Nearshore fish communities of the mid-Hudson River estuary, 1985-2000

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Abstract

Two hundred-eleven seine hauls were completed in the 2000 young-of-the-year (YOY) striped bass survey in the Hudson River. A total of 4,830 YOY striped bass were captured, resulting in a geometric mean catch per unit effort (CPUE) of 7.2 fish/haul. The Hudson River index of YOY striped bass abundance, based on the geometric mean CPUE of the 6-week survey, was 3.2 fish/haul. The index of abundance was the third lowest since the survey began in 1980. YOY striped bass grew at an estimated 0.45mm/day between mid-July and late-September. Catch rates of other anadromous fish, American shad, alewife and blueback herring, were also below average. Composition of the catch was generally similar to that observed in previous years with Atlantic silversides, Atlantic menhaden, striped bass and white perch being the most abundant species in the catch. Catch rates of some species may have been influenced by an unusual hydrographic regime in which salinity was below average early in the sampling season (July-September) and above average late in the season.

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 at the 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 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 2mt/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 approximately 75% of the coastwide stock, with the Hudson River and Delaware Bay contributing approximately 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 2000 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 23-38; 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 2000 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 individuals each of striped bass, 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. Fish were measured in the field and 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./foot^2. 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 2000 sampling season, 9 sampling trips were conducted from July 24 through November 19. During this sampling, a total of 38,290 fish and 250 blue crab were captured in 211 gear sets. This total included 4,831 young-of-the-year striped bass and 157 older striped bass.

Environmental conditions

Weekly average water temperatures generally decreased through the sampling season, from a high of 27.0 °C on August 10-11 to a low of 8.8 °C on November 19 (Table 1). Air temperatures also generally decreased during the sampling season, ranging from 31.7 to 6.1 °C. Average river salinity generally increased through the sampling season from a low of 1.2 ppt on August 10-11 to a high of 7.1 ppt observed on November 8. Dissolved oxygen levels were relatively high throughout the sampling period ranging from 6.5 to 8.9 mg/L and did not show any distinct seasonal pattern.

The environmental conditions during the 2000 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, or slightly below historical averages. Salinity patterns were very unusual during the 2000 sampling season (Figure 2). During the first five weeks of the survey, mean salinities were significantly below the historical average by 3-4ppt. Salinity increased between weeks 4 and 7, a period when the historical mean salinities generally decreased. Salinities in weeks 7-9 were significantly higher than the historical average.

Species composition

Forty-one species of fish were captured during the 2000 sampling season in the Hudson River. Fish catches varied from a peak of 8,007 in week 4 (September 7-8) to a minimum of 149 in week 9 (November 19). The most abundant species captured during the 2000 sampling season were the Atlantic silverside (14,150 fish), Atlantic menhaden

(10,037), striped bass (4,988) white perch (4,694) and bay anchovy (2,892; Table 3). Although not abundant in samples, gizzard shad and bluegill were more commonly captured than in recent years. Catch composition during the 2000 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 2000 sampling season 4,830 YOY striped bass were captured in 211 hauls, a mean CPUE of 22.9 and geometric mean CPUE of 7.2 (Table 6). Using only the final 6 weeks of catch data for comparison with earlier data, 1,064 YOY striped bass were captured in 136 hauls, resulting in a mean CPUE of 7.8 and a geometric mean CPUE of 3.2 (Figure 3). The 9-week geometric mean CPUE was the fourth lowest since 1985 and the 6-week geometric mean CPUE was the third lowest since 1980. Conversely, the number of YOY striped bass captured in Little Neck Bay and Manhasset Bay off Long Island Sound was higher than common in recent years (K.McKown, NYSDEC, personal communication). This may suggest that the low catch rates in the Hudson River survey are in part due to emigration to coastal habitats, as opposed to low spawning production or survival of egg, larval and early juvenile stages. The value of coastal habitats in the stock dynamics of striped bass in the Hudson River population requires further research.

Catch-per-unit-effort of YOY striped bass peaked during the second week of the survey at 57.2 fish/haul, dropping rapidly to 5.8 fish/haul in week 5. The lowest catch rates of 0.41 fish/haul occurred during the final week of the survey. The temporal pattern of catch observed in 2000 is similar to that 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. Unusual catch patterns were observed in 1987, 1997, and 1999 when peak catch rates (or a an obvious second peak in 1997) were observed in week 4 or 5 of the survey. The decline in abundance of striped bass through the summer has generally been attributed to mortality (Dey 1981; Buckel et al. 1999) but also likely includes emigration of fish from the Hudson River to coastal nursery areas.

Catch-per-unit-effort of YOY striped bass varied considerably across sites in 2000 (Table 7). The sites with the highest CPUE (>50 fish/haul) were 8E, 11E, 7EW, while sites 13E, 16E, 8W and 12W had the lowest catches (<6 fish/haul). The distribution of catch among sites observed in 2000, is generally consistent with previous years, as the sites 8E, 7E and 11E 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 2,917 YOY striped bass during the 9 week survey, with fish ranging from 20 to 157 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 seven sampling weeks, and decreased during the final two (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 2000 cohort, estimated from the regression of mean total length against date, was 0.45 mm/day through the first 7 weeks of the survey. This growth rate is relatively low compared to previous years. Annual cohort growth rates ranged from 0.40 mm/day in 1990 to 0.65 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 depedent growth.

The age composition of striped bass captured between 1985 and 2000 is shown in Table 12. During the 9 week survey, 157 striped bass aged 1 to 3 were captured ranging in length from 103-366 mm TL. Bi-weekly size-frequency distributions of older striped bass are shown in Table 13. Older striped bass were most abundant at site 15WS, where 42 were captured during the survey (Table 14).

Forty older striped bass ranging in length from 170 to 366 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=33) were age 1.

White perch *Morone americana*

4,694 white perch were captured during sampling in 2000. White perch were not measured as part of this study, but were identified as either young-of-the-year or older based on observed size-distribution among the catch. Of the white perch captured, 1300 were YOY and 3,394 were age-1 and older. Young-of-the-year white perch were most abundant at sites 8E and 5W while older perch were most abundant at sites 5E, 7EW, and 15WS (Tables 15 and 16). Catch-per-unit-effort of YOY white perch was highest in week 2 (18.00 fish/haul), declining through week 9, when no YOY white perch were captured. Catch-per-unit-effort of older white perch also declined during the sampling season from 58.77 fish/haul in week 1, to <2 fish/haul in the final three weeks of sampling.

Mean catch rates of YOY and older white perch in 2000 were 6.16 and 16.09 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. The peak catch rate of older white perch was 28.90 fish per haul in 1986 with the lowest catch rate of 6.38 fish per haul in 1992.

Atlantic tomcod *Microgadus tomcod*

During the 2000 sampling, 119 Atlantic tomcod were captured ranging in length from 77-129 mm. The majority of these were captured during July and August (Table 17). Nearly all Atlantic tomcod (96%) were captured at three sites, 8E, 12W, and 10W. The mean size of Atlantic tomcod captured was 94.01 mm TL. The bi-weekly size-frequency distributions of captured Atlantic tomcod are presented in Table 18. The CPUE of Atlantic tomcod in 2000 was 0.56 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 2000. The highest catch rates ($\geq$0.5 fish/haul) were observed at three sites in the center of the sampling region on the western shore, 12W, 11W, and 10W (Table 19). The catch rate of 0.17 fish/haul was the lowest since 1985 (Figure 6). The highest catches (0.78 fish/haul) occurred in 1988. American eel ranged in length from 70 to 750 mm, with an overall mean length of 361.5mm. The bi-weekly size-frequency distributions of American eel are shown in Table 20.

Bluefish *Pomatomus saltatrix*

182 YOY bluefish were captured during the 2000 sampling (Table 21). All were captured during the first 6 weeks of the survey, with peak catches rates occurring in weeks 1 and 3. Bluefish CPUE was highest at sites 15WS, 17E, and 8E. The mean CPUE for the year was 0.86 fish/haul. With the exception of 1999, CPUE for bluefish in the 9-week survey has declined since the mid-1980s (Figure 6). Bluefish captured in 2000 ranged in length from 91-239mm. Based on the size-frequency distributions (presented in Table 22) most of the bluefish were from the spring cohort spawned in the South Atlantic Bight in March-April (Munch and Conover 2000).

Winter flounder *Pleuronectes americanus*

Mean catch rate of winter flounder in 2000 was 0.38 fish/haul. These tended to be captured in the southern sites with peak catch rates occurring in the first week of sampling (Table 23). Interestingly, 92.7% of winter flounder captured were 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 catch rates in this survey were 0.17 and 2.51 fish/haul observed in 1987 and 1986 respectively (Figure 24). Winter flounder ranged in length from 35 to 133 mm, with a mean length of 74.06 mm. The weekly size-frequencies are shown in Table 6.

American shad *Alosa sapidissima*

In 2000, 172 American shad were captured. American shad were most abundant at sites 8W, 8E, and 15E (Table 25). Weekly CPUE of American shad was highest in week 7. Historically, peak CPUE of American shad occurs most commonly in weeks 1-2 or 8-9. The CPUE of 0.82 fish/haul is the second 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 45 to 97 mm with a mean length of 71.4 mm (Table 26).

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

During sampling in 2000, we captured 58 alewife and 296 blueback herring. Alewife ranged in length from 35 to 86 mm TL with a mean of 71.4 mm TL. Blueback herring measured 34 to 87 mm TL with a mean length of 68.3 mm TL. The mean CPUE of alewife and blueback herring were 0.27 and 1.40 fish/haul respectively. Catch of both species were below the 16 year average CPUE, with catch of blueback herring CPUE being the second lowest since 1985 (Figure 7).

Atlantic menhaden *Brevoortia tyrannus*

We captured 10,014 Atlantic menhaden during sampling in 2000. Only Atlantic silversides were more abundant in the catch. Large schools of Atlantic menhaden (>1,900 fish) were encountered at sites 9E, 15WS, and 7EW resulting in high CPUEs for these sites. Peak catch rates of 173.5 fish/haul occurred in week 4 as a result of 2 hauls with over 1000 fish each (Table 27). 581 Atlantic menhaden were measured, ranging from 31 to 157 mm with a mean length of 79.7 mm TL (Table 28). The 2000 catch rate of 47.46 fish/haul was second only to the catch in 1999 of 92.97 fish per haul since 1985. Catch rates of less than 1 fish/haul were observed in 1988, 1898, 1990, 1993, 1995 and 1997 (Figure 8).

Conclusions

Catch composition during the 2000 Hudson River beach seine sampling season were generally consistent with previous years. The most abundant species were the Atlantic silversides, Atlantic menhaden, striped bass and white perch. An unusual salinity pattern was observed in the lower estuary in 2000. Salinities in the sampling region were generally 2ppt below historical averages between July and September. Salinity increased to above the historical means in October and November, a period when salinity generally falls.

The abundance of striped bass was below those in recent years with peak catches occurring in the second week of sampling. The 6-week YOY striped bass index of abundance was 3.2, the third lowest since 1980. Growth rates of YOY striped bass, based on length frequency progression, was 0.45mm/day with fish reaching 79.3mm by mid-October.

Catch rates of anadromous alosids, American Shad, alewife and blueback herring, were below average in comparison with previous years. Catch rates of YOY white perch were similar to those in recent years, while catch rates of older white perch were the highest since 1989.

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Table 1. Biweekly environmental conditions, Hudson River 2000.

