22.2 | 16.3 |
| 1985 | mean TL | 54.3 | 63.7 | 80.8 | 84.1 | 93.2 | 102.5 | 105.8 | 100.3 | 105.2 |
| | STD | 7.3 | 11.3 | 11.0 | 10.6 | 14.1 | 14.9 | 17.5 | 12.9 | 19.2 |

Table 14. Older striped bass catch by station, 2001.

| STATION | riv mile | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EAST** | | | | | | | | | | | |
| 18E | 23 | 1 | 0 | | 0 | 1 | 0 | 2 | 2 | | 0.86 |
| 21E | 23 | 2 | 0 | 0 | 3 | 2 | 1 | 2 | 1 | 0 | 1.22 |
| 17E | 24 | | 0 | | 0 | 1 | 2 | 4 | 1 | 0 | 1.14 |
| 16E | 25 | 0 | 0 | 0 | 0 | | 0 | 3 | 0 | 0 | 0.38 |
| 15E | 27 | | | 0 | | | 0 | | 3 | 0 | 0.75 |
| 12E | 29 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0.44 |
| 13E | 29 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 14E | 29 | 4 | | 2 | 2 | 2 | 0 | 0 | 2 | 0 | 1.50 |
| 19E | 33 | 5 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0.89 |
| 10E | 34 | | | | | | | | | | |
| 11E | 34 | 2 | 5 | 2 | 4 | 0 | 1 | | | | 2.33 |
| 9E | 34 | 7 | 0 | 16 | 4 | 23 | | 0 | 0 | | 7.14 |
| 7E1 | 35 | | | | | | | | | | |
| 7EC | 35 | | | | | | | | | | |
| 7EE | 35 | 3 | 3 | 4 | 0 | 0 | | 0 | 0 | 0 | 1.25 |
| 7EW | 35 | 1 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1.11 |
| 8E | 35 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.44 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | | 0.14 |
| 4E | 39 | 0 | 1 | 1 | 0 | | 0 | 0 | 0 | | 0.29 |
| 5E | 39 | | | | | | | | | | |
| 20E | 41 | | | | | | | | | | |
| **WEST** | | | | | | | | | | | |
| 15WN | 27 | | | | | | | | | | |
| 15WS | 27 | 1 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0.14 |
| 16WN | 27 | 0 | | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0.38 |
| 16WS | 27 | | 4 | | | | | | | | 4.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0.11 |
| 12W | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 11W | 32 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0.11 |
| 10W | 35 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0.63 |
| 9W | 35 | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | | 0.75 |
| 8W | 36 | 1 | 0 | 0 | | | 0 | 0 | 0 | | 0.17 |
| 7W | 37 | 1 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.14 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 0 | 1 | 1 | 0 | | 2 | 0 | 1 | | 0.71 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 0 | 0 | 1 | 0 | | 0 | 0 | 1 | | 0.29 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 41 | 22 | 36 | 14 | 31 | 9 | 11 | 12 | 0 | |
| C/E | | 1.71 | 0.92 | 1.44 | 0.56 | 1.63 | 0.36 | 0.44 | 0.48 | 0.00 | |

Table 15. YOY white perch catch by station, 2001.

| STATION | riv mile | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EAST** | | | | | | | | | | | |
| 18E | 23 | 0 | 3 | | 6 | 0 | 0 | 0 | 0 | | 1.29 |
| 21E | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 17E | 24 | | 0 | | 1 | 0 | 0 | 0 | 0 | 0 | 0.14 |
| 16E | 25 | 0 | 2 | 10 | 9 | | 0 | 0 | 0 | 0 | 2.63 |
| 15E | 27 | | | 3 | | | 14 | | 0 | 0 | 4.25 |
| 12E | 29 | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 1 | 0 | 1.00 |
| 13E | 29 | | 28 | 6 | 11 | 3 | 0 | 13 | 1 | 0 | 7.75 |
| 14E | 29 | 1 | | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0.38 |
| 19E | 33 | 0 | 0 | 0 | 0 | 3 | 0 | 41 | 3 | 0 | 5.22 |
| 10E | 34 | | | | | | | | | | |
| 11E | 34 | 2 | 9 | 4 | 0 | 0 | 0 | | | | 2.50 |
| 9E | 34 | 0 | 0 | 0 | 0 | 0 | | 641 | 0 | | 91.57 |
| 7E1 | 35 | | | | | | | | | | |
| 7EC | 35 | | | | | | | | | | |
| 7EE | 35 | 0 | 0 | 0 | 52 | 12 | | 21 | 1 | 0 | 10.75 |
| 7EW | 35 | 0 | 0 | 0 | 97 | 8 | 56 | 13 | 0 | 0 | 19.33 |
| 8E | 35 | 7 | 107 | 452 | 899 | 170 | 43 | 4 | 19 | 3 | 189.33 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 7 | 7 | 3 | 4 | | 3 | 24 | 0 | | 6.86 |
| 4E | 39 | 0 | 25 | 30 | 266 | | 5 | 215 | 0 | | 77.29 |
| 5E | 39 | | | | | | | | | | |
| 20E | 41 | | | | | | | | | | |
| **WEST** | | | | | | | | | | | |
| 15WN | 27 | | | | | | | | | | |
| 15WS | 27 | 0 | | 0 | 2 | 6 | 16 | 0 | | 0 | 3.43 |
| 16WN | 27 | 0 | | 2 | 1 | 5 | 0 | 12 | 0 | 0 | 2.50 |
| 16WS | 27 | | 2 | | | | | | | | 2.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 0 | 23 | 29 | 52 | 40 | 0 | 2 | 0 | 0 | 16.22 |
| 12W | 30 | 20 | 133 | 72 | 62 | 9 | 6 | 75 | 5 | 2 | 42.67 |
| 11W | 32 | 5 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.67 |
| 10W | 35 | 4 | 5 | 3 | 10 | 250 | 30 | 8 | 0 | | 38.75 |
| 9W | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0.00 |
| 8W | 36 | 0 | 0 | 0 | | | 1 | 71 | 0 | | 12.00 |
| 7W | 37 | 12 | 4 | 22 | 3 | | 1 | 135 | 0 | | 25.29 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 0 | 1 | 0 | 12 | | 0 | 1 | 0 | | 2.00 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 0 | 0 | 0 | 3 | | 1 | 32 | 0 | | 5.14 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 58 | 349 | 636 | 1491 | 511 | 176 | 1313 | 30 | 5 | |
| C/E | | 2.42 | 14.54 | 25.44 | 59.64 | 26.89 | 7.04 | 52.52 | 1.20 | 0.31 | |

Table 16. Older white perch catch by station, 2001.

| STATION | riv mile | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EAST | | | | | | | | | | | |
| 18E | 23 | 1 | 0 | | 0 | 2 | 0 | 2 | 3 | | 1.14 |
| 21E | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0.11 |
| 17E | 24 | | 2 | | 0 | 0 | 0 | 0 | 0 | 0 | 0.29 |
| 16E | 25 | 8 | 0 | 107 | 0 | | 0 | 0 | 0 | 0 | 14.38 |
| 15E | 27 | | | 27 | | | 0 | | 7 | 0 | 8.50 |
| 12E | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 13E | 29 | | 35 | 1 | 221 | 0 | 0 | 0 | 0 | 0 | 32.13 |
| 14E | 29 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 19E | 33 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.78 |
| 10E | 34 | | | | | | | | | | |
| 11E | 34 | 57 | 30 | 18 | 0 | 0 | 0 | | | | 17.50 |
| 9E | 34 | 1 | 0 | 11 | 0 | 0 | | 0 | 0 | | 1.71 |
| 7E1 | 35 | | | | | | | | | | |
| 7EC | 35 | | | | | | | | | | |
| 7EE | 35 | 610 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 76.25 |
| 7EW | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 8E | 35 | 46 | 2160 | 26 | 15 | 1 | 0 | 0 | 0 | 0 | 249.78 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 11 | 73 | 0 | 0 | | 0 | 0 | 0 | | 12.00 |
| 4E | 39 | 79 | 47 | 167 | 0 | | 0 | 0 | 0 | | 41.86 |
| 5E | 39 | | | | | | | | | | |
| 20E | 41 | | | | | | | | | | |
| WEST | | | | | | | | | | | |
| 15WN | 27 | | | | | | | | | | |
| 15WS | 27 | 14 | | 0 | 0 | 0 | 0 | 0 | | 0 | 2.00 |
| 16WN | 27 | 41 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.13 |
| 16WS | 27 | | 0 | | | | | | | | 0.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 7 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 1.78 |
| 12W | 30 | 13 | 1 | 1 | 1 | 1 | 0 | 11 | 0 | 0 | 3.11 |
| 11W | 32 | 14 | 14 | 2 | 31 | 0 | 0 | 0 | 0 | 0 | 6.78 |
| 10W | 35 | 14 | 0 | 0 | 0 | 57 | 0 | 0 | 0 | | 8.88 |
| 9W | 35 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | | 0.50 |
| 8W | 36 | 2 | 1 | 0 | | | 0 | 10 | 0 | | 2.17 |
| 7W | 37 | 45 | 16 | 2 | 0 | | 0 | 0 | 0 | | 9.00 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 2 | 14 | 0 | 0 | | 0 | 1 | 0 | | 2.43 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 20 | 55 | 0 | 0 | | 0 | 0 | 0 | | 10.71 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 993 | 2450 | 362 | 268 | 70 | 0 | 25 | 11 | 0 | |
| C/E | | 41.38 | 102.08 | 14.48 | 10.72 | 3.68 | 0.00 | 1.00 | 0.44 | 0.00 | |

