

HUDSON RIVER

ALBANY

COXSACKIE

SAUGERTIES

KINGSTON

RHINECLIFF

POUGHKEEPSIE

NEWBURGH

BEACON

PEEKSKILL

CROTON

NYACK

TARRYTOWN

YONKERS

QUEENS

BROOKLYN

STATEN ISLAND

2007 YEAR CLASS REPORT

**for the
Hudson River Estuary
Monitoring Program**

Prepared on behalf of

Dynegy Roseton L.L.C.
Entergy Nuclear Indian Point 2 L.L.C.
Entergy Nuclear Indian Point 3 L.L.C.
Mirant Bowline L.L.C.

Prepared by

ASA A SA Analysis & Communication
Solutions through Science

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Dynegy Roseton L.L.C.
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Mirant Bowline L.L.C.

Prepared for

Dynegy Roseton L.L.C.
992 – 994 River Road
Newburgh, New York 12550

Prepared by

ASA Analysis & Communication
5 Fairlawn Drive, Suite 207
Washingtonville, New York 10992

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CHAPTER 1

INTRODUCTION

Since 1973, an annual Year Class Report has been prepared on behalf of the several electric utility companies (collectively, the “Utilities”) operating generating stations in the Hudson River estuary. This report, which is based on the 2007 Hudson River Biological Monitoring Program, has been prepared on behalf of Dynegy Roseton L.L.C., Entergy Nuclear Indian Point 2 L.L.C., Entergy Nuclear Indian Point 3 L.L.C., and Mirant Bowline L.L.C. The principal reporting objective has been to present and analyze data on the distribution and abundance of early life stages of selected fish species based on field surveys conducted throughout the Hudson River estuary. The content and scope of these reports have varied over time from estimating the environmental impact of five Hudson River generating stations to focusing on indices of year class strength to describing the spatiotemporal distribution of selected fish species. Since the early 1990’s, the annual Year Class Report has been standardized to describe the physical/chemical parameter patterns in the Hudson River estuary and the spatiotemporal distribution of 16 selected species of fish. These 16 species were identified by the New York State Department of Environmental Conservation (NYSDEC) of interest for discharge permitting purposes.

This report adds to the historical database by describing the results of the Longitudinal River Ichthyoplankton Survey, the Fall Juvenile Survey (formerly, the Fall Shoals Survey), and the Beach Seine Survey for 2007. The 2007 Year Class Report presents basic abundance and distribution data with the following objectives:

- Describe the patterns and variability of environmental parameters that may have affected fish distribution and abundance in the Hudson River estuary in 2007.
- Describe the distribution and abundance of 16 selected species of fish ([Table 1-1](#)) in the Hudson River estuary in 2007.
- Describe the fish community of the Hudson River estuary in 2007.
- Describe patterns in growth for the 2007 year class of key species.

This report is organized into four chapters with supporting appendixes. Data collection and analysis methods are described in [Chapter 2](#). Physical and chemical parameters are described in [Chapter 3](#) and fish community analysis and spatiotemporal distribution of selected fish species are presented in [Chapter 4](#). Detailed data tables supporting report analyses are contained within the appendix sections as follows:

- [Appendix A](#) – Quality Control Report for the 2007 Hudson River Ichthyoplankton Laboratory Program and 2007 Fall Juvenile Survey;
- [Appendix B](#) – Physical/Chemical Parameters;
- [Appendix C](#) – Numbers of Fish Collected in the Long River (1988-2007), Fall Juvenile (1985-2007), and Beach Seine (1985-2007) Surveys;
- [Appendix D](#) – Annual Abundance Indices;
- [Appendix E](#) – Density and Standing Crop Estimates;
- [Appendix F](#) – Length Frequency Distribution.

[Link to Chapter 2](#)

Table 1-1 Fish Species Treated in Depth in the 2007 Year Class Report

Common Name	Scientific Name ¹
Alewife	<i>Alosa pseudoharengus</i>
American shad	<i>Alosa sapidissima</i>
Atlantic sturgeon	<i>Acipenser oxyrinchus</i>
Atlantic tomcod	<i>Microgadus tomcod</i>
Bay anchovy	<i>Anchoa mitchilli</i>
Blueback herring	<i>Alosa aestivalis</i>
Bluefish	<i>Pomatomus saltatrix</i>
Gizzard shad	<i>Dorosoma cepedianum</i>
Hogchoker	<i>Trinectes maculatus</i>
Rainbow smelt	<i>Osmerus mordax</i>
Shortnose sturgeon	<i>Acipenser brevirostrum</i>
Spottail shiner	<i>Notropis hudsonius</i>
Striped bass	<i>Morone saxatilis</i>
Weakfish	<i>Cynoscion regalis</i>
White catfish	<i>Ameiurus catus</i>
White perch	<i>Morone americana</i>

1. Names listed in Nelson et al. 2004.

CHAPTER 2

MATERIALS AND METHODS

2.1 SAMPLING DESIGN

Several fishery techniques were employed in three separate sampling surveys to obtain comprehensive information on the abundance and distribution of selected larval, juvenile or young-of-year (YOY), and adult fish species in the Hudson River estuary. Temporally, the monitoring program encompassed the spring through fall season, the period of greatest biological activity in northern U.S. temperate waters. The surveys were designed to sample the full range of Hudson River habitat toward a representative assessment of species-specific spatial distribution patterns. During 2007, survey-specific techniques were employed which were consistent with previous Hudson River Monitoring Programs.

The scope and objectives of the three sampling surveys comprising the overall monitoring program are summarized as follows.

1. **Longitudinal River Ichthyoplankton Survey** (LRS or Long River Survey)—Sampling encompassed the entire length of the Hudson River estuary, from River Mile (RM) 1 at the Battery in Manhattan to RM 152 at the Federal Dam in Troy. The LRS yielded ichthyoplankton data to support calculations of standing crop, temporal and geographic indices, and growth rates for selected Hudson River fish species. The primary species were Atlantic tomcod (*Microgadus tomcod*), American shad (*Alosa sapidissima*), striped bass (*Morone saxatilis*), white perch (*M. americana*) and bay anchovy (*Anchoa mitchilli*). LRS sampling was concentrated during the spring, summer, and early fall when eggs and larvae of the primary species have historically been abundant.
2. **Fall Juvenile Survey** (FJS or Fall Shoals Survey)—Samples were collected every other week from the Battery to the Troy Dam in mid-summer and fall. The objective was to provide data on YOY fish to support calculation of standing crop and temporal and geographic indices for selected Hudson River fish species. The target species were Atlantic tomcod, American shad, striped bass, and white perch.
3. **Beach Seine Survey** (BSS)—Beach seine samples were collected in alternate weeks relative to the FJS at stations ranging from the George Washington Bridge (RM 12) to the Troy Dam. The objective was to obtain distribution and relative abundance information on YOY American shad, Atlantic tomcod, striped bass, and white perch during periods when these species were concentrated primarily in the shallow, near-shore areas. The survey was conducted from mid-June through October, when YOY of these species were typically abundant in the shorezone nursery areas.

Sampling for all surveys was conducted according to a stratified random design in which the Hudson River estuary from the Battery (RM 1) to the Federal Dam at Troy (RM 152) was divided into 13 regions (Figure 2-1). Each region was further divided into "strata" on the basis of river depth. The strata, based on river depth, are graphically presented in Figure 2-2 and defined below:

- **Shore**—That portion of the Hudson River estuary extending from the shore to a depth of 10 ft (the stratum defined only for BSS).
- **Shoal**— That portion of the Hudson River estuary extending from the shore to a depth of 20 ft at mean low tide.
- **Bottom**—That portion of the Hudson River estuary extending from the bottom to 10 ft above the bottom where river depth is greater than 20 ft at mean low tide.
- **Channel**—That portion of the Hudson River estuary not considered bottom where river depth is greater than 20 ft at mean low tide.

The relative area and configuration of the shoal, bottom, and channel strata vary over the length of the Hudson River estuary but may be characterized using the three cross section views presented in [Figure 2-2](#). For example, the low relief sectional is characteristic of the Tappan Zee and Croton-Haverstraw regions, the high relief sectional is exemplified by the Yonkers and Poughkeepsie regions, and the fjord relief sectional represents the West Point region.

A minimum of two samples was assigned to each stratum in most regions for the LRS. However, no samples were allocated in the Poughkeepsie through Albany regions during the first three sampling weeks of the LRS (12 March – 1 April) nor in the Hyde Park through Albany regions during the final seven sampling weeks of the LRS (9 July – 7 October) because few organisms of the target species were historically present in these regions during these weeks. A minimum of two samples was assigned to each stratum in each region for the FJS except no channel samples were allocated during the final three sampling weeks (22 October – 2 December). A minimum of three samples was allocated in each region for the BSS. Shoal strata samples were not assigned in upriver regions nor were shoal or shore strata samples assigned in the Battery region. The strata actually sampled in each region during the 2007 survey period are presented in [Table 2-1](#).

A general summary of the three sampling surveys for the annual monitoring program is presented in [Table 2-2](#). The field and laboratory methods used for each survey are described in detail in the following sections.

2.2 LONGITUDINAL RIVER ICHTHYOPLANKTON SURVEY

2.2.1 Field Methods

The 2007 LRS was performed over a period of 30 weeks from 12 March to 7 October with all sampling prior to 21 May conducted during the day and all subsequent sampling conducted at night ([Table 2-2](#) and [Figure 2-3](#)). For the first three weeks, sampling was conducted between RM 1 and RM 61. For the next 13 weeks beginning 2 April, weekly sampling encompassed RM 1 to RM 152. In the final phase of sampling from 9 July through 7 October, sampling was conducted biweekly between RM 1 and RM 76. Collection of additional trawl samples that were used for the aging of striped bass larvae was terminated in 2006.

The allocation of sampling effort among river regions and strata was temporally adjusted in response to the projected presence and distribution of target species and life stages. The 2007 LRS sampling program was scheduled as 6 separate multi-week efforts. The first sampling effort, performed in March, focused on the collection of Atlantic tomcod post yolk-sac larvae (PYSL). The second effort, performed during early April, focused on the collection of American

shad eggs. The third effort, from late April to mid-May, was designed to collect eggs of *Morone* spp. and American shad. The fourth effort, performed from mid-May through early June, targeted *Morone* spp. and American shad yolk-sac larvae (YSL). The fifth effort, in June, was designed to collect *Morone* spp. and American shad PYSL. The LRS sampling program concluded with a 13-week period, sampled biweekly, from the middle of July to early October. The final sampling effort was designed to collect all life stages of bay anchovy.

The allocation of sampling effort among regions and strata is presented in [Table 2-3](#). Of the 3,522 ichthyoplankton samples scheduled for collection during 2007, 3,493 samples were collected, accounting for 99.2 percent of the scheduled total.

Two distinct gear types were used for field collections during the 2007 LRS:

- 1.0-m² Tucker trawl ([Figure 2-4](#) and [Table 2-4](#)) to sample the shoal and channel strata (non-bottom), and
- 1.0-m² epibenthic sled ([Figure 2-5](#) and [Table 2-4](#)) to sample the bottom-only shoal and channel strata.

Both gear types were towed against the prevailing current for 5 minutes. The tow started with the remote opening of the net and terminated with its remote closing. If the river depth was 20 ft or less, an open set and retrieval of the net was performed. The tow speed for the Tucker trawl was adjusted to maintain a towing wire angle of approximately 45° averaging approximately 0.9 m/second. The tow speed for the epibenthic sled-mounted net was maintained at approximately 1.0 m/second. An electronic flowmeter mounted along the side of the research vessel and equipped with an on-deck readout display was used to establish and maintain tow speed. A calibrated digital flowmeter mounted in the center of the net mouth was used to calculate the volume of water filtered for each sample.

Following deployment and retrieval of the sampling gear, net washing was performed to concentrate the sample into the codend bucket. The samples were then examined for yearling and older fish which were identified, enumerated, and returned to the Hudson River estuary. Special care was taken to observe sturgeon species for physical condition and for the presence of marks and/or tags. All yearling and older sturgeon were measured to the nearest millimeter, weighed to the nearest gram, and, if alive, returned to the river or, if dead, frozen and saved for the NYSDEC. After yearling and older fish were removed, the remaining sample was placed in container(s) so that the sample occupied no more than 25 percent of the container volume. The containers were filled with a 10 percent aqueous formalin solution.

In situ measurements of water temperature (°C), dissolved oxygen (mg/L), and specific conductance (microsiemen/cm at 25°C) were taken with calibrated meters at fixed river mile and strata stations in conjunction with the biological sampling. The number of physical/chemical sampling locations, by river mile and strata, are presented in [Table 2-5](#) for the 2007 LRS. Physical/chemical measurements were recorded from surface, mid-depth, and bottom water depth at channel stations and from the surface and bottom water depth at shoal stations. During the 23 collection weeks of the 2007 LRS, 3,520 physical/chemical measurements were scheduled and 3,507 measurements were actually recorded, accounting for 99.6 percent of the scheduled total.

2.2.2 Laboratory Methods

In 2007, approximately 70 percent of the regular LRS samples were selected for laboratory analysis. Selection of samples for laboratory analysis began with the grouping of samples

according to river run (i.e., sampling week), region, and strata. Based on these groupings, samples were selected based on one of the following criteria:

1. If there were less than 6 samples in the group, then all were selected for analysis.
2. If there were between 6 and 12 samples in the group, then 50 percent of the samples were randomly selected for analysis.
3. If there were more than 12 samples in the group, then 20 percent of the samples were randomly selected for analysis.

The allocation of samples for laboratory analysis among regions, strata, and gear types based on these criteria is listed in [Table 2-6](#). The total number of analyzed samples for 2007 was 2,437, comprising 69.8 percent of the collected samples.

In 2007, as in previous years, splitting (or subsampling) was permitted. A trained technician first determined, by visual inspection, if the sample needed splitting. Samples containing large numbers of eggs may have been split so that eggs were only sorted from one or more aliquots containing a total of at least 250 eggs (all species combined).

Two different sets of criteria were used for subsampling of larval stages, depending on the river run. Beginning with the river run in which striped bass PYSL first appeared, and for the next 8 river runs (a total of 9 consecutive river runs), a minimum of 500 *Morone* larvae (i.e., the combined total of YSL, PYSL, and YOY of striped bass, white perch, and unidentified *Morone*) was sorted from the entire sample and a minimum of 50 non-*Morone* larvae was also sorted. Because some of the more difficult distinctions between species (e.g., striped bass versus white perch) or between life stages could not be made reliably during sorting, samples from these 9 river runs were typically sorted in their entirety for larvae (i.e., YSL, PYSL, and YOY combined) of all species combined. An exception to this may have been made, at the discretion of the laboratory supervisor, under the following circumstances: when extremely large numbers of non-*Morone* larvae occurred in the sample and a qualified identifier had verified that sufficient numbers of both *Morone* larvae and non-*Morone* larvae were sorted to meet their respective subsampling quotas. The purpose of this exception was to allow splitting before sorting of taxa such as clupeids which could readily be distinguished from *Morone* by sorters.

The second set of criteria for subsampling larvae applied to the 13 other river runs not covered in the previous paragraph (before and after the period of striped bass abundance). Any sample from these river runs may have been subsampled so that larvae were sorted from one or more splits containing at least 100 larvae (i.e., YSL, PYSL, and YOY combined) of all species combined.

To eliminate bias, some steps in the splitting procedure were performed by an assistant so that the sorter had no prior knowledge of which splits were to be used for the analysis. This procedure is explained in [Figure 2-6](#). Randomness of the splitting procedure was monitored and demonstrated by testing selected samples to determine whether splits from the same sample differed by more than random variation. Samples were selected to test for randomness by a continuous sampling plan, shown in [Figure 2-7](#) (CSP-V from MIL-STD-1235, AOQL = 10 percent).

For each split sample evaluated, three fractions of the same aliquot size were sorted and compared by the chi-square test according to the following procedure. The counts of the three

splits (including any quality control [QC] finds) were averaged to obtain the expected value for the sample. Chi-square was calculated as:

$$chi\ square = \frac{(O_1 - E)^2}{E} + \frac{(O_2 - E)^2}{E} + \frac{(O_3 - E)^2}{E}$$

where

O₁, O₂, and O₃ = Observed counts for splits 1, 2, and 3.

E = Expected value for the sample (average of O₁, O₂, and O₃).

If the calculated value for chi-square was less than 5.99, then the splits of that sample were considered random, and the sample passed the split QC (5.99 was the critical value of chi-square with two degrees of freedom at an alpha level of 0.05). If a sample was split for both eggs and larvae, then both stages were tested separately. The sample passed the split QC only if chi-square was below the critical value for both life stages.

Eggs and larvae were separated from detrital material, sorted by major taxonomic group and life stage, counted, and placed in vials containing 5 percent formalin or in ethyl alcohol. Sorted samples were evaluated by a trained technician under magnification and all organisms were identified and enumerated. The following life stage designations were used in identification:

Life Stage	Description
Egg	Embryonic stage from spawning to hatching,
YSL	From hatching to development of a complete and functional digestive system,
PYSL	From development of a complete digestive system to transformation to juvenile form, and
YOY	From completed transformation to Age 1.

Whenever possible, a maximum of 30 striped bass, 30 white perch, 30 American shad, 30 Atlantic tomcod, and 30 bay anchovy per sample were measured. Organisms were chosen at random from each taxon regardless of life stage until the required numbers were obtained; life stages to be included were YSL, PYSL, and YOY. The total length of YSL and PYSL was measured to the nearest 0.1 mm and to the nearest 1 mm for YOY. Measurements were recorded on the laboratory data sheet. Selection of specimens for measuring was randomized by spreading them uniformly in a gridded container, selecting a starting point in the grid by means of a random number table, and then measuring the first 30 measurable specimens encountered in a predetermined pattern commencing at the starting point. Every grid space had an equal probability of being selected as the starting point, so every specimen had an equal probability of being included in the subsample.

Continuous sampling inspection was employed during the sort and identification procedures to ensure an average outgoing quality limit of 10 percent or better. Two sampling modes were required in the continuous sampling plan (CSP-1):

Mode 1—The first eight samples sorted or analyzed for larval identification by an individual are subject to 100 percent QC reanalysis. If all eight pass the reanalysis, i.e., if ≤10 percent of the ichthyoplankton are missed or misidentified per sample,

the individual is placed in CSP Mode 2. If any sample fails during Mode 1, then Mode 1 is continued until eight consecutive samples pass. For example, if a sample with QC No. 7 fails, then samples with QC Nos. 8 through 15 are subject to QC resorting.

Mode 2—Lots of seven consecutive samples per individual are assigned for identification QC and per laboratory facility for sort QC. One sample from each lot is randomly chosen for QC analysis. If a sample fails (>10 percent of organisms missed or misidentified) during Mode 2, the individual is placed back into Mode 1. For example, if a sample with QC No. 6 fails in a lot of seven samples, then samples with QC Nos. 7 through 14 are subject to QC reanalysis. If samples 7 through 14 pass, the individual is again placed in Mode 2.

Results of the 2007 CSP-1 Quality Control Program are contained in [Appendix A](#).

2.3 FALL JUVENILE SURVEY

2.3.1 Field Methods

The 2007 FJS biweekly sampling program extended from RM 1 to 152 and covered 22 weeks from 2 July to 2 December ([Figure 2-3](#)). Samples were collected at night for the first 8 river runs from 2 July through 14 October, and during the day for last 3 river runs from 22 October through 2 December. These last river runs, which were conducted with a modified sampling design, were intended to examine Atlantic tomcod distribution. [Table 2-7](#) presents the distribution of the FJS sampling effort among the 13 river regions by stratum. Of the 2,130 samples scheduled for collection, 2,130 were actually collected, yielding 100 percent completion.

A 1.0-m² Tucker trawl and a 3.0-m beam trawl were used to collect YOY fish in the 2007 FJS. The Tucker trawl with 3.0-mm mesh was used to collect samples in the channel stratum, while the beam trawl ([Figure 2-8](#)) was used to sample the shoal and bottom strata. The latter gear was first used in this capacity in the 1985 FJS; prior to 1985, an epibenthic sled-mounted Tucker trawl was used. With the modified sampling design of the last 3 river runs from 22 October through 2 December, no channel samples or Tucker trawl samples were scheduled for collection. Only beam trawl samples in the shoal and bottom strata were taken during these river runs. Design specifications for FJS gear currently in use are listed in [Table 2-8](#).

Both gear types were towed against the prevailing current for approximately 5 minutes. For the Tucker trawl, vessel speed was adjusted as necessary to achieve and maintain a 45° wire angle; the resultant tow speed was recorded. The beam trawl was towed at a speed of approximately 1.5 m/second. Tow speed was established and maintained by use of an electronic flowmeter mounted along the side of the research vessel and equipped with an on-deck readout display. Tucker trawl samples taken in greater than 20 ft of river depth were remotely opened and closed at sampling depth. A calibrated digital flowmeter mounted in the center of the net mouth was used to calculate the volume of water filtered for each sample.

Calibrated water quality instruments were used to measure water temperature (°C), dissolved oxygen (mg/L), and specific conductance (microsiemen/cm at 25°C) at fixed river mile and strata stations in conjunction with field sampling. Sampling locations were the same as those used for the 2007 LRS sampling program ([Table 2-5](#)). Measurements of physical/chemical parameters were recorded from surface, mid-, and bottom water depths at channel stations and from surface and bottom water depths at shoal stations. During the 2007 FJS, of the 2,002

samples scheduled for collection, 1,999 were actually collected, yielding 99.9 percent completion.

Because of the difficulty in differentiating some species, especially YOY *Morone* (striped bass, white perch) and *Alosa* (alewife, blueback herring), samples collected during the first three sampling periods (River Runs 1 through 3) for the 2007 FJS program were preserved with 10 percent formalin at the time of collection and returned to the laboratory for analysis. Before preservation, samples were examined for fish determined to be yearling or older, based on length categorization; live fish were returned to the river after count data were determined.

Beginning with the fourth biweekly sampling period, samples were evaluated in the field; only fish required to fill length measurement and food habit quotas were returned to the laboratory. The quota was to be 20 specimens of a selected species from each river region per river run; because of the necessity of returning fish to the river alive, the first 20 specimens of a selected species were brought to the laboratory for length measurements. The Hyde Park through Albany regions were considered one region for the purpose of filling length measurement quotas during the entire FJS and during River Runs 4 through 10 of the BSS. Also for the BSS during River Runs 1 through 3, the Yonkers through West Point regions were considered as one region for the same purpose. In river regions where fewer than 10 samples were collected per survey, no more than 10 specimens of each selected species from an individual sample were used to fill the length measurement quota. This criterion was used in the following surveys for the specified river regions:

<u>Sampling Program</u>	<u>Region</u>
BSS	YK, IP, WP, CW, PK
FJS	WP, PK

In all other regions, when the sample schedule resulted in 10 or more samples per survey, no more than 5 specimens per species in a sample were used to fill the length measurement quotas. If more specimens of a species were collected than needed, the individuals used to fill the quotas were randomly selected.

All fish not returned to the laboratory were identified and enumerated into length classes as described in the following section. All Atlantic sturgeon, shortnose sturgeon, and striped bass were examined for external and internal magnetic tags. All sturgeon were measured to the nearest millimeter, weighed to the nearest gram, and, if alive, returned to the river or, if dead, frozen and saved for the NYSDEC. All striped bass with external streamer tags were measured and a scale sample was taken.

2.3.2 Laboratory Methods

Fish from the FJS in both the field and laboratory were identified and enumerated into the following length classes:

Length Class 1—Less than or equal to the YOY length limit ("Division 1"), which was determined by the field contractor on a weekly basis for each species.

Length Class 2—Greater than Division 1 and less than or equal to the yearling length limit ("Division 2"); set at 150 mm for most species, also determined weekly by the field contractor. From 1 January through 31 May, Division 2 represents the

upper length limit for yearling fish for all species. From 1 June through 31 December, Division 2 is assigned a static value of 150 mm total length for all species except alewife, American shad, blueback herring, striped bass, Atlantic tomcod, and white perch. For these species, Division 2 is maintained as a dynamic upper length limit for yearling fish throughout the year.

Length Class 3—Greater than Division 2 and less than or equal to 250 mm.

Length Class 4—Greater than 250 mm.

Twenty specimens of the following selected species collected in each river region per river run were measured for total length (nearest millimeter) in the laboratory (except for sturgeon species which were measured in the field):

- Alewife
- American shad
- Atlantic sturgeon
- Atlantic tomcod
- Bay anchovy
- Blueback herring
- Shortnose sturgeon
- Spottail shiner
- Striped bass
- Weakfish
- White catfish
- White perch.

2.4 BEACH SEINE SURVEY

2.4.1 Field Methods

The 2007 BSS utilized a 30.5-m (nominal 100 ft) total length beach seine to collect YOY fish in the shorezone of each region, except the Battery region. [Table 2-9](#) presents specifications for the beach seine. One end of the net was held on shore and the other end was towed perpendicularly away from the shore by boat. The seine was then hauled, clockwise if possible, in a semicircular path toward shore. The complete beach seine deployment swept an area of approximately 450 m² (TI 1981). All BSS samples were collected on a diurnal schedule during alternate weeks of the FJS.

The 2007 BSS biweekly sampling program was conducted from 11 June through 21 October ([Figure 2-3](#)). Ten of the 19 weeks in this time period were collection weeks with 100 beach seine samples per week scheduled for collection. Allocation of the total number of samples by river region collected for the 2007 BSS is presented in [Table 2-10](#). Of the 1,000 samples projected for collection in 2007, 1,000 were collected, yielding 100 percent completion.

Measurements of water temperature (°C), dissolved oxygen (mg/L), and specific conductance (microsiemen/cm at 25°C) were taken with each beach seine sample using *in-situ* water quality instrumentation. Physical/chemical measurements were taken 1 ft below the water surface and approximately 50 ft from the shoreline. During the 10 collection weeks of the 2007 BSS, all of the 1,000 scheduled water quality samples were collected.

YOY fishes collected during the first four beach seine river runs in 2007 were processed in the laboratory because of the difficulty in distinguishing species at the YOY life stage; adults were processed in the field. Beginning with River Run 5, all samples were field processed; 20 specimens of the selected species from each region per run were collected (as described in Section 2.3.1) for length determination in the laboratory. Samples maintained for laboratory analysis were preserved using 10 percent formalin. Fish from the BSS in both the field and

laboratory were identified and enumerated into length classes as described in Section 2.3.2. Any sturgeon collected during the BSS were measured to the nearest 1 mm and weighed to the nearest 1 g. Sturgeon that remained alive were returned to the Hudson River estuary; dead fish were frozen and held for NYSDEC. All sturgeon and striped bass were examined for external and internal magnetic tags. Striped bass with external tags were measured and a scale sample was taken.

2.4.2 Laboratory Methods

All fish returned to the laboratory were measured for total length to the nearest 1.0 mm. Laboratory analysis was conducted in the same manner as described for samples collected during the FJS.

2.5 ANALYTICAL METHODS

2.5.1 Physical/Chemical Parameters

To display the spatial and temporal patterns of temperature, salinity, and dissolved oxygen, a mean of each parameter for each sampling location and sampling week, weighted by stratum volume, was calculated. Equation 1 was used to compute these means for the standard physical/chemical stations sampled in conjunction with the LRS and FJS. Equation 2 was used for data collected in conjunction with the BSS. Salinity data were computed from conductivity data (microsieman/cm at 25°C) using Equation 3 (TI 1976). This equation differs from that used in some of the previous Year Class reports in that pressure data are not required. The maximum deviation between this equation and the previous equation is 0.1 percent (TI 1976).

$$W_{lw} = \sum_{k=1}^{n_{lw}} P_{kr} \left[\frac{1}{n_{klw}} \sum_{d=1}^{n_{dklw}} \left(\frac{1}{n_{dklw}} \sum_{i=1}^{n_{dklw}} W_{idklw} \right) \right] \quad (1)$$

where

W_{lw} = Weighted mean of a physical/chemical parameter at sampling location l during week w of the LRS and FJS.

W_{idklw} = Physical/chemical measurement for location i at depth d in stratum k at sampling location l during week w.

P_{kr} = Proportion of the river volume of region r containing sampling location l that is contained by stratum k (bottom and channel strata were combined for water quality analysis).

n_{dklw} = Number of sites at which measurements were made at depth d in stratum k at sampling location l during week w.

n_{klw} = Number of depths sampled in stratum k at sampling location l during week w.

n_{lw} = Number of strata sampled at sampling location l during week w.

$$W_{rw} = 1/n_{rw} \sum_{i=1}^{n_{rw}} W_{irw} \quad (2)$$

where

W_{rw} = Mean of a physical/chemical parameter at river mile r during biweek w of the BSS.

W_{irw} = Physical/chemical measurement for location i at river mile r during biweek w.

n_{rw} = Number of physical/chemical measurements taken at river mile r during biweek w.

$$\text{Salinity} = -100 \ln (1 - C_{25}/178.5) \quad (3)$$

where

C_{25} = Conductivity (millisiemen/cm at 25°C).

2.5.2 Spatiotemporal Distribution Indices

2.5.2.1 Density and Catch-Per-Unit-Effort Estimates

Estimates of population densities were made for the LRS and FJS. For the LRS and FJS, the number of fish (by species and life stage) captured in individual samples was first converted to density (no./m³ of water sampled) using Equation 4. The mean density and the standard error of the mean were calculated for each stratum, region, and sampling week using Equations 5 and 6. To obtain a mean density and standard error for each region during each sampling week, the stratum densities were weighted by the proportion of the regional river volume found in the stratum (Equations 7 and 8). If a stratum was not sampled, its volume was added to the volume of an adjacent stratum that was sampled. Stratum volume adjustments were made according to the following rules:

<u>If This Stratum Was Not Sampled</u>	<u>Its Volume Was Added To This Stratum</u>
Shoal	Bottom
Bottom	Channel
Channel	Bottom

$$D_{ikrw} = \frac{C_{ikrw}}{V_{ikrw}} \quad (4)$$

where

- D_{ikrw} = Density (for a life stage and species)/m³ for sample i in stratum k in region r during week w.
 C_{ikrw} = Number of fish caught in sample i in stratum k in region r during week w.
 V_{ikrw} = Volume sampled (m³) by sample i in stratum k in region r during week w.

$$D_{krw} = \frac{1}{n_{krw}} \sum_{i=1}^{n_{krw}} D_{ikrw} \quad (5)$$

where

- D_{krw} = Average density in stratum k in region r during week w.
 D_{ikrw} = Sample density calculated in Equation 4.
 n_{krw} = Number of samples taken in stratum k in region r during week w.

$$SE(D_{krw}) = \sqrt{\frac{\sum_{i=1}^{n_{krw}} (D_{ikrw} - D_{krw})^2}{(n_{krw})(n_{krw} - 1)}} \quad (6)$$

where

- $SE(D_{krw})$ = Standard error of the average density in stratum k in region r during week w.
 D_{ikrw} = Sample density calculated in Equation 4.
 D_{krw} = Average stratum density calculated in Equation 5.

$$D_{rw} = \sum_{k=1}^{n_{rw}} (D_{krw})(P_k) \quad (7)$$

where

- D_{rw} = Average density in region r during week w.
 D_{krw} = Average stratum density calculated in Equation 5.

P_k^* = Proportion of the regional river volume found in stratum k (Table 2-11).

n_{rw} = Number of strata sampled in region r during week w.

$$SE(D_{rw}) = \sqrt{\sum_{k=1}^{n_{rw}} [SE(D_{krw})^2 (P_k)^2]} \quad (8)$$

where

$SE(D_{rw})$ = Standard error of average density in region r during week w.

$SE(D_{krw})$ = Standard error of the average stratum density calculated in Equation 6.

Catches from the BSS were reported as number caught per seine haul (catch-per-unit-effort [CPUE]) by life stage and species. The average CPUE for a region and its standard error were calculated using Equations 9 and 10:

$$C_{rw} = \frac{1}{n_{rw}} \sum_{i=1}^{n_{rw}} C_{irw} \quad (9)$$

where

C_{rw} = Average CPUE in region r during week w.

C_{irw} = CPUE for sample i in region r during week w.

n_{rw} = Number of samples taken in region r during week w.

$$SE(C_{rw}) = \frac{\sum_{i=1}^{n_{rw}} (C_{irw} - C_{rw})^2}{n_{rw}(n_{rw} - 1)} \quad (10)$$

where

$SE(C_{rw})$ = Standard error of average CPUE in region r during week w.

C_{rw} = Average regional CPUE calculated in Equation 9.

* When a stratum is missing, P_k for the sampled stratum is equal to the sum of the P_k for the sampled stratum and the P_k for the unsampled stratum.

2.5.2.2 Standing Crop Estimates

An index of standing crop (the number of fish in an area at a particular time) was estimated by life stage and species for each of the three surveys. Standing crop indices and the associated standard errors were calculated for each stratum in a region by taking the product of the average stratum density (or the standard error) and the volume of water contained in that stratum (Equations 11 and 12 for the LRS and FJS) (Table 2-11). The regional standing crop index was then estimated as the sum of the stratum index values (Equations 13 and 14). Similarly, an estimate of the standing crop index for the Hudson River estuary for each week was calculated by summing the standing crops for the 13 (12 for the BSS) river regions (Equations 15 and 16). This value is an index rather than an absolute standing crop value because no adjustment was applied for collection efficiency.

$$SC_{krw} = (V_{kr})(D_{krw}) \quad (11)$$

where

SC_{krw} = Standing crop index for stratum k in region r during week w.

V_{kr} = River volume contained by stratum k in region r.

D_{krw} = Average stratum density calculated in Equation 5.

$$SE(SC_{krw}) = (V_{kr})[SE(D_{krw})] \quad (12)$$

where

$SE(SC_{krw})$ = Standard error of the standing crop index for stratum k in region r during week w.

$SE(D_{krw})$ = Standard error of average stratum density calculated in Equation 6.

$$SC_{rw}^{**} = \sum_{k=1}^3 SC_{krw} \quad (13)$$

where

SC_{rw} = Standing crop index for region r during week w.

SC_{krw} = Stratum standing crop index calculated in Equation 11.

** Volumes of unsampled strata were added to the volumes of an adjacent stratum according to the rules for stratum volumes in Section 2.5.2.

$$SE(SC)_{rw}^{**} = \sqrt{\sum_{k=1}^3 [SE(SC_{krw})]^2} \quad (14)$$

where

$SE(SC_{rw})$ = Standard error of standing crop index for region r during week w.

$SE(SC_{krw})$ = Standard error of stratum standing crop index calculated in Equation 12.

$$SC_w = \sum_{r=1}^{12} SC_{rw} \quad (15)$$

where

SC_w = Standing crop index for week w. For the LRS and FJS, regional standing crop indices include the Battery Region (r=0).

SC_{rw} = Regional standing crop index calculated in Equations 13 or 17.

$$SE(SC_w) = \sqrt{\sum_{r=1}^{12} [SE(SC_{rw})]^2} \quad (16)$$

where

$SE(SC_w)$ = Standard error of standing crop index for week w. For the LRS and FJS, regional standing crop indices include the Battery Region (r=0).

$SE(SC_{rw})$ = Standard error of regional standing crop index calculated in Equations 14 or 18.

An index of regional standing crop (and standard error) for the BSS was obtained by multiplying CPUE and the surface area of the shorezone and dividing by the empirically derived estimate of the area sampled by the 30.5-m beach seine (Equations 17 and 18). The weekly index of standing crop for the shorezone was calculated as the sum of the 12 regional standing crops (Equations 15 and 16).

$$SC_{rw} = (C_{rw} A_r) / A \quad (17)$$

where

- SC_{rw} = Standing crop index for the shorezone in region r during week w .
 C_{rw} = Average regional CPUE calculated in Equation 9.
 A_r = Surface area (m^2) of the shorezone in region r .
 A = Surface area (m^2) sampled by the beach seine ($450 m^2$) (TI 1981).

$$SE(SC_{rw}) = \frac{[SE(C_{rw})] (A_r)}{A} \quad (18)$$

where

$SE(SC_{rw})$ = Standard error of standing crop index for the shorezone in region r during week w .

$SE(C_{rw})$ = Standard error of average regional CPUE calculated in Equation 10.

2.5.2.3 Temporal and Geographic Distribution Indices

Distribution indices were computed to facilitate presentation of changes in distribution of selected species and life stages through time and space. To allow comparisons of 2007 data with historical data, only data from samples collected from Weeks 18 to 26 (where Week 1 begins with the first Monday in January) were used for LRS (except for bay anchovy which used Weeks 18-40); data from Weeks 33 to 40 were used for the FJS and BSS. In all cases, data were used only when Regions 1-12 were sampled (except for bay anchovy which included Region 0).

The LRS was used for calculating the temporal and geographic indices for early life stages of striped bass, white perch, Atlantic tomcod, bay anchovy, American shad, *Alosa* spp., and rainbow smelt. The FJS was used to calculate geographical distribution indices for hogchoker, white catfish, and weakfish. The BSS was used to calculate geographical distribution indices for striped bass, white perch, bay anchovy, American shad, alewife, blueback herring, gizzard shad, spottail shiner, and bluefish.

The periods used for the LRS and BSS spanned 1974-2007, whereas the time period for the FJS extended from 1979 (when the FJS sampled the river from RM 12 to RM 152) through 2007. Temporal and geographic indices for bay anchovy from the LRS used the period from 1988 to 2007, when the sampling design included the Battery region.

A geographic index that collapses data over weeks was calculated for LRS, FJS, and BSS data as the relative standing crop in each region. This geographic index was calculated as follows:

$$G_{ry} = \frac{\sum_{w=1}^{n_y} SC_{rwy}}{\sum_{r=1}^{12} \sum_{y=1}^{n_y} SC_{rwy}} \quad (19)$$

$$r=1 \quad w=1$$

where

G_{ry} = Geographic index for region r in year y .

SC_{rwy} = Regional standing crop index for region r in week w in year y calculated in Equations 13 or 17.

n_y = Number of weeks sampled in year y .

A temporal index that collapses data for the entire Hudson River estuary was computed for early life stages from LRS standing crop indices (Equation 20):

$$T_{wy} = \frac{SC_{wy}}{\sum_{w=1}^{n_y} SC_{wy}} \quad (20)$$

where

T_{wy} = Temporal index for week w in year y .

SC_{wy} = Weekly standing crop index in year y calculated in Equation 15.

n_y = Number of weeks sampled in year y .

[Link to Chapter 3](#)

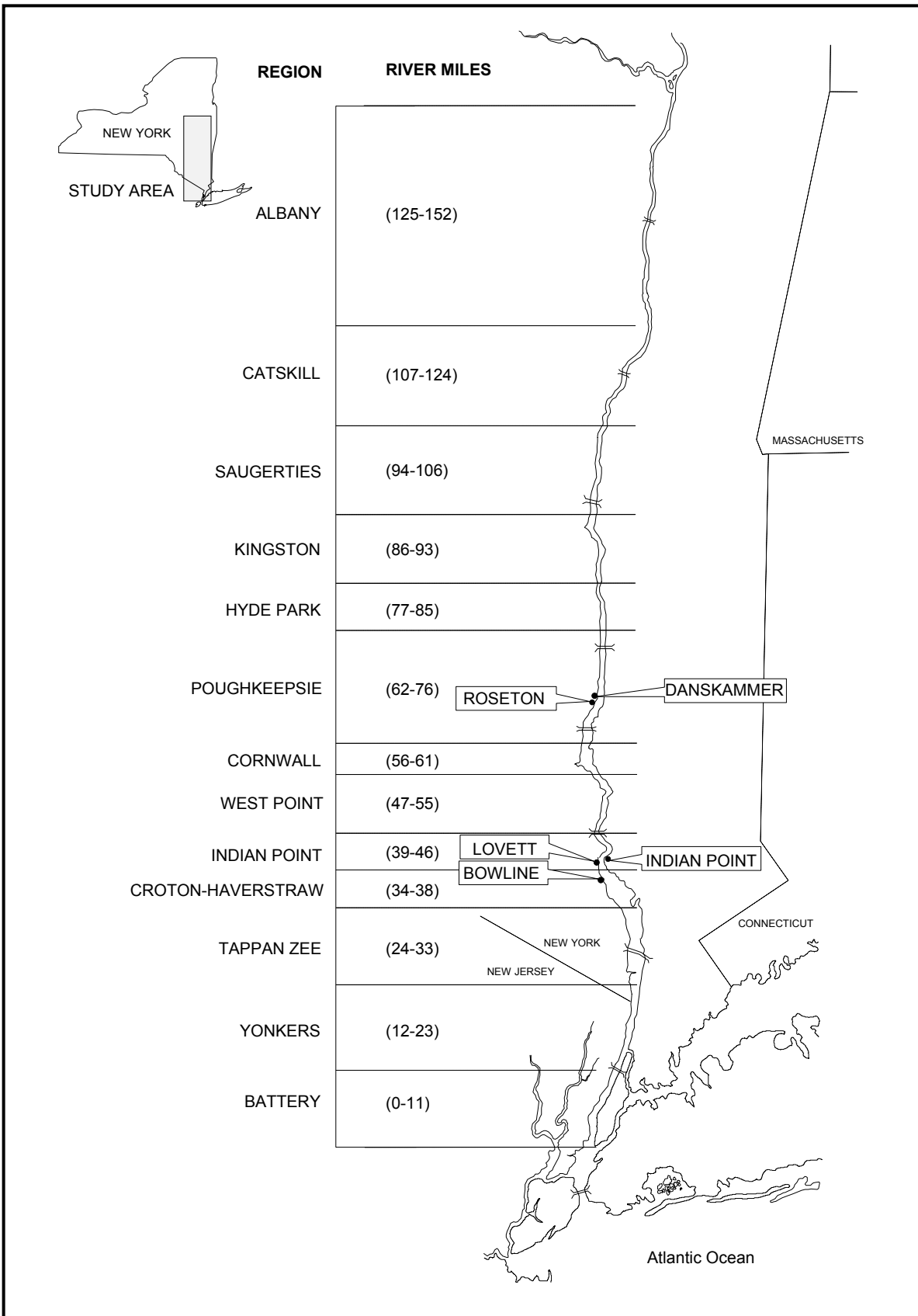


Figure 2-1. Location of 13 geographic regions (with river mile boundaries) sampled during the 2007 biological monitoring program in the Hudson River estuary.

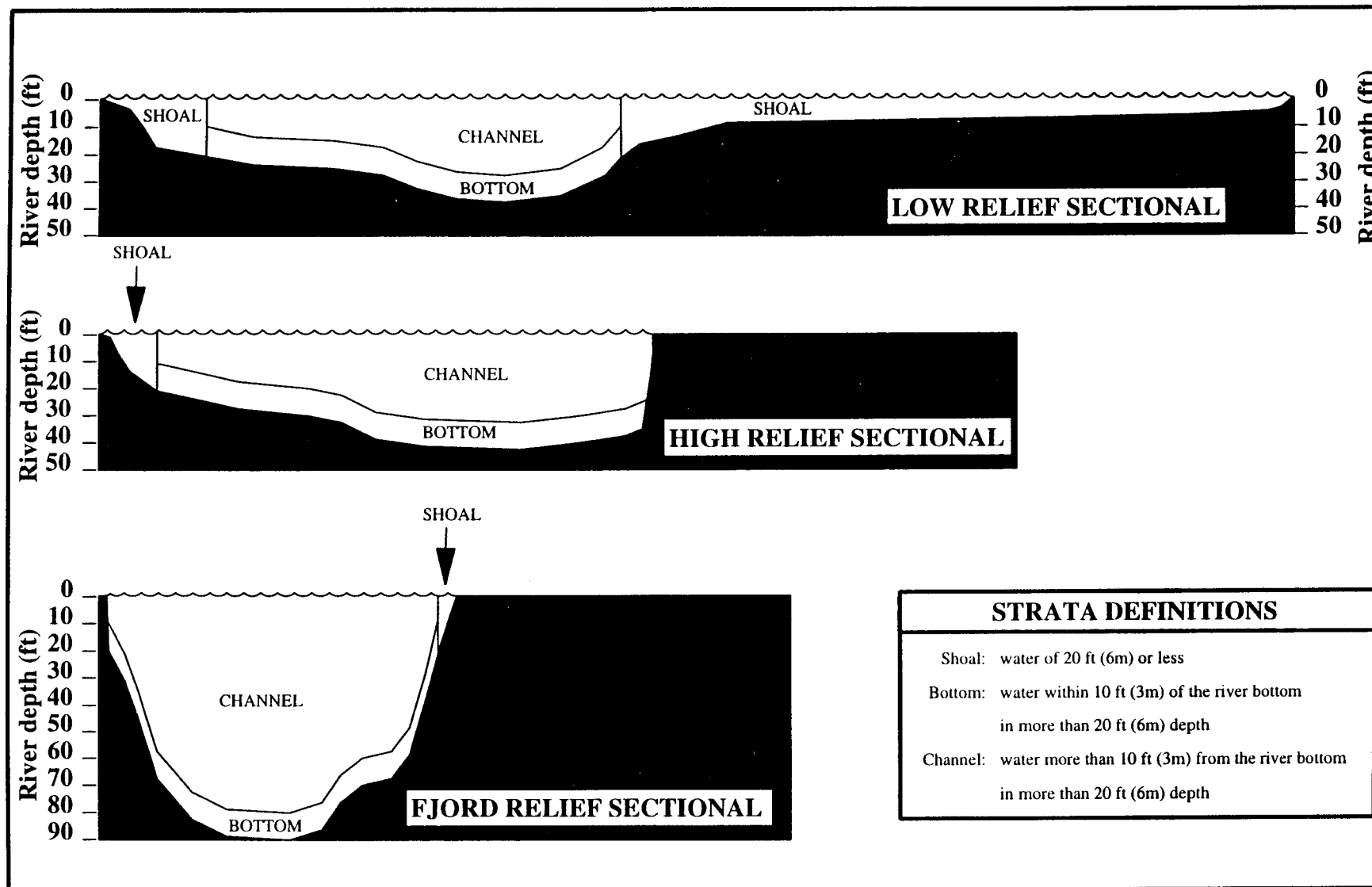


Figure 2-2. Cross sections of the Hudson River estuary showing locations and typical proportional relationships of the shoal, bottom, and channel strata.

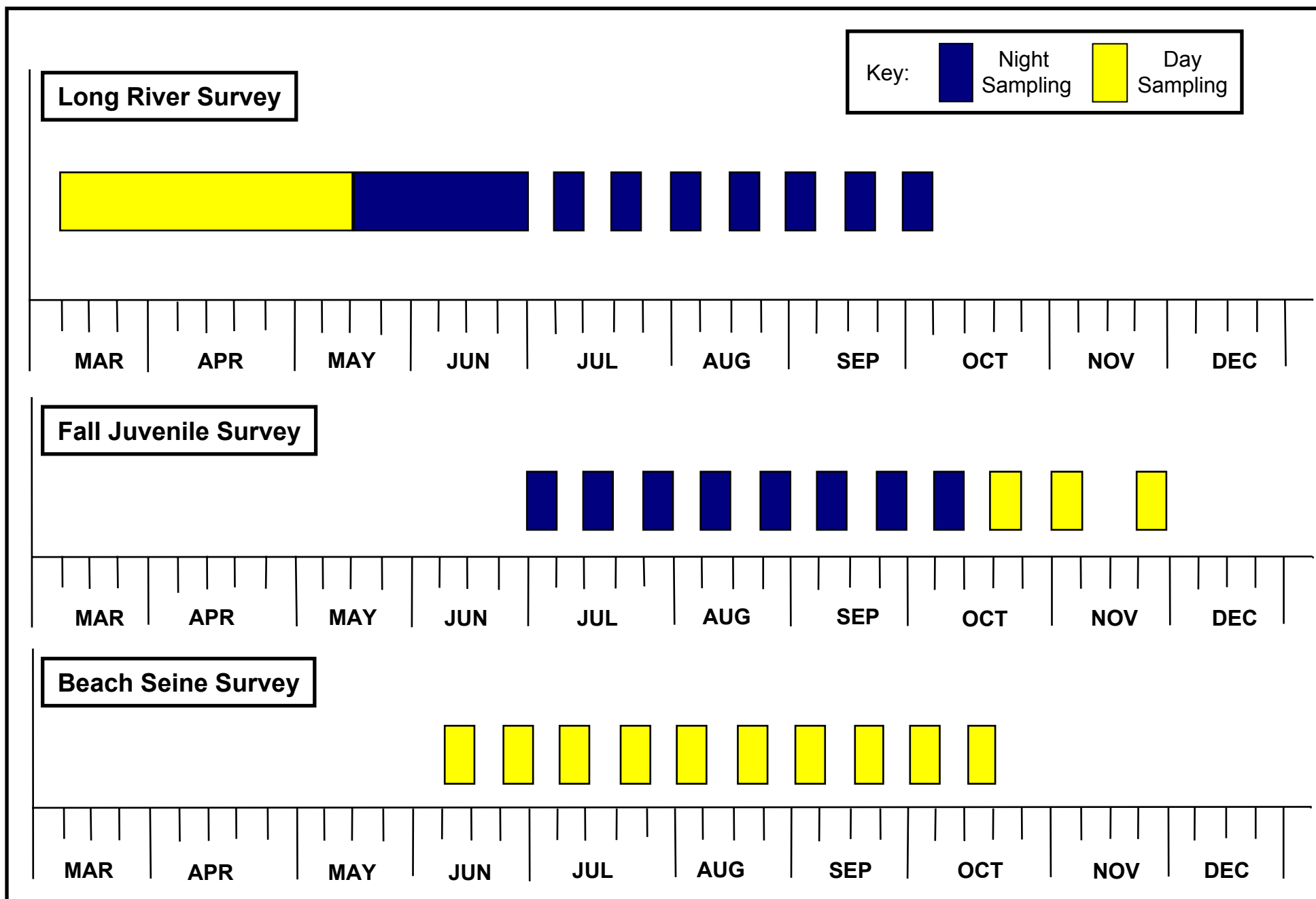


Figure 2-3. Completed sampling schedule for 2007.

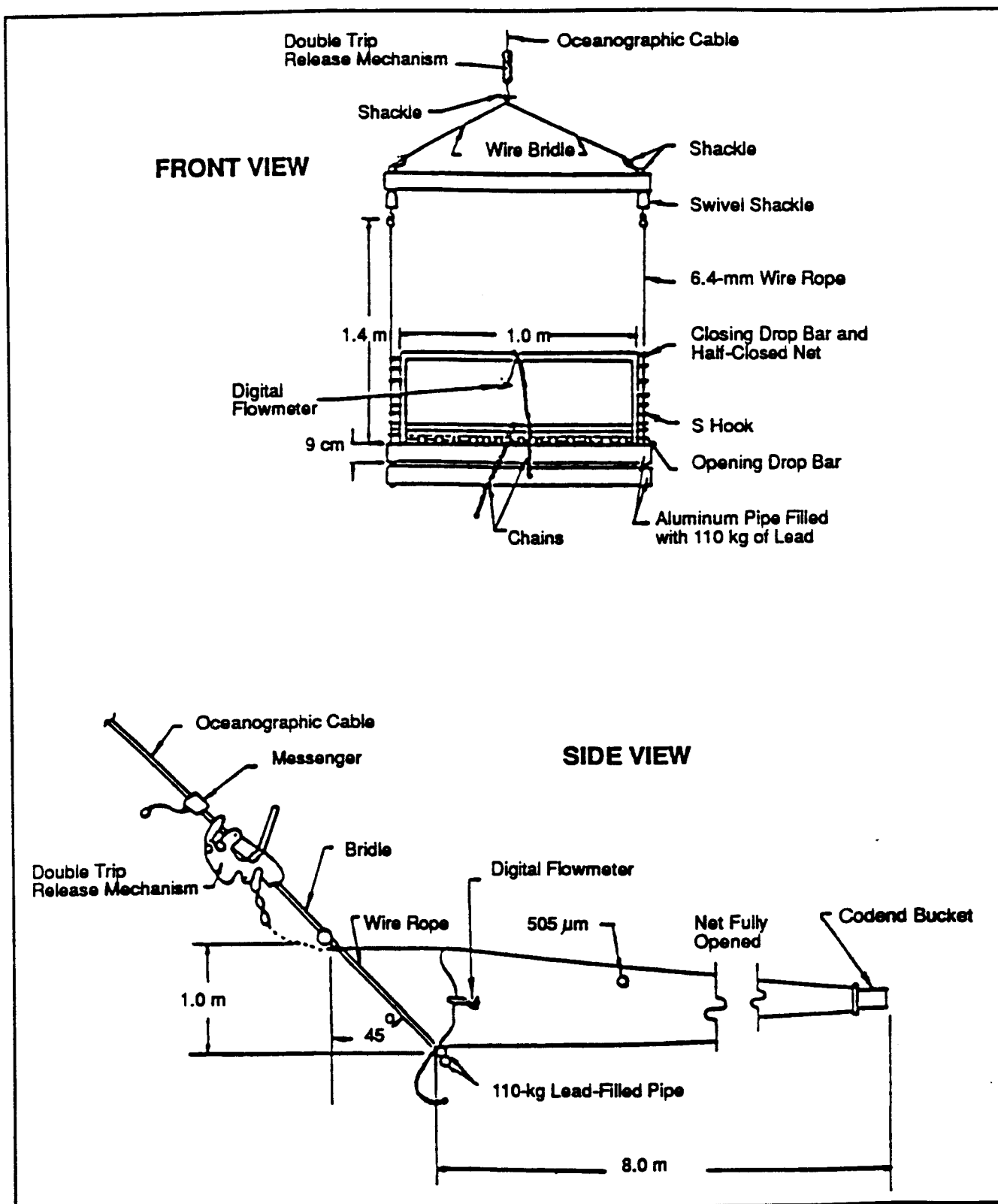


Figure 2-4. Design and dimensions of 1.0-m² Tucker trawl.

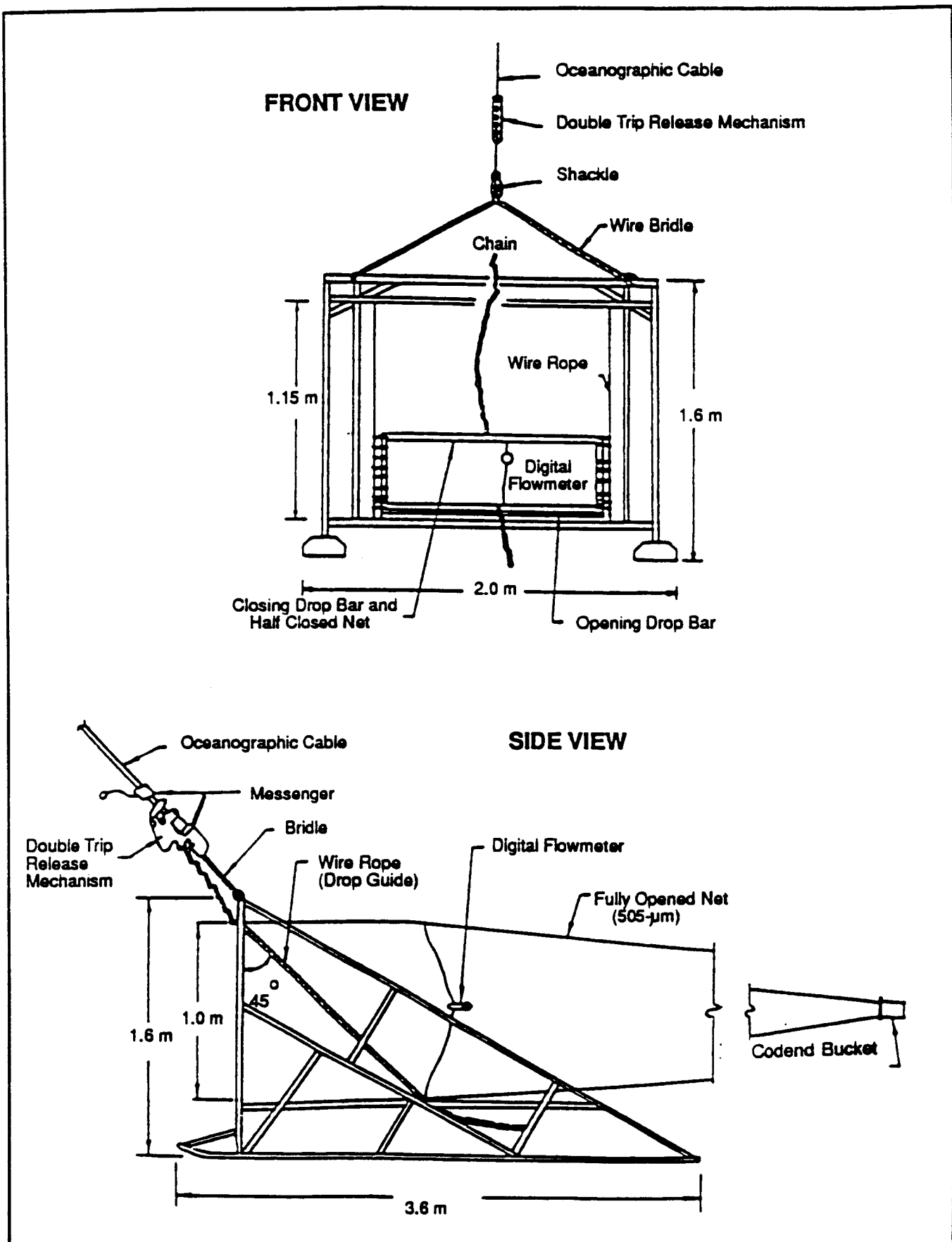


Figure 2-5. Design and dimensions of 1.0-m² Tucker trawl mounted on an epibenthic sled.

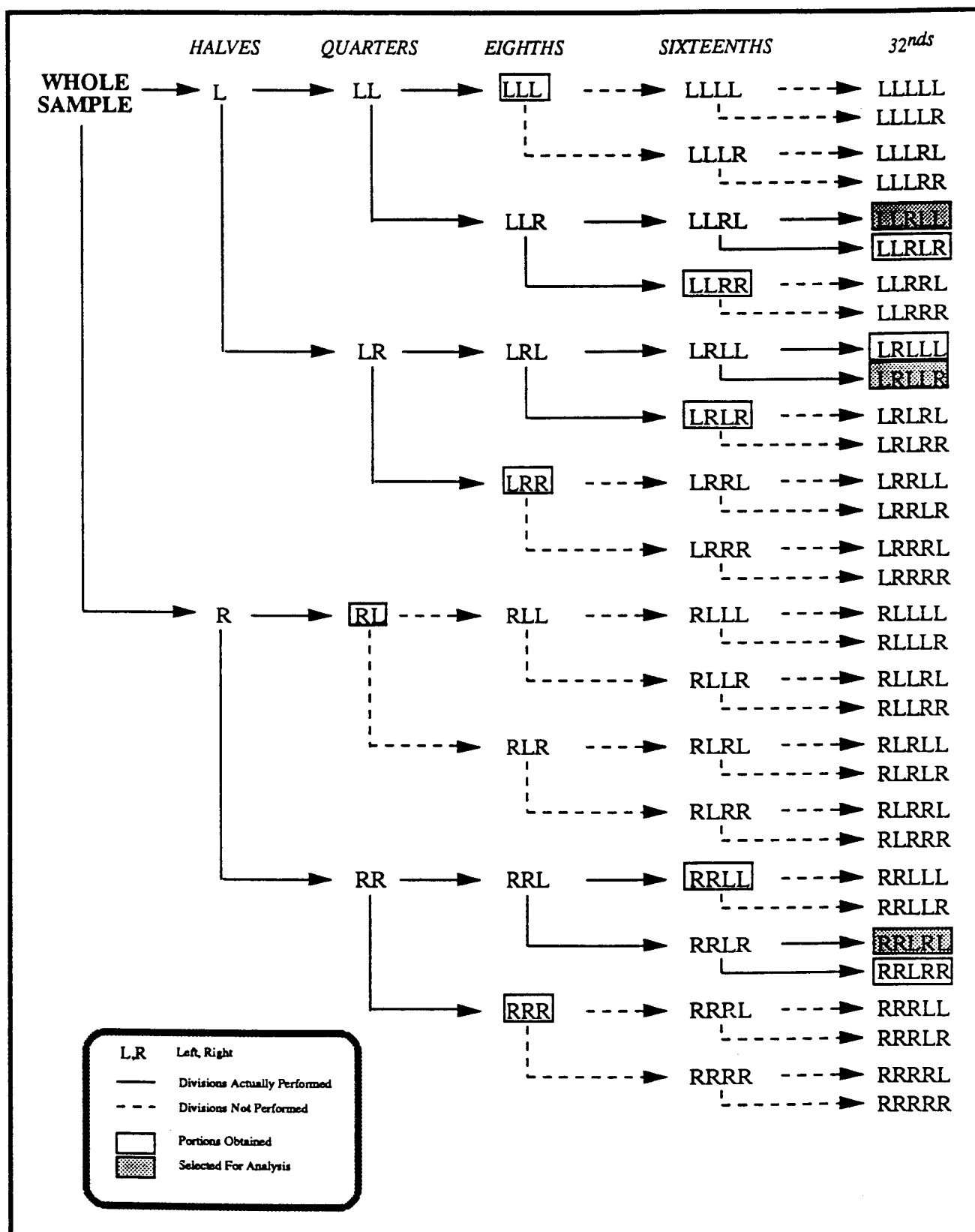


Figure 2-6. Conceptual diagram of the splitting process.

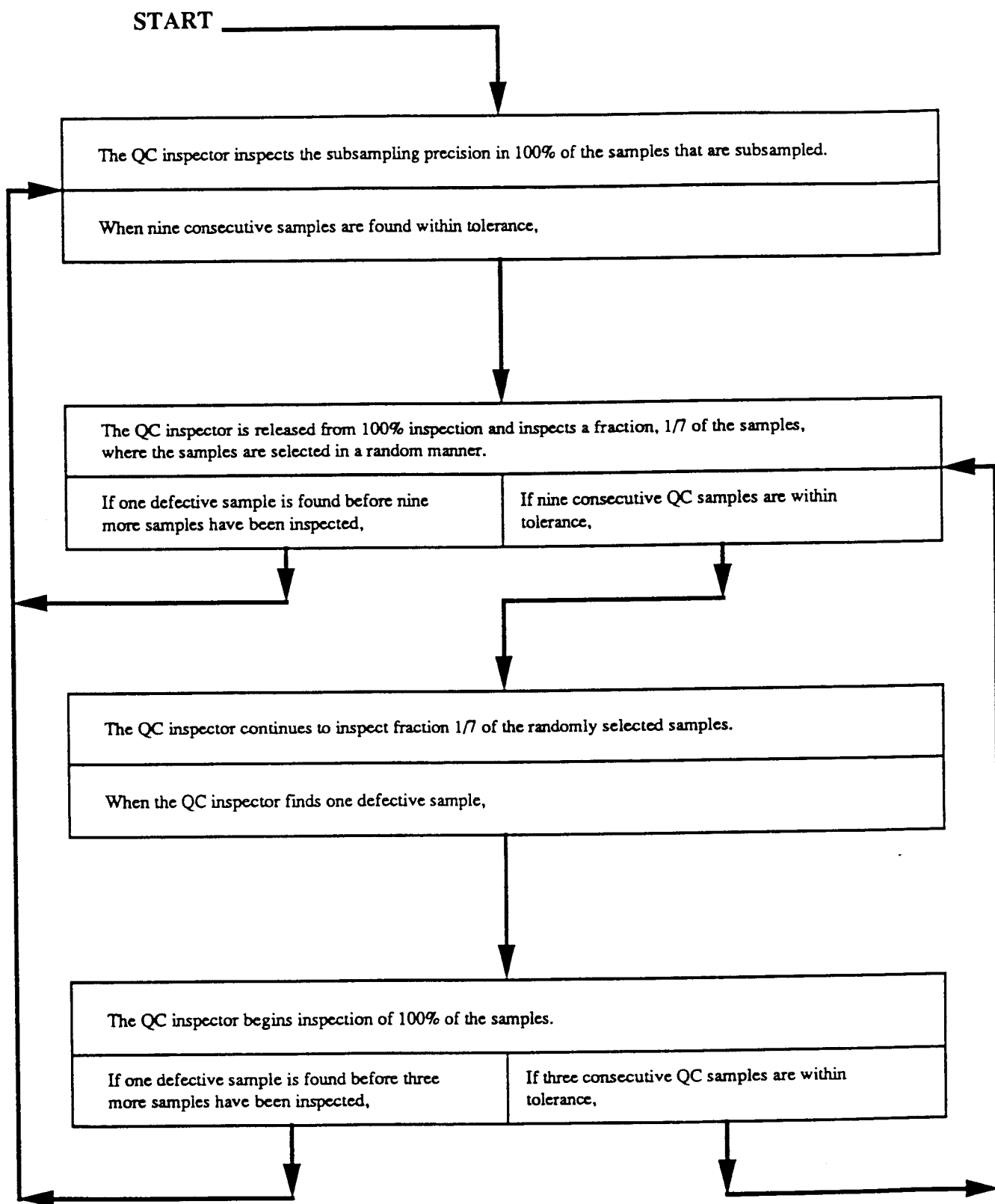


Figure 2-7. Inspection plan for evaluation of splitting precision.

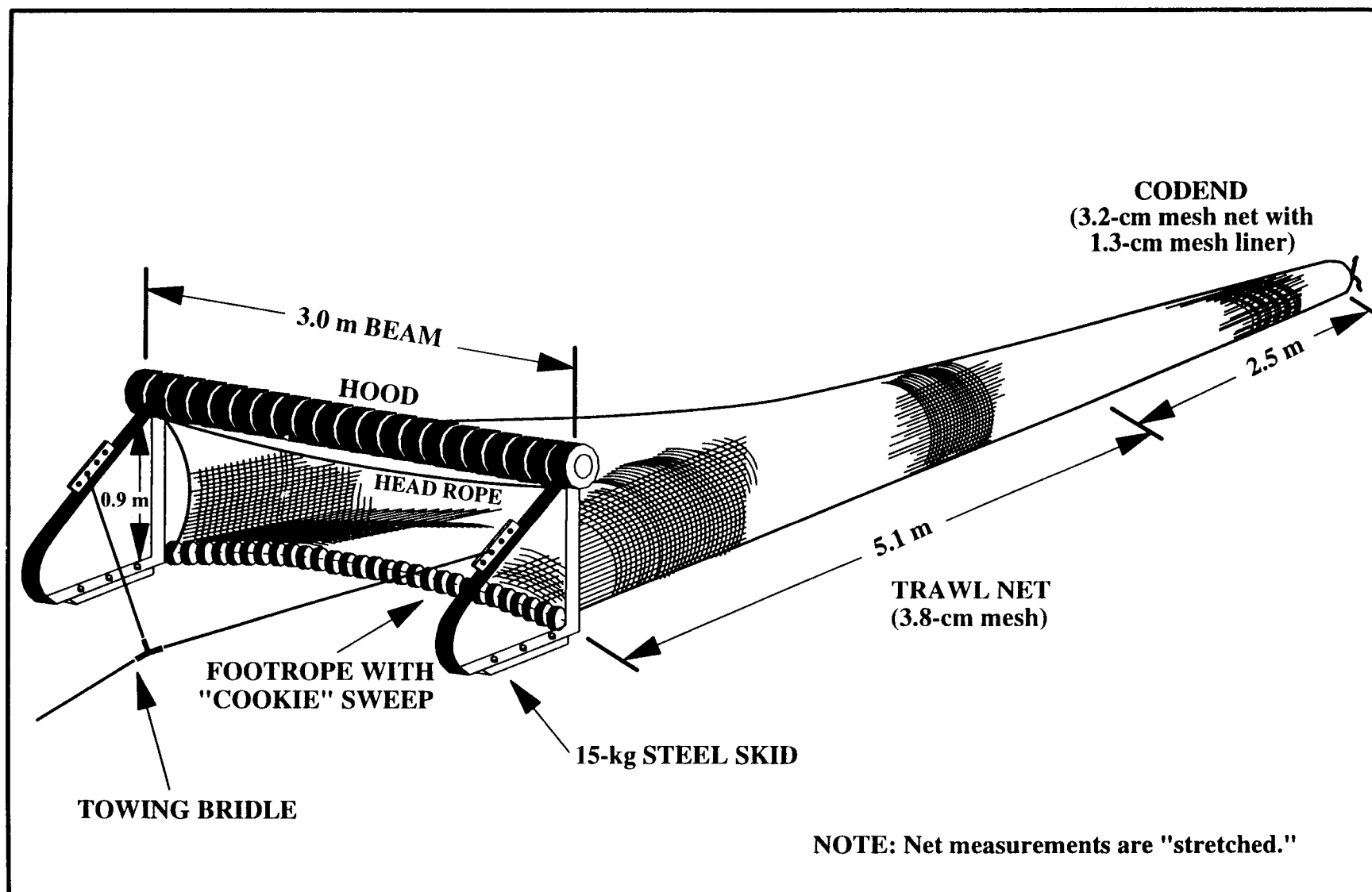


Figure 2-8. Design and dimensions of the 3.0-m beam trawl.

Table 2-1 Strata Sampled within the 13 Geographic Regions of the Hudson River Estuary During 2007

<u>Region</u>	<u>Abbreviation</u>	<u>River Miles</u>	<u>River Kilometers</u>	<u>2007 Surveys</u>			
				<u>Shore</u>	<u>Shoal</u>	<u>Channel</u>	<u>Bottom</u>
Battery	BT	1-11	1-19	--	--	X	X
Yonkers	YK	12-23	19-39	X	X	X	X
Tappan Zee	TZ	24-33	39-55	X	X	X	X
Croton-Haverstraw	CH	34-38	55-63	X	X	X	X
Indian Point	IP	39-46	63-76	X	X	X	X
West Point	WP	47-55	76-90	X	--	X	X
Cornwall	CW	56-61	90-100	X	X	X	X
Poughkeepsie	PK	62-76	100-124	X	--	X	X
Hyde Park	HP	77-85	124-138	X	--	X	X
Kingston	KG	86-93	138-151	X	--	X	X
Saugerties	SG	94-106	151-172	X	--	X	X
Catskill	CS	107-124	172-201	X	--	X	X
Albany	AL	125-152	201-246	X	--	X	X

NOTE: Dashes (--) indicate no sampling scheduled.

Table 2-2 Summary of 2007 Hudson River Surveys

<u>Program Phase</u>	<u>Sampling Schedule</u>		<u>Number of River Runs</u>	<u>Sampling Frequency</u>	<u>Strata Sampled</u>	<u>Sample Number Collection</u>		<u>Lab Analysis</u>	<u>Sampling Gear</u>
	<u>Start Week</u>	<u>End Week</u>				<u>Projected</u>	<u>Actual</u>		
Longitudinal River Ichthyoplankton Survey	12 MAR	1 OCT	23	Weekly/ Biweekly	Shoal	588	588	556	1.0-m ² net on epibenthic sled, or 1.0-m ² Tucker trawl
					Channel	1,545	1,545	956	1.0-m ² Tucker trawl
					Bottom	1,389	1,360	925	1.0-m ² net on epibenthic sled
Fall Juvenile Survey	2 JUL	26 NOV	11	Biweekly	Shoal	427	427		3.0-m beam trawl, or 1.0-m ² Tucker trawl
					Channel	648	648		1.0-m ² Tucker trawl
					Bottom	1,055	1,055		3.0-m beam trawl
Beach Seine Survey	11 JUN	15 OCT	10	Biweekly	Shore	1,000	1,000		30.5-m beach seine

Table 2-3 Summary of 2007 Sample Collection Information by River Region and Stratum for the Longitudinal River Ichthyoplankton Survey

Region	3-Week Period from 12 MAR to 1 APR					3-Week Period from 2 APR to 22 APR					3-Week Period from 23 APR to 13 MAY				
	Shoal		Bottom		Channel	Shoal		Bottom		Channel	Shoal		Bottom		Channel
	Sled	Trawl	Sled	Trawl		Sled	Trawl	Sled	Trawl		Sled	Trawl	Sled	Trawl	
Battery	--	--	15	15	30	--	--	24	18	42	--	--	18	18	36
Yonkers	6	6	18	18	48	6	6	21	15	48	6	6	21	15	48
Tappan Zee	9	6	18	18	51	18	12	12	12	54	18	12	12	12	54
Croton-Haverstraw	9	6	18	18	51	12	9	12	12	45	12	9	12	12	45
Indian Point	6	6	18	17	47	6	6	12	12	36	6	6	18	30	60
West Point	--	--	15	16	31	--	--	15	15	30	--	--	18	45	63
Cornwall	6	6	12	12	36	9	6	9	9	33	9	6	24	15	54
Poughkeepsie	--	--	--	--	--	--	--	9	9	18	--	--	30	30	60
Hyde Park	--	--	--	--	--	--	--	9	21	30	--	--	27	33	60
Kingston	--	--	--	--	--	--	--	24	18	42	--	--	18	21	39
Saugerties	--	--	--	--	--	--	--	24	18	42	--	--	9	15	24
Catskill	--	--	--	--	--	--	--	38	21	59	--	--	9	15	24
Albany	--	--	--	--	--	--	--	41	30	71	--	--	15	15	30
Total	36	30	114	114	294	51	39	250	210	550	51	39	231	276	597

Region	3-Week Period from 14 MAY to 3 JUN					4-Week Period from 4 JUN to 1 JUL					13-Week Period from 9 JUL to 7 OCT				
	Shoal		Bottom		Channel	Shoal		Bottom		Channel	Shoal		Bottom		Channel
	Sled	Trawl	Sled	Trawl		Sled	Trawl	Sled	Trawl		Sled	Trawl	Sled	Trawl	
Battery	--	--	24	12	36	--	--	24	16	40	--	--	42	42	84
Yonkers	6	3	18	12	39	8	8	24	28	68	14	14	42	28	98
Tappan Zee	12	6	12	12	42	8	8	20	20	56	21	21	28	28	98
Croton-Haverstraw	12	6	12	12	42	12	8	24	24	68	21	21	28	28	98
Indian Point	6	6	18	36	66	12	8	20	64	104	21	21	28	28	98
West Point	--	--	21	45	66	--	--	32	96	128	--	--	28	28	56
Cornwall	9	6	24	15	54	8	8	48	48	112	14	14	21	21	70
Poughkeepsie	--	--	36	54	90	--	--	28	60	88	--	--	21	21	42
Hyde Park	--	--	21	30	51	--	--	20	36	56	--	--	--	--	--
Kingston	--	--	12	18	30	--	--	16	24	40	--	--	--	--	--
Saugerties	--	--	15	9	24	--	--	16	8	24	--	--	--	--	--
Catskill	--	--	9	9	18	--	--	12	12	24	--	--	--	--	--
Albany	--	--	9	9	18	--	--	12	12	24	--	--	--	--	--
Total	45	27	231	273	576	48	40	296	448	832	91	91	238	224	644

NOTE: Dashes (--) indicate no sampling scheduled.

Table 2-4 Specifications of Sampling Gear Used During the 2007 Longitudinal River Ichthyoplankton Survey

1.0-m ² Tucker Trawl	
Length	8.0 m
Mouth (width)	1.0 m
Mouth (height)	1.4 m
Mesh size	500 μm
Net material	Nytex (monofilament nylon)
Collection cup	
Length	30 cm
Length with net-retaining ring	37 cm
Mesh size	500 μm
Net material	Nytex (monofilament nylon)
1.0-m ² Net Mounted on Epibenthic Sled	
Length	8.0 m
Mouth (width)	1.0 m
Mouth (height)	1.4 m
Mesh size	500 μm
Net material	Nytex (monofilament nylon)
Collection cup	
Length	30 cm
Length with net-retaining ring	37 cm
Mesh size	500 μm
Net material	Nytex (monofilament nylon)

Table 2-5 Water Quality Sampling Locations During the 2007 Longitudinal River Ichthyoplankton and Fall Juvenile Surveys

River Region	Scheduled Sampling Locations (RM)		Number of Water Quality Samples Scheduled Per Region Per River Run			
	Shoals ¹	Channel	LRS River Runs 1-3	LRS River Runs 4-16	LRS River Runs 17-23	FJS River Runs 1-11
Battery	--	1, 3, 6, 9	12	12	12	12
Yonkers	19	12, 14, 17, 19, 22	19	19	19	19
Tappan Zee	29	25, 27, 29, 32	16	16	16	16
Croton-Haverstraw	36	35, 36, 37, 38	16	16	16	16
Indian Point	43	40, 42, 43, 46	16	16	16	16
West Point	--	49, 51, 53, 55	12	12	12	12
Cornwall	59	56, 57, 59, 61	16	16	16	16
Poughkeepsie	--	63, 67, 71, 75	--	12	12	12
Hyde Park	--	78, 80, 82, 84	--	12	--	12
Kingston	--	87, 89, 91, 93	--	12	--	12
Saugerties	--	96, 99, 102, 105	--	12	--	12
Catskill	--	109, 114, 118, 122	--	12	--	12
Albany	--	126, 131, 135, 138, 142	--	15	--	15
Total per River Run			107	182	119	182

NOTE: Dashes (--) indicate no sampling scheduled.

¹ Sample collected from east and west shoals at designated river mile.

Table 2-6 Summary of 2007 Sample Analysis Information by River Region and Stratum for the Longitudinal River Ichthyoplankton Survey

Region	3-Week Period from 12 MAR to 1 APR					3-Week Period from 2 APR to 22 APR					3-Week Period from 23 APR to 13 MAY				
	Shoal		Bottom	Channel		Shoal		Bottom	Channel		Shoal		Bottom	Channel	
	Sled	Trawl	Sled	Trawl	Total	Sled	Trawl	Sled	Trawl	Total	Sled	Trawl	Sled	Trawl	Total
Battery	--	--	15	15	30	--	--	12	9	21	--	--	9	9	18
Yonkers	6	6	9	9	30	6	6	12	15	39	6	6	12	15	39
Tappan Zee	9	6	9	9	33	9	12	12	12	45	9	12	12	12	45
Croton-Haverstraw	9	6	9	9	33	12	9	12	12	45	12	9	12	12	45
Indian Point	6	6	9	8	29	6	6	12	12	36	6	6	9	15	36
West Point	--	--	15	15	30	--	--	15	15	30	--	--	9	9	18
Cornwall	6	6	12	12	36	9	6	9	9	33	9	6	12	15	42
Poughkeepsie	--	--	--	--	--	--	--	9	9	18	--	--	15	15	30
Hyde Park	--	--	--	--	--	--	--	9	12	21	--	--	15	18	33
Kingston	--	--	--	--	--	--	--	12	9	21	--	--	9	12	21
Saugerties	--	--	--	--	--	--	--	12	9	21	--	--	9	15	24
Catskill	--	--	--	--	--	--	--	9	12	21	--	--	9	15	24
Albany	--	--	--	--	--	--	--	8	15	23	--	--	15	15	30
Total	36	30	78	77	221	42	39	143	150	374	42	39	147	177	405

Region	3-Week Period from 14 MAY to 3 JUN					4-Week Period from 4 JUN to 1 JUL					13-Week Period from 9 JUL to 7 OCT				
	Shoal		Bottom	Channel		Shoal		Bottom	Channel		Shoal		Bottom	Channel	
	Sled	Trawl	Sled	Trawl	Total	Sled	Trawl	Sled	Trawl	Total	Sled	Trawl	Sled	Trawl	Total
Battery	--	--	12	12	24	--	--	12	16	28	--	--	21	21	42
Yonkers	6	3	9	12	30	8	8	12	16	44	14	14	21	28	77
Tappan Zee	12	6	12	12	42	8	8	20	20	56	14	21	28	28	91
Croton-Haverstraw	12	6	12	12	42	12	8	12	12	44	21	21	28	28	98
Indian Point	6	6	9	18	39	12	8	20	12	52	14	21	28	28	91
West Point	--	--	12	9	21	--	--	16	20	36	--	--	28	28	56
Cornwall	9	6	12	15	42	8	8	24	24	64	14	14	21	21	70
Poughkeepsie	--	--	18	12	30	--	--	16	12	28	--	--	21	21	42
Hyde Park	--	--	12	15	27	--	--	20	20	40	--	--	--	--	--
Kingston	--	--	12	9	21	--	--	16	12	28	--	--	--	--	--
Saugerties	--	--	15	9	24	--	--	16	8	24	--	--	--	--	--
Catskill	--	--	9	9	18	--	--	12	12	24	--	--	--	--	--
Albany	--	--	9	9	18	--	--	12	12	24	--	--	--	--	--
Total	45	27	153	153	378	48	40	208	196	492	77	91	196	203	567

NOTE: Dashes (--) indicate no sampling scheduled.

Table 2-7 Summary of 2007 Sample Collection by River Region and Stratum for the Fall Juvenile Survey

Region	15-Week Period from 2 JUL to 14 OCT					6-Week Period from 22 OCT to 2 DEC				
	Shoal		Bottom	Channel	Total	Shoal		Bottom	Channel	Total
	Beam	Tucker	Beam	Tucker		Beam	Tucker	Beam	Tucker	
Battery	--	--	64	48	112	--	--	36	--	36
Yonkers	16	16	64	48	144	15	--	33	--	48
Tappan Zee	47	48	48	49	192	15	--	25	--	40
Croton-Haverstraw	40	41	48	48	177	15	--	19	--	34
Indian Point	32	32	56	56	176	15	--	29	--	44
West Point	1	--	80	96	177	--	--	36	--	36
Cornwall	40	39	48	48	175	15	--	30	--	45
Poughkeepsie	--	--	88	88	176	--	--	30	--	30
Hyde Park	--	--	64	48	112	--	--	30	--	30
Kingston	--	--	32	48	80	--	--	24	--	24
Saugerties	--	--	32	16	48	--	--	30	--	30
Catskill	--	--	24	23	47	--	--	30	--	30
Albany	--	--	32	32	64	--	--	23	--	23
Total	176	176	680	648	1680	75	--	375	--	450

NOTE: Dashes (--) indicate no sampling scheduled.

Table 2-8 Specifications of Sampling Gear Used During the 2007 Fall Juvenile Survey

1.0-m ² Tucker Trawl	
Length	8.0 m
Mouth (width)	1.0 m
Mesh size	3.0 mm
Collection cage (codend)	
Length	81 cm
Diameter	41 cm
Mesh size	3.0 mm
3.0-m Beam Trawl	
Length	7.6 m
Beam width	3.0 m
Net body	3.8-cm mesh (stretch)
Codend	3.2-cm mesh (stretch) net with 1.3-cm mesh (stretch) liner
Hood	3.8-cm mesh (stretch)
Footrope	Equipped with 5.1-cm rollers
Headrope	Equipped with three floats
Mouth area	2.7 m ²

Table 2-9 Specifications of Sampling Gear Used During the 2007 Beach Seine Survey

30.5-m Beach Seine	
Number of wings	2
Length of wings	12.0 m
Depth of wings	2.4 m
Wing mesh (bar)	1.0 cm
Length of bag	6.1 m
Depth of bag	3.0 m
Bag mesh (bar)	0.5 cm
Sampling area	450 m ²

Table 2-10 Summary of 2007 Sample Collection by River Region for the Beach Seine Survey

<u>Region</u>	<u>5-Week Period from 11 JUN to 15 JUL</u>	<u>13-Week Period from 23 JUL to 21 OCT</u>	<u>Total</u>
Yonkers	9	35	44
Tappan Zee	33	168	201
Croton-Haverstraw	21	98	119
Indian Point	9	35	44
West Point	9	35	44
Cornwall	9	42	51
Poughkeepsie	24	35	59
Hyde Park	24	35	59
Kingston	24	35	59
Saugerties	45	63	108
Catskill	57	70	127
Albany	36	49	85
Total	300	700	1000

Table 2-11 Stratum and Region Volumes (m³) and Surface Areas (m²) Used in Analysis of 2007 Hudson River Estuary Data

<u>Geographic Region</u>	<u>Channel Volume</u>	<u>Bottom Volume</u>	<u>Shoal Volume</u>	<u>Region Volume</u>	<u>Shorezone Surface Area</u>
Battery	141,809,822	48,455,129	18,747,833	209,012,784	(a)
Yonkers	143,452,543	59,312,978	26,654,767	229,420,288	3,389,000
Tappan Zee	138,000,768	62,125,705	121,684,992	321,811,465	20,446,000
Croton-Haverstraw	61,309,016	32,517,633	53,910,105	147,736,754	12,101,000
Indian Point	162,269,471	33,418,632	12,648,163	208,336,266	4,147,000
West Point	178,830,022	25,977,862	2,647,885	207,455,769	1,186,000
Cornwall	94,882,267	36,768,629	8,140,123	139,791,019	4,793,000
Poughkeepsie	228,975,052	63,168,132	5,990,260	298,133,444	3,193,000
Hyde Park	131,165,041	32,012,000	2,307,625	165,484,666	558,000
Kingston	93,657,021	35,479,990	12,332,868	141,469,879	3,874,000
Saugerties	113,143,296	42,845,077	20,307,338	176,295,711	7,900,000
Catskill	83,924,081	42,281,206	34,526,456	160,731,743	8,854,000
Albany	32,025,080	13,517,183	25,606,842	71,149,105	6,114,000
Total	1,603,443,480	527,880,156	345,505,257	2,476,828,893	76,555,000

a. Shorezone surface area is unknown and not used in data analysis as no beach seine sampling is performed in the Battery region.

CHAPTER 3

PHYSICAL/CHEMICAL PARAMETERS

This chapter provides information on the parameters of temperature, salinity, and dissolved oxygen as measured during the 2007 surveys. Although parameters were measured with the BSS, emphasis will be placed on data from the LRS/FJS because these surveys encompassed the entire fish sampling period. In addition, freshwater flow data obtained from the U.S. Geological Survey (USGS) for the Green Island Dam near Troy, New York, and daily water temperature data from Poughkeepsie's Water Treatment Facility and the near-by USGS gaging site are discussed. Physical and chemical parameters are presented in [Appendix B](#).

3.1 GREEN ISLAND DAM FLOWS

During 2007, daily freshwater flow for Green Island, New York was estimated from discharge data provided by the USGS for the Hudson River above Lock 1, the Mohawk River at Cohoes, and the Mohawk River diversion at Crescent Dam. At the time of publication, the data from October through December 2007 were provisional. The daily flow in 2007 ranged from 82 to 2,923 m³/sec/day ([Figure 3-1](#), [Appendix Table B-1](#)). The primary peak in daily flow occurred in mid-April with flows near 3,000 m³/sec/day and secondary peaks occurred in January with flows about 1,500 m³/sec/day and in November/December with flows of 1,000 m³/sec/day. Periods of daily flow less than 200 m³/sec/day occurred from mid-June to mid-October ([Figure 3-1](#), [Appendix Table B-1](#)).

The 2007 monthly freshwater flow rates were similar to the long-term (1947-2006) monthly average flow rates, in that the highest flows were observed in April and lowest flows in the summer months ([Figure 3-1](#), [Appendix Table B-2](#)). The monthly average flows during January, March, and April of 2007 were higher than the long-term average. For the rest of 2007, monthly average flows were slightly lower than average in the late spring and summer, and about average during the fall. When compared to monthly average flow rates since the Hudson River surveys began in 1974 ([Appendix Table B-3](#)), the 2007 monthly flows were similar to the long-term average flows for most of the year, but were lower than average during the late spring and summer.

Average annual freshwater flow for the Hudson River as estimated at Green Island during 1947 to 2007 has varied from a minimum of 219 m³/sec/day in 1965 to a maximum of 604 m³/sec/day in 1976 ([Figure 3-2](#), [Appendix Table B-4](#)). For 2007, the provisional average annual flow of 451 m³/sec/day was the 16th highest flow in the 61 years of data.

3.2 HUDSON RIVER WATER TEMPERATURES NEAR POUGHKEEPSIE

Long-term (since 1951) daily temperature records are available from Poughkeepsie's Water Treatment Facility, located just north of the City of Poughkeepsie, New York, at RM 77. In addition, water temperature records dating back to 1993 are available from the USGS gaging site (#01372058) on the Hudson River 2.3 miles below Poughkeepsie, New York, at RM 72. Because of the consistency and verification of the USGS records, they were substituted for the Water Treatment Facility records beginning with 1993 and continuing to 2007. Temperature records from the Water Treatment Facility were retained for 1951 through 1992.

In 2007, the lowest recorded temperature was 0.0°C occurring from late January to late March ([Appendix Table B-5](#)). Water temperatures in 2007 remained relatively low (<5°C) through late April, increased steadily during the spring and early summer, and reached a high of 27.0°C in early August. Temperatures declined slowly in late August and September and then cooled rapidly until mid-December ([Figure 3-3](#)).

The 2007 mean water temperature profile was similar to the long-term (1951-2006) average temperatures for most of the year ([Figure 3-3](#)). Exceptions to this similarity when 2007 temperatures were cooler than long-term averages occurred in February, March, and mid-April when temperatures were below minimum levels. Exceptions when 2007 temperatures were warmer than long-term averages occurred in January and October. During these warmer periods, 2007 temperatures were near long-term maximum temperatures and even exceeded the long-term maximum on 36 days. Average annual water temperature for the Hudson River as measured near Poughkeepsie during 1951 to 2007 has varied from a minimum of 11.29°C in 1960 to a maximum of 13.67°C in 1991 ([Figure 3-4](#), [Appendix Table B-6](#)). For 2007, the average annual temperature of 12.97°C was the 11th highest temperature in the 57 years of data.

3.3 HUDSON RIVER SURVEYS

3.3.1 Spatiotemporal Pattern in Temperature

Average weekly water temperature measured during the 2007 LRS/FJS increased from the beginning of sampling in March to late July and then began decreasing until the end of the sampling program in December ([Figure 3-5](#)). This temporal pattern observed throughout the Hudson River estuary closely reflected that recorded for the Hudson River near Poughkeepsie. Average weekly temperatures measured during the LRS/FJS were similar to concurrent temperatures recorded near Poughkeepsie. Peak river temperatures occurred during early August when the river-wide mean temperature, as measured from Battery to Poughkeepsie, was 27.0°C and regional mean values were between 24.6 and 28.5°C ([Appendix Table B-7](#)) (Hudson River temperatures near Poughkeepsie averaged 26.7°C for this period). Lowest values occurred during late March when the mean temperature in the lower river was 1.7°C and regional mean temperatures from Battery to Cornwall ranged from 1.2 to 2.2°C (Hudson River temperatures near Poughkeepsie averaged 0.5°C for this period).

Average weekly water temperatures in 2007 were fairly consistent with the long-term (1974-2006) average temperatures observed in previous Hudson River surveys ([Figure 3-5](#)). Average temperatures in the spring of 2007 were among the lowest weekly mean temperatures observed during the 34-year period, but temperatures in the fall of 2007 were the highest observed during the long-term record. Average annual water temperatures measured during the LRS/FJS from 1974 through 2007 have varied from 19.14°C in 1983 to 23.59°C in 1991 ([Figure 3-5](#), [Appendix Table B-8](#)). For 2007, the average annual temperature of 21.69°C was the 11th highest temperature in the 34 years of data.

Temporal patterns in the 2007 BSS temperature data resembled the pattern observed in LRS/FJS measurements with summer peak temperatures of 27.7°C achieved in early August ([Figure 3-6](#)). Mean weekly regional temperatures at the peak were 26.4 to 30.4°C ([Appendix Table B-9](#)). Minimum mean temperatures of 17-21°C were recorded during the last week of sampling that began on 15 October.

Average weekly temperatures during the 2007 BSS were comparable to the average temperatures observed in the long-term (1974-2006) record for most of the sampling season except during the fall when the 2007 temperatures were the highest observed (Figure 3-6). Average annual water temperatures measured during the BSS from 1974 through 2007 have varied from 21.34°C in 1974 to 25.69°C in 2005 (Figure 3-6, Appendix Table B-10). For 2007, the average annual temperature of 23.74°C was the 11th highest temperature in the 34 years of data.

3.3.2 Spatiotemporal Pattern in Salinity

Seasonal variations in salinity occur in response to freshwater inputs to the Hudson River estuary: increasing freshwater flows lead to decreasing salinity and, likewise, decreasing flows will increase salinity. The overall pattern of salinity, as measured during the 2007 LRS/FJS, showed fluctuating levels in spring during periods of varying freshwater inputs, increasing values in summer, and declining values in late fall (Figure 3-7). Salinity was lowest in late April (following several days of very high freshwater inputs) when the river-wide mean value was 1.1 parts per thousand (ppt) and regional values were as low as 9.6 ppt in the Battery region (Appendix Table B-11). Maximum salinity was observed in early fall when regional values were above 21 ppt in the Battery region and extended to 4.1 ppt in the Cornwall region.

The spatiotemporal pattern of salinity observed during the BSS typically resembles that observed during the LRS/FJS: increasing salinity during the summer and decreasing levels in the fall. Actual salinity measured during the BSS was lower than during the LRS/FJS because of the tendency for the denser, saline water to follow the deeper channel rather than the shorezone area. In the 2007 BSS, the salinity pattern was nearly typical with low salinity in the late spring and increasing values during the summer, but salinity remained high in the fall instead of declining as is typical (Appendix Table B-12). Maximum salinity of 11.3 ppt in the Yonkers region occurred in early October; the lowest value was observed in late June when salinity averaged 5.9 ppt in the Yonkers region (Appendix Table B-12). Mean weekly regional salinity was highest in the Yonkers region and decreased upstream.

3.3.3 Spatiotemporal Pattern in Dissolved Oxygen

Dissolved oxygen concentration varies inversely with temperature and salinity. The seasonal pattern of dissolved oxygen typically observed during the Hudson River surveys consists of high concentrations in the spring, declining to minimum values in the summer, and increasing levels in the fall. As temperatures rose in the spring and summer of 2007, dissolved oxygen, as recorded in the LRS/FJS, declined from peak mean weekly regional values of 11-12 mg/L in mid-March to minimum mean levels of 4-6 mg/L in early October (Figure 3-8, Appendix Table B-13).

Average weekly dissolved oxygen concentrations in 2007 were similar but slightly lower than the long-term (1974-2006) average values except during the early fall when concentrations were well below average (Figure 3-8). High fall temperatures in 2007 contributed to dissolved oxygen values in 2007 that exceeded the low weekly mean for the long-term record. Average annual dissolved oxygen measured during the LRS/FJS from 1974 through 2007 has varied from 7.04 mg/L in 2005 to 8.64 mg/L in 1984 (Figure 3-8, Appendix Table B-14). For 2007, the average annual dissolved oxygen concentration of 7.21°C was the 5th lowest concentration in the 34 years of data.

Percent oxygen saturation relates the theoretical limit of oxygen saturation (adjusted for temperature and salinity influences) to the observed dissolved oxygen concentrations. Mean weekly regional percent saturation based on measurements taken during the 2007 LRS/FJS were usually above 70 percent for most of the sampling season with values in the 60th percentile common in the summer and fall in the downriver regions ([Appendix Table B-17](#)). Individual mean weekly regional values were never lower than 54 percent, the minimum recorded during early October from the Battery region.

Data collected in the 2007 BSS ([Appendix Tables B-15](#) and [B-18](#)) indicated similar mean regional dissolved oxygen and percent oxygen saturation to that recorded in the LRS/FJS. When compared to the long-term (1974-2006) average weekly dissolved oxygen, 2007 values were well below average for the sampling season and were below historic minimum values during some weeks ([Figure 3-9](#)), but percent oxygen saturation levels did not drop below 63 percent and were usually in the 70 to 85 percent range.

Average annual dissolved oxygen measured during the BSS from 1974 through 2007 has varied from 6.44 mg/L in 2005 to 8.82 mg/L in 1991 ([Figure 3-9](#), [Appendix Table B-16](#)). For 2007, the average annual dissolved oxygen concentration of 6.46°C was the 2nd lowest concentration in the 34 years of data.

[Link to Chapter 4](#)

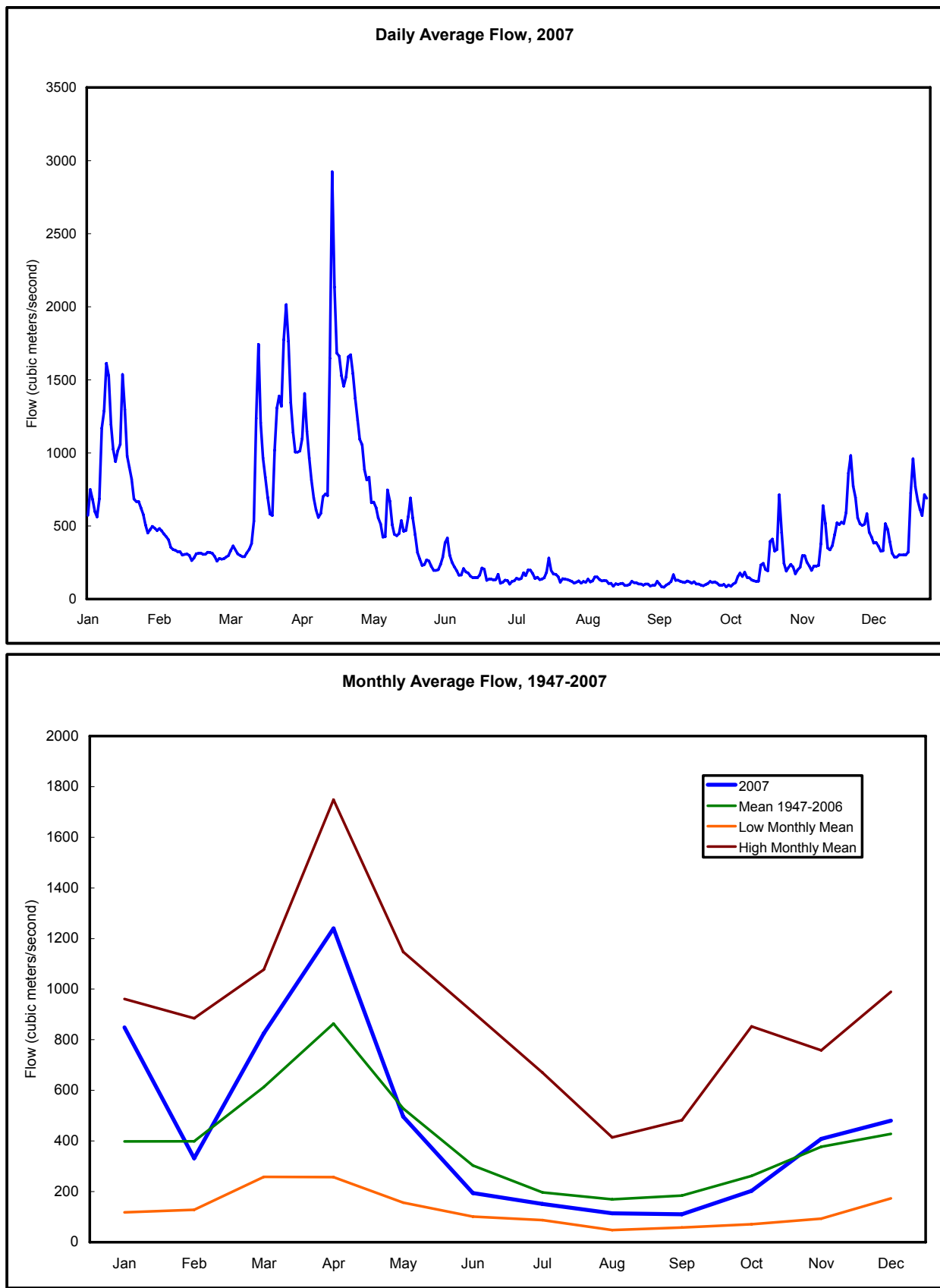


Figure 3-1. Hudson River daily average flow rate in 2007 and monthly average flow rates from 1947 to 2007, Green Island, New York. (Note: Data for October through December 2007 are provisional.)

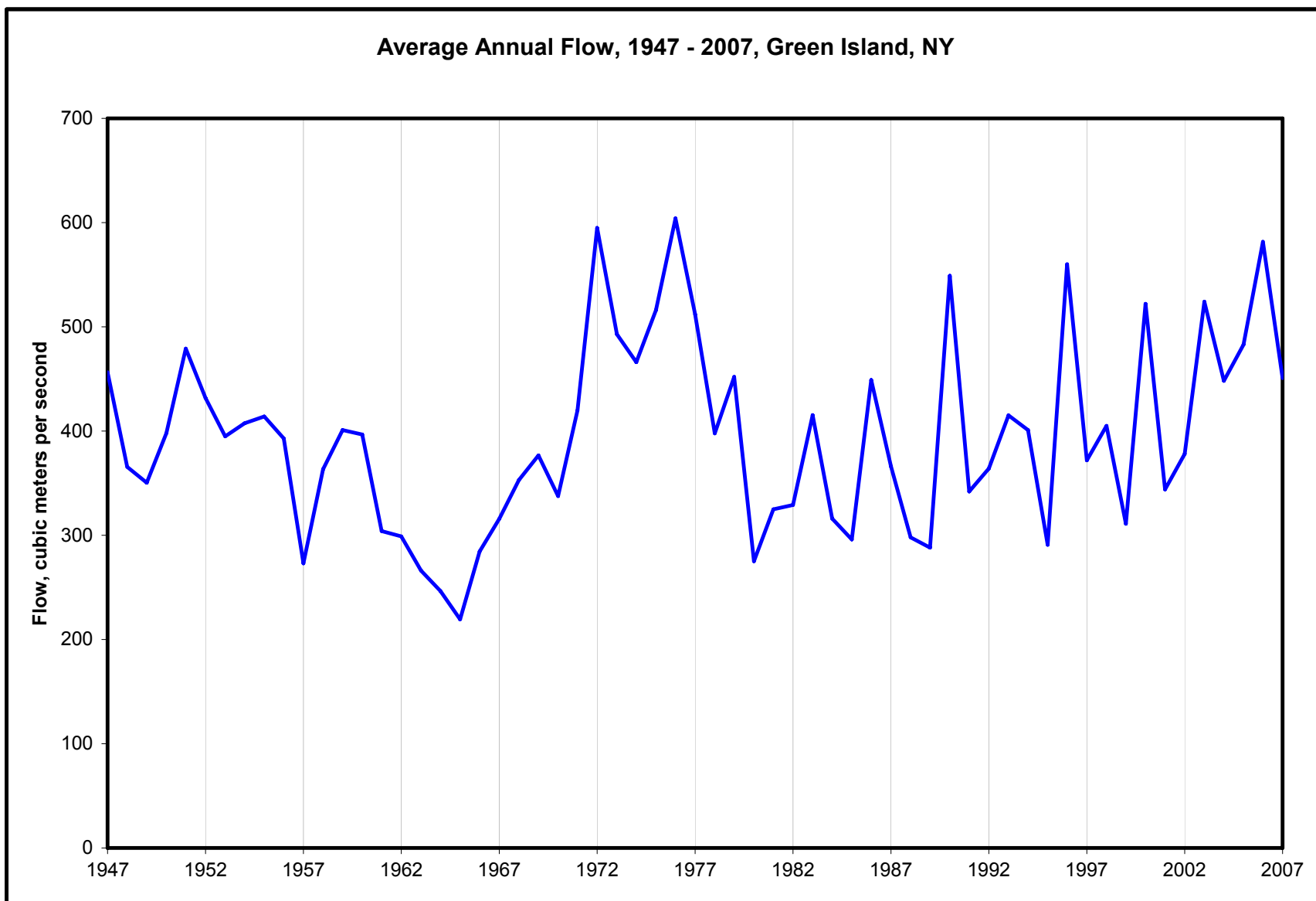


Figure 3-2. Average annual Hudson River flow from 1947 to 2007, Green Island, New York. (Note: Data for 2007 are provisional.)