		AIR TEMPERATURE				H20 TEMPERATURE			
Dates	WEEK	AVG	STD	MIN	MAX	AVG	STD	MIN	MAX
July 24-25	1	28.2	2.5	23.0	33.0	24.6	0.7	23.8	26.2
Aug 10-11	2	31.7	4.5	24.0	41.0	27.0	2.2	22.1	31.3
Aug 21-22	3	26.5	5.7	15.0	37.0	23.8	1.0	22.0	26.7
Sept 7-8	4	25.1	7.0	14.8	35.0	23.3	1.1	21.1	25.0
Sept 7-28	5	20.3	5.7	10.5	34.0	19.6	0.9	17.4	21.0
Oct 4-5	6	20.6	5.2	14.0	31.0	19.5	0.5	18.1	20.4
Oct 18-19	7	13.7	0.9	12.0	15.0	16.1	0.5	14.7	16.7
Nov 8	8	13.0	4.0	6.0	22.0	12.1	0.6	11.1	13.3
Nov 19	9	6.1	2.1	3.0	10.0	8.8	0.9	7.6	10.6

		SALINITY				DISSOLVED OXYGEN			
Dates	WEEK	AVG	STD	MIN	MAX	AVG	STD	MIN	MAX
July 24-25	1	1.6	1.2	0.5	3.9				
Aug 10-11	2	1.2	0.8	0.3	2.7	6.5	1.6	10.0	8.9
Aug 21-22	3	2.0	1.0	0.5	3.8	7.4	2.0	10.3	8.4
Sept 7-8	4	1.7	0.8	0.8	3.8	7.4	1.3	12.2	9.0
Sept 7-28	5	3.5	1.9	1.2	8.6	6.5	0.6	5.1	8.0
Oct 4-5	6	2.9	1.2	1.3	5.5	7.3	0.8	10.7	8.2
Oct 18-19	7	6.7	2.3	0.0	10.5	6.9	0.9	6.0	10.0
Nov 8	8	7.1	1.3	5.2	9.9	8.9	0.6	10.3	9.9
Nov 19	9	6.5	1.3	4.9	8.6	8.8	0.4	8.2	9.6

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
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
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
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
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
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
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
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
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

Mean Water Temperature

WEEK	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
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
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
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
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
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
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
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
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
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

Mean Salinity

WEEK	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
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
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
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
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
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
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
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
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
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

Table 3. Species composition of catch in the Hudson River, 2000.

Species	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	WEEKS 4-9 TOTAL	WEEKS 1-9 TOTAL
Diadromous											
Alewife	1	5	4	1	1	10	1	30	5	48	58
American eel	9	6	5	5	3	1	2	3	2	16	36
American shad	27	10	5	32	36	3	55	4	0	130	172
Atlantic tomcod	80	16	15	6	0	2	0	0	0	8	119
Blueback herring	0	7	0	0	1	0	284	4	0	289	296
Striped bass (YOY)	1170	1430	1166	506	146	226	139	41	7	1065	4831
Striped bass (older)	25	16	28	30	18	26	12	1	1	88	157
Striped bass (hatchery)	0	0	0	0	0	0	0	0	0	0	0
Marine											
Atlantic menhaden (YOY)	143	9	2959	3638	334	2896	33	2	0	6903	10014
Atlantic needlefish	2	17	1	1	1	1	0	0	0	3	23
Bay anchovy	304	7	476	0	1122	912	71	0	0	2105	2892
Bluefish (YOY)	66	27	62	16	8	3	0	0	0	27	182
Butterflyfish	0	0	0	0	0	1	0	0	0	1	1
Crevalle jack	24	8	14	0	0	4	0	0	0	4	50
Inshore lizardfish	0	0	0	0	1	0	0	0	0	1	1
Naked Goby	0	1	1	4	0	1	1	0	0	6	8
Northern kingfish	0	2	1	0	0	0	0	0	0	0	3
Northern pipefish	6	7	2	3	2	3	6	5	0	19	34
Northern puffer	0	0	0	0	0	0	0	0	0	0	0
Northern searobin	0	0	0	0	0	0	0	0	0	0	0
Permit	0	1	0	0	0	0	0	0	0	0	1
Silver perch	0	0	0	0	1	0	0	1	0	2	2
Silverside spp.	1968	1994	2008	3237	1926	1733	861	303	120	8180	14150
Spot	3	6	6	0	1	0	0	0	0	1	16
Striped mullet	0	0	2	0	0	0	0	0	0	0	2
Striped searobin	0	0	0	0	0	0	0	0	0	0	0
Summer flounder	5	3	3	0	1	3	1	0	0	5	16
Tautog	0	0	0	0	0	0	0	0	0	0	0
Weakfish	5	2	1	0	0	0	0	0	0	0	8
White mullet	0	2	0	0	0	0	0	0	0	0	2
Winterflounder	31	16	6	1	2	3	3	10	10	29	82
Estuarine											
Fourspine stickleback	0	0	1	0	0	0	0	0	0	0	1
Hogchoker	3	1	0	5	0	3	2	1	0	11	15
Killifish spp.	14	3	0	0	22	90	0	4	1	117	134
White perch (YOY)	121	434	323	230	37	100	47	8	0	422	1300
White perch (older)	1458	894	380	233	162	227	39	0	1	662	3394

Table 3 (cont.)

Freshwater											
Black croppie	0	0	0	0	0	0	0	0	0	0	0
Bluegill	4	12	0	46	0	0	0	0	0	46	62
Brown bullead catfish	19	4	0	1	0	0	0	0	0	1	24
Carp	5	8	3	0	0	4	3	0	1	8	24
Chain pickerel	0	0	0	0	0	0	1	0	0	1	1
Gizzard shad	13	16	14	0	16	5	6	0	0	27	70
Golden shiner	0	0	0	0	0	0	0	0	0	0	0
Goldfish	0	0	0	0	0	0	0	0	0	0	0
Largemouth bass	0	0	0	0	0	0	0	0	0	0	0
Pumpkinseed	2	1	2	2	5	2	2	0	0	11	16
Redbreast sunfish	1	0	0	0	0	0	0	0	0	0	1
Smallmouth bass	0	0	0	0	0	0	0	0	0	0	0
Spottail shiner	10	8	22	10	0	0	0	0	0	10	50
Tesselated darter	9	10	8	0	1	0	3	2	1	7	34
White catfish	3	0	1	0	0	0	1	0	0	1	5
White sucker	0	0	0	0	0	0	1	0	0	1	1
Yellow perch	0	1	0	0	0	0	1	0	0	1	2
TOTAL	5531	4984	7519	8007	3847	6259	1575	419	149	20256	38290
Invertebrate											
Bluecrab (YOY)	9	21	3	3	13	3	7	3	0	29	62
Bluecrab (older)	58	46	39	19	7	8	7	3	1	45	188

Table 4. Catch per unit effort of all species in Hudson River Survey, weeks 1-9.

	age	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Diadromous																	
Alewife	999	1.3	1.4	0.8	2.5	0.5	0.7	0.1	0.0	0.0	0.4	0.4	0.2	3.3	0.1	2.7	0.3
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

Table 4 (cont.)

	age	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Marine																	
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	47.5
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

Table 5. CPUE of all species in Hudson River survey, 1980-2000, weeks 4-9.

	age	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Diadromous																						
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

Table 5. (cont.)

	age	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Marine																						
Atlantic menhaden	999	0.7	7.1	1.0	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	50.8
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
Weakfish	999	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
White mullet	999	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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
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
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

Table 6. Hudson River index of abundance for YOY striped bass, 1980-2000.

6 WEEK SURVEY

YEAR	HAULS	CATCH	C/f	STD DEV	STD ERR	GEO MEAN	ZEROS	RANGE
1980	150	3597	24.0	57.6	4.7	6.1	34	0-547
1981	131	2823	21.5	42.5	3.7	8.9	9	0-346
1982	143	4363	30.5	48.0	4.0	14.2	8	0-285
1983	148	7112	48.1	110.7	9.1	16.3	8	0-1178
1984	146	5418	37.1	89.8	7.4	15.0	6	0-906
1985	146	574	3.9	5.8	0.5	1.9	51	0-31
1986	147	904	6.1	9.0	0.7	2.9	34	0-55
1987	150	9100	60.7	157.8	12.9	15.9	13	0-1333
1988	145	7584	52.3	45.1	3.7	33.5	2	0-205
1989	150	6291	41.9	57.8	4.7	21.4	4	0-537
1990	142	5393	38.0	43.5	3.7	19.1	2	0-240
1991	140	959	6.9	8.0	0.7	3.6	30	0-41
1992	146	2526	17.3	15.5	1.3	11.4	5	0-83
1993	150	3975	26.5	34.3	2.8	12.6	7	0-230
1994	146	4159	28.5	31.7	2.6	17.6	4	0-246
1995	148	4035	27.3	45.0	3.7	16.2	2	0-389
1996	134	1964	14.7	18.4	1.6	8.9	6	0-143
1997	139	6989	50.3	63.5	5.4	22.3	6	0-328
1998	127	2909	22.9	24.1	2.1	13.4	6	0-135
1999	104	5514	53.0	79.6	7.8	26.6	0	1-524
2000	136	1064	7.8	16.6	1.4	3.2	32	0-120

9 WEEK SURVEY

YEAR	HAULS	CATCH	C/f	STD DEV	STD ERR	GEO MEAN	ZEROS	RANGE
1985	216	993	4.6	6.6	0.4	2.2	71	0-32
1986	222	1942	8.7	11.3	0.8	4.3	38	0-57
1987	225	18649	82.9	184.6	12.3	25.1	13	0-1432
1988	220	15488	70.4	85.4	5.8	42.2	2	0-869
1989	225	13398	59.5	86.2	5.7	28.4	4	0-642
1990	217	12592	58.0	64.7	4.4	29.8	2	0-473
1991	215	3275	15.2	22.6	1.5	6.6	32	0-160
1992	221	5875	26.6	25.5	1.7	16.9	5	0-142
1993	225	12588	55.9	74.2	4.9	23.3	7	0-402
1994	221	9624	43.5	50.4	3.4	25.7	4	0-367
1995	222	7465	33.6	44.6	3.0	20.2	2	0-389
1996	204	4346	21.3	25.8	1.8	12.8	6	0-188
1997	194	11444	59.0	71.0	5.1	27.9	7	0-412
1998	198	6673	33.7	34.5	2.4	19.2	6	0-183
1999	173	10031	58.0	69.3	5.3	33.8	0	1-524
2000	211	4830	22.9	51.9	3.6	7.2	32	0-416

Table 7. YOY striped bass catch by station, 2000.

STATION	riv mile	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	C/F
EAST											
18E	23	45	39	16	14	4	0	2	0	0	13.33
21E	23	37	40	21	1	2	1	4	3	1	12.22
17E	24	35	26	21		1	1	2	0		12.29
16E	25	9	15	7	8	1	0	1	0	0	4.56
15E	27			11				1	9		7.00
12E	29	8	61	9	5	7	1	8	0	0	11.00
13E	29		21	8		0	1	0	2	0	4.57
14E	29	142		6		1	0	9	0	0	22.57
19E	33	2	63	34	15	3	9		2	0	16.00
10E	34										
11E	34	269	122	6		28	13		1		73.17
9E	34	19			37	4	14	35	0		18.17
7E1	35										
7EC	35										
7EE	35	27	77	160	13	12	12	5	7	0	34.78
7EW	35	13	216	132	76	0	13	10	3	2	51.67
8E	35	37	416	415	120	18	39	2	2		131.13
6E	36										
3E	39	19	24		10	2	18	17	0		12.86
4E	39	11	22	6	3	8	7	5	0		7.75
5E	39		11								11.00
20E	41										
WEST											
15WN	27										
15WS	27	72		9	3	0	4	9		0	13.86
16WN	27	17	13	5	1	0	3	8	0	0	5.22
16WS	27		24								24.00
13W	29										
14W	29	43	70	25	15	14	9	1	1	0	19.78
12W	30	14	21	12	8	3	8	4	0	0	7.78
11W	32	42	45	35	120		11	3	2		36.86
10W	35	55	19	45	7	4	6	9		1	18.25
9W	35	49	14	19	3	7	3	4	0	2	11.22
8W	36	5	11	4	9	10			2	1	6.00
7W	37	8	11	56	31	2	27		5	0	17.50
3W	39										
4W	39	122	15	67	6	14	11		1		33.71
4WN	39										
5W	39	70	34	37	1	1	15		0		22.57
20W	42										
	Effort	25	25	25	23	25	25	21	25	17	
	Catch	1170	1430	1166	506	146	226	139	40	7	
	C/E	46.80	57.20	46.64	23.00	5.84	9.04	6.62	1.60	0.41	

Table 8. CPUE of YOY striped bass by station, weeks 1-9, 1985-2000.