Table 17. Size-frequency distribution of YOY white perch, Hudson River 2001

| TL | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | weeks 4-9 | weeks 1-9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| <20 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 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 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 35-39 | 0 | 5 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| 40-44 | 0 | 10 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 18 |
| 45-49 | 0 | 24 | 9 | 4 | 1 | 0 | 0 | 0 | 0 | 5 | 38 |
| 50-54 | 0 | 9 | 14 | 8 | 5 | 0 | 0 | 1 | 0 | 14 | 37 |
| 55-59 | 0 | 4 | 15 | 20 | 14 | 0 | 0 | 1 | 0 | 35 | 54 |
| 60-64 | 0 | 2 | 7 | 22 | 31 | 1 | 1 | 1 | 0 | 56 | 65 |
| 65-69 | 0 | 0 | 1 | 17 | 29 | 2 | 4 | 3 | 0 | 55 | 56 |
| 70-74 | 0 | 0 | 0 | 13 | 22 | 4 | 13 | 1 | 0 | 53 | 53 |
| 75-79 | 0 | 0 | 0 | 6 | 13 | 6 | 24 | 3 | 0 | 52 | 52 |
| 80-84 | 0 | 0 | 0 | 2 | 11 | 10 | 19 | 2 | 0 | 44 | 44 |
| 85-89 | 0 | 0 | 0 | 0 | 6 | 9 | 16 | 0 | 0 | 31 | 31 |
| 90-94 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 6 | 6 |
| 95-99 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 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 | 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 | 0 | 57 | 59 | 94 | 132 | 36 | 80 | 12 | 0 | 354 | 470 |
| Mean | | 45.65 | 51.08 | 62.05 | 68.09 | 80.89 | 79.23 | 70.67 | | 70.39 | 64.97 |
| StdDev. | | 8.33 | 8.24 | 8.30 | 8.47 | 7.74 | 6.45 | 9.90 | | 10.60 | 13.90 |

Table 18. Atlantic tomcod catch by station, 2001.

| STATION | riv mile | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EAST | | | | | | | | | | | |
| 18E | 23 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0.00 |
| 21E | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 17E | 24 | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 16E | 25 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0.00 |
| 15E | 27 | | | 0 | | | 0 | | 0 | 0 | 0.00 |
| 12E | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 13E | 29 | | 0 | 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 | | | | | | | | | | |
| 11E | 34 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0.00 |
| 9E | 34 | 4 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0.57 |
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.11 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 4E | 39 | 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 | 0.00 |
| 16WN | 27 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 16WS | 27 | | 0 | | | | | | | | 0.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.44 |
| 12W | 30 | 118 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13.56 |
| 11W | 32 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.11 |
| 10W | 35 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | | 0.50 |
| 9W | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0.00 |
| 8W | 36 | 0 | 0 | 0 | | | 0 | 0 | 0 | | 0.00 |
| 7W | 37 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 130 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| C/E | | 5.42 | 0.21 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | |

Table 19. Size-frequency distribution of Atlantic tomcod, Hudson River 2001

| TL | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60-64 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 65-69 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 70-74 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 75-79 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 80-84 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| 85-89 | 9 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 13 |
| 90-94 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| 95-99 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 100-104 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 105-109 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 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 | 56 | 5 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 64 |
| Mean | 86.36 | 76.80 | | | | 89.00 | 88.50 | | | 88.67 | 85.72 |
| StdDev. | 9.98 | 7.50 | | | | | 0.71 | | | 0.58 | 9.88 |

Table 20. American eel catch by station, 2001.

| STATION | riv mile | week 1<br>July<br>16-17 | week 2<br>Aug.<br>1-2 | week 3<br>Aug.<br>15-16 | week 4<br>Aug.<br>28-29 | week 5<br>Sept.<br>10-11 | week 6<br>Oct.<br>2-3 | week 7<br>Oct.<br>9-10 | week 8<br>Oct.<br>22 | week 9<br>Nov.<br>8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EAST | | | | | | | | | | | |
| 18E | 23 | 2 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0.29 |
| 21E | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 17E | 24 | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 16E | 25 | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | 0 | 0.13 |
| 15E | 27 | | | 0 | | | 1 | | 0 | 0 | 0.25 |
| 12E | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 13E | 29 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.13 |
| 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 | | | | | | | | | | |
| 11E | 34 | 0 | 0 | 1 | 0 | 0 | 0 | | | | 0.17 |
| 9E | 34 | 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 | 2 | 1 | 0 | 0 | 0.33 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 4E | 39 | 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 | 0.00 |
| 16WN | 27 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 16WS | 27 | | 0 | | | | | | | | 0.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.11 |
| 12W | 30 | 5 | 3 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1.22 |
| 11W | 32 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 0.78 |
| 10W | 35 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | | 0.25 |
| 9W | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0.00 |
| 8W | 36 | 1 | 0 | 0 | | | 0 | 0 | 0 | | 0.17 |
| 7W | 37 | 0 | 0 | 0 | 0 | | 0 | 3 | 0 | | 0.43 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | | 0.14 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 11 | 6 | 2 | 3 | 0 | 4 | 4 | 4 | 1 | |
| C/E | | 0.46 | 0.25 | 0.08 | 0.12 | 0.00 | 0.16 | 0.16 | 0.16 | 0.06 | |

Table 21. Size-frequency distribution of American eel, Hudson River 2001

| TL | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | weeks 4-9 | weeks 1-9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 1 | 1 | 3 | 3 |
| 120-139 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 5 |
| 140-159 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 3 | 7 |
| 160-179 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 4 |
| 180-199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200-219 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 220-239 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 240-259 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 1 | 0 | 0 | 0 | 1 | 1 |
| 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 | 1 | 0 | 0 | 1 | 1 |
| 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 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 540-559 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 560-579 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 580-599 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| 600-619 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 4 |
| 620-639 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 640-659 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 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 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 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 |
| # measured | 11 | 6 | 2 | 3 | 0 | 4 | 4 | 4 | 1 | 16 | 35 |
| Mean | 332.55 | 327.67 | 161.00 | 182.33 | | 513.75 | 437.00 | 133.00 | 110.00 | 312.00 | 312.51 |
| StdDev. | 222.18 | 275.02 | 22.63 | 38.03 | | 144.76 | 232.08 | 19.65 | | 211.85 | 216.75 |

Table 22. YOY bluefish catch by station, 2001.

| STATION | riv mile | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EAST | | | | | | | | | | | |
| 18E | 23 | 5 | 1 | | 0 | 9 | 0 | 3 | 0 | | 2.57 |
| 21E | 23 | 13 | 3 | 0 | 8 | 2 | 1 | 2 | 0 | 0 | 3.22 |
| 17E | 24 | | 5 | | 0 | 2 | 0 | 1 | 0 | 0 | 1.14 |
| 16E | 25 | 8 | 0 | 0 | 11 | | 0 | 0 | 0 | 0 | 2.38 |
| 15E | 27 | | | 0 | | | 0 | | 0 | 0 | 0.00 |
| 12E | 29 | 0 | 0 | 1 | 3 | 170 | 3 | 0 | 0 | 0 | 19.67 |
| 13E | 29 | | 0 | 1 | 12 | 37 | 0 | 0 | 0 | 0 | 6.25 |
| 14E | 29 | 6 | | 10 | 1 | 82 | 0 | 0 | 0 | 0 | 12.38 |
| 19E | 33 | 1 | 2 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 1.00 |
| 10E | 34 | | | | | | | | | | |
| 11E | 34 | 1 | 1 | 2 | 1 | 3 | 0 | | | | 1.33 |
| 9E | 34 | 8 | 0 | 1 | 0 | 0 | | 0 | 0 | | 1.29 |
| 7E1 | 35 | | | | | | | | | | |
| 7EC | 35 | | | | | | | | | | |
| 7EE | 35 | 1 | 1 | 2 | 3 | 0 | | 0 | 0 | 0 | 0.88 |
| 7EW | 35 | 1 | 3 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0.78 |
| 8E | 35 | 7 | 30 | 1 | 0 | 4 | 18 | 0 | 0 | 0 | 6.67 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 0 | 0 | 1 | 0 | | 0 | 0 | 0 | | 0.14 |
| 4E | 39 | 1 | 3 | 12 | 1 | | 0 | 0 | 0 | | 2.43 |
| 5E | 39 | | | | | | | | | | |
| 20E | 41 | | | | | | | | | | |
| WEST | | | | | | | | | | | |
| 15WN | 27 | | | | | | | | | | |
| 15WS | 27 | 10 | | 5 | 0 | 9 | 0 | 0 | | 0 | 3.43 |
| 16WN | 27 | 2 | | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0.50 |
| 16WS | 27 | | 3 | | | | | | | | 3.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 7 | 0 | 1 | 4 | 4 | 36 | 0 | 0 | 0 | 5.78 |
| 12W | 30 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.22 |
| 11W | 32 | 4 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0.89 |
| 10W | 35 | 0 | 1 | 0 | 1 | 179 | 1 | 0 | 0 | | 22.75 |
| 9W | 35 | 6 | 3 | 0 | 0 | 8 | 1 | 0 | 4 | | 2.75 |
| 8W | 36 | 11 | 0 | 0 | | | 0 | 0 | 0 | | 1.83 |
| 7W | 37 | 10 | 1 | 0 | 0 | | 0 | 2 | 0 | | 1.86 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 0 | 4 | 0 | 0 | | 0 | 1 | 0 | | 0.71 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 2 | 4 | 3 | 8 | | 1 | 0 | 0 | | 2.57 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 105 | 65 | 42 | 57 | 518 | 61 | 9 | 5 | 0 | |
| C/E | | 4.38 | 2.71 | 1.68 | 2.28 | 27.26 | 2.44 | 0.36 | 0.20 | 0.00 | |