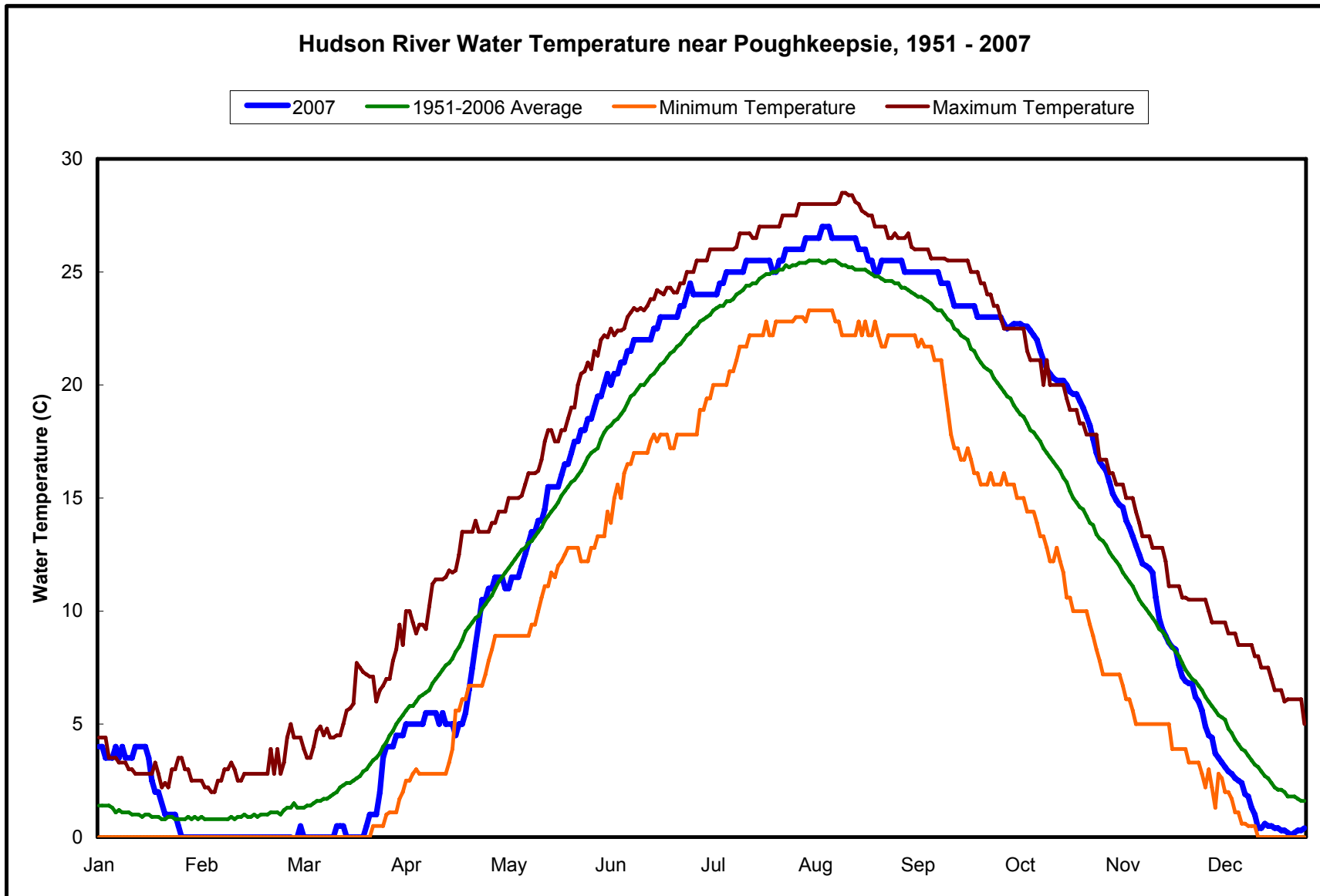


Figure 3-3. Seasonal variations in water temperature from 1951 to 2007 from Hudson River near Poughkeepsie. (Data from 1951 through 1992 from Poughkeepsie's Water Treatment Facility. Data from 1993 through 2007 from USGS gaging site 01372058 Hudson River below Poughkeepsie, NY.)

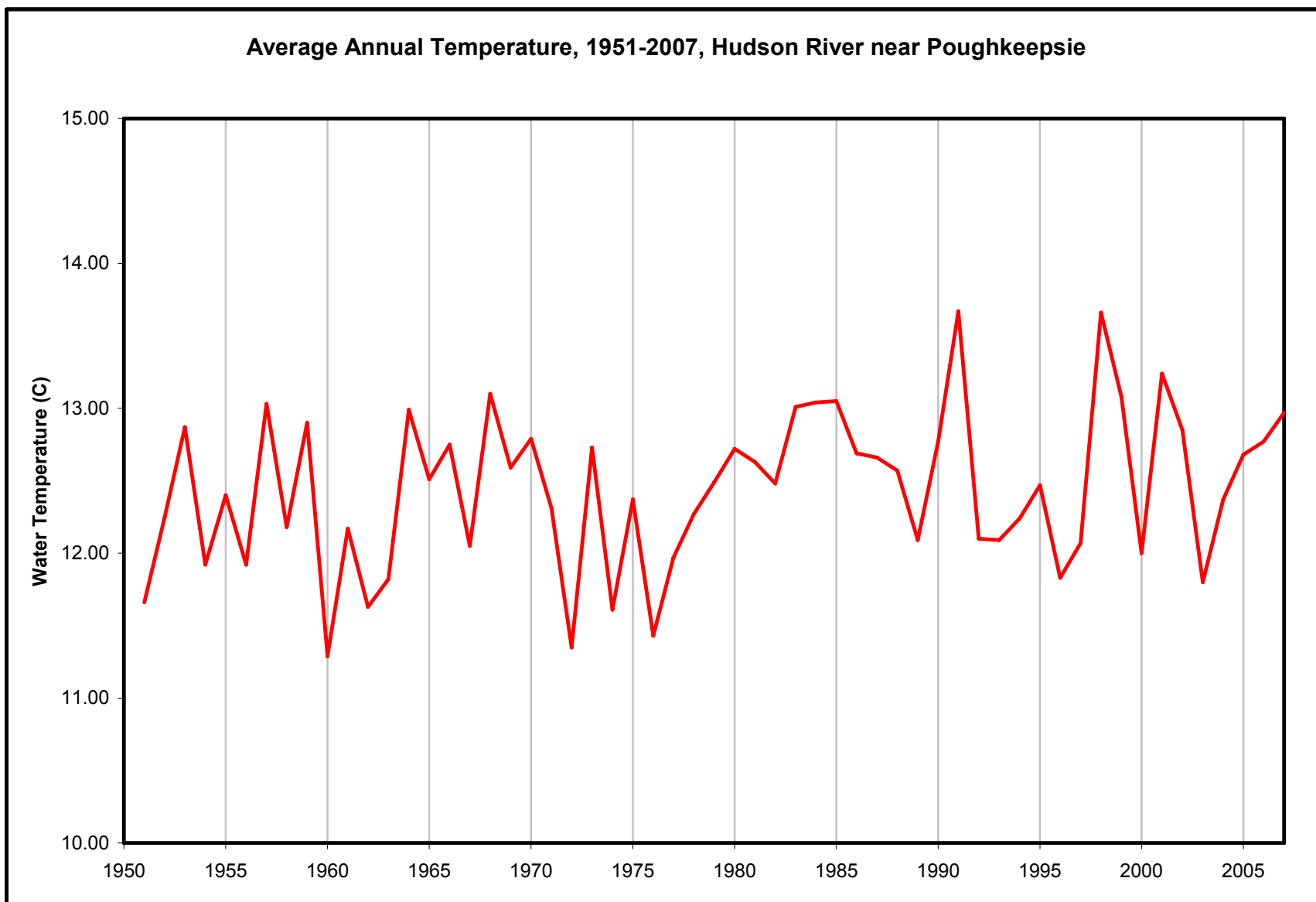


Figure 3-4. Average annual water temperature from 1951 to 2007 from Hudson River near Poughkeepsie. (Data from 1951 through 1992 from Poughkeepsie's Water Treatment Facility. Data from 1993 through 2007 from USGS gaging site 01372058 Hudson River below Poughkeepsie, NY.)

Long River/Fall Juvenile Survey

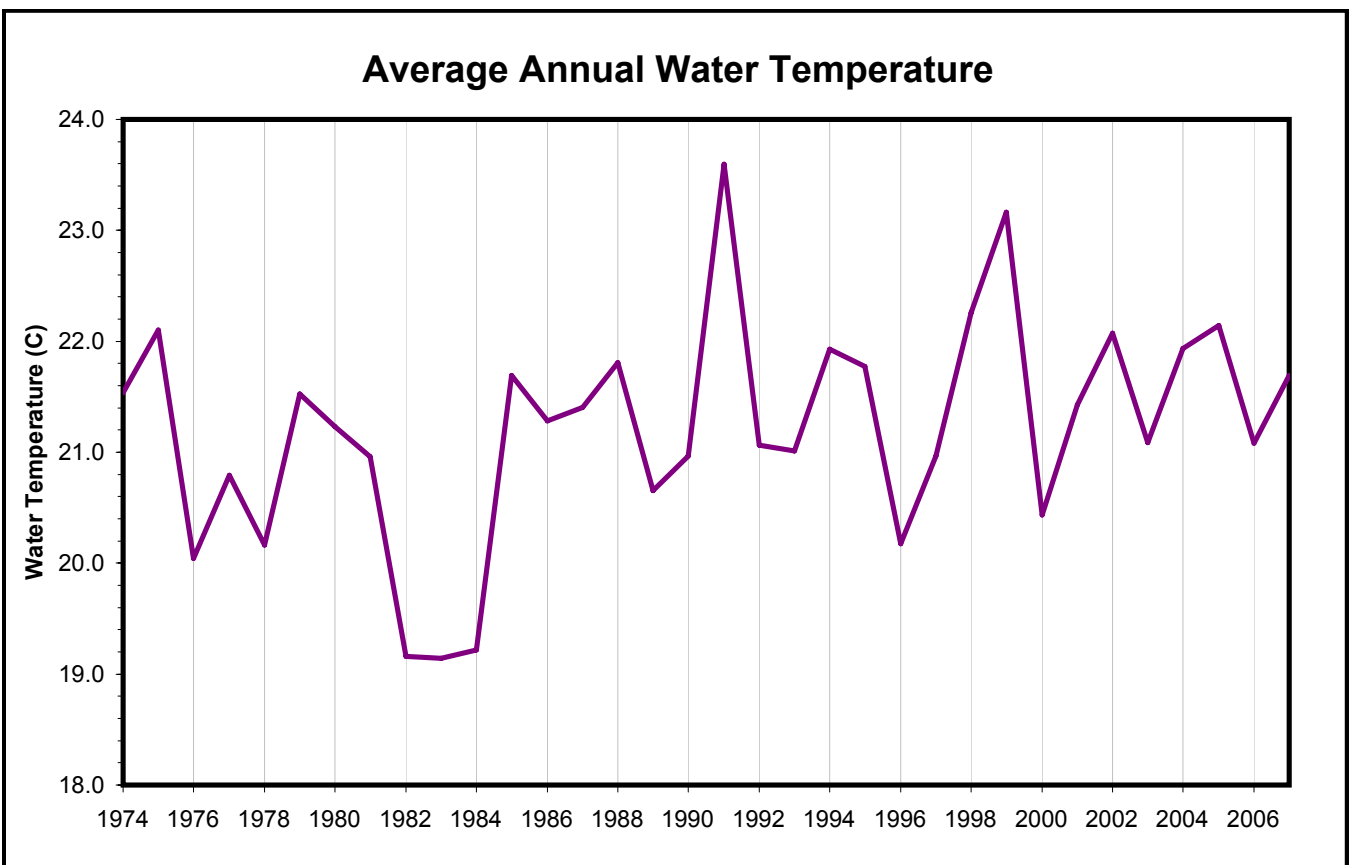
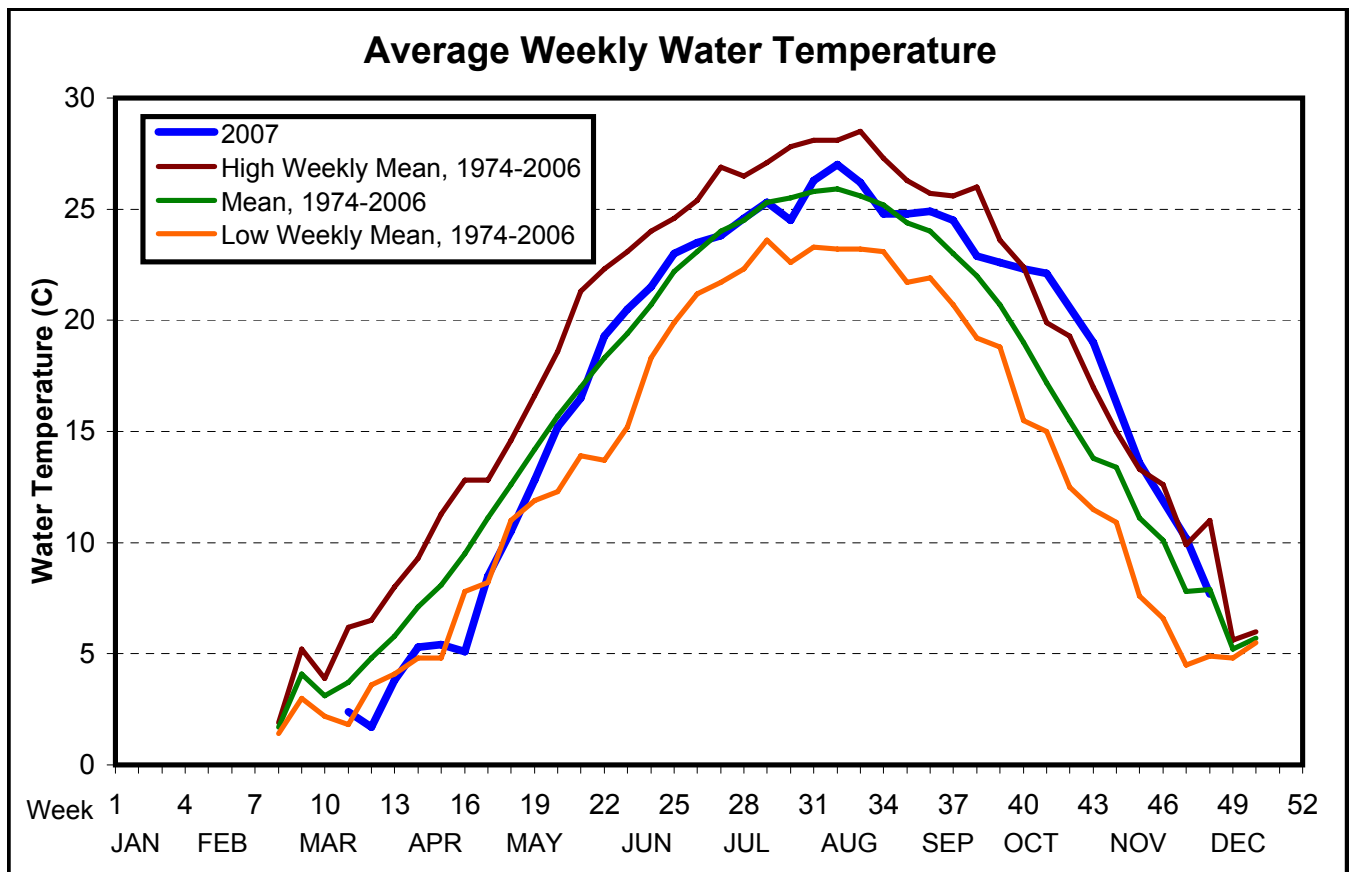


Figure 3-5. Seasonal and annual variations in water temperature from the Long River/Fall Juvenile surveys, 1974 - 2007.

Beach Seine Survey

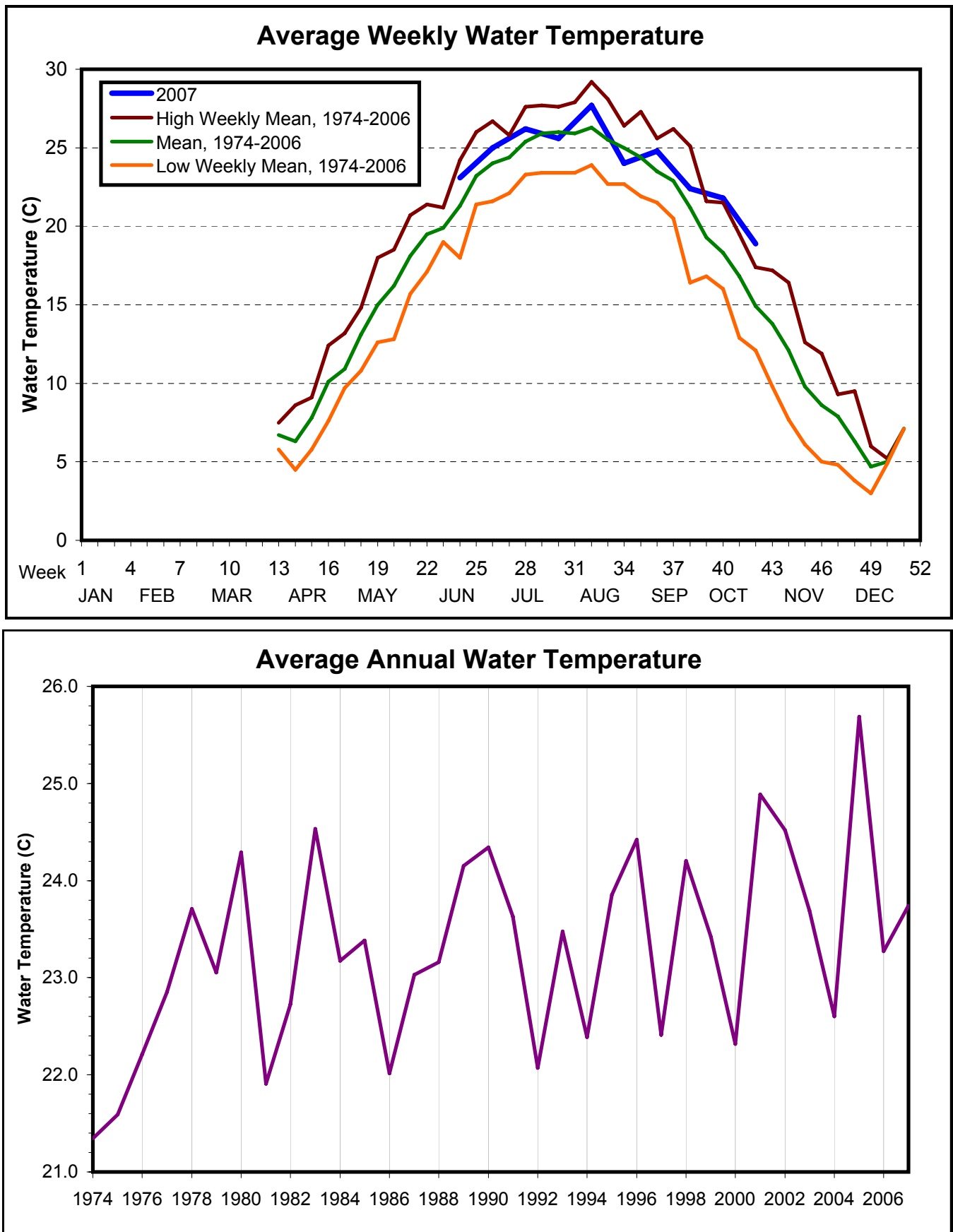


Figure 3-6. Seasonal and annual variations in water temperature from the Beach Seine surveys, 1974 - 2007.

Average Weekly Salinity 2007 Long River/Fall Juvenile Surveys

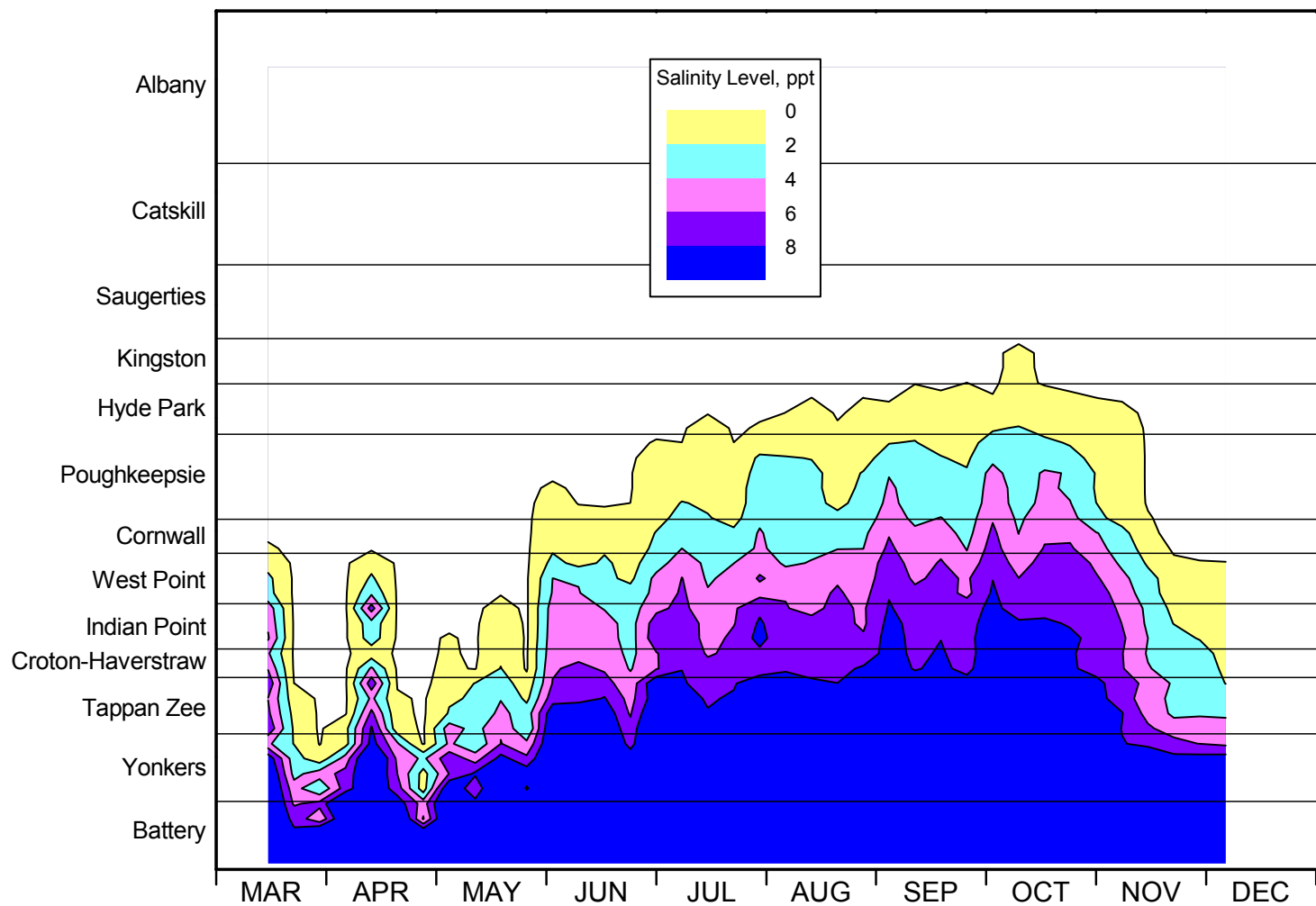


Figure 3-7. Seasonal variations in average weekly salinity from the 2007 Long River/Fall Juvenile surveys.

Long River/Fall Juvenile Survey

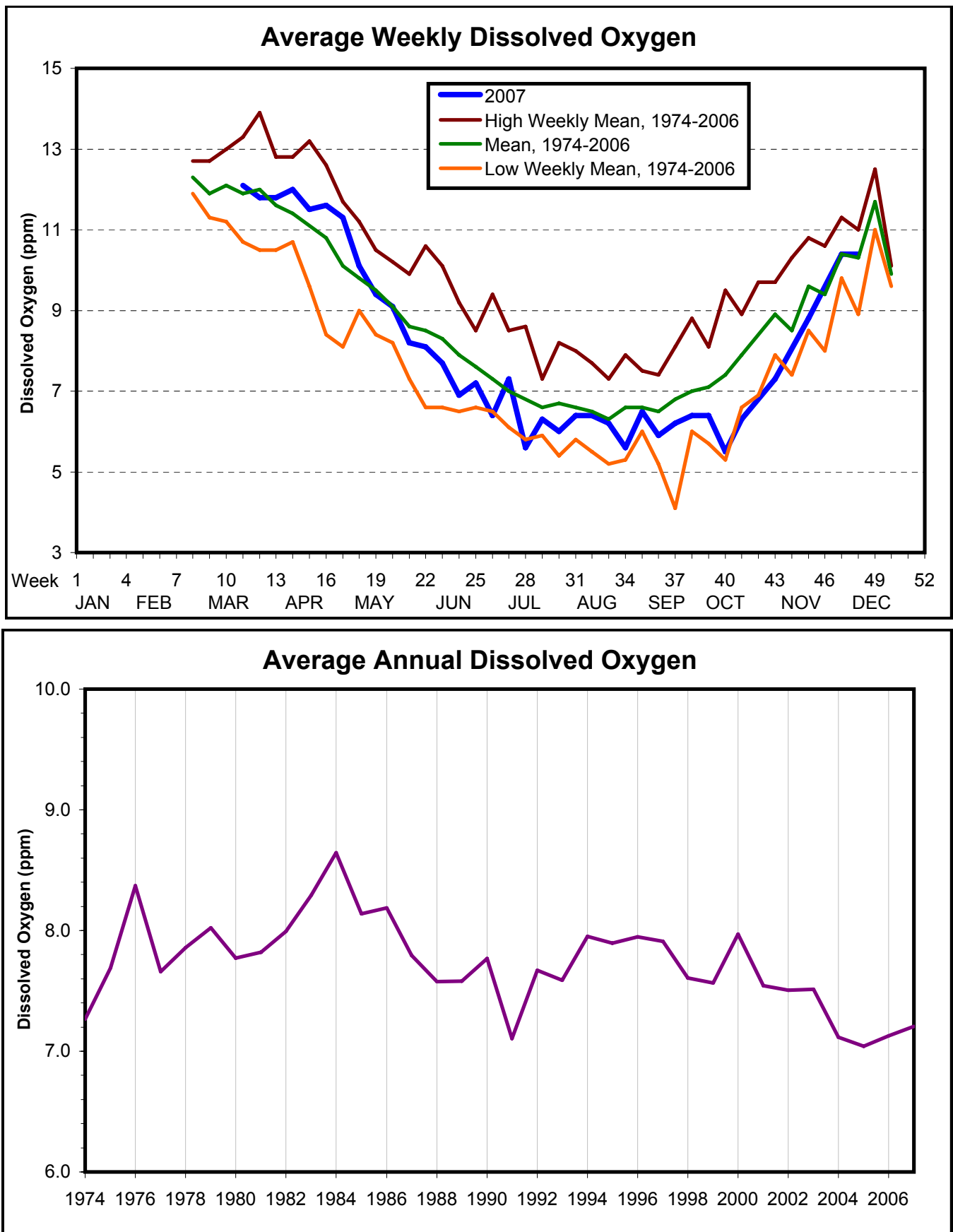


Figure 3-8. Seasonal and annual variations in dissolved oxygen from the Long River/Fall Juvenile surveys, 1974 - 2007.

Beach Seine Survey

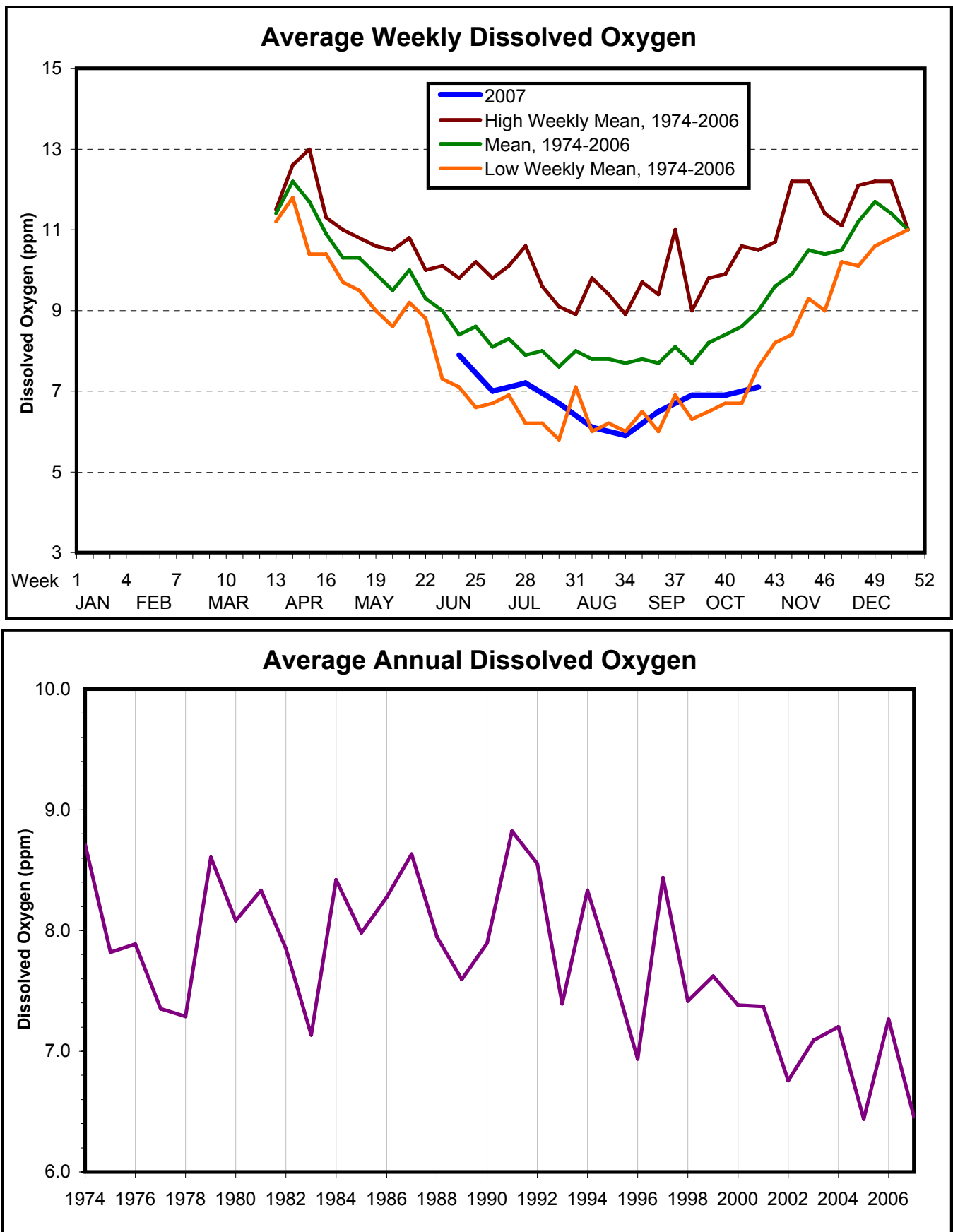


Figure 3-9. Seasonal and annual variations in dissolved oxygen from the Beach Seine surveys, 1974 - 2007.

CHAPTER 4

SPATIOTEMPORAL DISTRIBUTION OF SELECTED SPECIES OF HUDSON RIVER ESTUARY FISHES

4.1 FISH COMMUNITY

4.1.1 General Description of the Fish Community

The fish community of the Hudson River estuary reflects the convergence of the two primary fish habitats: fresh water and salt water. Fish are generally confined to one or the other habitat, but a relatively small number of estuarine and migratory species can pass from one to the other, or live in the narrow zone where there is a gradient between fresh and salt water. As a result of this convergence of different habitats in estuaries such as the Hudson, many species can be found in a relatively small area. The Hudson River estuary's species diversity is enhanced by its mid-latitude location on the Atlantic Coast. Southern tropical marine forms enter the Hudson River during the summer, and a number of northern fishes are near their southern limit.

Smith and Lake (1990) documented the Hudson River fish fauna, including the river upstream of the dam at Green Island and the Mohawk River subsystem. They report 201 species, including 3 known from contiguous waters but not yet reported from the Hudson. Beebe and Savidge (1988), based on sampling through 1980, reported 140 fish species in the Hudson south of the dam at Green Island. Smith and Lake (1990) classified the probable origin of each species, showing that the fish community, particularly in the estuarine reach, is a mixture of both temperate and tropical marine forms, freshwater forms, and intentional and accidental introductions.

The estuary and its tributary streams provide a wide range of chemical, physical, and biological habitat conditions. This diversity is reflected in the range of migratory and movement patterns, reproductive strategies, and food preferences among the members of the fish community. Daniels and Lawrence (1991) grouped 71 Hudson River estuary fish species collected in a variety of sampling programs from 1936 through 1991 into 8 trophic categories (feeding behavior) developed by Grossman et al. (1982): surface feeders, water column feeders, soft-bottom benthic feeders, rocky-bottom feeders, ooze feeders, algae feeders, macrocarnivores, and omnivores. Although this analysis did not include all recorded fish species from the estuary, it illustrates the broad range of feeding behaviors among the members of the Hudson River estuary fish community. Such an array of feeding behaviors reflects a diversity of habitat conditions.

Carlson (1986) identified assemblages of fish species based on 6 habitat types for the freshwater portion of the Hudson River estuary: vegetated backwaters, tributaries, rock pile, shore, offshore shoals and channel, and tailwater. Carlson's assemblages illustrate the diversity of physical habitats in the estuary. A similar analysis for the middle and lower regions of the estuary would show additional physical habitat types, including man-made habitats such as riprap shoreline, bulk-heading, and piling clusters associated with piers and docking facilities.

Because many fish species are tolerant of a wide range of habitat conditions and because there are no well-defined boundaries between habitat types, it is useful to classify the fish community into assemblages based on migratory behavior (anadromous and catadromous) and salinity preference (freshwater, estuarine, and marine). In the Hudson River, only the American eel is catadromous; thus discussion is focused on the other four assemblages.

4.1.2 Species Occurrence Through Time

The Hudson River estuary's fish community is species rich. The total number of fish species collected in the Utilities' monitoring program in the Hudson River estuary has varied from 64 to 104 between 1974 and 2007 ([Table 4-1](#)). Such high levels of species richness are often used as an indicator of a healthy ecosystem in which habitat and other water quality conditions allow a wide variety of species to occupy the habitat.

Despite the large number of species which can occasionally be found in the estuary, most of the fish are from a limited number of species. In fact, only 10 – 15 percent of the species collected typically account for more than 99 percent of the catch. In an environmentally stable system, low species diversity is often associated with environmental stress. However in highly dynamic and unstable systems like the Hudson River estuary, the biological communities are typically dominated by a few species well adapted to such naturally dynamic systems. Most of the energy in estuaries is directed towards production of a few species, many of which have considerable commercial and recreational importance to man.

In each of the four major fish assemblages (anadromous, freshwater, estuarine, and marine), the persistence of most of the species over long periods of time shows broad-scale suitability of the environment for each assemblage. The fish community in brackish areas of the estuary is dominated by marine species whereas in tidal freshwater areas the fish community is dominated by anadromous species as larvae and young of year and by freshwater and estuarine species as yearling and older. Marine species appear largely limited to areas with salinities greater than 1 ppt, which in the Hudson River typically includes areas downstream from Region 6, the Cornwall region. Most of the fish production in low salinity brackish and freshwater areas of the estuary during spring and summer is directed towards anadromous species including river herring (alewife and blueback herring), striped bass, and American shad. These anadromous fish leave the estuary in fall of their first year of life leaving the community of older individuals consisting primarily of resident species.

Although the estuarine and anadromous assemblages have fluctuated very little over time, there have been some minor changes in the freshwater and marine assemblages. The disappearance or appearance of species may indicate some change has taken place, such as degradation or improvement of environmental conditions, introduction of competing or exotic species, and overexploitation or proper fisheries management. In the Hudson River estuary, significant changes in habitat (expansion of water chestnut beds), water quality (improvement in New York City wastewater treatment), and fisheries management practices (striped bass) may have contributed to changes in fish assemblages.

The freshwater assemblage has shown fewer species in recent years compared to the years from 1974 to 1980 ([Table 4-1](#)). However, the fewest species in this assemblage occurred in 1982 and 1983, and numbers have increased slowly since then. When the individual species in the freshwater assemblage are examined, there are several species that occurred consistently in the early years and not in the later years, such as cutlips minnow, common shiner, blacknose dace, redbfin pickerel, longnose dace, and trout perch. Conversely, there are several species that were not present in the early years but have been recorded recently, such as brook silverside, channel catfish, and freshwater drum. The cause for the decline in the number of freshwater species sampled in the estuary since the 1970s is not clear, and in fact may be due to changes in the temporal extent of the sampling. In the 1970s, the BSS program began in April and continued through November. In the early 1980s, the shortened program typically ran

from July or August to October. Beginning in the late 1980s and continuing to the present, the BSS program covered the period from mid-June through October. Alternatively, the expansion of water chestnut beds following cessation of herbicide treatments in the 1970s may have changed the availability of preferred habitat for some species in shallow freshwater areas of the estuary, which may have been a contributing factor to the apparent decline in species richness.

The dominant freshwater species collected in the Utilities' monitoring program were spottail shiner and tessellated darter, but freshwater drum and channel catfish are becoming increasingly dominant ([Appendix Tables C-1 through C-3](#)). These first two species also dominated the freshwater assemblages of near-shore collections in fisheries surveys conducted in 1936 and 1990 (Daniels and Lawrence 1991), but ranked density for these species especially from upper regions of the Hudson River has been lower in recent years than in the earlier years of the monitoring program (Pace et al. 1993). However, further analysis of the abundance levels of seven species from the Utilities' monitoring data concluded that there was no general pattern of abundance over time, suggesting that there has been no river wide fish decline (Pace et al. 1993).

The number of species in the marine assemblage shows more year-to-year variation, but overall there is a trend toward more marine species ([Table 4-1](#)). As expected, the largest increase in marine species occurred in the downstream sampling regions. Among the recent recruits to the marine assemblage are Atlantic croaker, Atlantic mackerel, fourbeard rockling, grubby, naked goby, rock gunnel, spotted hake, and yellowtail flounder. The opposing trends in the number of freshwater and marine species could be related to the shift in annual freshwater inflow. During the 1970s, when the number of freshwater species was relatively high, freshwater flow was higher than normal. In the 1980s and 1990s, freshwater flow was typically below normal, and freshwater species declined while the number of marine species increased. Additionally, due to increased treatment of sewage in New York City, dissolved oxygen levels have increased at the mouth of the Hudson, increasing the potential for movement of marine fish into the estuary. Extension of the LRS sampling program in 1988 and the FJS sampling program in 1996 into the more saline portion of the Hudson River estuary, the Battery region, also increased the possibility of collecting more marine species.

The dominant marine species collected in the Utilities' monitoring program was bay anchovy ([Appendix Tables C-1 through C-3](#)). Likewise, in 1968, bay anchovy was the principal species in trawl collections south of the Indian Point region (RM 40) (Carlson and McCann 1969). Overall abundance has increased in brackish areas of the estuary since the monitoring program began in 1974, largely as a result of recent increases in the abundance of bay anchovy and Atlantic silverside, both important prey species in inshore marine systems. Reasons for these apparent changes are unknown. However, much of the change appears to have occurred since 1990, a date which coincides with completion of major wastewater treatment facility upgrades in New York City. Perhaps improvements in water quality contributed to increased overall abundance of these two species.

Estuarine species are generally euryhaline, year-round residents of the Hudson River fish community. Dominant species in the estuarine assemblage as collected in the Utilities' monitoring program included white perch, banded killifish, Atlantic silverside, and hogchoker ([Appendix Tables C-1 through C-3](#)). White perch and banded killifish were also dominant in near-shore collections in 1936 and 1990 (Daniels and Lawrence 1991) as well as 1966 (Carlson and McCann 1969). Abundance of Atlantic silverside, as noted above, has been increasing in recent years, whereas banded killifish have been found in lower abundance in recent years (Pace et al. 1993).

Perhaps the most important fish assemblage in the Hudson River estuary is composed of the anadromous species, which use the estuary as spawning and nursery grounds. Adult fish enter the estuary in the spring and migrate upstream to low salinity brackish and freshwater areas to spawn. The young fish then use the near-shore shoal areas for food and habitat as they make their way downstream and generally leave the estuary in the fall. Most of the energy in the Hudson River estuary is directed towards the production of these anadromous species: striped bass, blueback herring, alewife, American shad, and Atlantic tomcod. The early life stages of these species have dominated catches in the Utilities' monitoring program ([Appendix Tables C-1 through C-3](#)). Other investigators have noted that these ubiquitous species, especially blueback herring, comprise the numerically most important species in their study areas (MRL 1970; Heller et al. 1969; Carlson and McCann 1969; Daniels and Lawrence 1991). Curiously, Daniels (undated), in summarizing a 1936 fisheries survey in the Hudson River, noted the near absence of blueback herring from the sampling sites. In the last three decades, blueback herring have been the numerical dominant in most of the summer catches at near-shore sites.

Other species of the anadromous assemblage have shown fluctuations in abundance over the years. Striped bass and perhaps American shad appear to have increased over the period 1974-1989, especially at the larval stage (Pace et al. 1993). Despite their numerical dominance in catches, the overall abundance of blueback herring has declined since the early years of the monitoring program. Declines in the abundance of this anadromous species appear to have occurred to all stocks throughout their geographic range and appear a result of factors outside of the Hudson River, including overfishing in open ocean waters.

In all, it appears that the Hudson River estuary has a healthy and robust fish population. Species richness is high for all life stages as a result of the estuary serving as an interface between fresh and saltwater and between warmer and temperate climatic conditions. On the other hand, species diversity is relatively low reflecting the fact that the individual members of this community are comprised primarily of a limited number of species which are well adapted to the highly dynamic estuarine conditions. Spatially, the composition and abundance of the fish community is largely influenced by salinity with the interface between a marine-dominated and a freshwater-dominated fish community occurring in the reach of the estuary through the Hudson Highlands. However, considerable overlap in the spatial distribution of individual species occurs. There is no evidence of any substantial long-term changes in composition or abundance of the fish community over the 34-year period, 1974-2007.

4.1.3 Species Collected in 2007

Of the 89 species of fish collected in 2007, 28 were freshwater species, which is consistent with the number of freshwater species collected since the late 1980s ([Table 4-1](#)). The marine species in 2007 numbered 40, continuing the trend begun in the early 1990s of greater numbers of marine species than freshwater species. The diadromous and estuarine assemblages in 2007 were nearly identical to similar assemblages collected since 1974, with 9 to 12 species, respectively. No new species were collected in 2007.

Each of the surveys sampled a different habitat within the Hudson River estuary and, therefore, collected different assemblages of fish. More freshwater taxa were collected in the BSS than in the other two surveys and more marine species were captured in the LRS ([Table 4-2](#)). Of the 89 species recorded during 2007, 29 were collected in all three sampling surveys, while 41 of the remaining 60 species were collected in only one of the surveys. Of the 28 freshwater

species, 12 (43 percent) of them were collected only in the BSS. Likewise, 14 (35 percent) of the 40 marine species were only collected in the LRS.

The dominant species in the monitoring program since the mid-1980s, when the spatial and temporal extent of the surveys has been relatively uniform, have remained relatively stable ([Appendix Tables C-1 through C-3](#)). The early life stages of bay anchovy, striped bass, *Alosa* spp., and white perch dominated the 2007 LRS, as they have in previous years ([Appendix Table C-1](#)). Cunner were more abundant in the 2007 LRS than in most previous years whereas American shad and Atlantic tomcod were less abundant. The 2007 FJS was dominated by bay anchovy and hogchoker ([Appendix Table C-2](#)). Compared to previous years, logperch were more abundant in the 2007 FJS, but American shad and spottail shiner were less abundant than in the past. Catches of several species, namely rainbow smelt, tessellated darter, summer flounder, and winter flounder have been markedly reduced since the mid-1990s than in earlier years of the FJS whereas catches of Atlantic croaker, Atlantic menhaden, brown bullhead, and channel catfish have increased in the last decade. In the 2007 BSS, blueback herring was the dominant species, followed by *Alosa* spp., Atlantic silverside, spottail shiner, and striped bass ([Appendix Table C-3](#)). Compared to most previous years, alewife, blueback herring and satinfin shiner were more abundant in the 2007 BSS than in the past, but American shad, golden shiner and bay anchovy were less abundant than in the past.

Annual abundance indices ([Appendix Figures D-1 through D-13 and Tables D-2 through D-14](#)) for selected species compare the year-to-year variation in abundance since the beginning of the monitoring program in 1974 (or 1979 for the FJS when sampling included the upper Hudson River). The predominant life stages for each selected species were chosen for comparison. In 2007, alewife (juveniles) had abundance indices that were the highest since 1974 or 1979 and striped bass (YSL/PYSL) had abundance indices that ranked 4th and 5th highest since 1974. Species with low abundance indices in 2007 were American shad (eggs/YSL/PYSL/juveniles), Atlantic tomcod (PYSL/juveniles), and white perch (YSL/juveniles/yearling). The species with the lowest abundance index since 1974 was white perch (eggs).

4.2 STRIPED BASS

Striped bass (*Morone saxatilis*) are anadromous (i.e., they spend most of their life in the marine environment but return to fresh water to reproduce) members of the temperate bass family (the Moronidae). They are native to North America and range along the Atlantic Coast from the St. Lawrence River in Canada to the St. Johns River in northern Florida and from western Florida to Louisiana along the coast of the Gulf of Mexico. They were introduced in the Sacramento-San Joaquin River system in 1879 and are now found from British Columbia to Ensalada, Mexico. Striped bass have also been successfully introduced into the inland waters of at least 24 states. The U.S. East Coast rivers and bays that support the principal spawning populations are the Hudson River; Delaware Bay and Delaware River; Chesapeake Bay and tributaries; the Roanoke and Chowan rivers and Albermarle Sound, North Carolina; the Santee River, South Carolina; and the St. Johns River, Florida. Small spawning populations also occur in several river systems in eastern Canada. From 1983 to 1995, the Utilities' striped bass hatchery provided larvae for rearing and stocking by the State of Maine in its efforts to establish striped bass in the Kennebec River.

On the Atlantic Coast adult striped bass, which commonly reach 30 lb and can weigh over 50 lb, feed in nearshore waters from summer through late winter. During the warmer months fish typically travel north and return south as the coastal waters cool in the fall. Northward migration of Hudson River fish extends as far north as the Bay of Fundy, Nova Scotia, and older fish tend

to travel farther north. Over the winter adult striped bass tend to aggregate near the mouths of their natal rivers. Once water temperatures rise in the spring, native adults (ages 4 and older) begin moving upriver to spawning areas in the freshwater portions of the estuaries.

Spawning begins in the spring when water temperatures are rising rapidly and reach about 57°F. Peak spawning occurs at about 60-65 °F in freshwater areas where currents are moderate to swift (Albrecht 1964; Setzler et al. 1980). In the Hudson River spawning occurs primarily between mid-May and mid-June in the middle portion of the Hudson River estuary. Depending on their age and size, females produce up to several million semibuoyant eggs that are suspended by currents. The eggs are relatively large (average 1/10 in. in diameter after water hardening), but vary with the size of the female. Older, larger females tend to have larger eggs.

In 1-4 days, depending on temperature, YSL hatch from the eggs. Typically 1/8 in. long, they initially drift with the current but can swim for short bursts. During the YSL stage the eyes become pigmented, the jaws and digestive tract form, fin buds appear, and they at least partially absorb the yolk-sac and oil globule. Older YSL are mobile and exhibit a positive phototaxis, or movement toward light (Doroshev 1970). The end of the yolk-sac stage is marked by the completion of the digestive tract, although some of the yolk-sac and oil globule may still remain.

During 2007, striped bass eggs and YSL were most abundant in mid-river, with greatest YSL abundance slightly downriver of greatest egg abundance ([Figure 4-1](#); supporting density and standing crop tables for striped bass are presented in [Appendix Tables E-1 through E-24](#)). In some years in the Hudson River, the peak in yolk-sac abundance was often further upriver than the peak in eggs. The difference in distribution may mean that YSL migrate upriver using tidal currents, although other explanations have been proposed (Polgar et al. 1976; Fay et al. 1983).

Transformation to the PYSL stage occurs from 4 to 9 days after hatching, when the larvae are 1/4 in. long. The remainder of the yolk-sac and oil globule is absorbed, body pigmentation becomes noticeable, fins begin to form, the gas bladder is inflated, and larvae begin to feed actively on zooplankton. This stage lasts approximately one month or longer, ending when the fin rays are fully developed, which occurs when the fish are just over 1/2 in. long. During 2007, striped bass PYSL were present throughout the middle and lower estuary and were most abundant in the Croton-Haverstraw region ([Figure 4-1](#)).

Toward the end of the PYSL stage, young striped bass begin moving out of the middle estuary into the lower estuary, which is broader, shallower, and may be more productive, and they feed on copepods and amphipods. This downriver movement of juvenile, or YOY, striped bass is evident in the 2007 spatiotemporal distribution pattern seen in the FJS and BSS, as YOY striped bass were found in the middle estuary regions during the summer, but were increasingly found in lower estuary regions during the fall ([Figure 4-2](#)). Larger juveniles, over 2-1/2 in. long, feed on insect larvae, worms, opossum shrimps, crabs, and small fish (Gardinier and Hoff 1982). Low numbers of yearling and older-than-yearling striped bass were collected in the LRS, FJS, and BSS throughout the estuary during 2007 ([Figures 4-3 and 4-4](#)) with many of the yearling and older-than-yearling from the LRS collected in the lower estuary during the early spring.

Comparing the temporal distribution of early life stages of striped bass in 2007 with previous years (1974-2006), peak egg and YSL density in 2007 occurred in mid-May which was similar to the historical pattern of peak occurrence ([Figure 4-5](#)). Peak PYSL abundance in 2007 occurred in late May, which was similar to the historical peak from late May to mid-June. Many YOY

were collected in late June in 2007, but also in the weeks beyond the temporal limits (Weeks 18-26 which is May through June) of this comparison.

Striped bass eggs in the 2007 LRS were most abundant from the West Point to Hyde Park regions, downriver of the historical peak in Kingston (Figure 4-6). The YSL distribution in 2007 was similar to the long-term distribution pattern with greatest abundance in the middle estuary, especially in the Poughkeepsie region. PYSL were also most abundant in the middle estuary in 2007 as in the past.

The 2007 geographical distribution of YOY striped bass in the BSS was consistent with the long-term trend (based on data from 1974 to 2006) with the main distribution centered in the Tappan Zee and Croton-Haverstraw regions (Figure 4-7). At the end of their first summer, many of the juvenile striped bass move to the southern extreme of the estuary and are found in New York Harbor, western Long Island Sound, and along the south shore of Long Island (McKown 1992). Most yearling striped bass in the 2007 BSS were collected in the upper estuary or the lower estuary with few collected in the middle estuary, but older-than-yearling striped bass were collected primarily in the lower estuary (Figure 4-7).

Weekly length statistics for young-of-year striped bass collected in 2007 show the most growth during July and August with slower rates of growth later in the summer (Figure 4-8, supporting length frequency tables for striped bass are presented in Appendix Tables F-1 through F-3). The slight variances in the growth curve may reflect the size selectivity of the FJS gear over that of the BSS gear. As striped bass grow, fish become an increasingly important component of their diet. Juvenile striped bass are also preyed upon by some marine and estuarine predator species.

At age 2 or 3, striped bass leave Atlantic Coast estuaries and begin the typical seasonal migration, northward during the spring and summer and southward during the fall. Adult striped bass are at the top of the food chain and have few natural enemies other than man. Since they rarely go more than 10 mi offshore, they are typically available to sport and commercial fishermen all along their migration route.

4.3 WHITE PERCH

White perch (*Morone americana*) resemble the closely related striped bass in general form and structure but are deeper bodied, more laterally compressed, and have no stripes. Adult white perch are much smaller than adult striped bass, averaging less than 10 in. in length and less than 3 lb in weight. Coloration ranges from dark olive to dark gray on the dorsal surface, shading to silvery white on the belly.

The natural range of this species extends along the Atlantic Coast of North America from the southern Maritime Provinces of Canada and the St. Lawrence River to South Carolina in brackish and freshwater areas near the Coast. White perch are essentially estuarine, but landlocked populations exist in fresh water throughout their range (Mansueti 1964). Freshwater populations predominate in the northern part of the range and white perch are uncommon in salt water north of Cape Cod (Rounsefell 1975). Probably as a result of dispersal through canals, they are now found in Lakes Ontario and Erie (Hubbs and Lagler 1958). They have also been introduced accidentally into the Missouri River drainage (Hergenrader and Bliss 1971).

Coastal populations overwinter in the deeper waters of middle and lower estuaries (Mansueti 1957; Markle 1976). White perch spawn in shallow water following upstream migrations to

areas of fresh or slightly brackish waters during the spring and early summer. Spawning also occurs in tributary streams. After spawning, adult white perch generally return to the lower reaches of estuaries. In the Hudson River estuary, spawning occurs from early May to early July, primarily north of Croton Bay. After spawning, many adults move downriver to areas of higher salinity in Haverstraw Bay and the Tappan Zee region.

Female Hudson River white perch produce from 16,000 to 161,000 eggs (Bath and O'Connor 1982). White perch eggs do not contain an oil globule and are small, 1/16 in. in diameter. They sink to the bottom and, because they are very adhesive, stick to each other and to anything else they contact (Mansueti 1964). In the Hudson River during 2007, white perch eggs were most abundant in the upper estuary from Hyde Park to Albany during May ([Figure 4-9](#), [Appendix Tables E-25 through E-48](#)).

Hatching occurs in 1.5 to 6 days, with development occurring faster at higher temperatures. Newly hatched YSL are from 1/16 to 1/8 in. long. They remain on or near the bottom for 3-5 days and do not move about actively until the yolk-sac is absorbed (Mansueti 1964). White perch YSL were abundant in the upper and middle estuary during 2007, in the same areas that eggs were most abundant but also extending downriver to the West Point region ([Figure 4-9](#)). The yolk-sac is completely absorbed when the larvae are a little over 1/8 in. long; the end of the PYSL stage occurs when the adult fin complement develops, usually about one month after hatching and when the young white perch are about 1 in. in length. During 2007, white perch PYSL were most abundant in the middle estuary in late May and June ([Figure 4-9](#)) where they co-occur extensively with striped bass PYSL.

White perch reach the juvenile stage beginning in mid-June; and during 2007, YOY fish were found in the middle estuary by late June and throughout the entire estuary by early July ([Figure 4-10](#)). Juvenile white perch are about 3 in. long by the end of their first summer (Klauda et al. 1988a). They are prey for larger predators (including adult white perch and striped bass). Yearling and older-than-yearling white perch were also distributed throughout the Hudson River based on the 2007 monitoring program with the greatest concentration in the lower estuary in early spring ([Figures 4-11](#) and [4-12](#)). In the Hudson River estuary some white perch of both sexes become sexually mature at age 2, but all males and females are mature by ages 4 and 5, respectively (Klauda et al. 1988a).

Comparing the temporal distribution of early life stages of white perch in 2007 with previous years (1974-2006), the 2007 distribution was very similar to the long-term record. Egg abundance occurred throughout May as in the historical pattern ([Figure 4-13](#)). YSL were present from mid-May to mid-June, with peak abundance in mid-May. PYSL occurrence extended from mid-May into July with peak abundance in early June as in the long-term pattern. Most YOY white perch were collected in late June in the 2007 LRS with others collected during weeks beyond the temporal limits of this comparison.

White perch eggs in the 2007 LRS were primarily in the Saugerties through Albany regions which agrees with the historical trend ([Figure 4-14](#)). YSL were distributed mainly in the upper regions of the estuary in 2007 with fewer in the middle estuary as seen in the long term pattern. Peak distribution was in the Saugerties region. Also similar to the long-term trend, PYSL were well distributed throughout the estuary in 2007.

Historically, as well as in 2007, the geographical distribution of YOY, yearling, and older-than-yearling white perch in the BSS has shown two main distribution centers, the larger one in the Tappan Zee and Croton-Haverstraw regions and the other in the upriver regions of Saugerties

and Catskill (Figure 4-15). In 2007, however, the upper estuary was the larger distribution center. Lesser numbers of white perch in these age groups have been collected from the middle estuary.

Weekly length statistics for young-of-year white perch collected in 2007 showed increasing growth from July through August with only a slight increase through the fall months (Figure 4-16, Appendix Tables F-4 through F-6). The zigzag pattern in the growth curve may reflect size selectivity of the various sampling gears used in the surveys.

4.4 ATLANTIC TOMCOD

Nineteen members of the codfish family (Gadidae) are found along the Atlantic Coast of Canada and the United States, but only the Atlantic tomcod (*Microgadus tomcod*), an inshore species that ranges from Labrador to the Chesapeake Bay, is anadromous; the southern limit of its spawning range is the Hudson River (Grabe 1978). In Canada, the Atlantic tomcod occurs in the mid- to lower St. Lawrence River and is landlocked in at least two freshwater lakes (Scott and Crossman 1973).

Atlantic tomcod enter coastal estuaries and rivers to spawn in shallow fresh or brackish water during mid-winter. In the Hudson River estuary, adult Atlantic tomcod occur at least as far north as the Saugerties region during spawning runs; the largest concentrations, however, are consistently found in the middle estuary between West Point and Poughkeepsie. After spawning in late December or early January, Atlantic tomcod return to coastal waters.

The Hudson River population is the southernmost major breeding population (Dew and Hecht 1976). No spawning has been documented in either the Connecticut River (Marcy 1976) or Long Island Sound (Richards 1959), and limited spawning may occur in the Raritan River and/or Raritan Bay (IA 1977). Unlike more northern populations, age 1 fish constitute most of the Hudson River spawning stock.

Atlantic tomcod eggs are about 1/16 in. in diameter and non-adhesive. The average number of eggs per female in the Hudson River population has ranged from 12,400 to 22,500 eggs at age 1 and from 32,500 to 53,100 eggs at age 2 (NAI 1992). In the Hudson River water temperatures are generally less than 37°F when spawning occurs, and the eggs take at least a month to hatch.

Atlantic tomcod larvae are about 1/5 in. long at hatching. YSL are pelagic and move downstream as they develop. The yolk-sac is absorbed by 1/4 in., and onset of feeding by PYSL may depend on water temperatures. In the Hudson River, the abundance of YSL peaks in March. YSL are found throughout the lower half of the estuary, whereas PYSL are concentrated in the Yonkers and Tappan Zee regions.

March sampling in the 2007 LRS collected YSL mainly in the middle estuary regions from West Point to Croton-Haverstraw (Figure 4-17, Appendix Tables E-49 through E-66). PYSL were collected in March and April predominantly in the lower estuary to the West Point region (Figure 4-17). Juvenile Atlantic tomcod collected in the 2007 LRS were most abundant in May in the lower estuary regions (Figure 4-18). Although some juvenile tomcod remain in the Hudson River throughout the summer, some proportion of the population may move out of the lower estuary into New York Bay and Raritan Bay when water temperatures rise during late May and June. The 2007 FJS collected juvenile Atlantic tomcod primarily in middle and lower estuary during July and the few juvenile Atlantic tomcod collected in the 2007 BSS were found in the

lower estuary in June (Figure 4-18). The few yearling and older Atlantic tomcod collected in the 2007 monitoring program were found in the lower estuary in spring (Figure 4-19).

Comparing the temporal distribution of early life stages of Atlantic tomcod in 2007 with the long-term database (beginning in early May) available from previous years (1974-2006), the 2007 distribution for PYSL was consistent with the long-term record showing that most were collected in early May (Figure 4-20). However, in 2007 YOY distribution was slightly later than the historic pattern with more YOY collected in late May rather than early May.

The geographical distribution of early life stages of Atlantic tomcod in the 2007 LRS was primarily in the lower estuary, similar to the long-term pattern (Figure 4-21). Peak PYSL abundance was in the Yonkers and Tappan Zee regions whereas YOY abundance was in the Yonkers region, as in the historic pattern, with YOY Atlantic tomcod distribution extending into the middle estuary. The historical geographical distribution index based on the FJS for YOY and yearling-and-older Atlantic tomcod showed two distribution peaks, one in the Yonkers and Tappan Zee regions and the other further upriver in the West Point region (Figure 4-22). In 2007, the distribution pattern for YOY Atlantic tomcod was similar to the long-term pattern, except more YOY were found in the Yonkers region. No yearling-and-older Atlantic tomcod were collected within the temporal limits (mid-August to early October) of this index in 2007.

Juvenile growth slows or ceases in summer (Grabe 1978; Klauda et al. 1988b). Growth slows at temperatures above 66°F and essentially stops in early July when temperatures exceed 71°F. It begins again when water temperatures fall below 77°F during late August and early September (TI 1978). During 2007, the weekly length statistics obtained from the monitoring program exemplified this pattern, showing more rapid growth in the spring and fall than during the summer (Figure 4-23, Appendix Tables F-7 through F-9). Juvenile tomcod generally double their summer length by December to a mean total length approximately 6 in. Most of the juvenile Atlantic tomcod in the Hudson River are sexually mature by the end of December and reproduce in early January. Following the period of rapid growth during the fall, mature YOY migrate upriver to spawn.

4.5 BAY ANCHOVY

Bay anchovy (*Anchoa mitchilli*) is a small, slender fish, from 1.5- to 4-in. long, that is ubiquitous in shallow coastal waters of North America from southern Maine to the Yucatan Peninsula. They have a wide salinity tolerance from fresh water to more than twice the salinity of normal sea water, but they prefer salinities found at seaward ends of estuaries. Where temperatures do not drop below 41°F during the winter, bay anchovy remain in the estuaries throughout the year (Wang and Kernehan 1979).

However, north of Delaware Bay, where water temperatures go below 41°F during the winter, National Marine Fisheries Service trawl data indicate a movement of bay anchovy out of coastal estuaries and southward during the fall, resulting in an overwintering distribution ranging from Cape Hatteras to Delaware Bay and the virtual absence of bay anchovy from the inshore continental shelf of New York and New Jersey during the winter months (Voughlitois et al. 1987).

Bay anchovy school in large numbers and feed on plankton as they swim. Their mouths are large relative to their small size, which enables them to pass relatively large quantities of water through their gill rakers (long, slender projections on their gills) and filter out their prey. They feed throughout the water column and primarily eat invertebrates. Larval bay anchovy feed on a variety of microzooplankton, including the larval stages of crustaceans and mollusks. Juvenile

and adult bay anchovy feed on larger macro-zooplankton, including copepods, cladocerans, amphipods, and mysids.

Bay anchovy rarely survive more than 2 years. They grow rapidly and mature at a size of 1-2 inches. In warm waters, they may mature within 3 months of hatching, but in cooler, northern waters they usually mature in their second summer, 11-14 months after hatching. They are also very prolific; individual females may spawn 50 or more times per year, averaging about 1,100 eggs per spawn (Houde and Zastrow 1991). Partially as a result of this early maturity and high fecundity, bay anchovy may be the most abundant fish species in the western north Atlantic (McHugh 1967).

Bay anchovy spawn in lower estuarine and inshore coastal waters throughout the warmer months of the year. In the New York Bight spawning occurs from May through September, with peak egg abundance occurring in late June or early July when water temperatures exceed 70°F. Adults spawn in areas where the salinity is greater than 10 ppt. Egg abundance is typically highest in waters with salinities greater than 20 ppt, and egg viability apparently declines at salinities lower than 8 ppt. Spawning occurs throughout all areas of the Hudson-Raritan Bay complex, including Raritan and Newark bays, Arthur Kill, Kill Van Kull, and the Upper and Lower New York bays as well as throughout Long Island Sound.

Within the Hudson River, bay anchovy eggs are most abundant in the Battery through Tappan Zee regions from June through July (Figure 4-24, Appendix Tables E-67 through E-84). The eggs, which are about 1/16 in. long, are transparent and initially buoyant, but sink after 12-16 hours of floating. Hatching occurs approximately 24 hours after spawning. Newly hatched YSL are approximately 1/16-1/8 in. long, transparent, and drift along the bottom with the tidal currents. The YSL stage is very brief, and typically lasts less than 1 day. Due to their small size, short duration, and epibenthic nature, few YSL are collected in the Utilities' ichthyoplankton samples. The PYSL stage is longer and lasts about a month. In the Hudson River the peak abundance of PYSL occurs during the summer and the center of their distribution shifts upriver compared to that of eggs and YSL (Figure 4-24).

Bay anchovy are about 1/2 in. long at the beginning of the juvenile stage. Juvenile bay anchovy are found in the Hudson River estuary from mid-August through October and as far upriver as Albany (Schmidt 1992). During 2007, most of the YOY population was located downstream of the Cornwall region and were collected from July into October (Figure 4-25). Yearling and older bay anchovy were much less abundant in collections than YOY and they were caught more frequently in the summer than during fall in the lower estuary (Figure 4-26).

Comparing the temporal distribution of early life stages of bay anchovy in 2007 with the years when LRS sampling included the Battery region (1988-2006), the 2007 egg distribution, which began in late May, peaked earlier than the long-term trend (Figure 4-27). A few YSL bay anchovy were collected in mid-June 2007. PYSL distribution in 2007 was also earlier than the long-term pattern, peaking in mid-July. YOY distribution in 2007 was similar to the historic trend, extending from late July into October (Figure 4-27).

The geographical distribution of bay anchovy early life stages in 2007 was very consistent with the distribution pattern seen over the 1988-2006 period with greatest egg abundance in the lower estuary and PYSL abundance distributed from the Battery to Indian Point regions (Figure 4-28). The 2007 YOY geographical distribution from the LRS was similar to the historic pattern with peak abundance in the Tappan Zee region. The 2007 geographical distribution of YOY bay anchovy in the BSS differed from the 1974-2006 long-term pattern in that more YOY

were collected in the Poughkeepsie region than in the past, but peak abundance still occurred in the Tappan Zee region (Figure 4-29). Yearling and older bay anchovy were predominantly collected in the Yonkers and Poughkeepsie regions in 2007, whereas in the past, most were found in just the Yonkers region.

Weekly length statistics for bay anchovy juvenile life stage collected in 2007 showed an increase in growth during early summer, lesser growth during August and September as later spawned fish were recruited to the sampling gear, and a return to steady growth in the fall (Figure 4-30, Appendix Tables F-10 through F-12). The wide range in size (up to 2 in.) during a collection period reflects the protracted spawning period of bay anchovy.

4.6 AMERICAN SHAD

American shad (*Alosa sapidissima*) are the largest of the North American species of anadromous herrings. They range from Newfoundland to northern Florida along the Atlantic Coast and over the continental shelf. They may live to 13 years, attain a length of 30 in., and weigh up to 12 lb. American shad usually become sexually mature after 3-6 years at sea, although some males may mature within 2 years. Most females mature by their fourth or fifth year.

American shad, like many anadromous herrings, have well-developed homing abilities and are capable of returning to their natal rivers and tributaries from far off the Coast. After spawning, the adults soon return to the ocean. They can repeat their annual spawning sequence up to eight times. In more southerly rivers along the Atlantic Coast, increasing percentages of the adult population die after spawning; south of Cape Fear, North Carolina, all spawners die on their first run.

In the spring, American shad migrate north, and by summer they are feeding in the Gulf of Maine, the Bay of Fundy, Georges Bank, and the Gulf of the St. Lawrence (Neves and Depres 1979; Dadswell et al. 1987). In fall they move south again along the perimeter of the Gulf of Maine and Georges Bank at depths greater than 60 m (Neves and Depres 1979); by winter they may congregate along the edge of the continental shelf. Based on tagging experiments conducted in 1950 and 1951, Talbot (1954) reported that American shad of Hudson River origin were recaptured from Maine to North Carolina. Most recaptured fish were from the fishery along the New Jersey Coast in spring. Pre-spawning adults move along the Coast in the spring to their natal rivers (Dadswell et al. 1987), which they enter as river temperatures reach 50-60 °F.

Peak spawning activity for American shad in the Hudson River occurs during May in the upper estuary. Shad have been reported to spawn on dark afternoons or evening hours over shallow, broad flats washed by moderate currents in the main body of coastal rivers (Leggett 1976). At present shad are not known to utilize Hudson River tributaries, the Mohawk River, or the upper Hudson River for spawning (Schmidt et al. 1988), although historically the Mohawk and upper Hudson may have been part of the shad spawning and nursery range. During 2007, most American shad eggs were collected from Albany to Hyde Park from late April to late May (Figure 4-31, Appendix Tables E-85 through E-102).

American shad produce 116,000-468,000 eggs per female. The eggs are 1/16-1/8 in. in diameter, semibuoyant, and non-adhesive. They hatch in 3-12 days, depending upon water temperature. Newly hatched YSL are approximately 1/4 in. long and grow very rapidly. They absorb the yolk-sac within 1 week and are approximately 1/2 in. long at the beginning of the

PYSL stage. Larval shad alternately swim toward the surface and passively sink (Chittenden 1969), but behavior has not been completely described. The downriver dispersal was apparent during 2007, with YSL American shad found primarily in the upper estuary between Kingston and Albany during May and PYSL found further downriver from late May into June (Figure 4-31).

During 2007, YOY shad appeared to have been fully recruited to the beach seine gear by June with high abundance in the upper and middle estuary, but primarily in the upper estuary for the LRS gear and the middle estuary for the FJS gear (Figure 4-32). No yearling and older American shad were collected in 2007 (Figure 4-33), since adult spawning fish (3- to 6-year-old fish) effectively avoid the juvenile gear.

Comparing the temporal distribution of early life stages of American shad in 2007 with previous years (1974-2006), the 2007 distribution for eggs was similar to the historic pattern with peak abundance in mid-May (Figure 4-34). YSL abundance in 2007 was similar to the historic occurrence trend from mid-May to early June, but more were collected in mid-May than in the past. PYSL abundance peaked in mid-June 2007, slightly later than the long-term pattern. YOY were collected beginning in late June. The geographical distribution of American shad early life stages in 2007 was generally consistent with the long-term record with greatest distribution in the upper estuary, although peak distributions for eggs and YSL were further downriver than in the past (Figure 4-35). YOY American shad collected in the 2007 LRS were predominately found in the Catskill region rather than distributed throughout the upper and lower estuary.

The long-term geographical distribution of YOY American shad in the BSS showed tri-modal peaks, one in the lower estuary (Tappan Zee and Croton-Haverstraw), one in the mid-estuary (Cornwall and Poughkeepsie), and one in the upper estuary (Saugerties, Catskill, and Albany) (Figure 4-36). The 2007 geographical distribution data supported the existence of the middle and upper estuary peaks, but few YOY were found in the lower estuary in 2007.

Weekly length statistics for YOY American shad collected in 2007 showed steady growth during the late spring and summer and slower growth in the fall (Figure 4-37, Appendix Tables F-13 through F-15). At the time they emigrate from the Hudson River at the end of the summer, juvenile shad range from 3 to 4 in. long. This emigration is triggered by declining water temperatures and may be related to size (Schmidt et al. 1988); larger juveniles may tend to emigrate earlier. The shad emigration is a gradual movement of the population seaward over several months. Shad emigrate from the estuary earlier than either of the other two anadromous herrings commonly found in the Hudson River, alewife and blueback herring; and Schmidt et al. (1988) speculated that the earlier migration might be a behavioral adaptation that reduces competition with juveniles of the other two herring species.

4.7 RIVER HERRINGS (*Alosa* spp.)

Blueback herring (*Alosa aestivalis*) and its congener, alewife (*A. pseudoharengus*), are similar in general form to American shad, but are much smaller and not as deep bodied when adult. Blueback herring and alewife are very much alike in external appearance, especially as larvae, but older alewife have proportionately larger eyes and deeper bodies than blueback herring. In Hudson River sampling, eggs and larvae of alewife and blueback herring are not differentiated because of the similarity in appearance. Any references in this document to eggs and larvae pertain to the combined numbers from both species, referred to as *Alosa* spp. When juveniles of these two species reach sufficient size, they are differentiated by the size of the eyes and the mouth morphology. The differentiated juveniles are discussed separately below. Occasionally

other members of the Clupeidae family, such as Atlantic menhaden, which are also difficult to distinguish during the early life stages may be included in this *Alosa* spp. grouping.

Of the three anadromous herring species that spawn in the Hudson River estuary, blueback herring are the last to begin their spring spawning run, preferring warmer water than American shad or alewife. Alewife spawning activity is most intense when water temperatures are 51-71°F, which results in slightly earlier spawning than that of blueback herring. Blueback herring peak spawning activity occurs near the end of May. Spawning activity occurs within the river, but preferred spawning habitat for blueback herring is in fast-flowing tributaries, where eggs are released over hard substrates (Loesch and Lund 1977). In the Hudson River, blueback herring travel through the locks and spawning occurs within the Mohawk River and upper Hudson River. Alewife prefer ponds and slow-moving streams for their spawning habitat.

Alewife eggs are semidemersal, slightly adhesive, but easily torn free and carried by currents. The egg diameter is about 1/16 in. Hatching takes 2-15 days depending upon temperature (Smith 1985). Blueback herring produce 45,000-350,000 eggs per female. The eggs are 1/16 in. in diameter and adhesive upon release, but they may later become dislodged and be pelagic. Development proceeds rapidly and hatching occurs in 2-3 days. Newly hatched blueback herring are 1/8 in. long and the yolk-sac is absorbed in about 4 days. At the beginning of the PYSL stage, the larvae are about 3/16 in. long.

In the Hudson River during 2007, peak abundance of *Alosa* spp. eggs occurred in the upper estuary at Albany in early May (Figure 4-38, Appendix Tables E-103 through E-114). YSL and PYSL were also most abundant in the upper estuary with PYSL found throughout the middle estuary by late May. YOY *Alosa* spp. were found mainly in the upper and middle estuary in late June and July (Figure 4-39).

Comparing the temporal distribution of early life stages of *Alosa* spp. in 2007 with previous years (1974-2006), the 2007 peak abundance for eggs occurred in early May, which was slightly earlier than the historical pattern. YSL and PYSL occurrence were within the historical range, peaking in mid-May for YSL and early June for PYSL (Figure 4-40). No YOY *Alosa* spp. were collected in the 2007 LRS.

The geographical distribution of *Alosa* spp. early life stages in previous years (1974-2006) showed that most of the *Alosa* spp. eggs are found in the Catskill and Albany regions and the larvae gradually disperse downriver throughout the estuary (Figure 4-41). The 2007 distribution is consistent with this long-term record. Individuals present in the lower estuary were probably Atlantic menhaden, another member of the Clupeidae family. Geographic distribution of YOY *Alosa* spp. from the BSS in the historic record indicated abundance in the upper estuary and a secondary peak in Cornwall (Figure 4-42). In 2007, all YOY in the BSS were collected before the temporal limits (mid-August to October) of this index and were found primarily in the upper and middle estuary.

4.8 ALEWIFE

Alewife are usually anadromous and inhabit coastal waters from Newfoundland to South Carolina but they have also been introduced into the upper Great Lakes and inland lakes in Rhode Island, Maine, New Hampshire, Virginia, Ontario, and New York, where they provide forage for large predatory species. Anadromous alewife spend most of their lives in salt water and return to fresh water to spawn in lakes and quiet stretches of rivers (Scott and Crossman 1973). They are capable of homing to their natal rivers after they mature at ages 3 or 4, even

though substantial numbers may not return and considerable mixing of river stocks may occur (reviewed in Fay et al. 1983). Adults are typically about 10- to 12 in. long and have a maximum life span of about 9 years.

Alewife is chiefly a plankton feeder; copepods, amphipods, shrimps, and appendicularians are the chief diet. However, they also take small fish, such as herring, eels, lance, cunners, and their own species, as well as fish eggs. Upon returning to the lower estuary after spawning, alewife feed heavily on shrimp (Bigelow and Schroeder 1953).

Alewife assume adult characteristics at about one month of age and about 0.5 in. long. At this stage they tend to move inshore during the day and offshore into deeper waters at night. They remain in estuaries until water temperatures begin declining in the fall, when they move into coastal waters. Their emigration pattern is prolonged, like that of American shad. Timing of migration may also be related to size, and larger juveniles migrate earlier (Schmidt et al. 1988). Little is known about the migration patterns at sea. The presence of alewife and blueback herring in the Bay of Fundy has led to speculation that these species have an oceanic migratory pattern similar to American shad, although that has not been confirmed (Harris and Rulifson 1989).

YOY alewife began appearing in the 2007 LRS in late June mainly in the upper estuary ([Figure 4-43](#), [Appendix Tables E-115 through E-126](#)). YOY alewife were most abundant in the upper and middle estuary in the 2007 FJS during the early summer and in the middle estuary in the 2007 BSS during the summer and early fall. The few yearling and older alewife collected in the 2007 monitoring program were found throughout the estuary during the spring and summer. Those found in the spring were presumably on their spawning migration ([Figure 4-44](#)). Very few yearling and older alewife were collected in the estuary by fall 2007.

Comparing the geographical distribution of YOY alewife based on the 2007 BSS with previous years (1974-2006), the 2007 distribution of juveniles was concentrated in the Poughkeepsie region with a secondary peak in the Saugerties region ([Figure 4-45](#)). The historic pattern suggested a more even distribution throughout the estuary, with tri-modal peaks in the Tappan Zee/Croton-Haverstraw, Cornwall, and Saugerties/Catskill regions.

Weekly length statistics for YOY alewife collected in 2007 showed slow, steady growth during the summer and a leveling off of growth beginning in October ([Figure 4-46](#), [Appendix Tables F-16 and F-17](#)). The zigzag pattern in the growth curve may reflect size selectivity of the various gears used in the surveys.

4.9 BLUEBACK HERRING

Blueback herring range from southern New Brunswick and Nova Scotia southward to northern Florida. Although they are caught as far as 70-80 miles offshore, little is known about the oceanic migration patterns. The presence of blueback herring and alewife in the Bay of Fundy has led to speculation that these species have an oceanic migratory pattern similar to that of American shad, although that has not been confirmed (Harris and Rulifson 1989). The degree to which river herring of Hudson River origin return to the Hudson River is not known nor is the degree to which spawning stocks from different river systems mix. Blueback herring grow to a maximum length of 15 in. and a weight of about 1 lb and live for up to 8 or 9 years (Scott and Crossman 1973).

Within a month of hatching the young blueback herring assume adult characteristics and are about 0.5 in. long. Juvenile blueback herring remain in upper estuaries throughout the summer. During this period they are about 10 times more abundant than juvenile alewife. Juvenile blueback herring grow more slowly than juvenile alewife and begin their downriver migration later than the other herring species. It has been reported that blueback herring exhibit a tendency to spend their first year or two in the lower reaches of estuaries (Hildebrand 1963).

In the Hudson River during 2007, early juveniles collected in the LRS were found in the middle estuary beginning in July (Figure 4-47, Appendix Tables E-127 through E-138). YOY blueback herring began appearing in the 2007 FJS and 2007 BSS in early July and late July, respectively. They were present in the upper and middle estuary only until early October when collections ceased, possibly reflecting the downriver migration out of the estuary. A few yearling and older blueback herring were collected in 2007 during the spring spawning run (Figure 4-48).

Comparing the geographical distribution of juvenile blueback herring based on the 2007 BSS with previous years (1974-2006), the 2007 distribution of YOY was similar to the long-term record with most of the population in the upper estuary regions and extending down to the middle estuary (Figure 4-49).

Weekly length statistics for juvenile blueback herring collected in 2007 showed slow, steady increase in growth during the summer and early fall and an increase in growth in October (Figure 4-50, Appendix Tables F-18 and F-19).

4.10 GIZZARD SHAD

Gizzard shad (*Dorosoma cepedianum*) is a freshwater herring that sometimes ranges into brackish water and seawater along the Coast. It is an open-water species, usually living at or near the surface, and is found in large rivers, reservoirs, lakes, swamps, bays, borrow pits, bayous, estuaries, temporary floodwater pools along large river courses, sloughs, and similar quiet open waters. The geographic range of the gizzard shad includes the Great Lakes, except Lake Superior; the Hudson River south to the U.S. Gulf Coast and west to the Dakotas, Texas, and New Mexico; and along the Gulf Coast south to Rio Panuco in eastern Mexico. The northern extent of the range along the Atlantic Coast is Sandy Hook, the Hudson River, and Long Island (Smith 1985). Gizzard shad can grow to a length of 19 in., but the usual adult size is 10-14 in. and 1-3 lb in weight (Miller 1960).

Gizzard shad spawn when the water temperature reaches 50-70°F (April-June, depending upon the location). Adults mill near the surface and spawning sometimes takes place in water less than a foot deep. The eggs sink slowly and adhere to the bottom. The eggs are less than 1/16 in. in diameter and the number of eggs produced by adult females ranges from 59,000 to almost 400,000. Hatching occurs from 1-1/2 to 7 days, depending upon the temperature. Gizzard shad larvae are generally pelagic and widely distributed in many types of habitat. They begin to eat by the fifth day after hatching and feed on microzooplankton until they are about 1 in. long. At that point the digestive system begins to change and the young shad become herbivorous and eat phytoplankton, algae, and microscopic bottom plants (Scott and Crossman 1973).

Growth during the first 5 or 6 weeks is typically rapid, but then slows. By the end of the first summer, gizzard shad are generally between 4 and 5 in. long. Young gizzard shad tend to school and prefer clear, slow-moving water. They sometimes move into small streams and can tolerate high turbidity. However, they do not usually move into brackish waters.

Gizzard shad typically mature at age 2 or 3, and the life span is about 7 years in northern populations and less in southern ones. In estuarine populations gizzard shad move into waters of higher salinities as they age; spring spawning runs have been reported in some instances (Miller 1960). Young gizzard shad are eaten by most predatory fish, but adults are generally too large to be eaten easily.

Gizzard shad occur primarily in the Mohawk River drainage. The early life stages of this species have been caught only occasionally in the Utilities' river surveys. A few YOY gizzard shad were collected in the 2007 BSS predominantly in the middle estuary in the summer ([Figure 4-51](#), [Appendix Tables E-139 through E-146](#)). However, adult gizzard shad appear regularly in winter impingement samples at all of the power plants on the Hudson River. These fish may be emigrants from established populations located in the Mohawk River (Smith 1985) or there may be a small resident population in the lower Hudson River. The few yearling and older gizzard shad recorded in river surveys in 2007 were collected in beach seines in the middle estuary primarily in the summer and early fall ([Figure 4-52](#)).

Comparing the geographic distribution of gizzard shad during the 2007 BSS with the long-term record (1974-2006), peak 2007 distribution for YOY differed from the historic trend in that most were found in the middle estuary and fewer in the upper estuary ([Figure 4-53](#)). Abundance of yearling and older gizzard shad in 2007 also differed from the long-term pattern with concentrated abundance in the Cornwall region and fewer collected from the other regions in the middle and lower estuary.

4.11 RAINBOW SMELT

Rainbow smelt (*Osmerus mordax*) are greenish, slender, salmon-like fish with deeply forked tails. They occur along the Atlantic Coast from Labrador to the Delaware River, along the Arctic Coast, and along the coasts of Alaska and British Columbia. They are landlocked naturally in many lakes and ponds in Canada, Maine and New Hampshire and have been introduced to other landlocked fresh waters. Within New York State rainbow smelt are found in the Hudson River, Long Island streams, several Adirondack lakes, and the Great Lakes (Smith 1985).

Anadromous rainbow smelt may spend the whole year in or near estuaries. In the fall they move into the bays and estuaries. Rainbow smelt spawn in tributaries in spring when the water temperature reaches 48°F. Even landlocked populations continue to migrate from their lake habitats to tributary streams to spawn. Spawners move into the lower reaches of streams in the evening, spawn at night, and move out in the day. Adult rainbow smelt leave the tributaries immediately after spawning. They spawn where water velocities are high, and larval survival decreases where water velocities are low (Buckley 1989). In the summer adults move to deeper, cooler water just outside bays and estuaries.

Adult smelt usually average 7-8 in. in total length, but occasionally reach lengths of 13-14 in. Female smelt grow faster than males and may reach maturity as early as age 1 along the southern edge of their range. However, maturity occurs more commonly at ages 2 through 5. The number of eggs produced by an adult smelt may range from 7,000 to 70,000.

The eggs are approximately 1/16 in. or less in diameter and sink to the bottom, where they stick in clusters to pebbles or whatever they happen to touch (Bigelow and Schroeder 1953). Rainbow smelt eggs hatch in about a week to almost a month, depending on temperature and, historically, eggs have been present in the Hudson River ichthyoplankton catches for about two

weeks, which suggests a short spawning period. No rainbow smelt eggs were collected in 2007.

Newly hatched larvae are about 1/5 in. long. These larvae are carried downstream and out of the tributaries by current flows. In the Hudson River, YSL have been found in late April throughout the upper half of the Hudson River estuary but only one was collected in 2007 in the lower estuary in late May (Figure 4-54, Appendix Tables E-147 and E-148). The yolk-sac is absorbed when the fish are about 1/4 in. in length. PYSL in the Hudson River were commonly found in the upper and middle estuary and were abundant from late April through June but none were collected in 2007. As rainbow smelt larvae grow, they move closer to the bottom during the day and move back toward the surface at night, probably to feed on zooplankton, which exhibit similar vertical migrations in the water column.

Juvenile rainbow smelt were historically found in the Hudson River from mid-June to August in the middle and lower estuary but, again, none were collected in 2007. Juvenile smelt are exceedingly slender and nearly transparent. At about 3/4 in. they begin to school. Juvenile rainbow smelt move into shallow water at night and back to deep channels during the day (Buckley 1989). These movement patterns have been reflected in BSS and FJS collections in the past where beach seines conducted during the day collected no rainbow smelt and fall shoals sampling conducted at night collected juveniles primarily in the middle estuary regions in the early summer. By late summer the young smelt leave the estuary. No yearling and older rainbow smelt were collected in the Hudson River in 2007 (Appendix Tables E-149 through E-154). Historically they were found mainly in the Indian Point through Hyde Park regions.

The long-term temporal distribution record (1974-2006) of the early life stages of rainbow smelt in the Hudson River showed a short occurrence of eggs and YSL in early May and a protracted occurrence of PYSL throughout May and June (Figure 4-55). The one YSL collected in 2007 was collected in late May. The historical geographic distribution (1974-2006) of the early life stages of rainbow smelt demonstrate a downriver migration from peak egg abundance in Saugerties to middle and lower estuary presence of YOY (Figure 4-56). The one YSL collected in 2007 was well downriver of traditional location. The long-term distribution record (1979-2006) from the FJS indicated that most YOY and yearling and older smelt were found in the middle estuary (Figure 4-57).

4.12 HOGCHOKER

Hogchoker (*Trinectes maculatus*) inhabit estuaries and nearshore coastal waters and range from Massachusetts Bay to the Atlantic Coast of Panama. They can tolerate a wide range of salinities and are found from marine waters up into fresh water, although older individuals tend to be found in more saline waters. Hogchoker reach a length of 2-3 in. in their first year, mature at about 4.5 in., and obtain a maximum size of about 8 in. (Bigelow and Schroeder 1953). This small flatfish is very abundant in the Hudson River estuary and its adjacent bays and coastal waters.

Adult hogchoker overwinter in low salinity regions of estuaries (Koski 1973) and spawn in the lower regions of estuaries and offshore from estuary mouths during the spring and summer. In some areas (eastern Chesapeake Bay) spawning appears to be restricted to sandy substrates. Dovel et al. (1969) reported that the hogchoker population in the Patuxent River was a resident population confined for the most part to that estuary in the Chesapeake Bay complex and concluded that the hogchoker population in the Chesapeake Bay system was probably

composed of subpopulations that were generally confined to the bay and various tributaries. The relationship of Hudson River hogchoker to Atlantic coastal populations is unknown.

Individual hogchoker produce from 11,000 to 54,000 eggs, depending upon the size of the female. In the Hudson River estuary hogchoker spawning occurs from May to October, although eggs are more commonly collected from the last week in May through July in the more saline areas of the lower estuary, such as the Battery and Yonkers regions. During 2007 hogchoker eggs were collected primarily in the Yonkers region in June and July ([Figure 4-58](#), [Appendix Tables E-155 through E-172](#)).

After hatching, the YSL move upstream from the spawning areas and may use the net upstream flows in the deeper saline waters of the estuary. In 2007, YSL were also collected from the Yonkers region in June, but PYSL were collected further upriver in middle estuary regions in July ([Figure 4-58](#)). YOY hogchoker in 2007 were found primarily in the upper and middle estuary during late summer and fall ([Figure 4-59](#)). Yearling and older hogchoker were collected throughout the Hudson River in 2007 but were most abundant in the lower estuary ([Figure 4-60](#)).

The 2007 geographical distribution of YOY hogchoker in the FJS was similar to the long-term trend (1979-2006) which showed a presence in most regions of the estuary, but in 2007 more YOY were collected in the upper estuary region of Saugerties than in the past ([Figure 4-61](#)). Yearling and older hogchoker were also found throughout the estuary with peak abundance in the Tappan Zee region as in the historic pattern.

In the Hudson River, hogchoker generally reached sexual maturity at age 2, although some males were mature at age 1 (about 3 in. long). The oldest males in the Hudson River were age 4 while the oldest females were age 6. Hogchoker feed near the bottom on a variety of benthic invertebrates, including annelid worms and smaller crustaceans.

4.13 SPOTTAIL SHINER

Spottail shiner (*Notropis hudsonius*) is a small, silvery, freshwater minnow that reaches a maximum total length of over 5 in. in the Hudson River. It is usually recognizable by a large oval spot at the base of the tail, but in large individuals the spot is sometimes small and somewhat masked by silvery pigment. It occurs in a variety of freshwater habitats from large lakes and rivers to small streams and is widely distributed in Canada and the United States (Smith 1985). Spottail shiner is a freshwater species and does not enter marine coastal waters. Thus, the Hudson River population is probably isolated from those in other coastal rivers along the East Coast of the United States.

Adult spottail shiner may form large spawning aggregations over sand or gravel substrates in shallow water or at the mouths of tributaries. In the Hudson River adult spottail shiner appear in the ichthyoplankton samples from the upper, freshwater regions of the estuary during April. Spottail shiner produce from 100 to 2,600 eggs, depending upon the age and size of the female. Very few eggs and larvae have been collected during the LRS, which is probably a reflection of the fact that this species spawns in shallow-water habitats that are not sampled efficiently during the ichthyoplankton surveys.

Juvenile spottail shiner first appeared in the 2007 BSS during June and were most abundant in late July in the shorezone above the Cornwall region ([Figure 4-62](#), [Appendix Tables E-173 through E-184](#)), which is also the portion of the estuary with the greatest number of tributaries.

Yearling and older spottail shiner were also found throughout the middle and upper Hudson River generally above Cornwall in 2007 (Figure 4-63).

Comparing the geographical distribution of YOY and yearling and older spottail shiner based on the BSS in 2007 with previous years (1974-2006), the 2007 distribution of these life stages was consistent with the long-term record of major distribution in the upper estuary with lesser concentrations in the middle estuary, except that more spottail shiner were found in the Saugerties region in 2007 than in the long-term record (Figure 4-64).

Weekly length statistics for juvenile spottail shiner collected in 2007 show a rapid increase in length from June to September and a leveling off of growth in the fall as the fish were recruited to the adult stage (Figure 4-65, Appendix Tables F-20 and F-21). The erratic growth pattern for some weeks can be attributed to a few individuals collected during the FJS sampling weeks.

In general, spottail shiner are opportunistic predators that feed on aquatic insect larvae, zooplankton, benthic invertebrates, and the eggs and larvae of fish, including their own species. The smaller fish eat the smaller organisms and zooplankton (Scott and Crossman 1973).

4.14 ATLANTIC STURGEON

Atlantic sturgeon, *Acipenser oxyrinchus*, has two recognized subspecies, *A. o. oxyrinchus* and *A. o. desotoi*. The former ranges from Hamilton River, Labrador, and George River, Ungava Bay, to northeastern Florida, while the latter is confined to the northeastern Gulf of Mexico (Gruchy and Parker 1980a). Atlantic sturgeon are anadromous with spawning occurring in freshwater, but most of their life is spent in marine waters, often undertaking long distance migrations along the Atlantic Coast (Bain 1997). Tagging studies reported by Dovel and Berggren (1983) indicate that Atlantic sturgeon disperse over great distances and spend at least part of their lives in other estuary systems. Atlantic sturgeon tagged in the Hudson River have been recaptured as far north as Marblehead, Massachusetts, and as far south as Ocracoke, North Carolina. Many of the tags were returned by Delaware Bay and Chesapeake Bay commercial fisherman. Presumably, Atlantic sturgeon that spawned in other rivers and estuaries find their way into the Hudson River.

Atlantic sturgeon are long-lived, slow-maturing, large fishes. Dovel and Berggren (1983) reported that by age 29, Atlantic sturgeon averaged 7.8 ft. The largest known Atlantic sturgeon was a 14-ft specimen weighing 811 lb from Saint John River, New Brunswick (Van Den Avyle 1984). While in the Hudson River the maximum reported age is 36 (Van Eenennaam et al. 1996), the oldest known Atlantic sturgeon is a 60-year-old individual from the St. Lawrence River (Gilbert 1989). Adults are large fishes with barbels extending across most of the width of the snout, heavy bony plates (called scutes) covering the body, and an extended upper lobe of the tail fin.

Male Atlantic sturgeon reach maturity at about 12 years and females at 18-19 years (Dovel and Berggren 1983), although some females may reach maturity at 15 years (Van Eenennaam et al. 1996). They are believed to spawn at intervals ranging from 1 to 5 years (Bain 1997); however, males may possibly have an annual spermatogenic cycle (Van Eenennaam et al. 1996). Mature male Atlantic sturgeon enter the Hudson estuary by early April, before water temperatures rise above 43°F while mature females do not arrive until several weeks later (Dovel and Berggren 1983). Spawning occurs from May through July. Telemetry studies in 1994 and 1995 suggest that spawning occurs in concentration areas near Hyde Park (RM 80) and Clinton Point (RM 70) (Nack and Bain 1996). Other studies have identified an additional concentration area near

Catskill (RM 113) (Van Eenennaam et al. 1996). After spawning, males and females were tracked to a congregation site at Con Hook (RM 48) where the estuary is deep (up to 120 ft). Post-spawning adults were joined at this site by marine-migrant juveniles and this large population of Atlantic sturgeon remained at Con Hook throughout most of the summer. A gradual emigration of adults to marine waters began in August and was completed by October (Nack and Bain 1996).

Atlantic sturgeon produce large numbers of eggs. Fecundity estimates derived from a number of river systems indicate that Atlantic sturgeon produce between 0.8 and 3.75 million eggs per female and that the number of eggs is closely related to the weight of the fish. During spawning, eggs are presumably broadcast into flowing water, becoming widely dispersed after fertilization. There is no evidence of parental care. The eggs are demersal and become strongly adhesive after about 20 minutes and attach to rocks, weeds, and other submerged objects (Gilbert 1989). Hatching time ranges from about 4 days at about 20 C (Dean 1895) to 7 days at 17.8 C (Vladykov and Greeley 1963).

Larvae of Atlantic sturgeon, as all life stages, are oriented on the bottom of deep channel habitats (Bain 1997). Based on capture locations of larval and juvenile sturgeon from early Hudson River studies, the nursery region for sturgeon is believed to be located between RM 43 and RM 118 from May through mid-July (Hoff et al. 1977, in Hoff et al. 1988). More recent data collected during the LRS from 1974 through 1994 show a concentration area (RM 43-100) of larvae and early juveniles between mid-May and mid-July that may correspond to the distribution of Atlantic sturgeon early life stages (Con Edison 1997a).

Juvenile Atlantic sturgeon remain in the Hudson estuary for 2-6 years before migrating to marine waters. During the first 3 years of life, they quickly grow to over 2 ft (Bain 1997). From July through September, juvenile Atlantic sturgeon are distributed over much of the Hudson estuary (Bain 1997), but one section of the estuary (RM 43-48) contained high numbers of juveniles (Haley et al. 1996). As water temperatures drop in the fall, juveniles form an overwintering congregation in deep waters (>25 ft) between the Bear Mountain Bridge and the George Washington Bridge (Dovel and Berggren 1983).

Sturgeon feed by rooting along the bottom and "vacuuming" with their protrusible mouths. This leads to a large amount of non-food matter, mostly mud, in the stomach. Actual food items include mollusks, polychaete worms, gastropods, shrimp, isopods, amphipods, and small benthic fishes.

The Atlantic sturgeon has been an important commercial species in the Hudson estuary, prized for its flesh and caviar. Commercial landings peaked at 7 million pounds at the turn of the 19th century, but the fishery crashed within a 10-year period due to over-exploitation of a slow-growing, slow-maturing fish (Field 1996). Since then, coast-wide landings hovered around 200,000 lb. In 1990, the Atlantic States Marine Fisheries Commission adopted a management plan for Atlantic sturgeon establishing a minimum size limit for the commercial fishery. Recent annual landings in New York State have ranged from 17,000 to 36,000 lb (McKown 1996). However, in 1996, the Atlantic States Marine Fisheries Commission recommended a 2-year fishery moratorium based on recent scientific analyses of the Hudson River Atlantic sturgeon which indicated a collapsing population (Field 1996).

Evidence of a decline in the Hudson River estuary stock of Atlantic sturgeon in recent years comes from two population estimates. The population of immature Atlantic sturgeon in the Hudson River estuary was estimated at 14,500 to 36,000 fish for the 1976 year class at age one

(Dovel and Berggren 1983). Kahnle and Hattala (1998) estimated that there were 4,600 age zero Atlantic sturgeon in the estuary in 1994, a substantial decline from the abundance of the 1976 year class.

The Utilities' monitoring program in 2007 collected 40 Atlantic sturgeon. One YSL, three PYSL, and one yearling and older Atlantic sturgeon were collected in the LRS in the Croton-Haverstraw, Poughkeepsie and Hyde park regions in May and June (Figure 4-66). All of the remaining 35 yearling and older Atlantic sturgeon were caught in the FJS between West Point and Kingston (RM 54 to 89) from July to November (Figure 4-67, Table 4-3, and Appendix Tables E-185 through E-194).

4.15 SHORTRNOSE STURGEON

Shortnose sturgeon, *Acipenser brevirostrum*, are less widespread than the Atlantic sturgeon, ranging from the St. John River, New Brunswick, to the St. Johns River, Florida (Gruchy and Parker 1980b). Nineteen distinct stocks of shortnose sturgeon are recognized, ranging in size from less than about 100 adults in the Merrimack River, Massachusetts to greater than about 38,000 (now 60,000 [Bain et al. 1998]) adults in the Hudson River, New York (NMFS 1998). Shortnose sturgeon are amphidromous, using mainly fresh and brackish waters, and only occasionally marine waters, during its life cycle (Bain 1997). Shortnose sturgeon presumably from the Hudson River have been caught in Sandy Hook Bay, New Jersey just off the mouth of the Hudson (Dovel et al. 1992), but most seem to remain within the Hudson estuary. Forty-four shortnose sturgeon tagged in the Hudson River between 1979 and 1980 were recaptured in the Hudson River by researchers from 1993 to 1995, from 14 to 17 years after tagging (Bain et al. 1996).

Like Atlantic sturgeon, shortnose sturgeon are long-lived, slow-maturing fishes. In the Hudson River the maximum reported age for shortnose sturgeon is 37 years, however, the oldest known shortnose sturgeon is a 67-year-old female from St. John River, Canada (Gilbert 1989). The largest shortnose sturgeon reported for the Hudson River was almost 4 ft long (Geoghegan et al. 1992), considerably smaller than that reported for Atlantic sturgeon. However, both the Atlantic and the shortnose sturgeons are similar in appearance. As adults, shortnose sturgeon can be distinguished from the Atlantic sturgeon by a shorter and blunter snout, wider mouth, and smaller size of the anal fin.