SITE	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
EAST																
18E	0.1	3.4	64.2	56.0	30.5	35.8	7.3	21.5	66.6	39.5	34.7	18.3	41.4	26.8	22.2	13.3
21E	0.0	1.0	70.3	23.5	111.8	70.2	1.0	24.6	89.8	42.3	59.4	46.1	26.1	44.4	38.6	12.2
17E	0.1	8.3	45.7	96.4	157.7	97.6	13.8	21.7	61.8	61.6	34.2	18.0	27.5	48.6	48.2	12.3
16E		3.0	135.0	50.1	34.5	42.6	4.7	17.0	50.7	26.6	38.7	14.3	23.2	38.8	37.8	4.6
15E		8.0	29.0	38.0	51.3	45.6	6.3		73.6				48.0	80.0	126.0	7.0
12E	2.0	1.9	35.4	49.7	36.5	39.8	0.9	18.4	57.3	29.9	31.1	11.3	10.9	20.9	51.9	11.0
13E	3.7	4.5	93.3	14.5	12.5	31.0	24.2	19.7	55.6	14.3	82.3	13.0	44.4	22.3	47.5	4.6
14E	0.2	9.1	37.0	78.4	96.6	67.6	2.7	37.7	35.1	44.0	33.4	20.0	41.1	58.5	48.8	22.6
19E	1.7	6.0	259.5	88.8	67.6	33.1	7.0	19.8	33.1	59.7	31.8	16.5	109.8	30.4	15.2	16.0
10E	1.0												26.0			
11E	6.0	9.8	319.9	128.3	45.3	28.0	36.0	37.3	73.3	51.0	129.4	27.4	124.9	69.7	79.5	73.2
9E	1.0	6.0	47.4	37.0	42.9	57.3	17.0	35.5	73.0	55.8	14.8	23.2	54.1	40.7	92.5	18.2
7E1		10.0	54.0		1.0	17.5	1.0				52.0					
7EC	15.5															
7EE	5.0	12.9	222.0	54.3	58.0	30.1	10.1	13.9	65.1	26.4	17.1	19.0	54.1	11.8	35.1	34.8
7EW	5.9	10.8	358.7	66.3	99.8	52.5	7.9	26.5	57.3	28.1	42.7	12.3	31.6	27.7	35.6	51.7
8E	1.2	5.0	0.0	29.0		15.3	7.0		85.3	90.0	13.3	34.7	122.4	54.0	85.3	131.1
6E	1.3	1.9	38.9	51.8	31.0											
3E	4.1	4.9	46.9	29.9	24.4	21.9	6.7	13.1	17.4	46.8	17.8	8.9	96.6	22.1	60.0	12.9
4E	7.7	6.4	38.0	42.3	30.4	40.3	15.0	27.8	33.2	21.6	13.3	16.7	78.6	18.3	47.3	7.8
5E	5.0	18.3	9.0	25.8	26.0	34.0	16.0	13.5	186.0	11.0	10.5	22.3	28.0	24.0		11.0
1E																
20E	8.0															
WEST																
15WN	0.7		63.3	32.3	53.3	53.5	3.0	32.5	11.0	105.0	27.6		16.0			
15WS	4.0	7.1	145.8	109.8	63.0	159.6	45.8	32.4	80.6	57.9	22.8	8.1	153.8	56.6	149.0	13.9
16WN	4.0	15.3	53.1	89.6	62.2	162.4		22.3	48.4	11.0	20.2	5.1	79.5		81.6	5.2
16WS	3.1	16.3	20.0	149.5	25.3	82.4		6.0			51.0			15.0		24.0
13W		16.0	25.3	21.0		3.5	20.7	13.7		5.0						
14W	4.6	10.0	93.0	65.1	55.6	64.9	40.6	20.0	76.9	24.4	26.6	12.2	36.9	29.2	54.2	19.8
12W	3.0	3.4	46.4	36.7	36.6	83.1	15.8	22.4	53.3	41.8	21.7	14.6	26.3	24.9	106.8	7.8
11W	2.8	4.9	18.7	42.8	11.2	7.0	11.6	11.9	28.7	39.9	31.1	38.2	4.0	22.0	78.6	32.3
10W	4.1	2.8	24.3	37.1	41.5	47.9	14.0	25.6	55.1	29.0	17.3	18.2	53.4	16.3	33.6	18.3
9W	5.1	6.4	25.4	96.5	37.4	39.5	6.6	21.1	20.9	32.3	20.3	12.3	41.3	30.1	26.6	11.2
8W	8.4	15.8	35.6	127.8	137.9	95.3	26.1	69.0	87.3	83.2	34.5	34.1	41.4	28.6	26.4	6.0
7W	10.6	15.7	65.7	114.1	56.6	71.0	20.9	59.5	43.2	74.2	35.6	54.3	68.3	14.3	45.8	17.5
3W		5.7														
4W	15.9	20.1	71.4	93.9	143.8	80.6	23.4	28.6	38.8	27.8	35.1	31.3	97.7	37.3	51.8	33.7
4WN											17.0					
5W	10.3	18.1	43.1	64.8	63.8	54.1	27.1	26.2	46.8	33.2	34.6	25.3	78.0	42.7	49.5	22.6
20W	11.0															
annual c/f	4.6	8.7	82.9	70.4	59.5	58.0	15.2	26.6	55.9	43.5	33.6	21.3	59.0	33.7	58.0	22.9

Table 9 CPUE of YOY striped bass by station, weeks 4-9, 1980-2000.

SITE	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
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	39.2	23.4	31.2	12.0	31.7	7.8	23.7	3.3
21E						0.0	1.0	65.5		60.5	50.8	0.8	15.7	18.5	30.0	30.8	16.3	10.5	17.3	36.3	2.0
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	31.7	60.3	14.0	12.3	19.2	35.5	18.3	1.0
16E	6.3	4.0	20.0	21.4	11.0		3.0		48.7	15.2	22.3	1.3	12.8	30.8	16.8	13.0	7.2	12.2	15.2	31.7	1.7
15E	24.0			302.6	52.8		8.0	29.0	38.0	10.0	10.0	6.3		12.5							5.0
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	13.7	8.2	14.0	10.5	9.5	12.5	60.3	3.5
13E	6.3	4.0			11.0	4.5	4.5	46.3	17.0	12.5	31.0	8.5	12.0	12.2	9.4	18.0	8.0	20.8	11.0	33.7	0.6
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	26.8	20.0	16.0	12.0	29.3	27.4	42.0	2.0
19E					20.7	2.2	2.8	121.8	21.3	34.2	22.8	4.8	11.5	14.8	30.5	25.4	11.3	54.8	24.2	21.7	5.8
10E																		26.0			
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	19.8	44.8	146.0	31.4	115.0	50.7	61.6	14.0
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	21.8	16.6	14.3	20.3	52.8	44.2	76.6	18.0
7E1							10.0			1.0	17.5	1.0				52.0					
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	90.0	16.8	16.0	12.5	61.7	10.0	30.2	8.2
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	57.3	25.6	47.0	10.5	36.7	33.2	27.0	17.3
8E	38.5	11.0	103.3	45.0	48.2	1.5	5.0	0.0	16.3		15.3	3.5		70.7	70.8	11.3	34.3	130.0	56.6	48.4	36.2
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	9.6	55.6	20.2	8.0	87.0	22.3	76.0	9.4
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	9.3	16.0	14.8	13.3	94.2	14.8	93.0	4.6
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		11.0	18.0	19.0		24.0		
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	11.0		26.7		16.0			
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	56.4	55.0	16.3	6.5	78.3	22.5	176.8	3.2
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	21.7	11.0	21.0	4.2	100.5		99.3	2.0
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						12.8		
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	30.7	16.8	18.2	8.8	25.5	23.3	48.5	6.7
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	8.0	37.2	12.0	8.3	14.8	13.8	134.8	3.8
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	17.2	32.3	23.3	10.5		37.0	101.8	27.2
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	24.3	17.0	13.3	11.7	47.7	17.2	13.0	5.4
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	15.3	13.8	21.4	6.8	45.6	5.5	15.2	3.2
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	35.8	38.5	24.4	17.7	36.7	13.5	16.2	5.5
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	13.8	36.8	31.5	36.5	60.2	13.7	23.0	13.0
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	15.5	17.8	40.8	24.3	71.8	19.0	103.0	8.0
4WN																17.0					
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	14.2	14.8	35.2	17.5	69.8	39.0	72.0	4.3
20W																					
Annual c/f	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	27.3	14.7	50.3	22.9	53.0	7.8

Table 10. Size-frequency distribution of YOY striped bass, Hudson River 2000

TL	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	weeks 4-9	weeks 1-9
<20	0	0	0	0	0	0	0	0	0	0	0
20-24	13	5	1	0	0	0	0	0	0	0	19
25-29	34	11	1	0	0	0	0	0	0	0	46
30-34	133	34	6	0	0	0	0	0	0	0	173
35-39	176	122	27	2	0	0	0	0	0	2	327
40-44	136	156	100	2	0	1	0	0	0	3	395
45-49	105	146	115	27	2	1	0	0	0	30	396
50-54	47	114	103	50	11	5	3	0	0	69	333
55-59	44	64	57	73	19	21	5	0	0	118	283
60-64	31	36	45	59	18	40	17	8	1	143	255
65-69	21	34	42	34	25	49	18	11	1	138	235
70-74	0	18	17	25	14	38	23	9	3	112	147
75-79	0	9	16	16	16	13	17	3	2	67	92
80-84	0	4	11	7	16	13	16	6	0	58	73
85-89	0	2	4	7	9	10	9	2	0	37	43
90-94	0	0	2	5	4	9	6	1	0	25	27
95-99	0	0	3	5	4	6	9	0	0	24	27
100-104	0	0	0	0	2	6	3	0	0	11	11
105-109	0	0	0	2	2	4	5	0	0	13	13
110-114	0	0	0	1	3	5	2	0	0	11	11
115-119	0	0	0	0	1	0	1	0	0	2	2
120-124	0	0	0	0	0	1	2	0	0	3	3
125-129	0	0	0	0	0	1	0	0	0	1	1
130-134	0	0	0	0	0	0	1	0	0	1	1
135-139	0	0	0	0	0	0	1	0	0	1	1
140-144	0	0	0	0	0	0	0	0	0	0	0
145-149	0	0	0	0	0	1	0	0	0	1	1
150-154	0	0	0	0	0	0	0	0	0	0	0
155-159	0	0	0	1	0	0	1	0	0	2	2
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	740	755	550	316	146	224	139	40	7	872	2917
Mean	41.7	47.5	53.0	62.4	71.8	73.0	79.3	71.6	70.7	69.9	53.8
StdDev.	9.9	10.8	11.8	13.3	14.8	15.4	17.5	8.1	4.9	15.8	16.8

Table 11. Weekly size comparisons of YOY striped bass, 1985-2000.

		week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19
2000	Mean	41.7	47.5	53.0	62.4	71.8	73.0	79.3	71.6	70.7
	StdDev.	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 12. Age distribution of striped bass captured in Hudson River beach seine survey, 1985-2000.