Table 23. Size-frequency distribution of YOY bluefish, Hudson River 2001

| TL | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 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 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| 60-79 | 0 | 0 | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 7 |
| 80-99 | 26 | 1 | 0 | 10 | 117 | 1 | 0 | 0 | 0 | 128 | 155 |
| 100-119 | 47 | 9 | 0 | 5 | 37 | 23 | 0 | 0 | 0 | 65 | 121 |
| 120-139 | 29 | 31 | 11 | 7 | 23 | 20 | 1 | 0 | 0 | 51 | 122 |
| 140-159 | 2 | 19 | 14 | 9 | 9 | 9 | 1 | 0 | 0 | 28 | 63 |
| 160-179 | 0 | 4 | 12 | 15 | 3 | 2 | 1 | 0 | 0 | 21 | 37 |
| 180-199 | 0 | 0 | 2 | 7 | 9 | 1 | 1 | 0 | 0 | 18 | 20 |
| 200-219 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 3 | 0 | 7 | 7 |
| 220-239 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 4 | 4 |
| 240-259 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 3 |
| 260-279 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 |
| # measured | 104 | 65 | 42 | 57 | 202 | 61 | 8 | 5 | 0 | 333 | 545 |
| Mean | 109.38 | 132.49 | 144.83 | 136.02 | 105.39 | 131.70 | 198.00 | 228.40 | | 119.53 | 121.09 |
| StdDev. | 13.79 | 18.72 | 25.76 | 38.99 | 28.69 | 33.81 | 52.30 | 25.56 | | 39.36 | 34.05 |

Table 24. Winter flounder catch by station, 2001.

| STATION | riv mile | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EAST | | | | | | | | | | | |
| 18E | 23 | 4 | 0 | | 4 | 0 | 1 | 0 | 0 | | 1.29 |
| 21E | 23 | 5 | 2 | 0 | 1 | 0 | 0 | 2 | 0 | 1 | 1.22 |
| 17E | 24 | | 8 | | 4 | 1 | 0 | 1 | 1 | 7 | 3.14 |
| 16E | 25 | 1 | 3 | 0 | 1 | | 1 | 0 | 1 | 1 | 1.00 |
| 15E | 27 | | | 0 | | | 1 | | 1 | 0 | 0.50 |
| 12E | 29 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0.33 |
| 13E | 29 | | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 5 | 1.50 |
| 14E | 29 | 0 | | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0.38 |
| 19E | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 10E | 34 | | | | | | | | | | |
| 11E | 34 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0.00 |
| 9E | 34 | 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 | 0 | 0.00 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 4E | 39 | 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 | 0.00 |
| 16WN | 27 | 1 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.13 |
| 16WS | 27 | | 0 | | | | | | | | 0.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 12W | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.11 |
| 11W | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.11 |
| 10W | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | | 0.13 |
| 9W | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0.00 |
| 8W | 36 | 0 | 0 | 0 | | | 0 | 0 | 0 | | 0.00 |
| 7W | 37 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 11 | 13 | 2 | 11 | 3 | 4 | 7 | 6 | 17 | |
| C/E | | 0.46 | 0.54 | 0.08 | 0.44 | 0.16 | 0.16 | 0.28 | 0.24 | 1.06 | |

Table 25. Size-frequency distribution of winter flounder, Hudson River 2001

| TL | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 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 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 40-44 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 45-49 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 50-54 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 5 |
| 55-59 | 1 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 6 |
| 60-64 | 1 | 4 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 3 | 9 |
| 65-69 | 2 | 3 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 11 |
| 70-74 | 2 | 3 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 8 |
| 75-79 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 3 |
| 80-84 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| 85-89 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 3 |
| 90-94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95-99 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 3 |
| 100-104 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 3 |
| 105-109 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 |
| 110-114 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 4 | 4 |
| 115-119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 4 |
| 120-124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 125-129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 3 |
| 130-134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135-139 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 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 | 1 | 1 | 1 |
| 150-154 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 155-159 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 160-164 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 165-169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 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 | 11 | 15 | 2 | 13 | 6 | 4 | 7 | 8 | 12 | 50 | 78 |
| Mean | 54.91 | 62.27 | 58.00 | 65.00 | 83.83 | 92.00 | 98.71 | 115.00 | 124.42 | 96.40 | 83.00 |
| StdDev. | 14.07 | 7.53 | 2.83 | 7.57 | 36.21 | 10.03 | 31.18 | 12.80 | 21.54 | 30.54 | 30.96 |

Table 26. American shad catch by station, 2001.

| STATION | riv mile | week 1<br>July<br>16-17 | week 2<br>Aug.<br>1-2 | week 3<br>Aug.<br>15-16 | week 4<br>Aug.<br>28-29 | week 5<br>Sept.<br>10-11 | week 6<br>Oct.<br>2-3 | week 7<br>Oct.<br>9-10 | week 8<br>Oct.<br>22 | week 9<br>Nov.<br>8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EAST** | | | | | | | | | | | |
| 18E | 23 | 0 | 0 | | 0 | 0 | 0 | 0 | 3 | | 0.43 |
| 21E | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 1.11 |
| 17E | 24 | | 0 | | 0 | 0 | 0 | 0 | 0 | 2 | 0.29 |
| 16E | 25 | 0 | 0 | 0 | 0 | | 0 | 0 | 2 | 25 | 3.38 |
| 15E | 27 | | | 0 | | | 0 | | 0 | 12 | 3.00 |
| 12E | 29 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0.33 |
| 13E | 29 | | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0.63 |
| 14E | 29 | 1 | | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0.75 |
| 19E | 33 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0.22 |
| 10E | 34 | | | | | | | | | | |
| 11E | 34 | 0 | 8 | 0 | 0 | 0 | 0 | | | | 1.33 |
| 9E | 34 | 11 | 0 | 0 | 0 | 0 | | 0 | 0 | | 1.57 |
| 7E1 | 35 | | | | | | | | | | |
| 7EC | 35 | | | | | | | | | | |
| 7EE | 35 | 0 | 0 | 0 | 0 | 0 | | 83 | 12 | 0 | 11.88 |
| 7EW | 35 | 1 | 0 | 0 | 0 | 0 | 0 | 18 | 27 | 4 | 5.56 |
| 8E | 35 | 6 | 42 | 0 | 15 | 0 | 0 | 11 | 12 | 0 | 9.56 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 0 | 0 | 0 | 0 | | 0 | 2 | 4 | | 0.86 |
| 4E | 39 | 0 | 10 | 0 | 0 | | 0 | 2 | 0 | | 1.71 |
| 5E | 39 | | | | | | | | | | |
| 20E | 41 | | | | | | | | | | |
| **WEST** | | | | | | | | | | | |
| 15WN | 27 | | | | | | | | | | |
| 15WS | 27 | 1 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0.14 |
| 16WN | 27 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 16WS | 27 | | 0 | | | | | | | | 0.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 12W | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0.44 |
| 11W | 32 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.33 |
| 10W | 35 | 15 | 0 | 0 | 0 | 0 | 1 | 17 | 0 | | 4.13 |
| 9W | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | | 1.00 |
| 8W | 36 | 0 | 0 | 0 | | | 2 | 0 | 0 | | 0.33 |
| 7W | 37 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 5 | 0 | 0 | 0 | | 0 | 0 | 1 | | 0.86 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 43 | 60 | 0 | 16 | 0 | 4 | 143 | 68 | 61 | |
| C/E | | 1.79 | 2.50 | 0.00 | 0.64 | 0.00 | 0.16 | 5.72 | 2.72 | 3.81 | |