Male shortnose sturgeon in the Hudson River do not reach sexual maturity until age 3-5 and females at age 6-7 (Dadswell et al. 1984). The first spawning, however, may follow maturation in males by 1-2 years, while in females spawning may be delayed for up to 5 years (Dadswell 1979). Spawning appears to be a non-annual event. Based on the percentage of fish examined from August to March that were developing sexually, Dadswell (1979) suggested that females spawn once every third year and males every other year. Other evidence (annuli of the pectoral ray) suggests a 5- to 11-year interval between spawnings (Dadswell 1979). However, annual spawning has been suggested by tagging studies on the Hudson River that tracked shortnose sturgeon to the spawning grounds in successive years (Dovel et al. 1992).

During their spawning migrations, shortnose sturgeon move upriver as far as accessible habitat permits (Dovel et al. 1992). In the Hudson River, adult shortnose sturgeon reach the spawning grounds between Coeymans and Troy (RM 124-153) as early as the first week of April and spawning occurs from late April to early May (Bain 1997). After spawning, adults move downriver to feed and disperse over the tidal portion of the Hudson estuary, but are primarily south of Kingston (Bain 1997). From October through March, pre-spawning adults concentrate

near Esopus Meadows (RM 87) (Dovel et al. 1992). Non-spawning adults may inhabit another winter concentration area located near Croton Point (RM 34) (Geoghegan et al. 1992; Bain 1997).

Shortnose sturgeon are broadcast spawners with external fertilization of eggs (NMFS 1987). Similar to Atlantic sturgeon, the eggs are demersal and adhere to objects on the river bottom within minutes of fertilization. Between 8 and 12 C, eggs hatch 13 days after fertilization. At 17 C, hatching occurs in 8 days (Buckley and Kynard 1981).

Research on shortnose sturgeon larval behavior indicates that hatchlings are photonegative and vigorously seek cover under any available structure immediately after hatching (Richmond and Kynard 1995). During the first 1-2 days following hatch, larvae denied or dislodged from cover will exhibit "swim-up and drift" behavior, which in the wild allows them to move short distances to seek available cover. At 9-12 days post hatch, larvae are 15 mm long (TL), the yolk sac is completely absorbed, and the fry are feeding on zooplankton (Buckley and Kynard 1981; Washburn and Gillis Associates 1981). By about 14-17 mm TL, shortnose sturgeon, resembling miniature adults, become photopositive and leave cover to swim in the water column, although remaining bottom oriented. In the wild, larvae of this size probably migrate downstream (Richmond and Kynard 1995).

Little information is available on the actual distribution of the early life stages of Hudson River sturgeon during their first growth season because of the infrequency of their capture and the difficulty in distinguishing between the two species of sturgeon. Data from 21 years of the LRS (1974-1994) document the collection of 186 larvae and early juveniles of both species (Con Edison 1997a). These data show two concentration areas of sturgeon larvae and early juveniles in the Hudson River estuary. Based on spawning ground identification by Dovel et al. (1992), the concentration area from RM 120 to RM 150 during May may correspond to the distribution of shortnose sturgeon larvae and early juveniles in the Hudson River.

Early growth is rapid. For shortnose sturgeon, larvae are approximately 0.7 in. in total length at the end of May and from 4.9 to 5.1 in. by the end of July. By the end of their second summer, they average approximately 11.5 in. (Dovel et al. 1992). After about the third year of life, growth slows considerably. Greeley (1937) reported a maximum size of about 34 in. at 15 years for shortnose sturgeon, while Dadswell et al. (1984) reported a maximum of approximately 35 in. at age 40, but shortnose sturgeon over 39 in. have been captured in the Hudson River (Hoff and Klauda 1979).

Juvenile shortnose sturgeon use a large portion of the Hudson estuary as nursery ground (Bain 1997). During the summer, more juvenile shortnose sturgeon were found in the relatively shallow, freshwater zone of the estuary around Poughkeepsie (RM 67-86) than in the deeper, more saline zone near West Point (RM 42-56) (Haley et al. 1996). By late fall and early winter, most juveniles occupy the broad region of the Hudson River near Haverstraw (RM 34-39) (Bain 1997). Juvenile shortnose sturgeon typically prey on benthic crustaceans and insect larvae, whereas adults will feed on larger items with mollusks being a major component of their diet (Bain 1997).

Although numerous studies summarized the life history of Atlantic sturgeon since the late 1800s, little attention was paid to shortnose sturgeon, likely because of its limited commercial importance. With the listing of shortnose sturgeon as an endangered species in the United States and its classification as rare in Canada (Gorham and McAllister 1974), more effort has been directed toward understanding this species. Current research efforts have focused on the

ecology of juveniles and on the population status of shortnose sturgeon in the Hudson River. Trends in the relative abundance of shortnose and Atlantic sturgeon have shown an increase in shortnose sturgeon and a decline in Atlantic sturgeon (Bain 1996). Dovel et al. (1992) observed that in 1984 equal numbers of juvenile Atlantic and shortnose sturgeon were collected; while during earlier years (1975-1980), the ratio of Atlantic to shortnose sturgeon was 10:1 in the Hudson River. Other evidence of an increasing population of shortnose sturgeon over its range is that the National Marine Fisheries Service has recommended that the status of the Connecticut, Delaware, and Hudson rivers' populations of shortnose sturgeon be changed from endangered to threatened (NMFS 1998).

The Hudson River estuary appears presently to contain the largest stock of shortnose sturgeon that has been reported anywhere. In the late 1970's, Dovel (1979) estimated the shortnose sturgeon population in the Hudson River estuary at 13,000 fish. Bain et al. (1995) estimated the adult population size to be 38,024, with lower and upper 95% confidence intervals of 26,427 and 55,072, respectively. This latter population estimate suggests a 2- to 4-fold increase in abundance since the late 1970's (NMFS 1998). Further refined analytical techniques indicate that the most appropriate population estimate based on this most recent study is 61,057 fish, 1-year-old and older (Bain et al. 1998). These estimates reflect those fish in the overwintering and spawning concentration areas and, thus are likely just a subset of the total adult population. Additionally, because shortnose sturgeon do not appear to spawn every year, the majority of the population may be non-spawners and, thus, not included in this population estimate.

The Utilities' monitoring program conducted during 2007 resulted in a total of 32 shortnose sturgeon (which includes 10 PYSL) collected in the LRS and FJS from Croton-Haverstraw to Albany (RM 34 to 134) from April to November ([Figures 4-68 and 4-69](#), [Table 4-4](#), and [Appendix Tables E-195 through E-204](#)).

4.16 WHITE CATFISH

White catfish (*Ameiurus catus*) occur in freshwater lakes and ponds and have been introduced widely on the West Coast and into the Northeast. The natural distribution was originally from the Chesapeake Bay region in coastal streams southward to Texas. They are found in estuaries all along the Atlantic Coast from the Hudson River to Florida and west along the Gulf of Mexico to Mobile Bay. White catfish prefer fresh and slightly brackish waters and moderate water currents, however, they do not tolerate high salinity, and so estuarine populations generally remain in their natal systems.

In southern waters young white catfish are about 3 in. long at the end of the first growing season. White catfish generally do not mature until they are 3-4 years old and 7-8 in. long. They continue to grow slowly, attaining lengths of 17 in. at age 8 and 22 in. at age 11. This species seldom exceeds 3 lb in weight.

White catfish move upstream to spawn. In spring white catfish have been reported in tidal creeks and shallow marsh habitats. Like the other members of the catfish family, the white catfish is a nest builder, and the male guards the young for some time after they hatch. Both parents participate in the construction of a nest up to 3 ft in diameter on sand and gravel bars. White catfish spawn when water temperatures reach about 70°F, i.e., in late June and early July in the Hudson River. An 11- to 12-in. female carries only 3,200-3,500 eggs, but the eggs are large, approximately 1/4 in. in diameter. The male (or less often both parents) protects and fans water over the eggs in the nest.

White catfish eggs and larvae were rarely collected during the Utilities' ichthyoplankton surveys. However, the 2007 LRS and FJS captured low numbers of YOY white catfish primarily in the upper estuary during the summer, then after migration, in the middle estuary by fall (Figure 4-70, Appendix Tables E-205 through E-216). Yearling and older white catfish were captured in low numbers during the 2007 surveys throughout the estuary (Figure 4-71).

The 2007 geographical distribution of YOY white catfish in the FJS differed from the 1979-2006 long-term trend of juveniles mainly in the upper Hudson River in that the 2007 peak occurred further downriver in the Poughkeepsie and Hyde Park regions (Figure 4-72). In the historical pattern, yearling and older white catfish were found throughout the estuary, as was the case in 2007 (Figure 4-72). After moving into the deeper river strata during September and October, yearling and older white catfish migrate downstream to overwinter in the lower estuary when temperatures in the upper estuary drop below 59°F (NAI 1985a).

Small white catfish feed on midge larvae until they become large enough to eat fish. Larger white catfish have a diverse diet that includes midge larvae, crustaceans, algae, fish eggs, and a variety of fish (Smith 1985).

Weekly length statistics for juvenile white catfish collected in 2007 showed rapid growth from July to September with a leveling off in size during the fall as larger fish were able to avoid the sampling gear (Figure 4-73, Appendix Tables F-22 and F-23).

4.17 WEAKFISH

Weakfish (*Cynoscion regalis*) is a member of the drum family commonly inhabiting nearshore waters from North Carolina to New York and occasionally straying as far as Nova Scotia or the eastern Gulf of Mexico. Weakfish overwinter in deeper waters of the continental shelf, generally between Chesapeake Bay and Cape Fear, North Carolina. When inshore waters begin to warm each spring, older weakfish begin to move toward shore and then head north along the Coast. These older individuals are followed by successively younger groups of adult weakfish. During warmer months of the year, weakfish are found throughout inshore waters in their geographic range, with larger individuals the most abundant in northern areas. As water temperatures decline in the fall, weakfish begin to migrate southward and return to offshore overwintering areas.

Spawning occurs in nearshore coastal and marine waters in spring and summer, depending upon geographic location. Extensive spawning occurs in the south and in the New York Bight. Weakfish eggs are buoyant and hatch in about 2 days. The newly hatched larvae, which are less than 1/8 in. long, are weak swimmers and move shoreward up into the bays and estuaries. Duration of the larval stage appears to depend partially on prey density. In the nursery areas young weakfish feed on invertebrates and grow rapidly. They reach a length of 3-6 in. by the end of the first summer. Young weakfish can be found throughout the saline and brackish areas of estuaries but tend to be most common in areas where salinities are over 10 ppt. As water temperatures decline in fall, juvenile weakfish begin to leave these nursery areas and move toward southern overwintering areas.

In the New York Bight spawning typically occurs from May to mid-July, and there are two spawning peaks. Weakfish larvae are rarely encountered north of the George Washington Bridge, preferring more saline waters. Weakfish juveniles typically first enter the areas north of the George Washington Bridge during July and most have emigrated from the estuary by mid-August. During the 2007 LRS, YOY weakfish were present from July through October from the

Battery to Cornwall regions with greatest abundance in July (Figure 4-74, Appendix Tables E-217 through E-228). In the 2007 FJS, peak YOY abundance occurred in July with abundance declining through October when they gradually emigrated from the Hudson estuary. A few yearling and older weakfish were collected in the 2007 monitoring program in the lower estuary (Figure 4-75).

The 2007 geographical distribution of YOY weakfish in the FJS is similar to the 1979-2006 long-term trend in which the majority of weakfish were found in the lower estuary regions of Yonkers and Tappan Zee, but in 2007 more YOY were found in the West Point region than in the past (Figure 4-76). Yearling and older weakfish were also collected primarily in the Yonkers and Tappan Zee regions in 2007, as in the past.

Weekly length statistics for juvenile weakfish collected in 2007 showed an overall rapid increase in growth in the early summer and slower but steady growth through October (Figure 4-77, Appendix Tables F-24 and F-25). Decreasing lengths in November reflected entry of late-spawned fish to the year class. The zigzag pattern in growth resulted from the size-selectivity of the sampling gears.

4.18 BLUEFISH

Bluefish (*Pomatomus saltatrix*) is a predaceous oceanic fish species; in the western Atlantic Ocean its range is from Argentina to Maine and occasionally to Nova Scotia. In the New York Bight bluefish is a common inshore inhabitant that arrives in May and usually departs by November. North Atlantic bluefish migrate from New England to Cape Hatteras, North Carolina in summer and to the Florida area and the southern Gulf Stream in winter, but migration patterns have not been positively identified. During migrations, smaller fish migrate closer to shore than larger fish.

There are two major spawning aggregations in the mid-Atlantic: a spring spawning stock and a summer spawning stock. The degree to which the stocks are isolated is not known, but consistent morphological differences suggest some isolation of the stocks (Pottern et al. 1989). Most of the bluefish population in the New York Bight probably originates from the spring-spawning stock (Chiarella and Conover 1990). The spring spawners move into the waters where the Gulf Stream and the continental shelf water meet between northern Florida and Cape Hatteras. Bluefish spawn as they migrate northward. North of Cape Hatteras the adults move shoreward. The smaller spent bluefish may spend summers in the Chesapeake and Delaware bays and Albemarle Sound. Larger fish move north longer than the smaller bluefish and migrate farther. Some move into Long Island Sound and more northern areas. In autumn, bluefish migrate back to the wintering areas off south Florida and the south Atlantic (Pottern et al. 1989).

The juvenile bluefish produced in the spring travel north with the Gulf Stream and migrate across the continental shelf to the mid-Atlantic bays and estuaries, which act as productive nursery areas. Spring-spawned juveniles spend most of their first summer in estuaries (Kendall and Walford 1979). In fall they migrate southward along the Coast to winter off south Florida. The following spring, yearlings migrate north along the Coast and return to the mid-Atlantic bays and estuaries and, to a lesser extent, the sounds of North Carolina (Pottern et al. 1989). The spring-spawning bluefish stock that contributes most to Hudson River fish ranges along most of the Atlantic Coast.

Some summer-spawned larvae have also been reported in the more saline parts of estuaries in the mid-Atlantic Bight. Summer-spawned juveniles may spend only about a month in estuaries, but most are found along the shore (Kendall and Walford 1979). The summer-spawning adults start from the southern wintering areas, but they migrate north to the outer half of the continental shelf between Cape Hatteras and Cape Cod and spawn there. Spent spawners then move west, and show up in coastal waters, particularly along Long Island. Most of the juveniles from the summer spawn remain offshore during the summer. In fall the adults and juveniles migrate south. Juveniles from the summer spawn may spend the winter farther out to sea than juveniles from the spring spawning. Juveniles from the summer spawn migrate north the next spring and most of these juveniles may spend the summer in the sounds of North Carolina and may not return to their original nursery areas (Pottern et al. 1989).

Bluefish eggs are buoyant and pelagic and hatch in about 2 days. The newly hatched larvae are also pelagic and remain in offshore waters for 1-2 months before migrating shoreward toward shallow-water nursery areas. In the New York Bight, YOY bluefish enter the shallow-water nursery areas as two groups. The first, from the spring spawning in the south Atlantic, are about 1-2 in. long when they enter the nursery areas in June or early July to feed and grow rapidly. The second, from the summer spawning in the mid-Atlantic Bight, are larger when they arrive in September.

YOY bluefish typically first enter areas north of the George Washington Bridge in early June and remain at least until early October. They are most common in shallow, more saline areas of the estuary, including the Tappan Zee and Haverstraw Bay, but typically range as far upriver as the Cornwall region. During 2007, YOY bluefish were collected predominantly in the lower and middle estuary in June and July, but most had emigrated from the Hudson River above the George Washington Bridge by October ([Figure 4-78](#), [Appendix Tables E-229 through E-234](#)). Salinity intrusions into the estuary appear to be a major determinant of geographic distribution within the estuary. YOY bluefish are also abundant in areas of the estuary south of the George Washington Bridge and adjacent waterways, which are part of the larger, coastal distribution.

The 2007 geographical distribution of YOY bluefish in the BSS is consistent with the 1974-2006 long-term trend with the majority of fish collected in the lower estuary, especially in the shallow areas of the Tappan Zee and Croton-Haverstraw regions ([Figure 4-79](#)).

In the Hudson River YOY bluefish aggressively feed on a variety of macroinvertebrates and fish and grow rapidly to a size of 3-6 in. by the time they begin to leave the estuary in late summer. Older bluefish, including adults, occasionally enter the lower estuary during summer and feed on available forage fish such as bay anchovy, Atlantic silverside, and young menhaden and river herrings. Bluefish reach sexual maturity during their second year of life. Annual fecundities range from 600,000 to 1,400,000 eggs per female, depending upon size. The maximum size of bluefish has been reported to be 45 in. and 30 lb. All ages of bluefish often travel in schools and are voracious feeders that commonly destroy more than they can eat.

[Link to References](#)

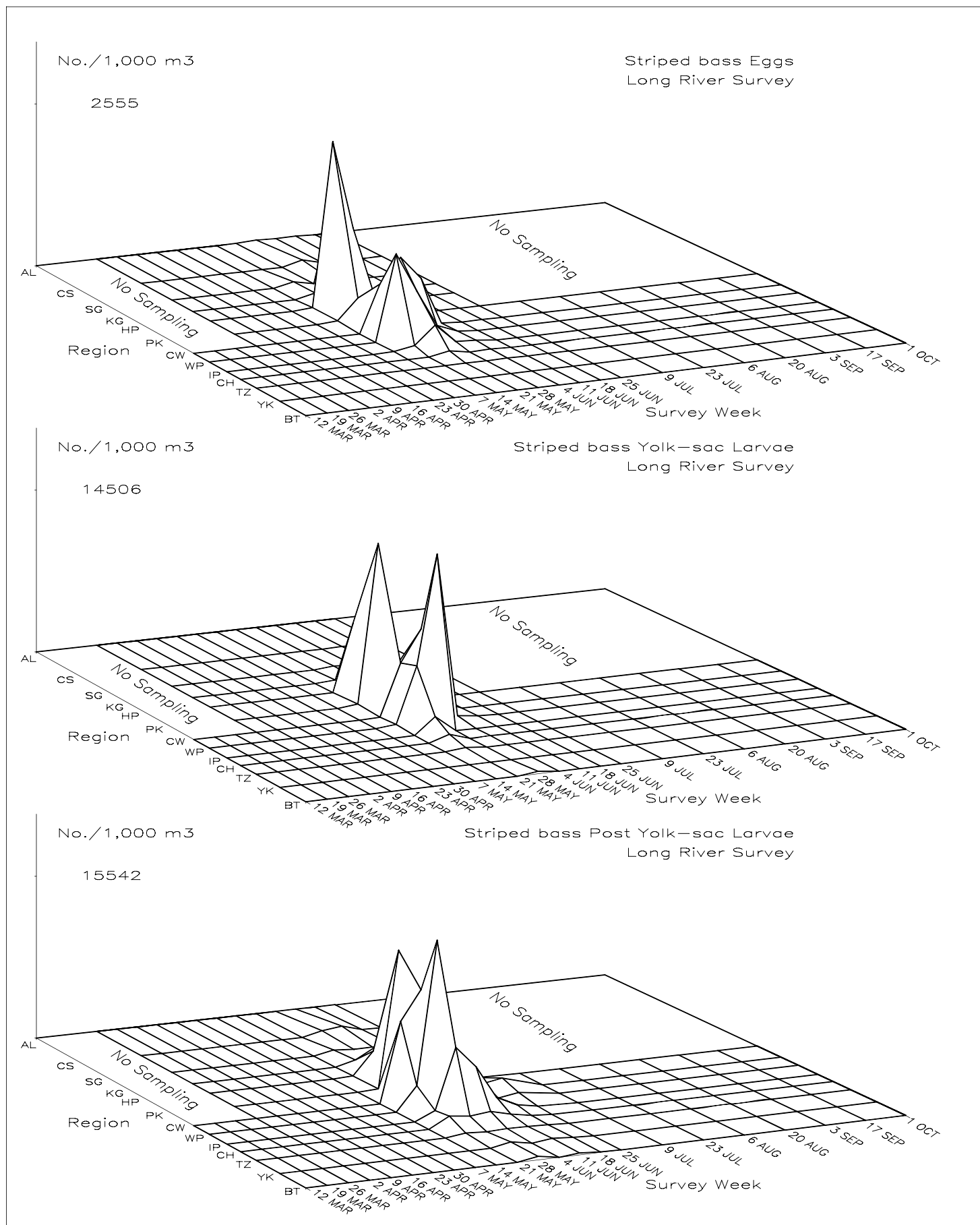


Figure 4-1. Spatiotemporal distribution of eggs, yolk-sac, and post yolk-sac larval striped bass in the Hudson River estuary based on the 2007 Long River Survey.

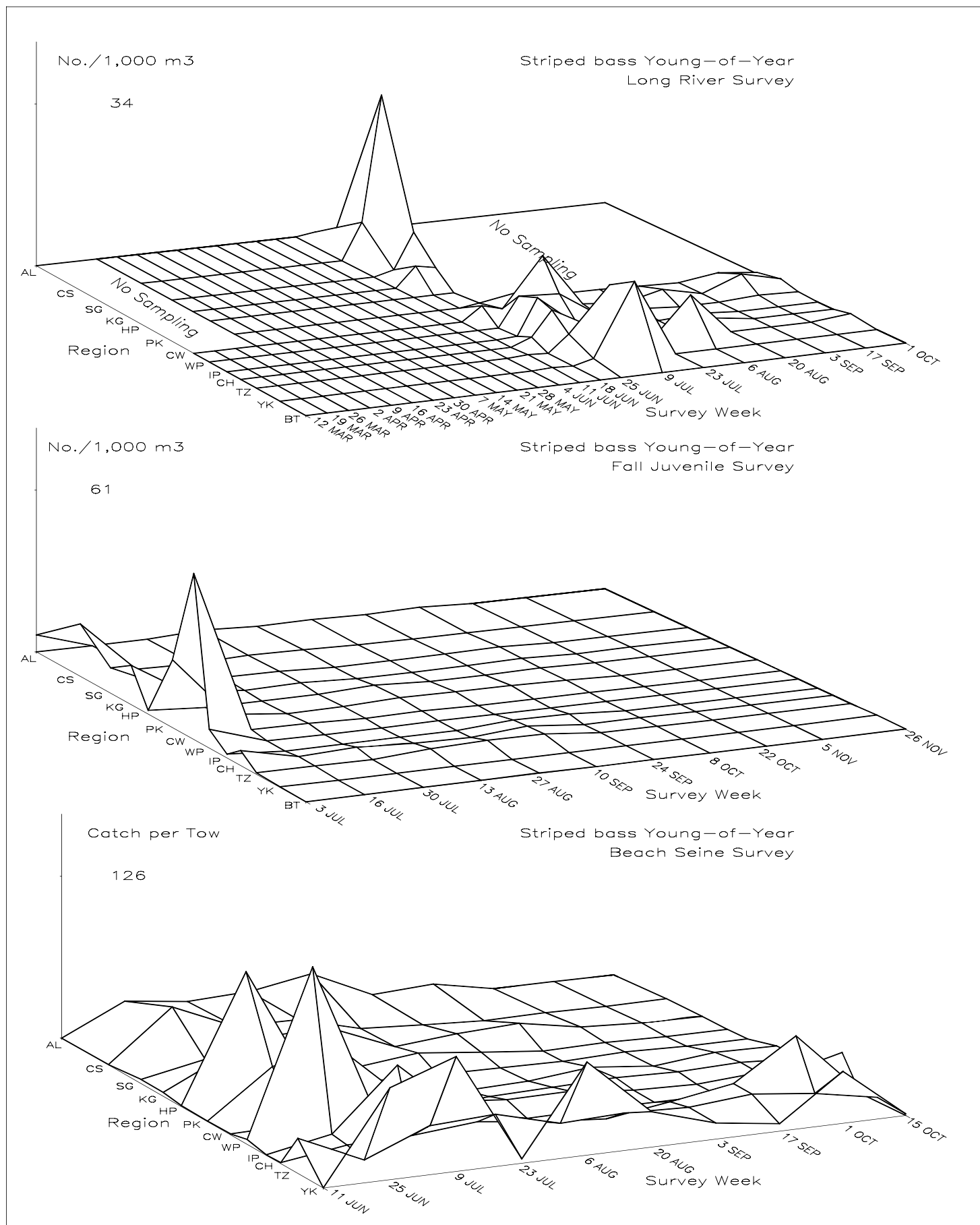


Figure 4-2. Spatiotemporal distribution of young-of-year striped bass in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

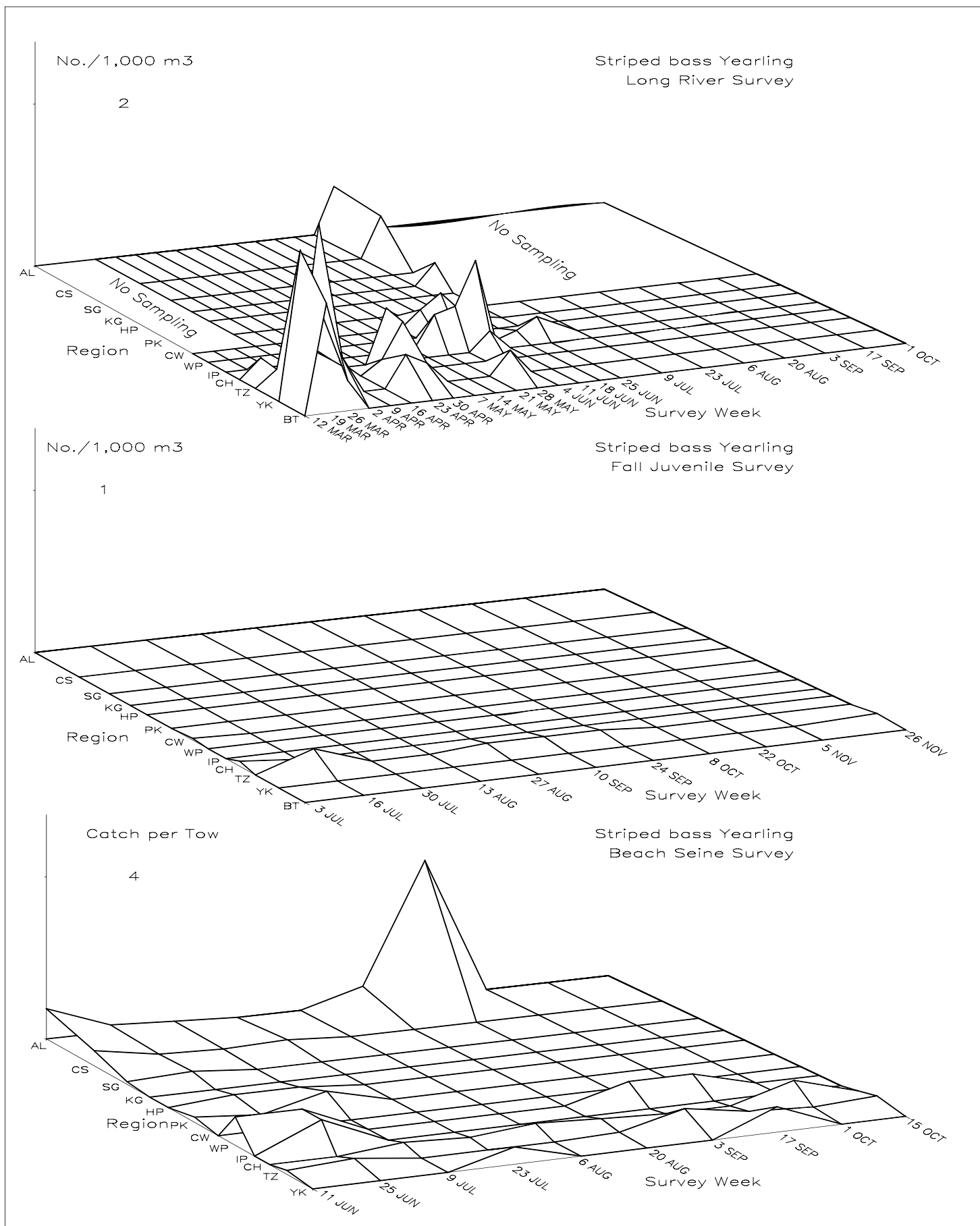


Figure 4–3. Spatiotemporal distribution of yearling striped bass in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

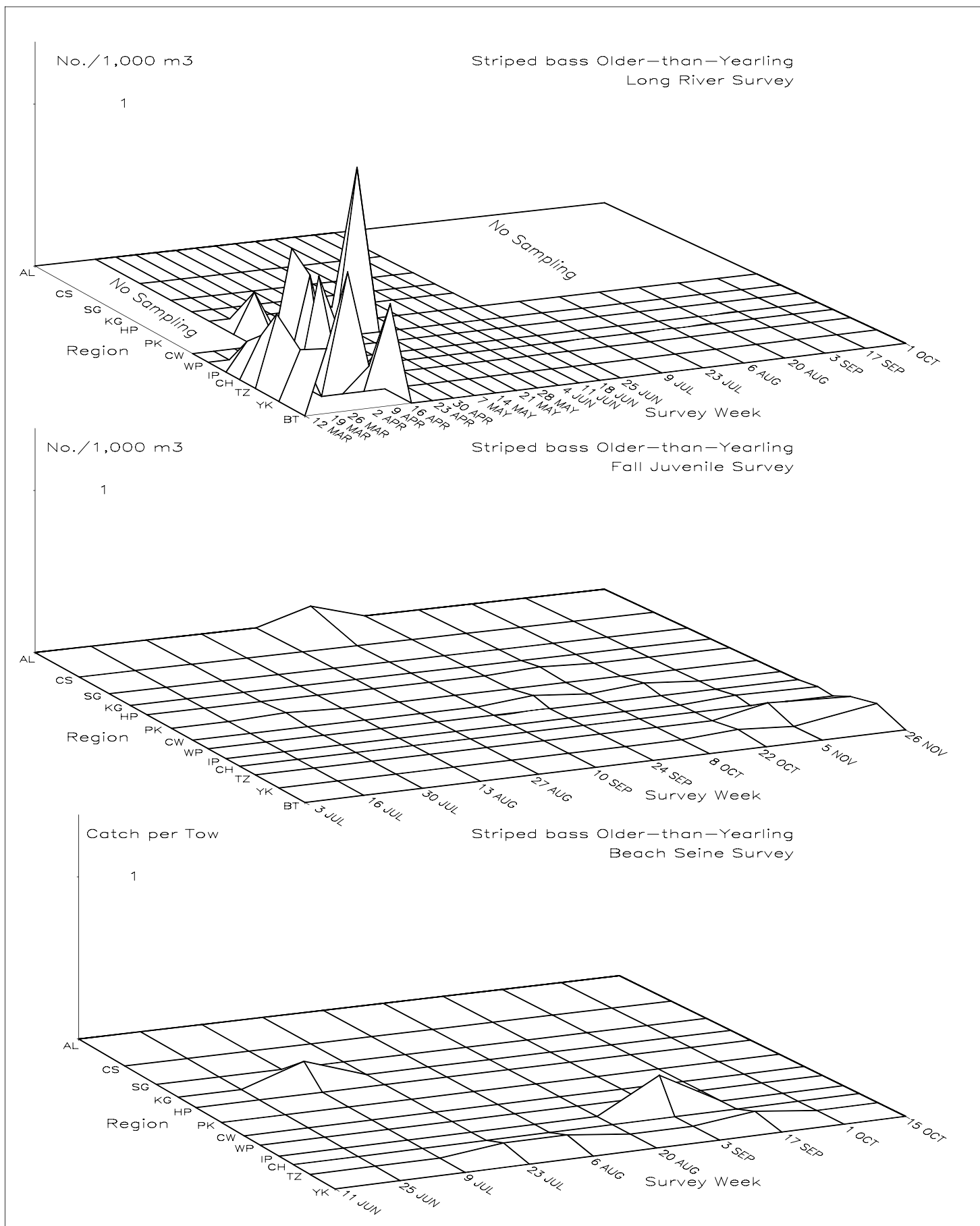


Figure 4-4. Spatiotemporal distribution of older-than-yearling striped bass in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

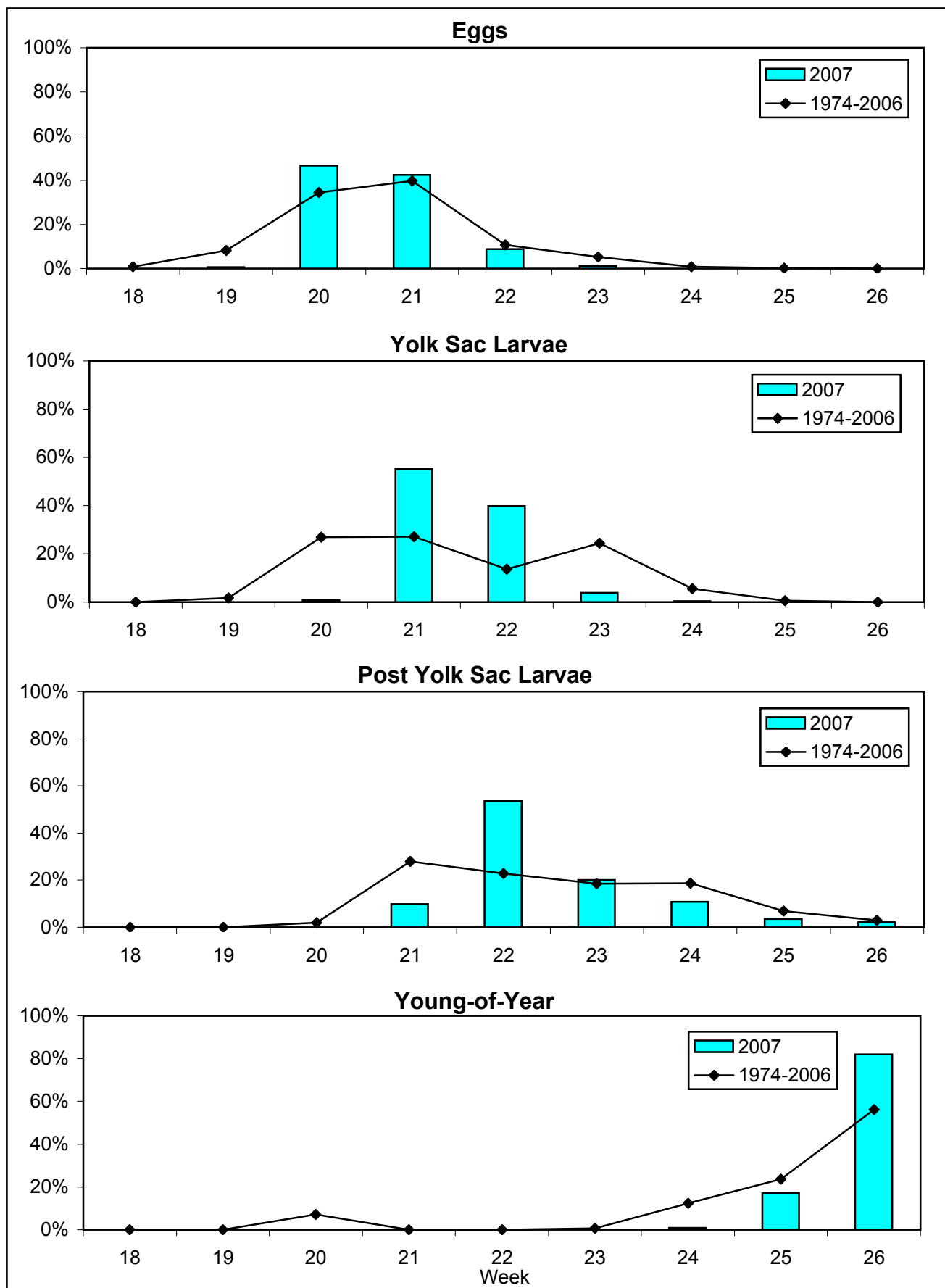


Figure 4-5. Temporal distribution indices for striped bass collected during Long River surveys of the Hudson River estuary, 1974-2007.

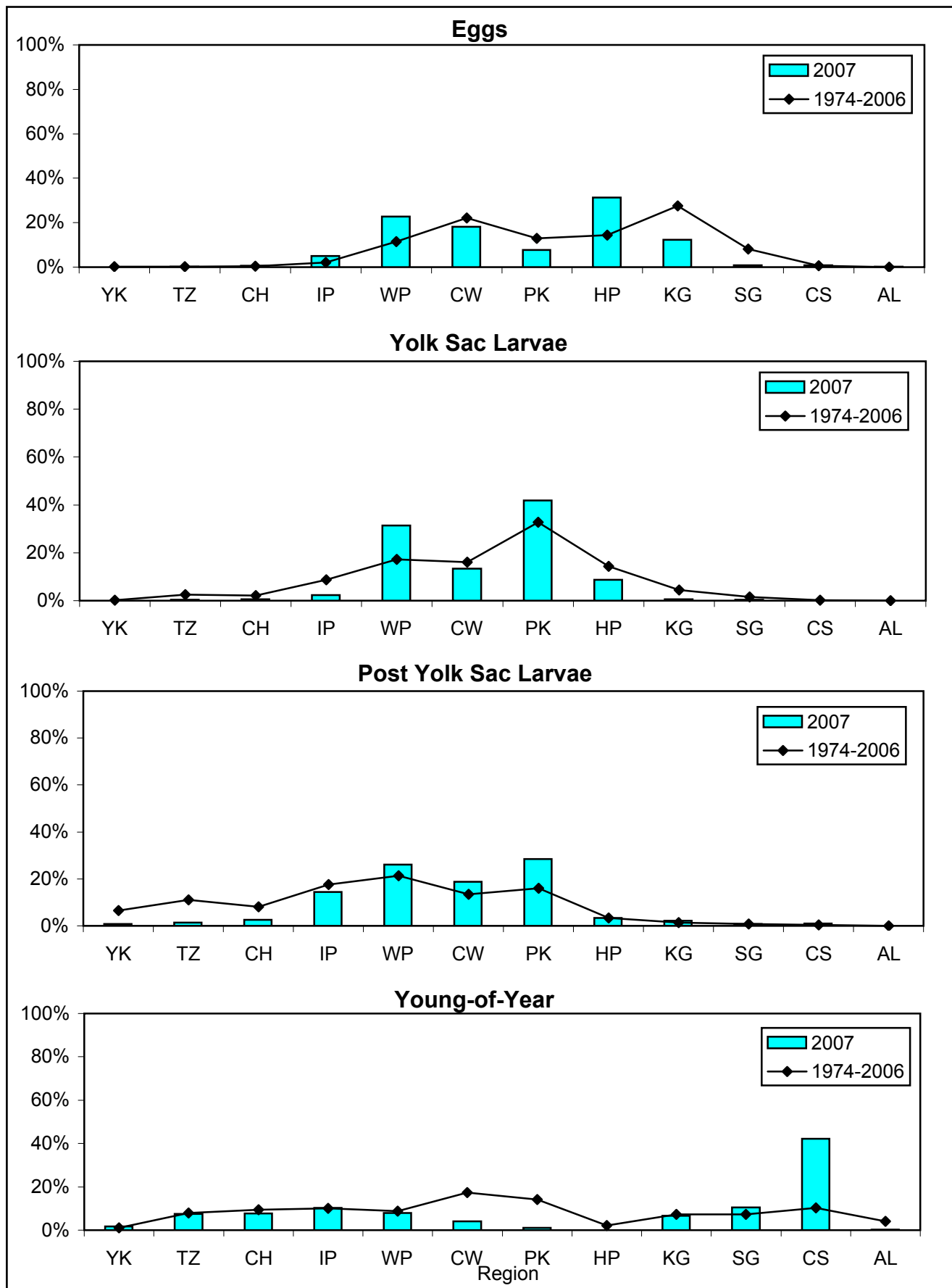


Figure 4-6. Geographic distribution indices for striped bass collected during Long River surveys of the Hudson River estuary, 1974-2007.

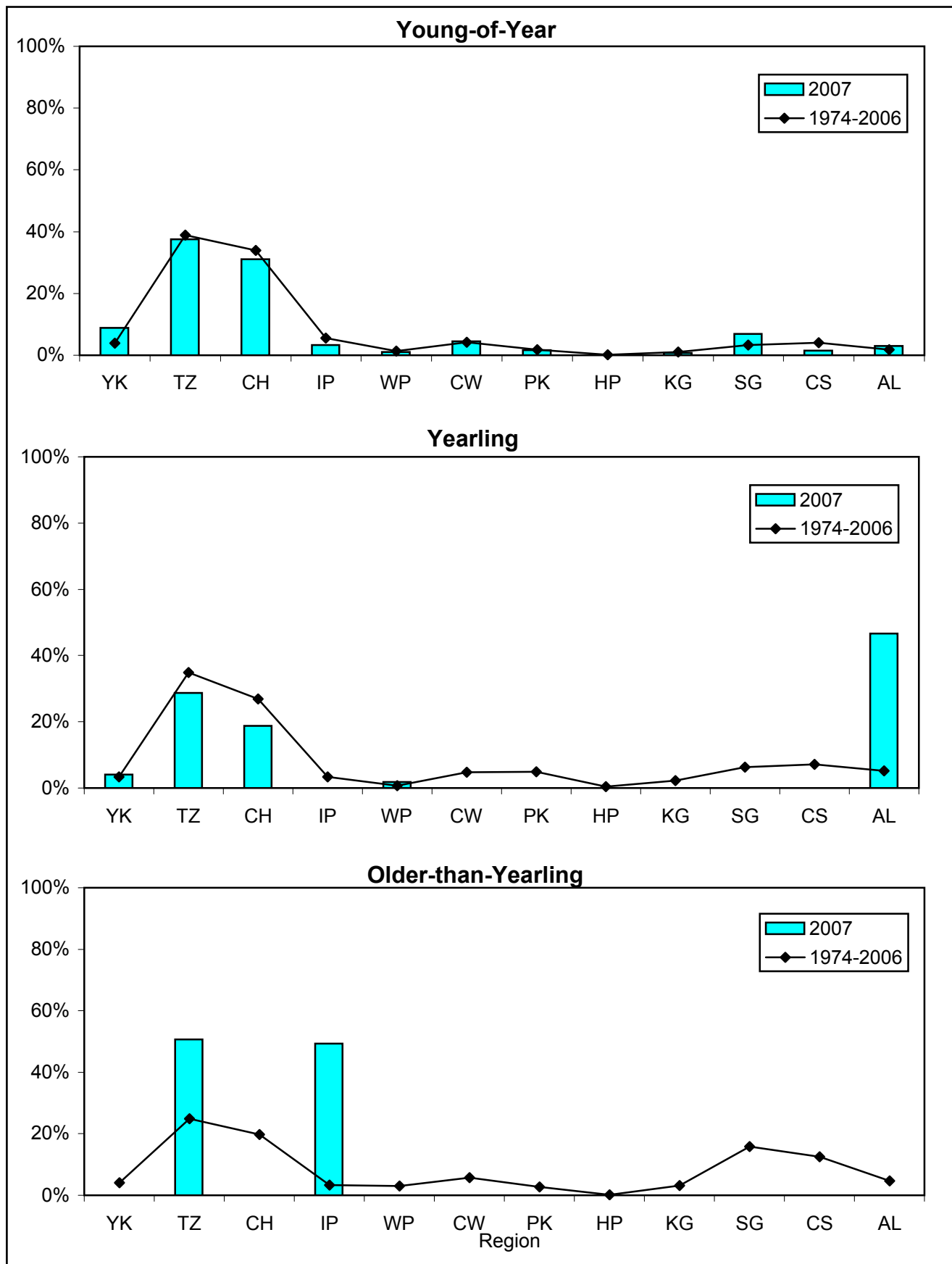


Figure 4-7. Geographic distribution indices for striped bass collected during Beach Seine surveys of the Hudson River estuary, 1974-2007.

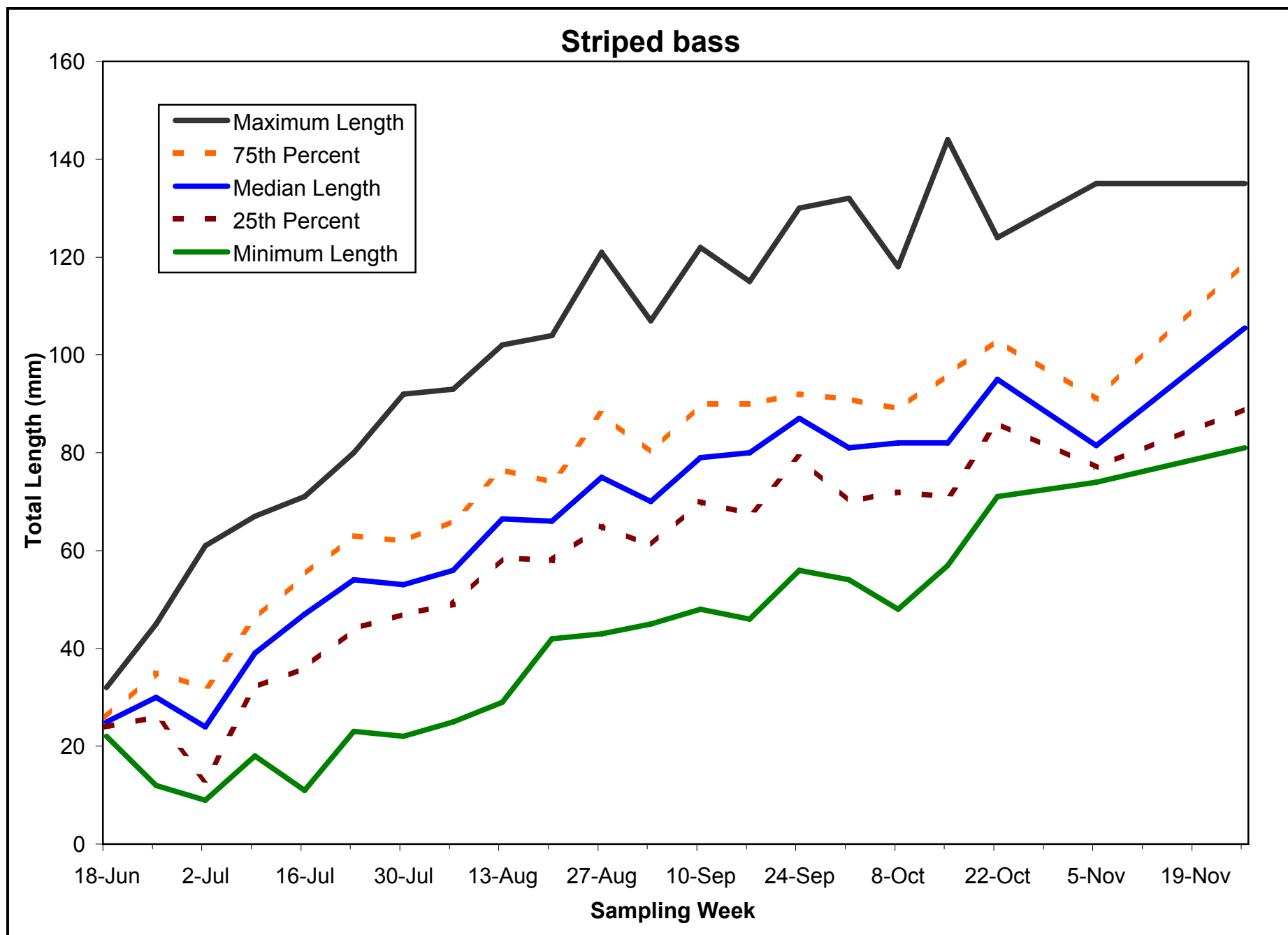


Figure 4-8. Weekly length statistics for young-of-year striped bass in the Hudson River estuary, 2007.

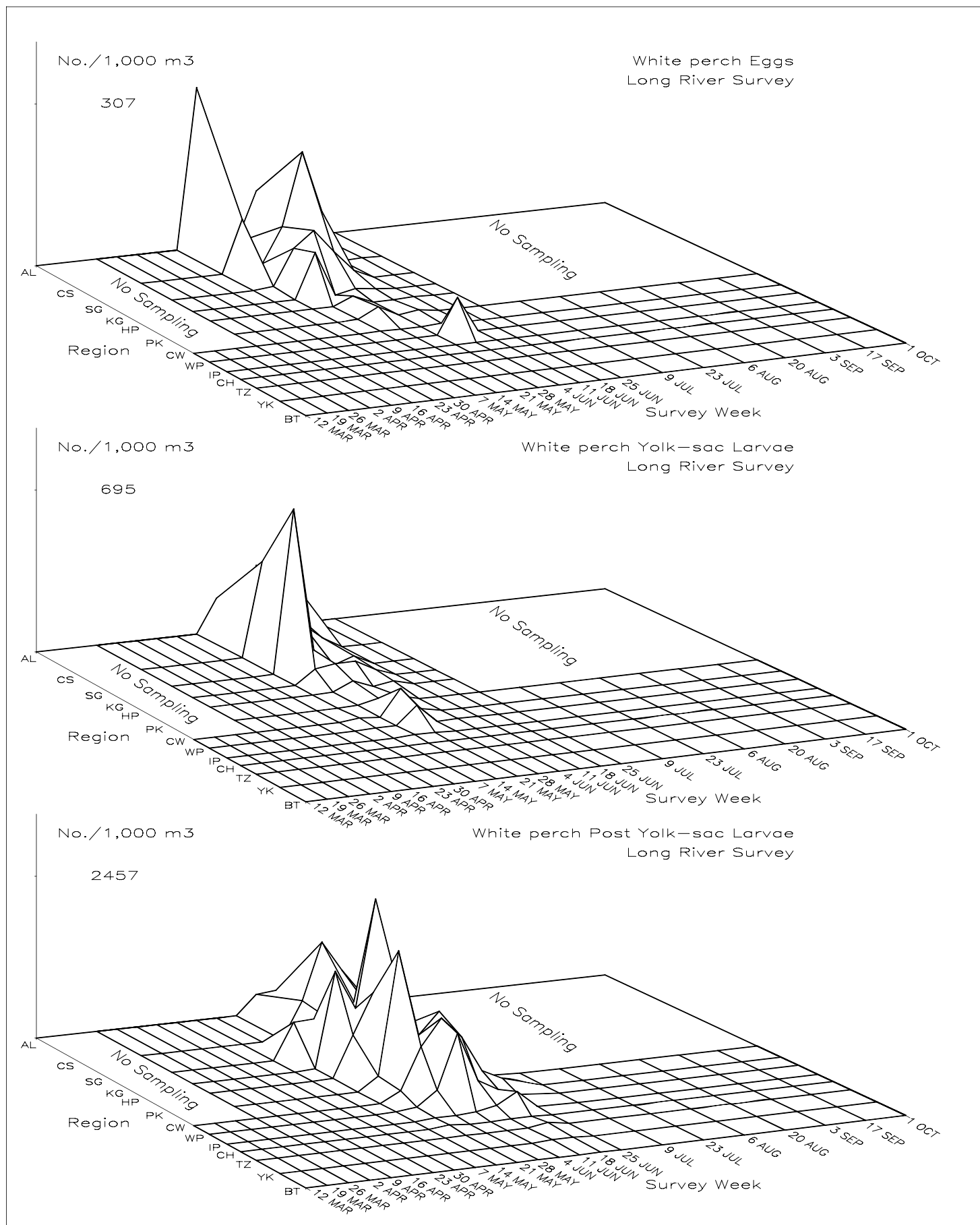


Figure 4–9. Spatiotemporal distribution of eggs, yolk-sac, and post yolk-sac larval white perch in the Hudson River estuary based on the 2007 Long River Survey.

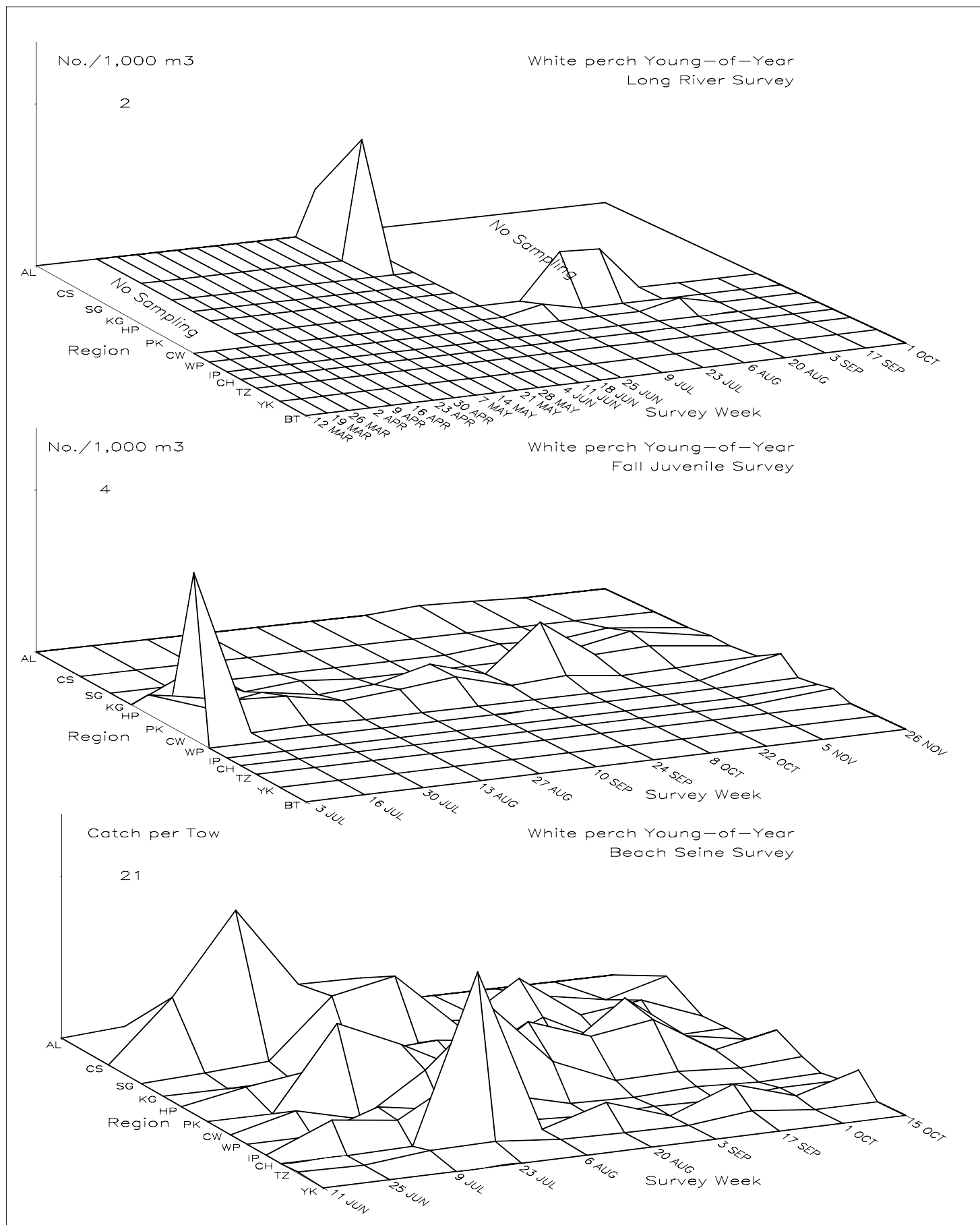


Figure 4–10. Spatiotemporal distribution of young-of-year white perch in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

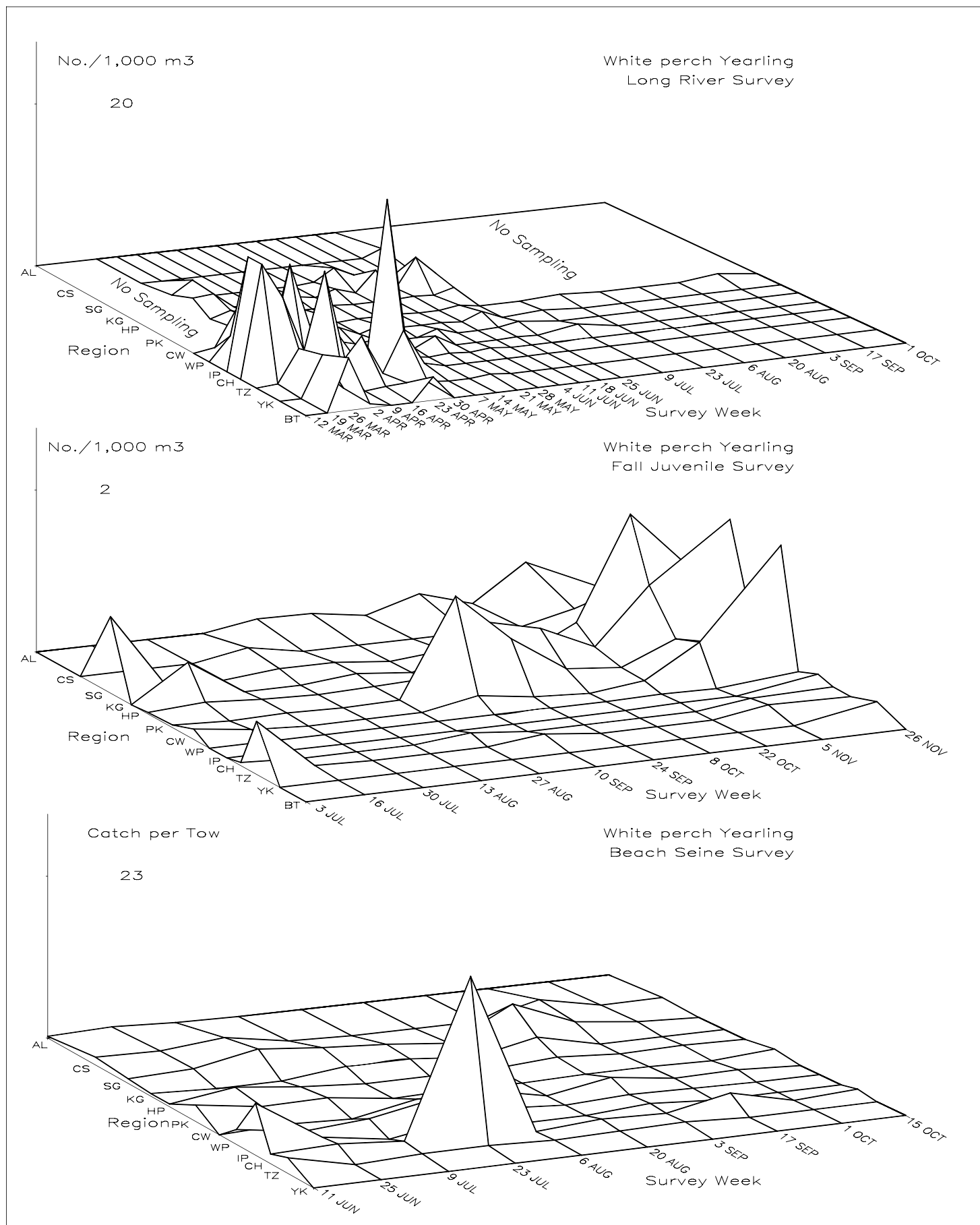


Figure 4–11. Spatiotemporal distribution of yearling white perch in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

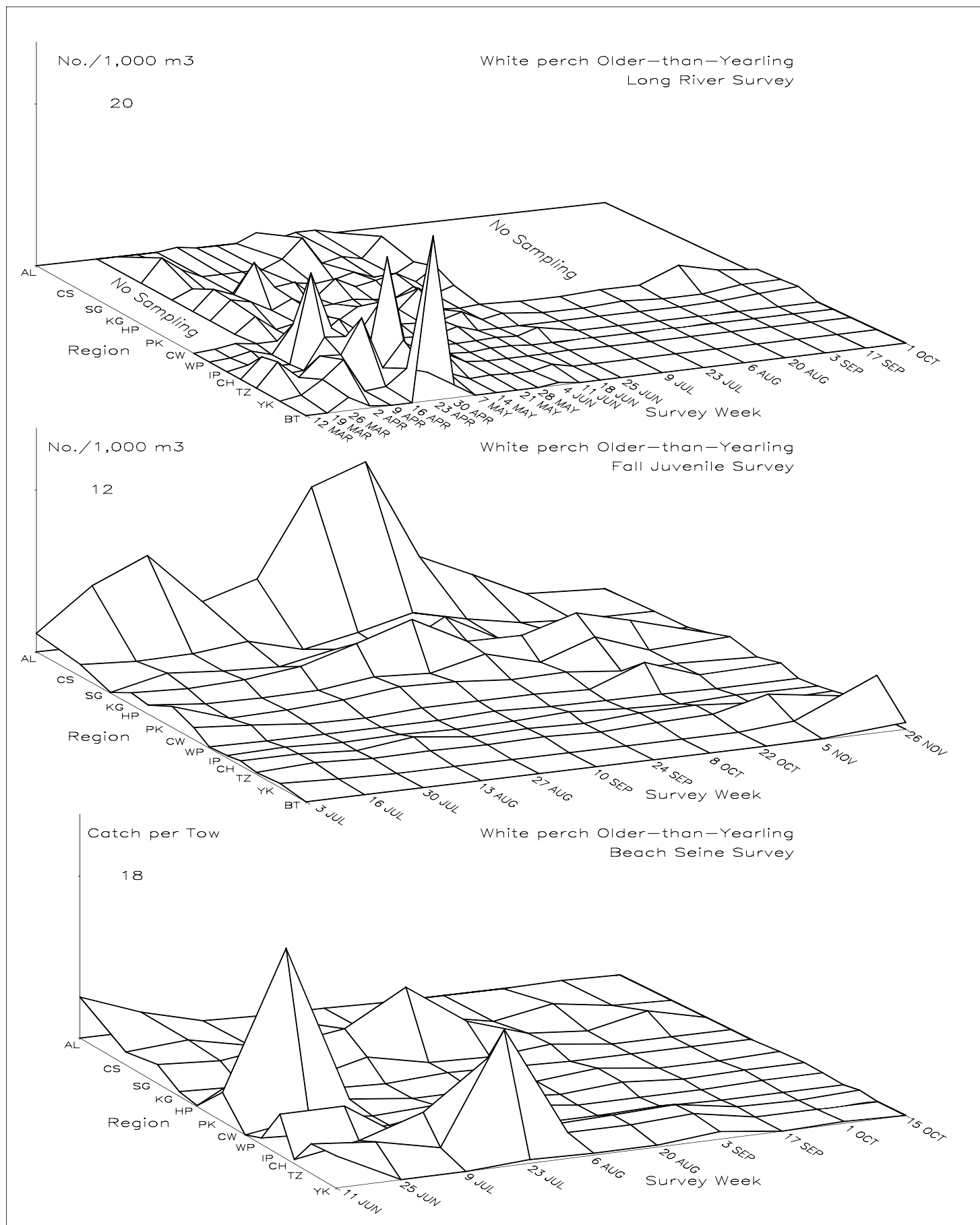


Figure 4–12. Spatiotemporal distribution of older-than-yearling white perch in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

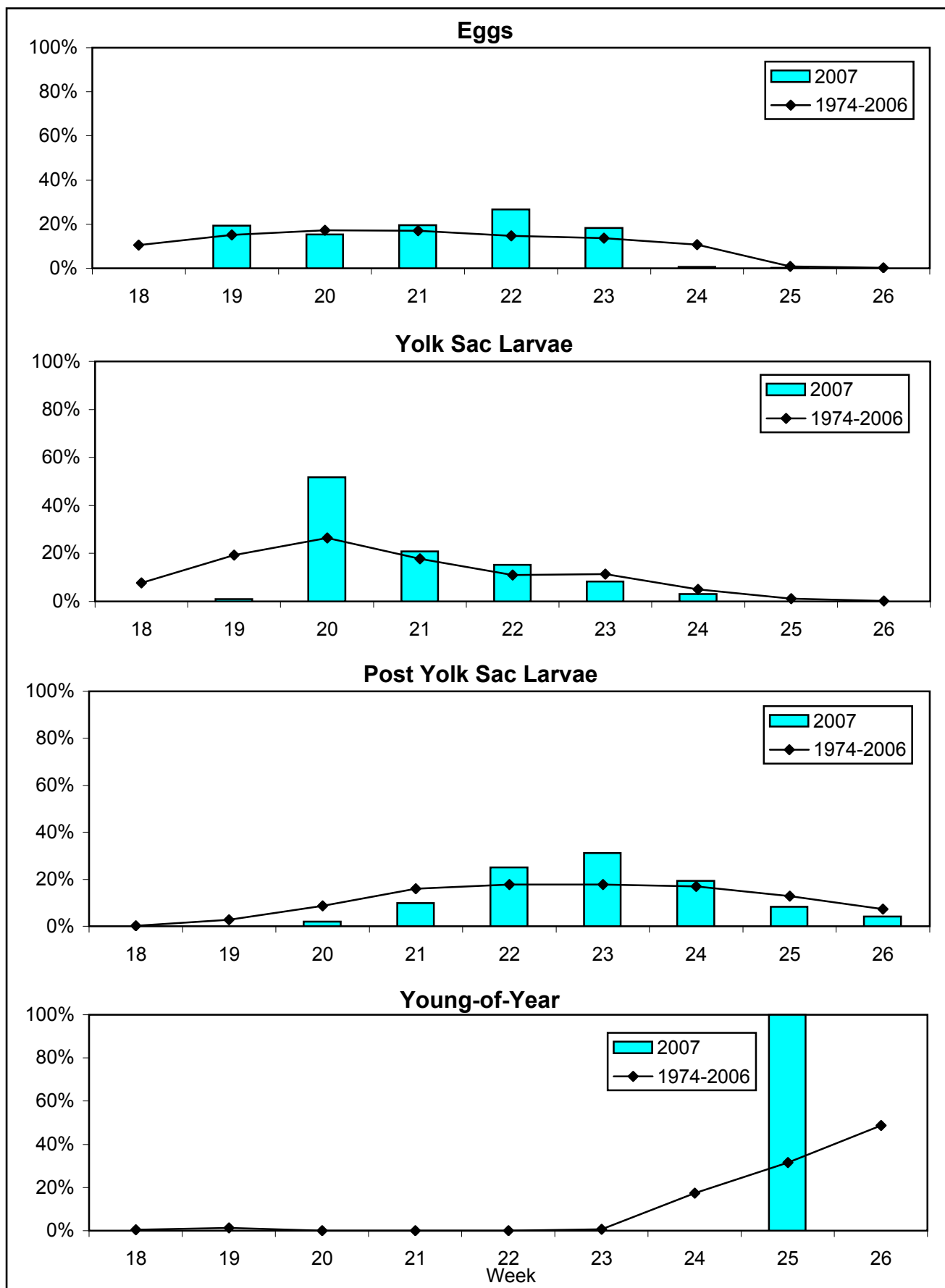


Figure 4-13. Temporal distribution indices for white perch collected during Long River surveys of the Hudson River estuary, 1974-2007.

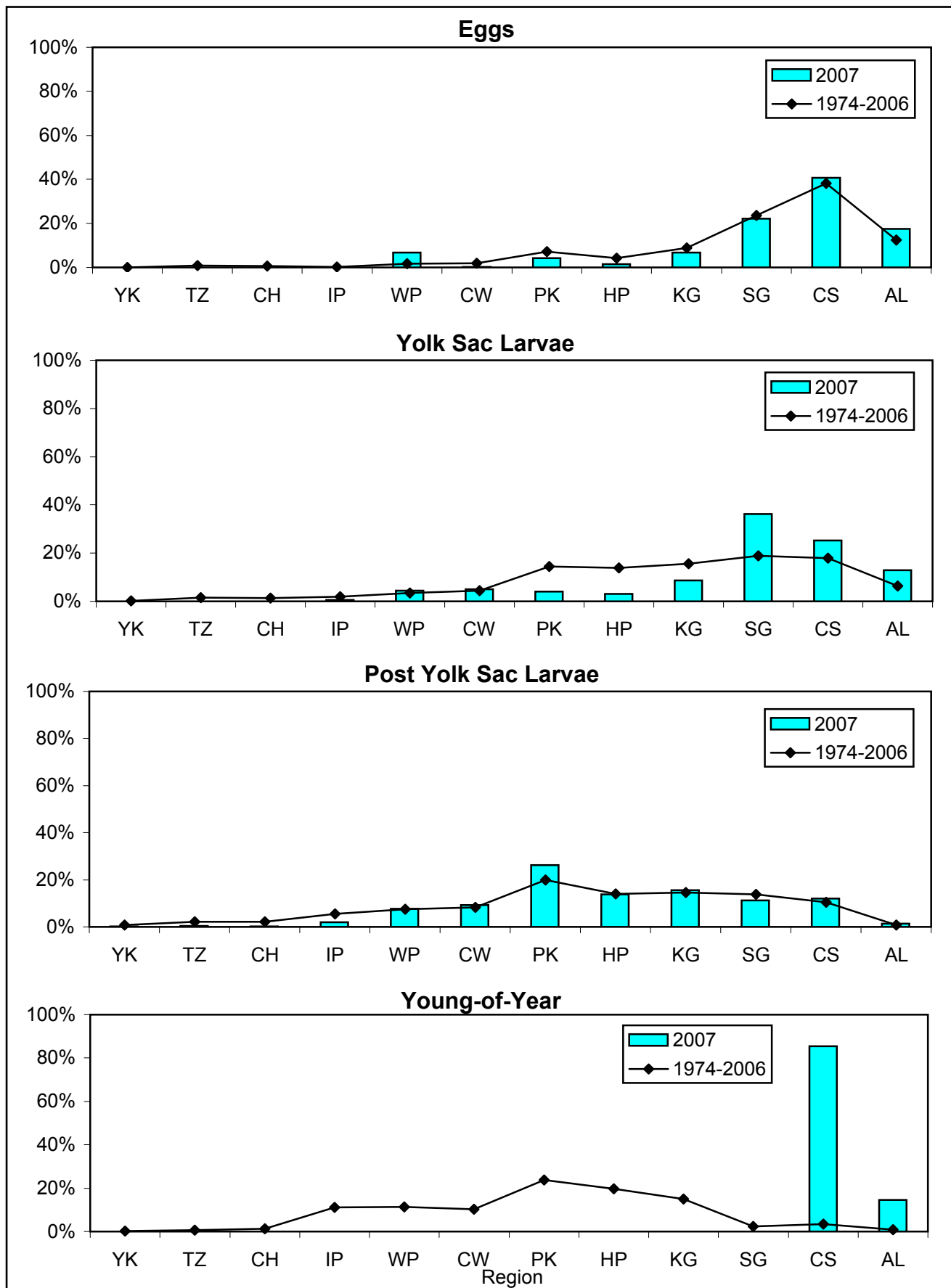


Figure 4-14. Geographic distribution indices for white perch collected during Long River surveys of the Hudson River estuary, 1974-2007.

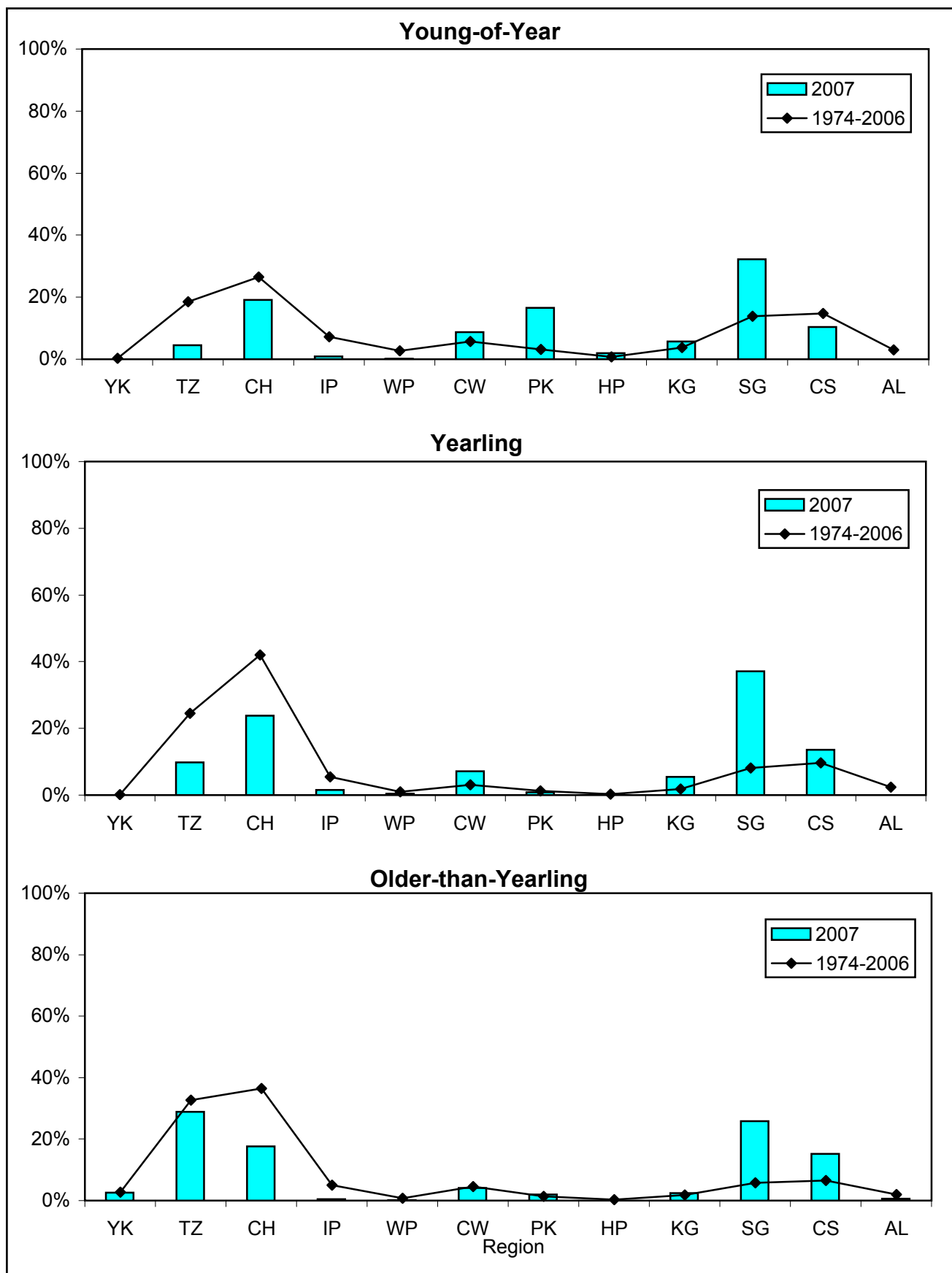


Figure 4-15. Geographic distribution indices for white perch collected during Beach Seine surveys of the Hudson River estuary, 1974-2007.

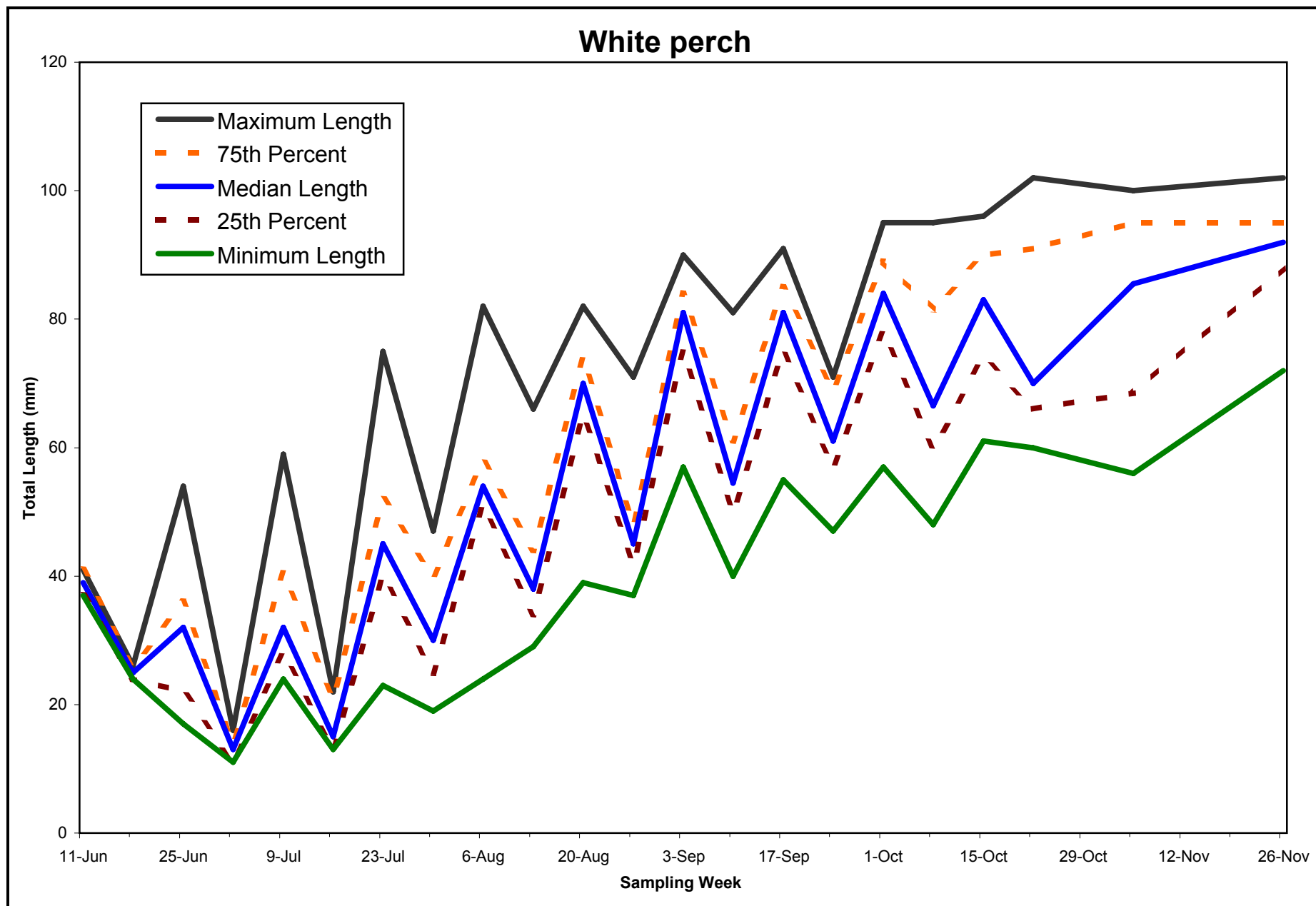


Figure 4-16. Weekly length statistics for young-of-year white perch in the Hudson River estuary, 2007.

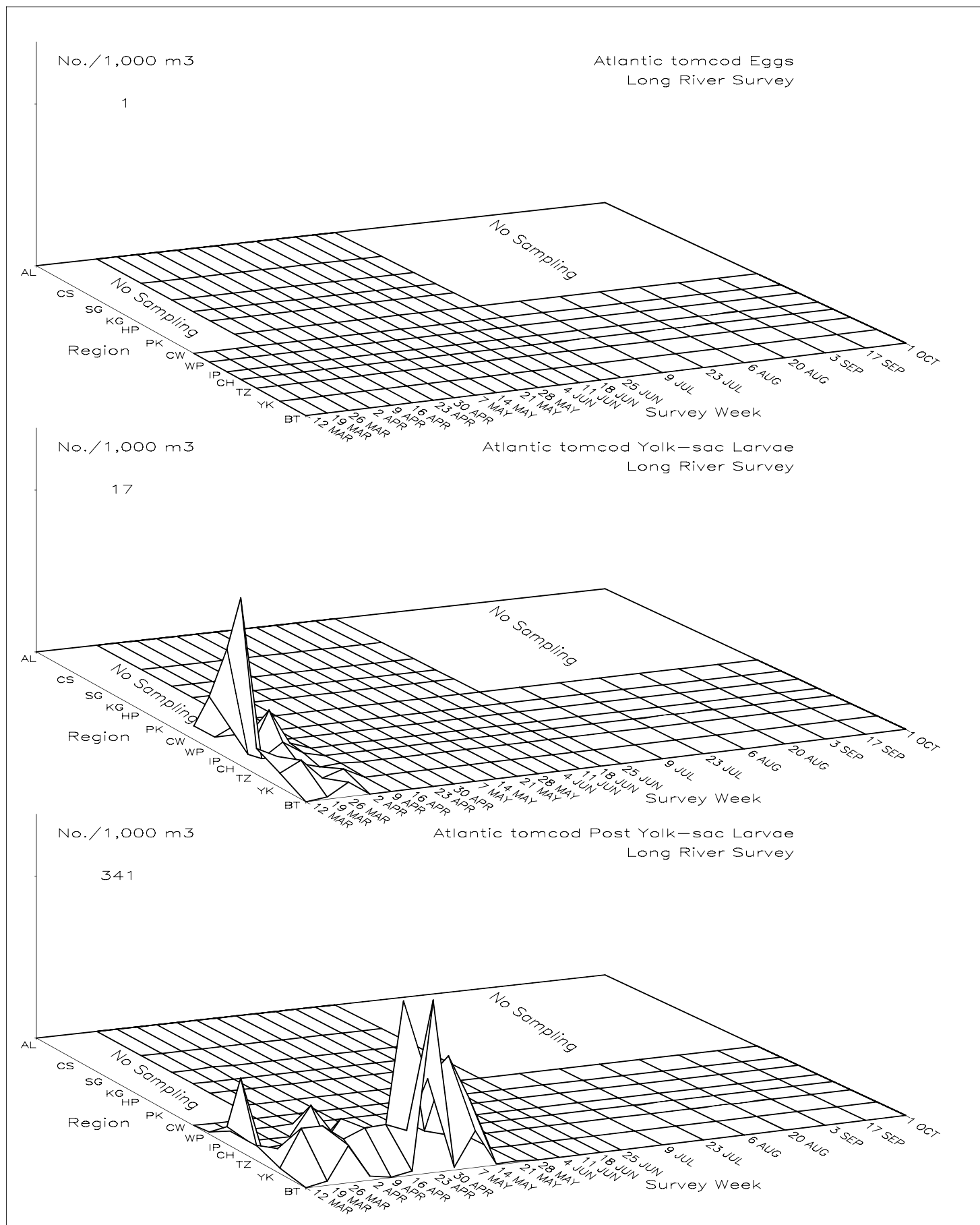


Figure 4-17. Spatiotemporal distribution of eggs, yolk-sac, and post yolk-sac larval Atlantic tomcod in the Hudson River estuary based on the 2007 Long River Survey.

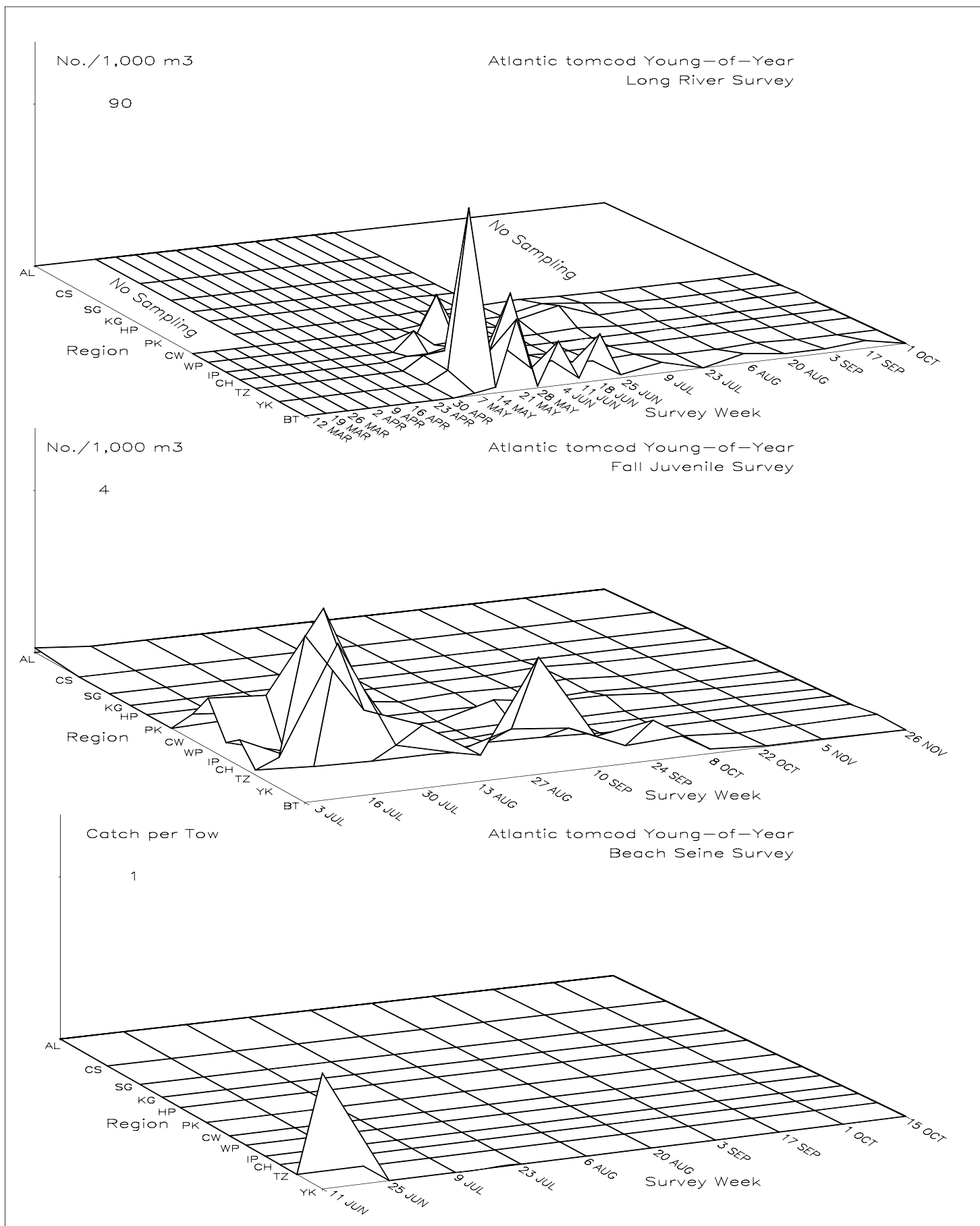


Figure 4-18. Spatiotemporal distribution of young-of-year Atlantic tomcod in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

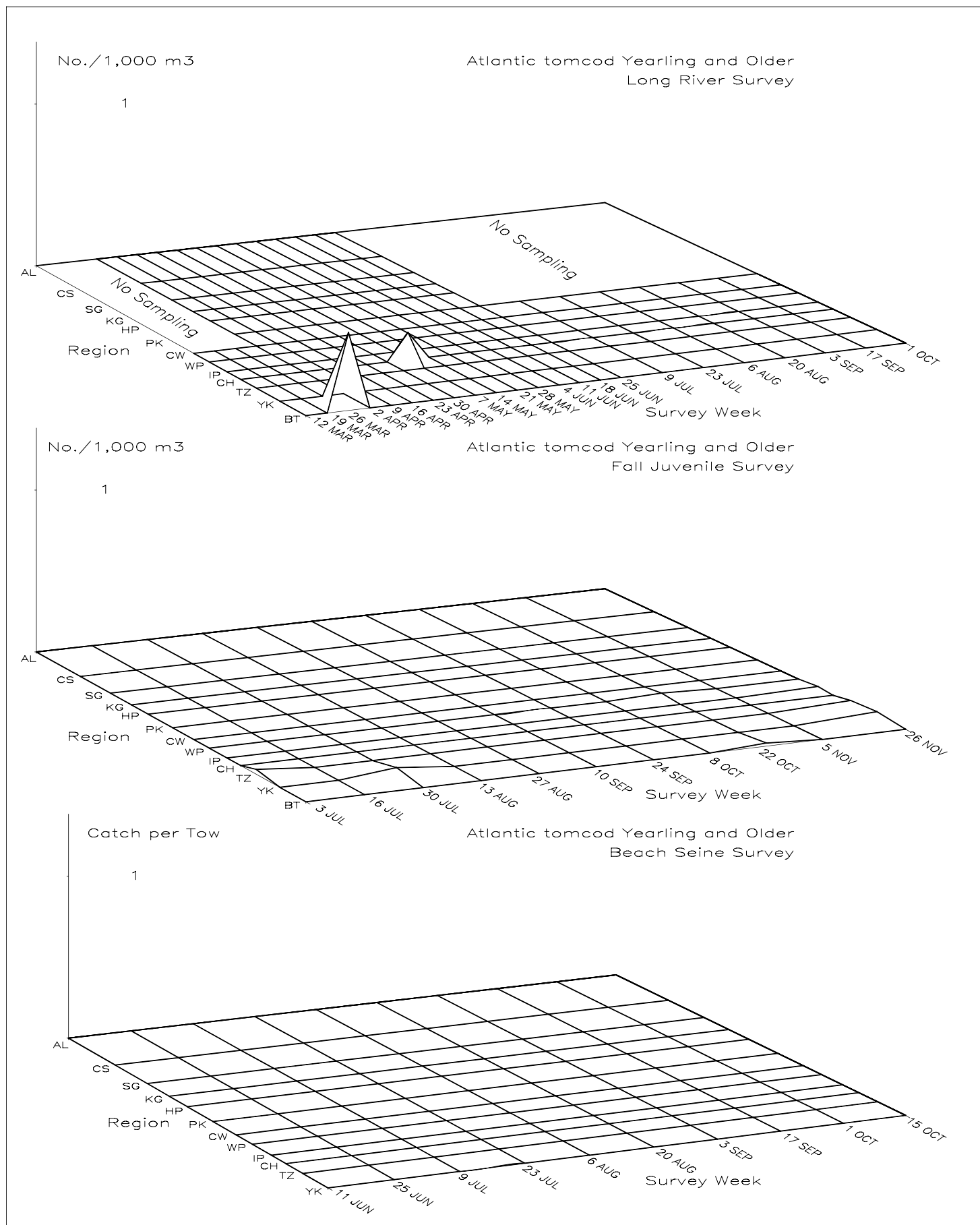


Figure 4–19. Spatiotemporal distribution of yearling and older Atlantic tomcod in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

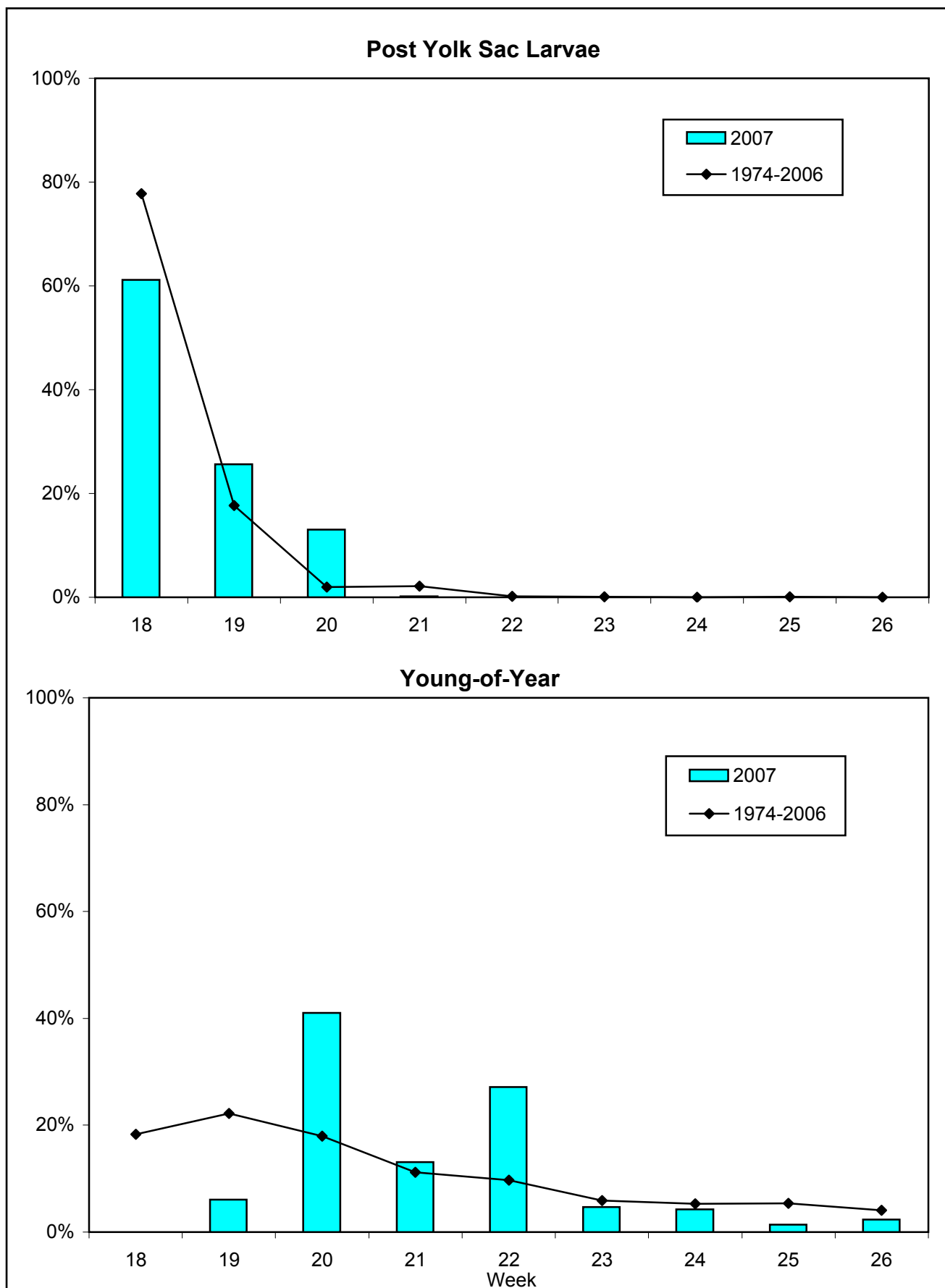


Figure 4-20. Temporal distribution indices for Atlantic tomcod collected during Long River surveys of the Hudson River estuary, 1974-2007.

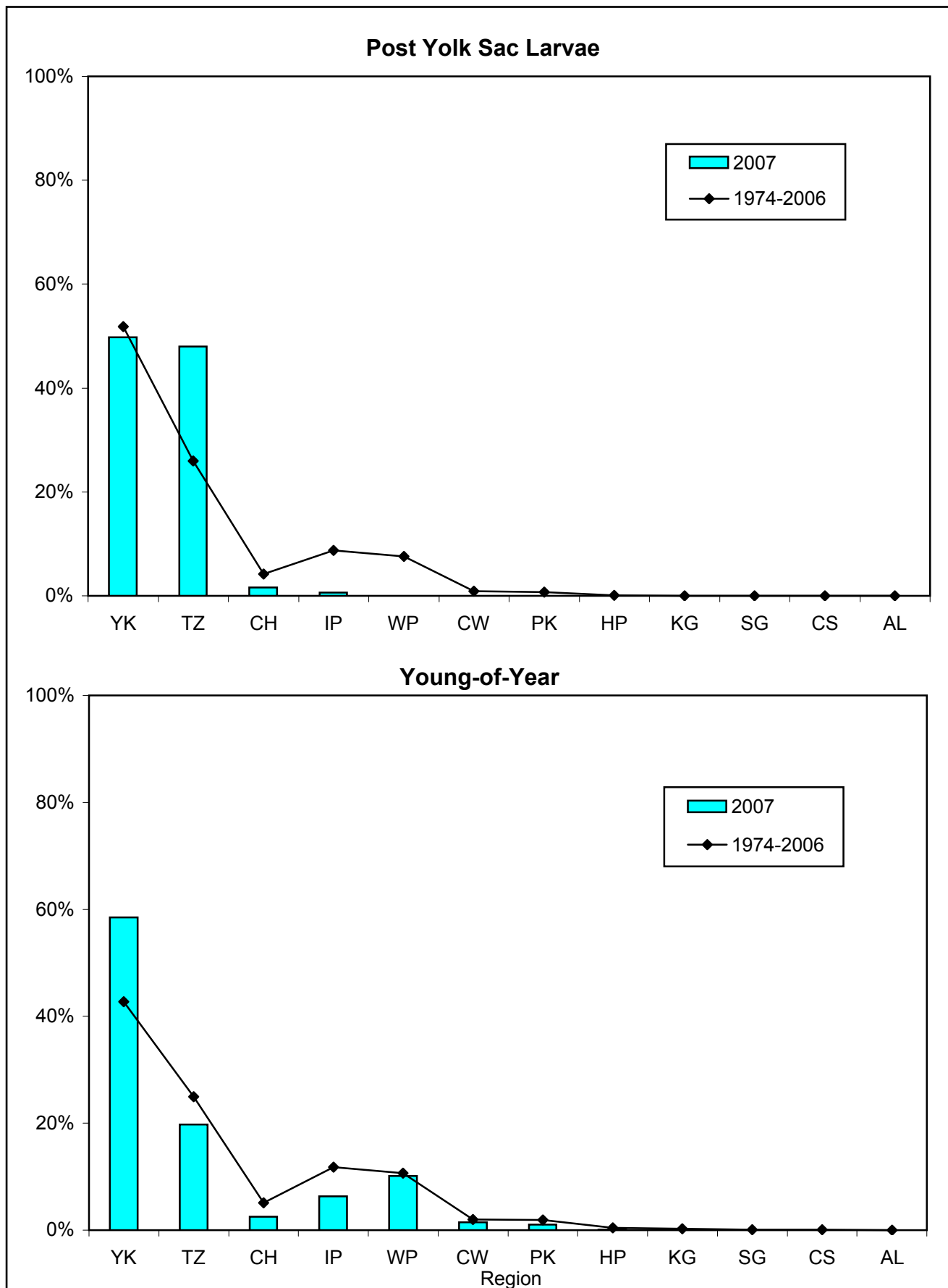


Figure 4-21. Geographic distribution indices for Atlantic tomcod collected during Long River surveys of the Hudson River estuary, 1974-2007.

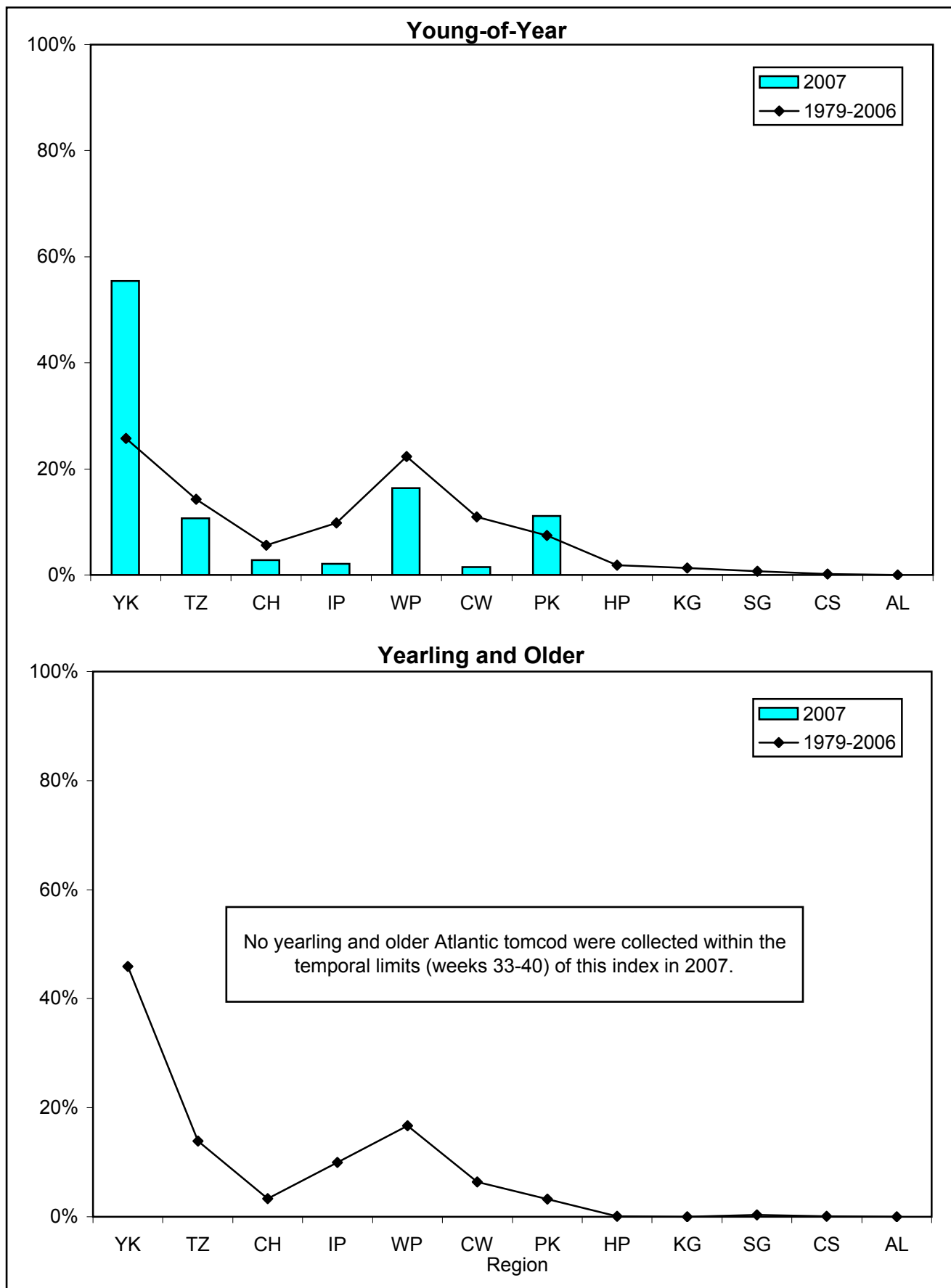


Figure 4-22. Geographic distribution indices for Atlantic tomcod collected during Fall Juvenile surveys of the Hudson River estuary, 1979-2007.