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

Table 13. Size-frequency distribution of older striped bass, Hudson River 2000

mm TL	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	weeks 4-9	weeks 1-9
80-99	0	0	0	0	0	0	0	0	0	0	0
100-119	3	3	1	1	1	0	1	1	1	5	12
120-139	11	9	1	5	2	1	3	0	0	11	32
140-159	10	4	4	7	2	7	2	0	0	18	36
160-179	1	1	17	13	10	14	6	0	0	43	62
180-199	0	0	4	2	1	2	0	0	0	5	9
200-219	0	0	1	2	0	1	0	1	0	4	5
220-239	0	0	0	0	2	1	0	0	0	3	3
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	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	1	1	1
360-379	0	0	0	0	0	1	0	0	0	1	1
380-399	0	0	0	0	0	0	0	0	0	0	0
400-419	0	0	0	0	0	0	0	0	0	0	0
420-439	0	0	0	0	0	0	0	0	0	0	0
440-459	0	0	0	0	0	0	0	0	0	0	0
460-479	0	0	0	0	0	0	0	0	0	0	0
480-499	0	0	0	0	0	0	0	0	0	0	0
# measured	25	17	28	30	18	27	12	2	2	91	161
Mean	132.56	131.06	167.43	158.47	167.83	172.44	150.25	163.00	229.00	165.0	158.8
StdDev.	15.83	14.72	18.80	22.33	29.92	42.39	20.23	66.47	158.39	37.1	33.4

Table 14. Older striped bass catch by station, 2000.

STATION	riv mile	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	C/F
EAST											
18E	23	0	0	2	0	0	2	1	1	0	0.67
21E	23	0	0	1	1	4	1	1	0	0	0.89
17E	24	0	0	0		1	0	0	0		0.14
16E	25	0	0	0	0	5	2	2	0	0	1.00
15E	27			4				1	0		1.67
12E	29	0	0	0	1	2	0	1	0	0	0.44
13E	29		1	0		0	2	0	0	0	0.43
14E	29	0		0		1	0	2	0	1	0.57
19E	33	2	2	0	1	0	1		0	0	0.75
10E	34										
11E	34	5	0	0		1	10		0		2.67
9E	34	1			0	3	1	0	0		0.83
7E1	35										
7EC	35										
7EE	35	0	0	0	0	0	0	0	0	0	0.00
7EW	35	2	1	0	2	0	0	0	0	0	0.56
8E	35	1	2	0	1	1	1	0	0		0.75
6E	36										
3E	39	0	0		2	0	0	0	0		0.29
4E	39	1	0	0	1	0	0	0	0		0.25
5E	39		1								1.00
20E	41										
WEST											
15WN	27										
15WS	27	4		20	17	0	0	1		0	6.00
16WN	27	0	0	0	0	0	1	1	0	0	0.22
16WS	27		3								3.00
13W	29										
14W	29	0	0	1	0	0	1	0	0	0	0.22
12W	30	2	0	0	0	0	0	0	0	0	0.22
11W	32	5	2	0	4		2	1	0		2.00
10W	35	0	1	0	0	0	3	0		0	0.50
9W	35	0	0	0	0	0	0	1	0	0	0.11
8W	36	1	0	0	0	0			0	0	0.14
7W	37	1	0	0	0	0	0		0	0	0.13
3W	39										
4W	39	0	0	0	0	0	0		1		0.14
4WN	39										
5W	39	0	3	0	0	0	0		0		0.43
20W	42										
Effort		25	25	25	23	25	25	21	25	17	
Catch		25	16	28	30	18	27	12	2	1	
C/E		1.00	0.64	1.12	1.36	0.72	1.08	0.57	0.08	0.06	

Table 15. YOY white perch catch by station, 2000.

STATION	riv mile	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	C/F
EAST											
18E	23	0	0	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	0.00
15E	27			9				0	4		4.33
12E	29	0	2	0	0	0	0	0	0	0	0.22
13E	29		40	16		1	0	6	0	0	9.00
14E	29	0		0		0	0	0	0	0	0.00
19E	33	0	0	0	2	0	0		0	0	0.25
10E	34										
11E	34	36	62	1		2	1		0		17.00
9E	34	1			0	1	0	0	0		0.33
7E1	35										
7EC	35										
7EE	35	0	6	32	6	2	0	0	0	0	5.11
7EW	35	0	0	0	14	0	5	0	0	0	2.11
8E	35	4	259	113	49	2	12	2	3		55.50
6E	36										
3E	39	2	2		38	9	25	15	0		13.00
4E	39	0	0	0	1	4	18	13	0		4.50
5E	39		0								0.00
20E	41										
WEST		0		0	0	0	0	0		0	0.00
15WN	27	0	0	0	0	0	0	0	0	0	0.00
15WS	27		1								1.00
16WN	27										
16WS	27	0	4	5	2	4	0	5	0	0	2.22
13W	29	32	52	53	17	5	14	2	1	0	19.56
14W	29	4	0	1	70		0	0	0		10.71
12W	30	42	5	81	11	6	3	4		0	19.00
11W	32	0	0	0	0	0	0	0	0	0	0.00
10W	35	0	0	0	1	1			0	0	0.29
9W	35	0	0	12	17	0	13		0	0	5.25
8W	36										
7W	37	0	1	0	2	0	0		0		0.43
3W	39										
4W	39	0	0	0	0	0	9		0		1.29
4WN	39										
5W	39	70	34	37	1	1	15		0		22.57
20W	42										
	Effort	25	25	25	23	25	25	21	25	17	
	C/E	7.35	18.00	13.85	10.04	1.46	4.42	2.24	0.31	0.00	

Table 16. Older white perch catch by station, 2000.

STATION	riv mile	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	C/F
EAST											
18E	23	0	6	7	7	9	84	1	0	0	12.67
21E	23	2	8	3	0	1	2	1	0	0	1.89
17E	24	1	62	5		11	0	1	0		11.43
16E	25	3	27	3	9	50	45	4	0	0	15.67
15E	27			36				11	0		15.67
12E	29	20	18	28	9	14	4	0	0	0	10.33
13E	29		13	3		3	17	0	0	1	5.29
14E	29	2		13		6	0	1	0	0	3.14
19E	33	135	54	8	25	0	9		0	0	28.88
10E	34										
11E	34	44	232	4		0	9		0		48.17
9E	34	43			0	2	2	0	0		7.83
7E1	35										
7EC	35										
7EE	35	50	7	0	53	0	1	0	0	0	12.33
7EW	35	750	26	0	18	0	0	0	0	0	88.22
8E	35	6	3	4	10	0	2	1	0		3.25
6E	36										
3E	39	68	26		0	8	11	4	0		16.71
4E	39	90	27	55	3	1	2	0	0		22.25
5E	39		162								162.00
20E	41										
WEST		16		43	11	6	0	4		0	11.43
15WN	27	25	52	68	9	13	9	0	0	0	19.56
15WS	27		56								56.00
16WN	27										
16WS	27	39	34	14	8	2	0	3	0	0	11.11
13W	29	8	27	12	4	13	0	1	0	0	7.22
14W	29	22	12	20	24		6	0	0		12.00
12W	30	35	17	16	1	11	7	2		0	11.13
11W	32	14	7	4	3	6	1	5	0	0	4.44
10W	35	12	10	2	12	4			0	0	5.71
9W	35	35	3	10	13	0	11		0	0	9.00
8W	36										
7W	37	4	1	17	6	1	2		0		4.43
3W	39										
4W	39	34	4	5	8	1	3		0		7.86
4WN	39										
5W	39	70	34	37	1	1	15		0		22.57
20W	42										
	Effort	25	25	25	23	25	25	21	25	17	
	C/E	58.77	35.69	16.04	10.17	6.27	9.31	1.86	0.00	0.06	

Table 17. Atlantic tomcod catch by station, 2000.

STATION	riv mile	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	C/E
EAST											
18E	23	0	0	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	0.00
15E	27			0				0	0		0.00
12E	29	0	0	0	0	0	0	0	0	0	0.00
13E	29		1	0		0	0	0	0	0	0.14
14E	29	0		0		0	0	0	0	0	0.00
19E	33	0	0	0	0	0	0		0	0	0.00
10E	34										
11E	34	0	0	0		0			0		0.00
9E	34	0			0	0	0	0	0		0.00
7E1	35										
7EC	35										
7EE	35	0	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	20	9	2		0	0	0	0		4.43
6E	36										
3E	39	1	0		0	0	0	0	0		0.14
4E	39	0	0	0	0	0	0	0	0		0.00
5E	39		0								0.00
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	0.00
16WS	27		0								0.00
13W	29										
14W	29	0	0	0	0	0	0	0	0	0	0.00
12W	30	37	6	5	6	0	1	0	0	0	6.11
11W	32	0	0	0	0		0	0	0		0.00
10W	35	21	0	7	0	0	0	0		0	3.50
9W	35	0	0	0	0	0	0	0	0	0	0.00
8W	36	0	0	0	0	0			0	0	0.00
7W	37	1	0	1	0	0	1		0	0	0.38
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	25	25	25	23	25	25	21	25	17	
	C/E	3.20	0.64	0.60	0.29	0.00	0.08	0.00	0.00	0.00	

Table 18. Size-frequency distribution of Atlantic tomcod, Hudson River 2000

mm TL	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	weeks 4-9	weeks 1-9
20-24	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0	0	0	0
75-79	2	0	0	0	0	0	0	0	0	0	2
80-84	7	1	3	1	0	0	0	0	0	1	12
85-89	19	2	3	1	0	0	0	0	0	1	25
90-94	22	4	2	1	0	1	0	0	0	2	30
95-99	13	2	1	2	0	0	0	0	0	2	18
100-104	11	5	3	0	0	0	0	0	0	0	19
105-109	3	2	2	0	0	0	0	0	0	0	7
110-114	1	0	1	1	0	0	0	0	0	1	3
115-119	2	0	0	0	0	0	0	0	0	0	2
120-124	0	0	0	0	0	0	0	0	0	0	0
125-129	0	0	0	0	0	1	0	0	0	1	1
130-134	0	0	0	0	0	0	0	0	0	0	0
135-139	0	0	0	0	0	0	0	0	0	0	0
140-144	0	0	0	0	0	0	0	0	0	0	0
145-149	0	0	0	0	0	0	0	0	0	0	0
150-154	0	0	0	0	0	0	0	0	0	0	0
155-159	0	0	0	0	0	0	0	0	0	0	0
160-164	0	0	0	0	0	0	0	0	0	0	0
165-169	0	0	0	0	0	0	0	0	0	0	0
170-174	0	0	0	0	0	0	0	0	0	0	0
175-179	0	0	0	0	0	0	0	0	0	0	0
180-184	0	0	0	0	0	0	0	0	0	0	0
185-189	0	0	0	0	0	0	0	0	0	0	0
190-194	0	0	0	0	0	0	0	0	0	0	0
195-199	0	0	0	0	0	0	0	0	0	0	0
200-204	0	0	0	0	0	0	0	0	0	0	0
# measured	80	16	15	6	0	2	0	0	0	8	119
Mean	92.94	96.69	94.60	94.50		109.50				98.25	94.01
StdDev.	8.02	6.71	10.37	9.95		27.58				15.09	8.84

Table 19. American eel catch by station, 2000.