Table 27. Size-frequency distribution of American shad, Hudson River 2001

| TL | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 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 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 50-54 | 19 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 |
| 55-59 | 12 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 |
| 60-64 | 4 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| 65-69 | 3 | 4 | 0 | 1 | 0 | 0 | 5 | 1 | 0 | 7 | 14 |
| 70-74 | 2 | 0 | 0 | 0 | 0 | 2 | 26 | 32 | 11 | 71 | 73 |
| 75-79 | 0 | 1 | 0 | 1 | 0 | 2 | 36 | 31 | 29 | 99 | 100 |
| 80-84 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 9 | 16 | 38 | 38 |
| 85-89 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 4 | 9 | 9 |
| 90-94 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 1 | 6 | 6 |
| 95-99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100-104 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 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 | 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 | 43 | 49 | 0 | 2 | 0 | 4 | 90 | 74 | 61 | 231 | 323 |
| Mean | 56.23 | 59.02 | | 72.50 | | 74.00 | 77.00 | 75.64 | 78.25 | 76.80 | 71.37 |
| StdDev. | 5.69 | 4.66 | | 9.19 | | 3.46 | 5.86 | 3.97 | 4.09 | 4.95 | 10.00 |

Table 28. Atlantic silversides catch by station, 2001.

| STATION | riv mile | week 1<br>July<br>16-17 | week 2<br>Aug.<br>1-2 | week 3<br>Aug.<br>15-16 | week 4<br>Aug.<br>28-29 | week 5<br>Sept.<br>10-11 | week 6<br>Oct.<br>2-3 | week 7<br>Oct.<br>9-10 | week 8<br>Oct.<br>22 | week 9<br>Nov.<br>8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EAST** | | | | | | | | | | | |
| 18E | 23 | 74 | 671 | | 133 | 87 | 57 | 86 | 22 | | 161.43 |
| 21E | 23 | 16 | 137 | 12 | 0 | 5 | 5 | 3 | 73 | 2 | 28.11 |
| 17E | 24 | | 1 | | 257 | 65 | 66 | 0 | 5 | 4 | 56.86 |
| 16E | 25 | 15 | 11 | 24 | 0 | | 1 | 55 | 100 | 3 | 26.13 |
| 15E | 27 | | | 0 | | | 28 | | 51 | 23 | 25.50 |
| 12E | 29 | 26 | 298 | 35 | 232 | 124 | 21 | 23 | 72 | 2 | 92.56 |
| 13E | 29 | | 147 | 85 | 209 | 123 | 12 | 181 | 230 | 1 | 123.50 |
| 14E | 29 | 0 | | 61 | 49 | 162 | 7 | 22 | 16 | 7 | 40.50 |
| 19E | 33 | 31 | 5 | 27 | 76 | 74 | 110 | 33 | 132 | 8 | 55.11 |
| 10E | 34 | | | | | | | | | | |
| 11E | 34 | 0 | 629 | 2257 | 69 | 490 | 72 | | | | 586.17 |
| 9E | 34 | 6 | 322 | 505 | 1768 | 1053 | | 70 | 115 | | 548.43 |
| 7E1 | 35 | | | | | | | | | | |
| 7EC | 35 | | | | | | | | | | |
| 7EE | 35 | 2 | 44 | 253 | 69 | 582 | | 421 | 85 | 4 | 182.50 |
| 7EW | 35 | 2 | 13 | 84 | 75 | 45 | 43 | 264 | 348 | 38 | 101.33 |
| 8E | 35 | 46 | 66 | 104 | 174 | 127 | 119 | 3 | 4 | 4 | 71.89 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 1 | 109 | 69 | 8 | | 47 | 237 | 30 | | 71.57 |
| 4E | 39 | 2 | 0 | 27 | 0 | | 0 | 93 | 3 | | 17.86 |
| 5E | 39 | | | | | | | | | | |
| 20E | 41 | | | | | | | | | | |
| **WEST** | | | | | | | | | | | |
| 15WN | 27 | | | | | | | | | | |
| 15WS | 27 | 106 | | 148 | 284 | 1103 | 247 | 26 | | 10 | 274.86 |
| 16WN | 27 | 5 | | 34 | 16 | 40 | 41 | 16 | 22 | 30 | 25.50 |
| 16WS | 27 | | 81 | | | | | | | | 81.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 5 | 20 | 28 | 18 | 9 | 14 | 7 | 9 | 8 | 13.11 |
| 12W | 30 | 4 | 38 | 121 | 403 | 11 | 41 | 22 | 7 | 7 | 72.67 |
| 11W | 32 | 2 | 6 | 54 | 36 | 25 | 13 | 4 | 11 | 19 | 18.89 |
| 10W | 35 | 0 | 15 | 46 | 18 | 10 | 9 | 0 | 1 | | 12.38 |
| 9W | 35 | 0 | 13 | 12 | 0 | 25 | 53 | 8 | 13 | | 15.50 |
| 8W | 36 | 0 | 2 | 89 | | | 0 | 9 | 4 | | 17.33 |
| 7W | 37 | 0 | 20 | 39 | 34 | | 0 | 48 | 1 | | 20.29 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 0 | 20 | 1 | 21 | | 33 | 0 | 26 | | 14.43 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 1 | 10 | 37 | 0 | | 49 | 2 | 3 | | 14.57 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 344 | 2678 | 4152 | 3949 | 4160 | 1088 | 1633 | 1383 | 170 | |
| C/E | | 14.33 | 111.58 | 166.08 | 157.96 | 218.95 | 43.52 | 65.32 | 55.32 | 10.63 | |

Table 29. Size-frequency distribution of Atlantic silversides, Hudson River 2001

| TL | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | weeks 4-9 | weeks 1-9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| <20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 25-29 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 30-34 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 35-39 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 40-44 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 45-49 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 50-54 | 0 | 1 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 3 | 8 |
| 55-59 | 0 | 6 | 15 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 25 |
| 60-64 | 0 | 7 | 47 | 18 | 1 | 2 | 0 | 0 | 1 | 22 | 76 |
| 65-69 | 1 | 33 | 43 | 32 | 4 | 8 | 0 | 0 | 1 | 45 | 122 |
| 70-74 | 0 | 43 | 53 | 37 | 19 | 16 | 0 | 0 | 3 | 75 | 171 |
| 75-79 | 0 | 55 | 32 | 43 | 31 | 23 | 5 | 0 | 7 | 109 | 196 |
| 80-84 | 0 | 18 | 18 | 29 | 40 | 32 | 16 | 0 | 3 | 120 | 156 |
| 85-89 | 0 | 4 | 8 | 21 | 27 | 51 | 18 | 0 | 8 | 125 | 137 |
| 90-94 | 0 | 3 | 0 | 11 | 19 | 36 | 27 | 0 | 18 | 111 | 114 |
| 95-99 | 0 | 0 | 0 | 1 | 7 | 19 | 16 | 0 | 31 | 74 | 74 |
| 100-104 | 0 | 1 | 0 | 0 | 2 | 5 | 13 | 0 | 25 | 45 | 46 |
| 105-109 | 0 | 4 | 0 | 0 | 0 | 1 | 1 | 0 | 18 | 20 | 24 |
| 110-114 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 6 | 8 | 9 |
| 115-119 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 |
| 120-124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125-129 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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 | 4 | 180 | 225 | 200 | 150 | 194 | 97 | 0 | 122 | 763 | 1172 |
| Mean | 43.75 | 74.18 | 69.03 | 74.78 | 82.13 | 84.97 | 91.05 | | 96.40 | 84.34 | 79.70 |
| StdDev. | 15.59 | 11.60 | 9.32 | 9.42 | 7.72 | 8.87 | 7.38 | | 10.10 | 11.49 | 12.99 |