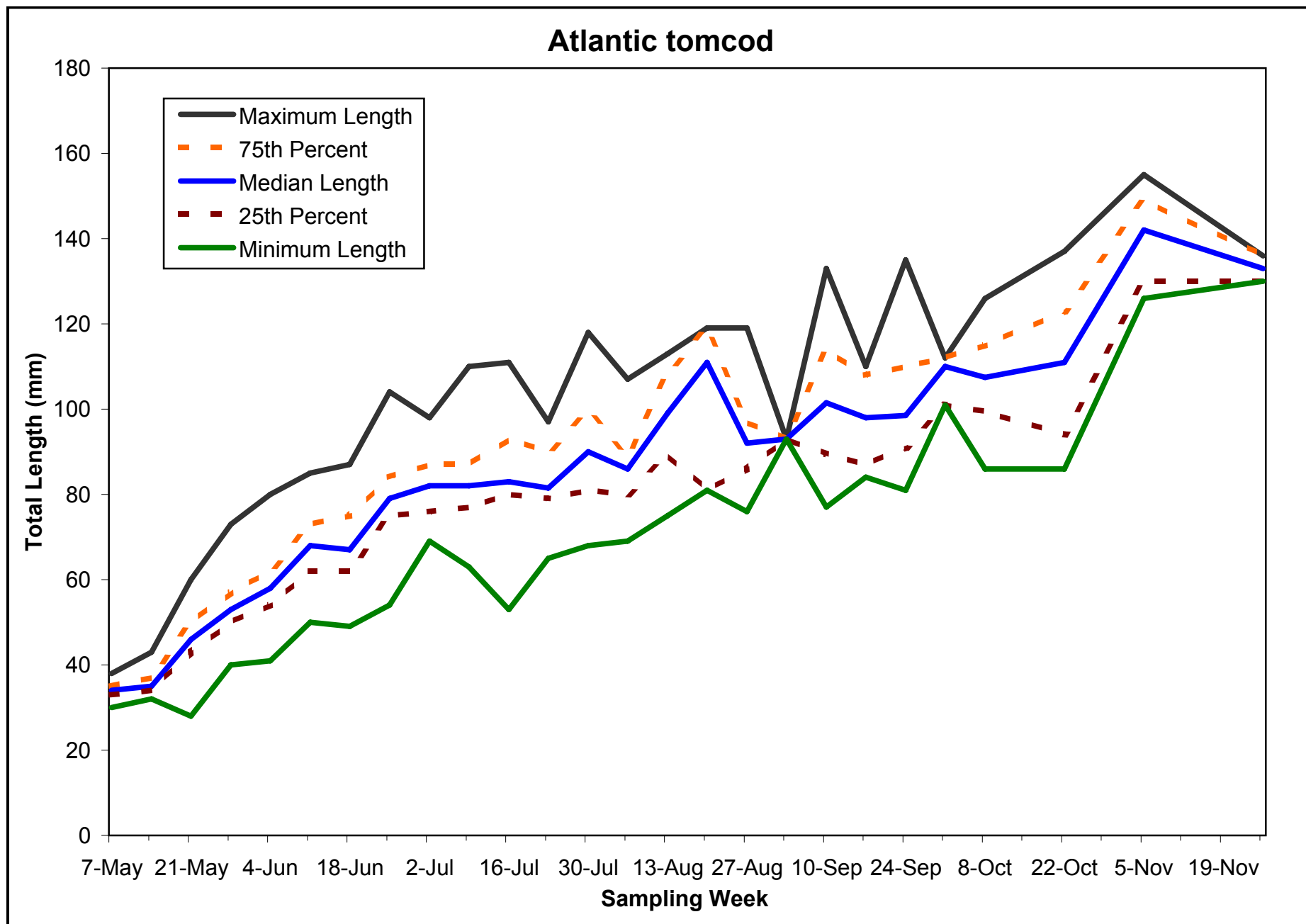


Figure 4-23. Weekly length statistics for young-of-year Atlantic tomcod in the Hudson River estuary, 2007.

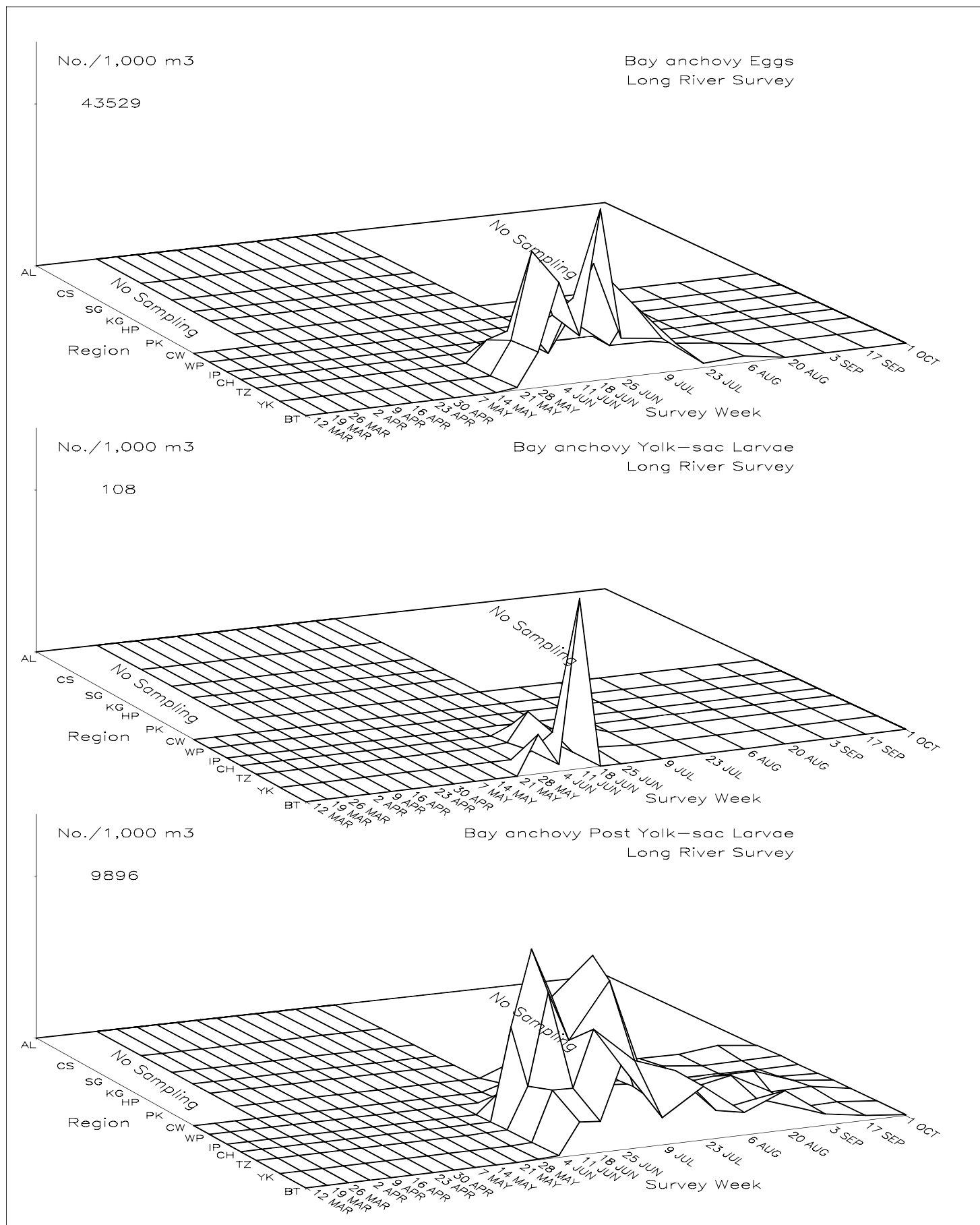


Figure 4-24. Spatiotemporal distribution of eggs, yolk-sac, and post yolk-sac larval bay anchovy in the Hudson River estuary based on the 2007 Long River Survey.

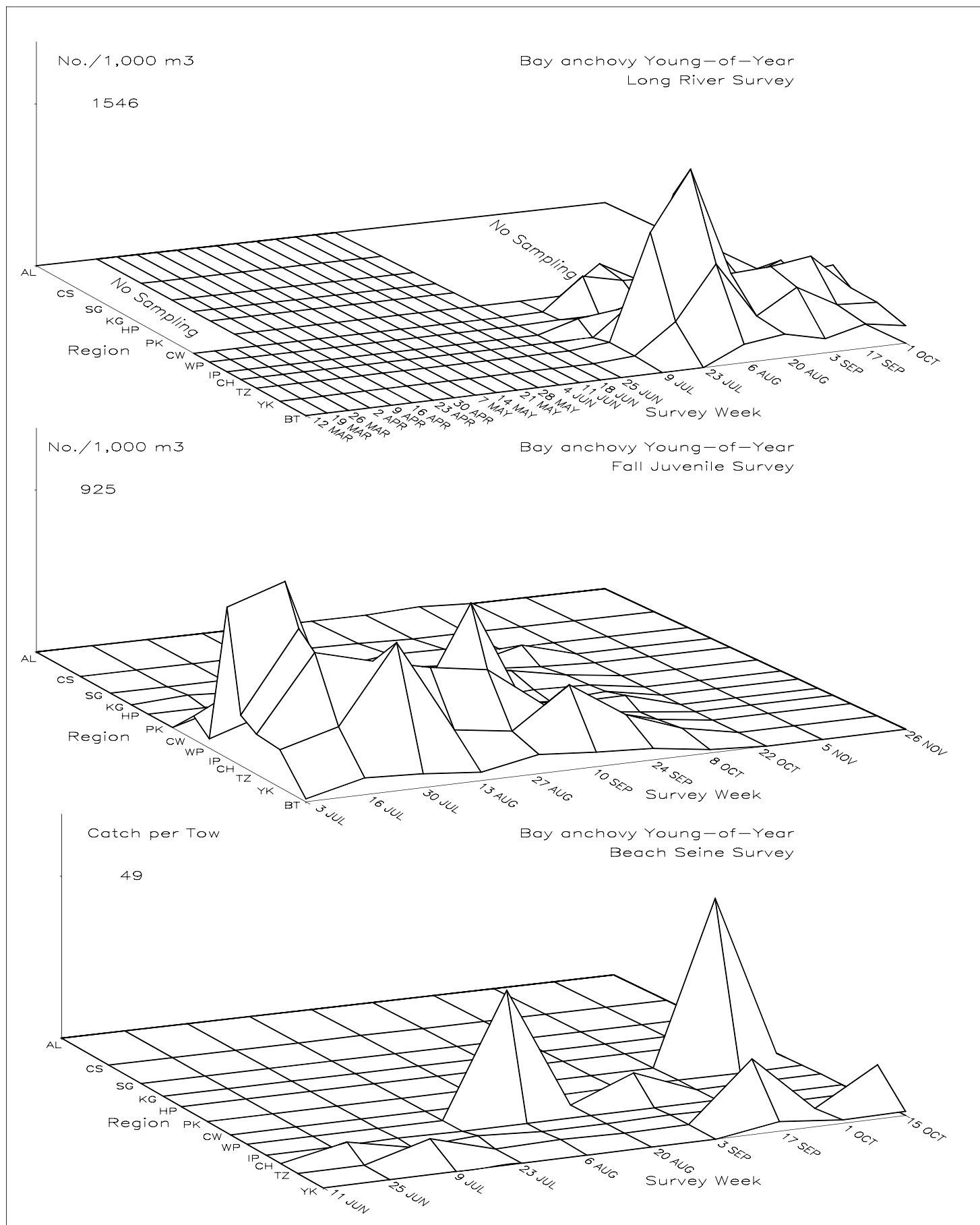


Figure 4–25. Spatiotemporal distribution of young-of-year bay anchovy in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

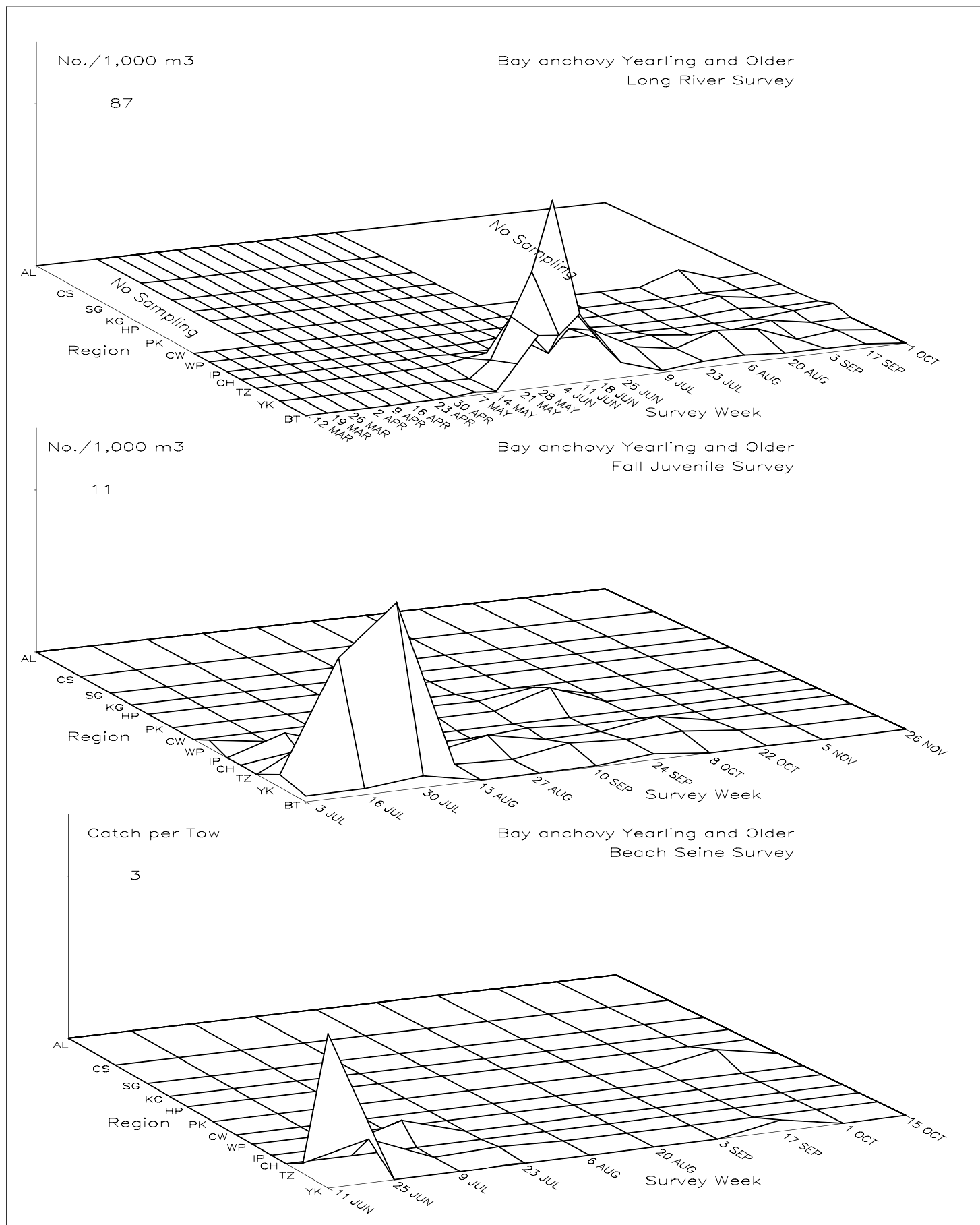


Figure 4–26. Spatiotemporal distribution of yearling and older bay anchovy in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

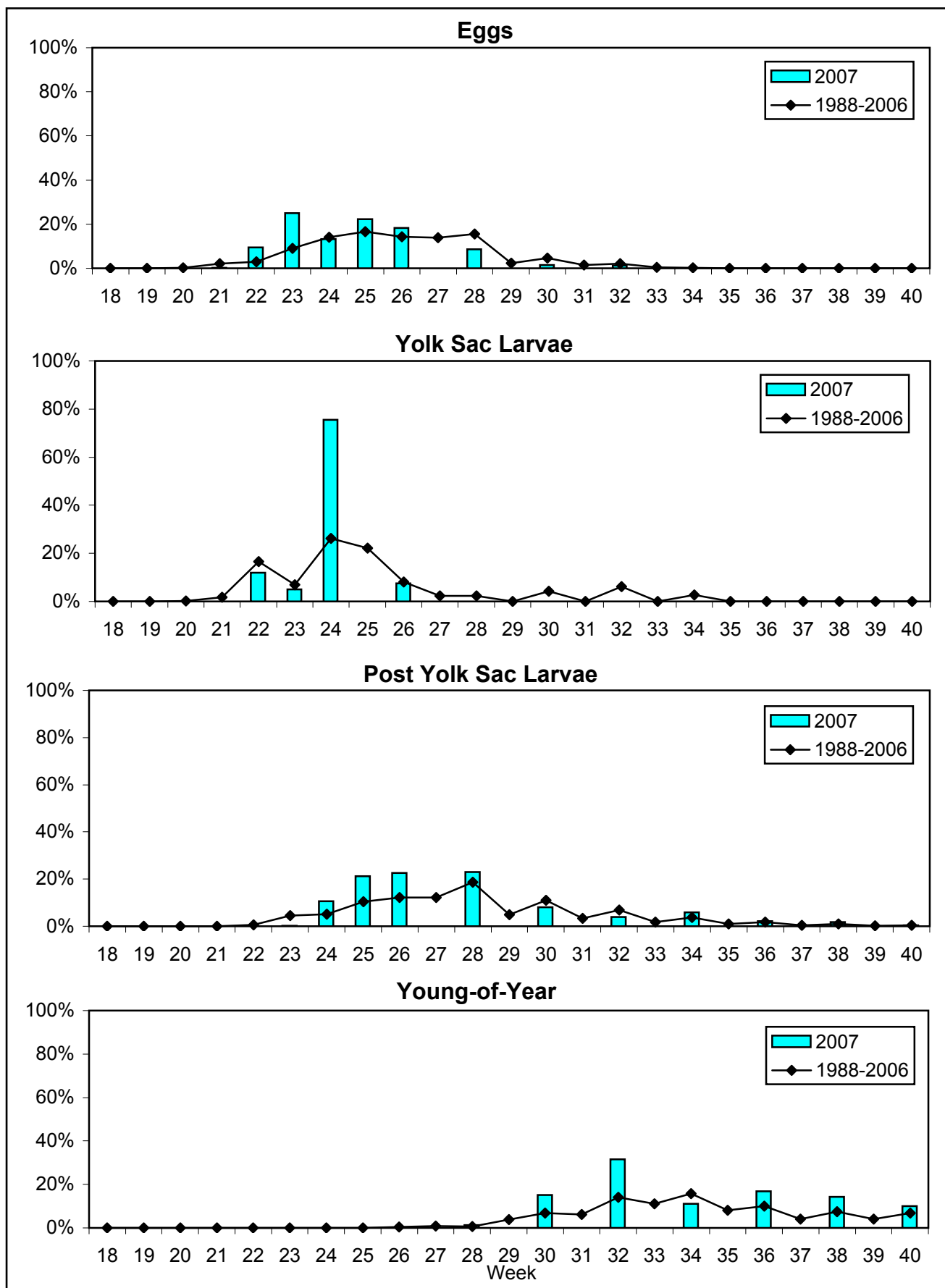


Figure 4-27. Temporal distribution indices for bay anchovy collected during Long River surveys of the Hudson River estuary, 1988-2007.

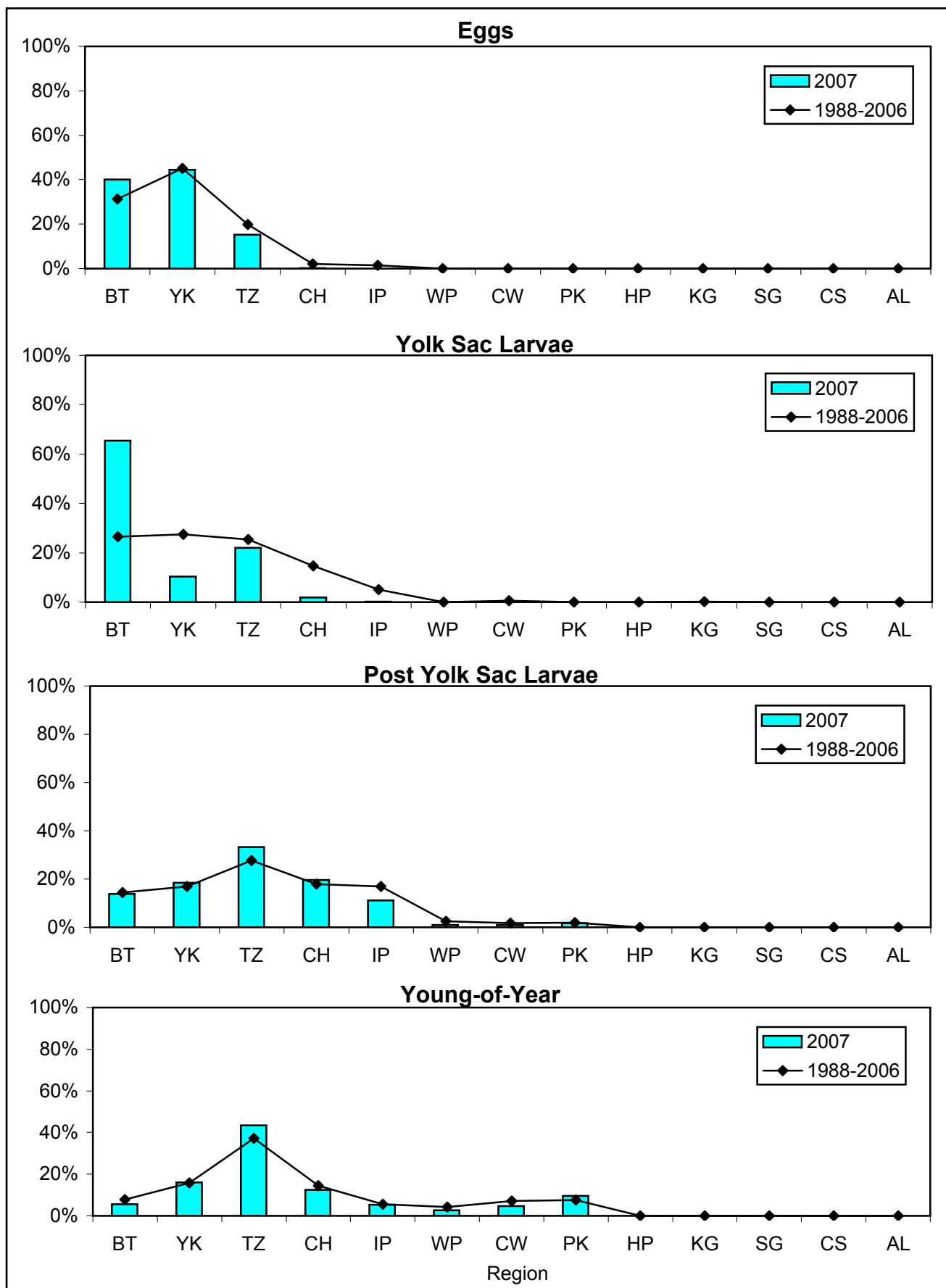


Figure 4-28. Geographic distribution indices for bay anchovy collected during Long River surveys of the Hudson River estuary, 1988-2007.

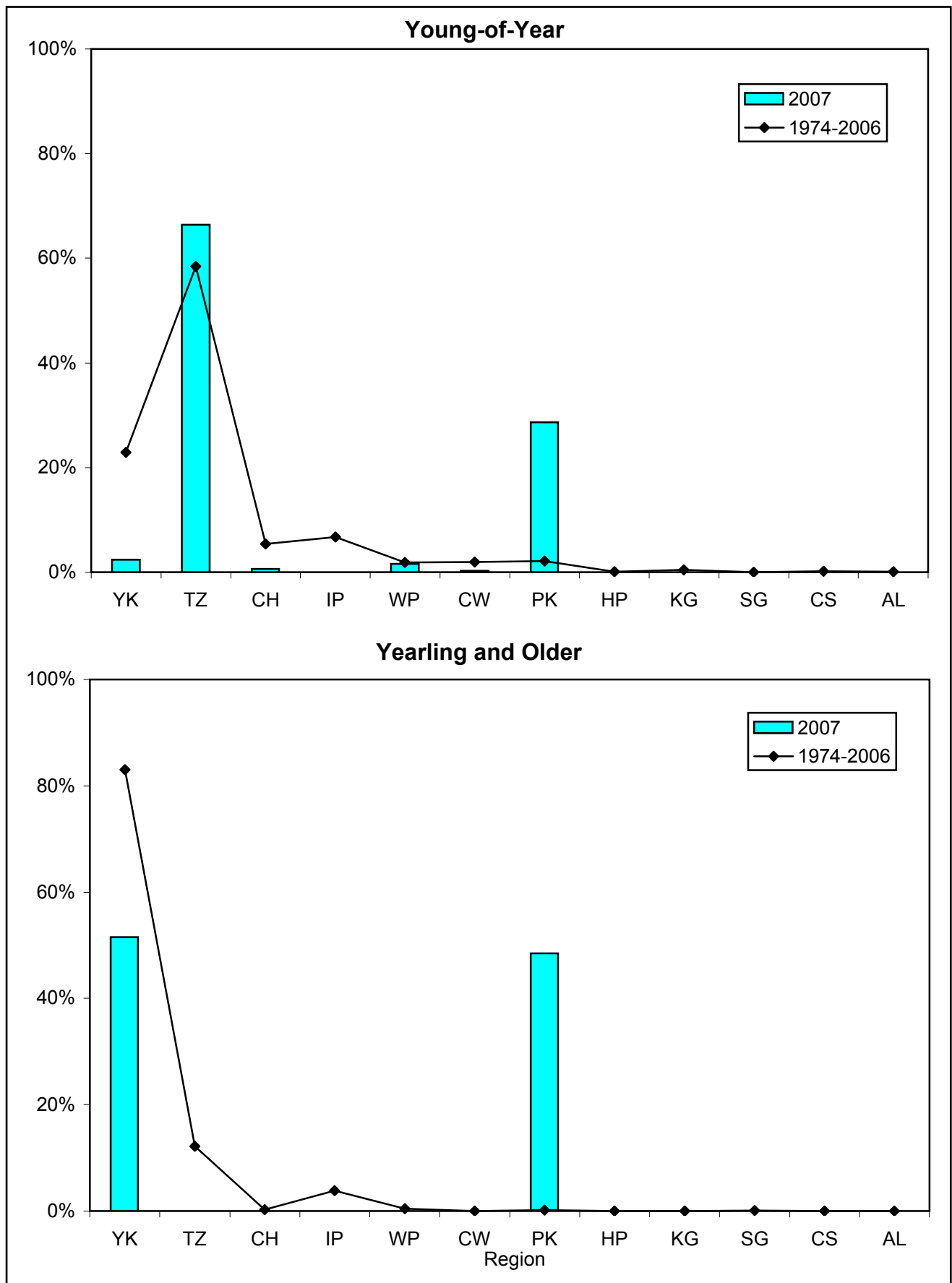


Figure 4-29. Geographic distribution indices for bay anchovy collected during Beach Seine surveys of the Hudson River estuary, 1974-2007.

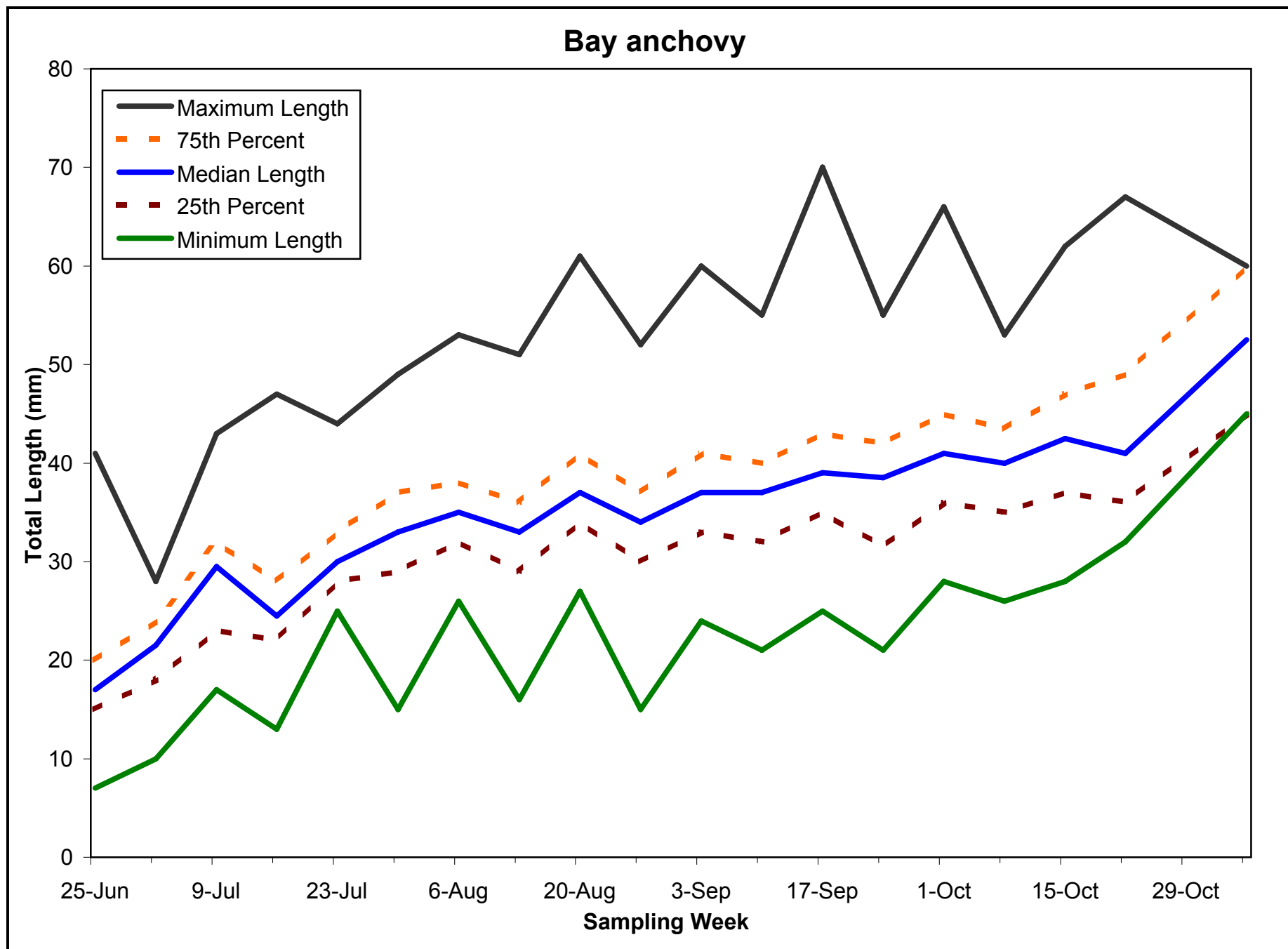


Figure 4-30. Weekly length statistics for young-of-year bay anchovy in the Hudson River estuary, 2007.

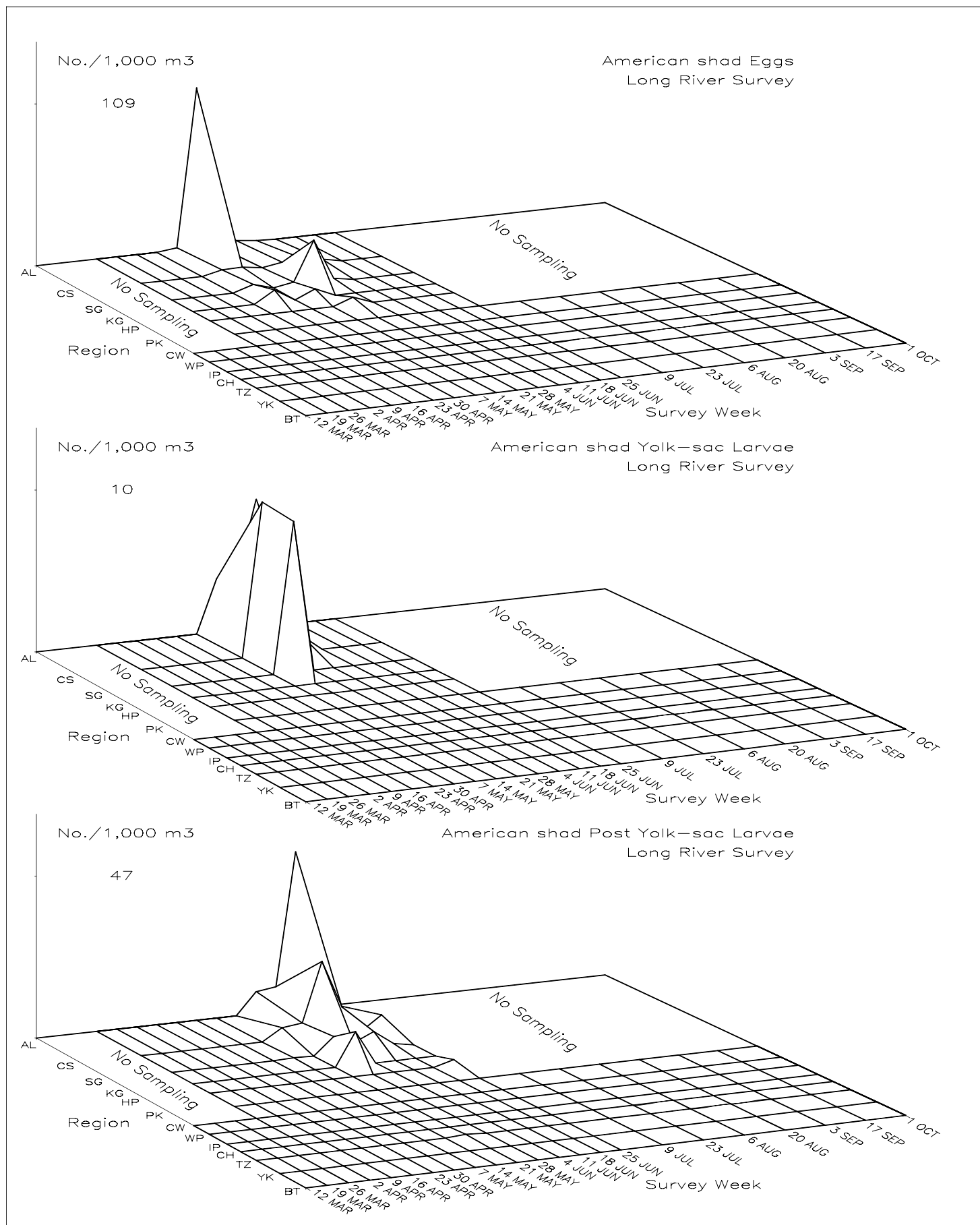


Figure 4–31. Spatiotemporal distribution of eggs, yolk-sac, and post yolk-sac larval American shad in the Hudson River estuary based on the 2007 Long River Survey.

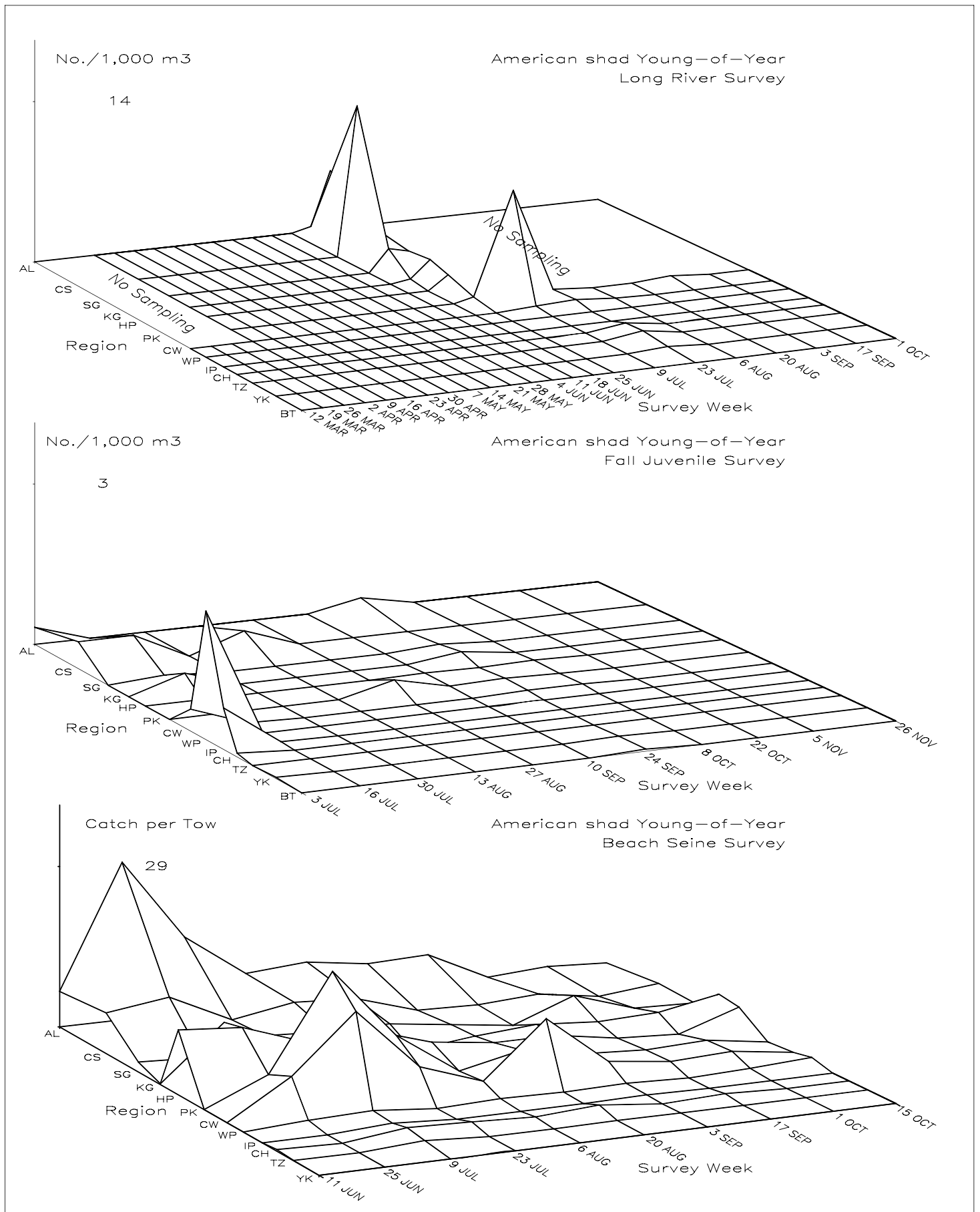


Figure 4–32. Spatiotemporal distribution of young-of-year American shad in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

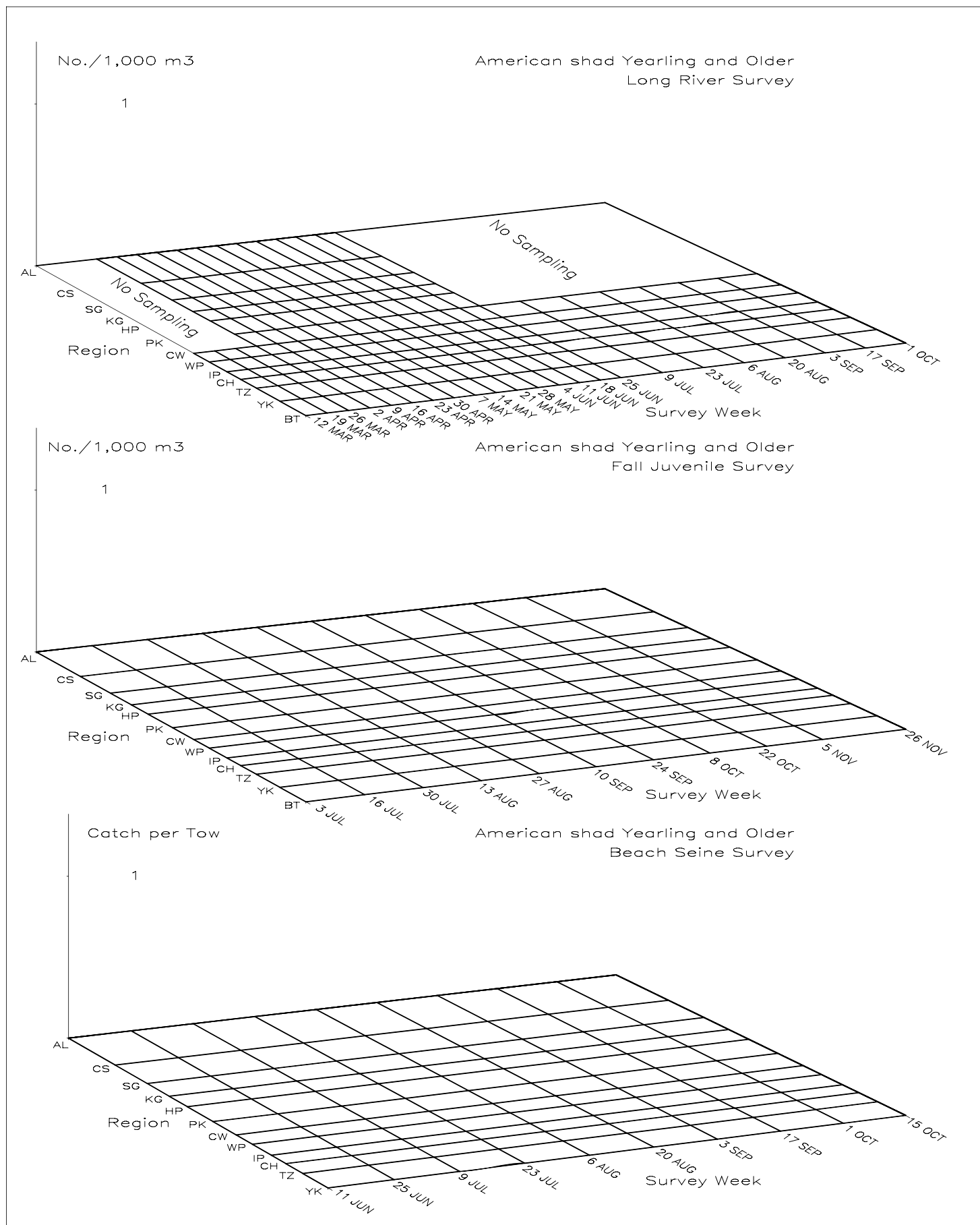


Figure 4–33. Spatiotemporal distribution of yearling and older American shad in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

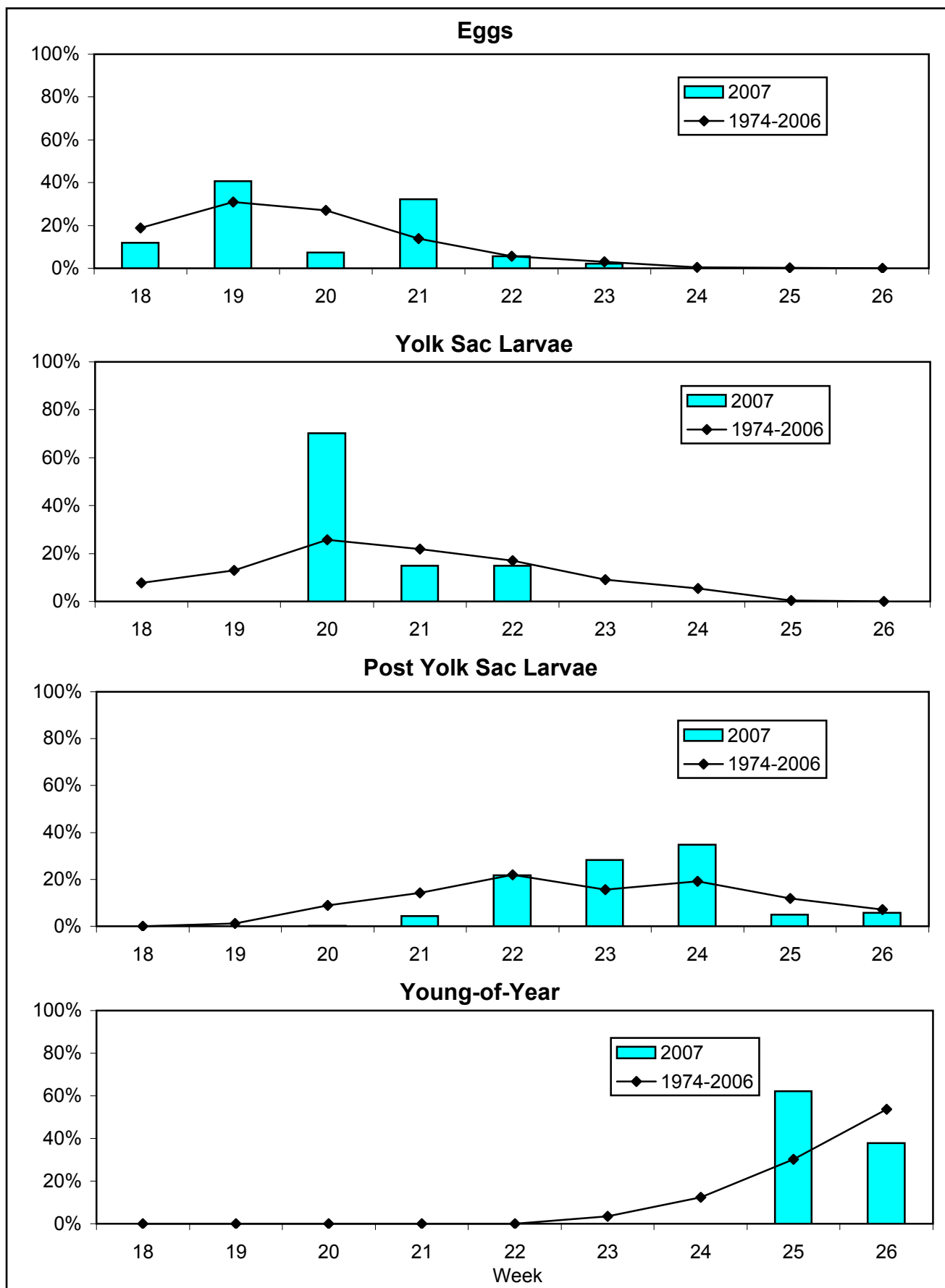


Figure 4-34. Temporal distribution indices for American shad collected during Long River surveys of the Hudson River estuary, 1974-2007.

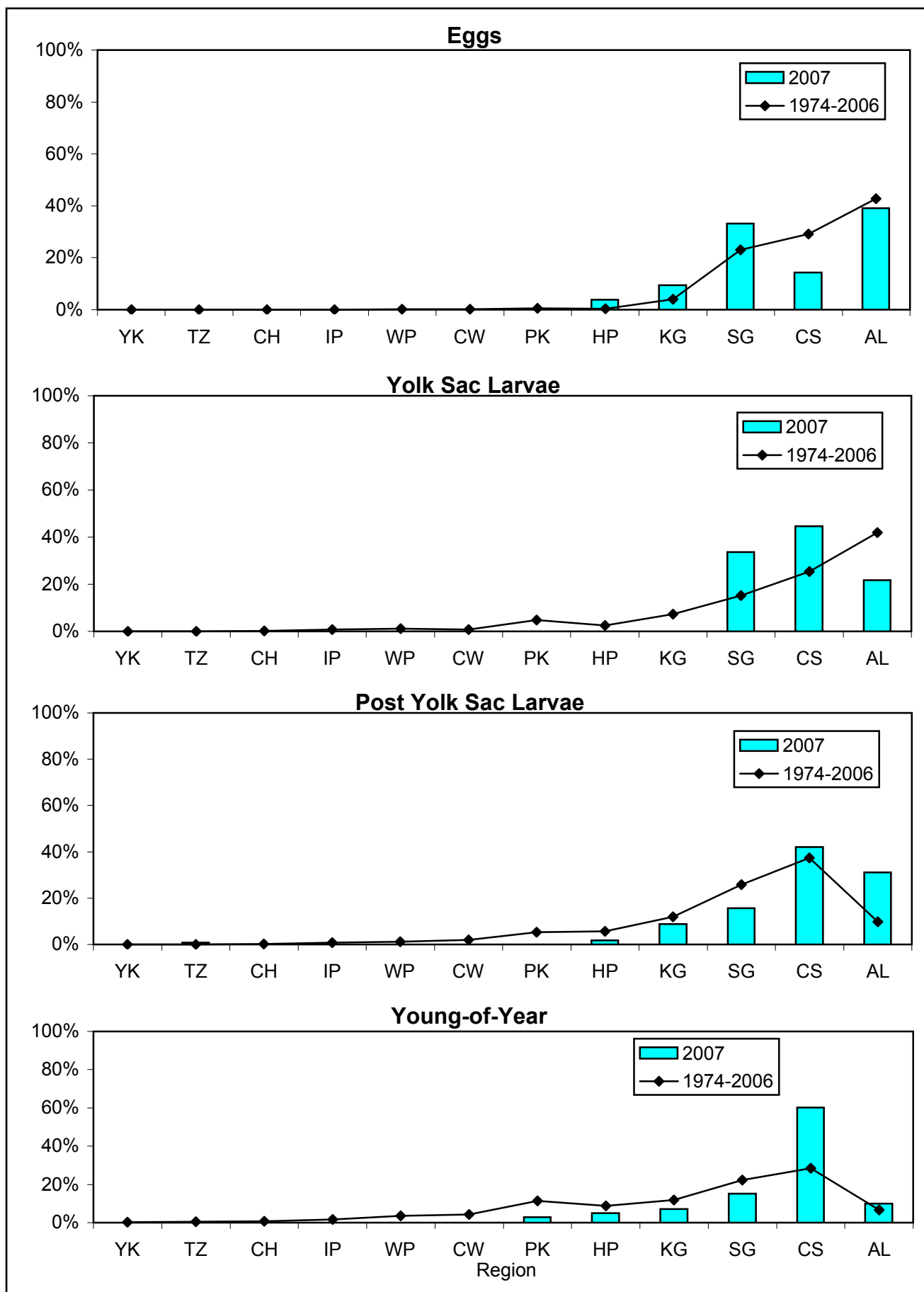


Figure 4-35. Geographic distribution indices for American shad collected during Long River surveys of the Hudson River estuary, 1974-2007.

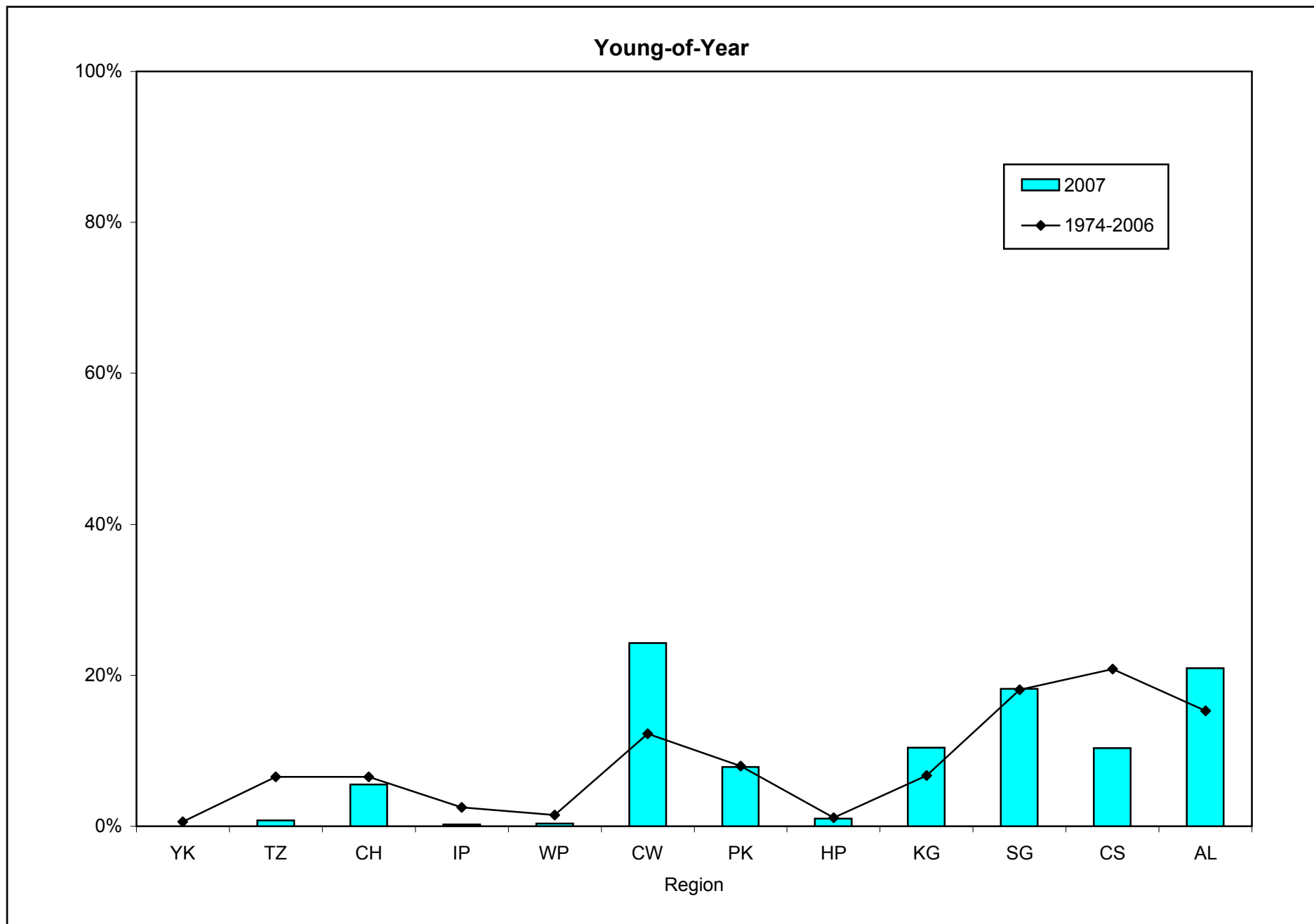


Figure 4-36. Geographic distribution indices for American shad collected during Beach Seine surveys of the Hudson River estuary, 1974-2007.

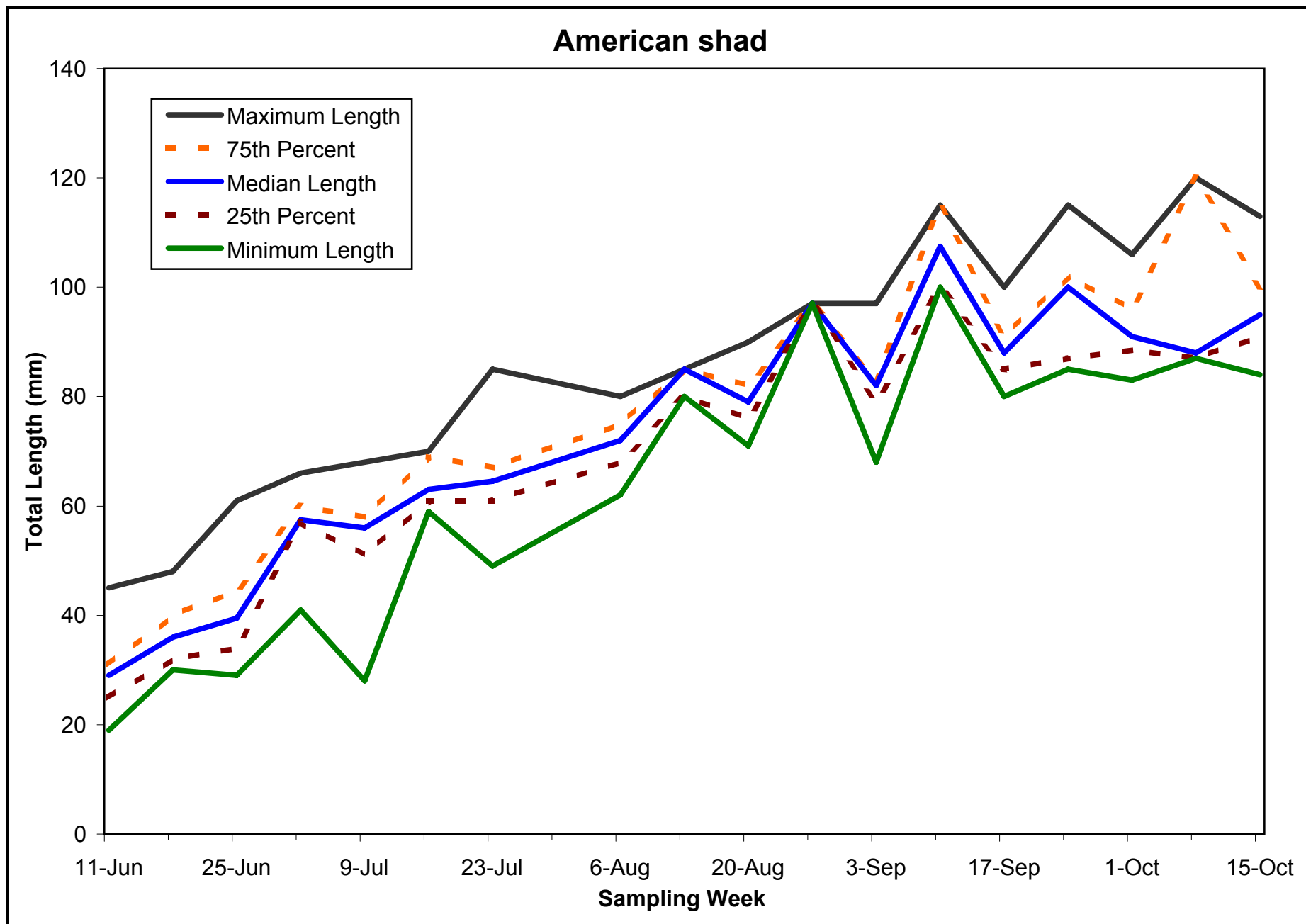


Figure 4-37. Weekly length statistics for young-of-year American shad in the Hudson River estuary, 2007.

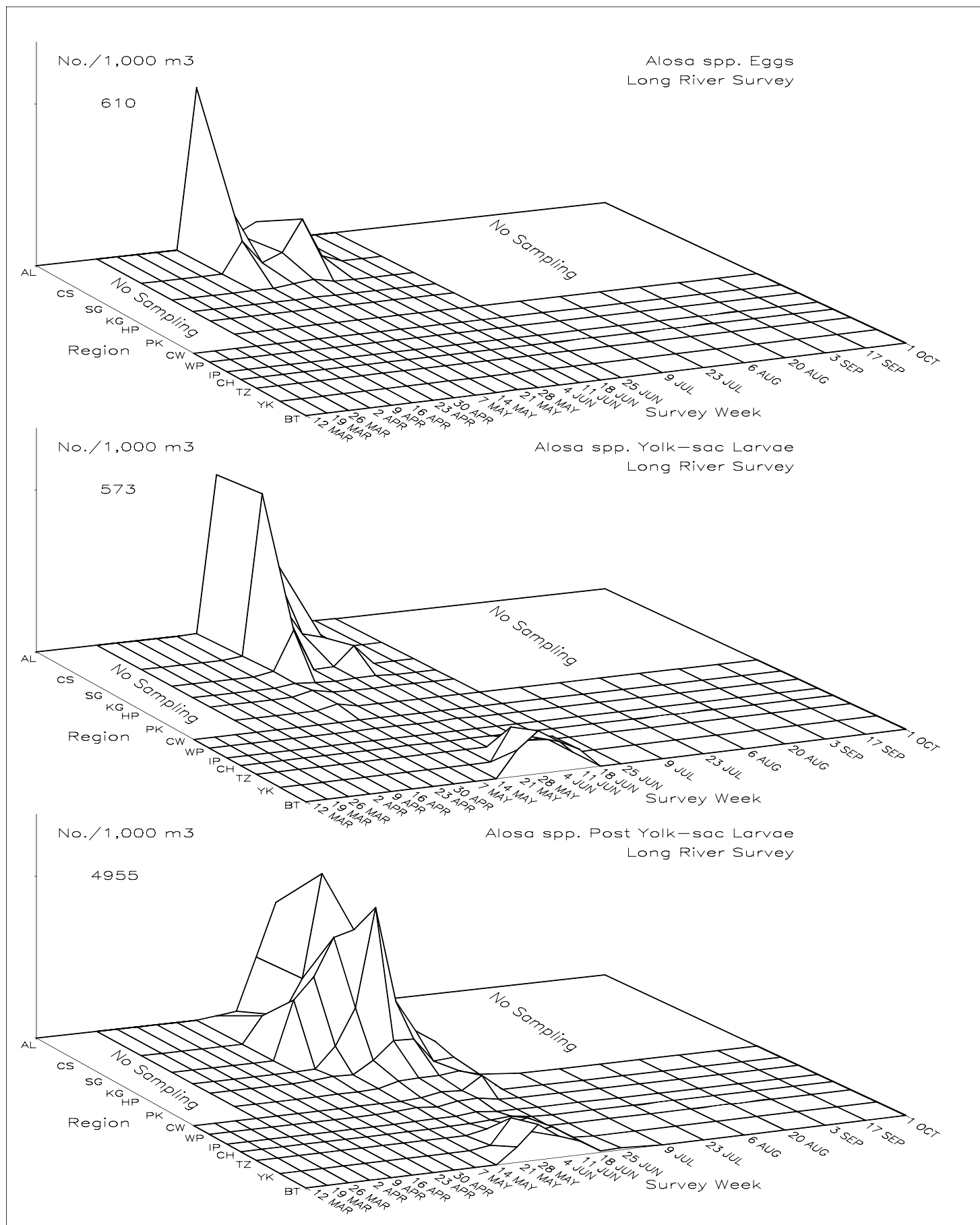


Figure 4-38. Spatiotemporal distribution of eggs, yolk-sac, and post yolk-sac larval *Alosa* spp. in the Hudson River estuary based on the 2007 Long River Survey.

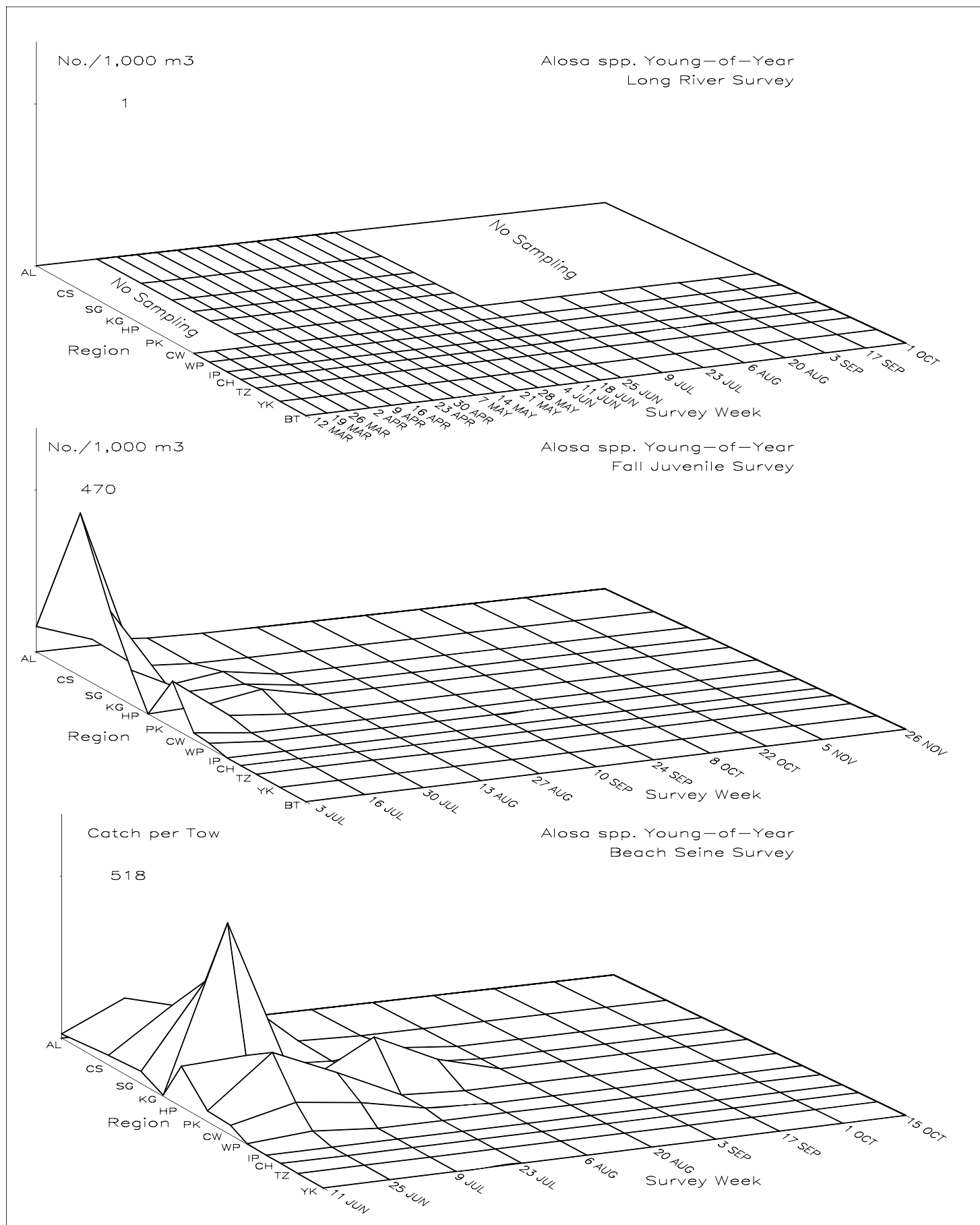


Figure 4–39. Spatiotemporal distribution of young-of-year *Alosa* spp. in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

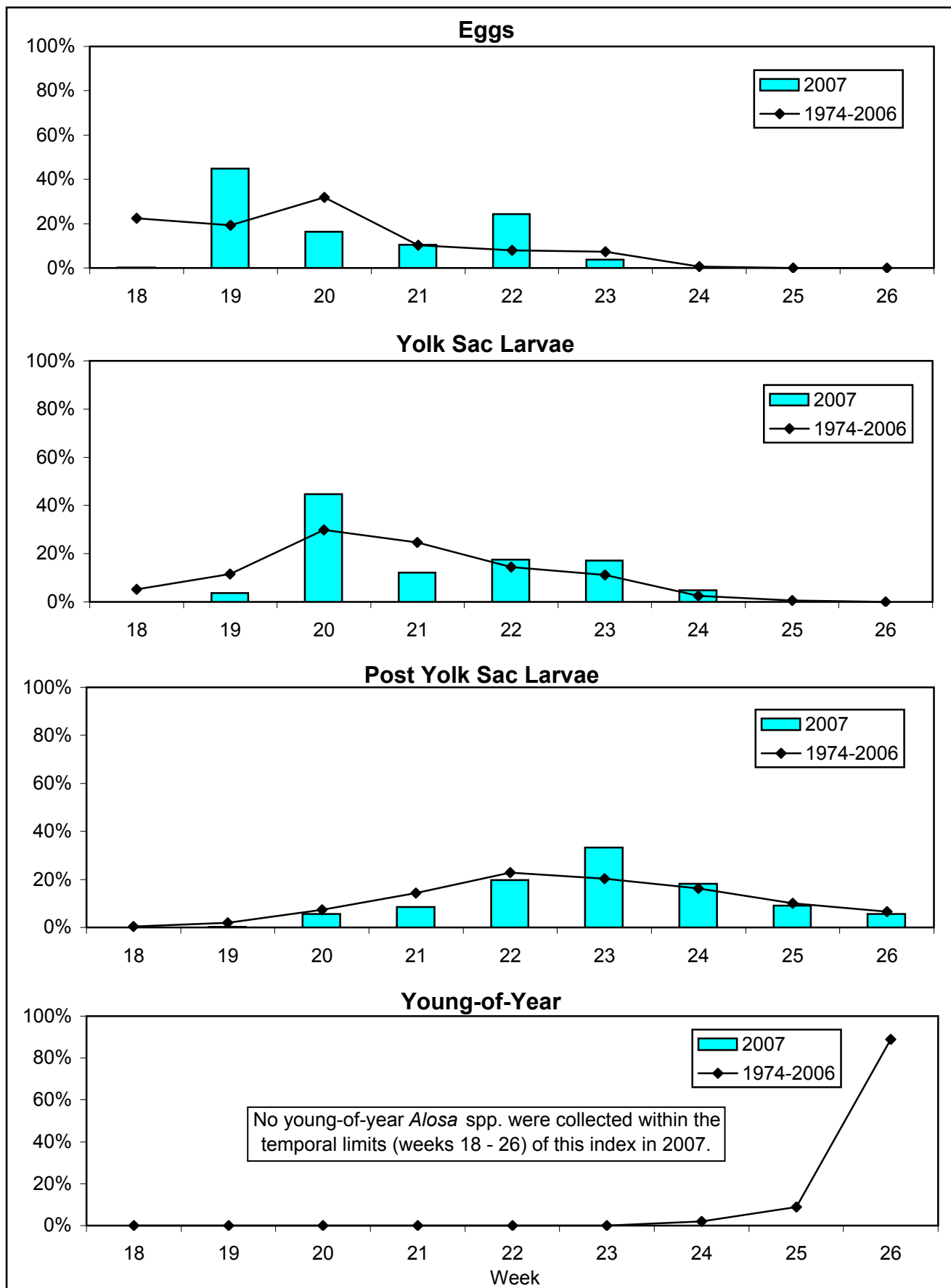


Figure 4-40. Temporal distribution indices for *Alosa* spp. collected during Long River surveys of the Hudson River estuary, 1974-2007.

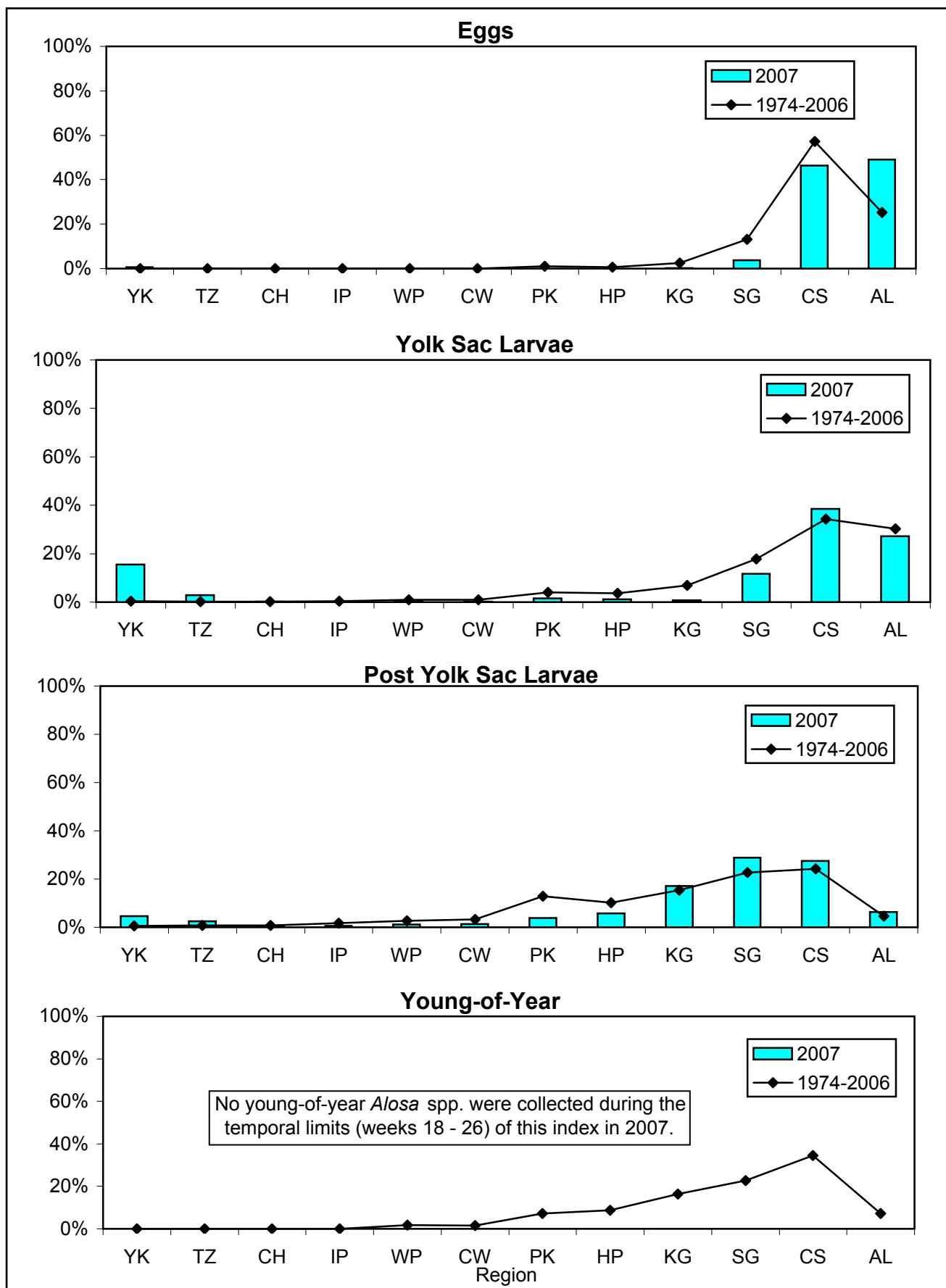


Figure 4-41. Geographic distribution indices for *Alosa* spp. collected during Long River surveys of the Hudson River estuary, 1974-2007.

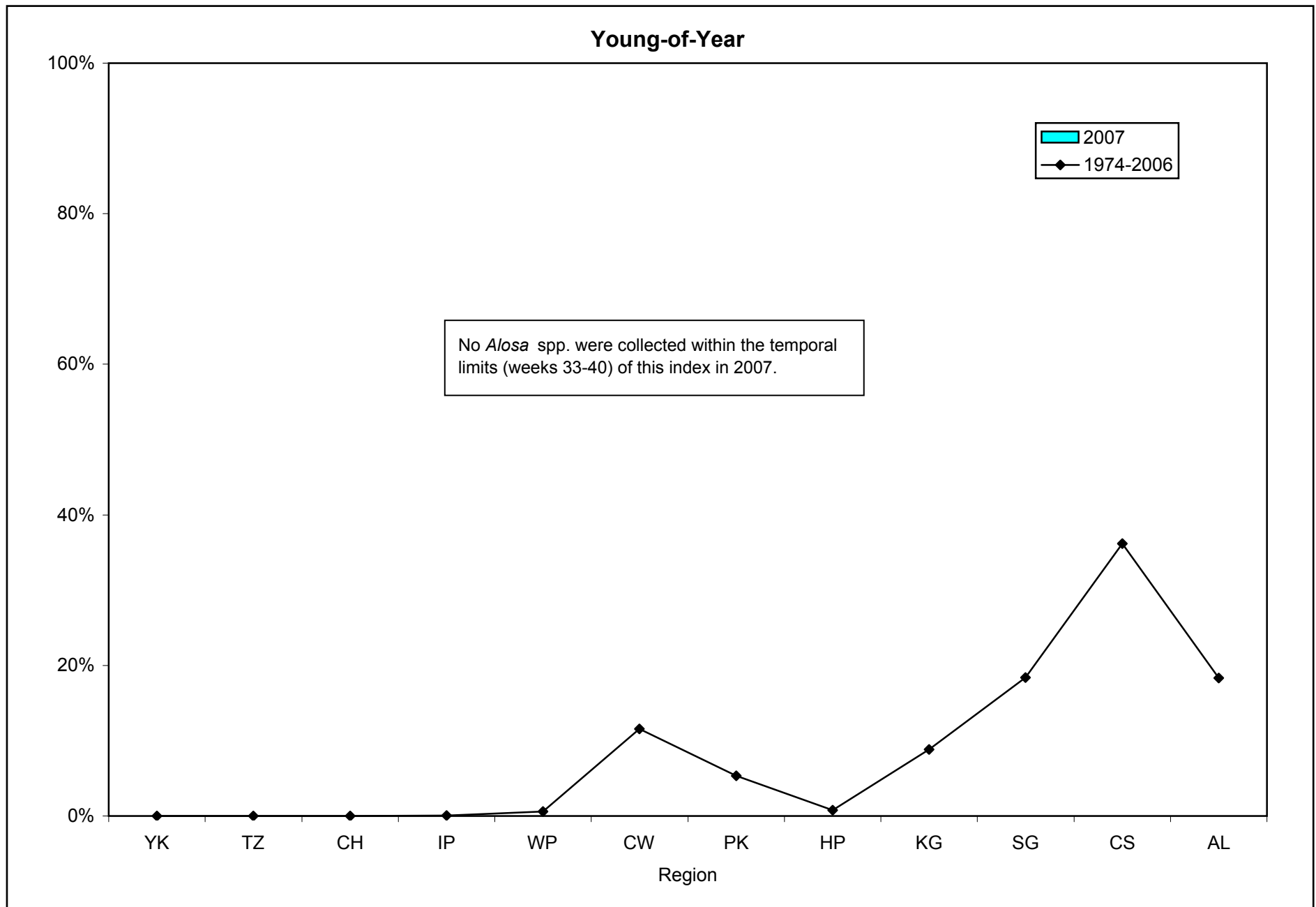


Figure 4-42. Geographic distribution indices for *Alosa* spp. collected during Beach Seine surveys of the Hudson River estuary, 1974-2007.

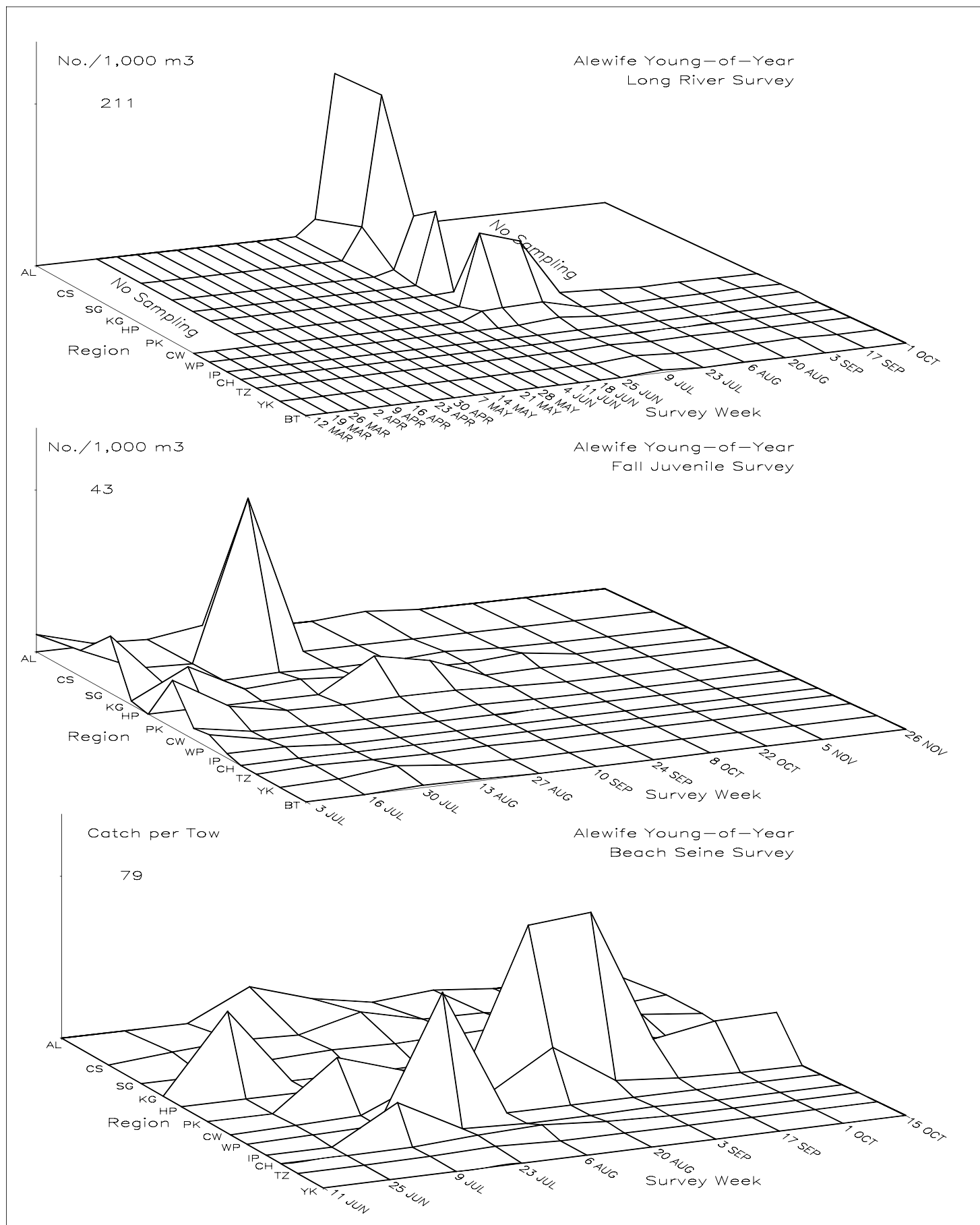


Figure 4-43. Spatiotemporal distribution of young-of-year alewife in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

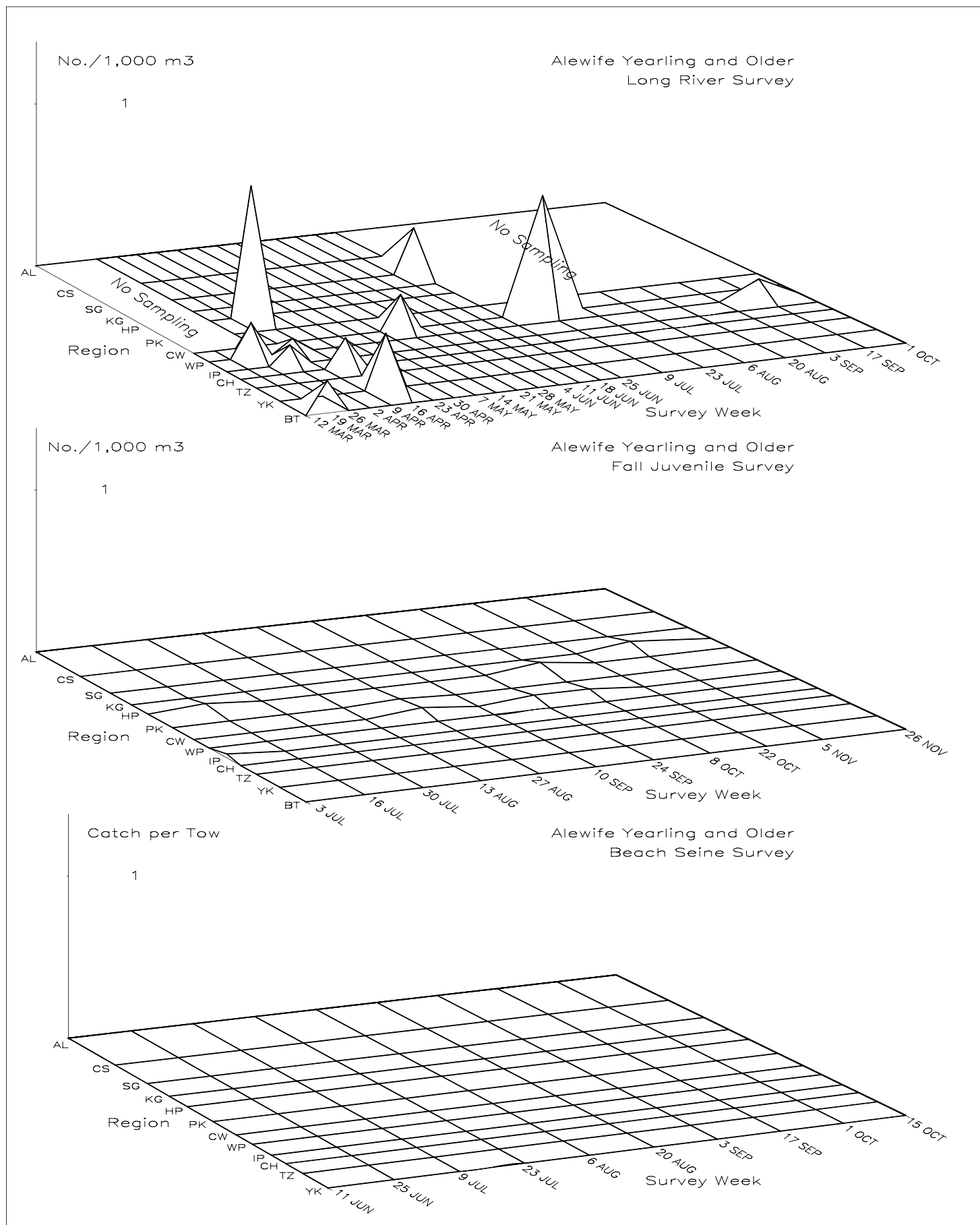


Figure 4-44. Spatiotemporal distribution of yearling and older alewife in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

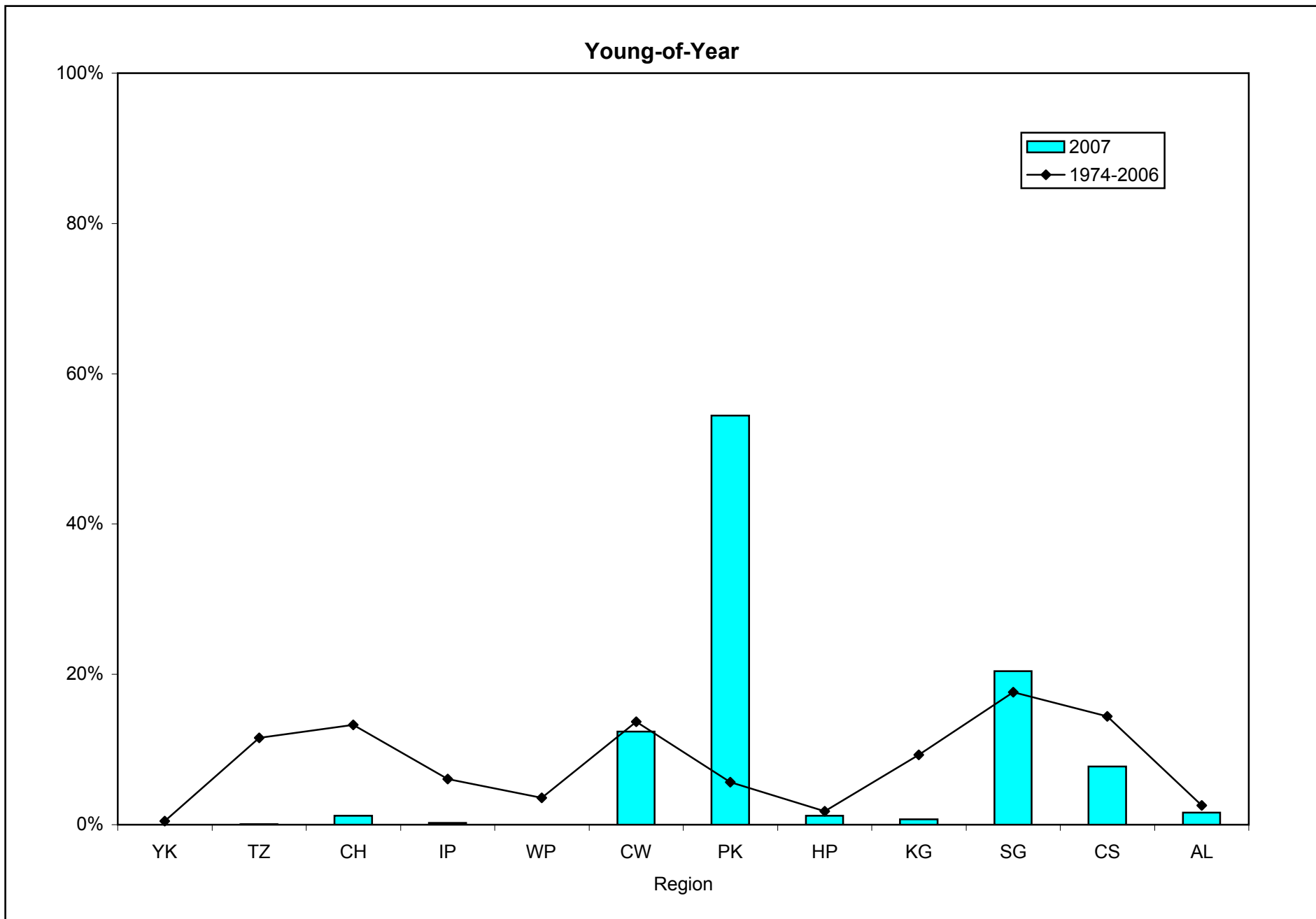


Figure 4-45. Geographic distribution indices for alewife collected during Beach Seine surveys of the Hudson River estuary, 1974-2007.

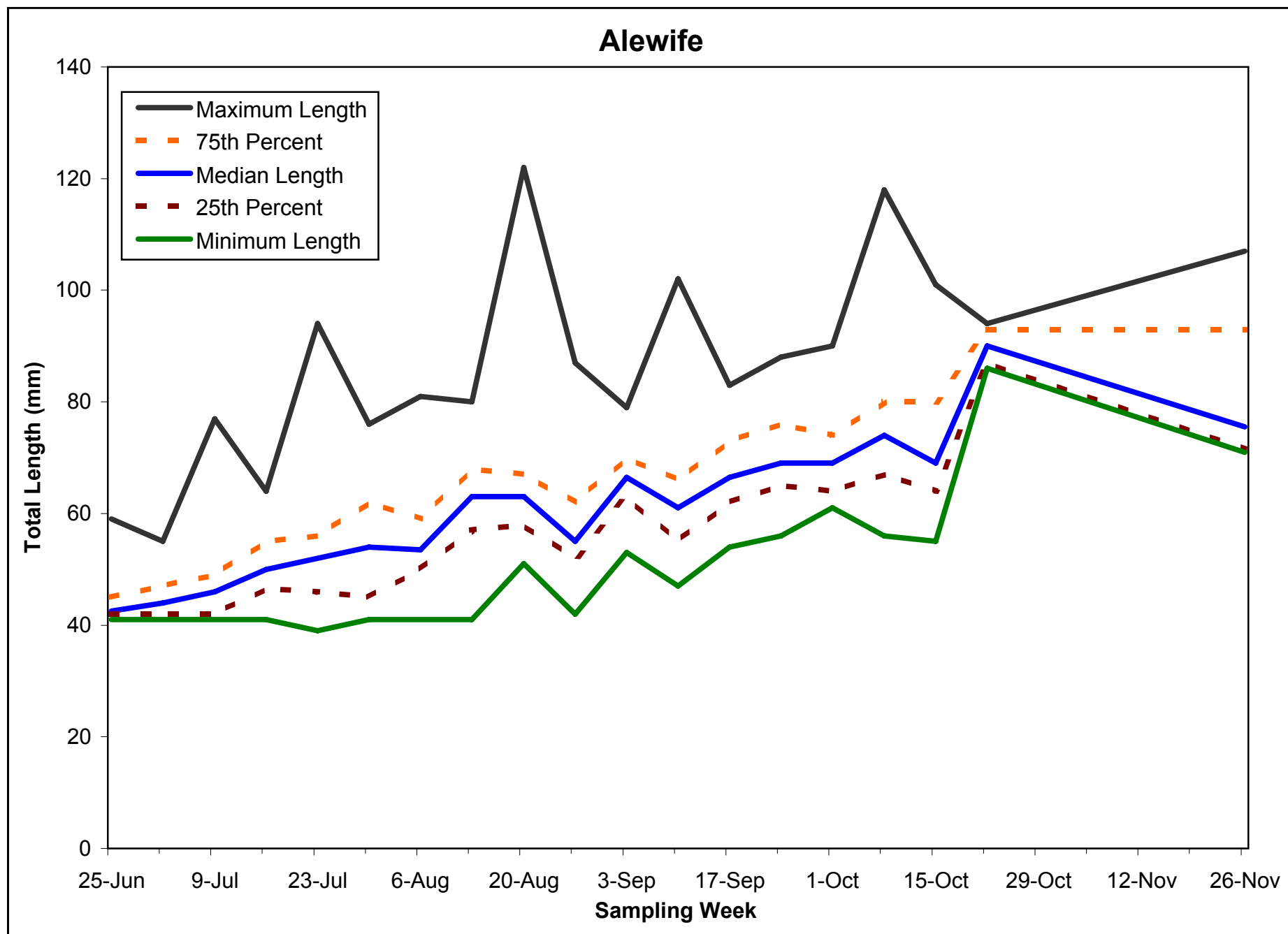


Figure 4-46. Weekly length statistics for young-of-year alewife in the Hudson River estuary, 2007.

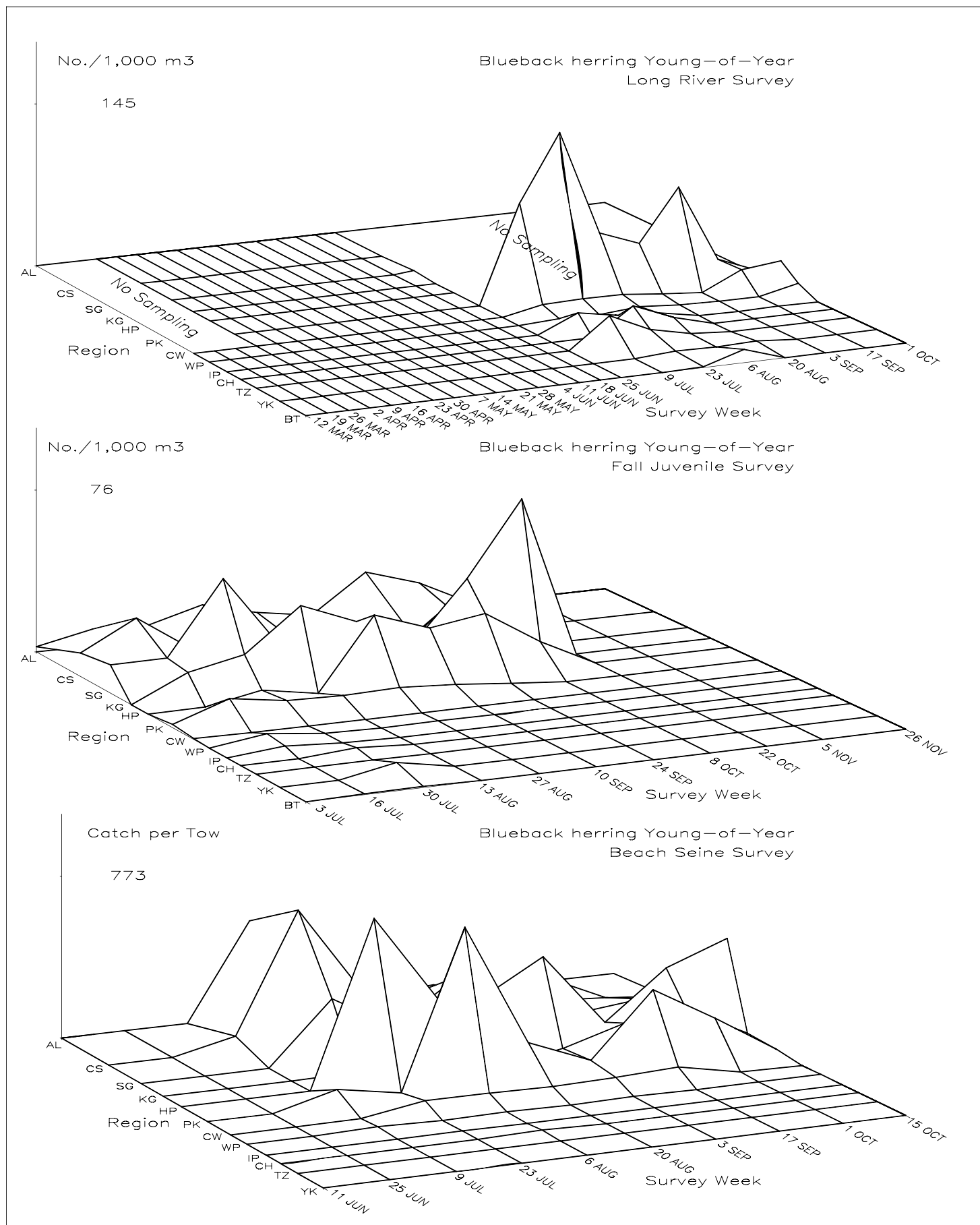


Figure 4-47. Spatiotemporal distribution of young-of-year blueback herring in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

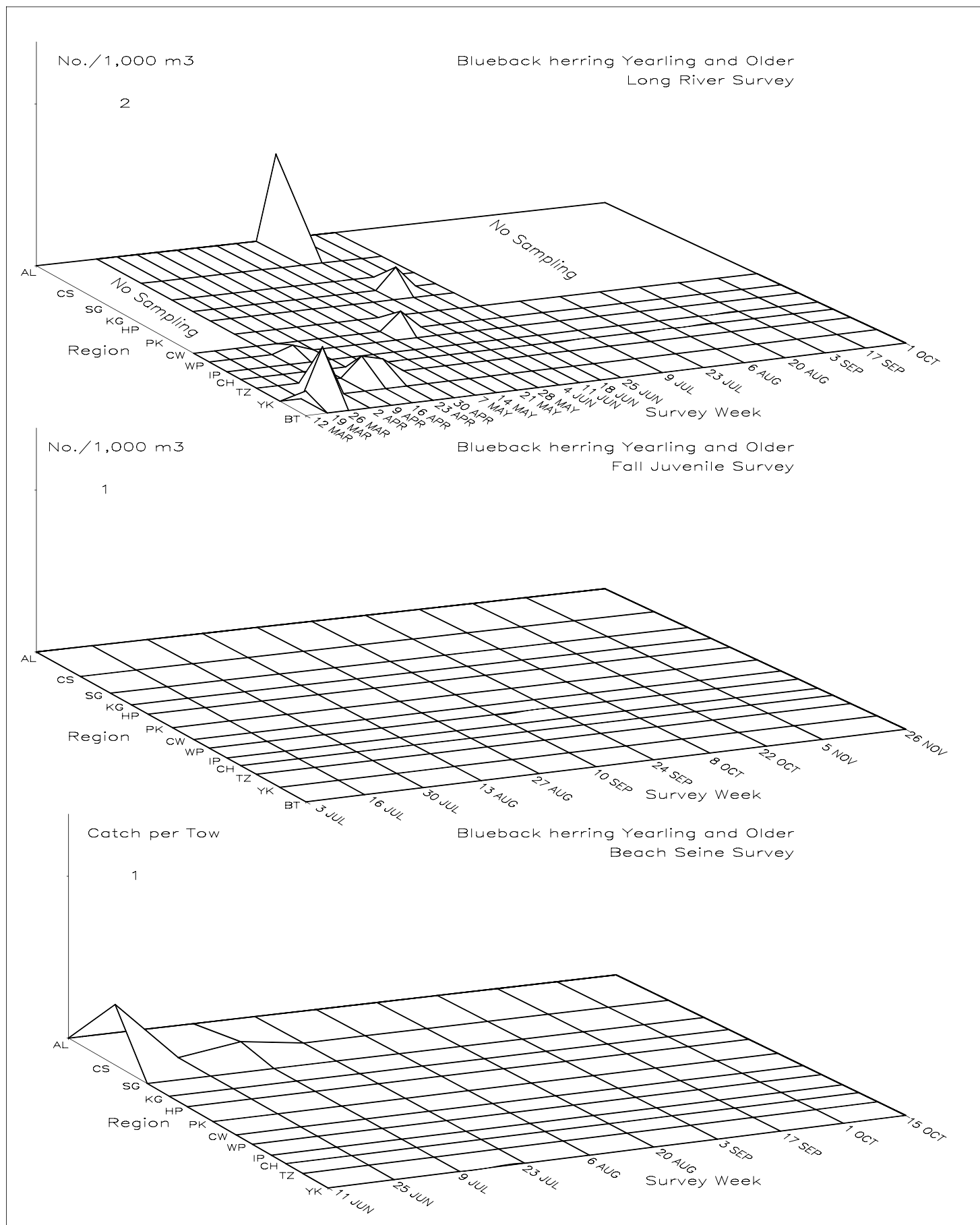


Figure 4–48. Spatiotemporal distribution of yearling and older blueback herring in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

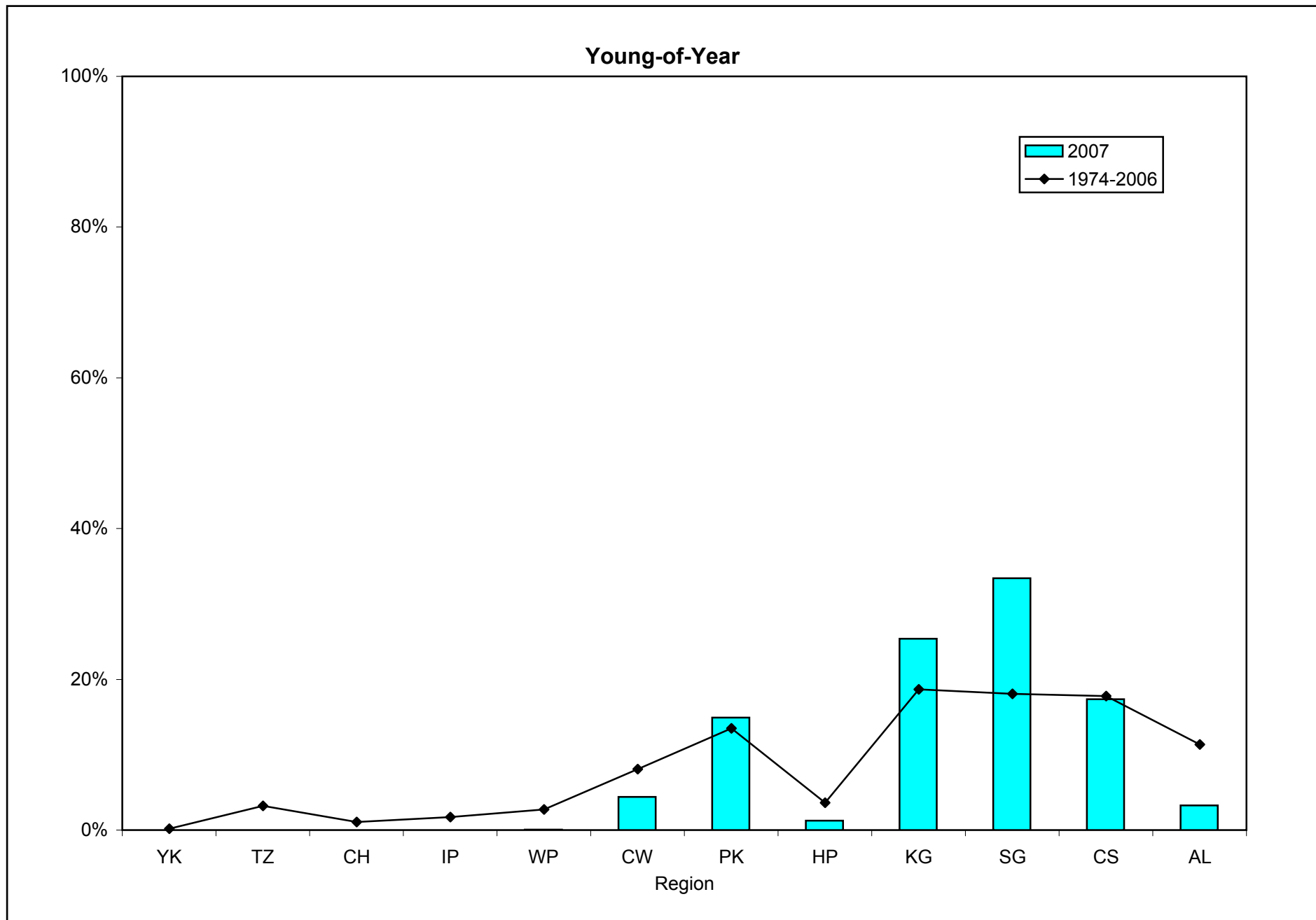


Figure 4-49. Geographic distribution indices for blueback herring collected during Beach Seine surveys of the Hudson River estuary, 1974-2007.