		week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	
		July	Aug	Aug	Sept	Sept	Oct	Oct	Nov	Nov	
STATION	riv mile	24-25	10-11	21-22	7-8	7-28	4-5	18-19	8	19	C/E
EAST											
18E	23	0	0	0	0	0	0	0	0	0	0.00
21E	23	0	0	1	0	0	0	0	0	0	0.11
17E	24	0	0	0		0	0	0	0		0.00
16E	25	0	0	0	2	1	0	0	0	0	0.33
15E	27			0				0	1		0.33
12E	29	0	0	0	0	0	0	0	0	0	0.00
13E	29		0	0		1	0	0	0	0	0.14
14E	29	0		0		0	0	0	0	0	0.00
19E	33	0	0	0	0	0	0		0	0	0.00
10E	34										
11E	34	1	0	0		0			0		0.20
9E	34	0			0	0	0	0	0		0.00
7E1	35										
7EC	35										
7EE	35	0	0	0	0	0	1	0	0	0	0.11
7EW	35	0	0	0	0	0	0	0	0	0	0.00
8E	35	0	1	0		0	0	0	1		0.29
6E	36										
3E	39	0	0		0	0	0	0	0		0.00
4E	39	0	0	1	0	0	0	2	0		0.38
5E	39		0								0.00
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	0.00
16WS	27		0								0.00
13W	29										
14W	29	0	0	0	0	0	0	0	0	0	0.00
12W	30	1	5	1	0	0	0	0	0	2	1.00
11W	32	2	0	1	0		0	0	1		0.57
10W	35	2	0	0	2	0	0	0		0	0.50
9W	35	0	0	0	0	0	0	0	0	0	0.00
8W	36	0	0	0	1	1			0	0	0.29
7W	37	1	0	0	0	0	0		0	0	0.13
3W	39										
4W	39	2	0	1	0	0	0		0		0.43
4WN	39										
5W	39	0	0	0	0	0	0		0		0.00
20W	42										
	Effort	25	25	25	23	25	25	21	25	17	
	C/E	0.36	0.24	0.20	0.24	0.12	0.04	0.10	0.12	0.12	

Table 20. Size-frequency distribution of American eel, Hudson River 2000

mm TL	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	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	1	0	1	2	2
80-99	0	0	0	0	0	0	1	0	0	1	1
100-119	0	0	0	0	0	0	0	0	0	0	0
120-139	0	0	1	0	0	0	0	1	1	2	3
140-159	1	1	0	0	0	0	0	2	0	2	4
160-179	1	0	0	0	0	0	0	0	0	0	1
180-199	0	0	0	0	0	0	0	0	0	0	0
200-219	0	1	0	0	0	0	1	0	0	1	2
220-239	0	1	1	0	0	0	0	0	0	0	2
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	1	0	0	0	0	1	1
300-319	0	0	0	0	0	0	0	0	0	0	0
320-339	0	0	0	0	0	0	0	0	0	0	0
340-359	1	0	0	0	0	0	0	0	0	0	1
360-379	1	1	0	0	0	0	0	0	0	0	2
380-399	0	0	1	0	0	0	0	0	0	0	1
400-419	0	0	0	0	0	0	0	0	0	0	0
420-439	0	0	0	1	0	0	0	0	0	1	1
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	1	0	0	0	0	0	0	0	0	0	1
500-519	1	0	0	0	0	0	0	0	0	0	1
520-539	1	0	0	1	0	0	0	0	0	1	2
540-559	0	1	0	1	0	1	0	0	0	2	3
560-579	0	0	0	0	0	0	0	0	0	0	0
580-599	1	0	0	0	0	0	0	0	0	0	1
600-619	0	0	0	1	1	0	0	0	0	2	2
620-639	0	0	0	0	0	0	0	0	0	0	0
640-659	0	0	0	1	0	0	0	0	0	1	1
660-679	1	0	1	0	0	0	0	0	0	0	2
680-699	0	0	0	0	0	0	0	0	0	0	0
700-719	0	0	0	0	0	0	0	0	0	0	0
720-739	0	0	0	0	0	0	0	0	0	0	0
740-759	0	0	0	0	1	0	0	0	0	1	1
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	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0
# measured	9	5	4	5	3	1	3	3	2	17	35
Mean	421.56	301.00	353.00	550.40	550.00	555.00	125.00	140.33	95.00	349.59	361.54
StdDev.	176.98	162.27	231.83	83.12	235.80		73.99	14.57	35.36	240.84	209.95

Table 21. Bluefish catch by station, 2000.

STATION	riv mile	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	C/F
EAST											
18E	23	3	4	4	0	1	0	0	0	0	1.33
21E	23	0	1	1	2	2	0	0	0	0	0.67
17E	24	4	2	17		0	0	0	0		3.29
16E	25	6	0	0	0	0	0	0	0	0	0.67
15E	27			0				0	0		0.00
12E	29	2	0	1	0	1	0	0	0	0	0.44
13E	29		0	0		0	0	0	0	0	0.00
14E	29	1		0		0	0	0	0	0	0.14
19E	33	6	1	3	1	0	0		0	0	1.38
10E	34										
11E	34	6	3	1		0			0		2.00
9E	34	1			0	1	0	0	0		0.33
7E1	35										
7EC	35										
7EE	35	1	0	1	0	1	0	0	0	0	0.33
7EW	35	3	0	0	0	0	0	0	0	0	0.33
8E	35	6	6	4		0	1	0	0		2.43
6E	36										
3E	39	0	0		0	0	0	0	0		0.00
4E	39	0	0	1	1	0	0	0	0		0.25
5E	39		0								0.00
20E	41										
WEST											
15WN	27										
15WS	27	2		21	2	1	0	0		0	3.71
16WN	27	0	1	2	0	0	0	0	0	0	0.33
16WS	27		1								1.00
13W	29										
14W	29	6	1	1	0	0	1	0	0	0	1.00
12W	30	4	0	0	0	0	0	0	0	0	0.44
11W	32	3	0	0	0		0	0	0		0.43
10W	35	0	0	0	3	0	0	0		0	0.38
9W	35	2	2	0	1	0	0	0	0	0	0.56
8W	36	7	4	0	2	0			0	0	1.86
7W	37	1	1	1	0	0	0		0	0	0.38
3W	39										
4W	39	2	0	4	1	0	1		0		1.14
4WN	39										
5W	39	0	0	0	3	1	0		0		0.57
20W	42										
	Effort	25	25	25	23	25	25	21	25	17	
	C/E	2.64	1.08	2.48	0.76	0.32	0.13	0.00	0.00	0.00	

Table 22. Size-frequency distribution of bluefish, Hudson River 2000

mm TL	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	weeks 4-9	weeks 1-9
20-24	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0	0	0	0
85-89	0	0	0	0	0	0	0	0	0	0	0
90-94	1	0	1	0	0	0	0	0	0	0	2
95-99	3	0	2	0	2	0	0	0	0	2	7
100-104	4	0	0	0	0	0	0	0	0	0	4
105-109	9	0	4	0	2	0	0	0	0	2	15
110-114	14	0	2	0	0	0	0	0	0	0	16
115-119	12	0	1	0	0	0	0	0	0	0	13
120-124	9	1	3	0	1	0	0	0	0	1	14
125-129	7	0	2	0	0	0	0	0	0	0	9
130-134	3	5	5	2	0	1	0	0	0	3	16
135-139	2	5	4	0	0	0	0	0	0	0	11
140-144	1	5	3	2	0	0	0	0	0	2	11
145-149	1	0	5	1	1	0	0	0	0	2	8
150-154	0	5	4	1	0	0	0	0	0	1	10
155-159	0	3	10	2	1	0	0	0	0	3	16
160-164	0	0	4	1	1	1	0	0	0	3	7
165-169	0	0	4	0	1	1	0	0	0	2	6
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
200-204	0	0	0	0	0	0	0	0	0	0	0
# measured	66	26	62	16	13	3	0	0	0	32	186
Mean	115.64	145.15	143.71	162.88	156.92	153.67				159.59	136.68
StdDev.	10.76	13.14	22.74	20.92	50.85	17.93				35.29	26.81

Table 23. Winter flounder catch by station, 2000.

STATION	riv mile	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	C/E
EAST											
18E	23	5	8	0	0	0	0	0	0	1	1.56
21E	23	2	6	0	0	0	0	1	3	2	1.56
17E	24	19	1	0		0	0	0	3		3.29
16E	25	1	1	1	0	0	0	0	0	2	0.56
15E	27			2				0	3		1.67
12E	29	0	0	3	1	0	2	1	0	1	0.89
13E	29		0	0		1	0	0	1	0	0.29
14E	29	4		0		1	0	0	0	0	0.71
19E	33	0	0	0	0	0	0		0	0	0.00
10E	34										
11E	34	0	0	0		0			0		0.00
9E	34	0			0	0	0	0	0		0.00
7E1	35										
7EC	35										
7EE	35	0	0	0	0	0	0	0	0	0	0.00
7EW	35	0	0	0	0	0	0	0	0	0	0.00
8E	35	0	0	0		0	0	0	0		0.00
6E	36										
3E	39	0	0		0	0	0	0	0		0.00
4E	39	0	0	0	0	0	0	0	0		0.00
5E	39		0								0.00
20E	41										
WEST											
15WN	27										
15WS	27	0		0	0	0	1	0		1	0.29
16WN	27	0	0	0	0	0	0	1	0	1	0.22
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	0	0	0.00
11W	32	0	0	0	0		0	0	0		0.00
10W	35	0	0	0	0	0	0	0		2	0.25
9W	35	0	0	0	0	0	0	0	0	0	0.00
8W	36	0	0	0	0	0			0	0	0.00
7W	37	0	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	25	25	25	23	25	25	21	25	17	
	C/E	1.24	0.64	0.24	0.05	0.08	0.13	0.14	0.40	0.59	

Table 24. Size-frequency distribution of winter flounder, Hudson River 2000

mm TL	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	weeks 4-9	weeks 1-9
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	1	0	0	0	0	0	0	0	0	0	1
40-44	1	0	0	0	0	0	0	0	0	0	1
45-49	3	1	0	0	0	0	0	0	0	0	4
50-54	2	1	0	0	0	0	0	0	0	0	3
55-59	9	5	1	0	0	0	0	0	0	0	15
60-64	6	3	1	0	0	0	0	0	0	0	10
65-69	7	5	1	0	0	1	0	0	0	1	14
70-74	1	0	0	1	1	1	0	0	0	3	4
75-79	1	0	2	0	0	1	0	0	0	1	4
80-84	0	1	1	0	1	0	2	0	0	3	5
85-89	0	0	0	0	0	0	0	2	0	2	2
90-94	0	0	0	0	0	0	0	1	3	4	4
95-99	0	0	0	0	0	0	1	0	1	2	2
100-104	0	0	0	0	0	0	0	2	0	2	2
105-109	0	0	0	0	0	0	0	0	2	2	2
110-114	0	0	0	0	0	0	0	1	1	2	2
115-119	0	0	0	0	0	0	0	2	1	3	3
120-124	0	0	0	0	0	0	0	1	0	1	1
125-129	0	0	0	0	0	0	0	0	2	2	2
130-134	0	0	0	0	0	0	0	1	0	1	1
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
200-204											
# measured	31	16	6	1	2	3	3	10	10	29	82
Mean	58.52	61.44	70.50	74.00	77.50	73.67	86.33	107.30	107.10	98.38	74.06
StdDev.	9.19	8.66	8.60		6.36	4.51	7.57	15.80	13.96	18.41	22.44

Table 25. American shad catch by station, 2000.