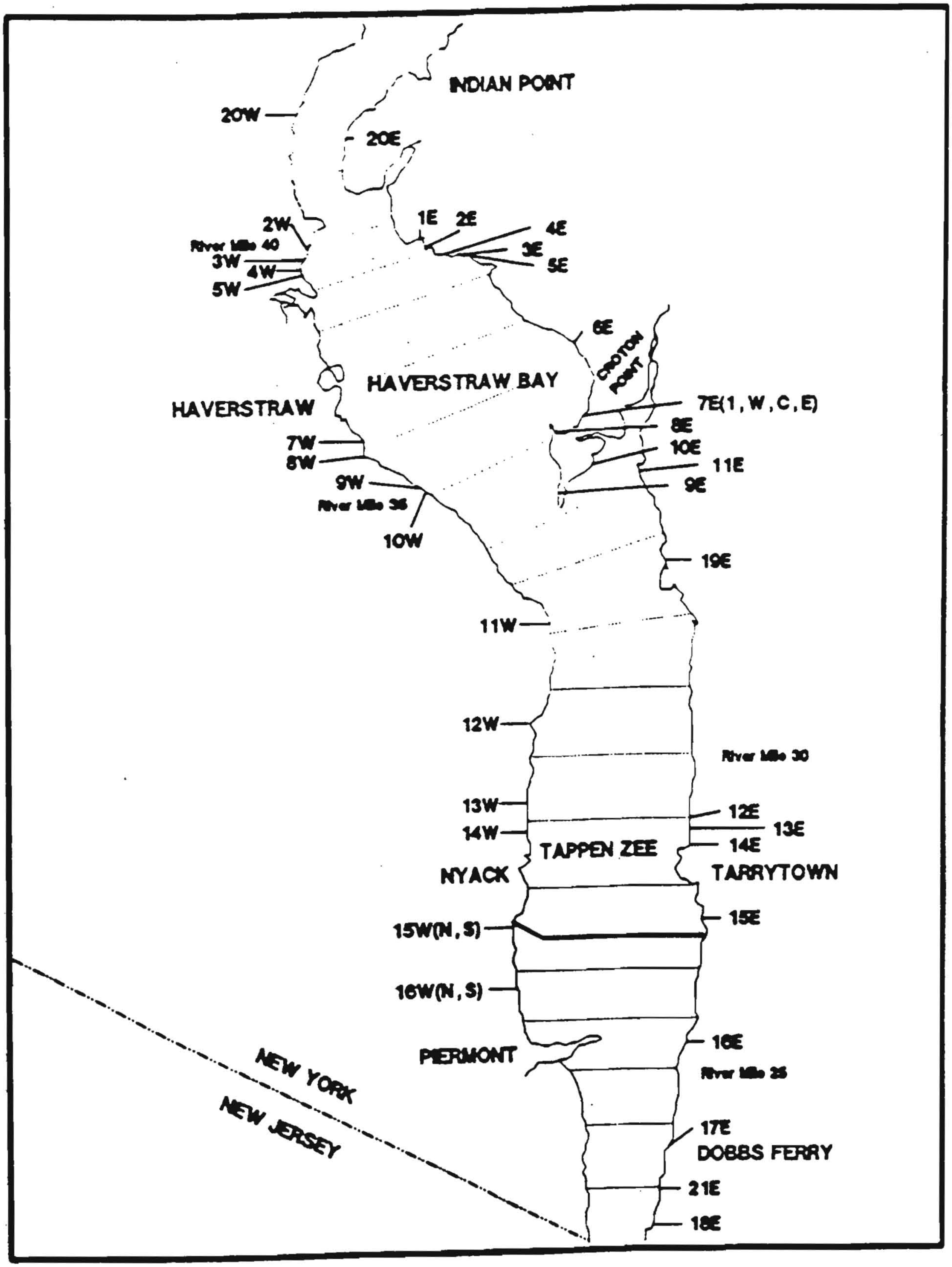
Table 30. YOY blue crab catch by station, 2001.

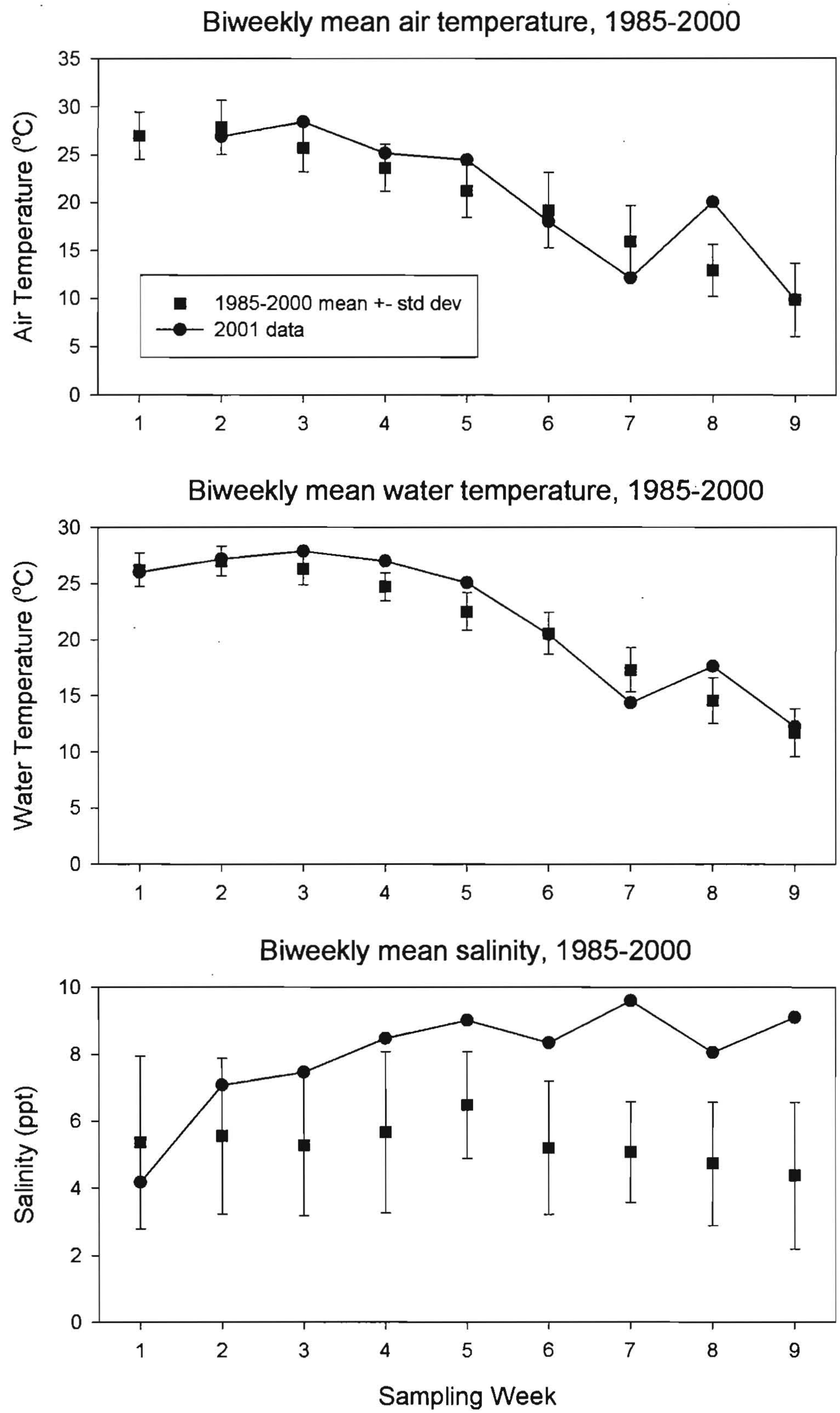
| STATION | riv mile | week 1 July 16-17 | week 2 Aug. 1-2 | week 3 Aug. 15-16 | week 4 Aug. 28-29 | week 5 Sept. 10-11 | week 6 Oct. 2-3 | week 7 Oct. 9-10 | week 8 Oct. 22 | week 9 Nov. 8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EAST | | | | | | | | | | | |
| 18E | 23 | 0 | 0 | | 30 | 0 | 1 | 0 | 2 | | 4.71 |
| 21E | 23 | 4 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 4.89 |
| 17E | 24 | | 0 | | 7 | 0 | 0 | 4 | 2 | 0 | 1.86 |
| 16E | 25 | 1 | 0 | 0 | 6 | | 0 | 0 | 2 | 0 | 1.13 |
| 15E | 27 | | | 1 | | | 35 | | 0 | 0 | 9.00 |
| 12E | 29 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 1 | 0.56 |
| 13E | 29 | | 1 | 0 | 1 | 45 | 7 | 8 | 1 | 1 | 8.00 |
| 14E | 29 | 3 | | 0 | 1 | 10 | 0 | 1 | 4 | 2 | 2.63 |
| 19E | 33 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0.33 |
| 10E | 34 | | | | | | | | | | |
| 11E | 34 | 0 | 0 | 3 | 0 | 0 | 0 | | | | 0.50 |
| 9E | 34 | 1 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0.14 |
| 7E1 | 35 | | | | | | | | | | |
| 7EC | 35 | | | | | | | | | | |
| 7EE | 35 | 1 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0.13 |
| 7EW | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 8E | 35 | 1 | 0 | 0 | 0 | 10 | 0 | 5 | 2 | 2 | 2.22 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 0 | 0 | 0 | 0 | | 0 | 1 | 0 | | 0.14 |
| 4E | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 5E | 39 | | | | | | | | | | |
| 20E | 41 | | | | | | | | | | |
| WEST | | | | | | | | | | | |
| 15WN | 27 | | | | | | | | | | |
| 15WS | 27 | 0 | | 0 | 0 | 0 | 0 | 5 | | 0 | 0.71 |
| 16WN | 27 | 0 | | 1 | 16 | 0 | 0 | 1 | 0 | 0 | 2.25 |
| 16WS | 27 | | 0 | | | | | | | | 0.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 3 | 0 | 1 | 0 | 1 | 0 | 4 | 1 | 0 | 1.11 |
| 12W | 30 | 4 | 0 | 0 | 15 | 1 | 0 | 21 | 10 | 3 | 6.00 |
| 11W | 32 | 4 | 0 | 0 | 17 | 0 | 0 | 3 | 0 | 0 | 2.67 |
| 10W | 35 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | | 0.50 |
| 9W | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0.00 |
| 8W | 36 | 0 | 0 | 0 | | | 0 | 0 | 0 | | 0.00 |
| 7W | 37 | 3 | 0 | 0 | 0 | | 0 | 4 | 0 | | 1.00 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 1 | 0 | 0 | 0 | | 0 | 2 | 1 | | 0.57 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 27 | 1 | 8 | 133 | 68 | 48 | 59 | 27 | 9 | |
| C/E | | 1.13 | 0.04 | 0.32 | 5.32 | 3.58 | 1.92 | 2.36 | 1.08 | 0.56 | |

Table 31. Older blue crab catch by station, 2001.