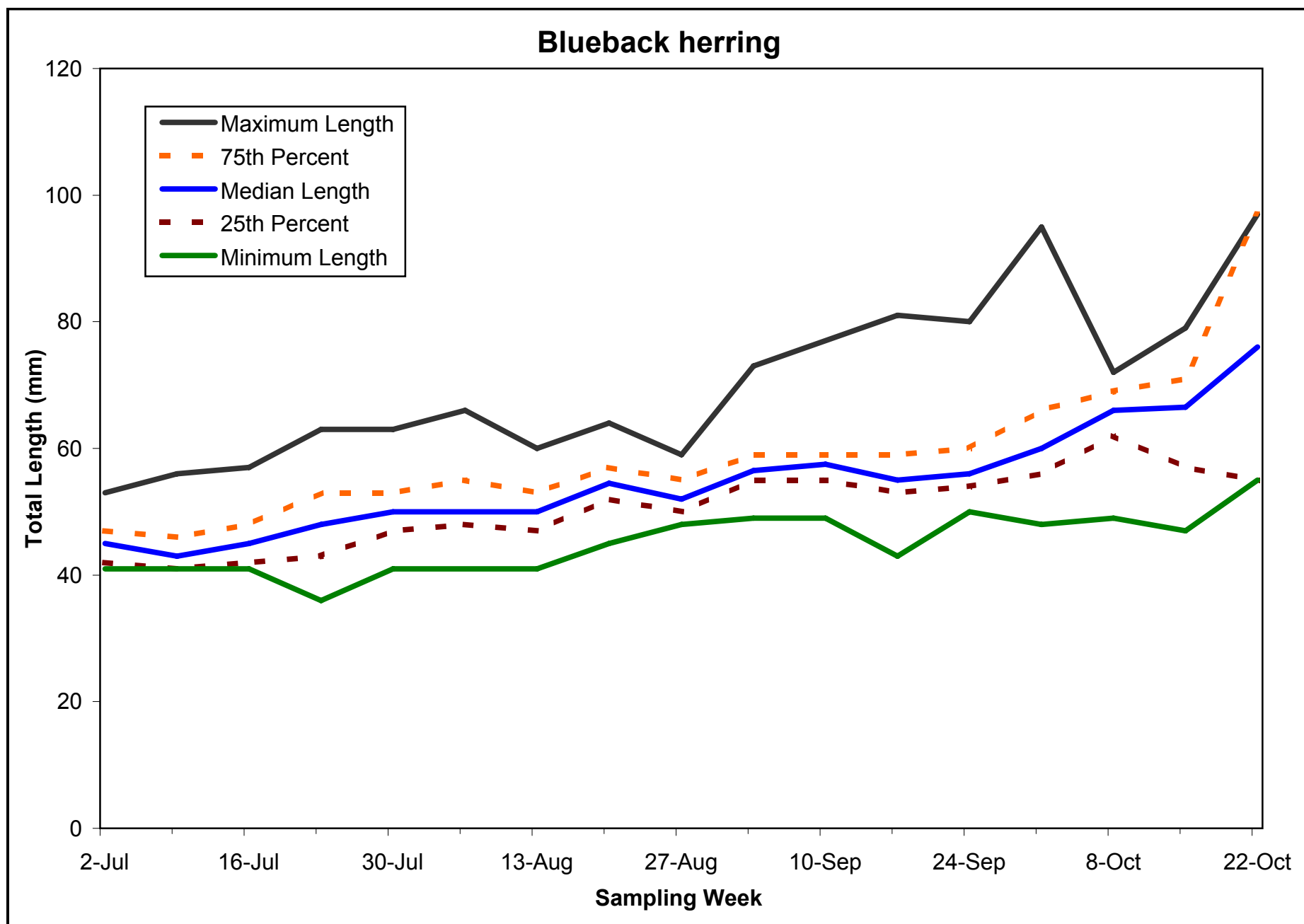


Figure 4-50. Weekly length statistics for young-of-year blueback herring in the Hudson River estuary, 2007.

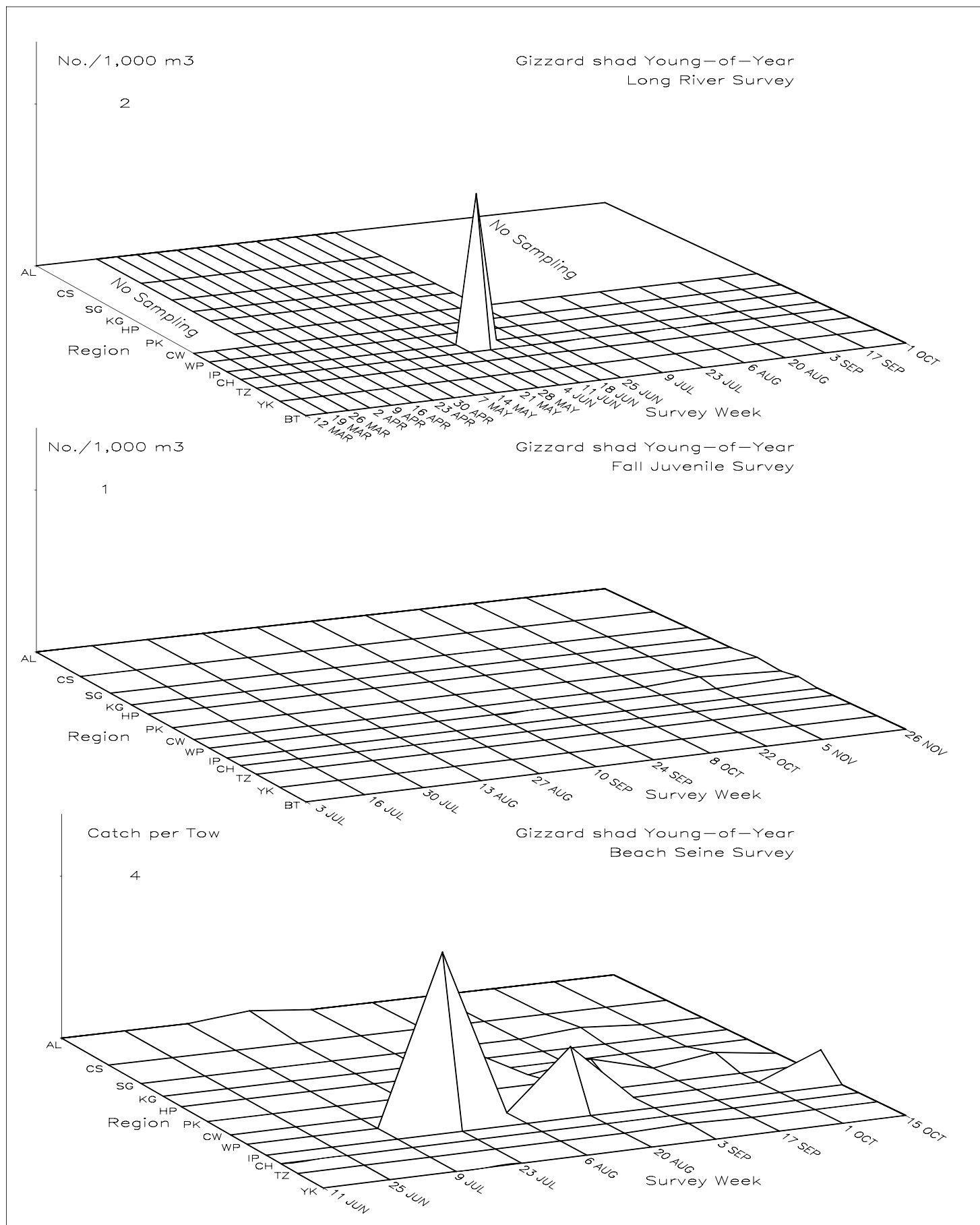


Figure 4–51. Spatiotemporal distribution of young-of-year gizzard shad in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

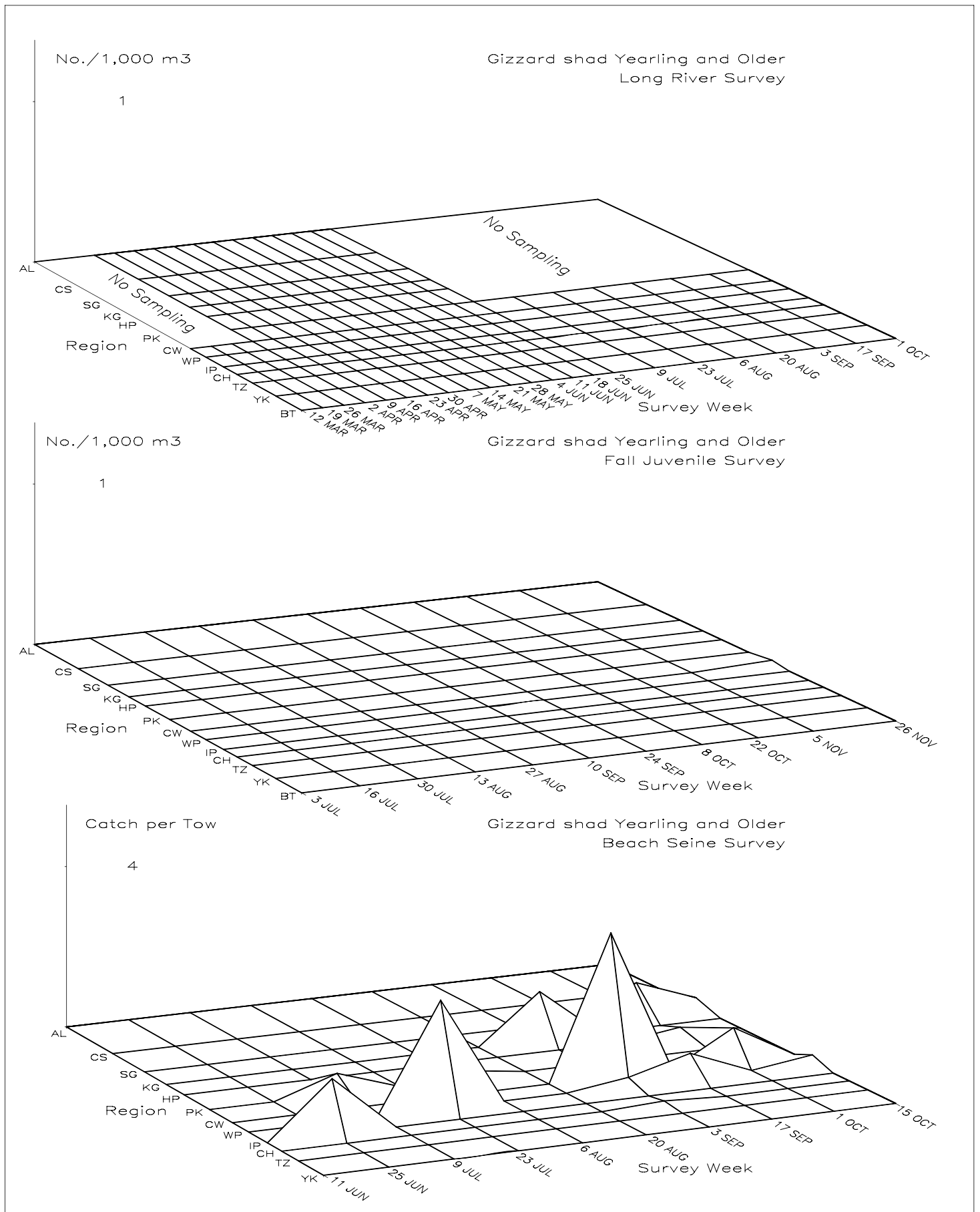


Figure 4–52. Spatiotemporal distribution of yearling and older gizzard shad in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

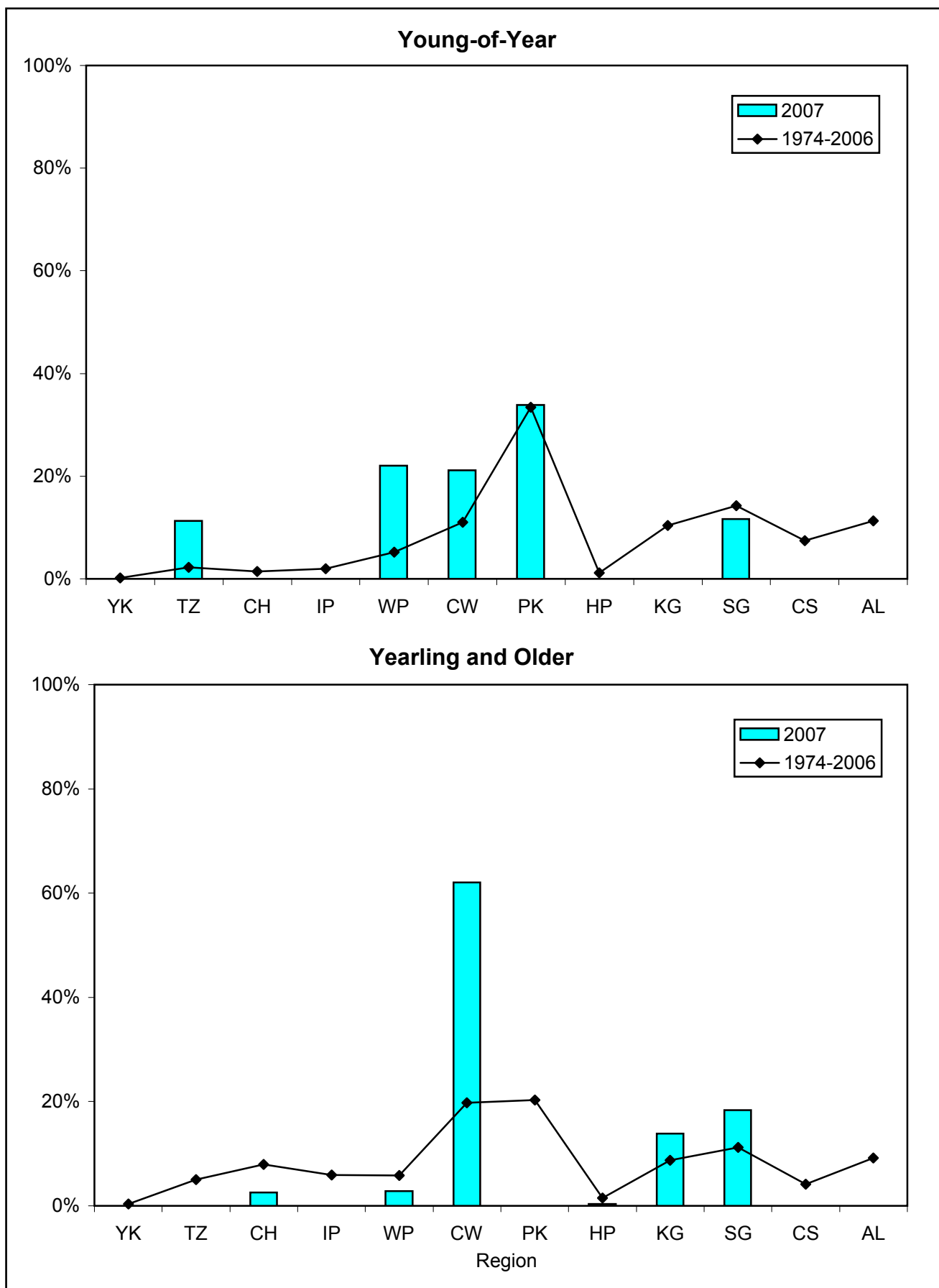


Figure 4-53. Geographic distribution indices for gizzard shad collected during Beach Seine surveys of the Hudson River estuary, 1974-2007.

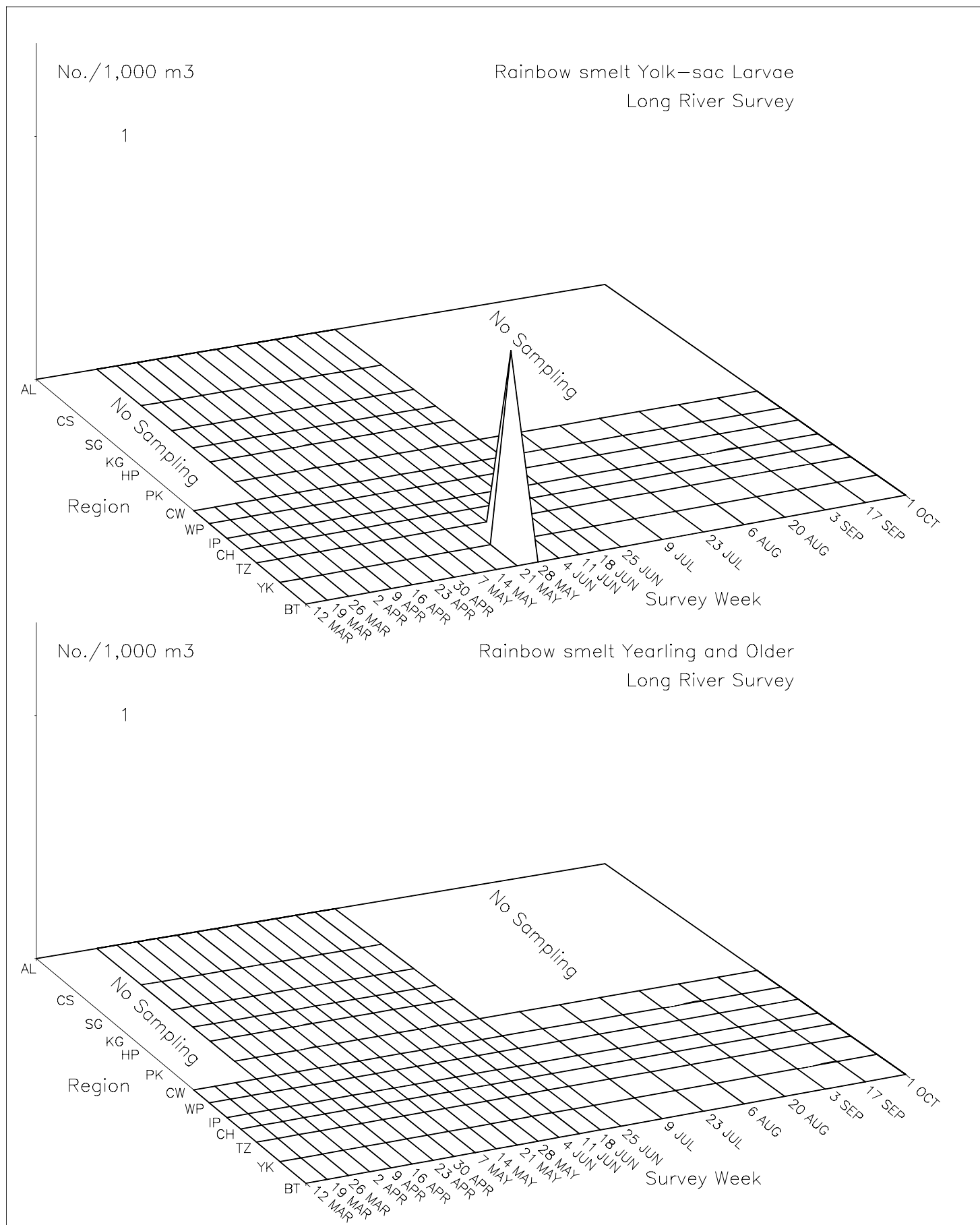


Figure 4–54. Spatiotemporal distribution of yolk-sac larval and yearling and older rainbow smelt in the Hudson River estuary based on the 2007 Long River Survey.

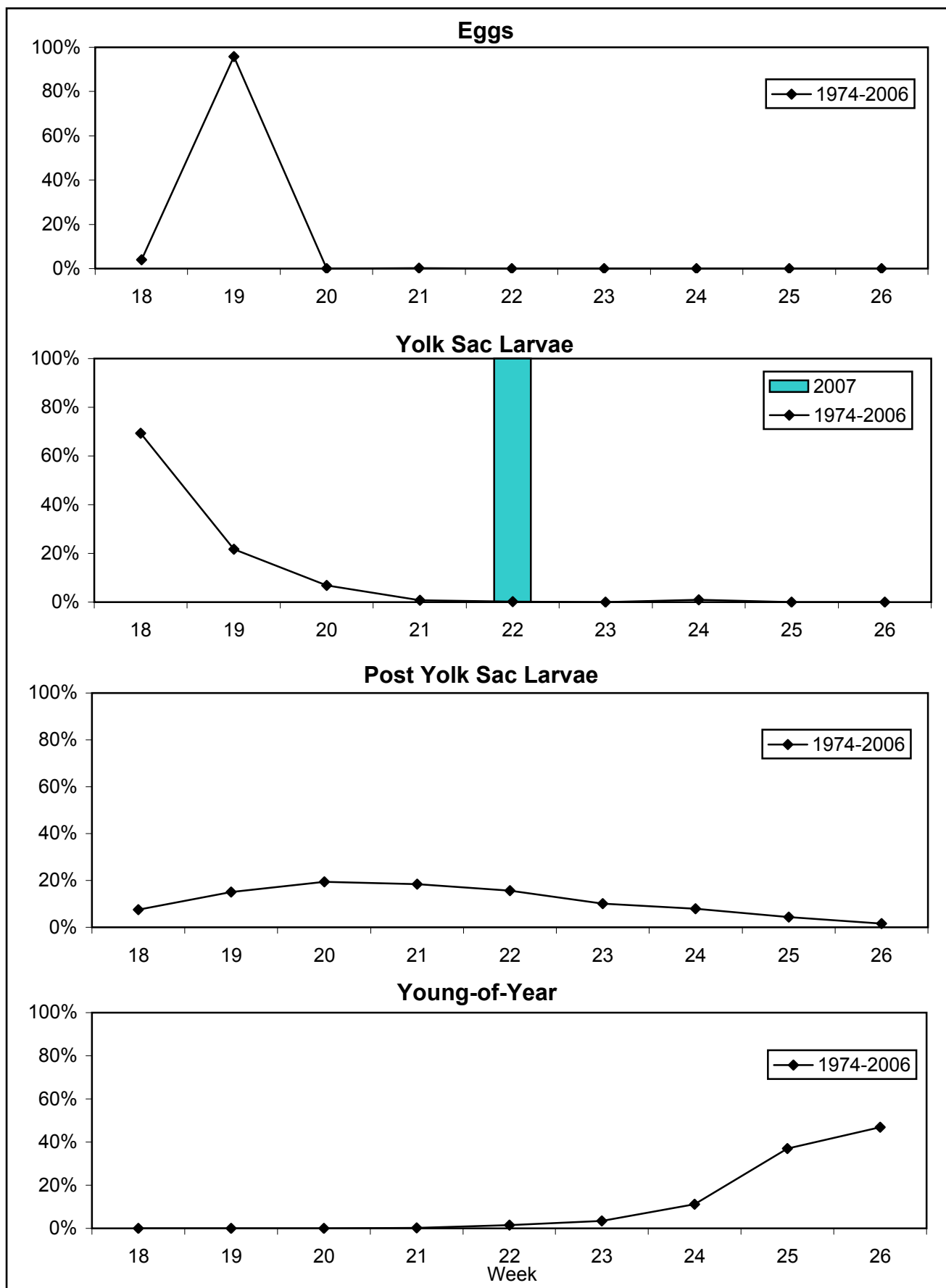


Figure 4-55. Temporal distribution indices for rainbow smelt collected during Long River surveys of the Hudson River estuary, 1974-2007.

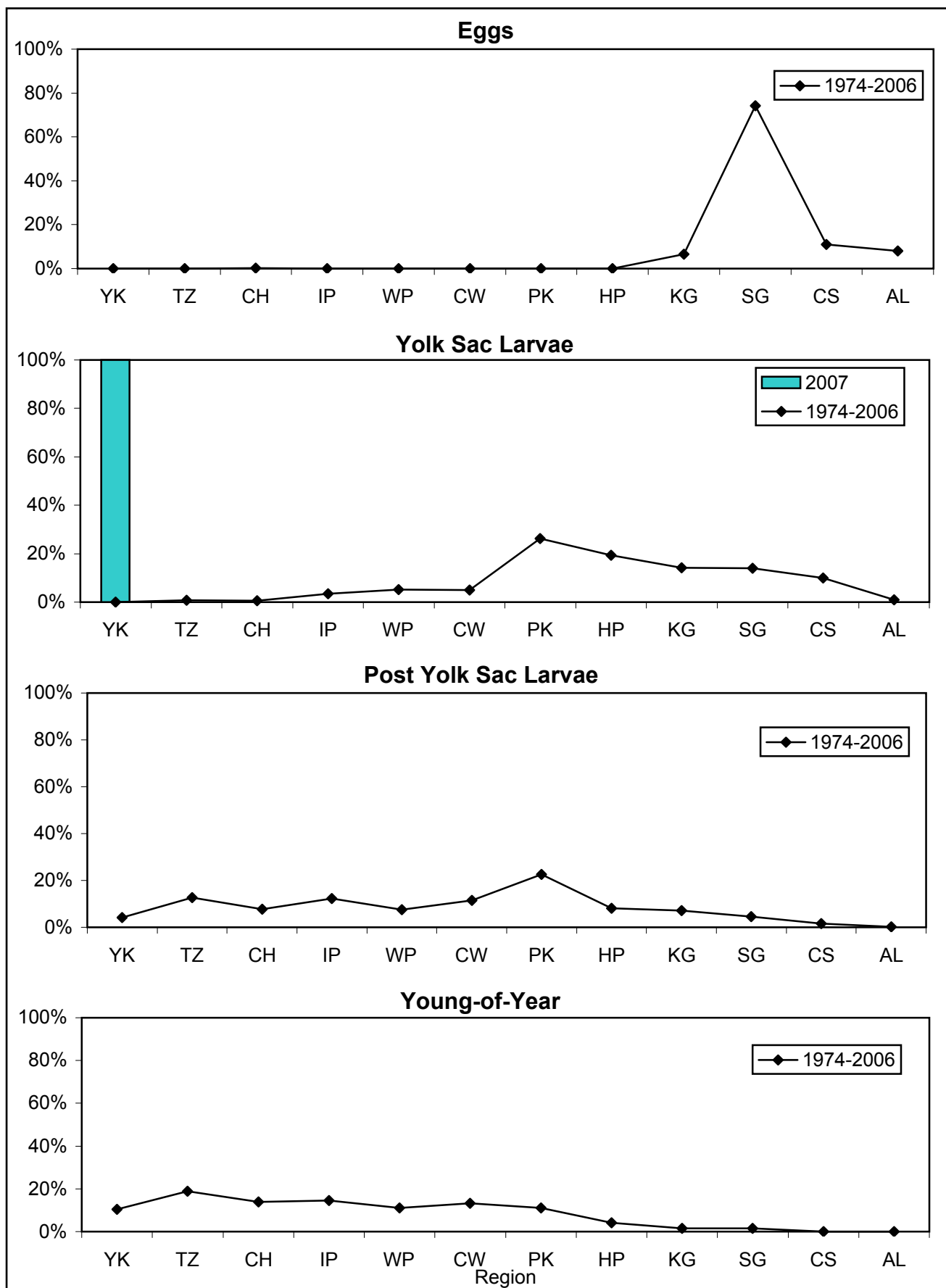


Figure 4-56. Geographic distribution indices for rainbow smelt collected during Long River surveys of the Hudson River estuary, 1974-2007.

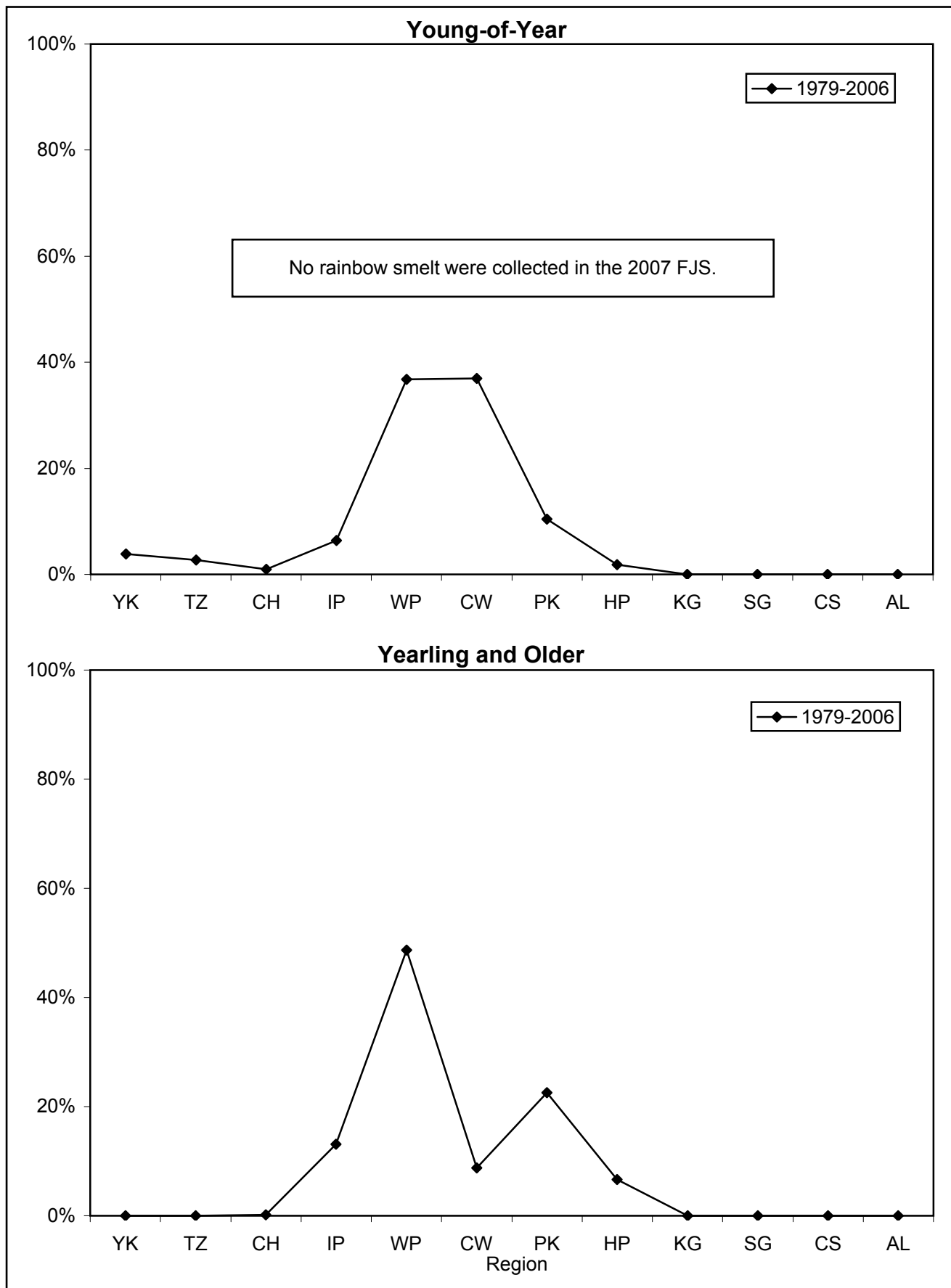


Figure 4-57. Geographic distribution indices for rainbow smelt collected during Fall Juvenile surveys of the Hudson River estuary, 1979-2007.

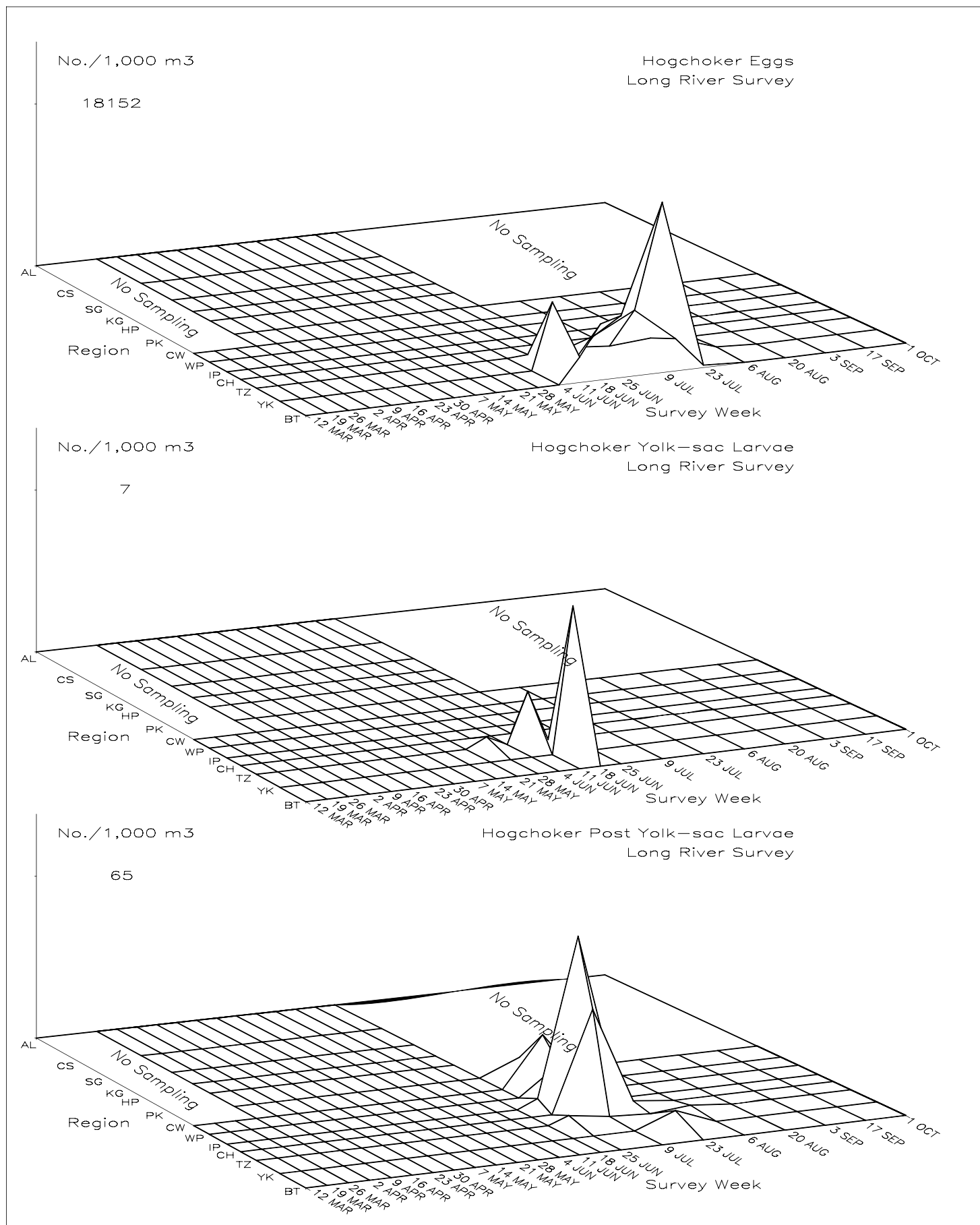


Figure 4-58. Spatiotemporal distribution of eggs, yolk-sac, and post yolk-sac larval hogchoker in the Hudson River estuary based on the 2007 Long River Survey.

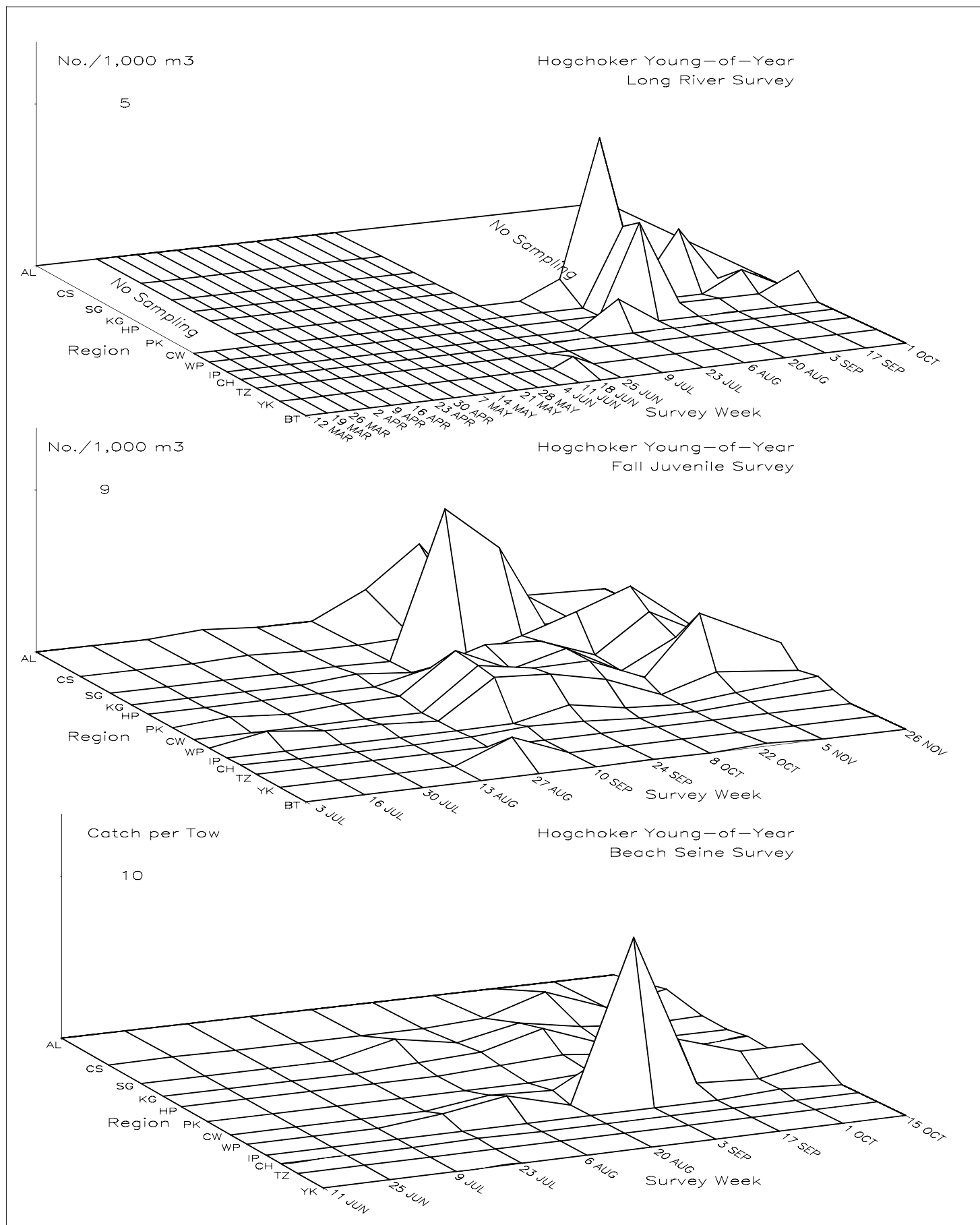


Figure 4–59. Spatiotemporal distribution of young-of-year hogchoker in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

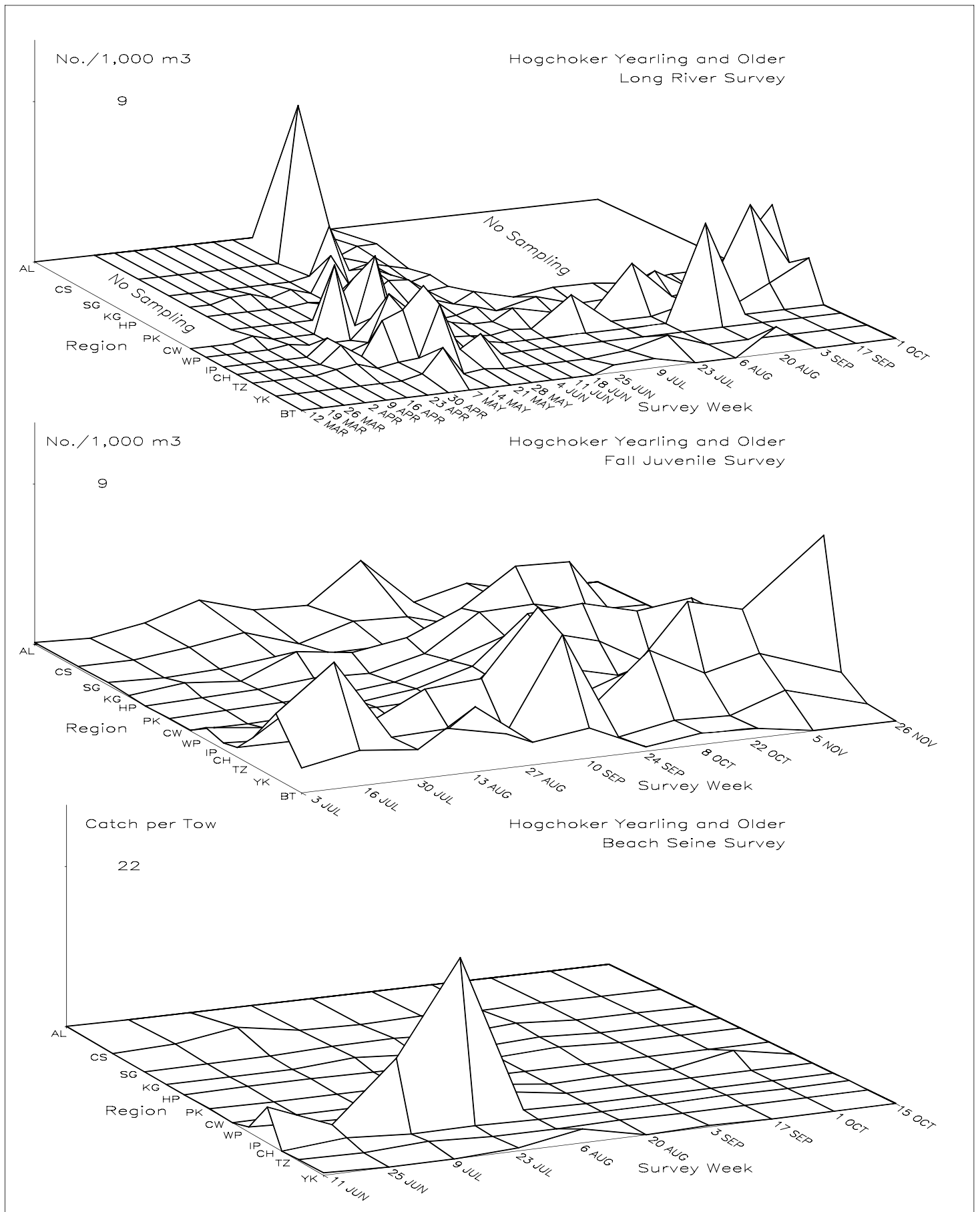


Figure 4–60. Spatiotemporal distribution of yearling and older hogchoker in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

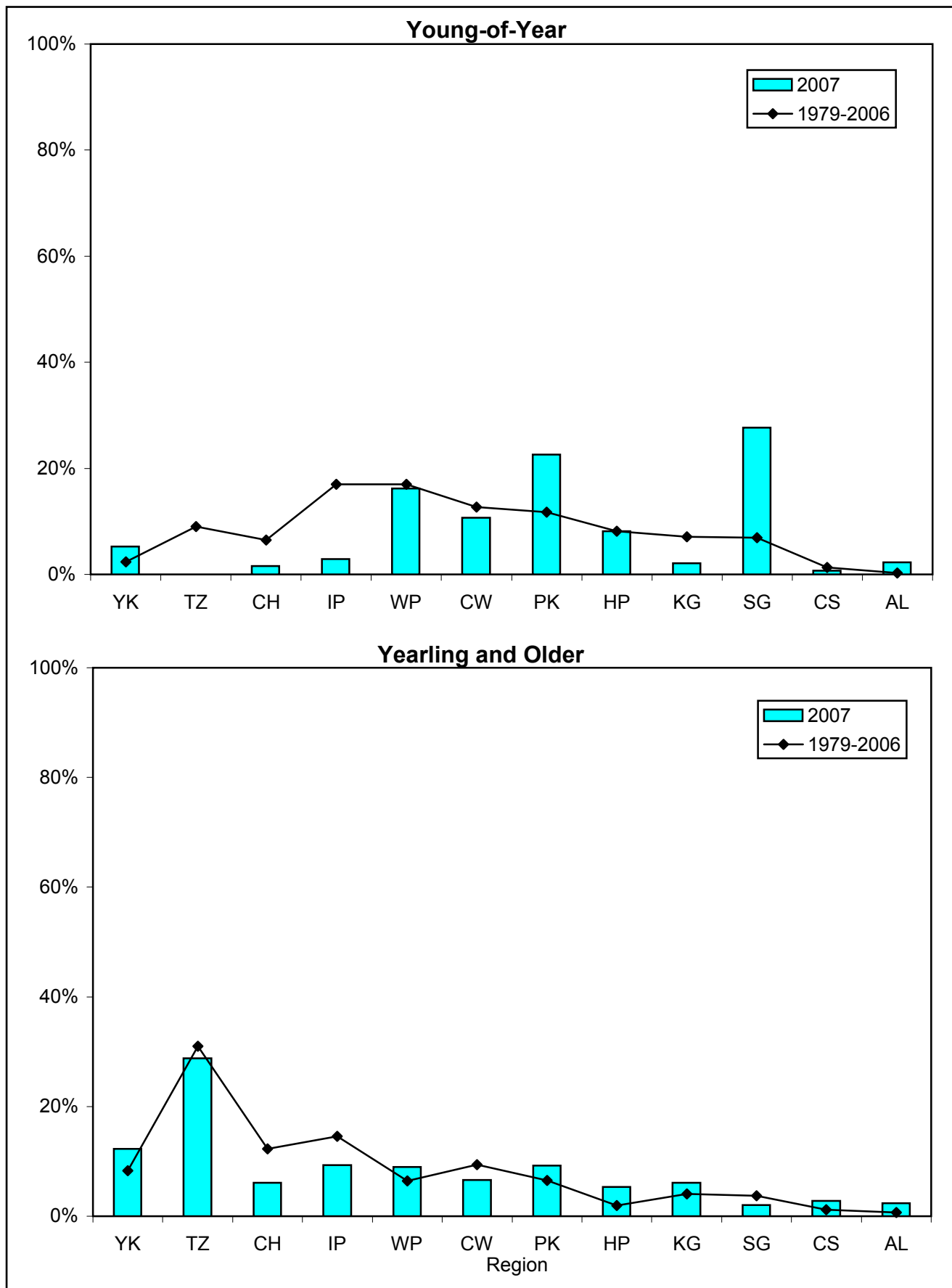


Figure 4-61. Geographic distribution indices for hogchoker collected during Fall Juvenile surveys of the Hudson River estuary, 1979-2007.

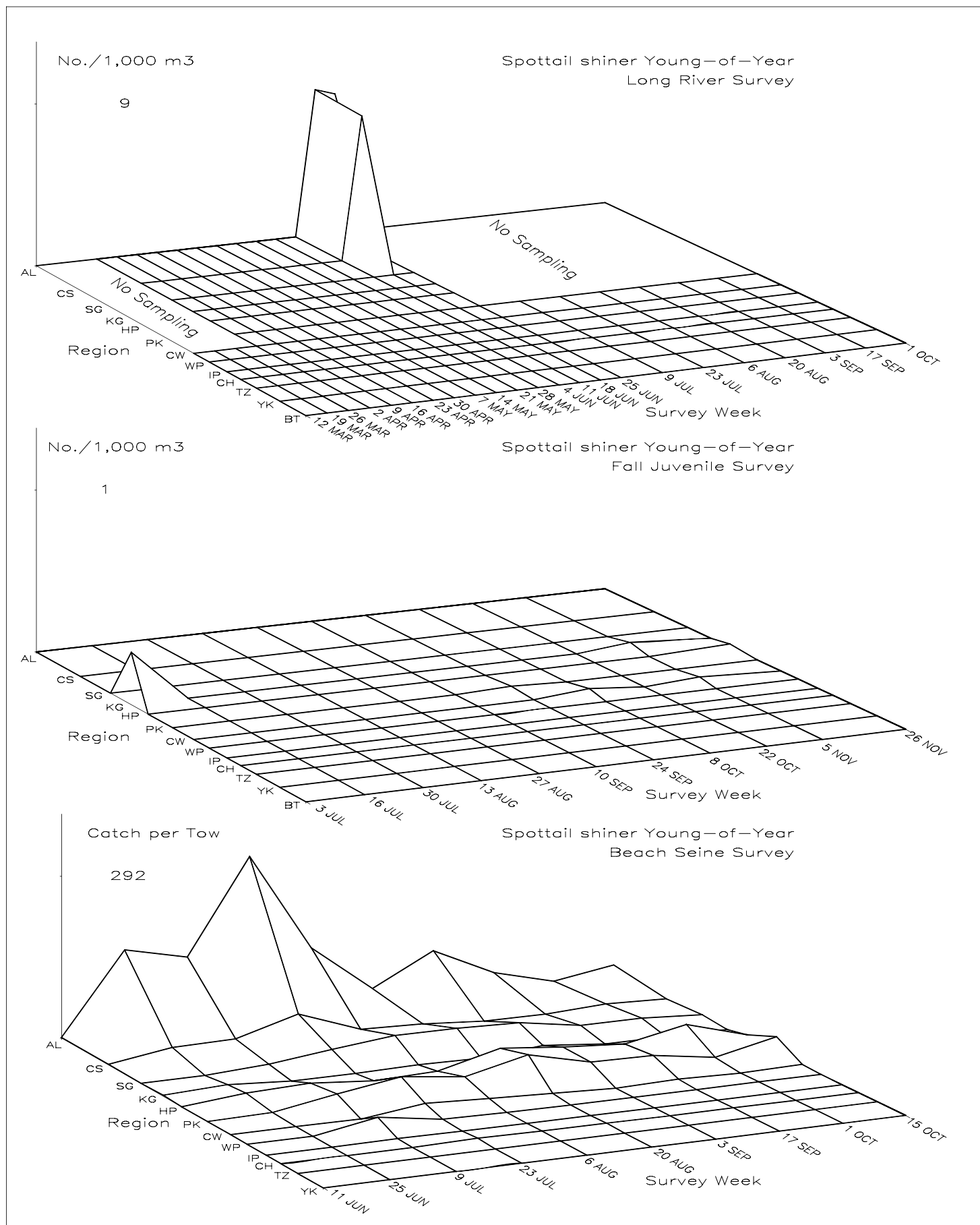


Figure 4-62. Spatiotemporal distribution of young-of-year spottail shiner in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

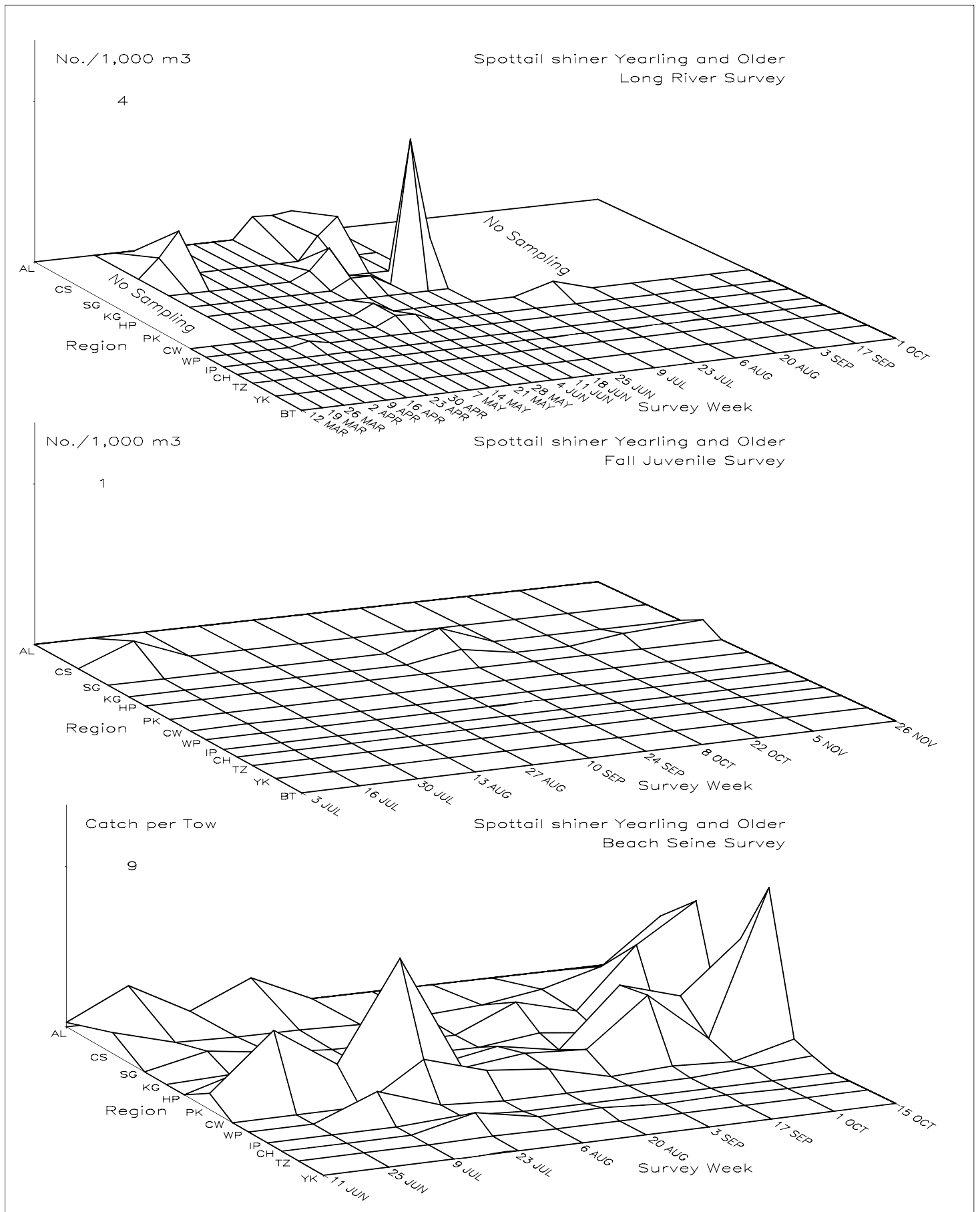


Figure 4–63. Spatiotemporal distribution of yearling and older spottail shiner in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

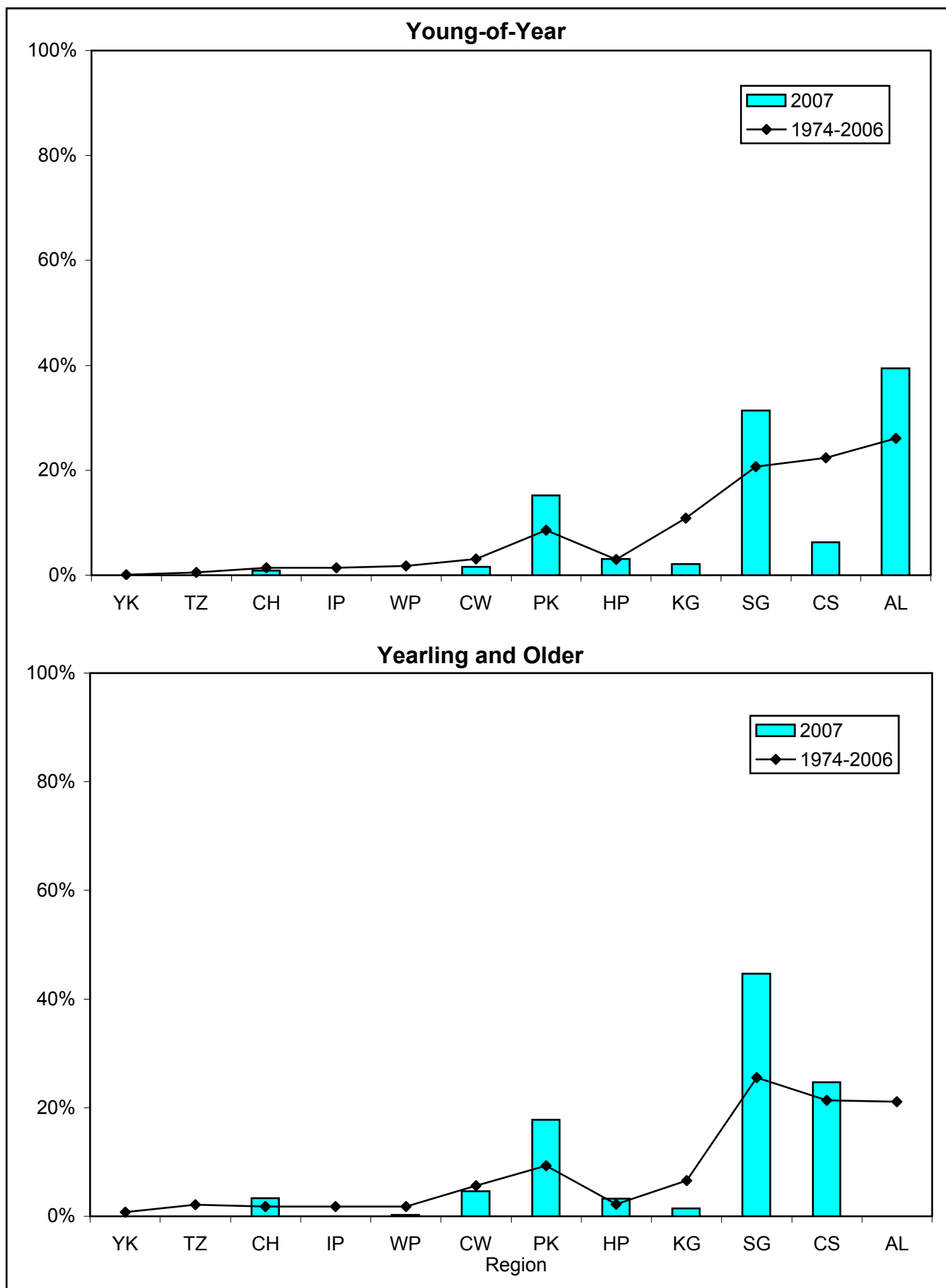


Figure 4-64. Geographic distribution indices for spottail shiner collected during Beach Seine surveys of the Hudson River estuary, 1974-2007.

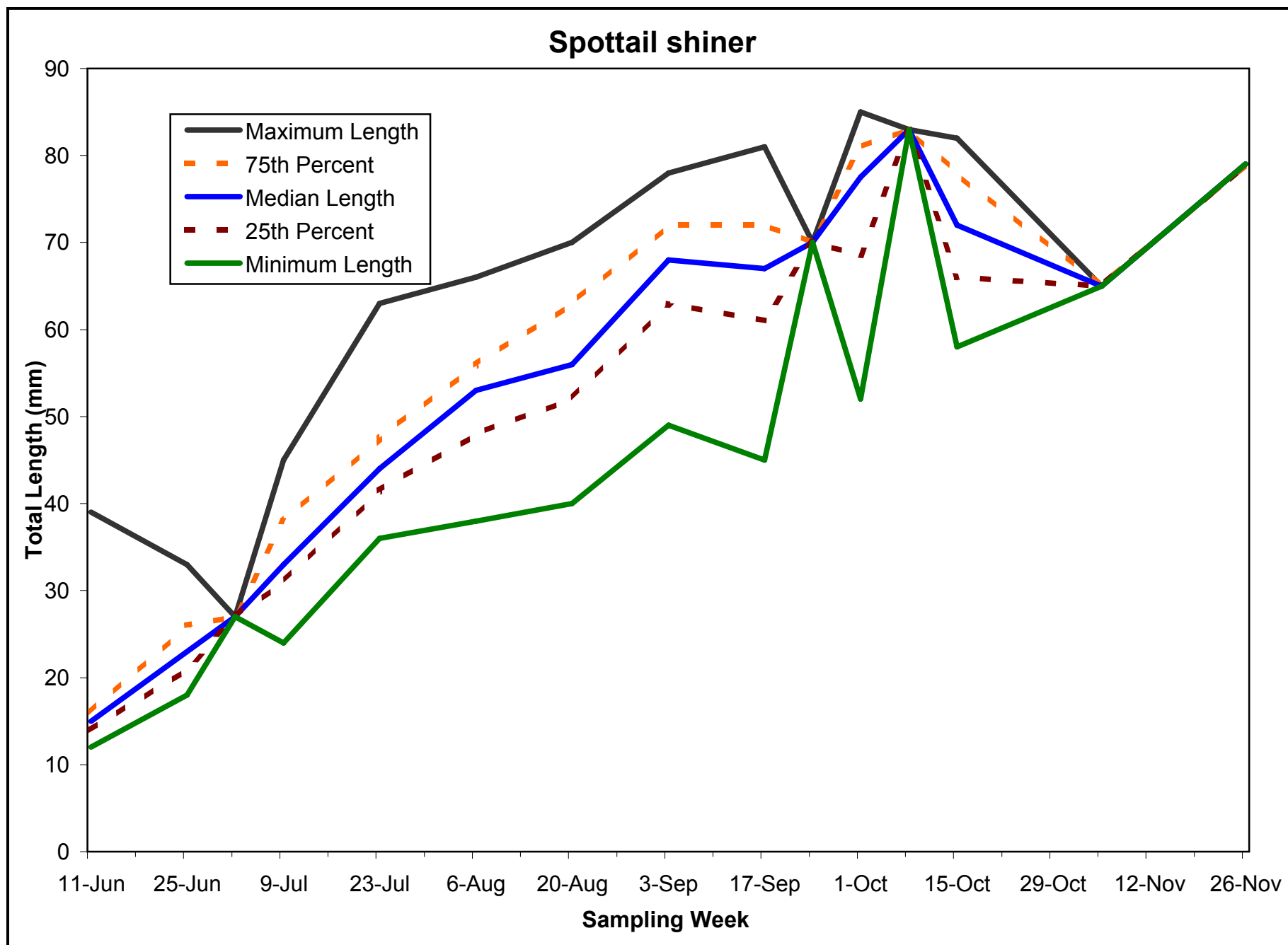


Figure 4-65. Weekly length statistics for young-of-year spottail shiner in the Hudson River estuary, 2007.

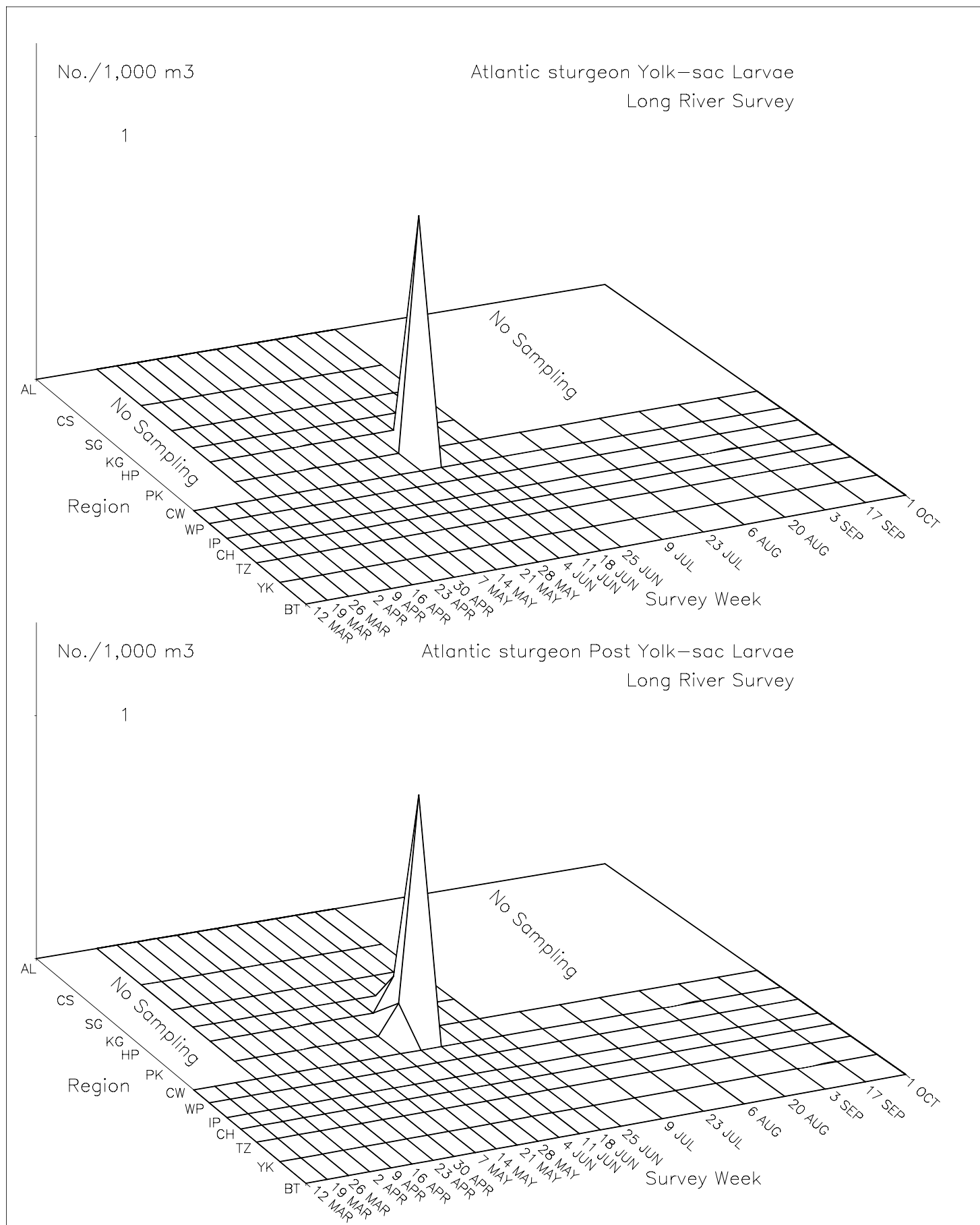


Figure 4–66. Spatiotemporal distribution of yolk-sac and post yolk-sac larval Atlantic sturgeon in the Hudson River estuary based on the 2007 Long River Survey.

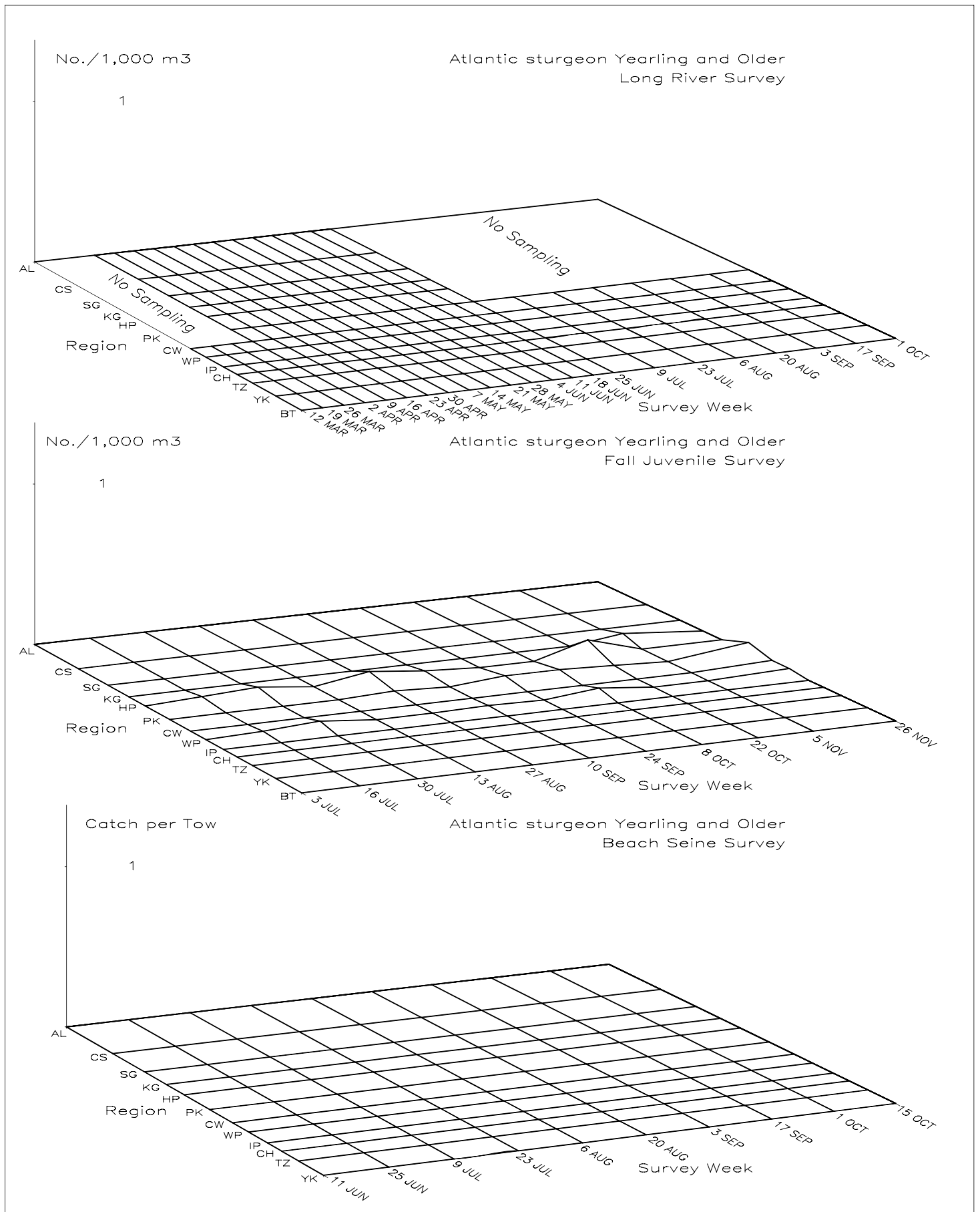


Figure 4–67. Spatiotemporal distribution of yearling and older Atlantic sturgeon in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

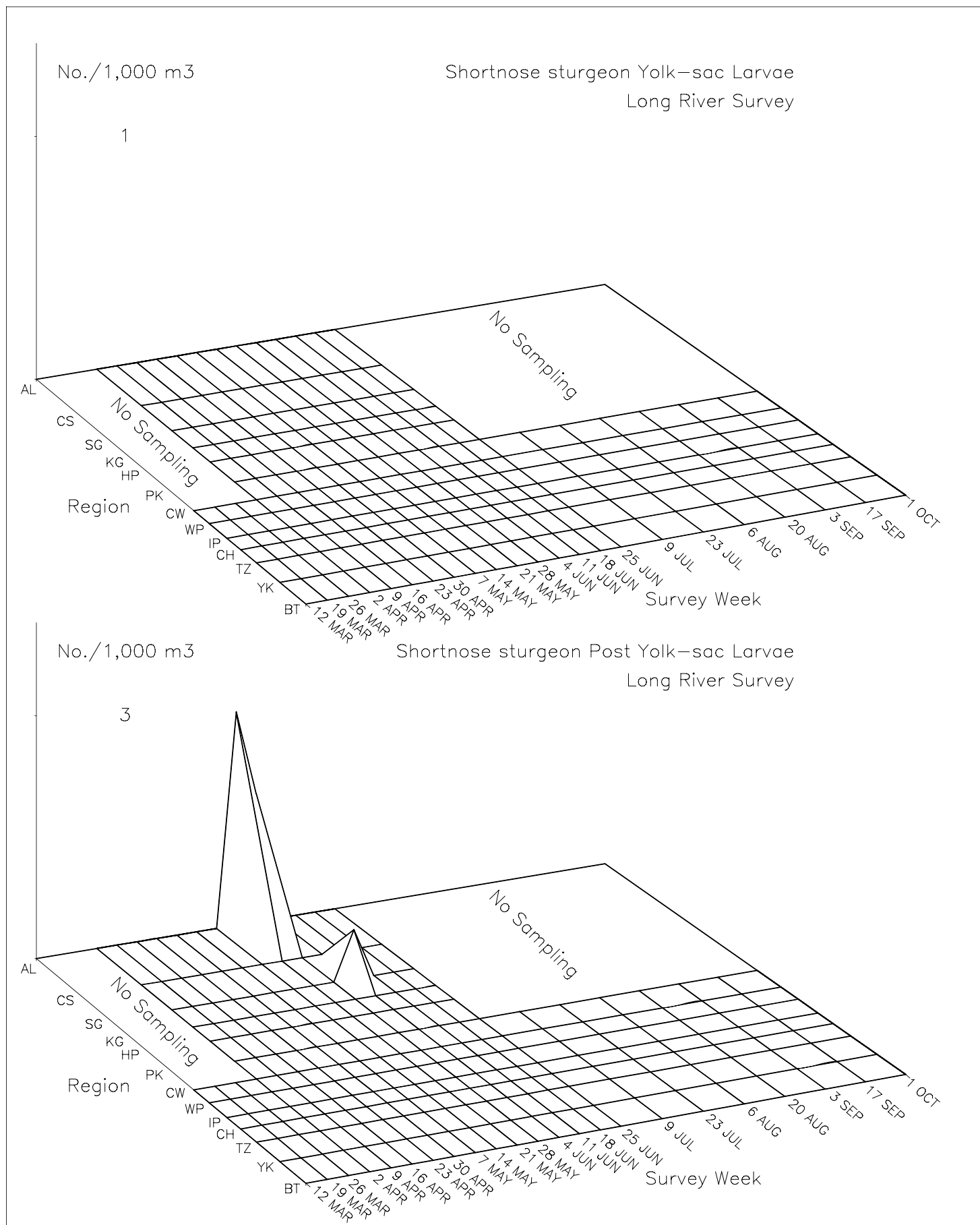


Figure 4–68. Spatiotemporal distribution of yolk-sac and post yolk-sac larval shortnose sturgeon in the Hudson River estuary based on the 2007 Long River Survey.

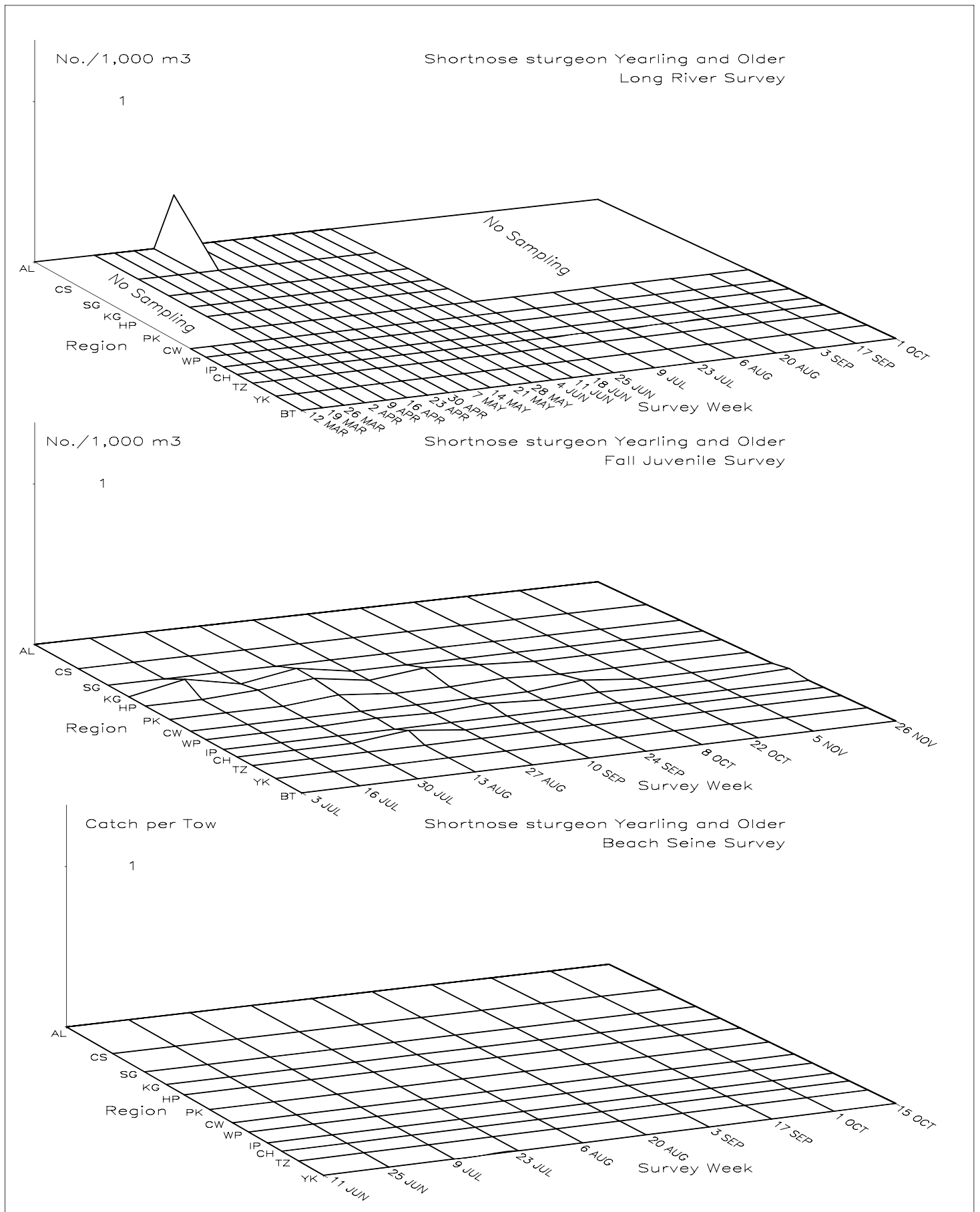


Figure 4-69. Spatiotemporal distribution of yearling and older shortnose sturgeon in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

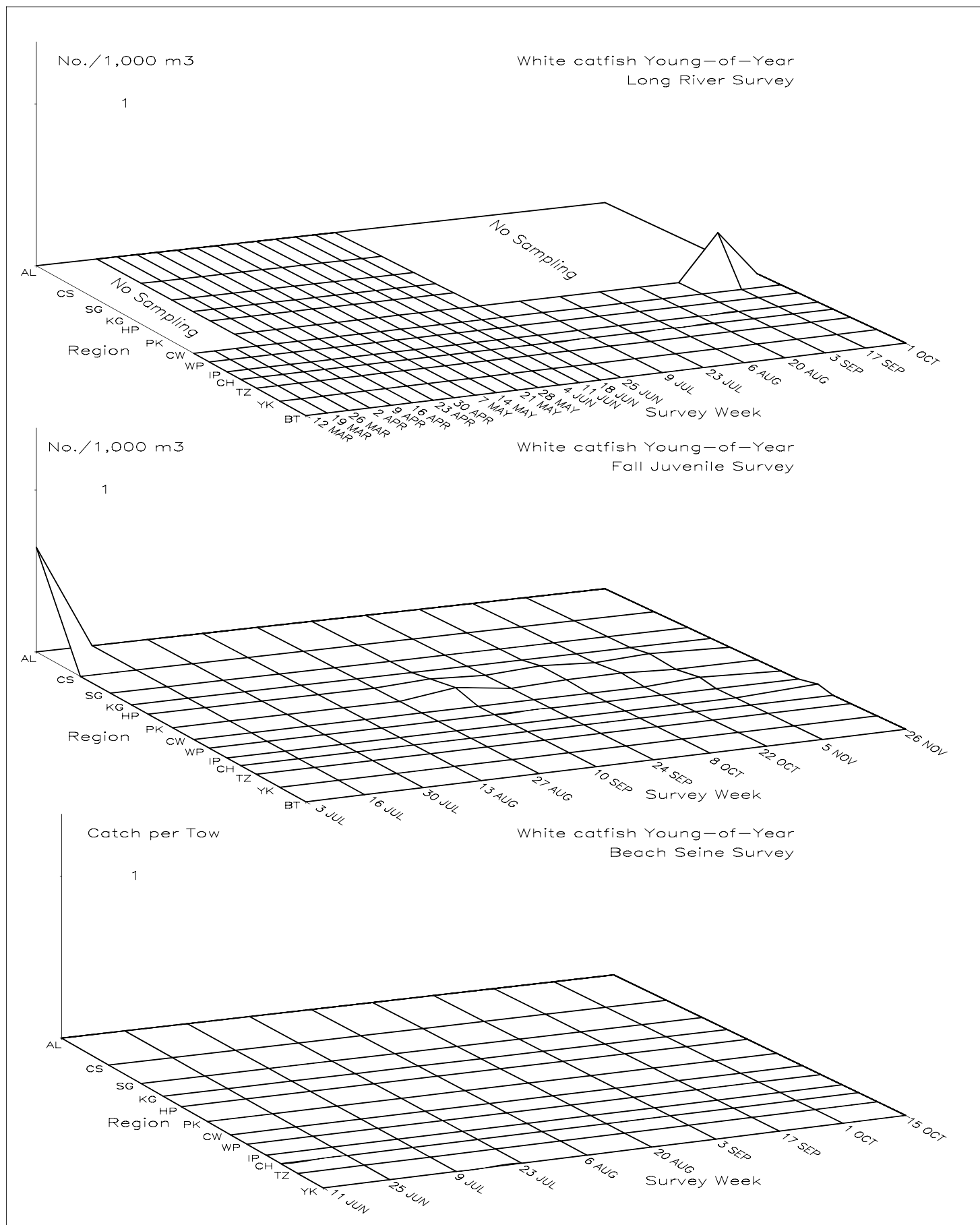


Figure 4-70. Spatiotemporal distribution of young-of-year white catfish in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

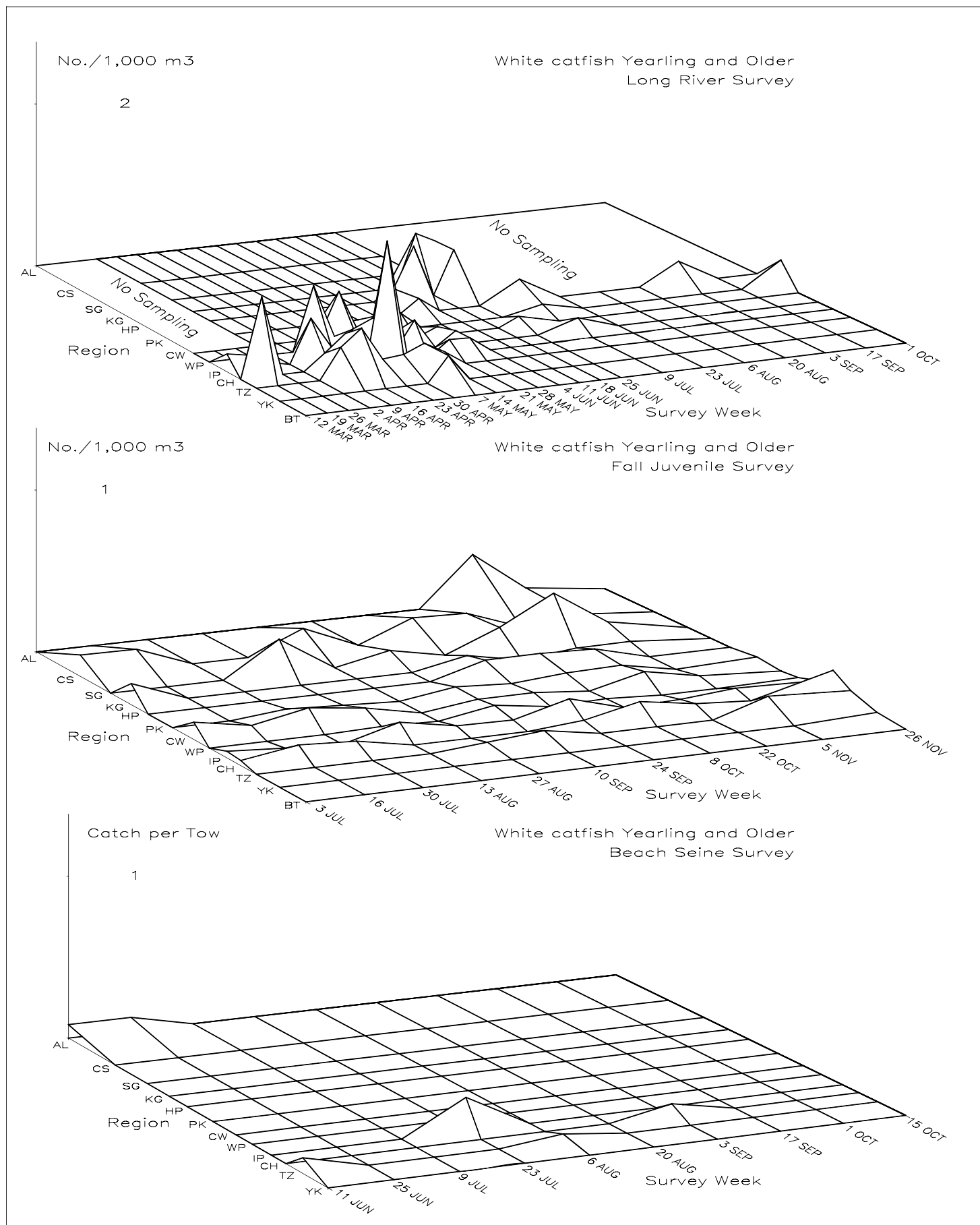


Figure 4-71. Spatiotemporal distribution of yearling and older white catfish in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

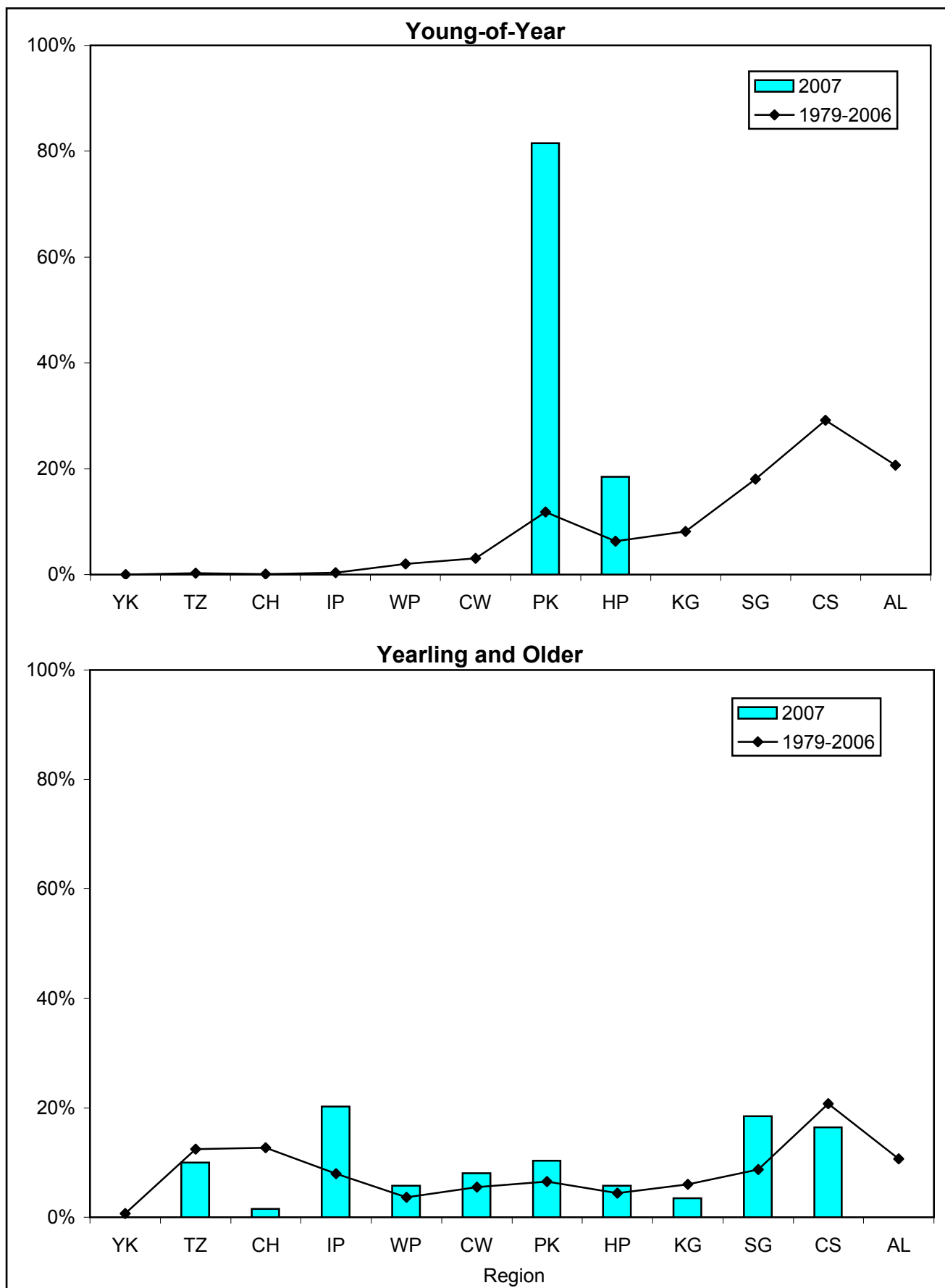


Figure 4-72. Geographic distribution indices for white catfish collected during Fall Juvenile surveys of the Hudson River estuary, 1979-2007.

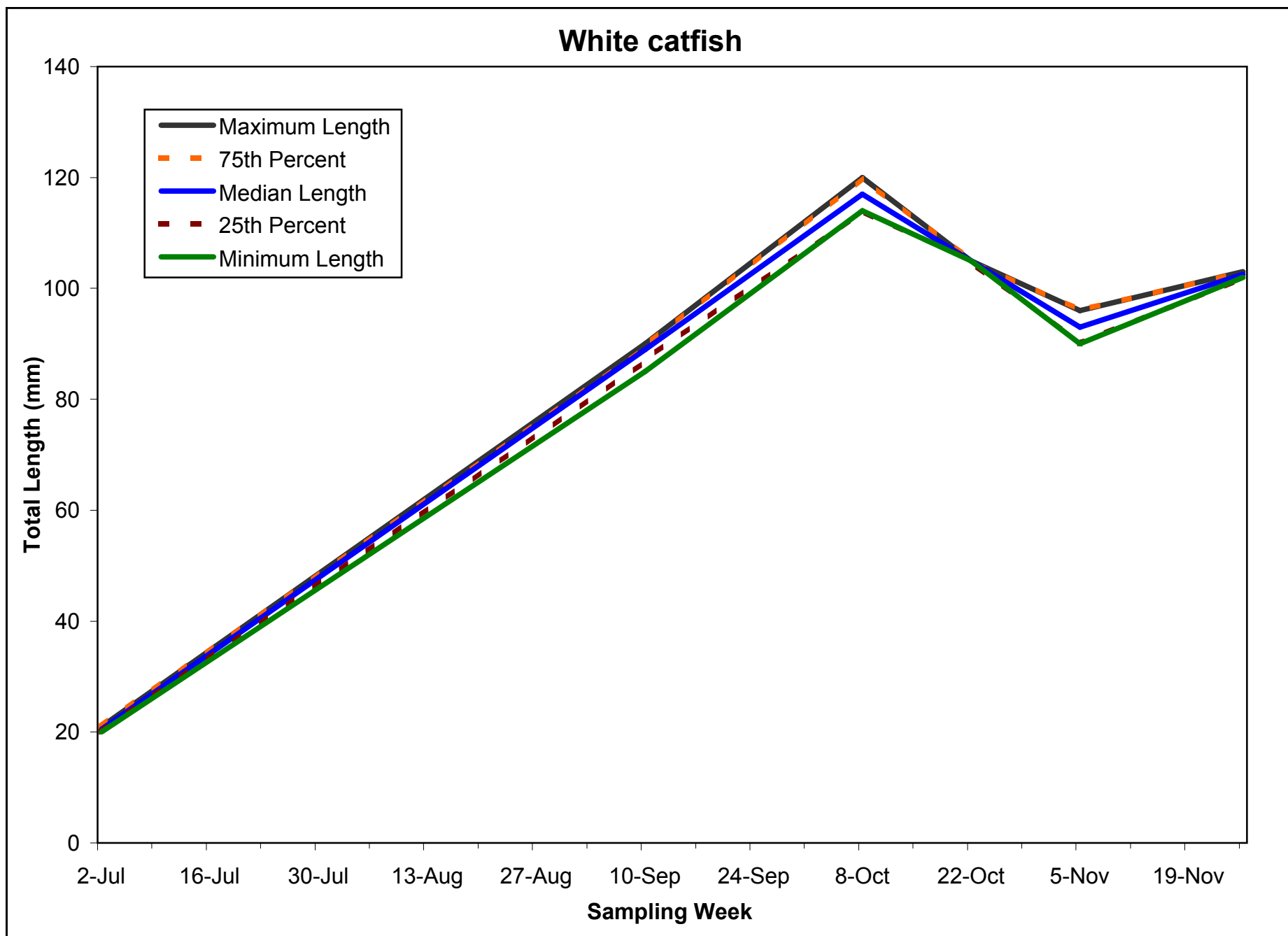


Figure 4-73. Weekly length statistics for young-of-year white catfish in the Hudson River estuary, 2007.

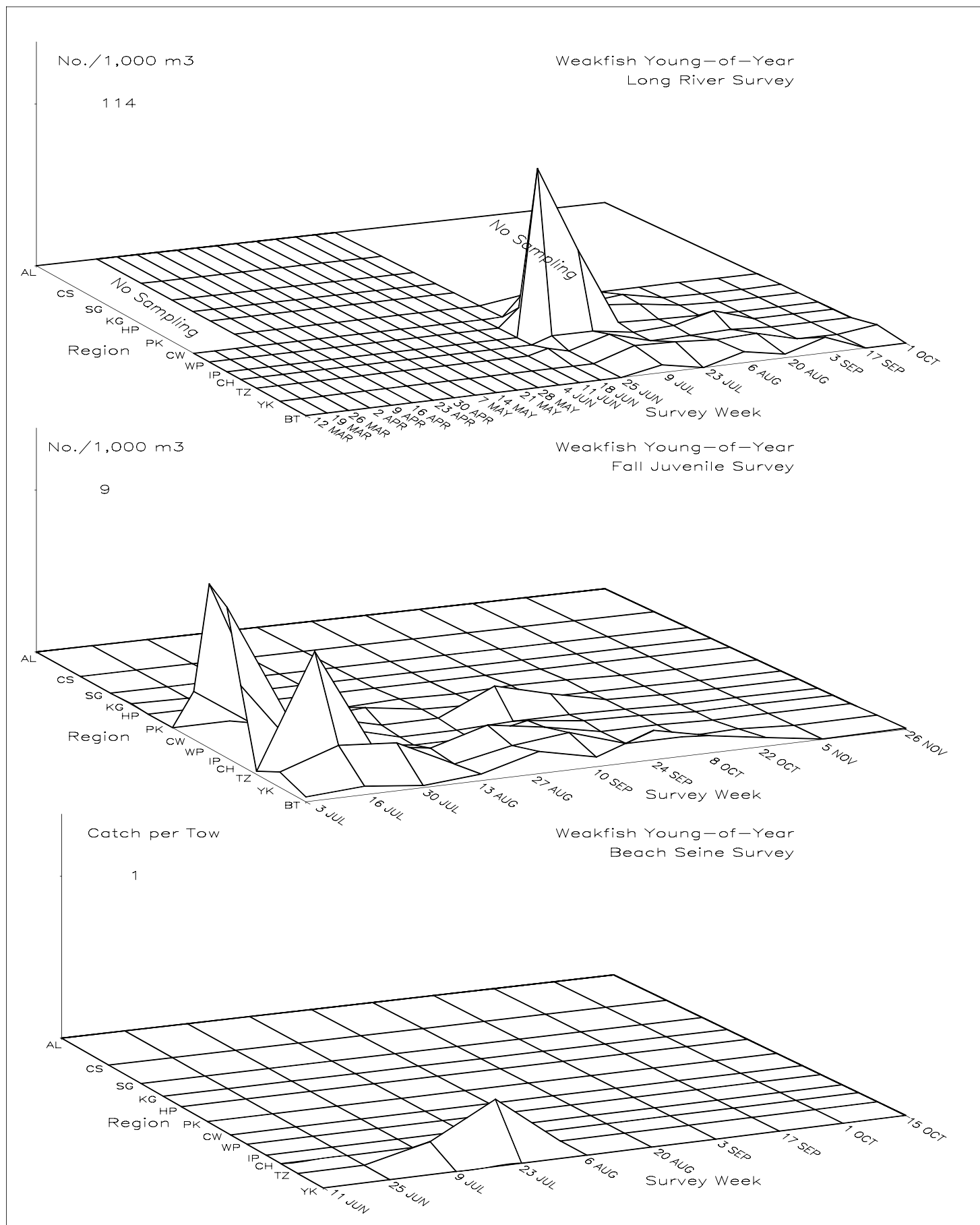


Figure 4-74. Spatiotemporal distribution of young-of-year weakfish in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

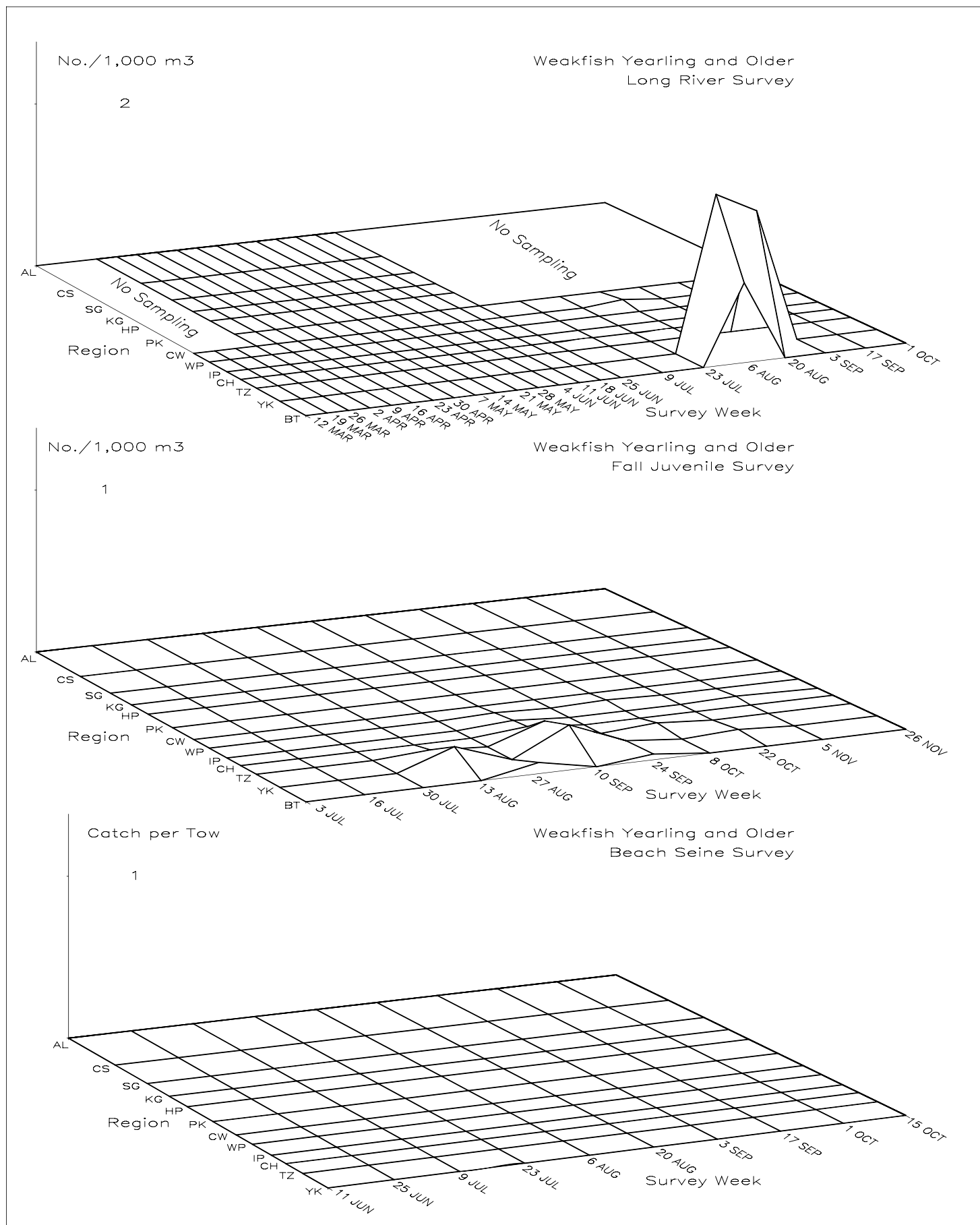


Figure 4–75. Spatiotemporal distribution of yearling and older weakfish in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

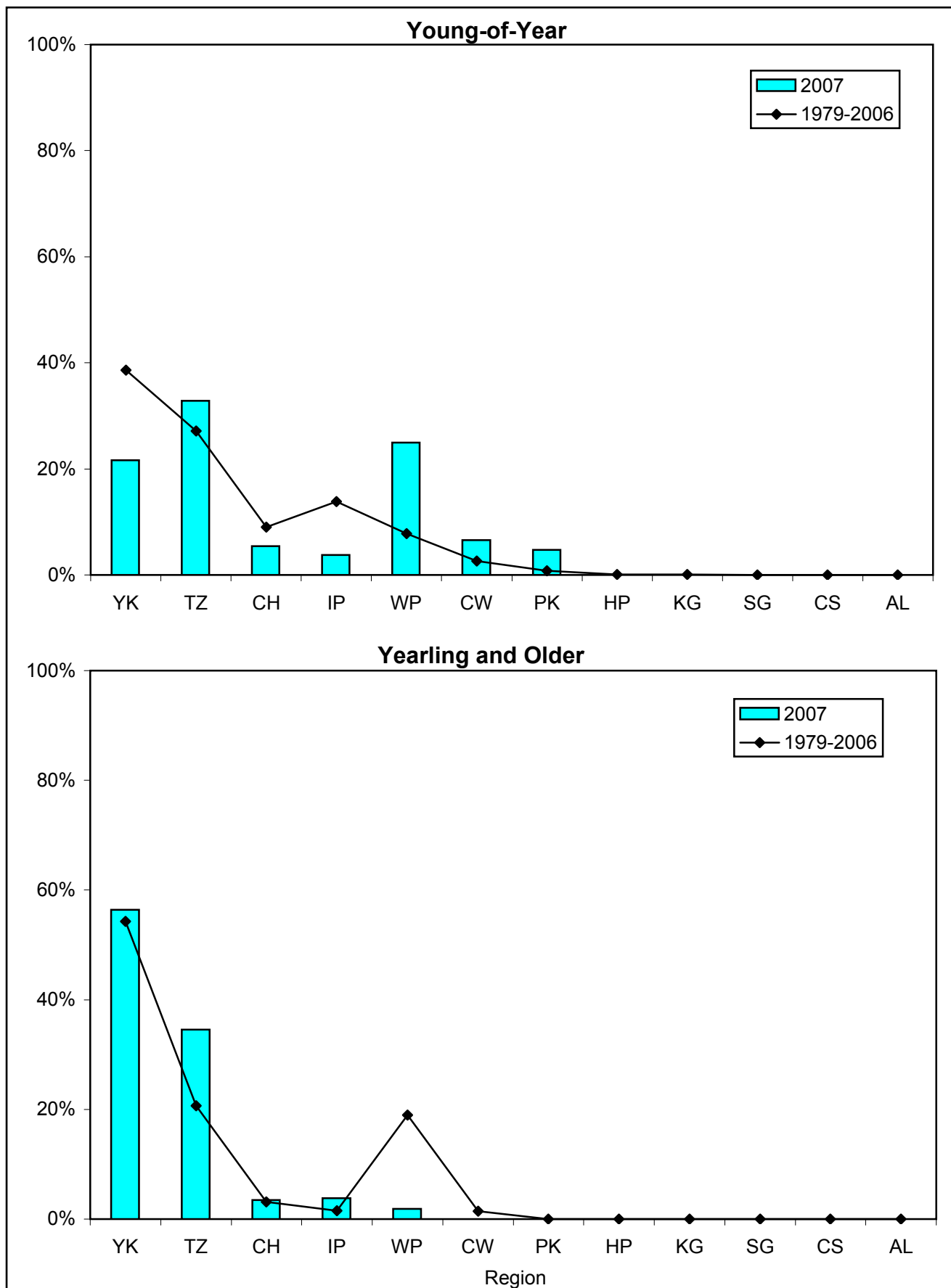


Figure 4-76. Geographic distribution indices for weakfish collected during Fall Juvenile surveys of the Hudson River estuary, 1979-2007.