STATION	riv mile	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	C/E
EAST											
18E	23	7	0	1	0	0	0	6	2	0	1.78
21E	23	3	0	1	0	1	0	2	2	0	1.00
17E	24	4	0	0		0	0	0	0		0.57
16E	25	0	0	0	0	0	0	0	0	0	0.00
15E	27			0				10	0		3.33
12E	29	0	0	1	0	1	0	0	0	0	0.22
13E	29		0	0		0	0	20	0	0	2.86
14E	29	0		1		0	0	0	0	0	0.14
19E	33	0	0	0	1	0	0		0	0	0.13
10E	34										
11E	34	0	6	1		0			0		1.40
9E	34	0			0	0	0	2	0		0.33
7E1	35										
7EC	35										
7EE	35	0	4	0	0	0	0	0	0	0	0.44
7EW	35	0	0	0	0	0	0	1	0	0	0.11
8E	35	0	0	0		26	0	0	0		3.71
6E	36										
3E	39	0	0		0	5	3	7	0		2.14
4E	39	0	0	0	0	0	0	0	0		0.00
5E	39		0								0.00
20E	41										
WEST											
15WN	27										
15WS	27	0		0	0	0	0	0		0	0.00
16WN	27	3	0	0	0	0	0	1	0	0	0.44
16WS	27		0								0.00
13W	29										
14W	29	2	0	0	0	2	0	0	0	0	0.44
12W	30	0	0	0	0	0	0	1	0	0	0.11
11W	32	0	0	0	0		0	0	0		0.00
10W	35	3	0	0	0	0	0	2		0	0.63
9W	35	0	0	0	0	0	0	3	0	0	0.33
8W	36	0	0	0	30	0			0	0	4.29
7W	37	1	0	0	0	0	0		0	0	0.13
3W	39										
4W	39	4	0	0	0	1	0		0		0.71
4WN	39										
5W	39	0	0	0	1	0	0		0		0.14
20W	42										
	Effort	25	25	25	23	25	25	21	25	17	
	C/E	1.08	0.40	0.20	1.52	1.44	0.13	2.62	0.16	0.00	

Table 26. Size-frequency distribution of American shad, Hudson River 2000

mm TL	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	weeks 4-9	weeks 1-9
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	1	1	0	0	0	0	0	0	0	0	2
50-54	10	4	1	1	0	0	0	0	0	1	16
55-59	13	6	1	1	0	0	0	0	0	1	21
60-64	3	0	1	4	1	0	0	0	0	5	9
65-69	0	0	2	14	1	0	0	0	0	15	17
70-74	0	0	0	11	5	0	1	1	0	18	18
75-79	0	0	0	4	13	2	6	1	0	26	26
80-84	0	0	0	0	9	1	16	0	1	27	27
85-89	0	0	0	0	5	0	7	2	0	14	14
90-94	0	0	0	0	1	0	3	0	0	4	4
95-99	0	0	0	0	0	0	2	0	0	2	2
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
# measured	27	11	5	35	35	3	35	4	1	112	155
Mean	55.41	53.73	61.60	68.51	78.54	76.67	83.37	81.00	81.00	77.38	71.43
StdDev.	2.93	4.08	5.81	5.32	5.65	2.89	5.29	7.53		8.18	12.10

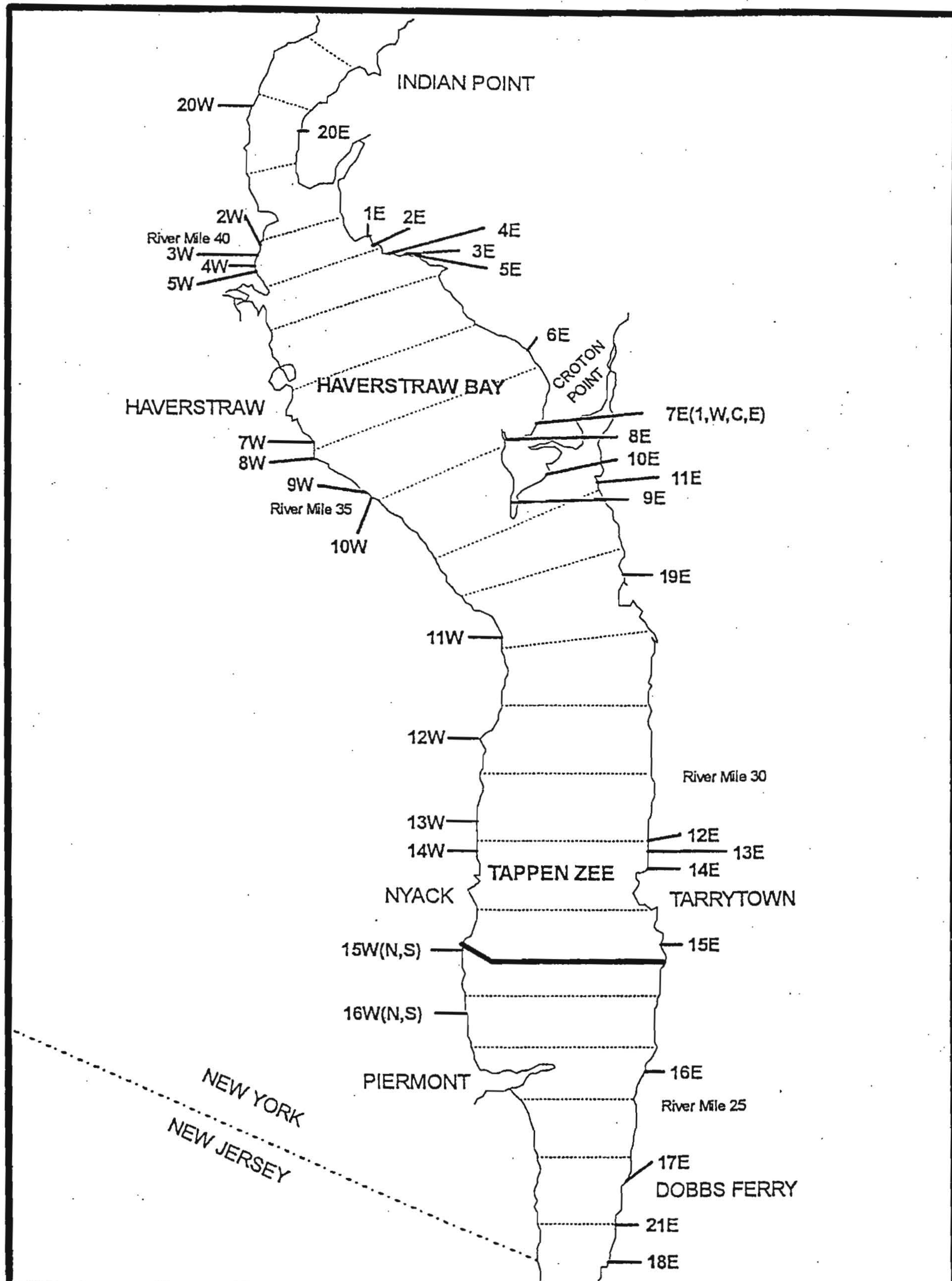
Table 27. Atlantic manhaden catch by station, 2000.

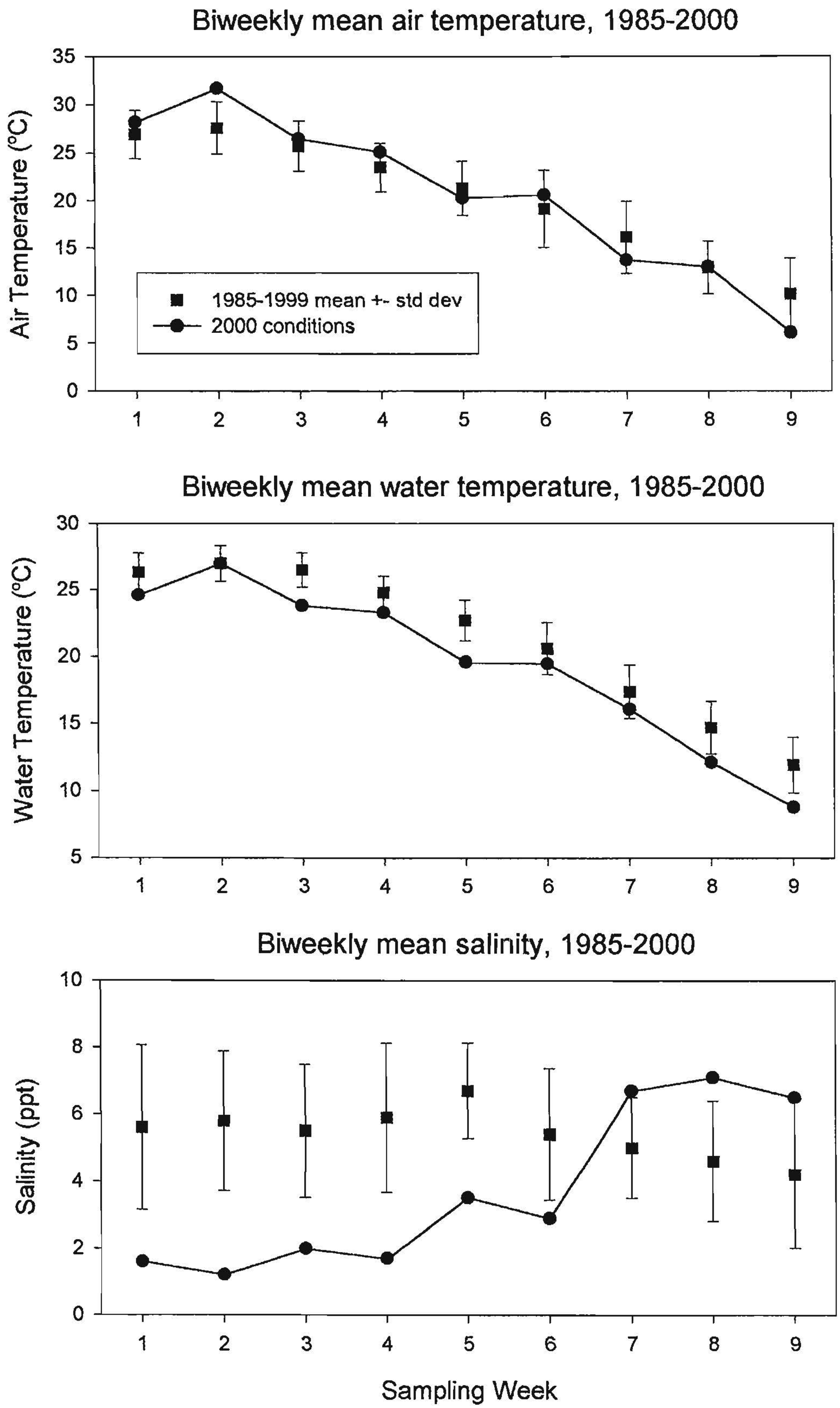
STATION	riv mile	week 1 July 24-25	week 2 Aug 10-11	week 3 Aug 21-22	week 4 Sept 7-8	week 5 Sept 7-28	week 6 Oct 4-5	week 7 Oct 18-19	week 8 Nov 8	week 9 Nov 19	C/E
EAST											
18E	23	0	0	0	0	0	0	0	0	0	0.00
21E	23	0	0	3	0	1	0	0	0	0	0.44
17E	24	0	0	0		0	0	0	0		0.00
16E	25	0	0	0	0	0	0	0	0	0	0.00
15E	27			0				0	0		0.00
12E	29	0	0	1	0	0	0	0	0	0	0.11
13E	29		0	2		0	10	0	0	0	1.71
14E	29	0		0		0	4	0	0	0	0.57
19E	33	0	0	1	0	0	0		0	0	0.13
10E	34										
11E	34	6	0	8		1			0		3.00
9E	34	0			0	0	2880	2	0		480.33
7E1	35										
7EC	35										
7EE	35	4	0	7	0	0	0	31	0	0	4.67
7EW	35	0	0	1914	1	0	0	0	2	0	213.00
8E	35	1	0	387		0	0	0	0		55.43
6E	36										
3E	39	0	0		0	325	0	0	0		46.43
4E	39	0	1	538	1	0	0	0	0		67.50
5E	39		0								0.00
20E	41										
WEST											
15WN	27										
15WS	27	1		17	2530	0	0	0		0	364.00
16WN	27	30	5	6	0	5	0	0	0	0	5.11
16WS	27		2								2.00
13W	29										
14W	29	26	0	0	0	1	0	0	0	0	3.00
12W	30	1	1	40	7	0	0	0	0	0	5.44
11W	32	29	0	14	21		0	0	0		9.14
10W	35	3	0	25	1081	1	0	0		0	138.75
9W	35	0	0	0	0	0	0	0	0	0	0.00
8W	36	1	0	1	0	0			0	0	0.29
7W	37	0	0	2	0	0	2		0	0	0.50
3W	39										
4W	39	44	0	2	0	0	0		0		6.57
4WN	39										
5W	39	7	0	1	3	0	0		0		1.57
20W	42										
	Effort	25	25	25	23	25	25	21	25	17	
	C/E	6.12	0.36	118.76	173.52	13.36	120.67	1.57	0.08	0.00	