| STATION | riv mile | week 1<br>July<br>16-17 | week 2<br>Aug.<br>1-2 | week 3<br>Aug.<br>15-16 | week 4<br>Aug.<br>28-29 | week 5<br>Sept.<br>10-11 | week 6<br>Oct.<br>2-3 | week 7<br>Oct.<br>9-10 | week 8<br>Oct.<br>22 | week 9<br>Nov.<br>8 | C/F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EAST | | | | | | | | | | | |
| 18E | 23 | 0 | 1 | | 0 | 0 | 2 | 1 | 0 | | 0.57 |
| 21E | 23 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0.56 |
| 17E | 24 | | 2 | | 0 | 0 | 0 | 1 | 0 | 0 | 0.43 |
| 16E | 25 | 1 | 2 | 2 | 0 | | 2 | 0 | 0 | 0 | 0.88 |
| 15E | 27 | | | 0 | | | 2 | | 0 | 0 | 0.50 |
| 12E | 29 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0.67 |
| 13E | 29 | | 6 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 1.25 |
| 14E | 29 | 1 | | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0.88 |
| 19E | 33 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.44 |
| 10E | 34 | | | | | | | | | | |
| 11E | 34 | 0 | 2 | 8 | 0 | 0 | 0 | | | | 1.67 |
| 9E | 34 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0.00 |
| 7E1 | 35 | | | | | | | | | | |
| 7EC | 35 | | | | | | | | | | |
| 7EE | 35 | 0 | 3 | 0 | 0 | 0 | | 0 | 0 | 0 | 0.38 |
| 7EW | 35 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.11 |
| 8E | 35 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0.33 |
| 6E | 36 | | | | | | | | | | |
| 3E | 39 | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | | 0.14 |
| 4E | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 5E | 39 | | | | | | | | | | |
| 20E | 41 | | | | | | | | | | |
| WEST | | | | | | | | | | | |
| 15WN | 27 | | | | | | | | | | |
| 15WS | 27 | 1 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0.14 |
| 16WN | 27 | 2 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.25 |
| 16WS | 27 | | 0 | | | | | | | | 0.00 |
| 13W | 29 | | | | | | | | | | |
| 14W | 29 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0.22 |
| 12W | 30 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0.44 |
| 11W | 32 | 2 | 7 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1.33 |
| 10W | 35 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | | 0.25 |
| 9W | 35 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | | 0.50 |
| 8W | 36 | 1 | 0 | 0 | | | 3 | 1 | 0 | | 0.83 |
| 7W | 37 | 0 | 3 | 0 | 0 | | 0 | 1 | 0 | | 0.57 |
| 3W | 39 | | | | | | | | | | |
| 4W | 39 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0.00 |
| 4WN | 39 | | | | | | | | | | |
| 5W | 39 | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | | 0.14 |
| 20W | 42 | | | | | | | | | | |
| Effort | | 24 | 24 | 25 | 25 | 19 | 25 | 25 | 25 | 16 | |
| Catch | | 10 | 38 | 16 | 11 | 4 | 10 | 12 | 2 | 0 | |
| C/E | | 0.42 | 1.58 | 0.64 | 0.44 | 0.21 | 0.40 | 0.48 | 0.08 | 0.00 | |

FIGURE 1 NYS DEC YOY STRIPED BASS SEINE STATIONS





Biweekly mean air temperature, 1985-2000
Air Temperature (°C)
35
30
25
20
15
10
5
0
1985-2000 mean +- std dev
2001 data
1
2
3
4
5
6
7
8
9
Biweekly mean water temperature, 1985-2000
Water Temperature (°C)
30
25
20
15
10
5
0
1
2
3
4
5
6
7
8
9
Biweekly mean salinity, 1985-2000
Salinity (ppt)
10
8
6
4
2
0
1
2
3
4
5
6
7
8
9
Sampling Week


Figure 2.

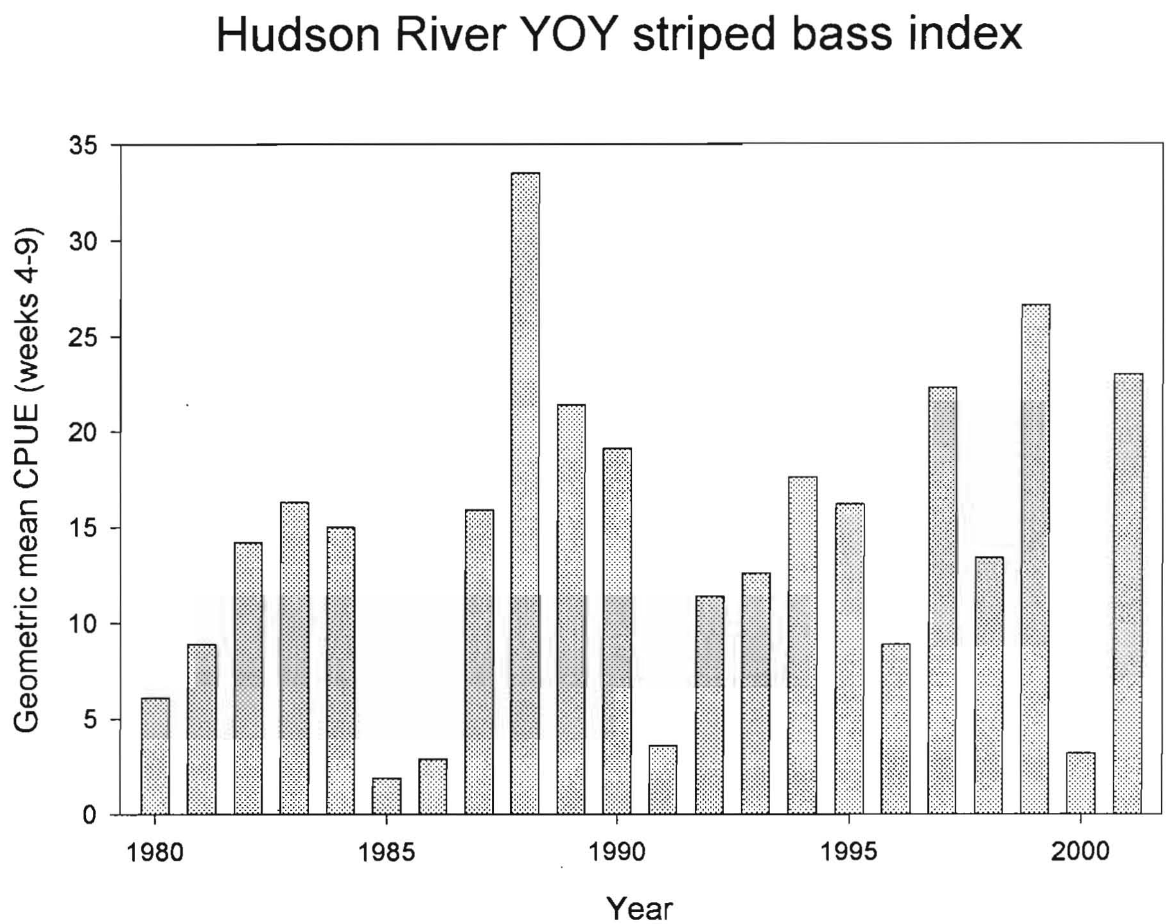

Hudson River YOY striped bass index
Geometric mean CPUE (weeks 4-9)
35
30
25
20
15
10
5
0
1980
1985
1990
1995
2000
Year

Figure 3.

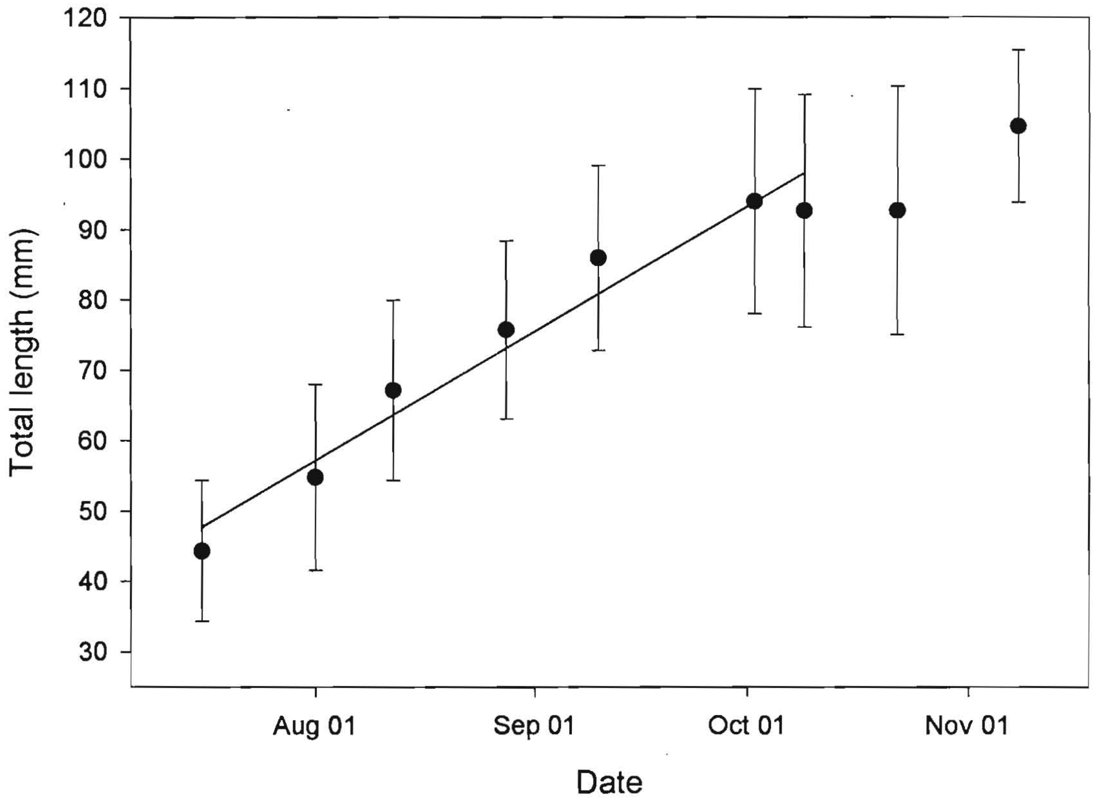



Figure 4. Growth of YOY striped bass in the 2000 cohort.