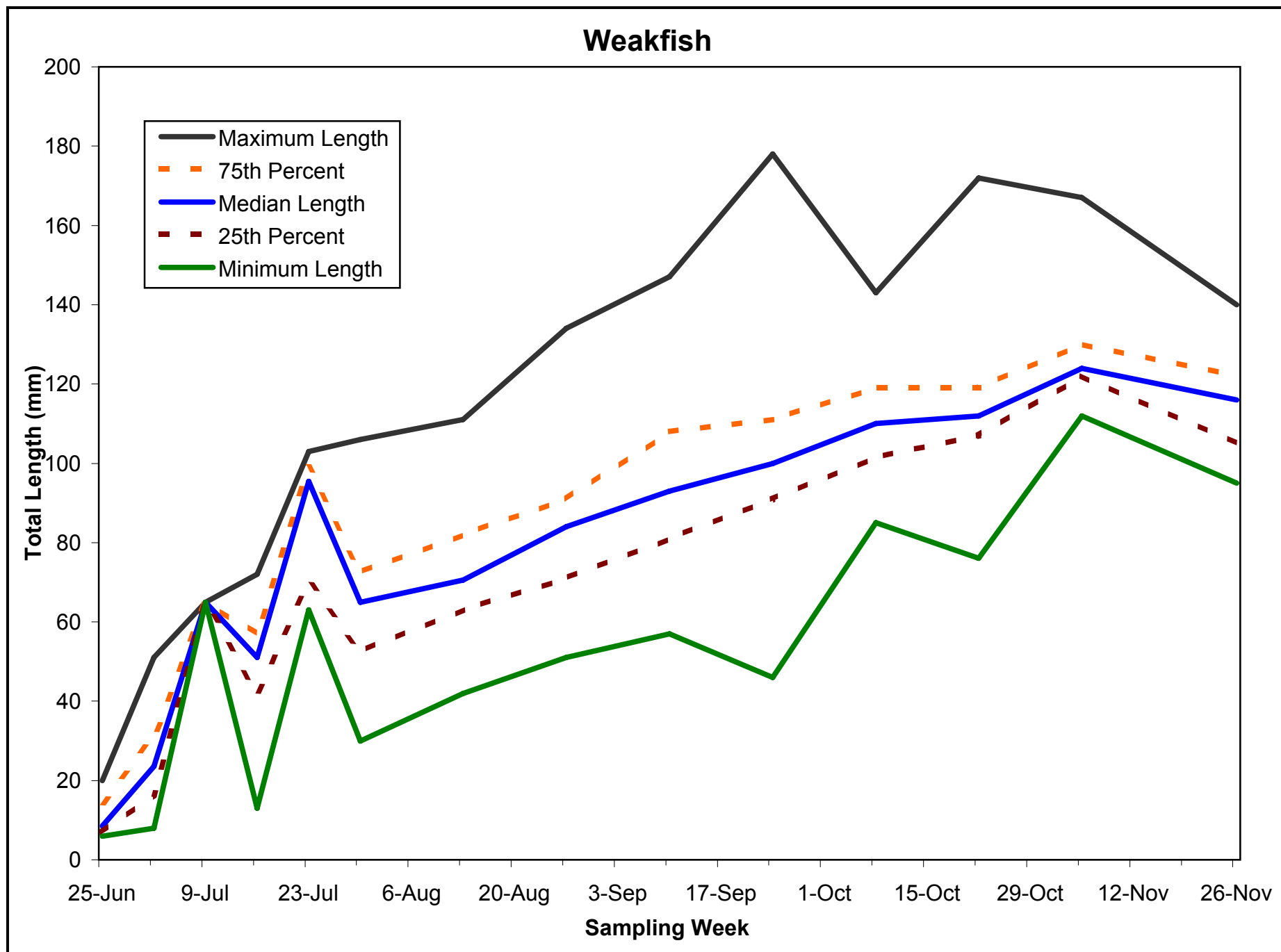


Figure 4-77. Weekly length statistics for young-of-year weakfish in the Hudson River estuary, 2007.

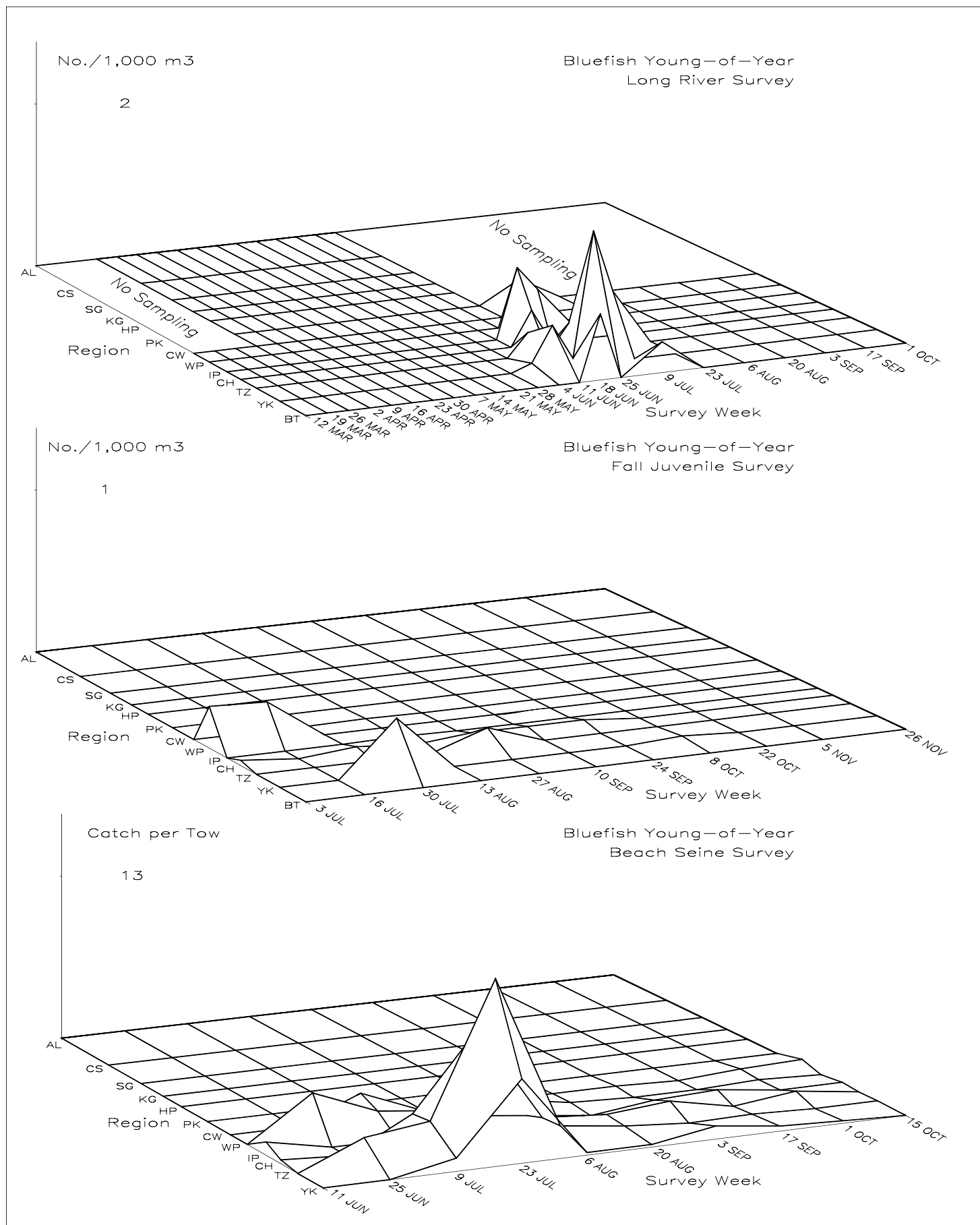


Figure 4-78. Spatiotemporal distribution of young-of-year bluefish in the Hudson River estuary based on the 2007 Long River, Fall Juvenile, and Beach Seine surveys.

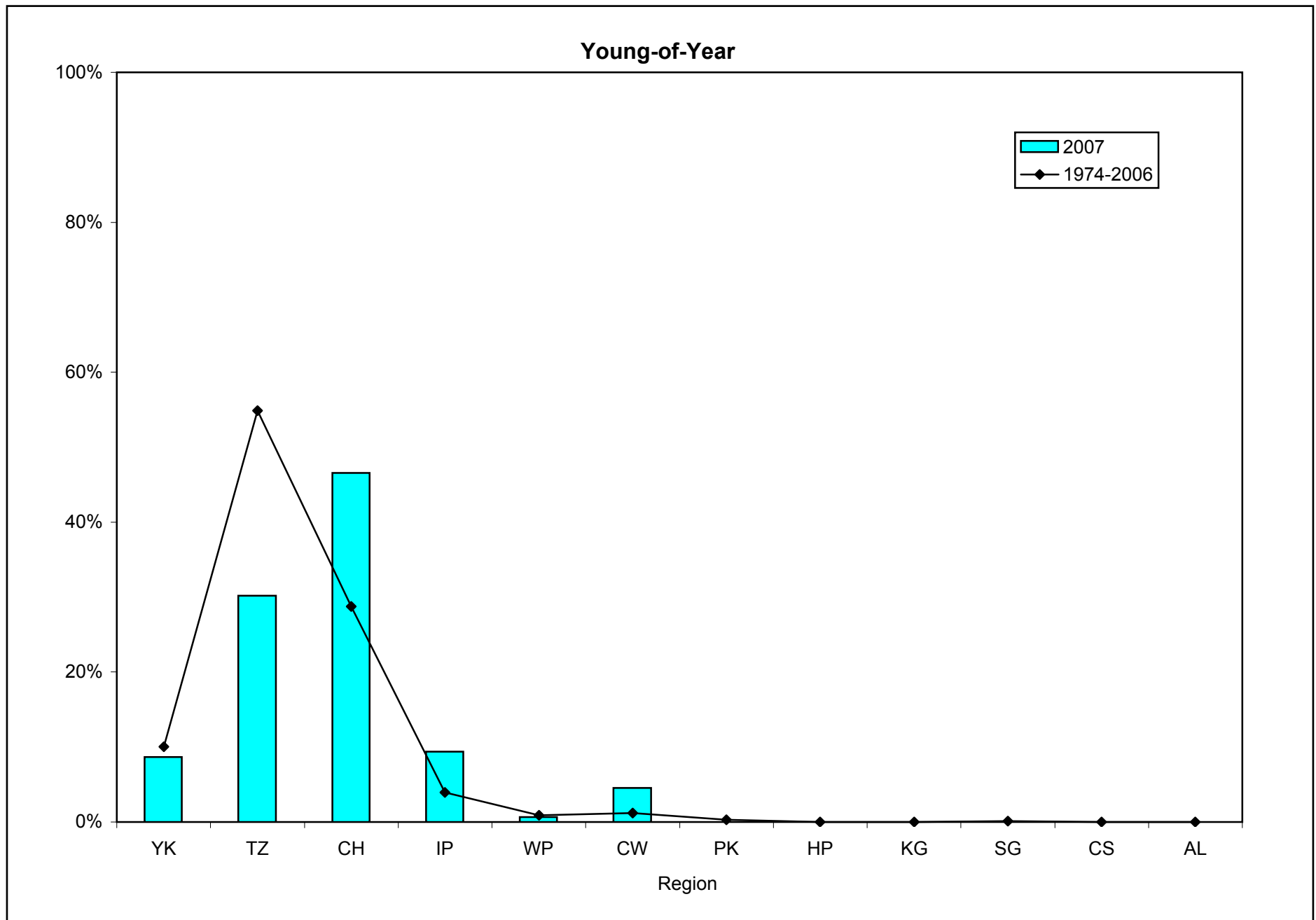


Figure 4-79. Geographic distribution indices for bluefish collected during Beach Seine surveys of the Hudson River estuary, 1974-2007.

Table 4-1 Species Composition of Fish Collected During Hudson River Studies from 1974 to 2007

Common Name	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<u>Anadromous</u>																										
Alewife	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
American shad	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Atlantic sturgeon	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Atlantic tomcod	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Blueback herring	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hickory shad		X			X	X				X			X								X	X	X	X	X	X
Rainbow smelt	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X
Sea lamprey	X	X				X	X	X			X				X		X							X	X	
Striped bass	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total	8	9	7	7	8	9	8	8	7	8	8	7	8	7	8	7	8	7	7	7	7	8	7	8	9	8
<u>Catadromous</u>																										
American eel	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<u>Estuarine</u>																										
Atlantic silverside	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Banded killifish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fat sleeper													X													X
Fourspine stickleback	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hogchoker	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Inland silverside	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Lined seahorse															X		X	X				X		X	X	X
Mummichog	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Northern pipefish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Shortnose sturgeon	X		X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Threespine stickleback	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X			X
White catfish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
White mullet	X	X	X	X	X	X	X		X	X	X	X			X	X	X	X		X				X	X	X
White perch	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total	12	11	12	12	11	12	12	11	12	12	12	12	13	11	12	12	13	13	11	12	10	12	11	12	11	13
<u>Freshwater</u>																										
Black bullhead				X				X			X	X														
Black crappie	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Blacknose dace	X	X	X	X	X	X	X					X		X	X									X		
Bluegill		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Bluntnose minnow	X	X	X	X	X	X	X													X		X		X	X	X
Bridle shiner	X		X						X																X	X
Brook silverside																				X	X	X	X	X	X	X
Brook stickleback	X	X	X	X				X								X										
Brook trout				X	X													X								

Table 4-1 (Continued)

Common Name	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Brown bullhead	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Brown trout			X	X	X	X	X	X				X					X	X	X		X	X				
Carp			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Central mudminnow			X				X							X												
Chain pickerel	X	X	X	X	X	X	X	X	X		X					X			X			X	X	X	X	X
Channel catfish	X							X					X	X	X	X	X	X	X	X	X	X	X	X	X	X
Comely shiner	X																			X						
Common shiner	X	X	X	X	X	X	X	X		X					X		X		X							
Creek chub		X	X	X	X	X	X			X		X						X		X		X	X	X	X	X
Cutlips minnow	X	X	X	X	X	X									X	X										
Eastern mudminnow		X					X																			
Emerald shiner	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
Fathead minnow	X	X	X	X	X	X	X					X	X								X					
Freshwater drum																X				X	X	X	X	X	X	X
Gizzard shad	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Golden shiner	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Goldfish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Grass carp																										
Grass pickerel	X				X												X									
Green sunfish		X		X			X								X											
Largemouth bass	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Logperch	X		X	X		X	X			X					X	X				X	X					
Longear sunfish																	X									
Longnose dace		X	X	X	X				X			X														
Margined madtom														X												
Mimic shiner	X																						X			
Northern hog sucker	X		X	X	X		X	X			X			X	X		X	X	X				X	X	X	X
Northern pike	X	X	X	X	X	X	X		X				X	X	X	X	X	X	X	X	X		X	X	X	X
Pugnose shiner																		X								
Pumpkinseed	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Rainbow trout						X																				
Redbreast sunfish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Redfin pickerel	X	X	X	X	X	X	X	X	X		X				X			X					X		X	X
Rock bass	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
Rosyface shiner	X																									
Rudd																										
Satinfin shiner	X	X	X	X	X	X	X				X	X	X		X		X				X		X	X	X	X
Shield darter							X																			
Silvery minnow	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Slimy sculpin																										
Smallmouth bass	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Spotfin shiner	X	X	X	X	X	X	X	X			X	X	X	X	X				X	X	X	X	X	X	X	X
Spottail shiner	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Swallowtail shiner																			X						X	X
Tessellated darter	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tiger muskellunge																			X							
Trout perch	X	X	X	X	X	X					X											X	X			
Walleye			X	X	X	X				X	X			X		X		X	X	X	X		X	X	X	
White bass				X																						
White crappie	X	X	X	X	X	X	X	X			X		X	X	X		X	X	X		X				X	

Table 4-1 (Continued)

Common Name	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
White sucker	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Yellow bullhead		X						X								X						X					
Yellow perch	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Total	37	36	40	42	38	36	38	30	23	23	27	26	24	28	30	28	26	30	31	29	30	29	35	30	35	33	
Marine																											
American sandlance													X	X	X	X	X	X			X	X	X		X	X	
<i>Ammodytes</i> sp.		X	X	X	X	X	X	X				X									X	X	X				
Atlantic cod							X							X	X												
Atlantic croaker			X	X		X						X	X	X		X	X		X	X	X	X	X	X	X	X	
Atlantic cutlassfish																										X	
Atlantic herring		X	X		X	X			X				X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Atlantic mackerel															X			X	X				X	X	X	X	
Atlantic menhaden	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Atlantic needlefish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Atlantic seasnail																											
Bay anchovy	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Black seabass					X							X			X						X			X	X	X	
Blackcheek tonguefish																			X								
Bluefish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Butterfish	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Cobia																											
Conger eel						X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Creville jack	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	
Cunner									X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	
Cusk																											
Feather blenny																									X	X	
Fourbeard rockling						X	X								X	X	X	X	X	X	X	X	X	X	X	X	
Fourspot flounder	X						X	X			X	X	X		X	X	X				X			X		X	
Goosefish																		X	X								
Gray snapper							X					X	X	X				X	X								
Grubby													X			X	X	X	X	X	X	X	X	X	X	X	
Gulf Stream flounder																								X	X	X	
Harvestfish																										X	
Hightail goby																	X									X	
Inshore lizardfish	X					X	X	X			X	X			X	X		X	X	X	X	X		X	X	X	
Longhorn sculpin	X	X							X							X				X							
Lookdown	X	X	X	X		X	X	X				X	X	X	X	X	X				X			X	X	X	
Moonfish			X										X	X		X			X		X				X	X	
Naked goby	X		X								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Northern kingfish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Northern puffer		X		X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	
Northern searobin			X		X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Northern stargazer	X						X		X	X	X	X			X		X	X	X	X	X	X	X	X	X	X	
Orangespotted filefish													X														
Oyster toadfish																			X		X	X			X	X	
Permit																			X	X					X		

Table 4-1 (Continued)

Common Name	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Pinfish																						X				
Pollack		X																						X		
Radiated shanny																										X
Red hake	X		X			X	X	X			X	X			X	X	X		X	X			X	X	X	X
Rock gunnel			X	X											X	X	X	X	X	X		X	X	X	X	X
Rough silverside		X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Scup	X																					X				
Seaboard goby		X	X												X			X	X	X		X		X	X	X
Sea raven							X																			
Sheepshead minnow								X																		
Silver hake	X	X		X									X		X	X	X	X					X	X		X
Silver perch	X					X					X	X	X		X		X	X	X	X	X	X	X	X	X	X
Smallmouth flounder						X	X		X		X	X			X		X	X	X	X	X	X	X	X	X	X
Spanish mackerel																	X	X		X	X					
Speckled worm eel					X		X				X			X	X								X			
Spot	X	X	X	X			X		X	X		X	X	X	X		X	X	X	X	X	X	X		X	X
Spotfin butterflyfish									X			X										X				
Spotfin mojarra									X												X				X	
Spotted goatfish																				X						
Spotted hake							X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Striped anchovy		X				X			X			X				X			X	X	X	X	X	X	X	X
Striped burrfish													X													
Striped cuskeel							X					X	X	X	X	X		X	X	X		X	X	X	X	X
Striped killifish			X																X							
Striped mullet	X		X	X		X	X	X	X	X	X	X	X	X	X			X				X				
Striped searobin		X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Summer flounder	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tautog		X				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Weakfish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Windowpane	X	X		X		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Winter flounder	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Witch flounder																							X			
Yellowtail flounder	X																		X		X	X	X	X	X	X
Total	24	24	24	20	16	26	33	24	25	20	28	35	35	29	41	34	35	38	42	37	37	39	39	40	45	49
All Categories																										
Total	82	81	84	82	74	84	92	74	68	64	76	81	81	76	92	82	83	89	92	86	85	89	93	91	101	104

Table 4-1 (Continued)

<u>Common Name</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
<u>Anadromous</u>								
Alewife	X	X	X	X	X	X	X	X
American shad	X	X	X	X	X	X	X	X
Atlantic sturgeon	X	X	X	X	X	X	X	X
Atlantic tomcod	X	X	X	X	X	X	X	X
Blueback herring	X	X	X	X	X	X	X	X
Hickory shad						X		
Rainbow smelt	X	X	X				X	X
Sea lamprey							X	X
Striped bass	X	X	X	X	X	X	X	X
Total	7	7	7	6	6	7	8	8
<u>Catadromous</u>								
American eel	X	X	X	X	X	X	X	X
Total	1	1	1	1	1	1	1	1
<u>Estuarine</u>								
Atlantic silverside	X	X	X	X	X	X	X	X
Banded killifish	X	X	X	X	X	X	X	X
Fat sleeper								
Fourspine stickleback	X	X	X	X	X	X	X	X
Hogchoker	X	X	X	X	X	X	X	X
Inland silverside	X	X	X	X	X	X	X	X
Lined seahorse	X	X	X	X			X	
Mummichog	X	X	X	X	X	X	X	X
Northern pipefish	X	X	X	X	X	X	X	X
Shortnose sturgeon	X	X	X	X	X	X	X	X
Threespine stickleback		X	X			X		X
White catfish	X	X	X	X	X	X	X	X
White mullet			X	X			X	X
White perch	X	X	X	X	X	X	X	X
Total	11	12	13	12	10	11	12	12
<u>Freshwater</u>								
Black bullhead				X				
Black crappie	X	X	X	X	X	X	X	X
Blacknose dace					X			
Bluegill	X	X	X	X	X	X	X	X
Bluntnose minnow	X			X	X			X
Bridle shiner								
Brook silverside	X		X	X	X	X	X	X
Brook stickleback								
Brook trout								
Brown bullhead	X	X	X	X	X	X	X	X
Brown trout								
Carp	X	X	X	X	X	X	X	X
Central mudminnow								

Table 4-1 (Continued)

Common Name	2000	2001	2002	2003	2004	2005	2006	2007
Chain pickerel	X		X		X	X		
Channel catfish	X	X	X	X	X	X	X	X
Comely shiner								
Common shiner		X						
Creek chub				X	X			
Cutlips minnow								
Eastern mudminnow								
Emerald shiner	X	X	X	X	X	X	X	X
Fallfish				X	X	X	X	
Fathead minnow	X				X		X	
Freshwater drum	X	X	X	X	X	X	X	X
Gizzard shad	X	X	X	X	X	X	X	X
Golden shiner	X	X	X	X	X	X	X	X
Goldfish	X	X	X	X	X	X	X	X
Grass carp						X		
Grass pickerel								
Green sunfish				X				
Largemouth bass	X	X	X	X	X	X	X	X
Logperch		X	X	X	X	X	X	X
Longear sunfish								X
Longnose dace								
Margined madtom								
Mimic shiner								
Northern hog sucker	X		X	X	X	X		X
Northern pike	X	X		X	X		X	X
Pugnose shiner								
Pumpkinseed	X	X	X	X	X	X	X	X
Rainbow trout								
Redbreast sunfish	X	X	X	X	X	X	X	X
Redfin pickerel	X			X	X			
Rock bass	X	X	X	X	X	X	X	
Rosyface shiner								
Rudd					X			
Satinfin shiner		X	X	X	X	X	X	X
Shield darter								
Silvery minnow	X	X	X	X	X	X	X	X
Slimy sculpin			X					
Smallmouth bass	X	X	X	X	X	X	X	X
Spotfin shiner	X	X	X	X	X	X	X	X
Spottail shiner	X	X	X	X	X	X	X	X
Swallowtail shiner		X		X				
Tessellated darter	X	X	X	X	X	X	X	X
Tiger muskellunge								
Trout perch				X				
Walleye	X	X	X	X	X	X	X	X
White bass								
White crappie								
White sucker	X	X	X	X	X	X	X	X
Yellow bullhead								
Yellow perch	X	X	X	X	X	X	X	X
Total	29	27	28	35	35	29	28	28

Table 4-1 (Continued)

Common Name	2000	2001	2002	2003	2004	2005	2006	2007
Marine								
American sandlance	X	X	X	X	X	X	X	X
<i>Ammodytes</i> sp.								
Atlantic cod				X		X		
Atlantic croaker	X	X	X	X	X	X	X	X
Atlantic cutlassfish		X					X	
Atlantic herring	X	X	X	X	X	X	X	X
Atlantic mackerel	X	X	X	X	X			X
Atlantic menhaden	X	X	X	X	X	X	X	X
Atlantic needlefish	X	X	X	X	X	X	X	X
Atlantic seasnail				X				
Bay anchovy	X	X	X	X	X	X	X	X
Black seabass								X
Blackcheek tonguefish								
Bluefish	X	X	X	X	X	X	X	X
Butterfish	X	X	X	X	X	X	X	X
Cobia						X		
Conger eel	X	X	X	X	X	X	X	X
Crevalle jack	X	X	X	X	X	X	X	X
Cunner	X	X	X	X	X	X	X	X
Cusk	X							X
Feather blenny	X		X					
Fourbeard rockling	X	X	X	X	X	X	X	X
Fourspot flounder		X						
Goosefish								
Gray snapper		X		X		X		X
Grubby	X	X	X	X	X	X	X	X
Gulf Stream flounder			X		X			
Harvestfish			X					
Hightail goby								
Inshore lizardfish	X	X	X				X	
Longhorn sculpin								
Lookdown	X			X		X	X	
Moonfish	X	X	X	X	X	X	X	X
Naked goby	X	X	X	X	X	X	X	X
Northern kingfish	X	X	X		X	X	X	X
Northern puffer	X	X	X		X	X		X
Northern searobin		X	X	X	X	X	X	X
Northern stargazer	X	X	X	X	X	X	X	X
Orangespotted filefish								
Oyster toadfish	X	X	X	X	X	X	X	
Permit	X	X						X
Pinfish					X			
Pollack								
Radiated shanny								
Red hake	X	X		X		X	X	
Rock gunnel	X	X	X	X	X	X	X	X
Rough silverside	X	X	X	X	X	X	X	X

Table 4-1 (Continued)

<u>Common Name</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
Scup	X	X	X	X	X	X		X
Seaboard goby	X	X	X	X	X	X	X	X
Sea raven								
Sheepshead minnow								
Silver hake	X	X	X		X	X	X	X
Silver perch	X		X		X	X		X
Smallmouth flounder	X	X	X	X	X	X	X	X
Spanish mackerel					X			
Speckled worm eel	X		X					
Spot	X	X	X	X		X	X	
Spotfin butterflyfish								
Spotfin mojarra								
Spotted goatfish								
Spotted hake	X	X	X	X	X	X	X	X
Striped anchovy	X		X	X	X		X	X
Striped burrfish							X	
Striped cuskeel	X	X		X	X	X	X	X
Striped killifish								
Striped mullet	X		X				X	
Striped searobin	X	X	X	X	X	X	X	X
Summer flounder	X	X	X	X	X	X	X	X
Tautog	X	X	X	X	X	X	X	X
Weakfish	X	X	X	X	X	X	X	X
Windowpane	X	X	X	X	X	X	X	X
Winter flounder	X	X	X	X	X	X	X	X
Witch flounder								
Yellowtail flounder	X	X	X			X		
Total	46	43	44	39	40	42	40	40
<u>All Categories</u>								
Total	94	90	93	93	92	90	89	89

Table 4-2 Species Composition of Fish Collected in Each of the Hudson River Surveys During 2007

<u>Common Name</u>	<u>BSS</u>	<u>FSS</u>	<u>LRS</u>
<u>Anadromous</u>			
Alewife	X	X	X
American shad	X	X	X
Atlantic sturgeon		X	X
Atlantic tomcod	X	X	X
Blueback herring	X	X	X
Rainbow smelt			X
Sea lamprey			X
Striped bass	X	X	X
Total	5	6	8
<u>Catadromous</u>			
American eel	X	X	X
Total	1	1	1
<u>Estuarine</u>			
Atlantic silverside	X	X	X
Banded killifish	X	X	
Fourspine stickleback	X		
Hogchoker	X	X	X
Inland silverside	X		X
Mummichog	X		
Northern pipefish	X	X	X
Shortnose sturgeon		X	X
Threespine stickleback	X		
White catfish	X	X	X
White mullet	X		
White perch	X	X	X
Total	11	7	7
<u>Freshwater</u>			
Black crappie	X		
Bluegill	X		
Bluntnose minnow	X		
Brook silverside	X		
Brown bullhead	X	X	X
Carp	X	X	X
Channel catfish	X	X	X
Emerald shiner	X		
Freshwater drum	X	X	X
Gizzard shad	X	X	X
Golden shiner	X		
Goldfish	X	X	
Largemouth bass	X		X
Logperch	X	X	X
Longear sunfish		X	
Northern hog sucker	X		
Northern pike	X		
(Continued)			

Table 4-2 (Continued)

<u>Common name</u>	<u>BSS</u>	<u>FSS</u>	<u>LRS</u>
<u>Freshwater (continued)</u>			
Pumpkinseed	X		X
Redbreast sunfish	X	X	
Satinfin shiner	X		
Silvery minnow	X		
Smallmouth bass	X		
Spotfin shiner	X		
Spottail shiner	X	X	X
Tesselated darter	X	X	X
Walleye			X
White sucker	X	X	X
Yellow perch	X		X
Total	26	12	13
<u>Marine</u>			
American sand lance			X
Atlantic croaker		X	X
Atlantic herring			X
Atlantic mackerel			X
Atlantic menhaden	X	X	X
Atlantic needlefish	X	X	
Bay anchovy	X	X	X
Black sea bass			X
Bluefish	X	X	X
Butterfish		X	X
Conger eel			X
Crevalle jack		X	X
Cunner			X
Cusk			X
Fourbeard rockling			X
Gray snapper	X		
Grubby			X
Moonfish		X	
Naked goby	X		X
Northern kingfish	X	X	
Northern puffer	X	X	X
Northern searobin			X
Northern stargazer	X		
Permit	X		
Rock gunnel			X
Rough silverside		X	X
Scup		X	
Seaboard goby			X
Silver hake		X	
Silver perch	X		
Smallmouth flounder			X
(Continued)			

Table 4-2 (Continued)

<u>Common name</u>	<u>BSS</u>	<u>FSS</u>	<u>LRS</u>
<u>Marine (continued)</u>			
Spotted hake		X	X
Striped anchovy	X	X	X
Striped cuskeel			X
Striped searobin	X	X	X
Summer flounder	X	X	X
Tautog	X		X
Weakfish	X	X	X
Windowpane		X	X
Winter flounder	X	X	X
Total	17	20	31
<u>Undetermined</u>			
Alosa spp.	X	X	X
Centrarchidae	X		X
Cyprinidae			X
Cyprinodontidae			X
Gobiidae		X	X
Labridae			X
Menidia spp.			X
Morone unidentified	X	X	X
Sciaenidae		X	
Searobin		X	X
Unidentifiable			X
Total	3	5	10

Table 4-3 Collections Of Atlantic Sturgeon During The 2007 Hudson River Surveys

<u>Date</u>	<u>Survey</u>	<u>Region</u>	<u>River Mile</u>	<u>Gear</u>	<u>Number Collected</u>	<u>Total Length (mm)</u>
30-May	LRS	Poughkeepsie Croton-	72	1-m Epibenthic sled	1	PYSL
5-Jun	LRS	Haverstraw	35	1-m Epibenthic sled	1	349
5-Jun	LRS	Poughkeepsie	70	1-m Tucker Trawl	2	YSL,PYSL
6-Jun	LRS	Hyde Park	80	1-m Epibenthic sled	1	PYSL
18-Jul	FJS	Hyde Park	81	3-m Beam Trawl	1	121
19-Jul	FJS	West Point	54	3-m Beam Trawl	1	375
31-Jul	FJS	Hyde Park	77	3-m Beam Trawl	2	135,171
1-Aug	FJS	West Point	55	3-m Beam Trawl	2	372,404
2-Aug	FJS	West Point	54	3-m Beam Trawl	1	266
28-Aug	FJS	Poughkeepsie	71	3-m Beam Trawl	1	202
28-Aug	FJS	Hyde Park	78	3-m Beam Trawl	2	188,194
28-Aug	FJS	Hyde Park	83	3-m Beam Trawl	1	199
11-Sep	FJS	Hyde Park	80	3-m Beam Trawl	1	192
12-Sep	FJS	West Point	55	3-m Beam Trawl	1	520
25-Sep	FJS	Poughkeepsie	72	3-m Beam Trawl	2	215,338
9-Oct	FJS	Poughkeepsie	64	3-m Beam Trawl	1	211
9-Oct	FJS	Poughkeepsie	74	3-m Beam Trawl	1	247
10-Oct	FJS	West Point	55	3-m Beam Trawl	4	397,405,570,581
24-Oct	FJS	Poughkeepsie	71	3-m Beam Trawl	1	226
24-Oct	FJS	Hyde Park	81	3-m Beam Trawl	5	251,251,254,259,402
24-Oct	FJS	Hyde Park	82	3-m Beam Trawl	1	261
6-Nov	FJS	Kingston	89	3-m Beam Trawl	1	262
28-Nov	FJS	West Point	55	3-m Beam Trawl	2	447,462
28-Nov	FJS	Cornwall	58	3-m Beam Trawl	1	283
28-Nov	FJS	Poughkeepsie	71	3-m Beam Trawl	3	235,251,265

Table 4-4 Collections of Shortnose Sturgeon During the 2007 Hudson River Surveys

<u>Date</u>	<u>Survey</u>	<u>Region</u>	<u>River Mile</u>	<u>Gear</u>	<u>Number Collected</u>	<u>Total Length (mm)</u>
4-Apr	LRS	Kingston	89	1-m Epibenthic sled	1	763
2-May	LRS	Albany	127	1-m Epibenthic sled	1	937
21-May	LRS	Albany	127	1-m Epibenthic sled	2	PYSL
21-May	LRS	Albany	130	1-m Epibenthic sled	1	PYSL
21-May	LRS	Albany	134	1-m Epibenthic sled	2	PYSL
29-May	LRS	Albany	128	1-m Epibenthic sled	2	PYSL
29-May	LRS	Albany	132	1-m Epibenthic sled	1	PYSL
6-Jun	LRS	Saugerties	106	1-m Epibenthic sled	2	PYSL
18-Jul	FJS	Kingston	89	3-m Beam Trawl	1	461
31-Jul	FJS	Hyde Park	77	3-m Beam Trawl	1	770
14-Aug	FJS	Hyde Park	77	3-m Beam Trawl	1	657
14-Aug	FJS	Hyde Park	85	3-m Beam Trawl	2	702,744
14-Aug	FJS	Kingston	90	3-m Beam Trawl	1	920
15-Aug	FJS	West Point	48	3-m Beam Trawl	1	682
15-Aug	FJS	Poughkeepsie	63	3-m Beam Trawl	1	792
15-Aug	FJS	Poughkeepsie	70	3-m Beam Trawl	1	758
16-Aug	FJS	Croton-Haverstraw	34	3-m Beam Trawl	1	745
11-Sep	FJS	Hyde Park	80	3-m Beam Trawl	1	533
11-Sep	FJS	Hyde Park	83	3-m Beam Trawl	1	726
12-Sep	FJS	West Point	55	3-m Beam Trawl	1	377
13-Sep	FJS	West Point	51	3-m Beam Trawl	1	707
25-Sep	FJS	Poughkeepsie	67	3-m Beam Trawl	1	377
25-Sep	FJS	Hyde Park	85	3-m Beam Trawl	1	661
10-Oct	FJS	West Point	55	3-m Beam Trawl	1	763
10-Oct	FJS	Cornwall	58	3-m Beam Trawl	1	711
28-Nov	FJS	West Point	55	3-m Beam Trawl	2	715,749

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Appendix A

Quality Control Report for the 2007 Hudson River Ichthyoplankton Laboratory Program and 2007 Fall Juvenile Survey

**Quality Control Report for the
2007 Hudson River
Ichthyoplankton Laboratory Program
and 2007 Fall Juvenile Survey**

**Prepared for
ENTERGY SERVICES, INC.
1340 Echelon Parkway, M/S: M-ECH-595
Jackson, Mississippi 39213**

**Prepared by
NORMANDEAU ASSOCIATES, INC.
25 Nashua Road
Bedford, NH 03110**

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QUALITY CONTROL REPORT FOR THE 2007 HUDSON RIVER ICHTHYOPLANKTON LABORATORY PROGRAM AND 2007 FALL JUVENILE SURVEY

1.0 INTRODUCTION

This quality control report for the laboratory tasks of the 2007 Hudson River Ichthyoplankton Survey and the 2007 Fall Juvenile Survey was prepared for Entergy Services, Inc. by Normandeau Associates Inc. (NAI).

To comply with Entergy's requirements for valid and reliable data on the Hudson River Ichthyoplankton Laboratory Program and the Fall Juvenile Survey, NAI implemented a Quality Assurance Plan that provides a 10% Average Outgoing Quality Limit (AOQL) for all measurement parameters collected. The Quality Assurance Plan consists of two systems: a quality control (QC) system and a quality assurance (QA) system. The QC system is managed by the program manager and conducted by operational personnel. The system monitors and documents the reliability and validity (accuracy, precision, completeness) of daily operations. The specific features of the QC system are determined by the Quality Assurance Department to insure that all procedures conform to Entergy's data requirements. The QA system is managed by NAI's Quality Assurance Director and utilizes project independent personnel familiar with the work or activities under evaluation to conduct performance and systems audits. These audits are designed to provide objective evidence that the quality control program and technical requirements, methods, and procedures as outlined in the program Standard Operating Procedures are being implemented. The outcomes of the QA system activities are

- verification of the effectiveness of the QC system,
- assignment of corrective actions to resolve nonconforming procedures or data deficiencies,
- communication of audit results to project and staff managers for follow-up, and
- objective validation or improvement of project operations.

This report provides a compilation of QC system data verifying the results of the 2007 Hudson River Ichthyoplankton Laboratory Program and 2007 Fall Juvenile Survey activities. Determinations of the fraction inspected, percent nonconforming, and average outgoing quality are presented for both programs. In addition, for the 2007 Hudson River Ichthyoplankton Laboratory Program the results include percent measurement error, a summary of the number of each taxon-life stage found during sorting QC, and cumulative error rates for each taxon-life stage.

2.0 METHODS

2.1 LABORATORY QUALITY CONTROL PROCEDURES

2.1.1 Ichthyoplankton Survey

For sorting and identification of samples from the 2007 Hudson River Ichthyoplankton Laboratory Program, NAI used a continuous sampling plan designed to provide a 10% Average Outgoing Quality Limit (U.S. Department of Defense 1981). A flow diagram of how the sampling plan was applied is presented in Figure 1. A summary of the sampling plan, tolerances and QC sample definitions used for each measurement parameter is presented in Table 1. Quality control inspection was applied on a laboratory-wide basis for the sorting task and to each individual processor for the identification task. Quality control samples were selected in a random manner utilizing random number tables. As determined from the sampling plan outlined in Table 1, a given number of quality control samples were reprocessed by QC inspectors with expertise in the task being inspected. In cases where a sample was subdivided and counted, counts for all subdivisions were combined before calculating percent error for that sample. If the difference between the quality control value and the original value exceeded acceptable tolerances (Table 1), a third measurement could be obtained to verify one of the measurements. If a sample was found to have exceeded acceptable tolerances, all subsequent samples processed by the same technician were subjected to 100% quality control until an appropriate number of consecutive samples (i) were found within tolerance as determined by the continuous sampling plan (Table 1 and Figure 1). The standard operating procedures manual (NAI 2003) documents specific QA/QC methods utilized for this program.

Table 1. Task Specific Applications of Continuous Sampling Plans for the 2007 Hudson River Ichthyoplankton Laboratory Program

Laboratory Task	CSP-1 AOQL 10%		Sample Tolerance	QC Sample Definition
	i	f		
Sorting	8	1/7	± 2 if ≤20 organisms ± 10% if >20 organisms	one sample
Identification	8	1/7	± 2 if ≤20 ± 10% if >20 for every taxon in the sample (in identifying, assigning a life stage, or counting any species, errors are cumulative by life stage within each taxon)	one sample

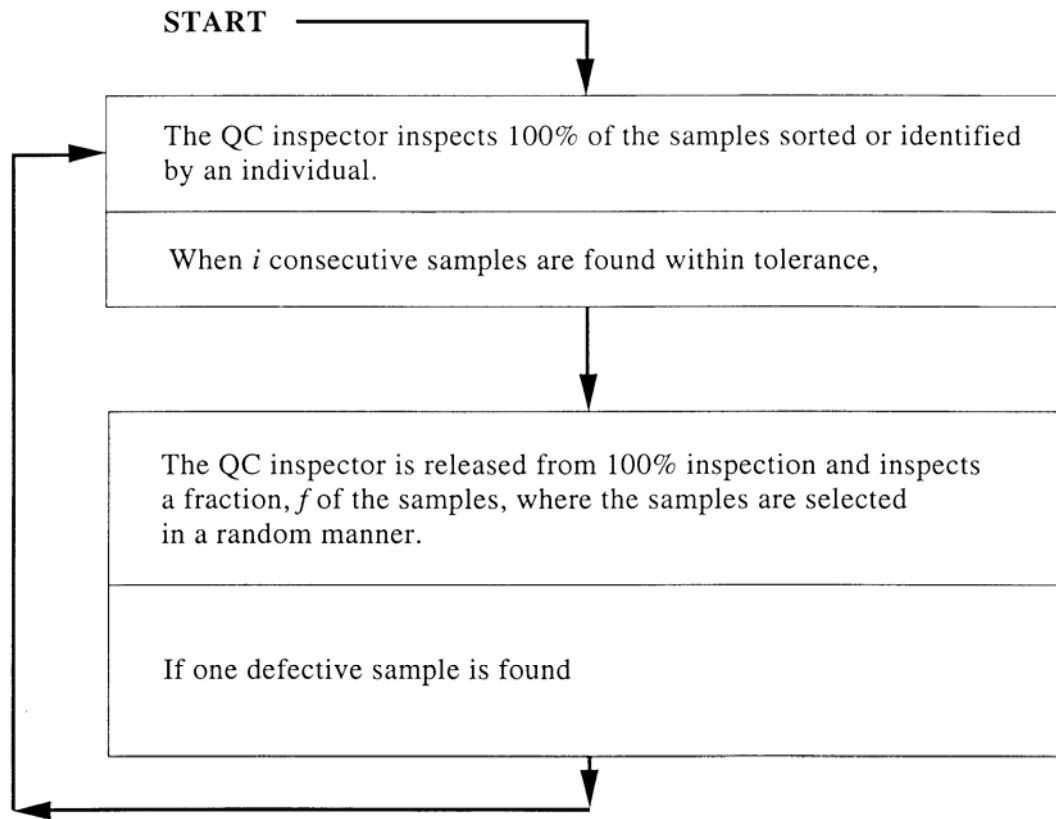


Figure 1. Quality control inspection plan for ichthyoplankton sorting and identification tasks.

In some cases one of the taxonomists (either the original identifier or the QC inspector) was able to determine the taxon or life stage of damaged specimens when the other taxonomist recorded them as unknown life stage, unidentified taxon, or a higher level taxon (genus or family). If a more general taxon or life stage used by one taxonomist *included* the more specific category used by the other taxonomist, and that was the only reason for a count discrepancy, then that sample was not considered as failing the QC inspection. For example, damaged specimens recorded as *Morone* sp. by the original identifier and as striped bass by the QC inspector were considered to be in agreement because the category *Morone* sp. includes striped bass. In contrast, an original determination of unidentified gobiid would not be acceptable if the QC determination was striped bass, because striped bass is not included in the family Gobiidae.

2.1.2 Fall Juvenile Survey

The Fall Juvenile Survey consisted of two types of collections, referred to as the Fall Shoals Survey (which used Tucker trawls) and the Beach Seine Survey. For laboratory identification and length measurements of young-of-the-year fishes in the 2007 Fall Juvenile Survey, NAI used a continuous sampling plan designed to provide a 10% Average Outgoing Quality Limit (U.S. Department of

Defense, 1981). A flow diagram of how the plan was applied is presented in Figure 2. A summary of the sampling plan, tolerances, and QC sample definitions used for each task is shown in Table 2. QC samples were selected as specified by the appropriate plan in Table 2, using random numbers, and reprocessed by QC inspectors. If the difference between original and QC values exceeded the acceptable tolerance, a third value was obtained as a resolution. The standard operating procedures manual (NAI 2007) documents specific QA/QC methods used for the 2007 Fall Juvenile Survey. Young-of-the-year fishes were identified in the laboratory for the first two Fall Shoals Survey “river runs” (sampling weeks) and the first three Beach Seine Survey river runs. Young-of-the-year fishes were identified in the field starting with Fall Shoals Survey river run 3 and Beach Seine Survey river run 4. The same quality control procedures applied to both field and laboratory identifications. All length measurements of young-of-the-year fishes occurred in the laboratory.

Table 2. Task Specific Applications of Continuous Sampling Plans for the 2007 Fall Juvenile Survey.

Task	QC Plan	AOQL	i	f	x	Tolerance	QC Sample Definition
Identification	CSP-V	7%	21	1/15	7	±10% of total count or ±2 individuals when <25 fish	One taxon
Length	CSP-V	7%	30	1/50	10	±1 mm when <34 mm TL ±3% when >34 mm TL	One fish

2.2 REPORTING PROCEDURES

The 2007 Hudson River Ichthyoplankton Laboratory Program Sort and Identification Quality Control Logs were keyed, verified, and error-checked to produce SAS data sets. From these data, fraction inspected, percent nonconforming, and percent measurement error (precision) were determined for each river run and for the entire study. For the 2007 Fall Juvenile Survey, QC data were used to determine fraction inspected and percent nonconforming for the entire study (combining all river runs processed in the laboratory for both the Fall Shoals Survey and the Beach Seine Survey).

2.2.1 Fraction Inspected

Fraction Inspected

$$= \frac{\text{Number of Samples Inspected}}{\text{Total Number of Samples}} \times 100 \quad (\text{Equation 1})$$

River Run: Fraction inspected for a river run (Equation 1) was one hundred times the number of samples inspected divided by the total number of samples analyzed for that river run. For ichthyoplankton tasks, the number of samples inspected excludes "training QC samples," which do not represent the independent performance of the technician. For the ichthyoplankton identification task, the total number of samples identified excludes empty ("no catch") samples, which did not require processing by an identifier.

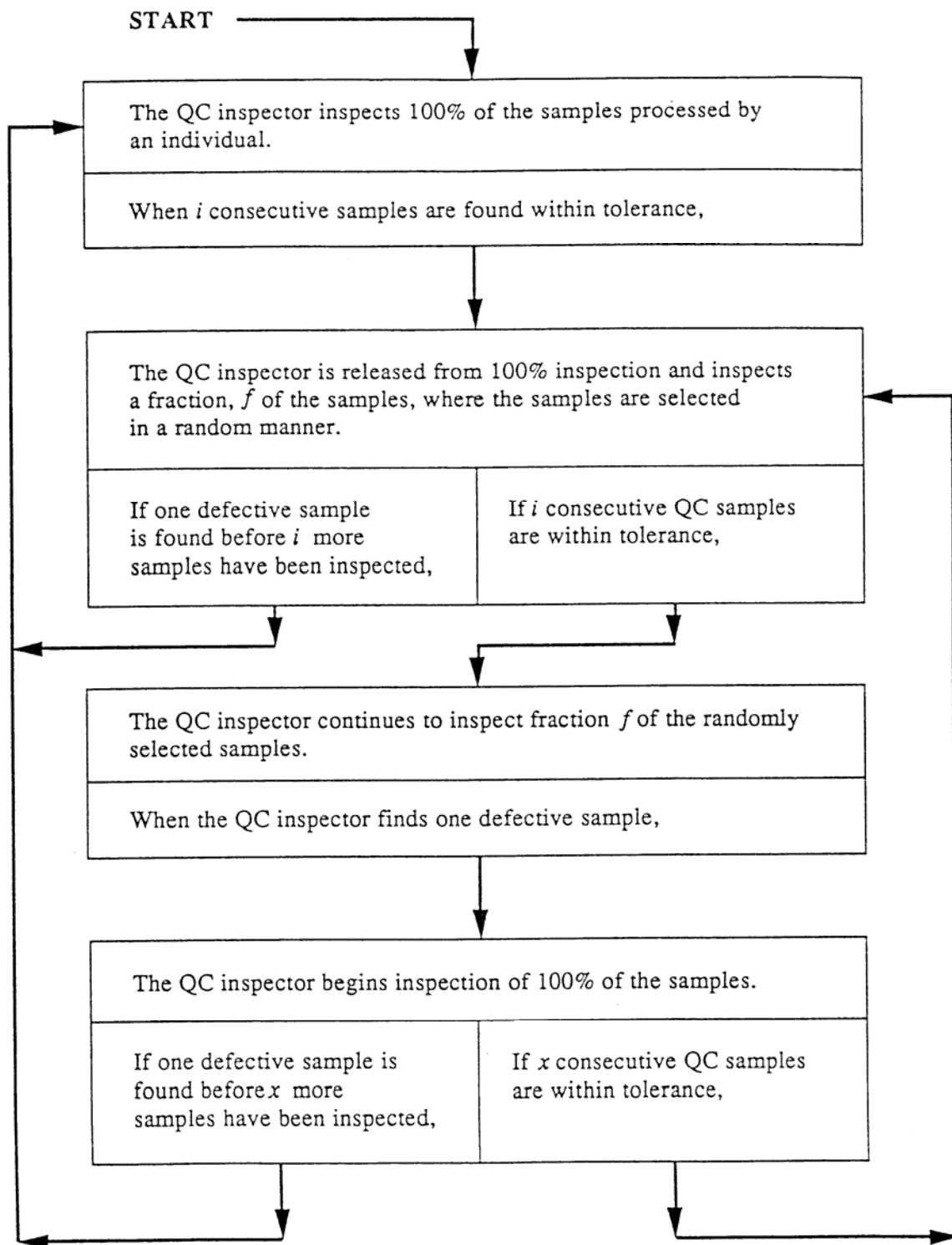


Figure 2. Quality control inspection plan for identification and length measurement of young-of-the-year fishes.

Entire Study: Fraction inspected for the entire study was one hundred times the number of samples inspected divided by the total number of samples analyzed during the study.

2.2.2 Percent Nonconforming

Percent Nonconforming

$$= \frac{\text{Number of Nonconforming Samples Inspected}}{\text{Number of Samples Inspected}} \times 100 \quad (\text{Equation 2})$$

River Run: Percent nonconforming for a river run (Equation 2) was one hundred times the number of nonconforming quality control samples found for that river run divided by the total number of quality control samples inspected for that river run.

Entire Study: Percent nonconforming for the entire study was one hundred times the total number of nonconforming quality control samples for the study divided by the total number of quality control samples inspected for the study. The results of this analysis was a determination of the actual incoming quality level of each measurement parameter. (Note that because samples checked by QC found to be defective were rectified during QC, the average outgoing quality of the final data set was better than that indicated by the percent nonconforming.)

2.2.3 Percent Measurement Error

Sorting Task

Sorting Percent Measurement Error

$$= \frac{\text{Quality Control Value}}{(\text{Original Value} + \text{Quality Control Value})} \times 100 \quad (\text{Equation 3})$$

Sample: Percent measurement error for a sorted sample (Equation 3) was one hundred times the quality control value divided by the sum of the original value and the quality control value. If the total count (original value plus quality control value) was less than or equal to 20, and the quality control value (i.e., the number of organisms missed by the sorter and found during sort QC inspection) was one or two, the percent measurement error for the sorted sample was defined as zero.

River Run: Mean percent measurement error for sorted samples for a river run was the sum of the percent measurement errors for each sample inspected during the river run divided by the total number of samples inspected for the river run.

Entire Study: Mean percent measurement error for sorted samples for the entire study was the sum of the percent measurement errors for each sample inspected during the study divided by the total number of samples inspected for the study. (Note that this method of averaging gives equal weight to each sample, regardless of the number of organisms present).

Identification Task

Life Stage Percent Measurement Error

$$= \frac{(\text{Original Value} - \text{Quality Control Value})}{\text{Quality Control Value}} \times 100 \quad (\text{Equation 4})$$

Life Stage: Percent measurement error for a life stage (Equation 4) was one hundred times the difference between the original value and the quality control value divided by the quality control value. For life stages where the quality control value was 20 or less, if the original and quality control values differed by less than or equal to two organisms the percent measurement error was defined as zero. For life stages where the quality control value was 20 or less and the original and quality control values differed by more than two organisms, the percent measurement error was calculated utilizing Equation 4. If the quality control value was zero, the percent measurement error was calculated by multiplying the difference between the original and quality control values by 100. This results in percent measurement error values which are at times extremely large (e.g. possibly several hundred percent for a life stage of a taxon in a sample) and not truly indicative of the actual proportion of specimens misidentified, mis-staged, or miscounted in a sample. If the original count for a life stage was acceptably close to a resolution value but not to the quality control value, the percent measurement error was calculated as described above except that the resolution value was substituted for the quality control value.

Taxon: Percent measurement error for an identified taxon was the sum of the absolute values of percent measurement error for each life stage within the taxon. Refer to Figure 3 for an example of taxon percent measurement error calculations.

		Eggs	Post Yolk-Sac Larvae	Young-of- the-Year	Total
Taxon 1	Original Value	103	176	25	
	Quality Control Value	100	194	26	
	% Measurement Error Life Stage	3.0	-9.3	-3.8	16.1
Taxon 2	Original Value		2		
	Quality Control Value		1		
	% Measurement Error Life Stage		0		0
Taxon 3	Original Value		8		
	Quality Control Value		2		
	% Measurement Error Life Stage		300		300

Figure 3. Example of percent measurement error calculations for individual taxa during the identification task.

River Run: Mean percent measurement error for the identification task for a river run was the sum of the percent measurement errors for all taxa inspected during the river run divided by the total number of taxa inspected for the river run. This statistic was computed by averaging taxa rather than samples because even though complete samples were inspected and reworked for identification quality control, the pass/fail criterion was whether any taxon in the sample individually exceeded the 10% tolerance.

Entire Study: Mean percent measurement error for identified taxa for the entire study was the sum of the percent measurement errors for all taxa inspected during the study divided by the total number of taxa inspected for the study.

2.2.4 Average Outgoing Quality

At the completion of these studies, the Average Outgoing Quality (AOQ) was calculated for each measurement parameter inspected. Continuous sampling plans were used for all tasks. Continuous sampling plans are devised for processes involving a continuous or nearly continuous flow of products or other entities. For these types of processes, it is extremely difficult to organize units into discrete groups commonly referred to as lots. As a result, inspection must be performed on individual units drawn from a continuous flow of products and a decision made concerning the quality of units produced based on the inspection results. Rectification is performed on any nonconforming unit found during inspection, followed by 100% screening of a number of subsequent units depending on the sampling plan. Average Outgoing Quality for each laboratory task was calculated as a function of the percent nonconforming and the fraction of total units inspected (Stephens 1979). This calculation applies to continuous sampling plans when nonconforming units found are rectified:

$$AOQ = \frac{p'(1-f)q^i}{f + (1-f)q^i} \times 100 \quad \text{(Equation 5)}$$

where

p' = Percent nonconforming as a decimal fraction
 f = Fraction of units inspected. This is a parameter of the sampling plan.
 $q = 1-p'$ = Percent conforming as a decimal fraction
 i = Clearing interval. This is a parameter of the sampling plan.

Example:

$p' = 0.0689$
 $f = 1/7 = 0.1429$
 $q = 1-0.0689 = 0.9311$
 $i = 8$

$$AOQ = \frac{0.0689(1-0.1429)(0.9311)^8}{0.1429 + (1-0.1429)(0.9311)^8} \times 100 = 5.32\%$$

The above equation for calculating AOQ was formulated specifically for CSP-1 sampling plans such as those used for the ichthyoplankton sorting and identification (Table 1). The same equation was

used to calculate AOQ for young-of-the-year identifications and measurements, which used CSP-V plans (Table 2). When Equation 5 is used for CSP-V plans, the calculated AOQ is conservatively high, because the equation does not take into account the times when the number of consecutive reinspections following a failure is x (which is smaller than i).

2.2.5 Cumulative Error Rates

Due to the non-independence of identification errors across taxa and life stages, and to the cumulation of errors within taxa, a relatively high fraction of samples may fail QC inspection even though only a small fraction of organisms are incorrectly identified or counted. In order to present the error frequencies more realistically for particular taxa-life stages, two additional statistics were calculated for each taxon-life stage for the identification/counting process.

Absolute Error Rate =

$$\sum_{i=1}^n |I_i - Q_i| / \sum_{i=1}^n Q_i \quad \text{Equation 6}$$

Net Error Rate =

$$\sum_{i=1}^n (I_i - Q_i) / \sum_{i=1}^n Q_i \quad \text{Equation 7}$$

where

- I_i = initial count for taxon-life stage in sample i
- Q_i = QC count for taxon-life stage in sample i (or the resolution count, if I_i was acceptably close to it but not to the QC count)
- n = number of samples in the entire study

If the sum of Q_i for the entire study was zero for the taxon-life stage, then the sum of Q_i was set equal to one for the purpose of calculating absolute and net error rate.

The absolute error rate is the approximate fraction of the taxon-life stage that was originally identified or counted incorrectly. This is an estimate of the fraction of erroneous countable items in the uninspected samples.

Net error rate is the approximate relative error in the total counts for the taxon-life stage. For this index, positive (original count too high) and negative (original count too low) errors cancel each other so that the index reflects the relative net bias to the taxon-life stage abundance.

3.0 RESULTS

3.1 ICHTHYOPLANKTON LABORATORY PROGRAM

The Average Outgoing Quality (AOQ) of the 2007 Hudson River Ichthyoplankton Laboratory Program was 1.19% for the sorting task 0.00% for the identification task. These AOQ levels represent the actual or achieved quality for measurement parameters and were well within the 10% AOQL requirement of the study. The Average Fraction Inspected (AFI) was 14.53% for sorting and 14.03% for identification (Table 3).

Table 3. Fraction Inspected, Percent Nonconforming, Mean Percent Measurement Error, and Average Outgoing Quality of Tasks Performed By NAI for the 2007 Hudson River Ichthyoplankton Laboratory Program.

Task	Fraction Inspected (%)	Percent Nonconforming (%)	Mean Percent Measurement Error (%)	AOQ (%)
Sorting	14.53	1.41	1.37	1.19
Identification	14.03	0.00	0.86	0.00

The AFI for the sorting task as calculated here is conservatively low, because samples used as "training QCs" were not entered into the formal QC inspection plan. Each training QC sample was reprocessed by the Sorting Supervisor during the training process, so these do not represent the independent performance of the sorter. Only after a new sorter demonstrated proficiency in the training program were subsequent samples processed by that sorter entered into the laboratory-wide QC plan.

Sorting and identification tasks were also evaluated on the basis of river runs (sampling weeks). Sorted samples were inspected at a rate of 9.52% to 27.78% for individual river runs (Table 4). Nonconformance for the sorting task among the inspected samples ranged from 0% to 10.00% among the river runs and was 1.41% overall (Table 5). Sorting measurement error was between 0% and 3.81% and averaged 1.37% for the study (Table 6). For the task of sample identification, 9.57% to 17.21% of samples were inspected from individual river runs (Table 7). Percent nonconforming for the identification task was 0% for each of the 23 river runs and averaged 0.00% (Table 8). Measurement error ranged from 0% to 1.58% and overall measurement error was 0.86% for the identification task of this study (Table 9).

Measurement error results for the identification task are skewed towards high values as a result of the method of computation at the life stage level. In addition, measurement errors are summed over life stages within each taxon, which then amplifies the already skewed life stage values. These data are not indicative of actual measurement error and should only be compared to other measurement error results that are calculated using exactly the same methods. In all cases of failed QC samples, the data were corrected and the QC sample inspection frequency was maintained at 100% for that individual until acceptable results were demonstrated as determined by the QC sampling plan.

Additional organisms found during the sort QC were identified independently to determine the frequency of species and life stages missed during the initial sort. Six taxa accounted for 91% of the

Table 4. Sample Sorting Fraction Inspected Results, 2007 Hudson River Ichthyoplankton Laboratory Program.

Sampling Week (Beginning Monday)	Total # of Samples Inspected	Total # of Samples Sorted	Fraction Inspected
12Mar07	9	73	12.33
19Mar07	9	74	12.16
26Mar07	9	74	12.16
02Apr07	12	126	9.52
09Apr07	17	126	13.49
16Apr07	14	122	11.48
23Apr07	20	135	14.81
30Apr07	19	135	14.07
07May07	21	135	15.56
14May07	21	126	16.67
21May07	22	126	17.46
28May07	35	126	27.78
04Jun07	23	123	18.70
11Jun07	13	123	10.57
18Jun07	16	123	13.01
25Jun07	15	123	12.20
09Jul07	10	81	12.35
23Jul07	10	81	12.35
06Aug07	12	81	14.81
20Aug07	12	81	14.81
03Sep07	11	81	13.58
17Sep07	11	81	13.58
01Oct07	13	81	16.05
Study	354	2437	14.53

Table 5. Sample Sorting Percent Nonconformance Results, 2007 Hudson River Ichthyoplankton Laboratory Program.

Sampling Week (Beginning Monday)	# of Non- conformities	Total # of Samples Inspected	% Non- conformance (Week)	% Non- conformance (Study)
12Mar07	0	9	0.00	0.00
19Mar07	0	9	0.00	0.00
26Mar07	0	9	0.00	0.00
02Apr07	0	12	0.00	0.00
09Apr07	0	17	0.00	0.00
16Apr07	0	14	0.00	0.00
23Apr07	0	20	0.00	0.00
30Apr07	1	19	5.26	0.92
07May07	0	21	0.00	0.77
14May07	0	21	0.00	0.66
21May07	0	22	0.00	0.58
28May07	3	35	8.57	1.92
04Jun07	0	23	0.00	1.73
11Jun07	0	13	0.00	1.64
18Jun07	0	16	0.00	1.54
25Jun07	0	15	0.00	1.45
09Jul07	0	10	0.00	1.40
23Jul07	1	10	10.00	1.69
06Aug07	0	12	0.00	1.63
20Aug07	0	12	0.00	1.57
03Sep07	0	11	0.00	1.52
17Sep07	0	11	0.00	1.47
01Oct07	0	13	0.00	1.41
Study	5	354		

Table 6. Sample Sorting Mean Percent Measurement Error Results, 2007 Hudson River Ichthyoplankton Laboratory Program.

Sampling Week (Beginning Monday)	Total # of Samples Inspected	Mean Percent Measurement Error
12Mar07	9	1.01
19Mar07	9	0.00
26Mar07	9	0.00
02Apr07	12	0.00
09Apr07	17	1.11
16Apr07	14	0.91
23Apr07	20	0.00
30Apr07	19	1.39
07May07	21	0.25
14May07	21	2.20
21May07	22	2.96
28May07	35	2.51
04Jun07	23	0.90
11Jun07	13	2.47
18Jun07	16	3.81
25Jun07	15	1.71
09Jul07	10	3.54
23Jul07	10	2.20
06Aug07	12	0.95
20Aug07	12	0.23
03Sep07	11	0.24
17Sep07	11	0.00
01Oct07	13	0.00
Study	354	1.37

Table 7. Sample Identification Fraction Inspected Results, 2007 Hudson River Ichthyoplankton Laboratory Program.

Sampling Week (Beginning Monday)	Total # of Samples Inspected	Total # of Samples Identified	Fraction Inspected
12Mar07	10	65	15.38
19Mar07	5	45	11.11
26Mar07	6	47	12.77
02Apr07	8	48	16.67
09Apr07	9	64	14.06
16Apr07	5	33	15.15
23Apr07	4	27	14.81
30Apr07	8	58	13.79
07May07	11	115	9.57
14May07	21	122	17.21
21May07	19	126	15.08
28May07	16	126	12.70
04Jun07	16	123	13.01
11Jun07	17	123	13.82
18Jun07	17	123	13.82
25Jun07	18	123	14.63
09Jul07	12	81	14.81
23Jul07	12	80	15.00
06Aug07	12	81	14.81
20Aug07	10	80	12.50
03Sep07	11	81	13.58
17Sep07	13	80	16.25
01Oct07	11	81	13.58
Study	271	1932	14.03

Table 8. Sample Identification Percent Nonconformance Results, 2007 Hudson River Ichthyoplankton Laboratory Program.

Sampling Week (Beginning Monday)	# of Noncon- formities	Total # of Samples Inspected	% Non- conformance (Week)	% Non- conformance (Study)
12Mar07	0	10	0.00	0.00
19Mar07	0	5	0.00	0.00
26Mar07	0	6	0.00	0.00
02Apr07	0	8	0.00	0.00
09Apr07	0	9	0.00	0.00
16Apr07	0	5	0.00	0.00
23Apr07	0	4	0.00	0.00
30Apr07	0	8	0.00	0.00
07May07	0	11	0.00	0.00
14May07	0	21	0.00	0.00
21May07	0	19	0.00	0.00
28May07	0	16	0.00	0.00
04Jun07	0	16	0.00	0.00
11Jun07	0	17	0.00	0.00
18Jun07	0	17	0.00	0.00
25Jun07	0	18	0.00	0.00
09Jul07	0	12	0.00	0.00
23Jul07	0	12	0.00	0.00
06Aug07	0	12	0.00	0.00
20Aug07	0	10	0.00	0.00
03Sep07	0	11	0.00	0.00
17Sep07	0	13	0.00	0.00
01Oct07	0	11	0.00	0.00
Study	0	271		

Table 9. Sample Identification Mean Percent Measurement Error Results, 2007 Hudson River Ichthyoplankton Laboratory Program.

Sampling Week (Beginning Monday)	Total # of Samples Inspected	Mean Percent Measurement Error	Number of Taxa Inspected
12Mar07	10	0.07	20
19Mar07	5	0.00	6
26Mar07	6	0.00	7
02Apr07	8	0.00	19
09Apr07	9	0.00	16
16Apr07	5	0.00	11
23Apr07	4	0.00	4
30Apr07	8	0.00	13
07May07	11	0.00	26
14May07	21	0.21	56
21May07	19	1.13	86
28May07	16	1.23	93
04Jun07	16	0.85	96
11Jun07	17	1.29	100
18Jun07	17	0.96	94
25Jun07	18	0.95	97
09Jul07	12	0.77	68
23Jul07	12	0.84	46
06Aug07	12	1.58	23
20Aug07	10	1.51	20
03Sep07	11	0.75	23
17Sep07	13	1.20	23
01Oct07	11	0.76	27
Study	271	0.86	974

additional organisms found during sort QC: white perch, striped bass, bay anchovy, clupeids, *Morone* sp., and hogchoker (Table 10). For these six taxa, the additional number found in the sort QC was less than 1% of the total found during sample processing.

For the six taxa most commonly encountered during sort QC the total number of each life stage found in the sort QC was low compared to the total number sorted (Table 11). For most taxa-life stages the percentage missed by the original sorter was well under 2%.

The life stage most commonly missed by sorters was eggs for bay anchovy, unidentified life stage for *Morone* sp., and it was post yolk-sac larvae for striped bass, white perch, clupeids, and hogchoker (Table 11). Generally the life stage most frequently missed by sorters was the most abundant one.

Absolute error rates of the identification process for individual life stages of commonly encountered taxa ranged from 0 to 3.00, but most taxa-life stages had rates less than 0.05. Generally, only those taxa-life stages with low total counts had absolute error rates above 0.05 (Table 12). The unusually high absolute error rates for Atlantic menhaden yolk-sac larvae (3.00) and white perch young-of-the-year (2.00) were artificially inflated by values above 100%.

Net error rates were substantially lower than the absolute error rates in most cases, demonstrating that errors often tended to cancel each other out. This was noticeable for many of the more abundant taxa-life stages, such as bay anchovy eggs and post yolk-sac larvae of striped bass, white perch, clupeids, and bay anchovy.

3.2 FALL JUVENILE SURVEY

Results of the laboratory quality control program for the 2007 Fall Juvenile Survey (consisting of the Beach Seine Survey and the Fall Shoals Survey) were summarized by the same methods as the QC results for the 2007 Hudson River Ichthyoplankton Laboratory Program and are presented in Table 13.

A total of 930 and 977 young-of-the-year fish identification records were made in the laboratory for the Fall Shoals and Beach Seine surveys respectively and 4,694 and 4,554 young-of-the-year fish length measurement records were made for the Fall Shoals and Beach Seine surveys respectively.

Table 10. Ranking of Taxa Missed During Initial Sort and Found During Sort QC.

Taxon	Number of Organisms Found in Sort QC	Percent
White perch	435	25.69
Striped bass	372	21.97
Bay anchovy	355	20.97
Herring family	216	12.76
Morone species	124	7.32
Hogchoker	45	2.66
Goby family	31	1.83
Winter flounder	28	1.65
Tessellated darter	15	0.89
Unidentified	13	0.77
Weakfish	12	0.71
Atlantic tomcod	9	0.53
Cunner	9	0.53
Windowpane	8	0.47
Atlantic menhaden	6	0.35
Carp and minnow family	4	0.24
Freshwater drum	3	0.18
Gizzard shad	3	0.18
Fourbeard rockling	2	0.12
Grubby	1	0.06
Tautog	1	0.06
Yellow perch	1	0.06
Total	1693	100.00

Table 11. Summary By Life Stage of the Six Highest Ranked Taxa Missed During Original Sort and Found During Sort QC Compared to Total Count.

Taxon	Life Stage	Number	Percent in Each Stage	Percent of Total Found	Total Organisms Found^a
Bay anchovy	Eggs	203	57.18	0.40	51189
	Yolk-sac larvae	1	0.28	1.47	68
	Post yolk-sac larvae	147	41.41	0.39	37403
	Young-of-the-year	4	1.13	0.03	12618
	Unidentified	0	0.00	0.00	25
Herring family	Eggs	4	1.85	0.16	2513
	Yolk-sac larvae	20	9.26	0.72	2795
	Post yolk-sac larvae	189	87.50	0.68	27911
	Unidentified	3	1.39	6.67	45
Hogchoker	Eggs	20	44.44	0.28	7098
	Yolk-sac larvae	1	2.22	33.33	3
	Post yolk-sac larvae	24	53.33	18.05	133
	Young-of-the-year	0	0.00	0.00	28
Morone species	Yolk-sac larvae	0	0.00	0.00	3
	Post yolk-sac larvae	40	32.26	2.08	1920
	Young-of-the-year	0	0.00	0.00	13
	Unidentified	84	67.74	1.46	5750
Striped bass	Eggs	46	12.37	0.23	19622
	Yolk-sac larvae	159	42.74	0.41	39182
	Post yolk-sac larvae	164	44.09	0.14	119855
	Young-of-the-year	3	0.81	0.44	686
	Unidentified	0	0.00	0.00	877
White perch	Eggs	18	4.14	0.53	3411
	Yolk-sac larvae	43	9.89	1.02	4206
	Post yolk-sac larvae	374	85.98	0.77	48799
	Young-of-the-year	0	0.00	0.00	11

^a Includes both original count and additional organisms found during sort QC.

Table 12. Cumulative Net and Absolute Error Rates for Commonly Encountered Taxa in Samples Selected for QC Inspection of Identification and Counting Process.

Taxon	Stage	Total Count	Net Error	Absolute Error	N
Atlantic menhaden	Eggs	323	0.00929	0.02786	8
	Yolk-sac larvae	0	3.00000	3.00000	3
	Post yolk sac larvae	35	0.05714	0.05714	20
	Young of the year	28	-0.14286	0.14286	13
Atlantic tomcod	Yolk-sac larvae	39	-0.02564	0.02564	9
	Post yolk sac larvae	673	0.00446	0.00446	42
	Young of the year	145	-0.00690	0.00690	25
Bay anchovy	Unidentified	3	1.00000	1.00000	4
	Eggs	8813	0.00499	0.01021	48
	Yolk-sac larvae	12	0.08333	0.25000	8
	Post yolk sac larvae	5385	-0.00520	0.02154	123
	Young of the year	2202	0.00272	0.02271	64
Blueback herring	Young of the year	209	-0.02871	0.05742	18
Goby family	Unidentified	1	0.00000	0.00000	1
	Post yolk sac larvae	705	0.01702	0.02270	49
Herring family	Unidentified	2	1.00000	1.00000	2
	Eggs	49	0.00000	0.00000	6
	Yolk-sac larvae	202	0.02475	0.05446	30
	Post yolk sac larvae	3519	0.01080	0.01932	111
Hogchoker	Eggs	1845	0.00271	0.01247	20
	Yolk-sac larvae	0	1.00000	1.00000	1
	Post yolk sac larvae	9	-0.11111	0.11111	3
	Young of the year	1	1.00000	1.00000	2
Morone species	Unidentified	863	0.04519	0.06373	24
	Post yolk sac larvae	147	-0.00680	0.02041	9
Striped bass	Unidentified	165	-0.04848	0.04848	2
	Eggs	3798	0.00527	0.00527	35
	Yolk-sac larvae	4027	0.00621	0.03104	46
	Post yolk sac larvae	16454	0.00073	0.01835	97
	Young of the year	153	-0.01961	0.05882	15
Weakfish	Eggs	313	0.00958	0.03514	7
	Yolk-sac larvae	5	0.00000	0.00000	3
	Post yolk sac larvae	174	0.02874	0.04023	31
	Young of the year	30	-0.10000	0.10000	13
White perch	Eggs	447	-0.00224	0.00671	10
	Yolk-sac larvae	362	0.00000	0.04972	27
	Post yolk sac larvae	5771	-0.00468	0.02859	84
	Young of the year	1	2.00000	2.00000	2

Table 13. Fraction Inspected, Percent Nonconforming, and Average Outgoing Quality of Laboratory Tasks Performed by Normandeau for the 2007 Fall Juvenile Survey.

Task	Average Fraction Inspected (%)	Percent Nonconforming (%)	Average Outgoing Quality (%)
Identification	6.61	0.00	0.00
Measurement	2.22	0.00	0.00

4.0 LITERATURE CITED

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Appendix B

Physical/Chemical Parameters

APPENDIX B
LIST OF TABLES

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Table B-1 Daily Freshwater Flow (m³/sec/day) Estimated for Green Island, New York, 2007

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT ¹	NOV ¹	DEC ¹
DAY OF MONTH												
1	573	483	276	1005	886	197	130	116	104	109	217	556
2	750	467	289	1005	815	201	126	125	90	96	238	515
3	682	446	297	1013	835	238	102	109	94	93	219	504
4	599	427	332	1098	659	286	121	120	96	101	173	513
5	562	406	364	1407	664	386	125	115	122	84	200	584
6	686	354	337	1149	625	418	143	137	103	96	218	458
7	1169	339	309	965	557	301	135	117	84	88	298	423
8	1288	333	299	815	514	250	141	124	82	103	297	383
9	1613	324	290	693	424	221	181	151	97	113	252	388
10	1528	324	290	611	427	194	160	151	105	155	227	363
11	1194	301	317	558	747	164	199	133	121	179	197	329
12	1025	306	341	586	671	165	198	124	167	155	226	331
13	940	308	380	702	508	209	175	129	129	184	225	516
14	1016	299	533	719	444	187	141	125	130	148	231	475
15	1059	264	1237	708	434	178	150	107	123	146	377	394
16	1537	283	1743	1647	448	157	133	108	117	131	639	314
17	1296	310	1206	2923	538	147	136	89	114	125	519	287
18	979	314	965	2134	464	148	146	105	124	120	349	289
19	903	315	835	1683	470	146	184	101	118	123	337	302
20	821	306	696	1663	565	164	281	105	108	233	365	302
21	684	307	582	1528	691	213	196	108	119	245	442	302
22	668	321	572	1457	554	205	172	93	104	202	522	304
23	668	318	1019	1519	439	129	169	93	103	193	510	322
24	623	314	1308	1658	318	137	153	100	96	395	526	725
25	579	292	1390	1672	274	137	116	122	92	411	517	961
26	508	259	1319	1542	231	131	140	113	99	329	593	770
27	452	279	1774	1372	236	133	137	112	107	339	862	678
28	475	274	2015	1222	268	169	134	104	121	714	983	615
29	498	--	1763	1094	261	108	129	103	114	455	773	572
30	485	--	1344	1055	225	115	121	96	118	244	695	714
31	468	--	1141	--	197	--	109	103	--	191	--	690

¹ October through December data are provisional.

Table B-2 Long-Term (1947-2006) and 2007 Monthly Mean Freshwater Flow (m³/sec/day)
Estimated for Green Island, New York

<u>MONTH</u>	<u>2007 AVERAGE</u>	<u>LONG-TERM AVERAGE</u>	<u>LONG-TERM MINIMUM</u>	<u>LONG-TERM MAXIMUM</u>
JAN	849	398	118	961
FEB	331	399	128	885
MAR	825	613	258	1,077
APR	1,240	864	257	1,749
MAY	496	528	156	1,147
JUN	194	303	101	909
JUL	151	197	87	670
AUG	114	169	48	414
SEP	110	184	58	482
OCT	203 ¹	262	71	853
NOV	408 ¹	377	93	758
DEC	480 ¹	428	173	989
ANNUAL AVERAGE ²	451	393		

¹ October through December data for 2007 are provisional.

² Weighted by number of days in each month. 2007 average is provisional.

Table B-3 Monthly Mean Freshwater Flow (m³/sec/day) Estimated for Green Island, New York, 1974 to 2007

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAN	623	540	417	225	744	571	256	148	321	259	133	439	310	262	268	196	383	512
FEB	527	548	885	227	400	335	128	851	356	352	552	319	362	201	349	256	703	496
MAR	587	670	897	987	619	1,077	633	349	613	580	281	581	1,018	605	461	332	994	696
APR	854	724	1,040	1,092	950	1,009	748	384	897	1,062	761	456	689	981	476	548	894	655
MAY	650	566	900	421	530	508	274	328	354	1,036	651	232	363	156	357	620	990	346
JUN	249	367	431	207	282	216	192	169	431	358	275	157	428	175	123	389	250	144
JUL	333	211	432	162	131	131	144	140	182	127	127	133	250	162	131	92	157	112
AUG	180	254	414	154	169	149	130	133	124	155	48	104	350	118	139	61	248	123
SEP	294	482	271	408	175	221	118	233	122	133	58	171	218	341	164	120	159	136
OCT	256	662	658	853	244	313	158	456	124	71	178	206	336	504	211	254	477	216
NOV	486	637	507	663	227	465	242	393	196	224	277	423	544	453	565	407	653	301
DEC	548	532	398	749	303	430	273	319	233	624	447	338	524	437	330	180	687	364
ANNUAL AVERAGE	466	516	604	512	398	452	275	325	329	415	316	296	449	366	298	288	549	342
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Range	Average
JAN	304	550	239	490	736	465	922	426	417	291	168	331	488	624	814	849	133-922	433
FEB	236	276	337	263	503	516	437	473	473	346	423	279	297	391	634	331	128-885	414
MAR	408	453	562	514	461	683	873	584	861	413	540	914	651	456	491	825	281-1,077	637
APR	648	1,749	1,375	257	939	873	652	593	1,069	1,375	693	833	676	1,059	566	1,240	257-1,749	848
MAY	501	375	534	158	1,081	643	349	214	898	341	652	621	526	385	553	496	156-1,081	518
JUN	342	203	233	130	353	180	550	115	573	451	483	413	298	301	909	194	115-909	311
JUL	254	136	248	94	384	153	243	142	314	195	152	188	259	214	670	151	92-670	204
AUG	203	140	265	97	191	126	153	84	393	105	112	332	399	126	257	114	48-414	180
SEP	217	158	190	102	185	127	133	257	228	116	138	257	452	161	187	110	58-482	201
OCT	286	192	177	361	288	133	169	266	264	115	248	533	222	683	569	203 ¹	71-853	320
NOV	531	347	251	693	613	293	190	280	309	163	525	736	350	758	752	408 ¹	163-758	437
DEC	438	403	396	328	989	268	187	298	469	220	406	846	759	639	584	480 ¹	180-989	454
ANNUAL AVERAGE	364	415	401	291	560	372	405	311	522	344	378	524	448	483	582	450 ¹	275-604	413

¹ October through December data for 2007 are provisional.

Table B-4 Average Annual Freshwater Flow (m³/sec/day) Estimated for Green Island, New York, 1947 to 2007

YEAR	FLOW	YEAR	FLOW
1947	457	1978	398
1948	366	1979	452
1949	350	1980	275
1950	398	1981	325
1951	479	1982	329
1952	432	1983	415
1953	395	1984	316
1954	408	1985	296
1955	414	1986	449
1956	393	1987	366
1957	273	1988	298
1958	363	1989	288
1959	401	1990	549
1960	397	1991	342
1961	304	1992	364
1962	299	1993	415
1963	266	1994	401
1964	247	1995	291
1965	219	1996	560
1966	285	1997	372
1967	316	1998	405
1968	353	1999	311
1969	377	2000	522
1970	337	2001	344
1971	420	2002	378
1972	595	2003	524
1973	493	2004	448
1974	466	2005	483
1975	516	2006	582
1976	604	2007 ¹	450
1977	512		

¹ Data for 2007 are provisional.

Table B-5 Mean, Minimum, And Maximum Temperature (°C) for Each Day of the Year, Hudson River near Poughkeepsie, 1951 to 2007¹

MONTH	DAY	LONG-TERM	TEMPERATURE (1951-2006)		2007 ACTUAL TEMPERATURES
		MEAN	MINIMUM	MAXIMUM	
1	1	1.4	0.0	4.4	4.0
1	2	1.4	0.0	4.4	4.0
1	3	1.4	0.0	4.4	3.5
1	4	1.4	0.0	3.5	3.5
1	5	1.3	0.0	3.5	3.5
1	6	1.1	0.0	3.5	4.0
1	7	1.2	0.0	3.3	3.5
1	8	1.1	0.0	3.3	4.0
1	9	1.1	0.0	3.3	3.5
1	10	1.1	0.0	3.0	3.5
1	11	1.0	0.0	3.0	3.5
1	12	1.0	0.0	2.8	4.0
1	13	1.0	0.0	2.8	4.0
1	14	0.9	0.0	2.8	4.0
1	15	1.0	0.0	2.8	4.0
1	16	1.0	0.0	2.8	3.5
1	17	0.9	0.0	2.8	2.5
1	18	0.9	0.0	3.3	2.0
1	19	0.9	0.0	2.8	2.0
1	20	0.8	0.0	2.2	1.5
1	21	0.8	0.0	2.4	1.0
1	22	0.9	0.0	2.2	1.0
1	23	0.9	0.0	3.0	1.0
1	24	0.8	0.0	3.0	1.0
1	25	0.8	0.0	3.5	0.5
1	26	0.8	0.0	3.5	0.0
1	27	0.8	0.0	3.0	0.0
1	28	0.9	0.0	3.0	0.0
1	29	0.8	0.0	2.5	0.0
1	30	0.9	0.0	2.5	0.0
1	31	0.8	0.0	2.5	0.0
2	1	0.9	0.0	2.5	0.0
2	2	0.8	0.0	2.2	0.0
2	3	0.8	0.0	2.2	0.0
2	4	0.8	0.0	2.0	0.0
2	5	0.8	0.0	2.0	0.0
2	6	0.8	0.0	2.5	0.0
2	7	0.8	0.0	2.5	0.0
2	8	0.8	0.0	3.0	0.0
2	9	0.8	0.0	3.0	0.0
2	10	0.9	0.0	3.3	0.0
2	11	0.8	0.0	3.0	0.0
2	12	0.9	0.0	2.5	0.0
2	13	0.9	0.0	2.5	0.0
2	14	1.0	0.0	2.8	0.0
2	15	0.9	0.0	2.8	0.0
2	16	0.9	0.0	2.8	0.0
2	17	1.0	0.0	2.8	0.0
2	18	0.9	0.0	2.8	0.0
2	19	1.0	0.0	2.8	0.0
2	20	1.0	0.0	2.8	0.0
2	21	1.0	0.0	2.8	0.0
2	22	1.1	0.0	3.9	0.0
2	23	1.1	0.0	2.8	0.0
2	24	1.1	0.0	3.9	0.0
2	25	1.0	0.0	2.8	0.0
2	26	1.2	0.0	3.3	0.0
2	27	1.3	0.0	4.4	0.0
2	28	1.3	0.0	5.0	0.0
2	29	1.5	0.0	4.4	
3	1	1.3	0.0	4.4	0.0
3	2	1.3	0.0	4.4	0.5
3	3	1.3	0.0	3.9	0.0
3	4	1.4	0.0	3.5	0.0
3	5	1.4	0.0	3.5	0.0
3	6	1.5	0.0	4.0	0.0
3	7	1.6	0.0	4.7	0.0
3	8	1.6	0.0	4.9	0.0
3	9	1.7	0.0	4.5	0.0
3	10	1.7	0.0	4.8	0.0
3	11	1.8	0.0	4.4	0.0
3	12	1.9	0.0	4.4	0.0

¹ Data from 1951 through 1992 from Poughkeepsie's Water Treatment Facility. Data from 1993 through 2007 from USGS gaging site 01372058 Hudson River below Poughkeepsie, NY.

Table B-5 (Continued)

MONTH	DAY	LONG-TERM	TEMPERATURE (1951-2006)		2007 ACTUAL TEMPERATURES
		MEAN	MINIMUM	MAXIMUM	
3	13	2.0	0.0	4.5	0.5
3	14	2.2	0.0	4.5	0.5
3	15	2.3	0.0	5.0	0.5
3	16	2.4	0.0	5.6	0.0
3	17	2.4	0.0	5.7	0.0
3	18	2.5	0.0	5.9	0.0
3	19	2.6	0.0	7.7	0.0
3	20	2.7	0.0	7.5	0.0
3	21	2.9	0.0	7.3	0.0
3	22	3.0	0.0	7.2	0.5
3	23	3.2	0.0	7.1	1.0
3	24	3.4	0.5	7.1	1.0
3	25	3.5	0.5	6.0	1.0
3	26	3.7	0.5	6.5	2.0
3	27	4.0	0.5	6.7	3.5
3	28	4.2	1.0	7.0	4.0
3	29	4.5	1.1	7.0	4.0
3	30	4.7	1.1	7.8	4.0
3	31	5.0	1.1	8.3	4.5
4	1	5.2	1.7	9.4	4.5
4	2	5.4	2.0	8.5	4.5
4	3	5.6	2.5	10.0	5.0
4	4	5.8	2.5	10.0	5.0
4	5	5.8	2.8	9.5	5.0
4	6	6.0	3.0	9.0	5.0
4	7	6.2	2.8	9.4	5.0
4	8	6.3	2.8	9.4	5.0
4	9	6.4	2.8	9.2	5.5
4	10	6.5	2.8	10.2	5.5
4	11	6.8	2.8	11.2	5.5
4	12	7.0	2.8	11.4	5.5
4	13	7.2	2.8	11.4	5.0
4	14	7.4	2.8	11.4	5.5
4	15	7.6	2.8	11.5	5.0
4	16	7.7	3.3	11.8	5.0
4	17	7.9	3.9	11.7	5.0
4	18	8.2	5.6	11.8	4.5
4	19	8.4	5.6	12.5	5.0
4	20	8.7	6.1	13.5	5.0
4	21	9.1	6.1	13.5	5.5
4	22	9.3	6.7	13.5	6.5
4	23	9.5	6.7	13.5	7.5
4	24	9.7	6.7	14.0	8.5
4	25	9.8	6.7	13.5	9.5
4	26	10.1	6.7	13.5	10.5
4	27	10.3	7.2	13.5	10.5
4	28	10.5	7.8	13.5	11.0
4	29	10.7	8.3	13.9	11.0
4	30	11.0	8.9	13.9	11.5
5	1	11.3	8.9	14.4	11.5
5	2	11.5	8.9	14.4	11.5
5	3	11.7	8.9	14.4	11.0
5	4	11.9	8.9	15.0	11.0
5	5	12.1	8.9	15.0	11.5
5	6	12.3	8.9	15.0	11.5
5	7	12.5	8.9	15.0	11.5
5	8	12.7	8.9	15.1	12.0
5	9	12.8	8.9	15.6	12.5
5	10	13.0	8.9	16.1	13.0
5	11	13.1	9.4	16.1	13.5
5	12	13.3	9.4	16.1	13.5
5	13	13.5	10.0	16.2	14.0
5	14	13.7	10.6	16.7	14.0
5	15	14.0	11.1	17.5	14.5
5	16	14.2	11.1	18.0	15.5
5	17	14.4	11.7	18.0	15.5
5	18	14.6	11.5	17.5	15.5
5	19	14.8	12.0	17.5	15.5
5	20	15.1	12.2	18.0	16.0
5	21	15.3	12.5	18.0	16.5
5	22	15.5	12.8	18.5	16.5
5	23	15.7	12.8	19.0	17.0
5	24	15.8	12.8	19.0	17.5
5	25	16.0	12.8	20.0	17.5
5	26	16.2	12.2	20.5	18.0
5	27	16.5	12.2	20.6	18.0
5	28	16.8	12.2	21.0	18.5

Table B-5 (Continued)

MONTH	DAY	LONG-TERM	TEMPERATURE (1951-2006)		2007 ACTUAL TEMPERATURES
		MEAN	MINIMUM	MAXIMUM	
5	29	17.0	12.8	20.7	18.5
5	30	17.1	12.8	21.5	19.0
5	31	17.2	13.3	21.3	19.5
6	1	17.6	13.3	22.0	19.5
6	2	17.9	13.3	22.2	20.0
6	3	18.1	14.4	22.1	20.5
6	4	18.2	13.9	22.5	20.0
6	5	18.4	15.0	22.2	20.5
6	6	18.5	15.6	22.4	20.5
6	7	18.7	15.0	22.4	21.0
6	8	18.9	16.1	22.5	21.0
6	9	19.2	16.5	23.0	21.5
6	10	19.5	16.5	23.2	21.5
6	11	19.6	17.0	23.4	22.0
6	12	19.8	17.0	23.3	22.0
6	13	20.0	17.0	23.4	
6	14	20.0	17.0	23.3	
6	15	20.2	17.0	23.5	22.0
6	16	20.4	17.5	23.8	22.0
6	17	20.5	17.8	23.8	22.5
6	18	20.7	17.5	24.2	22.5
6	19	20.9	17.8	24.1	23.0
6	20	21.0	17.8	24.0	23.0
6	21	21.2	17.8	24.3	23.0
6	22	21.4	17.2	24.3	23.0
6	23	21.5	17.2	24.1	23.0
6	24	21.7	17.8	24.1	23.0
6	25	21.8	17.8	24.5	23.5
6	26	22.0	17.8	24.5	23.5
6	27	22.2	17.8	25.0	24.0
6	28	22.3	17.8	25.0	24.5
6	29	22.5	17.8	25.0	24.0
6	30	22.6	17.8	25.5	24.0
7	1	22.8	18.9	25.5	24.0
7	2	22.9	18.9	25.5	24.0
7	3	23.0	19.4	25.5	24.0
7	4	23.1	19.4	26.0	24.0
7	5	23.3	20.0	26.0	24.0
7	6	23.4	20.0	26.0	24.0
7	7	23.5	20.0	26.0	24.5
7	8	23.5	20.0	26.0	24.5
7	9	23.7	20.0	26.0	25.0
7	10	23.7	20.6	26.0	25.0
7	11	23.8	20.6	26.0	25.0
7	12	24.0	21.1	26.1	25.0
7	13	24.1	21.7	26.7	25.0
7	14	24.2	21.7	26.7	25.0
7	15	24.4	21.7	26.7	25.5
7	16	24.4	22.2	26.7	25.5
7	17	24.5	22.2	26.5	25.5
7	18	24.5	22.2	26.5	25.5
7	19	24.7	22.2	27.0	25.5
7	20	24.8	22.2	27.0	25.5
7	21	24.9	22.8	27.0	25.5
7	22	24.9	22.2	27.0	25.5
7	23	25.0	22.2	27.0	25.0
7	24	25.0	22.8	27.0	25.0
7	25	25.1	22.8	27.0	25.5
7	26	25.1	22.8	27.5	25.5
7	27	25.3	22.8	27.5	26.0
7	28	25.2	22.8	27.5	26.0
7	29	25.3	22.8	27.5	26.0
7	30	25.3	23.0	27.5	26.0
7	31	25.4	23.0	28.0	26.0
8	1	25.4	23.0	28.0	26.0
8	2	25.4	22.8	28.0	26.5
8	3	25.5	23.3	28.0	26.5
8	4	25.5	23.3	28.0	26.5
8	5	25.5	23.3	28.0	26.5
8	6	25.5	23.3	28.0	26.5
8	7	25.4	23.3	28.0	27.0
8	8	25.4	23.3	28.0	27.0
8	9	25.5	23.3	28.0	27.0
8	10	25.5	23.3	28.0	26.5
8	11	25.5	22.8	28.0	26.5

Table B-5 (Continued)

MONTH	DAY	LONG-TERM	TEMPERATURE (1951-2006)		2007 ACTUAL TEMPERATURES
		MEAN	MINIMUM	MAXIMUM	
8	12	25.4	22.8	28.1	26.5
8	13	25.3	22.2	28.5	26.5
8	14	25.3	22.2	28.5	26.5
8	15	25.2	22.2	28.4	26.5
8	16	25.2	22.2	28.4	26.5
8	17	25.1	22.2	28.1	26.5
8	18	25.1	22.8	28.0	26.0
8	19	25.1	22.2	27.7	26.0
8	20	25.1	22.8	27.6	26.0
8	21	25.0	22.2	27.5	25.5
8	22	24.9	22.2	27.5	25.5
8	23	24.8	22.8	27.0	25.0
8	24	24.8	22.2	27.0	25.0
8	25	24.7	21.7	27.0	25.5
8	26	24.6	21.7	27.0	25.5
8	27	24.6	22.2	26.5	25.5
8	28	24.6	22.2	26.5	25.5
8	29	24.5	22.2	26.7	25.5
8	30	24.5	22.2	26.5	25.5
8	31	24.3	22.2	26.5	25.5
9	1	24.3	22.2	26.5	25.0
9	2	24.2	22.2	26.7	25.0
9	3	24.1	22.2	26.1	25.0
9	4	24.0	22.2	26.0	25.0
9	5	23.9	21.7	26.0	25.0
9	6	23.9	22.0	26.0	25.0
9	7	23.8	21.7	26.0	25.0
9	8	23.7	21.7	26.0	25.0
9	9	23.6	21.7	25.6	25.0
9	10	23.4	21.1	25.6	25.0
9	11	23.3	21.1	25.6	25.0
9	12	23.3	21.1	25.6	24.5
9	13	23.1	20.0	25.6	24.5
9	14	22.9	18.9	25.5	24.5
9	15	22.8	17.8	25.5	24.0
9	16	22.5	17.2	25.5	23.5
9	17	22.4	17.2	25.5	23.5
9	18	22.2	16.7	25.5	23.5
9	19	22.1	16.7	25.5	23.5
9	20	22.0	17.2	25.5	23.5
9	21	21.6	16.7	25.0	23.5
9	22	21.5	16.1	25.0	23.5
9	23	21.2	16.1	25.0	23.0
9	24	21.0	15.6	24.5	23.0
9	25	20.8	15.6	24.5	23.0
9	26	20.7	15.6	24.0	23.0
9	27	20.6	16.1	24.0	23.0
9	28	20.3	15.6	23.5	23.0
9	29	20.1	15.6	23.5	23.0
9	30	19.9	15.6	23.0	23.0
10	1	19.7	16.1	22.5	22.7
10	2	19.5	15.6	22.5	22.5
10	3	19.4	15.6	22.5	22.6
10	4	19.1	15.6	22.5	22.7
10	5	18.9	15.0	22.5	22.7
10	6	18.7	15.0	22.5	22.7
10	7	18.6	15.0	22.5	22.6
10	8	18.3	14.4	21.5	22.6
10	9	18.0	14.4	21.1	22.4
10	10	17.9	14.4	21.1	22.2
10	11	17.7	13.9	21.1	22.0
10	12	17.5	13.3	21.1	21.5
10	13	17.2	13.3	20.0	21.1
10	14	17.0	12.8	21.1	20.7
10	15	16.8	12.2	20.0	20.5
10	16	16.6	12.2	20.0	20.3
10	17	16.4	12.8	20.0	20.2
10	18	16.2	12.2	20.0	20.2
10	19	15.9	11.7	20.0	20.2
10	20	15.7	10.6	19.4	20.0
10	21	15.3	10.6	18.9	19.7
10	22	15.0	10.0	18.9	19.6
10	23	14.8	10.0	18.9	19.6
10	24	14.6	10.0	18.3	19.3
10	25	14.5	10.0	18.3	19.0
10	26	14.2	10.0	17.8	18.6

Table B-5 (Continued)

MONTH	DAY	LONG-TERM	TEMPERATURE (1951-2006)		2007 ACTUAL TEMPERATURES
		MEAN	MINIMUM	MAXIMUM	
10	27	13.9	9.4	17.8	18.2
10	28	13.8	8.9	17.8	17.6
10	29	13.4	8.3	17.8	17.0
10	30	13.2	7.8	16.7	16.6
10	31	13.1	7.2	16.7	16.4
11	1	12.9	7.2	16.7	16.2
11	2	12.6	7.2	16.1	15.7
11	3	12.4	7.2	16.1	15.2
11	4	12.2	7.2	15.6	14.9
11	5	12.0	7.2	15.6	14.7
11	6	11.7	6.7	15.6	14.6
11	7	11.5	6.1	15.0	14.0
11	8	11.3	6.1	15.0	13.7
11	9	11.1	5.6	15.0	13.3
11	10	10.8	5.0	14.4	12.9
11	11	10.5	5.0	13.9	12.5
11	12	10.3	5.0	13.3	12.1
11	13	10.1	5.0	13.3	12.0
11	14	9.9	5.0	13.3	11.9
11	15	9.7	5.0	12.8	11.7
11	16	9.5	5.0	12.8	10.6
11	17	9.2	5.0	12.8	9.7
11	18	9.1	5.0	12.8	9.2
11	19	8.9	5.0	12.2	8.9
11	20	8.6	5.0	11.1	8.6
11	21	8.4	3.9	11.1	8.4
11	22	8.2	3.9	11.1	8.3
11	23	8.0	3.9	11.1	7.6
11	24	7.7	3.9	10.6	7.1
11	25	7.4	3.9	10.6	6.9
11	26	7.2	3.3	10.5	6.8
11	27	7.0	3.3	10.5	6.8
11	28	6.9	3.3	10.5	6.2
11	29	6.7	3.3	10.5	6.0
11	30	6.5	2.8	10.5	5.6
12	1	6.2	2.2	10.5	4.9
12	2	6.0	3.0	10.0	4.5
12	3	5.8	2.2	9.5	4.4
12	4	5.6	1.3	9.5	3.7
12	5	5.4	2.8	9.5	3.5
12	6	5.3	2.6	9.5	3.3
12	7	5.2	2.0	9.5	3.1
12	8	4.8	2.0	9.0	2.9
12	9	4.6	1.7	9.0	2.8
12	10	4.3	1.1	9.0	2.6
12	11	4.1	1.1	8.5	2.5
12	12	3.9	0.6	8.5	2.4
12	13	3.8	0.6	8.5	1.9
12	14	3.6	0.5	8.5	1.8
12	15	3.4	0.5	8.5	1.3
12	16	3.2	0.5	8.0	1.0
12	17	3.1	0.0	8.0	0.4
12	18	2.9	0.0	7.5	0.4
12	19	2.7	0.0	7.5	0.6
12	20	2.6	0.0	7.5	0.5
12	21	2.4	0.0	7.0	
12	22	2.2	0.0	6.5	
12	23	2.1	0.0	6.5	
12	24	2.1	0.0	6.5	
12	25	2.0	0.0	6.0	0.3
12	26	1.8	0.0	6.1	0.2
12	27	1.8	0.0	6.1	0.1
12	28	1.8	0.0	6.1	0.2
12	29	1.7	0.0	6.1	0.3
12	30	1.6	0.0	6.1	0.3
12	31	1.6	0.0	5.0	0.4

Table B-6 Average Annual Water Temperature (°C), Hudson River near Poughkeepsie, 1951 to 2007¹

YEAR	TEMPERATURE	YEAR	TEMPERATURE
1951	11.66	1980	12.72
1952	12.25	1981	12.63
1953	12.87	1982	12.48
1954	11.92	1983	13.01
1955	12.40	1984	13.04
1956	11.92	1985	13.05
1957	13.03	1986	12.69
1958	12.18	1987	12.66
1959	12.90	1988	12.57
1960	11.29	1989	12.09
1961	12.17	1990	12.77
1962	11.63	1991	13.67
1963	11.82	1992	12.10
1964	12.99	1993	12.09
1965	12.51	1994	12.24
1966	12.75	1995	12.47
1967	12.05	1996	11.83
1968	13.10	1997	12.07
1969	12.59	1998	13.66
1970	12.79	1999	13.08
1971	12.31	2000	12.00
1972	11.35	2001	13.24
1973	12.73	2002	12.85
1974	11.61	2003	11.80
1975	12.37	2004	12.37
1976	11.43	2005	12.68
1977	11.97	2006	12.77
1978	12.27	2007	12.97
1979	12.49		

¹ Data from 1951 through 1992 from Poughkeepsie's Water Treatment Facility. Data from 1993 through 2007 from USGS gaging site 01372058 Hudson River below Poughkeepsie, NY.