Table 28. Size-frequency distribution of Atlantic menhaden, Hudson River 2000

	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9		
	July	Aug	Aug	Sept	Sept	Oct	Oct	Nov	Nov	weeks	weeks
TL	24-25	10-11	21-22	7-8	7-28	4-5	18-19	8	19	4-9	1-9
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	4	1	1	0	0	0	0	0	0	0	6
35-39	11	3	14	0	0	0	0	0	0	0	28
40-44	17	1	41	0	1	0	0	0	0	1	60
45-49	19	0	26	1	0	0	0	0	0	1	46
50-54	15	1	13	0	0	0	0	0	0	0	29
55-59	12	2	9	0	0	0	0	0	0	0	23
60-64	7	0	5	1	0	0	1	0	0	2	14
65-69	6	0	3	1	0	0	2	0	0	3	12
70-74	5	0	1	1	1	0	5	0	0	7	13
75-79	4	0	2	1	2	1	3	0	0	7	13
80-84	1	0	11	11	2	0	3	0	0	16	28
85-89	2	0	23	6	2	3	5	0	0	16	41
90-94	1	0	39	17	1	6	1	1	0	26	66
95-99	2	0	40	9	2	8	6	0	0	25	67
100-104	5	0	15	8	6	4	1	0	0	19	39
105-109	4	0	1	2	3	5	2	1	0	13	18
110-114	1	1	2	4	4	3	0	0	0	11	15
115-119	1	0	1	2	6	1	2	0	0	11	13
120-124	0	0	1	1	9	3	1	0	0	14	15
125-129	1	0	1	0	5	4	1	0	0	10	12
130-134	0	0	1	0	3	3	0	0	0	6	7
135-139	0	0	1	0	4	1	0	0	0	5	6
140-144	0	0	0	0	1	2	0	0	0	3	3
145-149	0	0	0	0	0	2	0	0	0	2	2
150-154	0	0	0	0	1	1	0	0	0	2	2
155-159	0	0	0	0	1	1	0	0	0	2	2
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
200-204	0	0	0	0	0	0	0	0	0	0	0
# measured	118	9	251	65	54	48	33	2	0	202	580
Mean	58.56	51.44	72.87	92.34	113.00	111.13	89.15	98.50		101.87	79.69
StdDev.	21.54	24.95	25.32	12.90	21.15	19.70	16.92	9.19		20.43	28.81

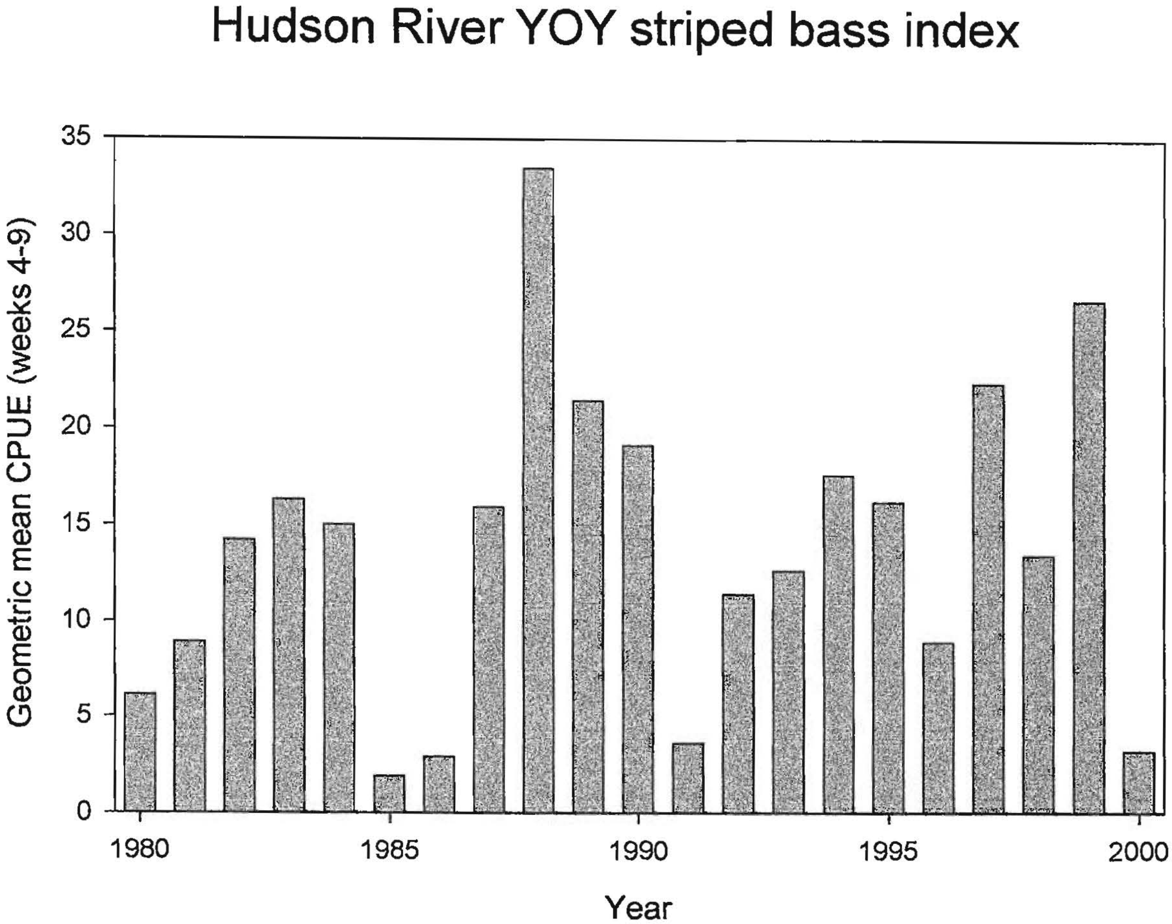
FIGURE 1 YOY STRIPED BASS SEINE STATIONS





Biweekly mean air temperature, 1985-2000
Air Temperature (°C)
35
30
25
20
15
10
5
0
1985-1999 mean +- std dev
2000 conditions
1
2
3
4
5
6
7
8
9
Biweekly mean water temperature, 1985-2000
Water Temperature (°C)
30
25
20
15
10
5
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)
0
5
10
15
20
25
30
35
1980
1985
1990
1995
2000
Year

Figure 3.

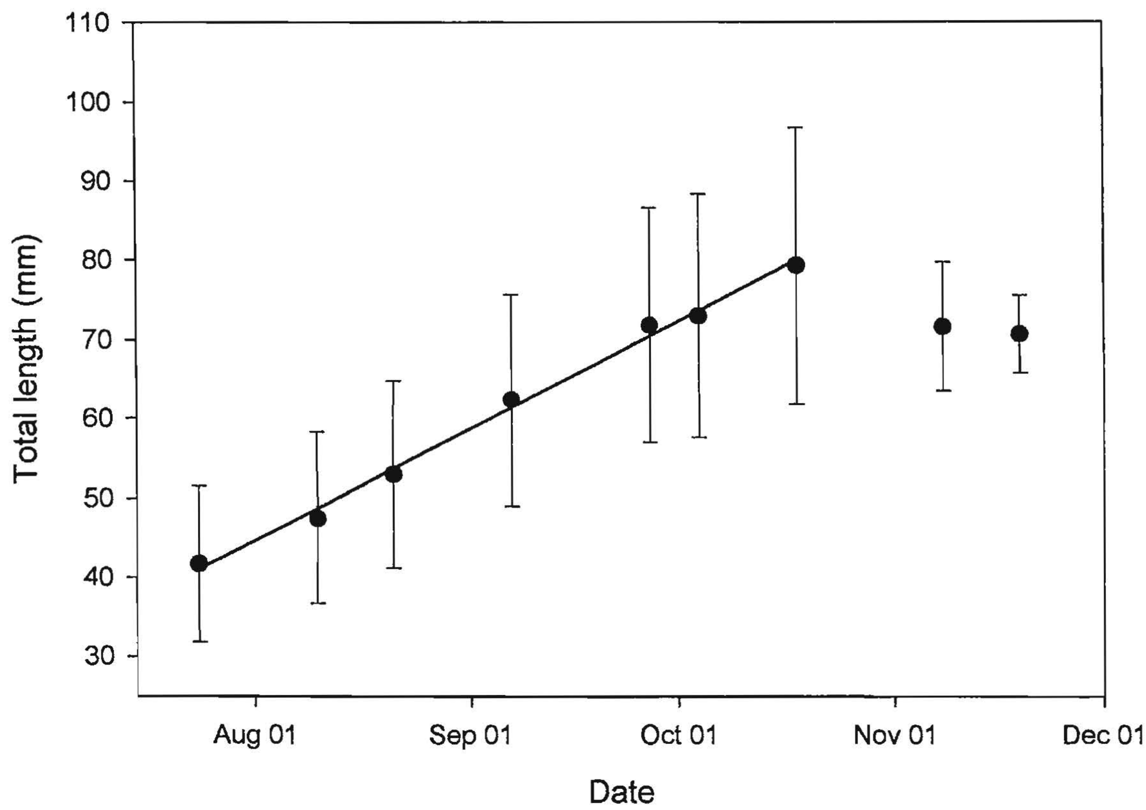


Figure 4. Growth of YOY striped bass in the 2000 cohort.

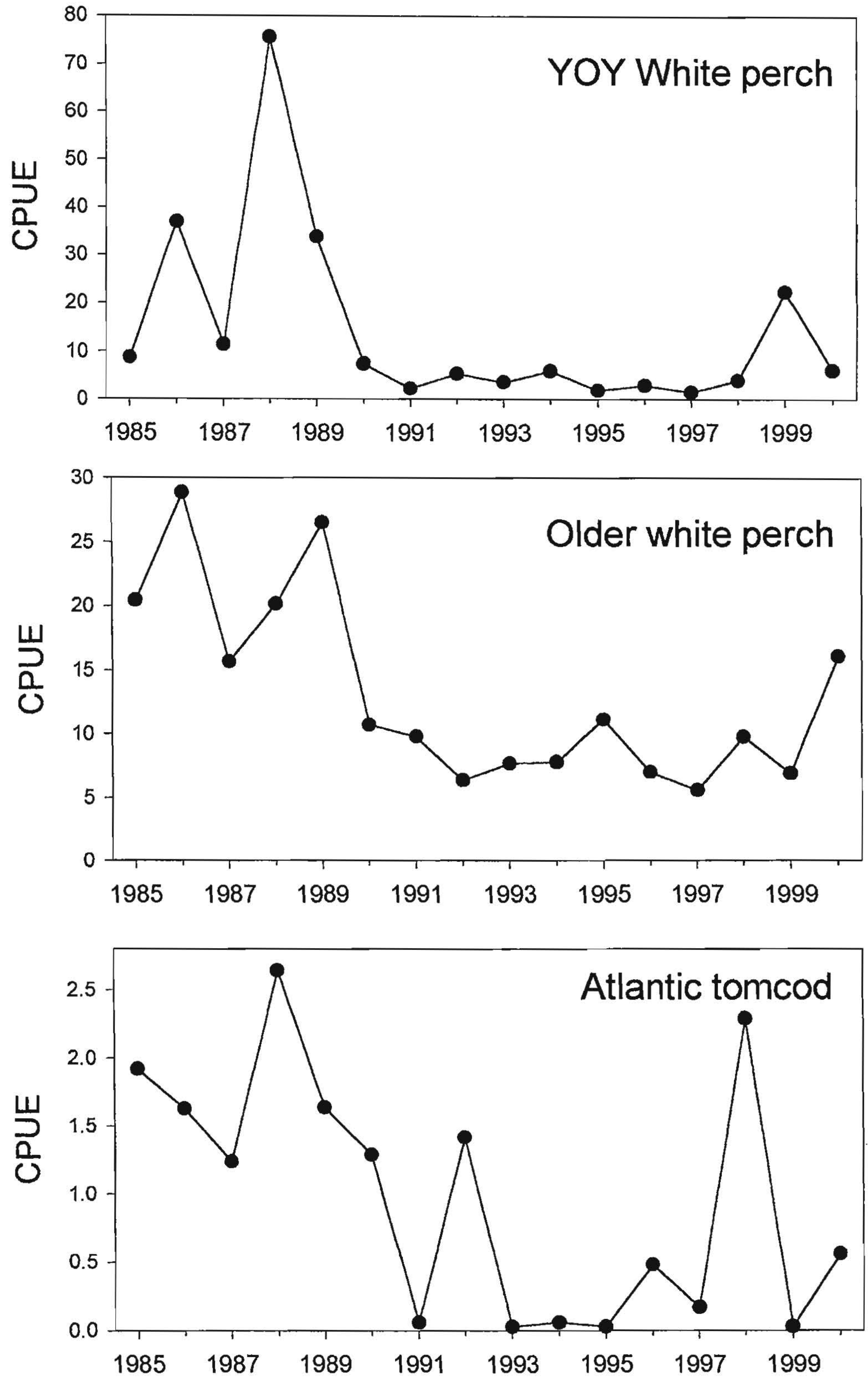

YOY White perch
Older white perch
Atlantic tomcod
CPUE
CPUE
CPUE
80
70
60
50
40
30
20
10
0
30
25
20
15
10
5
0
2.5
2.0
1.5
1.0
0.5
0.0
1985
1987
1989
1991
1993
1995
1997
1999

Figure 5.