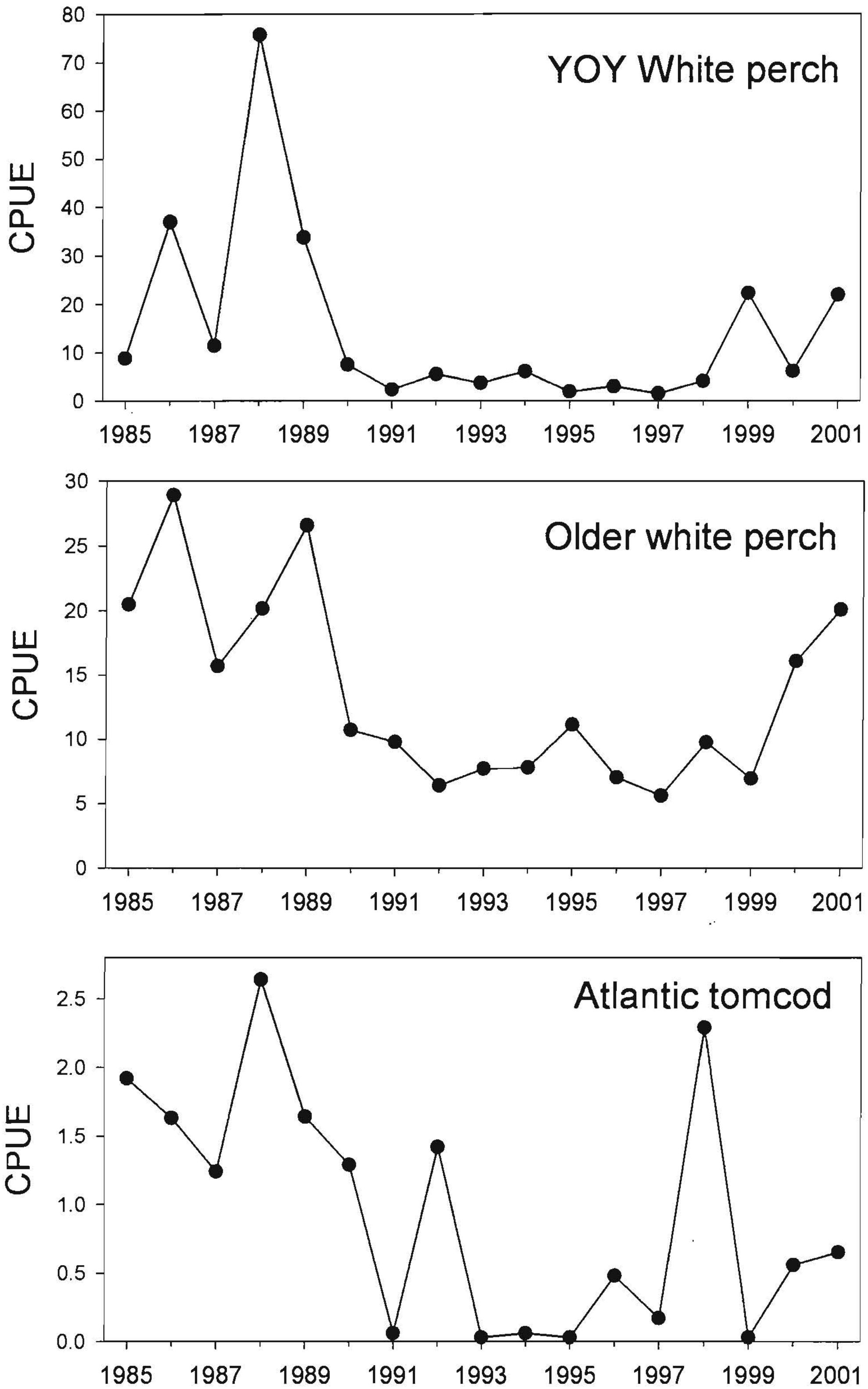

YOY White perch
CPUE
0 10 20 30 40 50 60 70 80
1985 1987 1989 1991 1993 1995 1997 1999 2001
Older white perch
CPUE
0 5 10 15 20 25 30
1985 1987 1989 1991 1993 1995 1997 1999 2001
Atlantic tomcod
CPUE
0.0 0.5 1.0 1.5 2.0 2.5
1985 1987 1989 1991 1993 1995 1997 1999 2001

Figure 5.

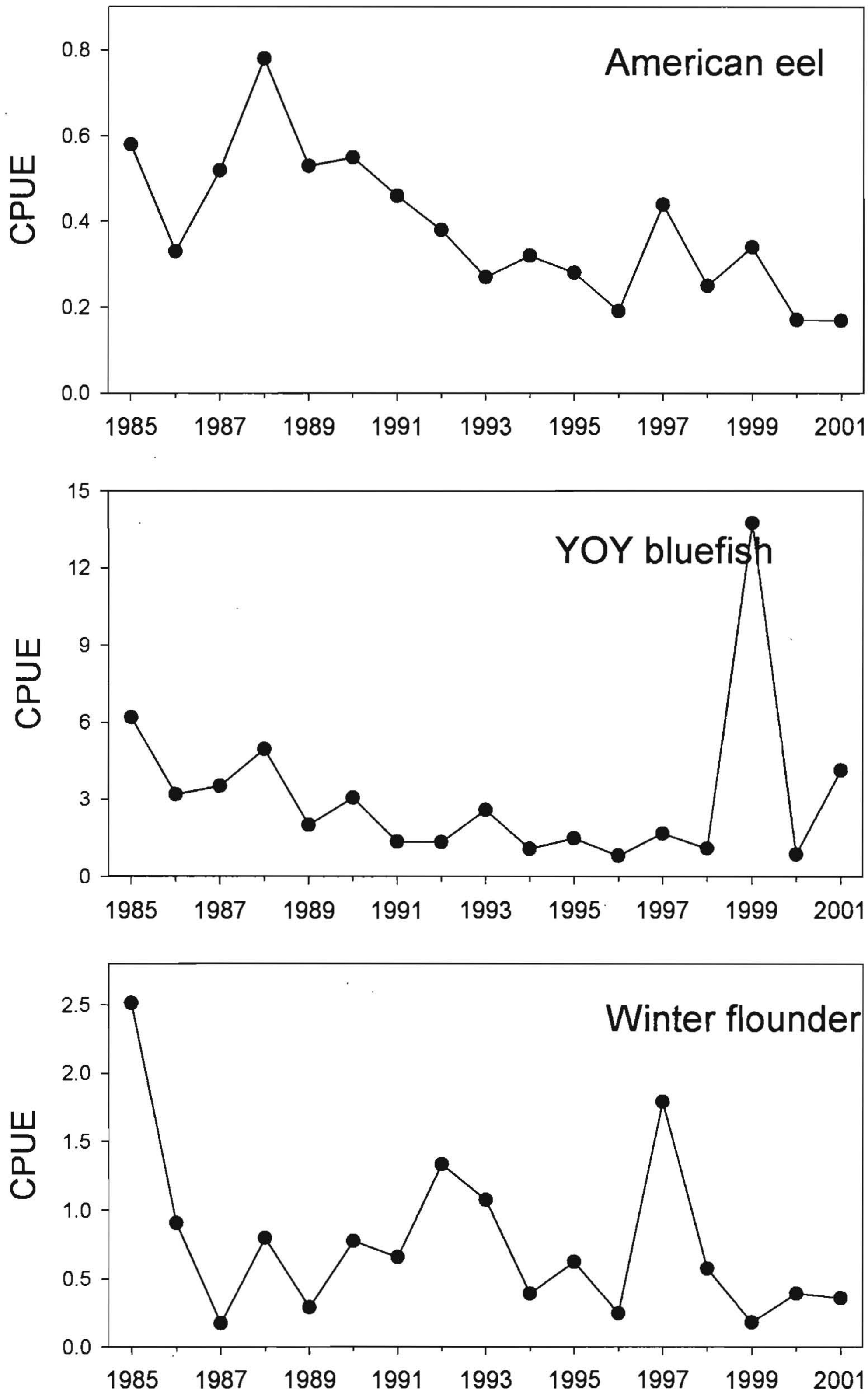

American eel
CPUE
0.8
0.6
0.4
0.2
0.0
1985
1987
1989
1991
1993
1995
1997
1999
2001
YOY bluefish
CPUE
15
12
9
6
3
0
1985
1987
1989
1991
1993
1995
1997
1999
2001
Winter flounder
CPUE
2.5
2.0
1.5
1.0
0.5
0.0
1985
1987
1989
1991
1993
1995
1997
1999
2001

Figure 6.