Table B-7 Weighted Mean Temperature (°C) by Region and Week from 2007 Long River/Fall Juvenile Survey

WEEK BEGINNING MONDAY	REGIONS												
	BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
12MAR07	3.6	3.1	2.6	2.2	1.9	1.3	0.7	.	.	.	.	.	.
19MAR07	2.2	2.0	2.1	1.2	1.4	1.2	1.3	.	.	.	.	.	.
26MAR07	4.4	3.9	3.3	3.9	3.8	3.9	3.6	.	.	.	.	.	.
02APR07	5.4	5.6	5.7	5.7	5.2	5.2	5.3	5.2	5.3	5.5	5.2	5.1	3.9
09APR07	5.9	5.9	6.1	6.4	6.2	5.9	6.2	5.5	5.0	4.8	4.1	3.3	3.2
16APR07	6.5	6.5	6.0	5.4	5.3	4.8	4.2	4.1	4.3	4.2	4.0	4.3	4.5
23APR07	7.9	8.5	8.4	7.7	7.7	7.9	7.8	8.6	9.4	9.8	9.6	9.2	9.1
30APR07	9.2	9.4	10.3	10.7	11.4	11.5	11.7	11.5	10.8	10.2	10.1	9.7	9.6
07MAY07	12.1	13.2	14.2	15.1	13.8	12.5	12.2	12.0	12.0	12.3	12.3	12.0	11.5
14MAY07	13.3	14.3	15.4	16.0	15.2	14.5	14.4	14.8	15.8	16.0	16.3	16.8	16.5
21MAY07	15.7	16.3	17.1	17.4	16.5	16.8	17.0	16.7	16.8	16.4	16.1	15.6	15.3
28MAY07	17.7	18.9	19.2	19.7	19.5	18.8	19.3	19.1	20.2	19.5	19.6	19.8	20.8
04JUN07	18.4	19.5	20.1	20.9	21.3	20.2	20.5	20.6	21.2	21.2	21.1	22.0	22.4
11JUN07	19.1	20.0	20.9	21.6	22.5	21.9	21.9	22.1	22.4	22.2	22.7	22.7	22.0
18JUN07	21.0	22.2	23.3	24.1	24.1	22.5	22.5	22.7	23.1	23.3	23.7	23.8	24.1
25JUN07	20.3	21.7	23.7	24.8	24.4	23.6	23.5	23.9	24.3	23.7	23.7	23.8	24.0
02JUL07	21.5	22.7	23.4	23.6	24.2	23.6	23.7	23.8	24.1	23.8	23.6	23.8	24.1
09JUL07	20.9	23.8	25.2	26.3	25.9	25.0	25.0	25.3	.	.	.	.	.
16JUL07	23.2	24.3	25.2	25.8	26.8	25.4	25.3	25.3	25.5	25.7	25.7	25.8	25.7
23JUL07	22.2	23.0	24.3	25.8	25.6	25.3	25.2	25.4	.	.	.	.	.
30JUL07	25.4	25.8	26.3	28.2	27.5	26.6	26.2	26.0	26.3	25.8	25.9	25.9	26.1
06AUG07	24.6	26.2	27.3	28.5	28.3	27.2	27.0	27.2	.	.	.	.	.
13AUG07	24.9	25.6	26.3	26.8	27.1	26.3	25.9	26.2	26.3	26.2	26.2	26.6	26.2
20AUG07	22.7	23.9	24.7	26.0	25.9	25.7	25.0	25.2	.	.	.	.	.
27AUG07	23.2	24.0	25.0	25.6	26.0	25.5	25.5	25.2	25.0	24.5	24.3	24.3	24.1
03SEP07	23.3	24.1	24.7	26.0	25.9	25.3	25.0	25.1	.	.	.	.	.
10SEP07	23.7	24.2	24.5	25.2	26.7	25.6	25.1	24.7	24.1	23.9	23.4	23.4	23.2
17SEP07	21.6	22.2	22.4	23.5	24.1	23.5	23.0	23.4	.	.	.	.	.
24SEP07	21.8	22.3	23.0	23.8	24.1	23.5	23.4	23.1	22.3	21.6	21.3	21.2	21.0
01OCT07	21.2	21.7	21.9	22.8	23.6	22.5	22.3	22.6	.	.	.	.	.
08OCT07	21.5	21.7	22.0	23.1	23.7	23.2	22.6	22.1	21.4	21.6	21.3	21.4	21.1
22OCT07	18.5	19.5	20.1	20.4	21.0	20.1	19.6	19.3	18.3	17.5	16.8	16.4	16.6
05NOV07	13.5	13.7	14.0	14.5	15.1	14.2	14.5	14.6	13.6	12.4	11.7	11.1	10.2
19NOV07	.	.	.	.	10.2	.	.	.	.	.	.	.	.
26NOV07	9.8	9.8	9.7	10.5	10.2	7.6	6.9	6.6	5.1	4.2	4.4	4.2	4.1

Note: Dots (.) indicate no sampling.

Table B-8 Average Annual Temperature (°C) from Long River/Fall Juvenile Surveys,
1974 to 2007

YEAR	TEMPERATURE
1974	21.54
1975	22.10
1976	20.04
1977	20.79
1978	20.16
1979	21.53
1980	21.23
1981	20.96
1982	19.16
1983	19.14
1984	19.22
1985	21.69
1986	21.28
1987	21.41
1988	21.80
1989	20.65
1990	20.97
1991	23.59
1992	21.06
1993	21.01
1994	21.93
1995	21.78
1996	20.18
1997	20.96
1998	22.26
1999	23.17
2000	20.43
2001	21.43
2002	22.07
2003	21.09
2004	21.94
2005	22.14
2006	21.08
2007	21.69

Table B-9 Mean Temperature (°C) by Region and Week from 2007 Beach Seine Survey

WEEK BEGINNING MONDAY	REGIONS											
	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
11JUN07	23.4	23.2	22.6	25.3	22.5	22.6	23.0	22.7	22.8	23.1	23.2	23.6
25JUN07	24.0	23.4	25.8	26.6	24.4	25.0	25.4	25.5	25.3	24.8	25.9	24.9
09JUL07	25.0	26.4	27.1	28.9	24.4	24.6	25.9	25.6	25.6	25.1	27.3	25.9
23JUL07	24.9	25.4	26.6	28.7	26.8	26.6	25.8	24.7	24.1	25.6	25.0	23.5
06AUG07	26.4	27.3	28.0	30.4	27.6	27.8	27.3	26.5	26.8	27.7	28.3	27.9
20AUG07	23.8	23.8	24.4	25.4	24.2	23.6	24.7	23.8	23.7	23.5	23.5	22.8
03SEP07	24.2	24.9	26.2	27.5	25.4	25.1	24.8	24.0	24.2	24.9	24.0	22.9
17SEP07	21.6	22.1	22.6	24.8	23.7	23.8	23.6	21.8	21.1	22.0	21.9	19.7
01OCT07	21.6	21.8	22.8	23.9	22.5	22.3	21.9	21.0	21.2	21.0	20.9	20.9
15OCT07	18.9	18.9	18.8	21.4	19.6	18.5	19.4	18.9	18.4	18.3	17.6	16.7

Note: Dots (.) indicate missing values.

Table B-10 Average Annual Temperature (°C) from Beach Seine Surveys, 1974 to 2007

YEAR	TEMPERATURE
1974	21.34
1975	21.59
1976	22.21
1977	22.85
1978	23.71
1979	23.05
1980	24.29
1981	21.91
1982	22.73
1983	24.53
1984	23.17
1985	23.38
1986	22.02
1987	23.03
1988	23.16
1989	24.15
1990	24.34
1991	23.63
1992	22.07
1993	23.48
1994	22.39
1995	23.85
1996	24.42
1997	22.41
1998	24.20
1999	23.42
2000	22.32
2001	24.89
2002	24.52
2003	23.69
2004	22.60
2005	25.69
2006	23.27
2007	23.74

Table B-11 Weighted Mean Salinity (ppt) by Region and Week from 2007 Long River/Fall Juvenile Survey

WEEK BEGINNING MONDAY	REGIONS												
	BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
12MAR07	16.3	9.7	6.8	5.6	3.0	0.2	0.1	.	.	.	.	.	.
19MAR07	9.3	3.9	1.3	0.1	0.1	0.1	0.1	.	.	.	.	.	.
26MAR07	12.2	3.1	0.1	0.1	0.1	0.1	0.1	.	.	.	.	.	.
02APR07	12.2	6.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
09APR07	16.5	10.8	6.7	3.0	3.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16APR07	15.7	6.4	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
23APR07	9.6	2.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30APR07	13.5	8.1	2.6	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
07MAY07	13.1	6.2	2.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
14MAY07	17.3	10.4	4.5	1.8	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21MAY07	14.8	7.8	2.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
28MAY07	17.8	11.8	8.3	5.5	4.1	1.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1
04JUN07	16.2	11.6	8.9	5.7	3.8	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11JUN07	18.4	12.6	8.6	5.4	3.1	1.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
18JUN07	16.3	9.9	5.7	3.6	2.4	0.7	0.2	0.1	0.1	0.1	0.1	0.1	0.1
25JUN07	19.3	15.8	10.5	6.6	4.5	2.0	1.1	0.1	0.1	0.1	0.1	0.1	0.1
02JUL07	15.9	11.9	9.4	7.6	6.1	3.2	0.9	0.1	0.1	0.1	0.1	0.1	0.1
09JUL07	22.1	13.1	8.0	5.8	4.2	2.6	1.6	0.3	.	.	.	.	.
16JUL07	17.2	12.2	8.8	6.4	5.0	2.1	0.7	0.1	0.1	0.1	0.2	0.2	0.1
23JUL07	21.8	15.9	10.8	7.7	6.2	4.0	2.5	0.2	.	.	.	.	.
30JUL07	17.6	14.4	11.0	6.8	5.3	3.0	2.3	0.4	0.2	0.2	0.2	0.2	0.2
06AUG07	23.4	14.5	9.4	6.7	5.1	3.1	2.3	0.7	.	.	.	.	.
13AUG07	18.4	12.4	8.8	7.0	5.9	2.9	1.3	0.3	0.2	0.2	0.2	0.2	0.2
20AUG07	21.8	15.1	10.7	6.8	5.2	3.4	2.0	0.5	.	.	.	.	.
27AUG07	18.7	14.4	10.5	8.9	7.7	5.5	3.4	0.6	0.2	0.2	0.2	0.2	0.2
03SEP07	22.1	14.4	9.9	7.6	6.1	4.1	3.1	1.1	.	.	.	.	.
10SEP07	18.1	13.5	10.2	8.1	6.8	4.6	2.7	0.7	0.2	0.2	0.2	0.2	0.2
17SEP07	20.0	13.8	9.8	7.1	5.8	3.3	2.1	0.8	.	.	.	.	.
24SEP07	21.8	16.5	11.9	9.8	8.1	6.2	4.1	0.9	0.2	0.2	0.2	0.2	0.1
01OCT07	21.5	14.3	10.1	8.4	6.2	3.9	3.0	1.4	.	.	.	.	.
08OCT07	21.0	17.6	12.2	8.4	7.2	5.5	3.6	1.0	0.2	0.2	0.2	0.2	0.2
22OCT07	21.0	12.5	9.3	7.5	6.4	3.5	1.9	0.6	0.2	0.2	0.2	0.2	0.2
05NOV07	20.3	10.8	5.6	4.1	2.9	0.7	0.2	0.2	0.2	0.2	0.2	0.1	0.1
19NOV07	.	.	.	.	0.6	.	.	.	.	.	.	.	.
26NOV07	18.7	11.2	3.5	1.3	0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Note: Dots (.) indicate no sampling.

Table B-12 Mean Salinity (ppt) by Region and Week from 2007 Beach Seine Survey

WEEK BEGINNING MONDAY	REGIONS											
	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
11JUN07	7.8	5.3	3.4	2.0	.	.	.	0.2	0.2	0.2	0.1	0.1
25JUN07	5.9	4.2	3.2	2.7	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1
09JUL07	10.1	7.8	5.8	4.9	1.3	0.7	0.2	0.1	0.2	0.2	0.2	0.2
23JUL07	7.7	5.9	4.9	5.3	1.2	0.5	0.1	0.2	0.2	0.2	0.1	0.1
06AUG07	10.7	8.6	6.9	5.2	2.3	1.5	0.5	0.2	0.2	0.2	0.2	0.2
20AUG07	9.2	7.6	5.5	3.6	1.5	0.8	0.2	0.2	0.2	0.2	0.2	0.1
03SEP07	11.2	8.7	7.3	6.2	3.0	2.1	0.8	0.2	0.2	0.2	0.1	0.1
17SEP07	10.0	7.5	6.1	4.4	2.4	1.2	0.4	0.2	0.2	0.2	0.2	0.2
01OCT07	11.3	9.5	7.9	6.0	2.9	2.4	0.4	0.2	0.2	0.2	0.2	0.2
15OCT07	10.6	8.5	7.0	5.5	2.3	1.6	0.4	0.2	0.2	0.2	0.1	0.1

Note: Dots (.) indicate missing values.

Table B-13 Weighted Mean Dissolved Oxygen (mg/L) by Region and Week from 2007 Long River/Fall Juvenile Survey

WEEK BEGINNING	REGIONS												
MONDAY	BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
12MAR07	10.7	12.1	11.7	11.9	12.1	13.5	14.0	.	.	.	.	.	.
19MAR07	11.0	11.8	11.8	12.2	11.9	11.9	12.1	.	.	.	.	.	.
26MAR07	10.7	11.7	12.7	11.8	11.9	11.6	12.0	.	.	.	.	.	.
02APR07	9.6	10.4	11.9	12.1	12.2	12.3	12.9	12.9	12.7	13.0	12.5	12.6	13.1
09APR07	9.6	10.3	10.8	11.2	11.8	11.7	11.5	12.0	12.3	12.3	12.4	13.0	13.0
16APR07	9.7	10.9	11.8	12.1	12.2	12.0	12.1	11.2	11.2	11.6	12.2	12.9	12.9
23APR07	10.7	11.7	11.7	11.8	11.2	10.5	10.7	10.9	11.4	11.5	11.5	11.8	12.4
30APR07	9.4	9.9	10.3	10.8	10.4	9.5	9.9	10.5	10.5	10.0	10.2	10.1	10.2
07MAY07	8.1	8.8	9.1	9.5	9.1	9.8	10.4	10.4	10.0	9.1	8.8	9.3	10.0
14MAY07	7.7	8.2	8.8	9.3	9.9	9.6	9.9	10.1	9.8	9.1	8.6	8.2	8.2
21MAY07	6.8	7.4	8.4	8.9	9.1	8.8	8.7	8.2	8.4	8.1	8.1	8.2	8.5
28MAY07	6.8	7.1	7.4	7.6	7.5	8.2	8.8	8.9	9.0	9.1	9.2	8.7	8.2
04JUN07	6.9	7.4	7.4	7.5	7.5	8.2	8.9	8.5	8.0	7.5	7.6	7.4	7.4
11JUN07	5.3	5.4	5.9	6.5	6.4	6.7	7.6	7.9	8.1	8.1	8.3	8.4	8.0
18JUN07	4.9	6.2	7.4	7.0	6.6	7.0	7.4	8.7	8.4	7.3	7.4	7.9	7.7
25JUN07	6.4	6.4	6.6	6.7	6.8	6.2	6.3	6.3	6.5	6.5	6.6	7.1	6.7
02JUL07	5.3	5.6	5.9	5.8	7.4	8.1	8.6	8.5	7.5	6.2	6.4	7.3	6.6
09JUL07	4.6	5.3	6.0	5.5	5.6	5.6	5.8	6.0	.	.	.	.	.
16JUL07	5.1	5.6	5.9	6.3	6.1	6.4	6.8	6.6	6.7	6.7	6.4	6.9	7.9
23JUL07	5.3	6.0	6.4	6.4	5.4	5.6	6.0	6.6	.	.	.	.	.
30JUL07	4.9	5.5	6.3	6.2	5.9	6.1	6.1	6.5	7.0	7.5	7.5	7.7	7.6
06AUG07	4.3	5.1	6.7	6.6	6.8	6.9	7.2	7.6	.	.	.	.	.
13AUG07	4.3	5.5	6.2	6.2	5.9	5.8	6.3	6.3	6.9	7.2	7.5	7.3	7.5
20AUG07	4.6	4.8	5.3	5.7	5.7	5.9	6.4	6.7	.	.	.	.	.
27AUG07	5.8	6.1	6.7	6.0	5.5	5.7	6.2	6.7	7.5	7.4	7.8	7.4	7.4
03SEP07	4.4	4.9	6.0	5.9	5.6	5.5	5.7	8.0	.	.	.	.	.
10SEP07	4.8	5.3	6.4	6.3	5.3	5.6	6.0	5.9	6.4	7.5	8.0	7.5	7.4
17SEP07	4.8	5.3	6.1	6.0	6.9	7.2	7.8	7.7	.	.	.	.	.
24SEP07	4.7	5.2	6.2	6.2	5.4	5.6	6.2	6.4	7.2	7.7	8.6	8.9	8.3
01OCT07	4.2	4.7	5.5	5.6	5.4	6.0	6.4	6.4	.	.	.	.	.
08OCT07	5.3	5.0	5.9	6.1	5.2	5.2	6.0	6.3	6.9	8.7	8.7	8.2	7.8
22OCT07	4.9	6.2	6.6	7.0	7.0	7.5	7.9	7.8	8.0	8.5	8.5	8.5	8.8
05NOV07	6.3	7.6	8.7	9.2	8.7	9.1	9.1	8.9	8.8	9.7	10.3	10.3	10.8
19NOV07	.	.	.	.	10.4	.	.	.	.	.	.	.	.
26NOV07	7.2	8.7	10.1	10.1	10.3	10.8	10.6	10.7	10.9	11.0	12.2	12.7	12.2

Note: Dots (.) indicate no sampling.

Table B-14 Average Annual Dissolved Oxygen (mg/l) from Long River/Fall Juvenile Surveys, 1974 to 2007

YEAR	DISSOLVED OXYGEN
1974	7.26
1975	7.69
1976	8.37
1977	7.66
1978	7.86
1979	8.02
1980	7.77
1981	7.82
1982	7.99
1983	8.29
1984	8.64
1985	8.14
1986	8.19
1987	7.79
1988	7.58
1989	7.58
1990	7.77
1991	7.10
1992	7.67
1993	7.59
1994	7.95
1995	7.90
1996	7.95
1997	7.91
1998	7.61
1999	7.56
2000	7.97
2001	7.54
2002	7.51
2003	7.51
2004	7.12
2005	7.04
2006	7.13
2007	7.21

Table B-15 Mean Dissolved Oxygen (mg/L) by Region and Week from 2007 Beach Seine Survey

WEEK BEGINNING MONDAY	REGIONS											
	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
11JUN07	6.8	7.5	7.5	7.8	.	.	.	7.5	7.5	8.0	8.7	8.6
25JUN07	7.4	7.3	7.3	6.9	7.6	6.6	6.8	6.6	6.6	6.8	7.5	6.9
09JUL07	6.1	6.6	7.2	6.7	8.0	7.7	7.6	7.1	6.9	6.9	7.8	7.7
23JUL07	6.1	6.9	7.0	5.8	6.2	7.1	7.3	6.0	6.3	6.3	7.2	7.5
06AUG07	4.8	6.0	6.6	6.2	5.7	5.6	6.5	5.9	6.4	6.9	6.6	5.9
20AUG07	5.7	5.9	5.8	5.5	5.8	5.4	5.5	6.1	6.3	6.5	7.0	6.0
03SEP07	5.7	6.2	6.1	6.5	6.2	6.4	6.4	6.8	7.1	7.2	6.9	6.9
17SEP07	6.5	7.0	7.0	6.9	7.1	7.1	6.2	6.1	7.1	7.2	7.6	7.5
01OCT07	5.8	6.3	6.6	6.8	6.9	7.0	6.5	7.4	7.7	8.0	7.9	7.2
15OCT07	6.4	6.9	7.2	6.7	7.5	7.4	6.8	6.9	7.5	7.5	7.9	8.1

Note: Dots (.) indicate missing values.

Table B-16 Average Annual Dissolved Oxygen (mg/l) from Beach Seine Surveys, 1974 to 2007

YEAR	DISSOLVED OXYGEN
1974	8.71
1975	7.82
1976	7.89
1977	7.35
1978	7.29
1979	8.61
1980	8.08
1981	8.34
1982	7.85
1983	7.14
1984	8.42
1985	7.98
1986	8.28
1987	8.63
1988	7.95
1989	7.60
1990	7.90
1991	8.82
1992	8.56
1993	7.39
1994	8.33
1995	7.67
1996	6.93
1997	8.44
1998	7.42
1999	7.62
2000	7.38
2001	7.37
2002	6.76
2003	7.09
2004	7.20
2005	6.44
2006	7.26
2007	6.46

Table B-17 Weighted Mean Percent Oxygen Saturation by Region and Week from 2007 Long River/Fall Juvenile Survey

WEEK BEGINNING MONDAY	REGIONS												
	BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
12MAR07	90.6	96.7	90.8	90.2	89.0	95.6	97.9	.	.	.	.	.	.
19MAR07	85.5	87.8	85.9	86.2	84.5	84.3	85.9	.	.	.	.	.	.
26MAR07	89.5	90.9	95.0	90.2	90.4	88.5	90.9	.	.	.	.	.	.
02APR07	83.0	87.1	95.4	96.9	95.8	97.0	101.6	101.6	100.6	102.8	98.6	99.2	100.2
09APR07	86.3	89.4	91.4	93.0	97.6	93.8	92.6	95.0	96.7	96.0	94.9	97.2	97.2
16APR07	88.8	92.9	95.6	95.9	96.4	93.4	93.2	85.8	86.0	88.8	92.9	99.2	99.9
23APR07	96.0	101.9	99.4	98.8	94.2	88.5	89.9	93.2	99.3	101.1	101.1	102.8	107.6
30APR07	89.5	91.1	93.8	97.2	94.9	87.1	91.1	96.3	94.5	89.1	90.2	89.1	89.7
07MAY07	82.6	87.2	90.0	94.8	87.9	92.0	97.2	96.9	93.3	84.7	82.3	86.6	92.0
14MAY07	82.7	85.8	90.9	95.8	99.2	93.8	97.2	100.0	99.1	92.0	87.7	84.7	83.4
21MAY07	75.5	79.8	88.2	92.8	93.2	90.7	90.2	84.7	86.6	83.2	81.9	82.1	85.0
28MAY07	80.1	82.8	84.6	86.6	83.7	88.9	95.5	96.2	99.8	98.9	100.4	94.9	91.9
04JUN07	82.0	86.8	86.9	87.5	87.0	91.0	98.4	94.3	89.9	84.3	85.5	84.4	85.6
11JUN07	64.6	65.0	69.5	76.3	75.0	77.4	87.2	90.4	92.8	92.9	95.8	97.5	91.2
18JUN07	61.6	75.7	89.9	85.1	80.0	81.3	85.1	100.8	97.6	85.4	87.8	92.9	91.1
25JUN07	80.8	81.2	83.3	84.1	84.1	74.5	75.1	74.5	78.2	76.5	77.7	83.9	79.7
02JUL07	66.5	70.4	73.1	72.0	91.8	97.3	102.4	100.7	89.2	72.9	75.3	86.3	78.1
09JUL07	59.6	67.7	76.5	71.1	70.2	69.2	70.8	73.0	.	.	.	.	.
16JUL07	66.1	72.3	76.2	80.8	79.0	78.4	83.5	80.1	81.6	82.4	78.9	84.9	96.3
23JUL07	69.7	77.4	81.5	82.1	68.0	70.2	73.8	81.0	.	.	.	.	.
30JUL07	67.4	74.3	83.6	82.7	77.5	77.6	76.7	79.9	86.6	91.9	92.2	95.2	94.0
06AUG07	60.0	69.6	90.0	88.8	90.4	87.9	92.0	95.4	.	.	.	.	.
13AUG07	58.9	72.5	80.9	80.3	76.4	73.0	78.6	78.0	85.6	88.5	93.2	91.4	92.7
20AUG07	60.6	62.6	68.2	73.0	72.7	74.3	78.0	81.0	.	.	.	.	.
27AUG07	77.2	79.2	86.0	77.4	71.7	71.5	77.7	81.1	90.8	89.0	93.0	88.1	87.7
03SEP07	60.0	63.9	77.1	76.2	72.0	68.5	70.9	97.7	.	.	.	.	.
10SEP07	63.2	69.3	81.7	81.0	69.2	70.6	73.6	70.7	75.8	88.8	94.0	88.0	86.5
17SEP07	62.5	66.7	74.3	73.6	84.8	86.5	92.5	90.6	.	.	.	.	.
24SEP07	62.0	66.2	78.0	77.7	67.4	68.9	74.8	75.2	82.5	87.2	96.5	100.0	93.4
01OCT07	54.5	58.3	67.3	68.5	66.1	70.6	75.4	74.8	.	.	.	.	.
08OCT07	69.4	64.1	72.9	74.8	64.0	63.4	71.2	72.9	78.3	98.5	98.4	92.9	88.1
22OCT07	60.6	73.9	77.4	81.1	82.2	84.6	86.6	84.5	84.9	88.6	87.8	87.3	90.7
05NOV07	69.8	78.6	88.1	93.2	87.9	88.8	89.7	87.6	84.3	90.9	94.8	94.0	96.4
19NOV07	.	.	.	.	93.1	.	.	.	.	.	.	.	.
26NOV07	72.9	83.1	91.6	91.4	92.0	90.3	87.5	87.4	85.6	84.6	94.0	97.5	93.9

Note: Dots (.) indicate no sampling.

Table B-18 Mean Percent Oxygen Saturation by Region and Week from 2007 Beach Seine Survey

WEEK BEGINNING MONDAY	REGIONS											
	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
11JUN07	84.3	90.1	89.1	95.3	.	.	.	87.3	87.2	93.9	102.3	101.4
25JUN07	90.7	87.7	91.8	87.7	91.2	79.3	82.9	80.3	79.6	81.7	91.7	83.3
09JUL07	78.7	85.9	93.1	89.6	96.8	92.6	93.9	87.2	84.8	83.7	98.1	94.2
23JUL07	77.2	87.0	90.3	77.1	77.3	89.1	89.4	72.2	75.3	77.0	86.5	87.9
06AUG07	63.6	79.5	87.6	85.3	73.7	72.1	82.8	72.8	80.0	87.9	85.2	74.9
20AUG07	71.2	72.5	72.0	68.1	70.2	63.5	66.4	71.8	74.5	76.8	82.2	69.6
03SEP07	73.6	78.8	78.7	84.9	76.4	79.0	78.0	80.8	84.1	87.3	81.9	80.5
17SEP07	79.2	84.5	83.4	85.4	85.4	84.8	73.4	69.1	79.6	82.7	86.9	82.3
01OCT07	71.3	75.9	80.8	83.5	81.5	81.3	73.8	83.3	87.0	89.4	88.6	80.9
15OCT07	73.9	79.0	81.2	78.7	83.1	79.3	73.6	74.6	80.0	79.4	82.9	83.0

Note: Dots (.) indicate missing values.

Table B-19 Weighted Mean Conductivity (mS/cm @ 25°C) by Region and Week from 2007 Long River/Fall Juvenile Survey

WEEK BEGINNING MONDAY	REGIONS												
	BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
12MAR07	26.4	16.2	11.6	9.6	5.3	0.4	0.2	.	.	.	.	.	.
19MAR07	15.6	6.8	2.2	0.3	0.3	0.3	0.2	.	.	.	.	.	.
26MAR07	19.9	5.2	0.2	0.2	0.2	0.2	0.2	.	.	.	.	.	.
02APR07	20.3	11.2	1.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
09APR07	26.8	18.0	11.2	5.2	6.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
16APR07	25.9	11.1	1.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
23APR07	15.7	4.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
30APR07	22.2	13.6	4.5	0.7	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
07MAY07	21.7	10.6	4.7	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
14MAY07	28.2	17.5	7.8	3.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
21MAY07	24.3	13.2	3.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
28MAY07	28.9	19.8	14.2	9.5	7.1	2.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
04JUN07	26.5	19.4	15.1	9.9	6.6	1.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3
11JUN07	29.9	21.2	14.7	9.3	5.4	1.9	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18JUN07	26.8	16.7	9.9	6.2	4.2	1.2	0.3	0.2	0.2	0.2	0.3	0.3	0.3
25JUN07	31.2	26.0	17.6	11.3	7.9	3.6	1.9	0.2	0.2	0.2	0.3	0.3	0.3
02JUL07	26.2	20.0	16.0	13.0	10.6	5.7	1.7	0.3	0.2	0.3	0.3	0.3	0.3
09JUL07	35.4	21.8	13.7	10.0	7.3	4.6	2.9	0.6	.	.	.	.	.
16JUL07	28.2	20.5	15.1	11.1	8.7	3.7	1.1	0.3	0.3	0.3	0.3	0.3	0.3
23JUL07	34.9	26.0	18.1	13.2	10.7	7.1	4.5	0.4	.	.	.	.	.
30JUL07	28.8	23.9	18.7	11.7	9.3	5.3	4.0	0.7	0.3	0.3	0.3	0.3	0.3
06AUG07	37.2	24.1	16.0	11.6	8.9	5.4	4.0	1.2	.	.	.	.	.
13AUG07	30.0	20.8	15.1	12.0	10.2	5.1	2.2	0.4	0.3	0.3	0.3	0.3	0.3
20AUG07	34.8	24.9	18.1	11.7	9.0	6.0	3.5	0.9	.	.	.	.	.
27AUG07	30.5	23.9	17.7	15.1	13.3	9.6	5.9	1.0	0.3	0.3	0.3	0.3	0.3
03SEP07	35.3	23.9	16.8	13.0	10.6	7.1	5.4	1.9	.	.	.	.	.
10SEP07	29.5	22.5	17.3	13.8	11.7	8.0	4.8	1.3	0.3	0.3	0.3	0.3	0.3
17SEP07	32.4	23.0	16.5	12.2	10.0	5.8	3.7	1.3	.	.	.	.	.
24SEP07	35.0	27.1	20.0	16.7	13.9	10.7	7.1	1.6	0.3	0.3	0.3	0.3	0.3
01OCT07	34.6	23.7	17.1	14.4	10.8	6.8	5.3	2.4	.	.	.	.	.
08OCT07	33.8	28.9	20.4	14.4	12.5	9.5	6.3	1.7	0.3	0.3	0.3	0.3	0.3
22OCT07	33.8	20.9	15.8	13.0	11.1	6.1	3.3	1.1	0.3	0.3	0.3	0.3	0.3
05NOV07	32.7	18.1	9.7	7.1	5.1	1.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2
19NOV07	.	.	.	.	0.9	.	.	.	.	.	.	.	.
26NOV07	30.4	18.8	6.0	2.3	1.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2

Note: Dots (.) indicate no sampling.

Table B-20 Mean Conductivity (mS/cm @ 25°C) by Region and Week from 2007 Beach Seine Survey

WEEK BEGINNING MONDAY	REGIONS											
	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
11JUN07	13.4	9.1	5.9	3.4	.	.	.	0.3	0.4	0.3	0.3	0.3
25JUN07	10.2	7.3	5.6	4.7	1.1	0.4	0.2	0.2	0.2	0.3	0.3	0.2
09JUL07	17.2	13.3	10.0	8.5	2.3	1.3	0.3	0.3	0.3	0.3	0.3	0.3
23JUL07	13.2	10.2	8.6	9.2	2.1	0.8	0.3	0.3	0.3	0.3	0.3	0.3
06AUG07	18.1	14.7	11.8	9.0	4.1	2.7	0.8	0.3	0.3	0.3	0.3	0.3
20AUG07	15.7	13.0	9.5	6.4	2.6	1.4	0.3	0.3	0.3	0.3	0.3	0.3
03SEP07	18.9	14.8	12.6	10.7	5.3	3.7	1.5	0.3	0.3	0.3	0.3	0.3
17SEP07	17.0	12.9	10.5	7.7	4.2	2.1	0.7	0.3	0.3	0.3	0.3	0.3
01OCT07	19.0	16.2	13.6	10.5	5.1	4.1	0.7	0.3	0.3	0.3	0.3	0.3
15OCT07	17.9	14.6	12.0	9.5	4.0	2.8	0.7	0.3	0.3	0.3	0.3	0.3

Note: Dots (.) indicate missing values.

Appendix C

**Numbers of Fish Collected in the
Long River (1988-2007),
Fall Juvenile (1985-2007), and
Beach Seine (1985-2007) Surveys**

APPENDIX C

LIST OF TABLES

<u>Number</u>	<u>Title</u>
C-1	Total number of fish collected in the Long River Survey, 1988-2007
C-2	Total number of fish collected in the Fall Juvenile Survey, 1985-2007
C-3	Total number of fish collected in the Beach Seine Survey, 1985-2007

Table C-1 Total Number of Fish Collected in the Long River Survey, 1988-2007

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Anadromous																		
Alewife	8,200	624	60	2,727	555	1,275	1,679	293	1,787	171	235	10,231	320	5,284	183	537	641	5,479
Alosa spp.	258,802	423,742	714,369	250,755	465,613	191,558	206,819	122,644	460,957	58,794	128,111	124,710	391,708	180,190	145,643	141,877	126,035	103,618
American shad	51,162	62,755	49,242	25,128	30,345	15,867	31,213	12,120	23,378	6,744	8,887	12,185	11,567	14,048	6,732	15,676	4,711	7,126
Atlantic sturgeon	11	2	5	26	4	.	7	1	1	3	2	.	.	1	10	3	4	.
Atlantic tomcod	25,414	37,397	38,431	40,804	10,558	21,343	20,724	64,680	17,375	71,070	91,679	13,625	10,337	57,412	7,556	20,724	92,099	55,146
Blueback herring	4,992	2,568	1,230	28,397	30,496	3,290	9,315	1,412	18,354	2,358	246	4,367	1,907	1,100	578	8,760	801	1,977
Hickory shad	.	.	.	.	.	.	.	1	4	5	.	.	.	.	.	.	.	.
Rainbow smelt	24,693	767	6,838	2,494	23,035	12,002	59,829	2,354	.	.	4	.	1	1	.	.	.	.
Sea lamprey	.	.	.	.	.	.	.	.	.	1	4	.	.	.	.	.	.	.
Striped bass	61,072	225,498	264,907	359,994	462,382	459,384	674,881	383,781	962,335	272,329	443,766	790,358	1,376,173	1,192,084	151,199	732,410	416,917	387,265
Catadromous																		
American eel	789	917	848	1,372	827	1,505	921	1,388	1,230	527	519	294	468	708	262	476	365	513
Estuarine																		
Atlantic silverside	152	11	67	49	27	19	144	323	52	4	12	29	98	35	35	54	188	50
Banded killifish	5	2,274	1	.	5	3	4	24	2	.	2	2	.	1	.	.	.	13
Fat sleeper	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
Fourspine stickleback	6	1	1	2	1	7	5	.	7	1	.	1	.	.	.	.	1	1
Hogchoker	301,192	589,469	13,591	908,378	44,337	87,673	159,013	130,281	51,986	22,814	36,279	23,050	24,894	13,417	28,225	17,313	36,061	24,267
Inland silverside	98	101	.	58	42	209	857	149	166	40	9	69	12	57	97	51	338	169
Lined sea horse	11	.	1	9	.	.	.	2	.	1	3	1	1	.	.	.	.	.
Mummichog	1	.	.	.	.	.	2	6	.	.	.	1	2	.	20	4	2	1
Northern pipefish	1,135	153	102	2,059	137	416	186	277	291	170	120	427	82	186	226	64	130	238
Shortnose sturgeon	3	.	2	3	3	14	8	7	38	2	5	1	4	13	1	4	4	1
Threespine stickleback	2	.	1	.	.	2	.	2	3	.	.	1	.	.	.	.	.	.
White catfish	77	100	87	76	52	25	214	196	205	96	70	172	70	80	56	78	38	79
White perch	138,753	198,953	157,348	147,232	265,656	221,021	172,995	115,842	287,690	69,844	130,785	136,518	267,801	134,744	142,260	140,645	138,513	107,406
Freshwater																		
Black bullhead	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	.
Black crappie	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Bluegill	.	.	.	5	.	.	1	1	.	.	.	.	3	.	.	1	1	.
Brown bullhead	1	12	33	30	4	7	18	25	31	11	8	3	8	22	1	48	36	10
Brown trout	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Carp	730	651	.	340	731	136	121	147	1,199	867	161	211	533	22	130	597	455	647
Catostomidae	.	.	.	1	1	.	.	.	.	.	.	.	.	4	.	.	.	.
Centrarchidae	30	66	46	40	132	40	125	11	152	26	100	16	137	552	155	50	136	67
Chain pickerel	.	.	.	.	.	.	.	.	2	1	.	1	.	.	1	.	.	.
Channel catfish	.	.	.	1	1	.	.	5	5	4	.	11	8	23	24	118	91	101
Common shiner	.	.	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Creek chub	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.
Cyprinidae	470	1,736	6,839	1,764	2,576	2,276	2,044	910	2,709	696	1,358	2,705	3,482	3,101	2,623	1,150	1,073	786
Emerald shiner	.	.	.	.	.	.	.	.	.	.	19	2	.	1	.	.	.	.
Fathead minnow	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Freshwater drum	.	.	.	.	1	1	.	8	124	1	10	27	8	15	90	55	255	640
Gizzard shad	.	85	5	3	535	123	440	1,065	688	708	885	1,281	2,383	161	9,060	1,292	360	80
Golden shiner	.	1	7	.	.	1	2	11	1	.	1	.	2	1	.	.	.	2
Goldfish	113	217	.	97	22	7	18	.	5	2	2	.	.	.	.	.	.	.
Largemouth bass	.	1	.	2	.	1	1	.	.	.	1	.	.	.	.	.	2	.
Logperch	48	20	.	.	179	.	.	.	.	.	3	.	.	.	.	3	4	.

Table C-1 (Continued)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Freshwater (cont.)																		
Northern hog sucker	19	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Percidae	2	15	.	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pumpkinseed	132	1	.	2	.	4	1	.	.	1	.	1	.	.	.	2	.	.
Rock bass	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Satinfin shiner	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Silvery minnow	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Slimy sculpin	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
Smallmouth bass	.	3	1	.	23	.	1	.	.	.	2	.	1	3	.	.	.	2
Spotfin shiner	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Spottail shiner	60	98	55	83	45	33	62	94	156	89	53	45	62	87	9	42	23	29
Tesselated darter	2,898	2,805	2,290	1,566	2,836	1,936	1,714	2,205	1,550	1,493	2,834	2,726	2,822	1,884	1,455	1,990	2,642	718
Walleye	.	26	.	1	2	12	32	.	23	22	29	.	80	5	5	132	31	279
White crappie	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.
White sucker	.	10	44	.	1	.	.	1	13	5	24	6	11	3	3	2	3	2
Yellow bullhead	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
Yellow perch	152	325	610	157	369	225	333	69	764	141	307	127	1,062	228	476	1,096	1,145	801
Marine																		
American sand lance	48	8	2	4	4	.	1	42	6	.	7	2	11	119	2	49	47	20
Atlantic cod	68	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	3
Atlantic croaker	.	.	.	.	157	1	5	409	3	.	3,405	3,781	6,512	1,371	2,574	1,260	11,094	544
Atlantic herring	522	178	76	1,177	842	1,151	37	3,986	5,485	2,614	3,809	4,585	27	1,984	18	887	325	279
Atlantic mackerel	4	.	.	1	2	.	.	.	1,968	1,076	9	141	6	1	603	32	4	.
Atlantic menhaden	6	12	671	1,301	404	268	13,009	2,678	3,036	35,979	18,041	68,998	4,887	29,431	9,644	10,873	7,420	78,741
Atlantic needlefish	.	.	3	.	.	1	.	1	.	.	.	.	.	.	.	.	.	20
Atlantic seasnail	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
Bay anchovy	2,852,331	444,854	900,354	3,831,982	1,341,076	1,849,143	3,051,491	1,271,339	1,337,747	795,707	698,247	339,031	215,316	146,897	671,428	363,737	1,749,221	790,847
Black sea bass	.	.	.	.	.	.	4	.	.	1	3	6	.	.	.	.	.	.
Blackcheek tonguefish	.	.	.	.	10	.	.	.	.	.	.	.	.	.	.	.	.	.
Blenniidae	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
Bluefish	85	54	165	151	147	78	73	61	43	35	21	71	46	62	15	26	28	34
Bothidae	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Butterfish	143	18	18	27	46	38	108	11	12	29	22	273	6	120	7	13	240	24
Conger eel	132	72	54	29	124	195	175	45	117	14	10	1	71	22	29	42	3	13
Cottidae	128	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Creville jack	1	4	.	1	.	.	.	.	1	.	2	1	.	.	.	.	.	.
Cunner	11,129	1,429	.	1,955	4,221	996	2,176	3,790	4,932	3,106	1,884	4,733	1,739	6,210	3,658	3,325	5,293	6,416
Cusk	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
Feather blenny	.	.	.	.	.	.	.	.	.	.	1	23	3	.	5	.	.	.
Fourbeard rockling	108	209	2	404	691	4	4,157	6,487	571	7,586	3,116	391	184	2,319	2,205	389	1,360	5,072
Fourspot flounder	.	1	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.
Gadidae	6	.	.	.	.	10	.	.	1	.	.	.	.	.	.	.	.	2
Gobiidae	9,007	5,593	22,569	78,349	26,599	3,794	3,411	2,683	1,108	936	3,411	28,420	16,276	15,046	22,722	7,756	20,143	23,597
Goosefish	.	.	.	8	12	.	.	.	1	.	.	.	.	.	.	.	.	.
Grubby	605	387	167	521	248	66	99	2,516	317	1,768	1,525	575	161	898	702	122	1,207	904
Gulf stream flounder	.	.	.	.	.	.	.	.	.	3	1	1	.	.	2	.	1	.
Harvestfish	.	.	.	.	.	.	.	.	.	.	.	2	.	.	1	.	.	.
Inshore lizardfish	8	8	.	3	14	1	2	1	.	4	36	4	2	8	.	.	.	.
King mackerel	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Labridae	.	.	.	48	.	.	.	.	1	.	.	.	.	.	.	1	.	.
Longhorn sculpin	.	2	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.
Lookdown	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
Moonfish	.	.	.	.	.	.	1	.	.	.	.	.	.	2	.	.	.	.
Myoxocephalus spp.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.
Naked goby	279	44	1,619	8	73	9	1	3	6	.	5	369	107	6	169	72	8	19

Table C-1 (Continued)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Marine (cont.)																		
Northern kingfish	.	118	.	10	10	1	39	1	.	.	2	16	.	.	1	.	.	.
Northern puffer	1	5	32	279	.	2	.	4	14	2	.	11	1	3	.	.	4	2
Northern searobin	40	2	17	19	1	4	27	5	48	1	14	37	.	23	1	4	.	1
Northern stargazer	129	.	.	.	.	.	53	.	.	.	1	4	.	2	1	.	.	.
Oyster toadfish	.	1	.	.	.	.	.	.	.	.	1	1	1	.	.	1	.	7
Phycidae	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	35
Pinfish	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.
Pleuronectidae	.	.	.	144	.	.	.	.	.	16	2	3	.	.	.	.	.	.
Pleuronectiformes	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
Pollack	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.
Radiated shanny	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
Red hake	3	1	1	.	1	1	.	.	9	13	19	15	2	1	.	.	.	1
Rock gunnel	9	2	1	5	6	.	.	35	32	54	28	17	13	49	7	44	72	71
Rough silverside	110	19	.	41	44	30	447	218	37	33	4	26	66	12	22	7	4	50
Sciaenidae	.	3	.	.	.	2	65	.	.	.	.	.	.	.	.	.	.	1
Scup	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	1	.	.
Seaboard goby	1	.	.	4	19	1	.	1	.	19	4	14	77	10	234	116	2	19
Searobin	8	.	312	26	.	16	.	.	.	8	1	399	.	4	65	70	33	697
Sharptail goby	.	.	1	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.
Silver hake	1	3	.	.	.	.	.	.	2	.	.	1	.	2	.	.	1	.
Silver perch	.	.	.	.	.	.	2	1	.	.	.	.	.	.	.	.	.	.
Smallmouth flounder	38	.	1	91	71	32	175	22	7	18	40	37	47	6	6	20	61	4
Spanish mackerel	.	.	.	20	.	2	1	.	.	.	.	.	.	.	.	.	.	.
Speckled worm eel	1	.	.	.	.	.	.	.	1	.	.	.	1	.	2	.	.	.
Spot	.	.	2	.	.	20	9	.	8	.	.	.	11	.	3	.	.	.
Spotted hake	62	1	1	19	40	13	6	146	186	76	49	52	38	90	35	193	111	40
Striped anchovy	.	.	.	.	.	.	.	5	35	6	3	5	.	.	.	.	65	.
Striped burrfish	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Striped cuskeel	2	1	.	4	3	1	.	1	3	18	8	9	19	8	.	3	3	4
Striped killifish	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Striped searobin	43	4	.	234	5	41	671	3	4	112	45	85	15	1	39	21	27	5
Summer flounder	.	24	1	39	18	.	7	23	11	5	8	8	26	26	10	8	22	4
Tautog	1,205	3,432	.	969	488	241	439	3,171	3,396	3,009	490	2,908	2,028	6,129	4,192	4,483	8,668	9,966
Tetraodontidae	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Weakfish	1,586	2,602	122,082	6,821	1,206	1,621	2,804	623	59,707	13,345	145,785	224,618	50,800	83,380	51,266	57,429	94,647	108,943
Windowpane	8,866	5,162	49	1,500	14,953	166,221	6,917	17,602	7,074	13,902	1,635	3,210	1,816	13,095	1,563	4,134	2,192	2,557
Winter flounder	900	178	64	340	794	188	362	4,754	774	4,109	2,325	3,996	9,831	1,905	4,353	10,306	9,580	1,921
Witch flounder	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Yellowtail flounder	.	.	.	.	2	.	1	162	2	6	13	7	1	5	2	.	.	6
Unidentified																		
Acipenseridae	4	6	18	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Atherinidae	.	1	.	259	.	16	45	19	26	44	1	4	1	.	.	1	.	.
Cyprinodontidae	.	8	.	.	.	5	.	.	.	5	.	.	.	.	1	.	.	.
Fundulus spp.	.	2	4	3	1	111	4	3	2	.	1	62	.	1	.	1	1	1
Gasterosteidae	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
Menidia spp.	12	7	193	.	2	.	1	1	.	52	11	1	.	.	1	.	.	.
Morone unidentified	2,180	13,473	955	17,620	7,246	12,406	8,350	5,416	29,225	3,094	31,732	54,420	58,042	37,644	5,768	16,709	9,721	2,233
Petromyzontidae	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Unidentifiable	49,244	7,031	36,103	113,576	18,496	9,938	32,546	1,131	7,378	480	1,125	1,240	1,146	2,979	448	1,914	4,528	1,320

Table C-1 (Continued)

	2006	2007
Anadromous		
Alewife	153	2,474
Alosa spp.	75,365	155,009
American shad	800	995
Atlantic sturgeon	1	4
Atlantic tomcod	9,049	9,176
Blueback herring	177	2,366
Hickory shad	.	.
Rainbow smelt	1	3
Sea lamprey	1	1
Striped bass	109,061	532,870
Catadromous		
American eel	276	449
Estuarine		
Atlantic silverside	157	454
Banded killifish	.	.
Fat sleeper	.	.
Fourspine stickleback	.	.
Hogchoker	44,711	96,691
Inland silverside	162	195
Lined sea horse	.	.
Mummichog	1	.
Northern pipefish	36	246
Shortnose sturgeon	5	11
Threespine stickleback	.	.
White catfish	147	72
White perch	95,979	92,203
Freshwater		
Black bullhead	.	.
Black crappie	.	.
Bluegill	.	.
Brown bullhead	32	4
Brown trout	.	.
Carp	1,219	735
Catostomidae	.	.
Centrarchidae	151	40
Chain pickerel	.	.
Channel catfish	137	.
Common shiner	.	.
Creek chub	.	.
Cyprinidae	1,622	979
Emerald shiner	.	.
Fathead minnow	.	.
Freshwater drum	590	675
Gizzard shad	1,230	417
Golden shiner	7	.
Goldfish	.	.
Largemouth bass	.	16
Logperch	1	1
Northern hog sucker	.	.
Percidae	.	.

Table C-1 (Continued)

	2006	2007
Freshwater (cont.)		
Pumpkinseed	1	1
Rock bass	.	.
Satinfin shiner	.	.
Silvery minnow	.	.
Slimy sculpin	.	.
Smallmouth bass	3	.
Spotfin shiner	7	.
Spottail shiner	33	89
Tesselated darter	1,484	1,109
Walleye	105	54
White crappie	.	.
White sucker	12	2
Yellow bullhead	.	.
Yellow perch	538	243
Marine		
American sand lance	8	12
Atlantic cod	.	.
Atlantic croaker	2,000	378
Atlantic herring	48	2
Atlantic mackerel	.	21
Atlantic menhaden	10,562	22,125
Atlantic needlefish	.	.
Atlantic seasnail	.	.
Bay anchovy	374,336	1,036,876
Black sea bass	.	.
Blackcheek tonguefish	.	.
Blenniidae	.	.
Bluefish	18	28
Bothidae	.	.
Butterfish	37	20
Conger eel	13	55
Cottidae	.	.
Crevalle jack	.	1
Cunner	1,363	8,882
Cusk	.	1
Feather blenny	.	.
Fourbeard rockling	2,189	2,222
Fourspot flounder	.	.
Gadidae	.	.
Gobiidae	14,995	32,595
Goosefish	.	.
Grubby	620	638
Gulf stream flounder	.	.
Harvestfish	.	.
Inshore lizardfish	.	.
King mackerel	.	.
Labridae	.	192
Longhorn sculpin	.	.
Lookdown	.	.
Moonfish	.	.
Myoxocephalus spp.	.	.
Naked goby	94	41
Northern kingfish	.	.
Northern puffer	.	4

Table C-1 (Continued)

	2006	2007
Marine (cont.)		
Northern searobin	1	33
Northern stargazer	1	.
Oyster toadfish	.	.
Phycidae	2	.
Pinfish	.	.
Pleuronectidae	.	.
Pleuronectiformes	.	.
Pollack	.	.
Radiated shanny	.	.
Red hake	1	.
Rock gunnel	19	40
Rough silverside	55	144
Sciaenidae	.	.
Scup	.	.
Seaboard goby	235	68
Searobin	20	1,028
Sharptail goby	.	.
Silver hake	.	.
Silver perch	.	.
Smallmouth flounder	29	3
Spanish mackerel	.	.
Speckled worm eel	.	.
Spot	5	.
Spotted hake	144	18
Striped anchovy	.	4
Striped burrfish	1	.
Striped cuskeel	.	3
Striped killifish	.	.
Striped searobin	16	9
Summer flounder	18	12
Tautog	1,177	5,281
Tetraodontidae	.	.
Weakfish	17,960	52,305
Windowpane	978	2,825
Winter flounder	1,312	4,015
Witch flounder	.	.
Yellowtail flounder	.	.
Unidentified		
Acipenseridae	.	.
Atherinidae	.	.
Cyprinodontidae	.	1
Fundulus spp.	.	.
Gasterosteidae	.	.
Menidia spp.	3	2
Morone unidentified	3,677	3,299
Petromyzontidae	1	.
Unidentifiable	101	550

Table C-1 (Continued)

Sampling Statistics for Long River Survey, 1988-2007

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Start Date	18-Apr	17-Apr	19-Apr	15-Apr	13-Apr	12-Apr	11-Apr	6-Mar	12-Mar	11-Mar
End Date	25-Aug	23-Aug	16-Aug	17-Oct	14-Oct	5-Oct	5-Oct	12-Oct	9-Oct	9-Oct
Volume Sampled (m3)	524,777	519,252	419,294	537,825	632,978	596,043	579,959	649,908	675,698	671,661
Sample Size	1,663	1,641	1,561	1,991	1,986	1,987	1,986	2,431	2,362	2,365
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Start Date	2-Mar	23-Mar	7-Mar	15-Mar	4-Mar	19-Mar	2-Mar	16-Mar	8-Mar	14-Mar
End Date	7-Oct	6-Oct	5-Oct	9-Oct	9-Oct	9-Oct	7-Oct	6-Oct	5-Oct	3-Oct
Volume Sampled (m3)	810,440	774,435	857,373	711,723	716,977	704,211	706,106	654,297	689,180	691,098
Sample Size	2,435	2,329	2,435	2,300	2,438	2,433	2,439	2,433	2,436	2,437

Table C-2 Total Number of Fish Collected in the Fall Juvenile Survey, 1985-2007

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Anadromous																					
Alewife	1,142	554	702	379	327	459	994	790	730	719	519	830	868	97	3,925	746	2,118	379	1,077	307	1,980
Alosa spp.	3,341	282	2,591	4,193	4,331	3,543	1,276	10,650	1,905	1,725	2,895	18,007	6,547	82	7,681	2,688	2,562	2,356	4,262	1,688	3,500
American shad	1,717	2,166	776	1,483	3,646	1,323	1,291	3,406	961	2,095	831	2,964	1,105	310	1,407	808	1,369	598	433	400	294
Atlantic sturgeon	96	184	149	117	63	6	10	11	7	15	15	8	40	30	18	5	23	37	39	22	12
Atlantic tomcod	5,083	10,046	7,908	8,210	14,060	1,105	4,914	7,299	3,664	1,679	3,649	4,632	10,645	1,928	1,798	6,528	5,910	581	1,456	4,802	2,536
Blueback herring	41,919	6,525	18,596	37,957	22,112	15,982	55,299	38,090	22,442	18,790	14,006	20,863	13,999	566	20,315	6,412	13,731	6,205	10,727	3,223	15,677
Hickory shad	.	3	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1
Rainbow smelt	126	389	429	576	34	216	256	2,549	757	363	136	.	.	1	.	.	.	.	.	.	.
Sea lamprey	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Striped bass	888	2,348	11,633	18,679	8,472	3,624	4,672	3,773	8,333	8,719	10,327	6,293	4,461	1,367	8,989	3,683	3,654	2,516	8,553	1,893	5,107
Catadromous																					
American eel	1,872	2,906	2,254	2,076	1,444	342	984	1,392	1,406	1,647	1,627	1,434	722	763	738	792	566	244	310	360	376
Estuarine																					
Atlantic silverside	.	2	.	3	1	2	18	2	29	25	33	42	19	20	19	82	13	33	10	62	22
Banded killifish	78	12	3	3	3	.	2	.	6	21	24	.	.	1	1	.	1	2	.	.	3
Fat sleeper	.	.	.	.	.	.	.	.	.	.	.	.	.	.	50	.	.	.	.	.	.
Fourspine stickleback	1	9	.	1	1	.	.	.	2	.	1	1	.	1	.	.	.	.	2	1	.
Hogchoker	89,948	108,036	89,042	74,672	73,613	22,760	42,916	62,358	43,064	15,581	23,823	18,422	4,861	3,964	5,696	7,452	7,243	11,320	19,446	20,370	16,413
Inland silverside	.	.	.	1	.	2	.	.	2	.	4	.	.	.	1	.	.	.	.	.	.
Lined sea horse	.	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	1	.	.	.	.
Mummichog	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Northern pipefish	40	13	22	25	12	4	16	14	65	15	24	3	27	10	9	9	12	15	3	17	17
Shortnose sturgeon	16	8	11	20	12	2	18	76	82	50	36	48	26	30	52	50	47	27	29	29	30
White catfish	721	677	775	806	740	352	547	172	939	1,363	1,077	967	235	840	494	337	371	155	228	147	522
White mullet	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
White perch	19,721	31,771	27,008	25,760	20,106	5,381	11,019	13,832	8,341	9,007	10,272	8,569	3,655	3,474	8,955	6,225	5,775	4,715	11,131	5,426	8,631
Freshwater																					
Black bullhead	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Black crappie	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
Bluegill	.	.	1	.	1	.	.	3	2	.	1	1	2	.	.	.	.	1	1	.	.
Brook trout	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Brown bullhead	37	127	109	171	172	17	125	177	92	278	211	251	97	167	524	549	460	501	600	476	611
Carp	4	13	5	4	10	1	6	7	7	3	6	2	5	.	11	2	6	5	2	1	6
Central mudminnow	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Centrarchidae	1	4	1	5	3	.	.	.	.	4	.	.	4	2	1	1	.	8	7	2	2
Channel catfish	.	5	10	9	12	1	4	7	38	187	95	127	66	149	331	378	507	674	1,497	995	2,974
Cyprinidae	48	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Emerald shiner	.	.	.	.	1	.	.	.	.	.	.	.	.	11	2	1	.	.	.	.	.
Fall fish	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.
Fathead minnow	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Freshwater drum	.	.	.	.	3	.	.	1	2	1	3	1	.	2	1	5	3	4	25	.	37

Table C-2 (Continued)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Freshwater																					
(cont.)																					
Gizzard shad	4	6	8	2	8	1	.	.	3	1	5	.	15	3	25	4	35	33	4	26	11
Golden shiner	.	1	.	.	.	.	.	29	.	.	.	2	3	.	.	4	.	5	1	1	.
Goldfish	.	.	.	.	1	.	.	1	.	1	.	.	.	.	1	1	3	2	.	1	11
Largemouth bass	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	.	1
Logperch	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	18	.	.
Margined madtom	.	.	1	.	.	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.
Pumpkinseed	57	2	13	5	1	6	12	2	16	12	49	20	9	1	10	2	1	5	4	7	6
Redbreast sunfish	1	.	.	1	2	.	.	.	.	1	3	.	.	.	.	43	.	.	.	.	.
Rock bass	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
Satinfin shiner	.	.	.	.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Silvery minnow	.	1	.	.	.	.	.	.	.	.	.	56	.	.	.	.	.	.	.	.	.
Smallmouth bass	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Spottail shiner	244	685	333	369	102	43	404	259	351	248	204	382	83	105	175	110	114	48	85	382	156
Tessellated darter	89	747	197	370	120	10	187	225	306	684	228	148	100	96	131	25	26	20	153	81	41
Walleye	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
White sucker	1	8	4	2	1	.	.	.	.	1	.	1	2	1	6	1	.	4	1	9	2
Yellow bullhead	.	.	.	.	30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yellow perch	.	.	1	1	.	.	.	.	.	1	.	.	.	.	.	.	.	8	2	.	6
Marine																					
Atlantic croaker	1	4	7	.	1	4	.	4	18	97	336	10	183	5,028	4,015	2,280	3,894	1,479	20	8,838	8,697
Atlantic cutlassfish	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.
Atlantic herring	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.
Atlantic menhaden	51	139	67	9	38	129	478	122	13	78	26	260	19	101	12,685	2,535	337	746	445	566	139
Atlantic needlefish	.	.	.	1	.	1	1	.	.	.	3	.	1	3	2	.	.	.	1	.	3
Bay anchovy	27,902	20,988	39,348	59,244	41,475	16,465	44,815	37,264	53,437	54,615	93,826	26,168	71,630	51,368	58,298	15,533	27,794	47,096	37,511	43,166	38,534
Black sea bass	1	.	.	1	.	.	.	.	.	2	.	.	9	.	.	.	.	.	.	.	.
Bluefish	60	51	107	116	62	82	58	82	53	37	42	39	55	27	165	53	60	56	30	31	18
Butterfish	61	106	48	110	81	43	35	141	121	109	21	18	90	177	74	9	25	26	16	106	66
Cobia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2
Conger eel	.	.	.	14	.	.	.	.	.	.	2	2	.	1	1	1	.	.	.	.	.
Crevalle jack	2	1	1	10	8	7	3	1	10	1	4	1	.	9	.	.	2	.	1	1	1
Cunner	.	.	.	.	.	1	.	1	.	.	.	.	.	1	.	.	.	.	.	.	1
Feather blenny	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
Fourspot flounder	2	2	.	1	.	1	.	.	.	25	.	.	4	.	.	.	1	.	.	.	.
Gobiidae	.	.	.	4	.	.	.	38	.	2	.	.	3	4	12	2	2	8	4	3	1
Goosefish	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Gray snapper	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
Grubby	.	.	.	2	.	.	.	.	1	.	.	.	.	.	.	.	1	.	.	.	.
Inshore lizardfish	1	.	.	1	4	.	1	4	8	1	.	.	.	.	.	71	1	.	.	.	.
Longhorn sculpin	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.
Lookdown	1	.	1	1	1	.	.	.	.	1	.	.	1	1	3	2	.	.	1	.	1
Moonfish	.	1	2	.	5	.	.	1	.	.	.	.	.	4	1	3	9	5	3	9	.
Naked goby	3	6	47	9	21	1	7	30	3	1	26	.	8	4	7	7	33	5	46	8	26
Northern kingfish	9	6	.	20	3	3	10	2	4	16	7	.	2	.	3	.	.	.	.	1	1
Northern puffer	9	1	5	3	2	.	36	3	1	.	3	.	.	1	.	.	.	3	.	2	2
Northern searobin	.	2	7	21	3	16	7	12	53	305	6	5	16	.	.	.	6	.	.	1	24
Northern stargazer	1	.	.	20	.	4	3	10	2	7	.	.	6	.	2	1	3	5	1	1	2

Table C-2 (Continued)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Marine (cont.)																					
Oyster toadfish	.	.	.	.	.	.	.	1	.	.	.	4	.	2	3	2	1	1	1	11	13
Red hake	1	.	.	.	.	1	.	.	.	.	.	.	2	.	.	1	.	.	.	.	38
Rock gunnel	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3
Rough silverside	1	.	3	1	.	.	.	3	2	.	4	.	4	1	1	2	.	.	.	.	1
Scup	1	.	.	.	.	.	3	.	.	.	8	.	.	.	.	2	5	1	8	2	2
Seaboard goby	.	.	.	12	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Searobin	.	.	.	.	.	.	.	.	.	.	.	.	339	.	69	8	2	.	12	7	.
Silver hake	.	3	.	.	.	1	1	.	.	.	.	.	5	.	1	3	.	1	.	1	1
Silver perch	.	.	.	13	.	.	1	.	7	11	36	1	1	.	.	.	.	.	.	.	1
Smallmouth flounder	.	.	.	8	.	.	.	1	1	9	3	.	.	1	1	.	.	2	.	.	.
Spanish mackerel	.	.	.	.	.	1	17	.	7	.	.	.	.	.	.	.	.	.	.	1	.
Spot	5	14	1	1,257	.	.	2	1.	4	.	.	30	.	.	.	1	1	.	.	.	.
Spotfin butterflyfish	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Spotted hake	2	1	.	.	.	.	3	32	7	3	3	224	54	9	7	15	106	12	34	20	9
Striped anchovy	.	.	.	.	.	.	.	1	.	.	2	.	.	.	.	.	.	1	1	.	.
Striped burrfish	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Striped cuskeel	3	.	.	1	.	.	1	1	.	.	.	.	.	1	.	1	.	.	.	.	12
Striped searobin	321	148	10	101	25	26	310	54	96	648	15	.	416	294	1,498	8	123	189	236	121	37
Summer flounder	232	447	58	7	42	35	102	56	39	32	108	41	4	2	23	4	6	2	3	9	8
Tautog	.	.	.	2	.	3	.	1	.	.	.	.	1	.	.	.	.	.	.	.	.
Tetraodontidae	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Weakfish	2,214	1,482	749	3,777	2,842	770	5,878	756	2,332	2,416	3,773	2,202	2,713	2,039	7,412	7,147	3,567	3,806	1,952	686	4,083
Windowpane	1	1	5	17	.	5	9	32	1	5	19	2	12	5	46	4	7	3	4	1	2
Winter flounder	226	196	92	39	23	13	28	36	51	21	62	32	56	12	10	8	3	2	4	3	20
Unidentified																					
Morone unidentified	1	.	.	.	3	2	.	.	.	.	.	.	2	3	.	1	.	.	35	.	.
Unidentifiable	.	.	.	.	.	.	.	.	6	.	18	1	68	.	1	.	.	.	.	.	.

Table C-2 (Continued)

	2006	2007
Anadromous		
Alewife	236	587
Alosa spp.	755	3,030
American shad	77	44
Atlantic sturgeon	14	35
Atlantic tomcod	1,007	1,121
Blueback herring	943	5,682
Hickory shad	.	.
Rainbow smelt	.	.
Sea lamprey	.	.
Striped bass	1,795	2,001
Catadromous		
American eel	448	163
Estuarine		
Atlantic silverside	29	50
Banded killifish	12	1
Fat sleeper	.	.
Fourspine stickleback	.	.
Hogchoker	15,079	12,945
Inland silverside	.	.
Lined sea horse	.	.
Mummichog	.	.
Northern pipefish	16	19
Shortnose sturgeon	28	20
White catfish	412	198
White mullet	5	.
White perch	7,151	3,904
Freshwater		
Black bullhead	.	.
Black crappie	.	.
Bluegill	1	.
Brook trout	.	.
Brown bullhead	505	191
Carp	2	2
Central mudminnow	.	.
Centrarchidae	.	.
Channel catfish	2,279	979
Cyprinidae	.	.
Emerald shiner	.	.
Fall fish	.	.
Fathead minnow	18	.
Freshwater drum	37	2
Gizzard shad	3	5
Golden shiner	2	.

Table C-2 (Continued)

	2006	2007
Freshwater		
(cont.)		
Goldfish	.	1
Largemouth bass	1	.
Logperch	.	187
Longear sunfish	.	1
Marginated madtom	.	.
Pumpkinseed	5	.
Redbreast sunfish	.	1
Rock bass	.	.
Satinfin shiner	.	.
Silvery minnow	.	.
Smallmouth bass	.	.
Spottail shiner	212	14
Tesselated darter	41	18
Walleye	.	.
White sucker	2	1
Yellow bullhead	.	.
Yellow perch	.	.
Marine		
Atlantic croaker	5,127	256
Atlantic cutlassfish	2	.
Atlantic herring	.	.
Atlantic menhaden	1,288	363
Atlantic needlefish	.	5
Bay anchovy	28,864	61,499
Black sea bass	.	.
Bluefish	30	13
Butterfish	58	12
Cobia	.	.
Conger eel	.	.
Crevalle jack	3	4
Cunner	.	.
Feather blenny	.	.
Fourspot flounder	.	.
Gobiidae	10	56
Goosefish	.	.
Gray snapper	.	.
Grubby	.	.
Inshore lizardfish	.	.
Longhorn sculpin	.	.
Lookdown	1	.
Moonfish	6	21
Naked goby	13	.
Northern kingfish	2	7
Northern puffer	.	1
Northern searobin	.	.
Northern stargazer	.	.
Oyster toadfish	4	.

Table C-2 (Continued)

	2006	2007
Marine (cont.)		
Red hake	1	.
Rock gunnel	.	.
Rough silverside	.	1
Scup	.	2
Seaboard goby	1	.
Searobin	.	12
Sciaenidae	.	4
Silver hake	3	1
Silver perch	.	.
Smallmouth flounder	.	.
Spanish mackerel	.	.
Spot	.	.
Spotfin butterflyfish	.	.
Spotted hake	71	15
Striped anchovy	.	2
Striped burrfish	.	.
Striped cuskeel	1	.
Striped searobin	78	225
Summer flounder	13	9
Tautog	.	.
Tetraodontidae	.	.
Weakfish	452	1,410
Windowpane	2	4
Winter flounder	4	4
Unidentified		
Morone unidentified	37	1
Unidentifiable	.	.

Sampling Statistics for Fall Juvenile Survey, 1985-2007

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Start Date	22-Jul	21-Jul	13-Jul	18-Jul	17-Jul	9-Jul	15-Jul	13-Jul	19-Jul	18-Jul	10-Jul	10-Jul
End Date	14-Nov	2-Dec	5-Nov	28-Oct	26-Oct	17-Oct	25-Oct	23-Oct	29-Oct	27-Oct	20-Oct	17-Oct
Volume Sampled (m3)	1,886,745	2,298,278	2,035,357	1,826,628	1,590,047	1,252,910	1,707,237	1,865,365	2,010,162	2,018,414	1,782,105	1,824,729
Sample Size	1,802	2,098	1,958	1,680	1,679	1,680	1,678	1,680	1,680	1,681	1,680	1,669
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
Start Date	7-Jul	6-Jul	6-Jul	5-Jul	10-Jul	8-Jul	7-Jul	6-Jul	5-Jul	5-Jul	1-Jul	
End Date	23-Nov	4-Dec	3-Dec	30-Nov	30-Nov	6-Dec	5-Dec	3-Dec	2-Dec	1-Dec	30-Nov	
Volume Sampled (m3)	1,995,403	2,214,609	2,159,879	2,174,794	2,097,800	2,105,181	1,891,049	2,106,764	2,063,565	2,014,940	1,968,928	
Sample Size	2,015	2,130	2,085	2,113	2,084	2,128	2,131	2,128	2,128	2,129	2,130	

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Anadromous																					
Alewife	1,272	818	515	675	439	925	2,323	870	638	1,738	1,051	437	1,664	423	3,636	574	1,868	379	2,129	1,087	4,143
Alosa spp.	8,272	2,529	5,685	21,022	8,346	10,853	38,966	3,490	5,237	14,468	10,653	47,511	7,889	1,773	35,377	3,993	14,296	2,141	13,250	4,151	13,707
American shad	9,171	14,716	7,641	10,780	13,026	12,261	15,771	15,366	5,122	13,007	4,049	21,339	8,618	5,931	13,755	5,968	18,402	4,252	6,231	3,028	4,287
Atlantic sturgeon	1	.	.	.	3	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
Atlantic tomcod	243	148	209	230	81	115	46	328	13	9	22	51	27	163	15	54	12	7	65	78	5
Blueback herring	25,362	12,522	31,373	36,245	19,037	43,555	40,731	29,105	29,722	46,040	21,506	28,591	59,867	1,337	28,384	9,272	21,907	6,018	48,011	23,285	34,233
Hickory shad	.	.	.	.	.	.	.	.	.	.	.	1	3	.	.	.	.	.	.	.	.
Rainbow smelt	.	1	.	.	.	2	5	.	5	.	.	.	.	.	.	.	.	.	.	.	.
Striped bass	1,413	1,854	11,987	6,151	5,585	6,906	10,813	6,156	10,765	7,273	6,463	2,847	10,438	8,225	16,897	3,693	11,709	5,783	16,077	4,987	16,012
Catadromous																					
American eel	315	163	125	151	107	81	208	127	97	86	121	90	136	137	131	84	114	130	257	205	167
Estuarine																					
Atlantic silverside	1,197	4,406	1,459	6,760	686	8,383	17,291	6,668	14,493	21,101	28,061	9,014	11,757	17,160	25,690	9,587	8,064	11,994	4,382	17,936	17,217
Banded killifish	5,959	3,514	4,369	4,917	1,948	1,513	3,232	1,243	2,708	6,402	8,659	1,544	4,080	1,541	3,269	1,223	902	4,503	7,374	2,354	2,717
Fat sleeper	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fourspine stickleback	359	525	296	194	12	11	24	15	32	29	20	13	7	16	13	4	16	10	288	77	153
Hogchoker	1,033	276	312	305	261	150	652	329	143	230	392	54	53	29	20	20	115	391	322	183	62
Inland silverside	464	653	146	406	234	190	160	1,129	9	4	12	1	6	4	3	4	.	22	59	20	9
Mummichog	455	38	496	414	68	109	183	128	208	448	613	86	294	85	235	80	31	379	589	124	335
Northern pipefish	844	166	348	297	156	86	689	51	124	16	248	9	335	79	123	12	244	243	86	126	508
Shortnose sturgeon	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.
Threespine stickleback	2	17	10	3	4	2	4	1	.	.	.	1	.	.	1	.	.	1	.	.	1
White catfish	52	83	86	101	66	23	25	18	16	7	10	28	10	15	4	8	3	19	31	8	21
White mullet	4	3	.	.	3	1	2	.	1	.	.	.	1	.	.	.	.	1	1	.	.
White perch	9,938	12,082	12,303	14,607	11,407	8,485	10,033	9,497	11,771	8,789	6,368	3,501	5,292	4,368	10,931	5,652	7,928	11,124	16,737	8,492	8,588
Freshwater																					
Black crappie	.	47	52	10	10	8	12	20	4	14	19	19	5	11	26	16	16	11	13	19	43
Blacknose dace	2	.	1	1	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	.
Bluegill	64	57	76	355	159	89	69	61	94	89	201	61	73	260	119	122	117	349	299	86	245
Bluntnose minnow	.	.	.	.	.	.	.	.	.	3	.	2	.	4	1	3	.	.	3	5	.
Bridle shiner	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
Brook silverside	.	.	.	.	.	.	.	.	.	44	6	2	1	8	34	9	.	4	266	1	3
Brook stickleback	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Brown bullhead	6	41	12	53	28	10	42	40	252	117	23	21	24	37	146	37	37	89	1,870	181	155
Brown trout	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.
Carp	50	102	78	133	86	57	111	90	62	41	64	51	72	72	69	74	32	64	213	75	92
Catostomidae	.	.	.	.	.	.	.	.	.	.	.	3	3	.	.	.	.	.	.	.	.
Centrarchidae	673	327	388	351	100	106	64	29	42	216	89	79	91	98	138	69	109	176	4,120	379	235
Chain pickerel	.	.	.	.	4	.	.	1	.	.	1	.	.	1	.	2	.	.	.	1	1
Channel catfish	.	.	.	.	.	3	.	.	.	.	.	.	2	3	.	7	2	9	13	18	37
Comely shiner	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.

Table C-3 (Continued)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Freshwater																					
(cont.)																					
Common shiner	.	.	.	1	.	.	.	1	1	.	.	.	.	.	.	.	2	.	.	.	.
Creek chub	1	.	.	.	.	.	4	.	1	.	2	.	1	.	2	.	.	.	1	.	.
Cyprinidae	1	6	6	.	.	.	134	.	5	2	18	.	1	1	5	.	1	.	4	.	.
Emerald shiner	4	4	5	22	.	11	8	4	2	1	.	76	18	1,271	209	296	73	32	6	9	6
Fall fish	.	2	.	.	.	.	9	3	2	11	2	3	1	6	1	.	.	.	18	1	1
Fathead minnow	1	10	.	.	1	.	.	.	.	2	.	7	.	.	3	3	.	.	.	1	.
Freshwater drum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	.	5	5	5
Gizzard shad	3	13	100	10	7	28	22	158	38	49	61	50	139	67	140	75	45	99	51	231	108
Golden shiner	460	1,223	647	676	640	817	672	787	659	760	404	460	193	472	278	296	425	489	1,031	428	349
Goldfish	14	25	16	97	1	3	33	1	29	3	16	3	1	1	4	.	3	4	9	4	2
Grass carp	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
Grass pickerel	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Green sunfish	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
Largemouth bass	44	71	44	57	51	34	85	55	55	74	169	29	53	120	221	46	39	67	270	78	162
Logperch	.	.	.	.	.	.	.	1	1	.	.	1	.	1	4	.	4	4	11	1	9
Longear sunfish	.	.	.	.	.	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Longnose dace	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mimic shiner	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Northern hog sucker	.	.	1	3	.	1	4	2	.	.	.	1	.	.	.	1	.	.	2	3	9
Northern pike	.	2	4	2	4	2	2	.	3	2	.	2	.	.	1	2	.	.	28	12	.
Pugnose shiner	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pumpkinseed	740	496	609	1,070	633	724	1,195	602	774	1,535	1,648	284	619	555	771	281	647	1,084	2,039	1,271	1,576
Rainbow trout	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Redbreast sunfish	115	158	185	160	111	76	200	259	251	382	454	116	141	188	323	137	64	189	408	336	292
Redfin pickerel	.	.	.	2	.	.	1	.	.	.	.	3	.	2	1	1	.	.	4	2	.
Rock bass	6	8	1	12	3	.	22	1	1	.	10	2	2	7	8	8	1	7	18	15	6
Rudd	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.
Satinfin shiner	1	2	.	1	.	2	.	.	1	.	6	5	12	10	10	.	1	40	36	4	1
Silvery minnow	3	13	23	119	2	9	387	68	568	1,027	8	2,131	31	40	428	18	48	6	145	64	31
Smallmouth bass	7	25	8	28	25	21	25	28	30	73	81	50	26	86	176	80	45	78	157	107	121
Spotfin shiner	5	8	17	5	.	.	.	.	12	8	8	49	4	27	127	15	34	4	49	40	46
Spottail shiner	5,316	5,177	4,452	5,407	5,129	5,500	12,385	7,727	7,169	12,452	7,529	3,887	7,189	4,996	16,512	3,927	11,969	9,313	19,830	9,296	10,147
Swallowtail shiner	.	.	.	.	.	.	.	3	.	.	.	.	.	2	1	.	2	.	10	.	.
Tesselated darter	1,198	1,372	820	1,697	415	479	2,385	929	1,251	1,669	700	663	1,767	1,359	3,858	760	2,140	948	4,657	2,969	1,087
Tiger muskellunge	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
Trout perch	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.
Walleye	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	2	.	.	.	3	.
White crappie	.	4	1	3	.	1	2	1	.	.	.	.	.	1	.	.	.	.	.	.	.
White sucker	7	16	17	32	9	15	12	21	11	12	14	24	11	48	16	18	47	19	32	43	45
Yellow perch	22	67	44	49	34	12	27	23	22	29	16	53	20	49	65	60	78	40	160	194	115
Marine																					
Atlantic croaker	.	1	.	.	.	26	.	1	.	.	7	.	.	35	5	19	3	21	.	7	1
Atlantic herring	.	.	.	.	.	.	.	.	.	.	.	.	1	.	4	.	.	.	.	.	.
Atlantic menhaden	118	834	30	99	159	1,063	678	415	16	1,637	56	1,526	117	331	50,419	16,025	130	2,481	3,586	8,465	1,128
Atlantic needlefish	92	77	54	48	41	96	476	9	11	12	22	28	50	21	181	12	6	8	28	33	28
Bay anchovy	4,081	4,155	3,746	3,989	9,507	4,134	4,669	8,729	8,106	10,447	17,615	3,544	16,980	11,333	6,662	2,617	3,275	13,862	6,431	2,330	4,830
Bluefish	567	400	533	280	224	348	314	375	223	80	252	98	320	141	2,180	218	474	815	336	246	308

Table C-3 (Continued)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Marine (cont.)																					
Butterfish	.	.	.	4	.	1	.	1	9	.	.	.	.	2	.	.	.	.	.	.	.
Crevalle jack	71	10	3	22	40	32	58	53	30	2	2	1	.	45	3	24	4	9	10	.	3
Cunner	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Fourbeard rockling	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
Goosefish	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gray snapper	7	1	3	.	.	.	2	.	.	.	.	.	.	.	.	.	1	.	.	.	1
Grubby	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Inshore lizardfish	.	.	.	1	1	.	14	8	11	5	1	.	3	4	7	.	.	3	.	.	.
Lookdown	18	1	.	.	10	1	.	.	.	.	.	.	2	.	.	2	.	.	.	.	.
Moonfish	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Naked goby	20	9	11	4	4	7	14	22	2	.	9	.	8	5	15	2	12	20	13	24	12
Northern kingfish	20	8	.	9	1	4	42	2	17	13	8	1	15	31	21	1	13	35	.	45	6
Northern puffer	2	1	.	1	.	.	10	.	4	.	2	.	2	.	6	.	.	4	.	.	4
Northern searobin	.	2	.	.	.	.	8	.	.	1	.	.	.	.	.	.	2	.	.	.	3
Northern stargazer	1	.	.	.	.	.	1	.	1	1	1	1	8	.	1	.	1	9	.	1	2
Orangespotted filefish	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Permit	.	.	.	.	.	.	.	1	2	.	.	.	.	2	.	7	5	.	.	.	.
Red hake	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	26	.	.
Rough silverside	35	4	23	258	9	4	.	2	.	1	1	.	36	.	.	.	.	.	.	.	.
Seaboard goby	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.
Searobin	.	.	.	.	.	.	5	.	.	.	.	.	1	.	.	.	3	.	3	.	.
Silver hake	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Silver perch	13	1	.	19	.	.	29	8	61	25	5	5	25	4	1	1	.	.	.	60	.
Smallmouth flounder	1	.	.	.	.	.	.	.	.	.	1	.	12	.	.	.	.	.	.	.	.
Spanish mackerel	.	.	.	.	.	.	12	.	4	1	.	.	.	.	.	.	.	.	.	.	.
Spot	35	106	4	32	.	1	8	2	39	24	.	59	.	3	6	15	.	11	1	.	2
Spotfin mojarra	.	.	.	.	.	.	.	.	.	2	.	.	.	1	.	.	.	.	.	.	.
Spotted goatfish	.	.	.	.	.	.	.	.	17	.	.	.	.	.	.	.	.	.	.	.	.
Spotted hake	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Striped anchovy	1	.	.	.	.	.	.	.	1	15	25	6	4	.	.	1	.	57	8	2	.
Striped mullet	2	6	1	1	.	.	5	.	.	.	2	.	.	.	.	1	.	1	.	.	.
Striped searobin	5	16	.	3	.	.	34	1	11	.	.	.	35	21	8	1	4	7	1	14	1
Summer flounder	48	45	4	1	2	2	46	26	20	18	10	2	.	7	4	5	5	11	5	10	5
Tautog	2	5	2	20	.	6	31	1	.	1	.	.	22	1	.	.	5	2	.	1	2
Weakfish	72	5	.	2	.	27	111	1	4	4	1	25	27	4	30	18	2	33	8	5	3
Windowpane	.	.	3	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	.	.	1
Winter flounder	282	80	29	41	9	23	154	35	74	45	110	6	124	28	46	68	44	55	52	105	41
Unidentified																					
Morone unidentified	.	.	1	.	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	1	.
Unidentifiable	.	.	.	.	.	.	.	.	.	.	150	.	.	.	.	.	.	.	.	.	.

Table C-3 (Continued)

	2006	2007
Anadromous		
Alewife	601	3,579
Alosa spp.	1,297	24,989
American shad	697	2,681
Atlantic sturgeon	.	.
Atlantic tomcod	27	2
Blueback herring	3,911	55,828
Hickory shad	.	.
Rainbow smelt	.	.
Striped bass	4,348	12,882
Catadromous		
American eel	154	75
Estuarine		
Atlantic silverside	2,116	16,989
Banded killifish	1,283	2,252
Fat sleeper	.	.
Fourspine stickleback	27	3
Hogchoker	130	464
Inland silverside	5	3
Mummichog	25	93
Northern pipefish	56	452
Shortnose sturgeon	.	.
Threespine stickleback	.	1
White catfish	16	6
White mullet	.	2
White perch	7,707	4,596
Freshwater		
Black crappie	21	3
Blacknose dace	.	.
Bluegill	224	39
Bluntnose minnow	.	2
Bridle shiner	.	.
Brook silverside	4	1
Brook stickleback	.	.
Brown bullhead	141	35
Brown trout	.	.
Carp	69	34
Catostomidae	.	.
Centrarchidae	213	31
Chain pickerel	.	.
Channel catfish	100	15
Comely shiner	.	.
Common shiner	.	.

Table C-3 (Continued)

	2006	2007
Freshwater		
(cont.)		
Creek chub	.	.
Cyprinidae	.	.
Emerald shiner	52	9
Fall fish	2	.
Fathead minnow	1	.
Freshwater drum	14	7
Gizzard shad	58	116
Golden shiner	231	91
Goldfish	2	7
Grass carp	.	.
Grass pickerel	.	.
Green sunfish	.	.
Largemouth bass	48	75
Logperch	3	7
Longear sunfish	.	.
Longnose dace	.	.
Mimic shiner	.	.
Northern hog sucker	.	1
Northern pike	9	1
Pugnose shiner	.	.
Pumpkinseed	569	439
Rainbow trout	.	.
Redbreast sunfish	87	55
Redfin pickerel	.	.
Rock bass	1	.
Rudd	.	.
Satinfin shiner	3	164
Silvery minnow	13	66
Smallmouth bass	81	97
Spotfin shiner	2	96
Spottail shiner	4,417	13,284
Swallowtail shiner	.	.
Tesselated darter	1,229	1,045
Tiger muskellunge	.	.
Trout perch	.	.
Walleye	.	.
White crappie	.	.
White sucker	36	81
Yellow perch	107	142
Marine		
Atlantic croaker	292	.
Atlantic herring	.	.
Atlantic menhaden	4,885	6,105
Atlantic needlefish	58	96
Bay anchovy	5,376	1,314
Bluefish	169	719
Butterfish	.	.

Table C-3 (Continued)

	2006	2007
Marine (cont.)		
Crevalle jack	21	.
Cunner	.	.
Fourbeard rockling	.	.
Goosefish	.	.
Gray snapper	.	1
Grubby	.	.
Inshore lizardfish	1	.
Lookdown	.	.
Moonfish	.	.
Naked goby	5	19
Northern kingfish	6	59
Northern puffer	.	1
Northern searobin	.	.
Northern stargazer	.	2
Orangespotted filefish	.	.
Permit	.	1
Red hake	.	.
Rough silverside	9	.
Seaboard goby	.	.
Searobin	.	.
Silver hake	.	.
Silver perch	.	2
Smallmouth flounder	.	.
Spanish mackerel	.	.
Spot	22	.
Spotfin mojarra	.	.
Spotted goatfish	.	.
Spotted hake	2	.
Striped anchovy	4	1
Striped mullet	24	.
Striped searobin	1	12
Summer flounder	12	3
Tautog	.	11
Weakfish	.	9
Windowpane	.	.
Winter flounder	28	85
Unidentified		
Morone unidentified	.	2
Unidentifiable	.	.

Table C-3 (Continued)

Sampling Statistics for Beach Seine Survey, 1985-2007

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Start Date	16-Jul	15-Jul	24-Jun	14-Jun	13-Jun	18-Jun	24-Jun	23-Jun	1-Jul	27-Jun	19-Jun	18-Jun
End Date	21-Nov	21-Nov	13-Nov	3-Nov	2-Nov	24-Oct	1-Nov	28-Oct	4-Nov	2-Nov	26-Oct	23-Oct
Sample Size	1,000	1,000	1,101	1,100	1,100	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
Start Date	16-Jun	15-Jun	14-Jun	13-Jun	19-Jun	18-Jun	17-Jun	15-Jun	14-Jun	12-Jun	11-Jun	
End Date	23-Oct	21-Oct	22-Oct	18-Oct	25-Oct	23-Oct	22-Oct	21-Oct	20-Oct	19-Oct	18-Oct	
Sample Size	1,000	1,000	994	1,000	952	1,000	1,000	1,000	1,000	1,000	1,000	

Appendix D

Annual Abundance Indices

APPENDIX D

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D.1 INTRODUCTION

Annual indices of abundance for 13 species of finfish are based on data from the Longitudinal River Survey (LRS), Fall Juvenile Survey (FJS) and Beach Seine Survey (BSS). This appendix documents the methods used to calculate these indices of abundance and presents the indices from 1974 through 2007.

For each of the 13 species, one or more sampling programs were selected to be the basis for the index of abundance. The selections considered when and where each species was expected to be present in the Hudson River based on life-history characteristics of each species in relation to the times and places that sampling gear is deployed by each program. The selections were also based on observed catch rates from each of the three sampling programs. The sampling programs on which the indices of abundance are based as well as the life stages and weeks selected for analysis are summarized in [Table D-1](#).

The statistical methods used to estimate the annual indices of abundance are described in the following section. Summaries of the indices of annual abundance for the 13 species are presented in [Figures D-1 through D-13](#) and [Tables D-2 through D-14](#).

D.2 METHODS

D.2.1 Beach Seine Survey

Indices of abundance using data from the BSS were calculated for juvenile striped bass, white perch, American shad, alewife, blueback herring, bluefish, and spottail shiner; for yearling white perch; and for yearling and older white catfish. Weeks 33 to 40 were selected as the only period consistently sampled in the BSS. The Beach Seine Survey Index of abundance (B) for each year and species is a measure of catch per haul and is calculated according to the following formula:

$$B = \frac{1}{n} \sum_{w=33}^{40} \left[\frac{\sum_{i=1}^{12} W_i \left(\frac{\sum_j C_{jiw}}{h_{iw}} \right)}{\sum_{i=1}^{12} W_i} \right] X_w ,$$

where

- B = the BSS index for a species in a year;
- C_{jiw} = the count of a species in sample j , region i , and week w ;
- X_w = 1 if week w was sampled during the year, 0 otherwise;
- n = the number of weeks sampled in the year,
= $\sum_{w=33}^{40} X_w$;
- h_{iw} = the number of seine hauls in region i and week w ; and
- W_i = the number of beaches in the sampling design in river region i .

The above equation can be expressed in terms of a weighted average catch per haul (CPH) as follows:

$$B = \frac{1}{n} \sum_{w=33}^{40} \bar{Y}_w X_w = \frac{1}{n} \sum_{w=33}^{40} \left[\frac{\sum_{i=1}^{12} W_i \bar{Y}_{wi}}{\sum_{i=1}^{12} W_i} \right] X_w ,$$

where

$$\begin{aligned} \bar{Y}_{wi} &= \text{the average CPH in week } w \text{ and region } i \text{ and} \\ \bar{Y}_w &= \text{the weighted average CPH in week } w. \end{aligned}$$

Because not all weeks within the period of week 33 to 40 were sampled by the BSS in each year, the variance of the BSS index in any year is calculated as a two-stage variance. The primary sampling unit in the first stage is weeks, and the design is assumed to be simple random sampling (i.e., weeks of sampling are construed to be a random sample of weeks within the period from week 33 through week 40). The sampling units in the second stage are regions, and the design is stratified random where regions are the statistical strata. The variance is calculated using a two-stage estimator based on equation 11.24 in Cochran (1977, p. 303):

$$\text{var}(B) = \frac{\left(1 - \frac{n}{N}\right)}{n} S_1^2 + \frac{1}{Nn} \sum_w S_{2,w}^2 ,$$

where

$$\begin{aligned} S_1^2 &= \text{the first stage variance (temporal, among weeks),} \\ S_{2,w}^2 &= \text{the second stage variance (spatial) in week } w, \text{ and} \\ N &= \text{the number of weeks (8) within the selected period, i.e., weeks 33 through 40.} \end{aligned}$$

The first stage variance component is estimated as:

$$S_1^2 = \frac{1}{n-1} \sum_{w=33}^{40} (\bar{Y}_w - B)^2 .$$

The second stage variance component is estimated as:

$$S_{2,w}^2 = \frac{\sum_{i=1}^{12} W_i^2 \left[\frac{\sum_j \left(C_{t_{jiw}} - \frac{1}{h_{iw}} \sum_j C_{t_{jiw}} \right)^2}{(h_{iw})(h_{iw} - 1)} \right]}{\left(\sum_{i=1}^{12} W_i \right)^2}.$$

Then:

$$\text{std. err.}(B) = (\text{var}(B))^{1/2}.$$

D.2.2 Fall Juvenile Survey

Indices of abundance using data from channel sampling by the FJS were calculated for juvenile blueback herring, alewife, bay anchovy, weakfish, and rainbow smelt for the years 1979 through 2007, the years that the channel was sampled. In addition, indices of abundance based on bottom sampling by the FJS were calculated for juvenile hogchoker. Weeks 33 to 40 were selected as the only period consistently sampled in the FJS for channel sampling and weeks 40 to 43 for bottom sampling. The Fall Juvenile Survey Index of abundance (F) for each year and species sampled in gear specific for either the channel or the bottom is a measure of average density and is calculated according to the following formula:

$$F_g = \frac{1}{n} \sum_{w=33}^{40} \left[\frac{\sum_{i=1}^{12} \sum_{s=1}^3 V_{is} \left(\frac{\sum_j C_{t_{jiswg}}}{\sum_j v_{jiswg}} \right)}{\sum_{i=1}^{12} \sum_{s=1}^3 V_{is}} \right] X_w,$$

where

- F_g = the FJS index (for gear g) for a species in a year;
- $C_{t_{jiswg}}$ = the count of a species in sample j from gear g , region i , stratum s , and week w ;
- X_w = 1 if week w was sampled during the year, 0 otherwise;
- n = the number of weeks sampled in the year,
 $= \sum_{w=33}^{40} X_w$;
- v_{jiswg} = the volume of sample j from gear g in region i , stratum s , and week w ; and
- V_{isg} = the volume of stratum s , sampled by gear g , in river region i .

The above equation can be expressed in terms of weighted average sample densities as follows:

$$F_g = \frac{1}{n} \sum_{w=33}^{40} \bar{Y}_{wg} X_w = \frac{1}{n} \sum_{w=33}^{40} \left[\frac{\sum_{i=1}^{12} \sum_{s=1}^3 V_{si} \bar{Y}_{iswg}}{\sum_{i=1}^{12} \sum_{s=1}^3 V_{si}} \right] X_w,$$

where

$$\begin{aligned} \bar{Y}_{iswg} &= \text{the average density of a species in samples from region } i, \text{ stratum } s, \\ &\quad \text{week } w, \text{ and gear } g \text{ and} \\ \bar{Y}_{wg} &= \text{the weighted average density of a species in samples from week } w, \\ &\quad \text{and gear } g. \end{aligned}$$

Because not all weeks within the period of week 33 to 40 (or 40 to 43 for bottom sampling) were sampled by the FSS in each year, the variance of the FSS index of abundance in any year is calculated as the sum of two components. The primary unit in the first stage is weeks, and the design is assumed to be simple random sampling (i.e., weeks of sampling are construed to be a random sample of weeks within the period from week 33 through week 40 or from week 40 through week 43). The sampling units in the second stage are region-(habitat) strata, and the design is stratified random where region-(habitat) strata are the statistical strata. The variance is calculated using a two-stage estimator based on equation 11.24 in Cochran (1977, p. 303):

$$\text{var}(F_g) = \frac{\left(1 - \frac{n}{N}\right)}{n} S_{1,g}^2 + \frac{1}{Nn} \sum_w S_{2,gw}^2,$$

where

$$\begin{aligned} S_{1,g}^2 &= \text{the first stage variance (temporal, among weeks),} \\ S_{2,gw}^2 &= \text{the second stage variance (spatial) in week } w, \text{ and} \\ N &= \text{the number of weeks (8 or 4) within the selected period, i.e., weeks} \\ &\quad \text{33 through 40 or weeks 40 through 43.} \end{aligned}$$

The first stage variance component is calculated as:

$$S_{1,g}^2 = \frac{1}{n-1} \sum_{w=33}^{40} (\bar{Y}_{wg} - F_g)^2.$$

The second stage variance is calculated as:

$$S_{2, gw}^2 = \frac{\sum_{i=1}^{12} \sum_{s=1}^3 V_{isg}^2 \left[\frac{\left(h_{iswg} \sum_j (Ct_{jiswg} - \bar{C}t_{iswg})^2 \right)}{h_{iswg} - 1} \right]}{\left(\sum_{i=1}^{12} \sum_{s=1}^3 V_{isg} \right)^2},$$

where

V_{isg} = the total volume of (habitat) stratum, s , and region, i , sampled by gear g .

Then:

$$\text{std. err. } (F_g) = (\text{var}(F_g))^{1/2}.$$

D.2.3 Long River Survey

Indices of abundance using data from the LRS were calculated for striped bass, white perch, American shad, Atlantic tomcod and rainbow smelt. For striped bass, white perch and American shad, the indices are based on the egg, yolk-sac larvae (YSL), and post yolk-sac larvae (PYSL) life stages and the weeks selected depend on the period of abundance. For Atlantic tomcod the index was based on PYSL and juveniles combined over weeks 19 through 22 and for rainbow smelt the index was based on the juvenile life stage in weeks 20 through 27. The Long River Survey Index of abundance (L) for each year and species is a measure of average density and is calculated according to the following formula:

$$L = \sum_{w=firstwk}^{lastwk} \left[\frac{\sum_{i=1}^{12} \sum_{s=1}^5 V_{is} \left(\frac{\sum_j Ct_{jisw}}{\sum_j v_{jisw}} \right)}{\sum_{i=1}^{12} \sum_{s=1}^5 V_{is}} \right],$$

where

- L = the LRS index for any species in any year;
- Ct_{jisw} = the count of a species in sample j , region i , stratum s , and week w ;
- v_{jisw} = the volume of sample j from in region i , stratum s , and week w ;
- V_{is} = the volume of stratum s in river region i ;
- $firstwk$ = the first week included in the annual index of abundance:
 striped bass, American shad, and white perch egg, YSL, and
 PYSL -- the first week of the year in which the sum of weekly
 density estimates (from the initial week of sampling in the

year through the current week) exceeds 5% of the sum of densities over all weeks of sampling,
Atlantic tomcod PYSL and juveniles combined -- week 19, and rainbow smelt juveniles -- week 20; and
 $lastwk$ = the last week included in the annual index of abundance:
striped bass, American shad, and white perch egg, YSL, and PYSL -- $firstwk + 7$;
Atlantic tomcod PYSL and juveniles combined -- week 22; and rainbow smelt juveniles -- week 27.

The above equation can be expressed in terms of average sample density as follows:

$$L = \sum_{w=firstwk}^{lastwk} \bar{Y}_w = \sum_{w=firstwk}^{lastwk} \left[\frac{\sum_{i=1}^{12} \sum_{s=1}^5 V_{si} \bar{Y}_{isw}}{\sum_{i=1}^{12} \sum_{s=1}^5 V_{si}} \right],$$

where

\bar{Y}_{isw} = the average density of a species in samples from region i , stratum s , and week w [Note: for strata and regions that were not sampled, predicted densities (based on regression predictors and densities in adjacent strata) were used] and
 \bar{Y}_w = the weighted average density of a species in samples collected during week w .

Variance of the index was estimated using the following equation:

$$var(L) = \sum_{w=firstwk}^{lastwk} \left[\frac{\sum_s \sum_i V_{is}^2 \left(\frac{n_{si} \left(\sum_j \frac{(Ct_{jisw} - \bar{Ct}_{isw})^2}{n_{si} - 1} \right)}{\left(\sum_j v_{jisw} \right)^2} \right)}{\left(\sum_s \sum_i V_{is} \right)^2} \right],$$

where

V_{is} = the total volume in region i and stratum s .