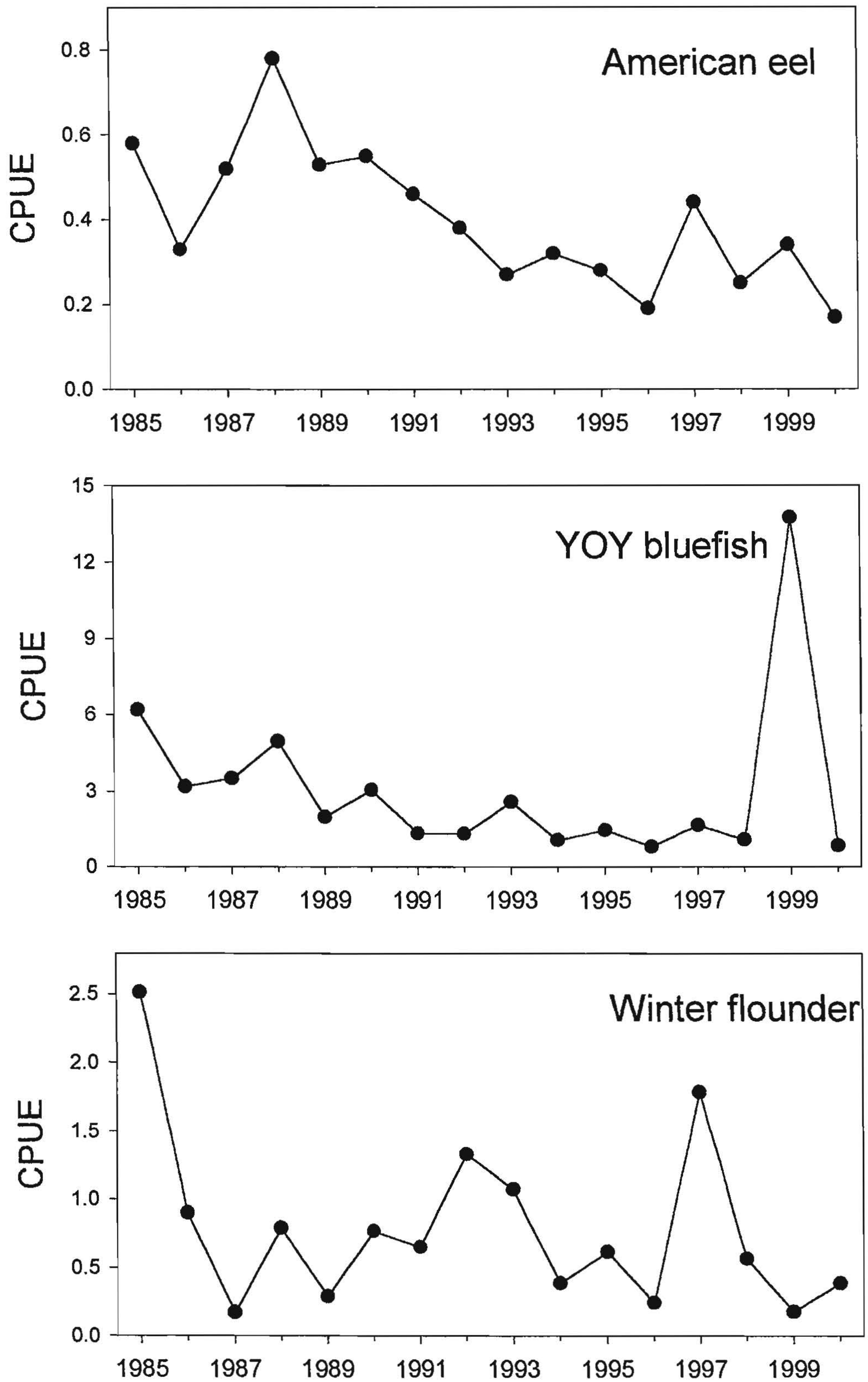

American eel
CPUE
0.0
0.2
0.4
0.6
0.8
1985
1987
1989
1991
1993
1995
1997
1999
YOY bluefish
CPUE
0
3
6
9
12
15
1985
1987
1989
1991
1993
1995
1997
1999
Winter flounder
CPUE
0.0
0.5
1.0
1.5
2.0
2.5
1985
1987
1989
1991
1993
1995
1997
1999

Figure 6.

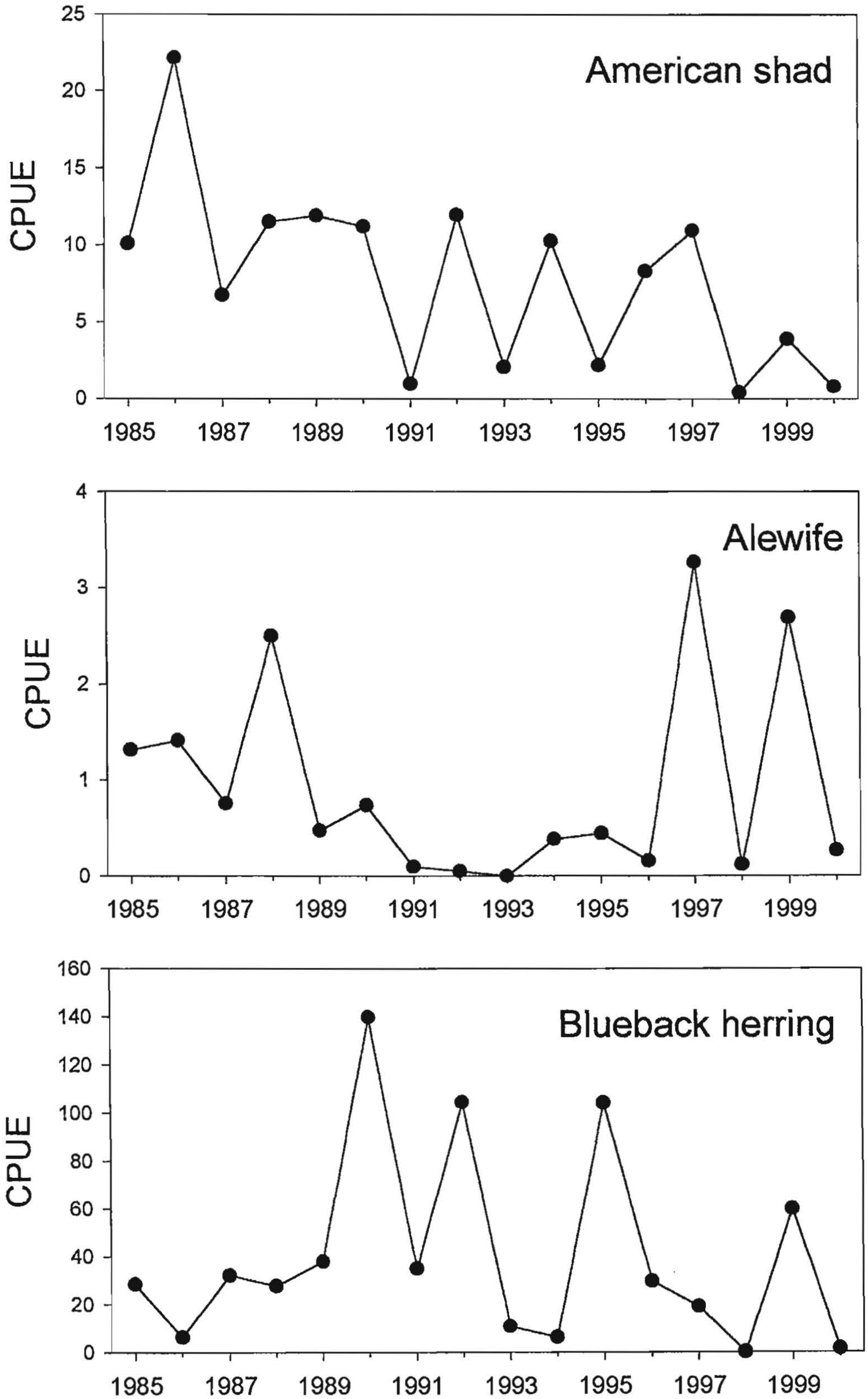

American shad
Alewife
Blueback herring
CPUE
0
5
10
15
20
25
1985
1987
1989
1991
1993
1995
1997
1999
0
1
2
3
4
0
20
40
60
80
100
120
140
160

Figure 7.

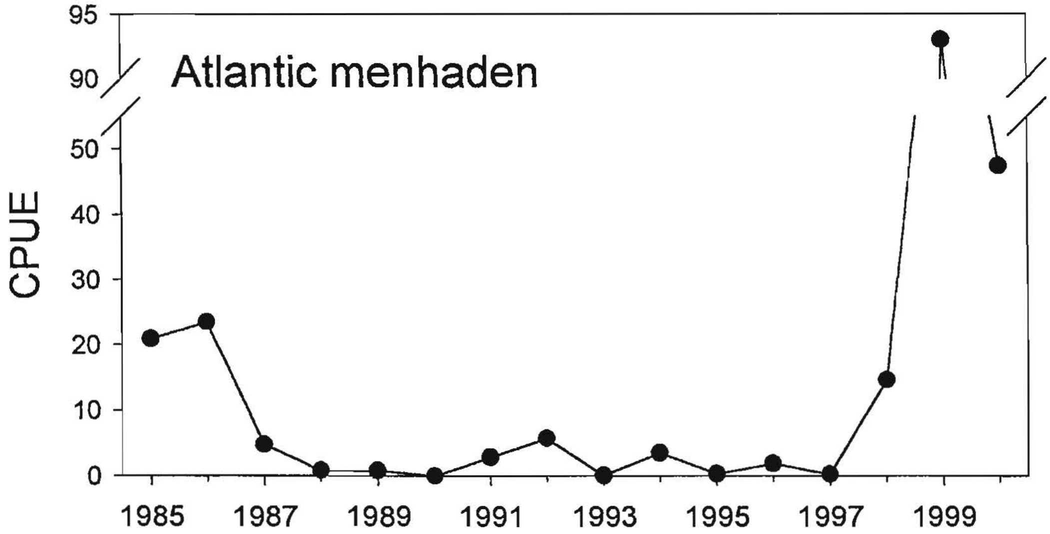

Atlantic menhaden
CPUE
95
90
50
40
30
20
10
0
1985
1987
1989
1991
1993
1995
1997
1999

Figure 8.