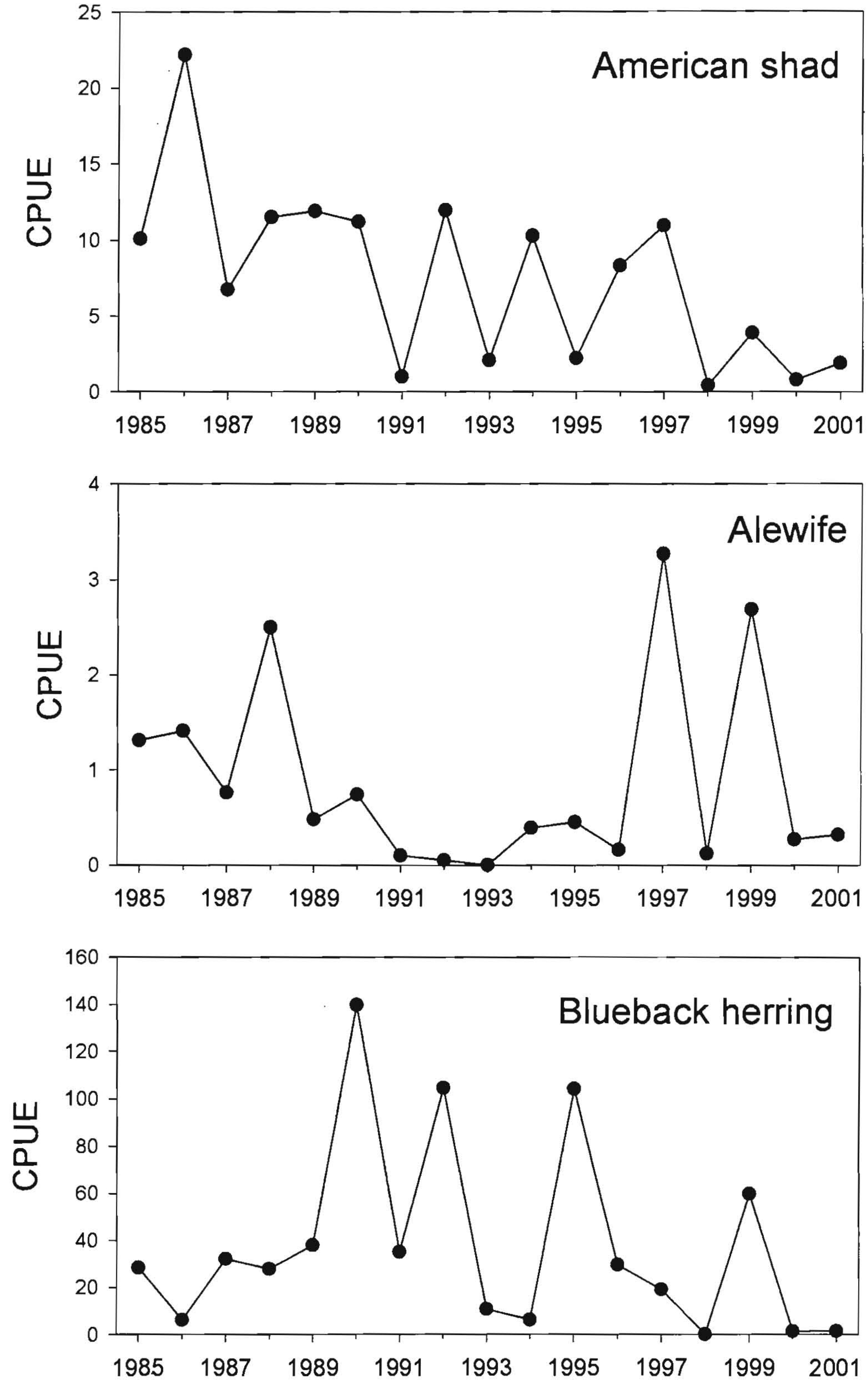

American shad
CPUE
25
20
15
10
5
0
1985
1987
1989
1991
1993
1995
1997
1999
2001
Alewife
CPUE
4
3
2
1
0
1985
1987
1989
1991
1993
1995
1997
1999
2001
Blueback herring
CPUE
160
140
120
100
80
60
40
20
0
1985
1987
1989
1991
1993
1995
1997
1999
2001

Figure 7.

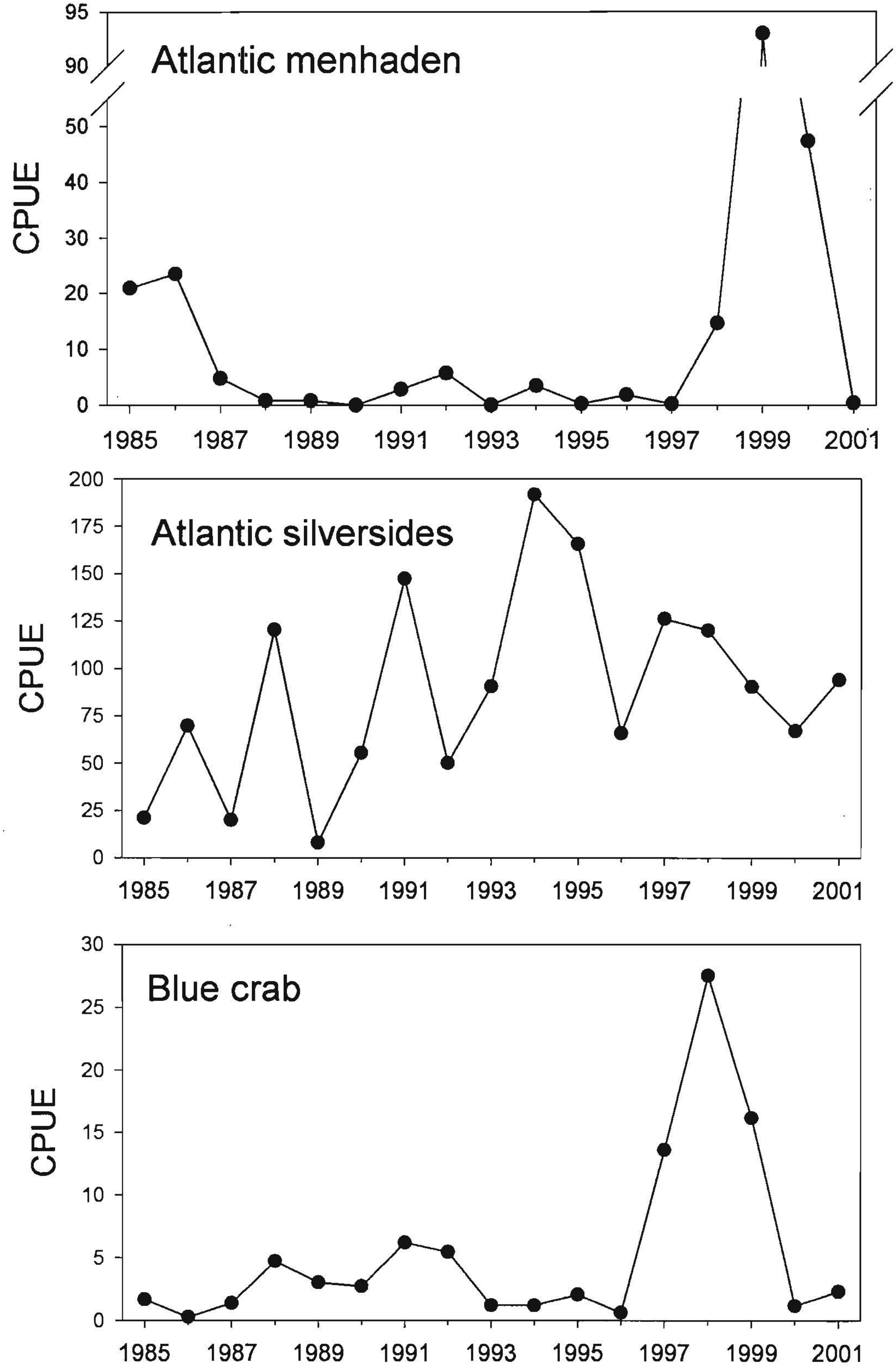

Atlantic menhaden
CPUE
95
90
50
40
30
20
10
0
1985
1987
1989
1991
1993
1995
1997
1999
2001
Atlantic silversides
CPUE
200
175
150
125
100
75
50
25
0
1985
1987
1989
1991
1993
1995
1997
1999
2001
Blue crab
CPUE
30
25
20
15
10
5
0
1985
1987
1989
1991
1993
1995
1997
1999
2001

Figure 8.