Then:

$$std. \text{ err.}(L) = (var(L))^{1/2}.$$

As indicated in Heimbuch et al. (1992), for indices based on LRS sampling, the volume of water between the beach and 10 ft deep was divided into two substrata: beach and shore. The beach stratum, defined from the beach to water five ft deep, corresponds with the shallow waters sampled in the BSS. The shore stratum, defined as water greater than five ft deep and less than 10 ft deep, is an unsampleable region. Densities in these substrata were estimated based on fixed ratios to the densities in adjacent strata.

D.3 LITERATURE CITED

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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, pages 376-391 *in* C. L. Smith (ed.) Estuarine Research in the 1980s. State University of New York Press. Albany.

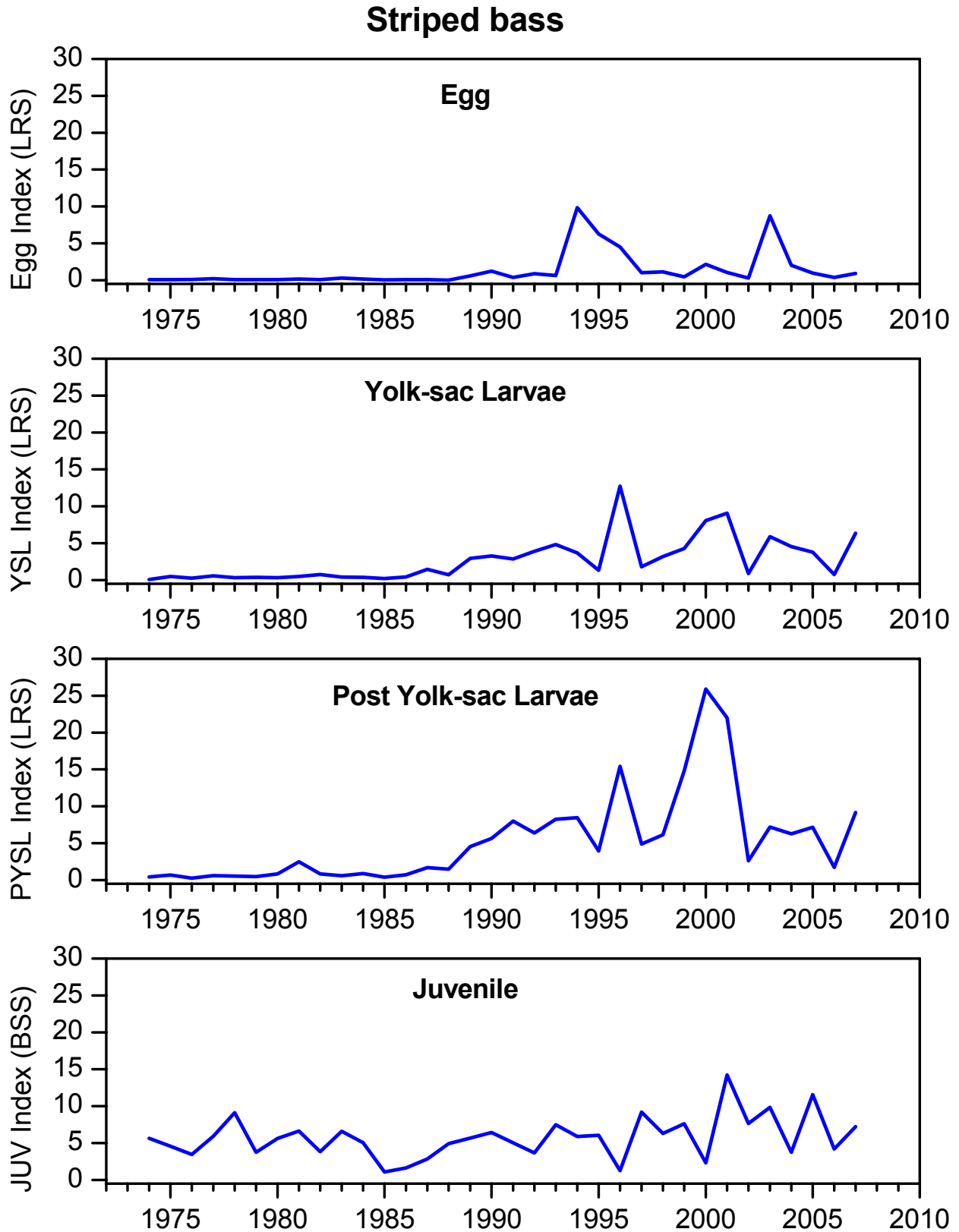


Figure D-1. Striped bass indices of annual abundance based on Long River Survey and Beach Seine Survey, 1974-2007

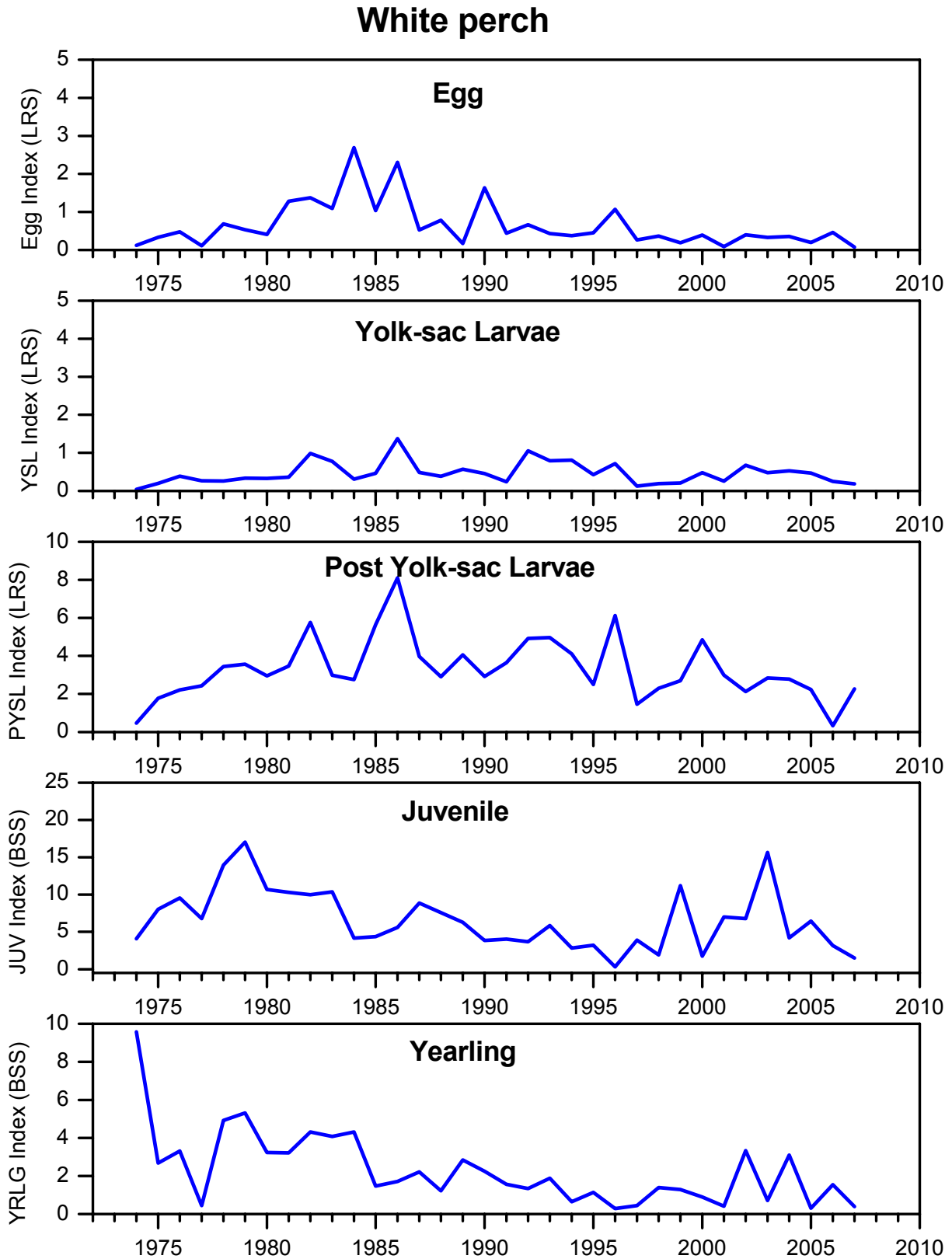


Figure D-2. White perch indices of annual abundance based on Long River Survey and Beach Seine Survey, 1974-2007

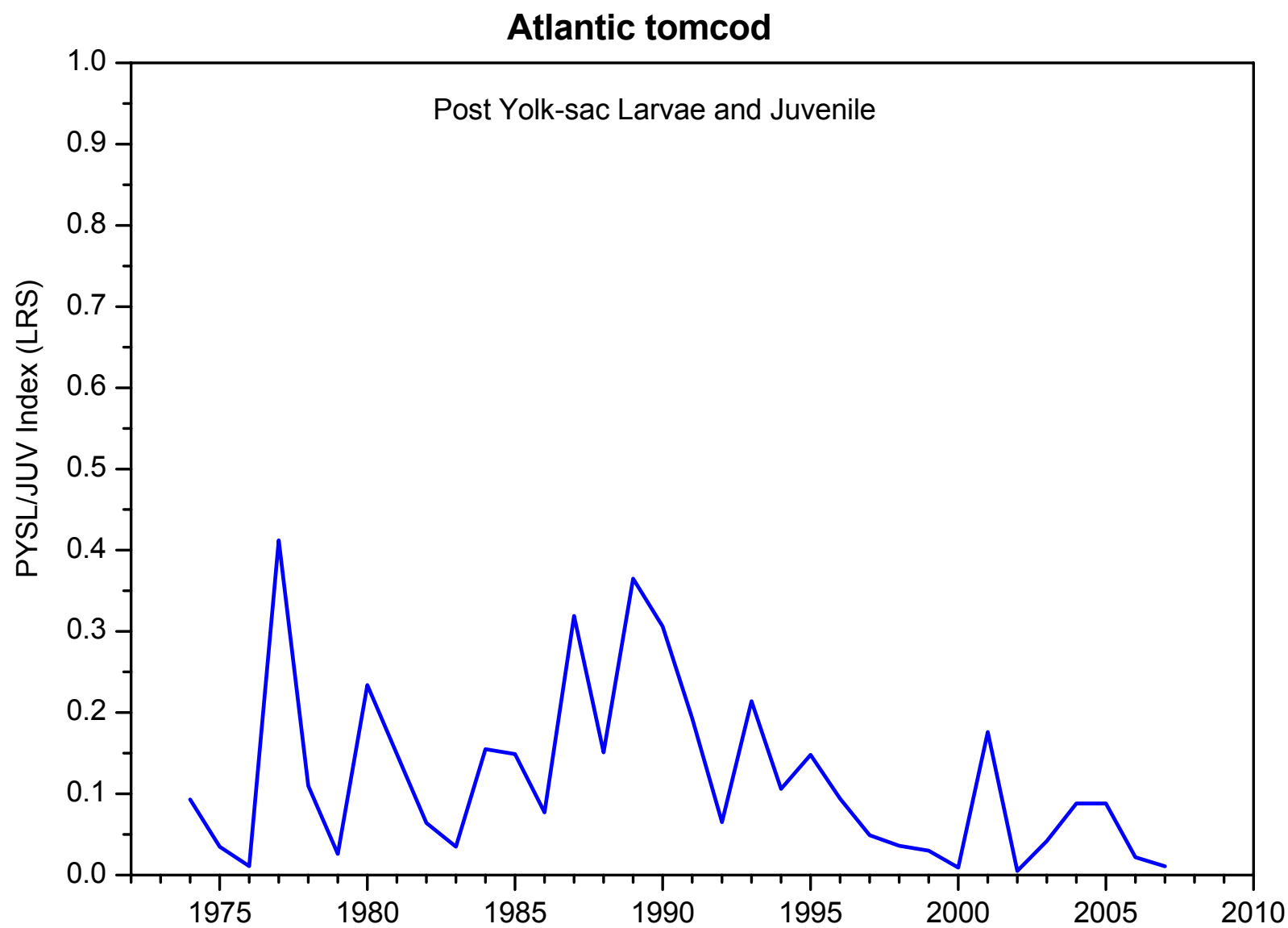


Figure D-3. Atlantic tomcod indices of annual abundance based on Long River Survey, 1974-2007

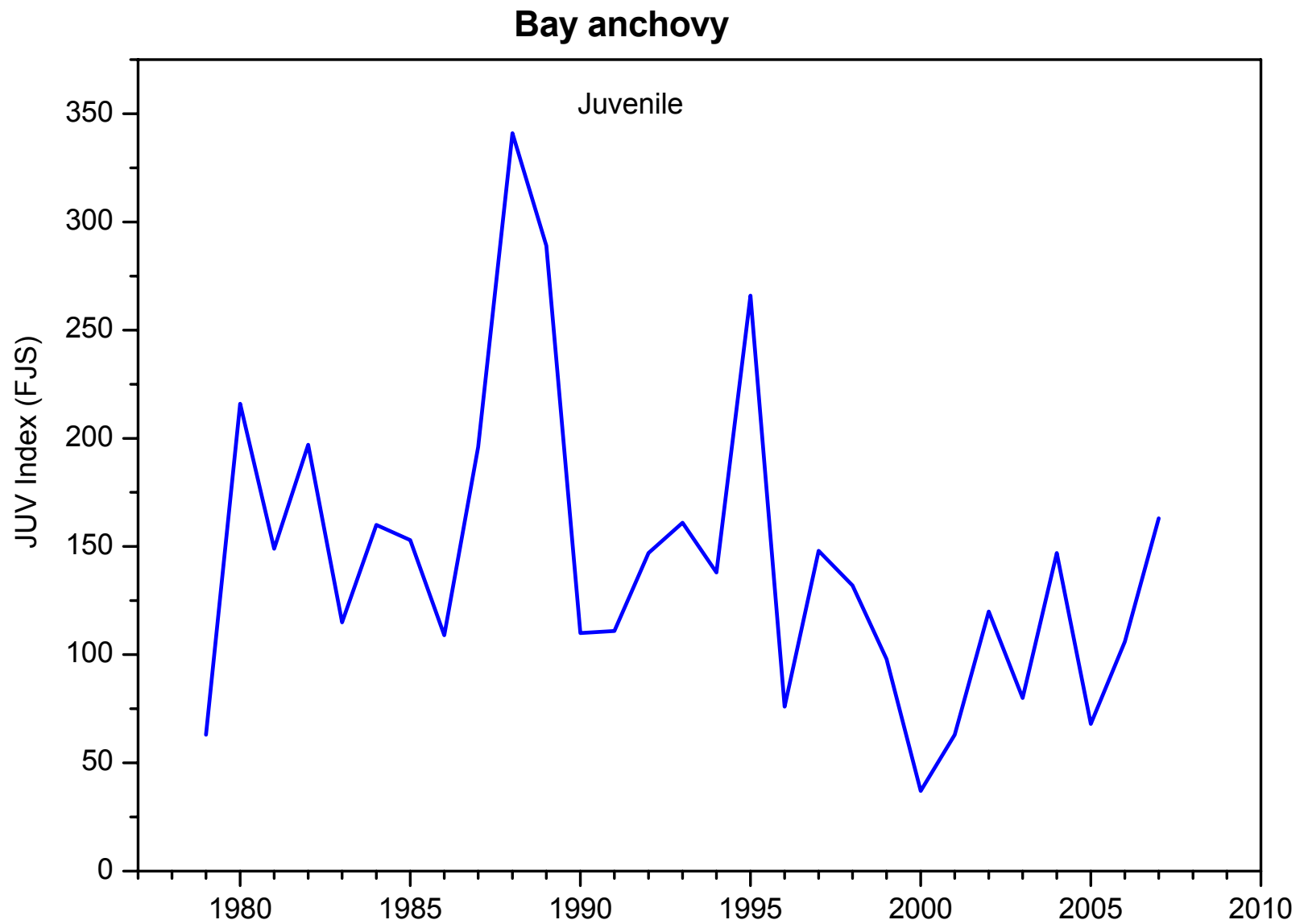


Figure D-4. Bay anchovy indices of annual abundance based on Fall Juvenile Survey, 1979-2007

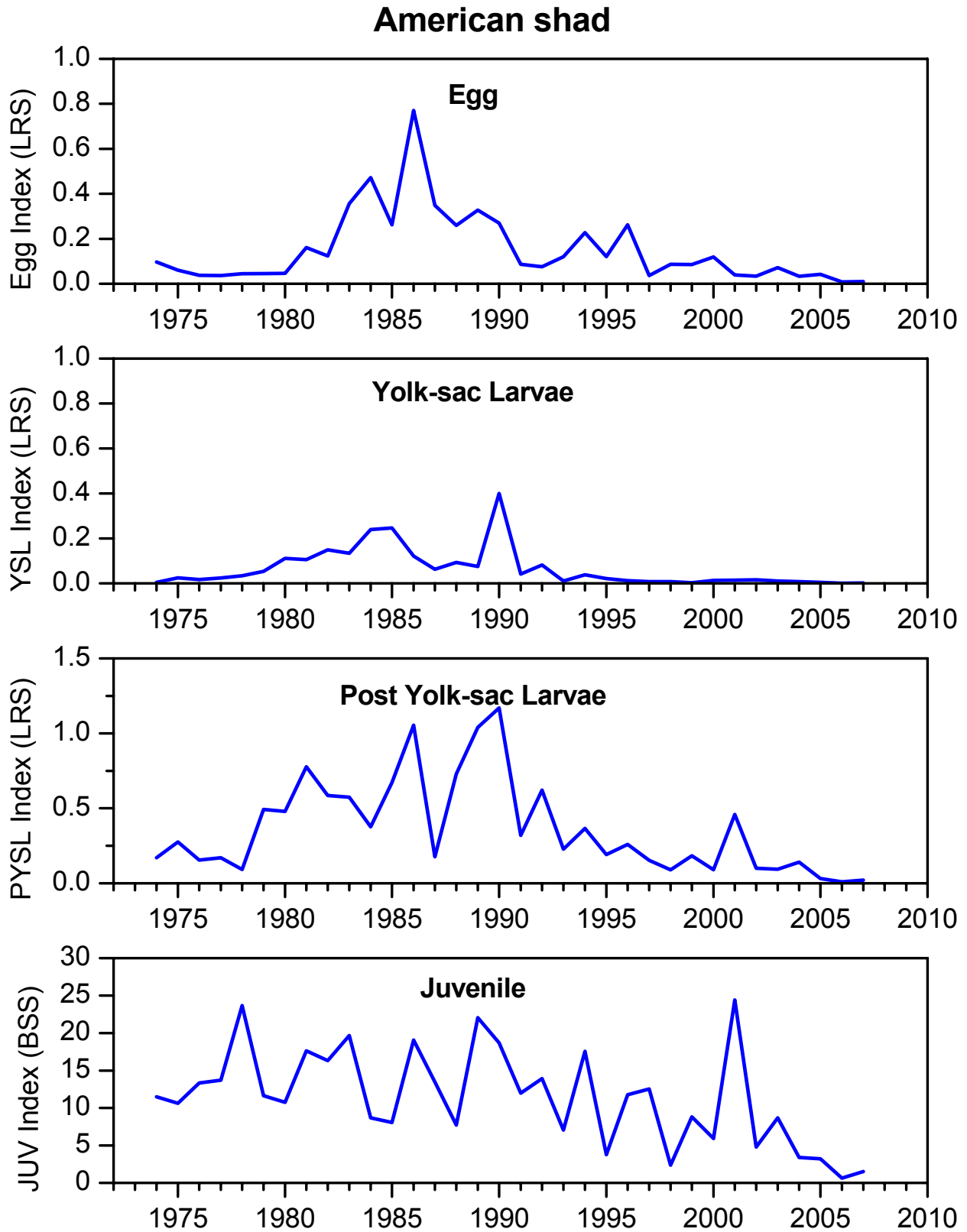


Figure D-5. American shad indices of annual abundance based on Long River Survey and Beach Seine Survey, 1974-2007

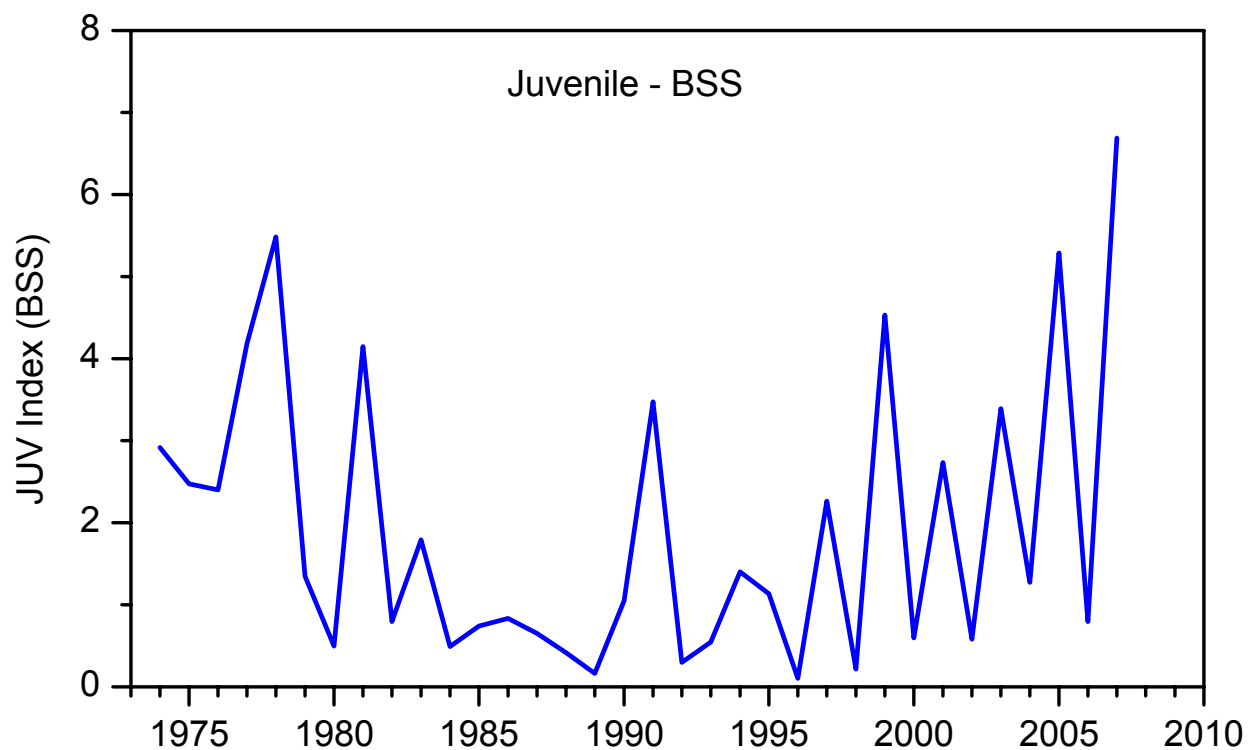
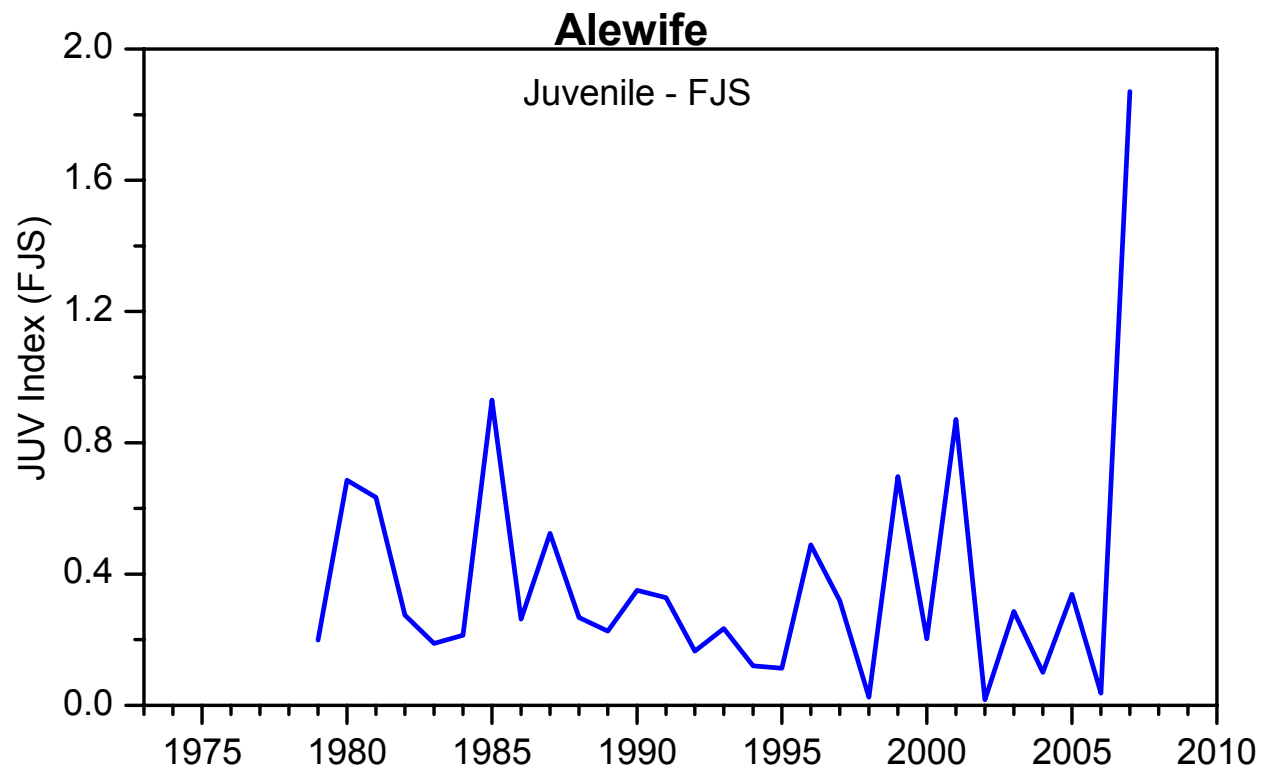


Figure D-6. Alewife indices of annual abundance based on Fall Juvenile Survey, 1979-2006, and Beach Seine Survey, 1974-2007

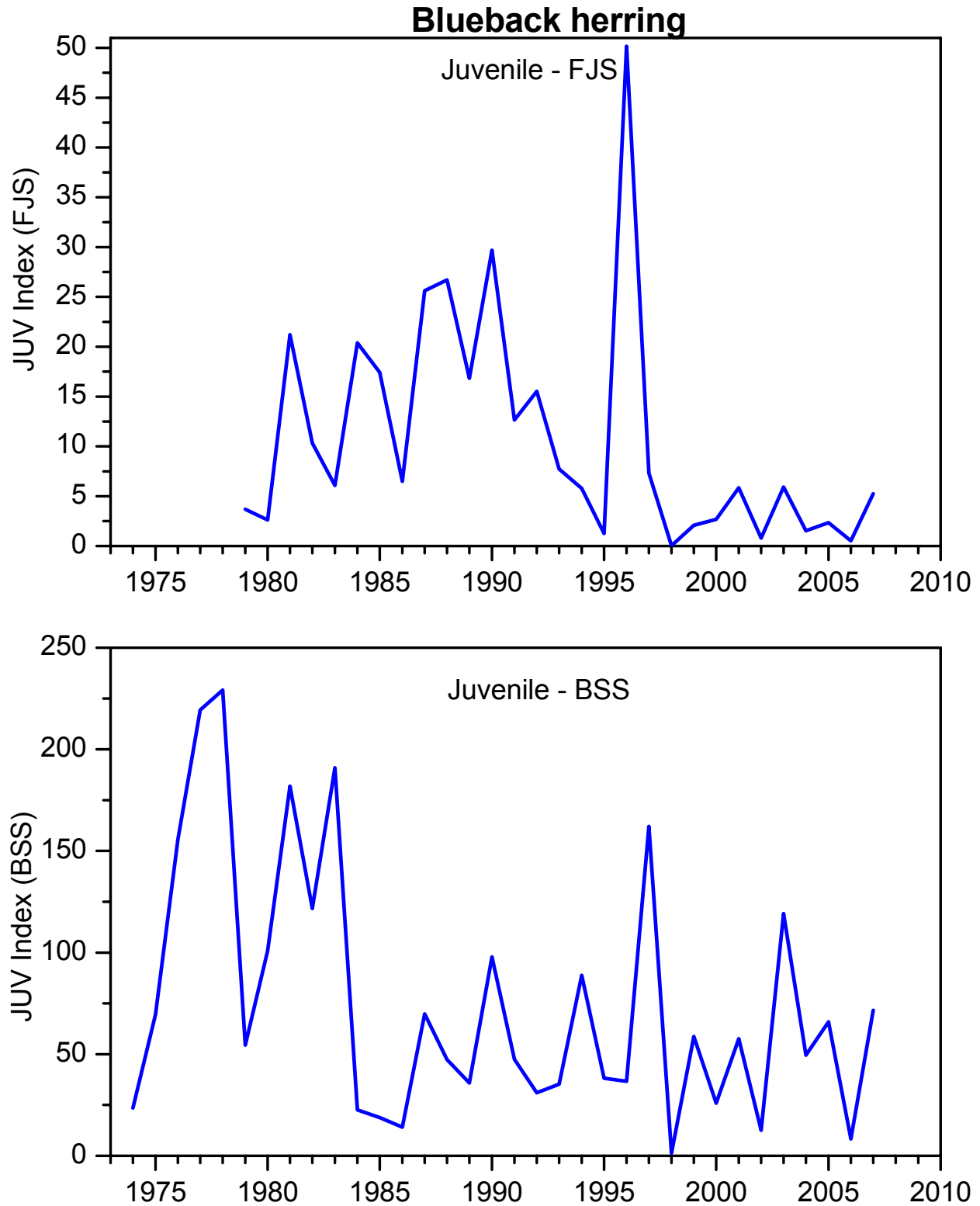


Figure D-7. Blueback herring indices of annual abundance based on Fall Juvenile Survey, 1979-2006, and Beach Seine Survey, 1974-2007

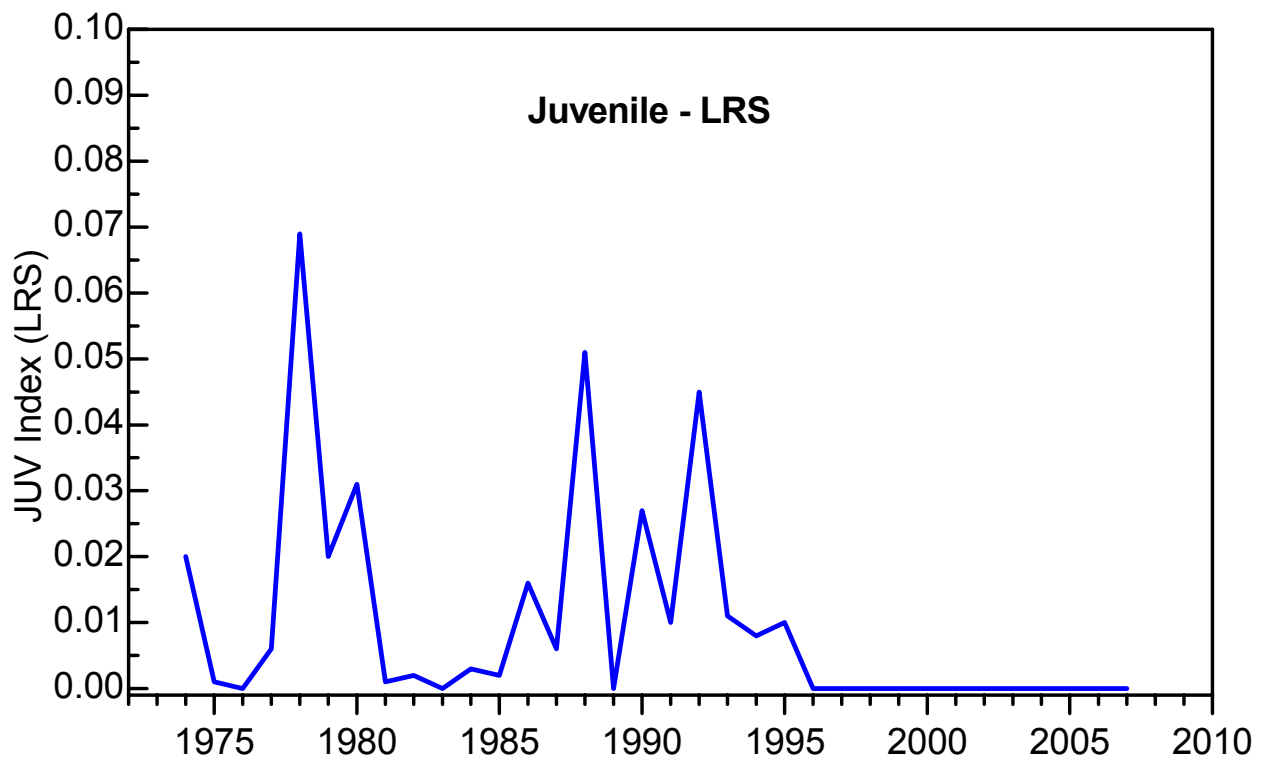
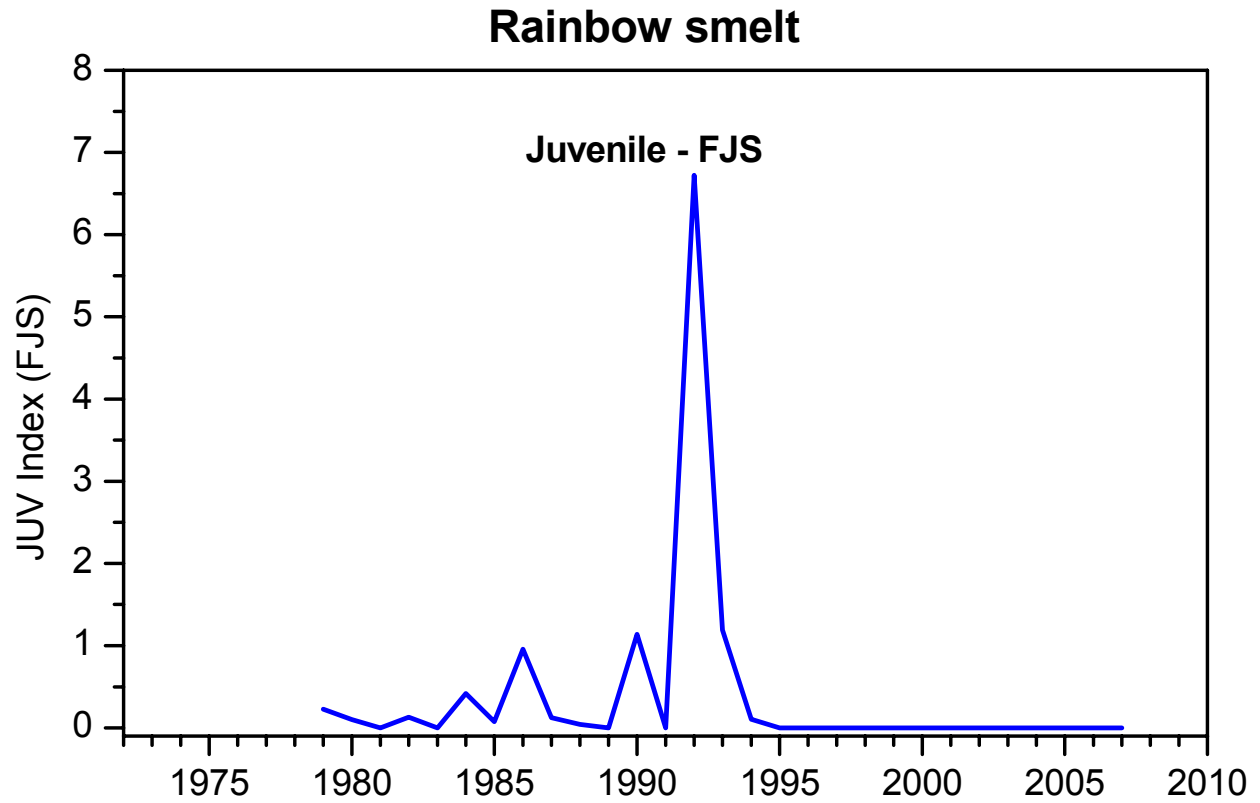


Figure D-8. Rainbow smelt indices of annual abundance based on Fall Juvenile Survey, 1979-2006, and Long River Survey, 1974-2007

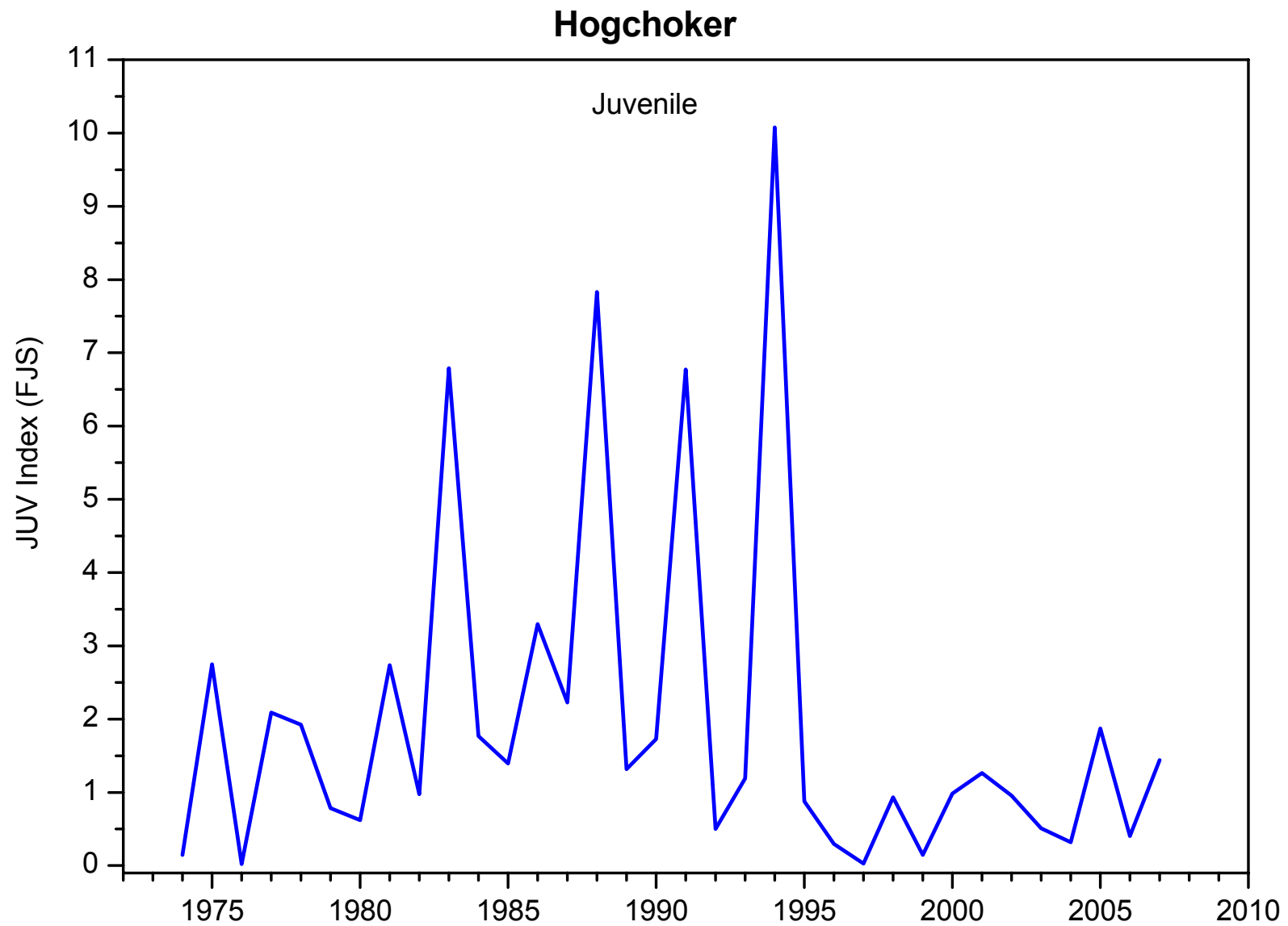


Figure D-9. Hogchoker indices of annual abundance based on Fall Juvenile Survey, 1974-2007

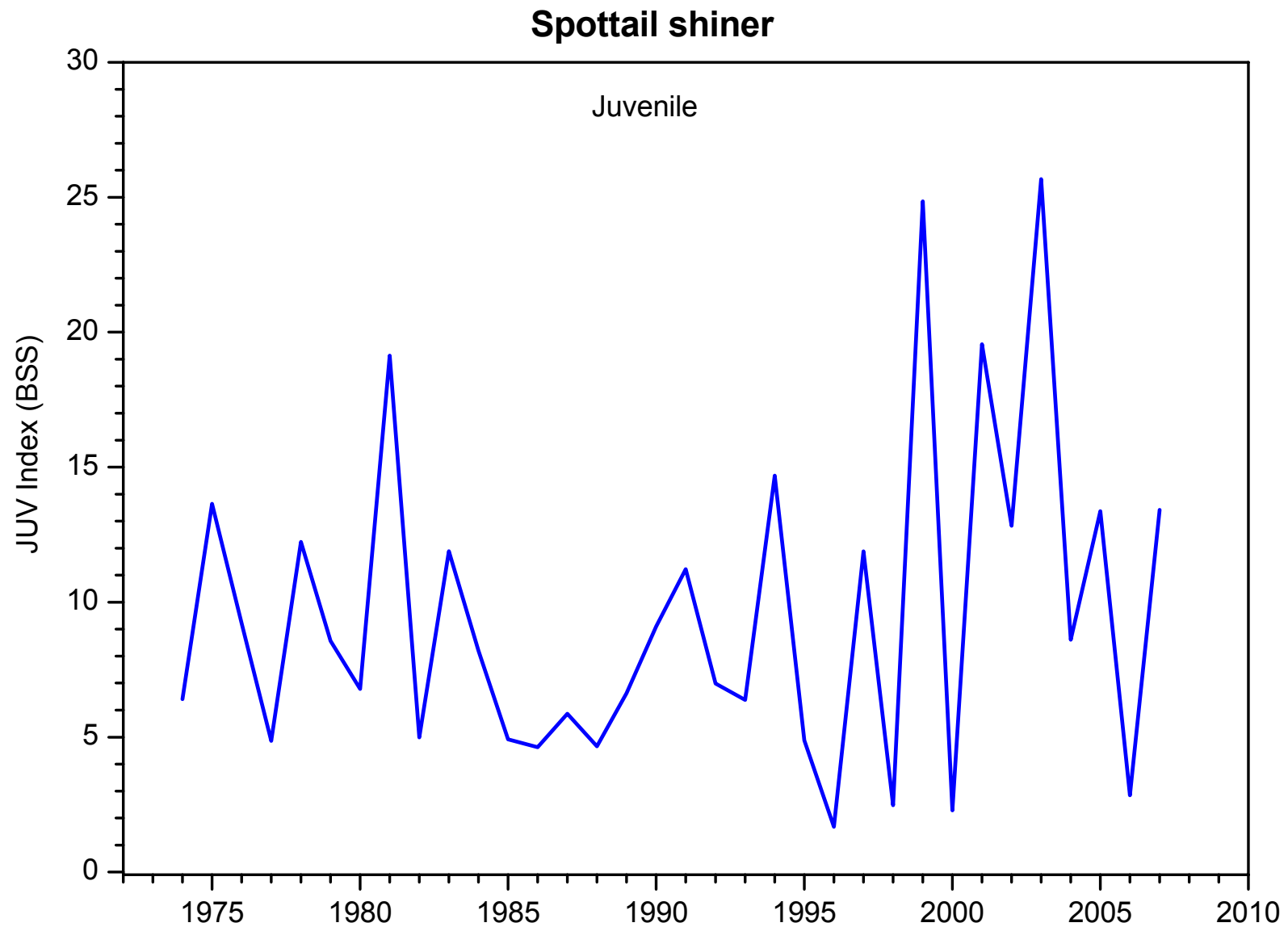


Figure D-10. Spottail shiner indices of annual abundance based on Beach Seine Survey, 1974-2007

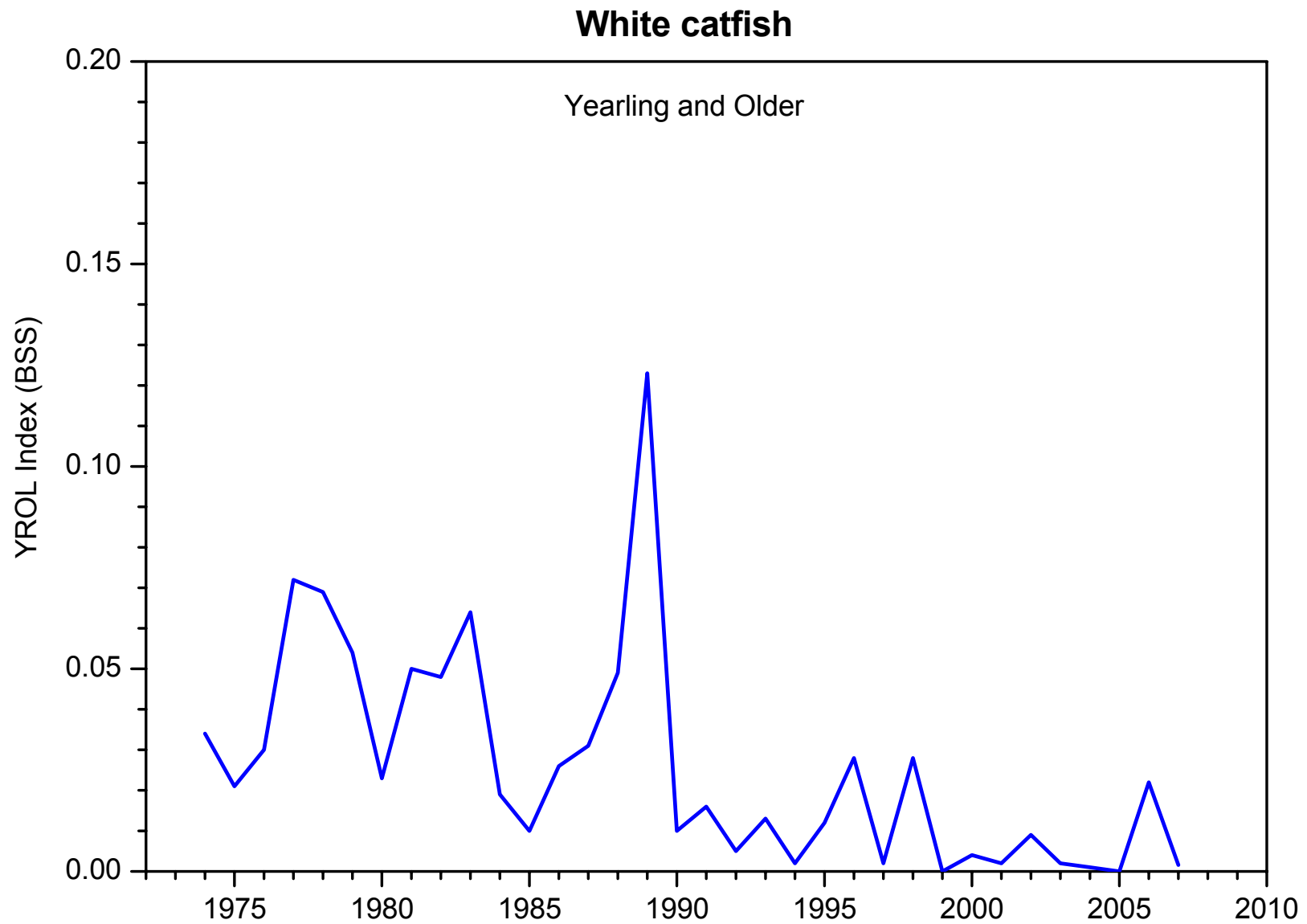


Figure D-11. White catfish indices of annual abundance based on Beach Seine Survey, 1974-2007

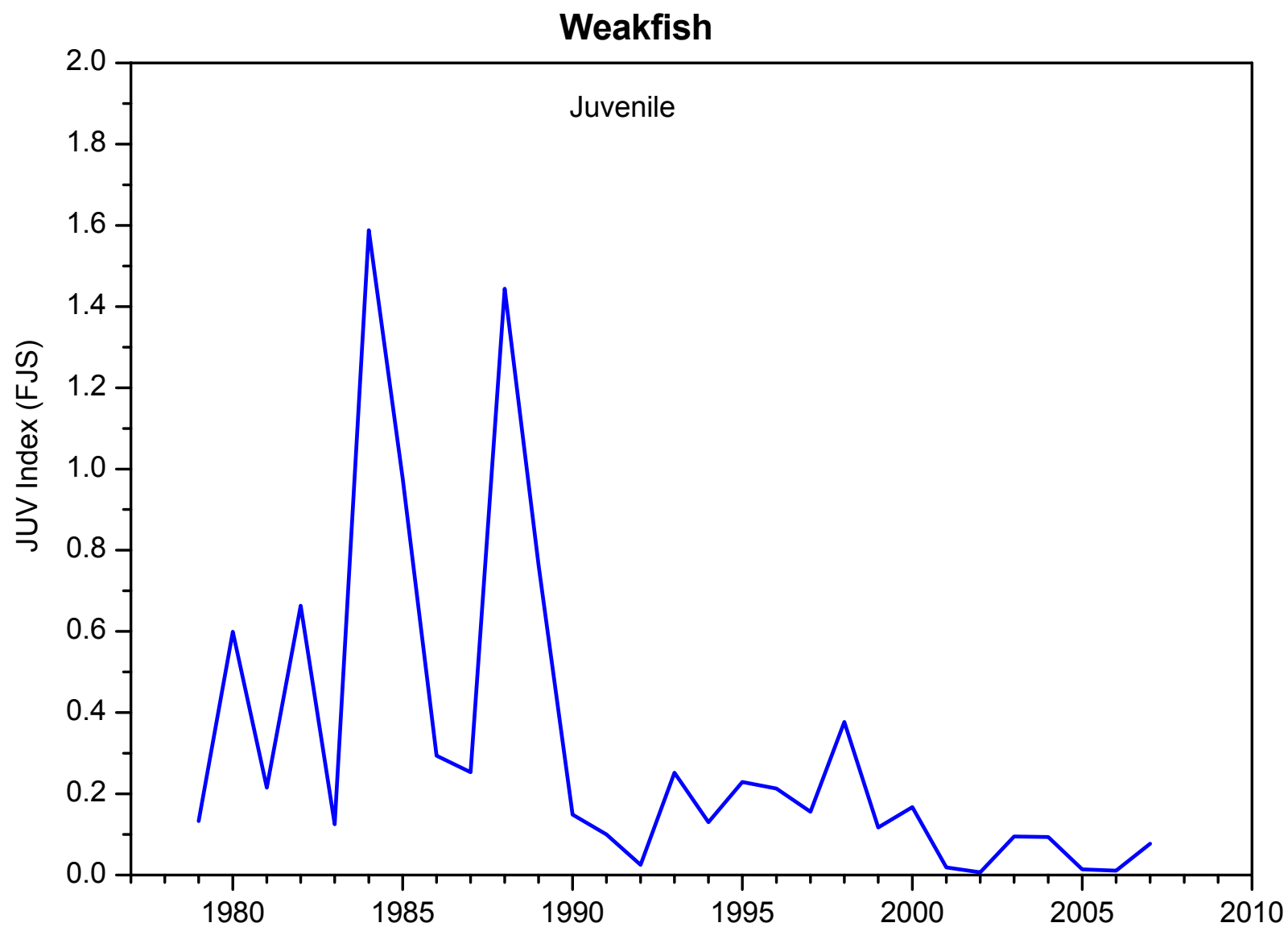


Figure D-12. Weakfish indices of annual abundance based on Fall Juvenile Survey, 1979-2007

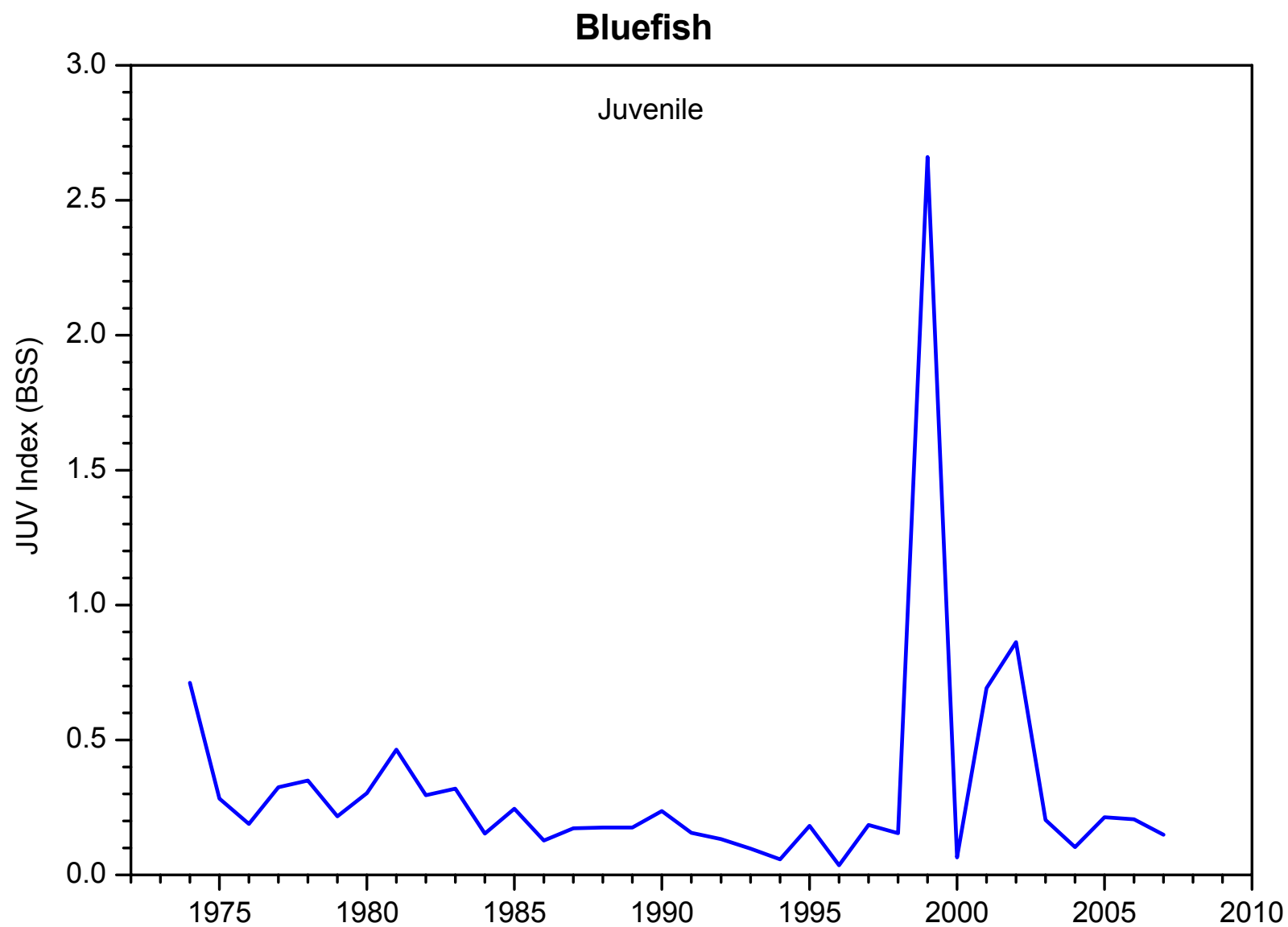


Figure D-13. Bluefish indices of annual abundance based on Beach Seine Survey, 1974-2007

Table D-1 Parameters for Indices of Annual Abundance Based on Data from the Beach Seine Survey (BSS), Fall Juvenile Survey (FJS), and Longitudinal River Survey (LRS)

Species	Life Stage	Weeks Used in Sampling Program		
		BSS	FJS	LRS
Striped bass	Egg, YSL, and PYSL			Variable ¹
Striped bass	Juvenile	33-40		
White perch	Egg, YSL, and PYSL			Variable ¹
White perch	Juvenile and Yearling	33-40		
Atlantic tomcod	PYSL and Juvenile combined			19-22
Bay anchovy	Juvenile		33-40 (Channel)	
American shad	Egg, YSL, and PYSL			Variable ¹
American shad	Juvenile	33-40		
Alewife	Juvenile	33-40	33-40 (Channel)	
Blueback herring	Juvenile	33-40	33-40 (Channel)	
Rainbow smelt	Juvenile		33-40 (Channel)	20-27
Hogchoker	Juvenile		40-43 (Bottom)	
Spottail shiner	Juvenile	33-40		
White catfish	Yearling and older	33-40		
Weakfish	Juvenile		33-40 (Channel)	
Bluefish	Juvenile	33-40		

¹ 7 weeks beginning with the first week in which 5% of annual total is achieved

Table D-2 Striped Bass Indices of Annual Abundance Based on Long River Survey and Beach Seine Survey, 1974-2007

	Long River Survey						Beach Seine Survey	
	Egg		Yolk-Sac Larvae		Post Yolk-Sac Larvae		Juvenile	
	Index	Std. Err.	Index	Std. Err.	Index	Std. Err.	Index	Std. Err.
1974	0.062	0.044	0.080	0.018	0.424	0.033	5.652	0.869
1975	0.076	0.012	0.487	0.031	0.694	0.044	4.557	0.301
1976	0.097	0.011	0.253	0.014	0.265	0.017	3.445	0.392
1977	0.195	0.022	0.566	0.029	0.605	0.036	5.919	0.411
1978	0.077	0.010	0.306	0.019	0.538	0.038	9.115	1.884
1979	0.075	0.008	0.359	0.022	0.468	0.032	3.760	0.756
1980	0.072	0.009	0.319	0.024	0.833	0.062	5.605	0.829
1981	0.137	0.015	0.486	0.055	2.482	0.116	6.611	0.912
1982	0.073	0.007	0.745	0.078	0.825	0.061	3.826	0.539
1983	0.276	0.189	0.391	0.026	0.589	0.033	6.580	1.249
1984	0.152	0.019	0.358	0.030	0.867	0.096	5.059	1.008
1985	0.050	0.005	0.202	0.017	0.405	0.033	1.069	0.237
1986	0.060	0.008	0.421	0.032	0.721	0.036	1.618	0.388
1987	0.059	0.007	1.449	0.085	1.697	0.066	12.823	2.245
1988	0.024	0.008	0.706	0.068	1.481	0.139	4.912	0.607
1989	0.588	0.269	2.941	0.277	4.540	0.344	5.665	0.897
1990	1.219	0.182	3.271	0.295	5.642	0.535	6.415	0.703
1991	0.363	0.064	2.855	0.257	8.005	0.770	5.032	1.070
1992	0.874	0.154	3.884	0.219	6.380	0.426	3.678	0.581
1993	0.633	0.122	4.812	0.969	8.247	0.727	7.496	1.626
1994	9.825	1.869	3.678	0.526	8.454	0.795	5.880	1.056
1995	6.266	1.010	1.305	0.199	3.942	0.389	6.043	0.903
1996	4.497	0.649	12.743	1.796	15.404	1.465	1.252	0.330
1997	1.029	0.185	1.795	0.296	4.887	0.745	9.185	0.829
1998	1.131	0.343	3.173	0.548	6.133	0.490	6.287	0.709
1999	0.460	0.087	4.265	0.393	14.788	1.343	7.621	1.486
2000	2.144	0.194	8.061	0.817	25.886	2.823	2.320	0.691
2001	1.030	0.235	9.057	0.748	21.999	1.364	14.215	1.551
2002	0.291	0.042	0.879	0.054	2.625	0.151	7.649	0.860
2003	8.721	4.871	5.889	0.634	7.185	0.718	9.834	1.554
2004	2.018	0.402	4.534	0.372	6.254	0.352	3.752	0.822
2005	0.960	0.158	3.786	0.874	7.169	0.621	11.582	1.469
2006	0.361	0.051	0.752	0.080	1.727	0.102	4.171	0.722
2007	0.920	0.196	6.353	1.267	9.157	0.600	7.201	0.961

Table D-3 White Perch Indices of Annual Abundance Based on Long River Survey and Beach Seine Survey, 1974-2007

	Long River Survey						Beach Seine Survey			
	Egg		Yolk-Sac Larvae		Post Yolk-Sac Larvae		Juvenile		Yearling	
	Index	Std. Err.	Index	Std. Err.	Index	Std. Err.	Index	Std. Err.	Index	Std. Err.
1974	0.122	0.049	0.040	0.010	0.464	0.037	4.091	0.556	9.57	2.24
1975	0.335	0.095	0.198	0.016	1.783	0.147	8.040	1.954	2.68	1.41
1976	0.480	0.092	0.388	0.015	2.214	0.239	9.537	1.341	3.31	0.43
1977	0.112	0.019	0.264	0.014	2.431	0.128	6.782	1.114	0.45	0.07
1978	0.687	0.083	0.261	0.021	3.438	0.195	13.934	2.838	4.92	2.37
1979	0.533	0.070	0.336	0.017	3.571	0.103	17.033	2.747	5.31	1.63
1980	0.411	0.038	0.328	0.015	2.954	0.110	10.682	2.306	3.24	0.94
1981	1.282	0.080	0.360	0.032	3.467	0.174	10.297	1.291	3.22	0.62
1982	1.374	0.158	0.986	0.050	5.757	0.221	9.995	1.139	4.31	0.80
1983	1.089	0.084	0.776	0.040	2.977	0.101	10.363	2.016	4.08	1.60
1984	2.691	0.659	0.310	0.015	2.754	0.119	4.175	0.684	4.31	1.11
1985	1.036	0.117	0.463	0.040	5.640	0.214	4.353	1.076	1.47	0.53
1986	2.306	0.338	1.375	0.080	8.106	0.378	5.597	1.129	1.71	0.43
1987	0.528	0.063	0.483	0.022	3.974	0.119	8.880	1.678	2.21	0.26
1988	0.781	0.104	0.381	0.037	2.905	0.147	7.606	1.296	1.23	0.25
1989	0.171	0.014	0.568	0.051	4.057	0.374	6.281	1.715	2.84	0.51
1990	1.633	0.350	0.460	0.034	2.919	0.261	3.844	0.416	2.25	0.59
1991	0.443	0.059	0.241	0.017	3.637	0.236	4.033	0.754	1.57	0.43
1992	0.665	0.062	1.052	0.062	4.921	0.202	3.677	0.645	1.34	0.18
1993	0.431	0.060	0.792	0.044	4.958	0.185	5.842	0.949	1.89	0.55
1994	0.378	0.035	0.812	0.043	4.106	0.173	2.837	0.581	0.65	0.19
1995	0.454	0.070	0.427	0.020	2.506	0.108	3.209	0.484	1.14	0.34
1996	1.071	0.134	0.721	0.051	6.123	0.269	0.309	0.125	0.29	0.10
1997	0.265	0.047	0.127	0.005	1.461	0.075	3.912	0.558	0.45	0.07
1998	0.370	0.056	0.192	0.014	2.300	0.142	1.930	0.486	1.39	0.29
1999	0.192	0.026	0.210	0.017	2.696	0.152	11.218	2.992	1.29	0.43
2000	0.396	0.030	0.480	0.027	4.841	0.504	1.766	0.391	0.89	0.29
2001	0.091	0.010	0.253	0.017	2.997	0.237	6.997	0.817	0.42	0.13
2002	0.397	0.037	0.677	0.027	2.125	0.147	6.766	1.038	3.33	0.87
2003	0.329	0.034	0.478	0.023	2.845	0.171	15.671	3.697	0.71	0.13
2004	0.355	0.036	0.526	0.036	2.782	0.127	4.203	0.985	3.10	1.03
2005	0.198	0.013	0.470	0.029	2.233	0.133	6.441	0.998	0.313	0.085
2006	0.465	0.040	0.249	0.014	0.335	0.074	3.162	0.521	1.545	0.201
2007	0.075	0.012	0.186	0.018	2.264	0.180	1.519	0.260	0.391	0.127

Table D-4 Atlantic Tomcod Indices of Annual Abundance Based on Long River Survey, 1974-2007

	Long River Survey	
	Post Yolk-Sac Larvae and Juvenile	
	Index	Std. Err.
1974	0.093	0.016
1975	0.035	0.009
1976	0.011	0.003
1977	0.412	0.267
1978	0.110	0.031
1979	0.026	0.006
1980	0.234	0.078
1981	0.149	0.037
1982	0.064	0.024
1983	0.035	0.012
1984	0.155	0.070
1985	0.149	0.027
1986	0.077	0.010
1987	0.319	0.049
1988	0.151	0.034
1989	0.365	0.089
1990	0.306	0.135
1991	0.193	0.029
1992	0.065	0.021
1993	0.214	0.061
1994	0.106	0.022
1995	0.148	0.024
1996	0.094	0.014
1997	0.049	0.011
1998	0.036	0.008
1999	0.030	0.007
2000	0.009	0.002
2001	0.176	0.029
2002	0.005	0.001
2003	0.042	0.006
2004	0.088	0.012
2005	0.088	0.014
2006	0.022	0.005
2007	0.011	0.001

Table D-5 Bay Anchovy Indices of Annual Abundance Based on Fall Juvenile Survey, 1979-2007

	Fall Juvenile Survey	
	Juvenile	
	Index	Std. Err.
1979	63	10
1980	216	53
1981	149	24
1982	197	25
1983	115	32
1984	160	33
1985	153	16
1986	109	16
1987	196	42
1988	341	51
1989	289	40
1990	110	12
1991	111	8
1992	147	35
1993	161	20
1994	138	33
1995	266	44
1996	76	20
1997	148	27
1998	132	20
1999	98	25
2000	37	4
2001	63	10
2002	120	16
2003	80	7
2004	147	48
2005	68	7
2006	106	32
2007	163	19

Table D-6 American Shad Indices of Annual Abundance Based on Long River Survey and Beach Seine Survey, 1974-2007

	Long River Survey						Beach Seine Survey	
	Egg		Yolk-Sac Larvae		Post Yolk-Sac Larvae		Juvenile	
	Index	Std. Err.	Index	Std. Err.	Index	Std. Err.	Index	Std. Err.
1974	0.097	0.031	0.004	0.001	0.171	0.065	11.499	0.825
1975	0.060	0.016	0.025	0.004	0.276	0.176	10.630	1.431
1976	0.037	0.009	0.017	0.002	0.155	0.049	13.325	0.869
1977	0.036	0.004	0.024	0.002	0.170	0.033	13.702	1.388
1978	0.044	0.008	0.034	0.003	0.092	0.031	23.671	2.658
1979	0.045	0.007	0.053	0.006	0.492	0.069	11.645	1.741
1980	0.046	0.009	0.111	0.012	0.479	0.216	10.747	2.464
1981	0.161	0.075	0.106	0.012	0.777	0.309	17.615	2.167
1982	0.123	0.041	0.149	0.016	0.586	0.120	16.312	1.919
1983	0.356	0.114	0.134	0.015	0.573	0.092	19.679	3.887
1984	0.472	0.112	0.240	0.019	0.376	0.168	8.686	1.839
1985	0.262	0.039	0.247	0.041	0.672	0.165	8.078	1.297
1986	0.770	0.325	0.122	0.015	1.054	0.150	19.060	3.735
1987	0.349	0.077	0.063	0.007	0.177	0.077	13.473	2.275
1988	0.259	0.051	0.093	0.030	0.729	0.344	7.717	1.010
1989	0.327	0.063	0.075	0.010	1.040	0.794	22.052	2.414
1990	0.270	0.062	0.400	0.053	1.170	0.733	18.674	1.742
1991	0.086	0.016	0.042	0.008	0.319	0.115	11.966	3.155
1992	0.075	0.021	0.082	0.011	0.622	0.213	13.923	1.051
1993	0.120	0.031	0.011	0.002	0.228	0.116	7.065	0.869
1994	0.227	0.036	0.038	0.005	0.366	0.126	17.557	3.276
1995	0.121	0.030	0.021	0.003	0.191	0.060	3.786	0.433
1996	0.262	0.042	0.012	0.003	0.260	0.061	11.773	1.928
1997	0.036	0.005	0.008	0.001	0.153	0.033	12.537	2.036
1998	0.086	0.012	0.008	0.001	0.089	0.028	2.361	0.415
1999	0.085	0.018	0.003	0.001	0.184	0.066	8.813	2.441
2000	0.119	0.015	0.013	0.002	0.090	0.026	5.925	0.930
2001	0.039	0.012	0.014	0.004	0.459	0.182	24.402	1.827
2002	0.034	0.004	0.016	0.003	0.100	0.037	4.792	0.468
2003	0.072	0.019	0.011	0.001	0.093	0.025	8.686	1.204
2004	0.033	0.008	0.008	0.001	0.141	0.062	3.397	0.613
2005	0.042	0.005	0.004	0.001	0.032	0.015	3.208	0.601
2006	0.008	0.001	0.001	0.000	0.009	0.004	0.631	0.116
2007	0.010	0.007	0.002	0.001	0.021	0.022	1.522	0.370

Table D-7 Alewife Indices of Annual Abundance Based on Fall Juvenile Survey, 1979-2007,
and Beach Seine Survey, 1974-2007

	Fall Juvenile Survey		Beach Seine Survey	
	Juvenile		Juvenile	
	Index	Std. Err.	Index	Std. Err.
1974			2.917	0.439
1975			2.473	0.404
1976			2.400	0.632
1977			4.182	0.605
1978			5.485	0.971
1979	0.199	0.077	1.347	0.232
1980	0.686	0.353	0.498	0.161
1981	0.634	0.214	4.148	0.936
1982	0.275	0.084	0.794	0.237
1983	0.188	0.067	1.791	0.273
1984	0.213	0.125	0.490	0.136
1985	0.930	0.407	0.741	0.173
1986	0.263	0.079	0.834	0.505
1987	0.524	0.268	0.651	0.121
1988	0.268	0.129	0.417	0.089
1989	0.226	0.068	0.163	0.040
1990	0.350	0.137	1.047	0.167
1991	0.328	0.115	3.473	0.569
1992	0.165	0.084	0.299	0.118
1993	0.234	0.083	0.544	0.159
1994	0.120	0.062	1.402	0.343
1995	0.113	0.034	1.136	0.346
1996	0.489	0.146	0.103	0.040
1997	0.319	0.101	2.262	0.439
1998	0.025	0.015	0.214	0.154
1999	0.697	0.173	4.533	1.073
2000	0.203	0.077	0.597	0.315
2001	0.871	0.720	2.733	0.783
2002	0.017	0.014	0.580	0.102
2003	0.286	0.117	3.392	0.895
2004	0.100	0.039	1.274	0.355
2005	0.338	0.092	5.289	1.232
2006	0.037	0.017	0.795	0.435
2007	1.870	1.144	6.688	2.003

Table D-8 Blueback Herring Indices of Annual Abundance Based on Fall Juvenile Survey, 1979-2007, and Beach Seine Survey, 1974-2007

	Fall Juvenile Survey		Beach Seine Survey	
	Juvenile		Juvenile	
	Index	Std. Err.	Index	Std. Err.
1974			23.509	3.394
1975			69.660	9.490
1976			155.551	23.842
1977			219.365	26.383
1978			229.189	44.491
1979	3.695	0.746	54.451	8.318
1980	2.606	0.753	100.836	53.797
1981	21.197	5.861	181.931	72.898
1982	10.331	2.061	121.724	31.431
1983	6.082	1.073	190.860	41.849
1984	20.385	3.673	22.662	5.412
1985	17.424	4.584	18.816	3.904
1986	6.482	1.383	14.102	4.410
1987	25.608	12.357	69.798	15.687
1988	26.693	4.297	47.408	14.021
1989	16.825	5.408	35.877	8.094
1990	29.688	10.639	97.854	13.970
1991	12.648	4.469	47.440	11.057
1992	15.523	3.874	31.096	6.530
1993	7.717	1.594	35.277	5.517
1994	5.765	1.899	88.839	13.782
1995	1.266	0.417	38.176	23.296
1996	50.160	15.888	36.708	17.548
1997	7.301	1.428	162.109	35.436
1998	0.032	0.029	1.282	0.314
1999	2.073	0.783	58.668	17.791
2000	2.677	1.163	25.980	14.975
2001	5.845	4.998	57.605	11.398
2002	0.797	0.546	12.630	5.767
2003	5.920	1.891	119.197	27.386
2004	1.523	0.347	49.563	11.708
2005	2.332	1.049	65.857	20.089
2006	0.525	0.146	8.278	3.437
2007	5.236	0.907	71.601	9.047

Table D-9 Rainbow Smelt Indices of Annual Abundance Based on Fall Juvenile Survey, 1979-2007, and Long River Survey, 1974-2007

	Fall Juvenile Survey		Long River Survey	
	Juvenile		Juvenile	
	Index	Std. Err.	Index	Std. Err.
1974			0.020	0.004
1975			0.001	0.000
1976			0.000	0.000
1977			0.006	0.002
1978			0.069	0.006
1979	0.226	0.092	0.020	0.003
1980	0.099	0.088	0.031	0.002
1981	0.000	0.000	0.001	0.000
1982	0.129	0.055	0.002	0.000
1983	0.000	0.000	0.000	0.000
1984	0.419	0.165	0.003	0.000
1985	0.074	0.057	0.002	0.000
1986	0.959	0.165	0.016	0.001
1987	0.122	0.065	0.006	0.001
1988	0.041	0.027	0.051	0.008
1989	0.000	0.000	0.000	0.000
1990	1.140	0.340	0.027	0.002
1991	0.000	0.000	0.010	0.003
1992	6.721	2.340	0.045	0.005
1993	1.190	0.563	0.011	0.003
1994	0.104	0.104	0.008	0.002
1995	0.000	0.000	0.010	0.002
1996	0.000	0.000	0.000	0.000
1997	0.000	0.000	0.000	0.000
1998	0.000	0.000	0.000	0.000
1999	0.000	0.000	0.000	0.000
2000	0.000	0.000	0.000	0.000
2001	0.000	0.000	0.000	0.000
2002	0.000	0.000	0.000	0.000
2003	0.000	0.000	0.000	0.000
2004	0.000	0.000	0.000	0.000
2005	0.000	0.000	0.000	0.000
2006	0.000	0.000	0.000	0.000
2007	0.000	0.000	0.000	0.000

Table D-10 Hogchoker Indices of Annual Abundance Based on Fall Juvenile Survey, 1974-2007

	Fall Juvenile Survey	
	Juvenile	
	Index	Std. Err.
1974	0.147	0.033
1975	2.748	1.910
1976	0.021	0.017
1977	2.089	1.393
1978	1.925	0.806
1979	0.786	0.172
1980	0.620	0.183
1981	2.735	0.775
1982	0.975	--
1983	6.789	4.522
1984	1.767	0.428
1985	1.396	0.257
1986	3.298	1.587
1987	2.227	0.568
1988	7.832	0.914
1989	1.318	0.406
1990	1.728	1.024
1991	6.772	4.728
1992	0.502	0.234
1993	1.189	0.308
1994	10.079	1.418
1995	0.878	0.333
1996	0.295	0.066
1997	0.026	0.026
1998	0.932	0.129
1999	0.145	0.136
2000	0.983	0.363
2001	1.264	0.426
2002	0.956	0.346
2003	0.511	0.508
2004	0.319	0.079
2005	1.873	0.785
2006	0.402	0.168
2007	1.442	0.774

Table D-11 Spottail Shiner Indices of Annual Abundance Based on Beach Seine Survey, 1974-2007

	Beach Seine Survey	
	Juvenile	
	Index	Std. Err.
1974	6.406	1.419
1975	13.648	3.194
1976	9.211	1.452
1977	4.860	1.112
1978	12.232	1.725
1979	8.562	1.357
1980	6.785	1.281
1981	19.134	3.977
1982	4.991	0.815
1983	11.890	3.007
1984	8.202	1.942
1985	4.916	0.780
1986	4.629	1.165
1987	5.868	1.403
1988	4.663	0.722
1989	6.626	1.472
1990	9.098	1.505
1991	11.223	1.880
1992	6.987	1.066
1993	6.379	0.797
1994	14.684	2.022
1995	4.875	0.696
1996	1.681	0.632
1997	11.880	1.742
1998	2.478	0.568
1999	24.848	5.432
2000	2.287	0.634
2001	19.556	4.314
2002	12.833	1.847
2003	25.669	4.877
2004	8.613	1.323
2005	13.370	4.976
2006	2.849	0.461
2007	13.419	3.931

Table D-12 White Catfish Indices of Annual Abundance Based on Beach Seine Survey, 1974-2007

	Beach Seine Survey	
	Yearling and Older	
	Index	Std. Err.
1974	0.034	0.020
1975	0.021	0.011
1976	0.030	0.010
1977	0.072	0.022
1978	0.069	0.030
1979	0.054	0.028
1980	0.023	0.008
1981	0.050	0.029
1982	0.048	0.026
1983	0.064	0.044
1984	0.019	0.006
1985	0.010	0.005
1986	0.026	0.012
1987	0.031	0.015
1988	0.049	0.018
1989	0.123	0.056
1990	0.010	0.005
1991	0.016	0.008
1992	0.005	0.003
1993	0.013	0.009
1994	0.002	0.002
1995	0.012	0.008
1996	0.028	0.016
1997	0.002	0.001
1998	0.028	0.022
1999	0.000	0.000
2000	0.004	0.003
2001	0.002	0.002
2002	0.009	0.008
2003	0.002	0.001
2004	0.001	0.001
2005	0.000	0.000
2006	0.022	0.013
2007	0.002	0.002

Table D-13 Weakfish Indices of Annual Abundance Based on Fall Juvenile Survey, 1979-2007

	Fall Juvenile Survey	
	Juvenile	
	Index	Std. Err.
1979	0.133	0.070
1980	0.599	0.284
1981	0.215	0.125
1982	0.663	0.306
1983	0.125	0.088
1984	1.588	0.633
1985	0.977	0.481
1986	0.294	0.105
1987	0.253	0.180
1988	1.444	0.599
1989	0.763	0.248
1990	0.149	0.090
1991	0.100	0.061
1992	0.025	0.017
1993	0.252	0.149
1994	0.130	0.058
1995	0.229	0.128
1996	0.213	0.160
1997	0.156	0.053
1998	0.377	0.277
1999	0.117	0.047
2000	0.167	0.115
2001	0.019	0.009
2002	0.007	0.007
2003	0.095	0.049
2004	0.094	0.062
2005	0.014	0.014
2006	0.011	0.011
2007	0.077	0.054

Table D-14 Bluefish Indices of Annual Abundance Based on Beach Seine Survey, 1974-2007

	Beach Seine Survey	
	Juvenile	
	Index	Std. Err.
1974	0.712	0.210
1975	0.283	0.074
1976	0.189	0.028
1977	0.325	0.097
1978	0.350	0.075
1979	0.217	0.054
1980	0.303	0.053
1981	0.464	0.119
1982	0.295	0.059
1983	0.320	0.101
1984	0.153	0.034
1985	0.245	0.068
1986	0.127	0.054
1987	0.173	0.049
1988	0.176	0.027
1989	0.176	0.043
1990	0.237	0.053
1991	0.156	0.043
1992	0.133	0.050
1993	0.098	0.033
1994	0.058	0.017
1995	0.182	0.043
1996	0.036	0.012
1997	0.185	0.028
1998	0.155	0.026
1999	2.660	1.116
2000	0.065	0.027
2001	0.692	0.242
2002	0.863	0.300
2003	0.204	0.073
2004	0.103	0.037
2005	0.214	0.071
2006	0.206	0.069
2007	0.149	0.026

Appendix E

Density and Standing Crop Estimates

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E-99	Regional density (no./1,000 m ³) of American shad yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-100	Regional standing crop (in thousands) of American shad yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-101	Regional catch-per-unit-effort of American shad yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
E-102	Regional standing crop (in thousands) of American shad yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
E-103	Regional density (no./1,000 m ³) of <i>Alosa</i> spp. eggs in Hudson River estuary determined from Long River Survey, 2007
E-104	Regional standing crop (in thousands) of <i>Alosa</i> spp. eggs in Hudson River estuary determined from Long River Survey, 2007
E-105	Regional density (no./1,000 m ³) of <i>Alosa</i> spp. yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-106	Regional standing crop (in thousands) of <i>Alosa</i> spp. yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-107	Regional density (no./1,000 m ³) of <i>Alosa</i> spp. post yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007

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E-109	Regional density (no./1,000 m ³) of <i>Alosa</i> spp. young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-110	Regional standing crop (in thousands) of <i>Alosa</i> spp. young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-111	Regional density (no./1,000 m ³) of <i>Alosa</i> spp. young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-112	Regional standing crop (in thousands) of <i>Alosa</i> spp. young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-113	Regional catch-per-unit-effort of <i>Alosa</i> spp. young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-114	Regional standing crop (in thousands) of <i>Alosa</i> spp. young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-115	Regional density (no./1,000 m ³) of alewife young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-116	Regional standing crop (in thousands) of alewife young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-117	Regional density (no./1,000 m ³) of alewife young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-118	Regional standing crop (in thousands) of alewife young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-119	Regional catch-per-unit-effort of alewife young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-120	Regional standing crop (in thousands) of alewife young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-121	Regional density (no./1,000 m ³) of alewife yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-122	Regional standing crop (in thousands) of alewife yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-123	Regional density (no./1,000 m ³) of alewife yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007

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E-127	Regional density (no./1,000 m ³) of blueback herring young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-128	Regional standing crop (in thousands) of blueback herring young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-129	Regional density (no./1,000 m ³) of blueback herring young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-130	Regional standing crop (in thousands) of blueback herring young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
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E-133	Regional density (no./1,000 m ³) of blueback herring yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-134	Regional standing crop (in thousands) of blueback herring yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-135	Regional density (no./1,000 m ³) of blueback herring yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
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E-141	Regional catch-per-unit-effort of gizzard shad young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
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E-144	Regional standing crop (in thousands) of gizzard shad yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
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E-146	Regional standing crop (in thousands) of gizzard shad yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
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E-148	Regional standing crop (in thousands) of rainbow smelt yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-149	Regional density (no./1,000 m ³) of rainbow smelt yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-150	Regional standing crop (in thousands) of rainbow smelt yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-151	Regional density (no./1,000 m ³) of rainbow smelt yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
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E-153	Regional catch-per-unit-effort of rainbow smelt yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
E-154	Regional standing crop (in thousands) of rainbow smelt yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007

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E-156	Regional standing crop (in thousands) of hogchoker eggs in Hudson River estuary determined from Long River Survey, 2007
E-157	Regional density (no./1,000 m ³) of hogchoker yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-158	Regional standing crop (in thousands) of hogchoker yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-159	Regional density (no./1,000 m ³) of hogchoker post yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-160	Regional standing crop (in thousands) of hogchoker post yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-161	Regional density (no./1,000 m ³) of hogchoker young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-162	Regional standing crop (in thousands) of hogchoker young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-163	Regional density (no./1,000 m ³) of hogchoker young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-164	Regional standing crop (in thousands) of hogchoker young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-165	Regional catch-per-unit-effort of hogchoker young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-166	Regional standing crop (in thousands) of hogchoker young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-167	Regional density (no./1,000 m ³) of hogchoker yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-168	Regional standing crop (in thousands) of hogchoker yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-169	Regional density (no./1,000 m ³) of hogchoker yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007

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E-171	Regional catch-per-unit-effort of hogchoker yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
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E-173	Regional density (no./1,000 m ³) of spottail shiner young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-174	Regional standing crop (in thousands) of spottail shiner young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-175	Regional density (no./1,000 m ³) of spottail shiner young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-176	Regional standing crop (in thousands) of spottail shiner young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-177	Regional catch-per-unit-effort of spottail shiner young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-178	Regional standing crop (in thousands) of spottail shiner young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-179	Regional density (no./1,000 m ³) of spottail shiner yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-180	Regional standing crop (in thousands) of spottail shiner yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-181	Regional density (no./1,000 m ³) of spottail shiner yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-182	Regional standing crop (in thousands) of spottail shiner yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-183	Regional catch-per-unit-effort of spottail shiner yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
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E-187	Regional density (no./1,000 m ³) of Atlantic sturgeon post yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-188	Regional standing crop (in thousands) of Atlantic sturgeon post yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-189	Regional density (no./1,000 m ³) of Atlantic sturgeon yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-190	Regional standing crop (in thousands) of Atlantic sturgeon yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-191	Regional density (no./1,000 m ³) of Atlantic sturgeon yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-192	Regional standing crop (in thousands) of Atlantic sturgeon yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-193	Regional catch-per-unit-effort of Atlantic sturgeon yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
E-194	Regional standing crop (in thousands) of Atlantic sturgeon yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
E-195	Regional density (no./1,000 m ³) of shortnose sturgeon yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-196	Regional standing crop (in thousands) of shortnose sturgeon yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-197	Regional density (no./1,000 m ³) of shortnose sturgeon post yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-198	Regional standing crop (in thousands) of shortnose sturgeon post yolk-sac larvae in Hudson River estuary determined from Long River Survey, 2007
E-199	Regional density (no./1,000 m ³) of shortnose sturgeon yearling and older in Hudson River estuary determined from Long River Survey, 2007
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E-201	Regional density (no./1,000 m ³) of shortnose sturgeon yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-202	Regional standing crop (in thousands) of shortnose sturgeon yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-203	Regional catch-per-unit-effort of shortnose sturgeon yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
E-204	Regional standing crop (in thousands) of shortnose sturgeon yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
E-205	Regional density (no./1,000 m ³) of white catfish young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-206	Regional standing crop (in thousands) of white catfish young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-207	Regional density (no./1,000 m ³) of white catfish young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-208	Regional standing crop (in thousands) of white catfish young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-209	Regional catch-per-unit-effort of white catfish young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-210	Regional standing crop (in thousands) of white catfish young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-211	Regional density (no./1,000 m ³) of white catfish yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-212	Regional standing crop (in thousands) of white catfish yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-213	Regional density (no./1,000 m ³) of white catfish yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-214	Regional standing crop (in thousands) of white catfish yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-215	Regional catch-per-unit-effort of white catfish yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
E-216	Regional standing crop (in thousands) of white catfish yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007

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<u>Number</u>	<u>Title</u>
E-217	Regional density (no./1,000 m ³) of weakfish young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-218	Regional standing crop (in thousands) of weakfish young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-219	Regional density (no./1,000 m ³) of weakfish young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-220	Regional standing crop (in thousands) of weakfish young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-221	Regional catch-per-unit-effort of weakfish young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-222	Regional standing crop (in thousands) of weakfish young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-223	Regional density (no./1,000 m ³) of weakfish yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-224	Regional standing crop (in thousands) of weakfish yearling and older in Hudson River estuary determined from Long River Survey, 2007
E-225	Regional density (no./1,000 m ³) of weakfish yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-226	Regional standing crop (in thousands) of weakfish yearling and older in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-227	Regional catch-per-unit-effort of weakfish yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
E-228	Regional standing crop (in thousands) of weakfish yearling and older in Hudson River estuary determined from Beach Seine Survey, 2007
E-229	Regional density (no./1,000 m ³) of bluefish young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-230	Regional standing crop (in thousands) of bluefish young-of-year in Hudson River estuary determined from Long River Survey, 2007
E-231	Regional density (no./1,000 m ³) of bluefish young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007

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<u>Number</u>	<u>Title</u>
E-232	Regional standing crop (in thousands) of bluefish young-of-year in Hudson River estuary determined from Fall Juvenile Survey, 2007
E-233	Regional catch-per-unit-effort of bluefish young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007
E-234	Regional standing crop (in thousands) of bluefish young-of-year in Hudson River estuary determined from Beach Seine Survey, 2007

TABLE E-1 REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.25	1.00	0.00
02MAY	SE	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.25	1.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.68	8.24	0.00	0.00	23.39	23.47	0.00	0.00	0.00	0.35
09MAY	SE	0.00	0.00	0.00	0.68	7.14	0.00	0.00	12.44	8.03	0.00	0.00	0.00	0.35
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.15	0.41	62.32	1311.97	727.72	336.91	2554.54	71.06	68.57	1.92	0.00
16MAY	SE	0.00	0.00	0.15	0.29	29.80	719.14	481.95	166.42	2293.78	22.09	17.80	0.96	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.59	0.49	1.37	59.15	337.06	710.66	1100.35	154.47	1190.63	1596.08	2.89	1.07	2.66
24MAY	SE	0.59	0.49	1.07	24.50	149.78	194.55	424.73	109.15	362.19	1140.24	2.36	1.07	2.66
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.45	0.00	1.96	49.41	149.81	747.19	5.74	6.28	72.28	3.69	83.93	20.16
01JUN	SE	0.00	0.45	0.00	0.99	25.82	118.17	437.40	3.59	3.86	56.97	1.74	77.88	8.13
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-1 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	5.55	12.52	32.50	27.35	22.69	2.00	16.95	4.99	9.21	4.80	8.07
07JUN	SE	0.00	0.00	2.68	5.59	25.36	15.10	12.67	1.83	10.19	2.40	2.33	3.14	7.63
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.38	0.33	0.45	1.42	0.00	0.00	0.00	0.00	14.71
15JUN	SE	0.00	0.00	0.00	0.00	0.38	0.21	0.33	1.00	0.00	0.00	0.00	0.00	8.30
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	3.92	0.00	0.00	0.69	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	3.44	0.00	0.00	0.69	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-2 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
14MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST.CROP	143	0	0	0	0	0	0	0	0	0	750	161	0	1055
02MAY	SE	143	0	0	0	0	0	0	0	0	0	750	161	0	781
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST.CROP	0	0	0	101	1718	0	0	6972	3884	0	0	0	25	12700
09MAY	SE	0	0	0	101	1488	0	0	3709	1329	0	0	0	25	4213
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST.CROP	0	0	49	61	12983	272175	101729	100444	422737	10053	12089	309	0	932629
16MAY	SE	0	0	49	44	6208	149190	67372	49617	379586	3125	3139	155	0	416416
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST.CROP	123	112	441	8738	70222	147432	153820	46051	197031	225797	510	172	189	850638
24MAY	SE	123	112	345	3619	31206	40360	59374	32541	59937	161309	416	172	189	191868
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST.CROP	0	104	0	290	10294	31079	104451	1711	1040	10225	650	13490	1434	174769
01JUN	SE	0	104	0	147	5379	24515	61145	1071	638	8060	306	12518	578	67766
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-2 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST.CROP	0	0	1785	1850	6770	5674	3172	596	2805	707	1624	771	574
07JUN	SE	0	0	863	826	5282	3132	1772	544	1687	340	411	505	543
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST.CROP	0	0	0	0	78	69	63	423	0	0	0	0	1046
15JUN	SE	0	0	0	0	78	44	46	299	0	0	0	0	590
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST.CROP	0	0	0	0	0	0	548	0	0	97	0	0	0
21JUN	SE	0	0	0	0	0	0	480	0	0	97	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
11JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
26JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
08AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-3 REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.14	0.37	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.14	0.37	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.40	0.18	4.15	27.18	153.35	49.73	178.16	31.14	10.63	1.12	0.00	0.00
16MAY	SE	0.00	0.31	0.18	2.11	12.65	81.38	15.34	100.05	23.24	5.91	0.58	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	7.86	154.18	561.02	1439.33	5022.66	4549.98	14012.23	5908.47	115.01	4.88	1.98	0.53
24MAY	SE	0.00	5.37	73.65	121.86	263.46	2152.60	613.28	8019.15	3380.00	39.86	2.46	1.98	0.53
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	208.02	0.29	1.55	0.21	42.78	14505.33	7305.92	3427.73	906.97	106.14	162.08	6.31	0.00
01JUN	SE	204.83	0.29	0.73	0.21	35.11	6480.88	2448.18	877.34	605.59	55.02	69.92	4.81	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-3 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	23.80	6.27	288.54	770.45	909.42	77.28	237.17	40.00	3.17	2.03
07JUN	SE	0.00	0.00	0.00	17.26	2.83	146.87	246.59	603.83	42.46	114.83	21.56	1.50	2.03
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	0.00	0.20	0.37	69.05	23.02	40.28	42.77	61.25	40.67	43.02	3.31
15JUN	SE	0.00	0.00	0.00	0.20	0.33	45.58	11.03	15.49	24.73	30.13	6.43	30.45	1.88
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.00	0.31	0.00	0.00	0.00	4.96	7.18	0.53	0.00	0.00	0.00	2.18
21JUN	SE	0.00	0.00	0.31	0.00	0.00	0.00	2.53	5.50	0.53	0.00	0.00	0.00	2.18
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-4 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	47	55	23	0	0	0	0	0	0	0	0	125
09MAY	SE	0	0	47	55	14	0	0	0	0	0	0	0	0	73
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	92	58	613	5662	31814	6951	53115	5153	1504	198	0	0	105160
16MAY	SE	0	72	58	312	2635	16882	2144	29828	3845	836	103	0	0	34668
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	1802	49618	82883	299864	1041979	636046	4177515	977762	16271	861	319	38	7284957
24MAY	SE	0	1233	23702	18003	54888	446569	85732	2390777	559338	5638	434	319	38	2497875
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	43478	65	500	32	8913	3009214	1021301	1021920	150090	15015	28574	1015	0	5300117
01JUN	SE	42811	65	235	32	7315	1344496	342234	261565	100216	7783	12326	774	0	1416105
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-4 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	3516	1306	59860	107703	271128	12789	33553	7052	510	144	497560
07JUN	SE	0	0	0	2550	591	30470	34471	180023	7026	16245	3801	241	144	186707
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	29	77	14325	3218	12008	7077	8666	7170	6915	235	59721
15JUN	SE	0	0	0	29	68	9456	1541	4617	4093	4263	1133	4895	133	13164
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	99	0	0	0	694	2140	88	0	0	0	155	3176
21JUN	SE	0	0	99	0	0	0	354	1639	88	0	0	0	155	1689
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-5 REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-16MAR	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-23MAR	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-30MAR	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-06APR	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-13APR	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-19APR	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-25APR	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-02MAY	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-09MAY	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-16MAY	DENSITY	0.00	0.00	0.73	0.47	0.36	13.64	0.14	2.25	0.00	0.00	0.00	0.00	0.00	1.35
	SE	0.00	0.00	0.37	0.47	0.36	13.64	0.14	2.25	0.00	0.00	0.00	0.00	0.00	13.84
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-24MAY	DENSITY	2.65	6.97	239.41	1005.64	830.00	2252.31	7472.29	106.09	83.46	28.31	1.30	0.49	0.53	925.34
	SE	0.49	3.62	129.09	304.28	239.10	473.88	5741.02	60.49	18.06	11.01	1.30	0.49	0.53	5775.33
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-01JUN	DENSITY	320.83	366.52	123.54	778.53	6463.56	15541.75	10199.34	12866.54	2198.45	499.16	367.88	16.37	0.40	3826.37
	SE	145.83	187.25	49.90	127.98	2987.61	1797.09	2019.45	1871.65	817.63	212.21	140.95	6.55	0.40	4532.69
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-5 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007															
															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	9.33	12.66	197.72	984.93	4423.76	3939.08	4934.19	2884.97	790.34	1538.77	232.21	439.23	3.42	1568.51
07JUN	SE	5.74	4.97	82.96	225.64	1235.20	1078.29	667.21	1728.03	301.68	246.89	70.61	315.82	1.90	2536.58
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	181.72	230.05	163.67	514.71	1394.75	2306.51	1933.55	2076.01	426.18	660.38	138.06	661.21	21.52	823.72
15JUN	SE	52.90	87.54	45.50	151.02	166.22	431.13	431.74	527.26	92.69	124.88	32.61	396.28	14.57	946.43
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	46.53	108.39	100.55	165.17	469.92	228.42	763.07	864.82	56.97	228.11	200.15	138.09	6.10	259.71
21JUN	SE	13.75	27.50	41.19	31.81	127.78	53.83	214.40	666.51	22.60	70.74	112.11	59.22	3.82	731.22
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	4.50	5.78	33.08	132.24	518.28	1095.15	63.70	345.67	186.12	29.26	71.19	32.84	193.68
28JUN	SE	0.00	2.22	1.76	19.80	99.06	206.91	277.68	9.38	242.85	113.22	17.51	24.05	27.22	451.27
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.19	1.58	1.88	5.23	4.00	19.10	12.77	NS	NS	NS	NS	NS	5.59
11JUL	SE	0.00	0.19	0.93	1.68	3.21	2.01	8.34	5.54						10.87
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	NS	NS	NS	NS	NS	0.01
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00						0.09
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-6 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	235	69	76	2829	20	672	0	0	0	0	0	3901
16MAY	SE	0	0	119	69	76	2829	20	672	0	0	0	0	0	2912
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	555	1599	77046	148570	172918	467255	1044559	31630	13811	4005	230	78	38	1962294
24MAY	SE	103	831	41542	44954	49813	98310	802543	18036	2989	1558	230	78	38	812592
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	67057	84087	39756	115017	1346594	3224226	1425776	3835947	363810	70617	64856	2631	28	10640401
01JUN	SE	30480	42960	16060	18907	622427	372816	282301	558003	135305	30021	24849	1052	28	969889
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-6 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	1949	2905	63628	145510	921630	817185	689756	860107	130790	217689	40938	70598	244	3962930
07JUN	SE	1200	1141	26699	33335	257336	223698	93270	515183	49924	34928	12447	50762	135	631385
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	37981	52779	52669	76041	290576	478499	270292	618927	70526	93424	24339	106278	1531	2173863
15JUN	SE	11057	20083	14642	22311	34629	89439	60353	157194	15340	17667	5749	63694	1036	208392
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	9724	24866	32358	24401	97900	47386	106670	257832	9427	32270	35286	22195	434	700750
21JUN	SE	2873	6309	13254	4700	26621	11166	29971	198708	3740	10007	19764	9519	272	205079
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	1032	1860	4887	27550	107520	153092	18991	57203	26331	5158	11443	2337	417404
28JUN	SE	0	510	566	2925	20638	42925	38817	2798	40189	16017	3088	3866	1937	75446
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	43	507	277	1089	831	2669	3807	NS	NS	NS	NS	NS	9224
11JUL	SE	0	43	299	248	668	417	1165	1650						2203
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	13	0	NS	NS	NS	NS	NS	13
26JUL	SE	0	0	0	0	0	0	13	0						13
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-7 REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-7 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.19	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.19	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.00	0.00	1.59	0.27	0.00	2.85	0.00	0.00	4.14	1.05	7.63	0.57
21JUN	SE	0.00	0.00	0.00	1.59	0.18	0.00	1.68	0.00	0.00	2.93	0.73	3.51	0.57
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	1.02	3.41	6.61	7.61	6.03	1.78	0.57	0.00	3.36	8.41	33.99	0.00
28JUN	SE	0.00	0.51	1.83	4.05	3.43	2.75	1.18	0.37	0.00	2.34	4.56	22.27	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.00	15.52	12.41	2.15	1.04	5.56	11.70	1.95	NS	NS	NS	NS	NS
11JUL	SE	0.00	15.52	6.63	1.70	0.61	4.75	6.11	0.60					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.59	0.11	0.88	0.56	NS	NS	NS	NS	NS
26JUL	SE	0.00	0.00	0.00	0.00	0.59	0.11	0.32	0.28					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.00	0.00	8.47	0.00	0.04	0.60	0.00	0.52	NS	NS	NS	NS	NS
08AUG	SE	0.00	0.00	8.47	0.00	0.04	0.60	0.00	0.52					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	1.10	0.59	0.00	1.94	0.26	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	1.10	0.52	0.00	1.12	0.26					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.50	3.21	1.12	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.29	1.53	1.12					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.78	0.00	0.00	0.26	1.26	0.27	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.78	0.00	0.00	0.15	0.63	0.27					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-8 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-8 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	44	83	0	0	0	0	0	0	0	0	0	0	127
15JUN	SE	0	44	83	0	0	0	0	0	0	0	0	0	0	94
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	235	57	0	399	0	0	586	185	1226	41	2728
21JUN	SE	0	0	0	235	37	0	235	0	0	414	128	565	41	787
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	235	1096	976	1585	1250	249	171	0	476	1483	5464	0	12984
28JUN	SE	0	117	590	599	715	570	165	109	0	331	803	3579	0	3894
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	3560	3992	318	217	1154	1636	582	NS	NS	NS	NS	NS	11459
11JUL	SE	0	3560	2134	251	127	986	854	180						4363
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	124	24	122	166	NS	NS	NS	NS	NS	436
26JUL	SE	0	0	0	0	124	24	45	83						157
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	2725	0	8	125	0	157	NS	NS	NS	NS	NS	3014
08AUG	SE	0	0	2725	0	8	125	0	157						2732
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	162	123	0	271	76	NS	NS	NS	NS	NS	633
22AUG	SE	0	0	0	162	108	0	156	76						261
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	13	0	NS	NS	NS	NS	NS	13
06SEP	SE	0	0	0	0	0	0	13	0						13
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	103	449	334	NS	NS	NS	NS	NS	885
19SEP	SE	0	0	0	0	0	59	214	334						401
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	253	0	0	53	176	81	NS	NS	NS	NS	NS	562
03OCT	SE	0	0	253	0	0	31	88	81						281
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-9 REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL -	DENSITY	0.00	0.25	0.56	5.34	1.36	6.82	60.02	24.63	1.38	14.45	9.35	19.55	6.42	11.55
06JUL	SE	0.00	0.25	0.24	2.43	0.49	2.67	38.89	6.88	0.95	11.66	1.93	17.33	5.35	45.20
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL -	DENSITY	0.00	0.00	0.56	0.74	0.02	0.21	1.18	2.40	0.02	1.89	0.06	0.26	0.00	0.57
19JUL	SE	0.00	0.00	0.26	0.34	0.02	0.20	0.77	1.02	0.02	0.72	0.06	0.26	0.00	1.56
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL -	DENSITY	0.10	0.03	0.32	1.69	0.09	0.00	1.01	0.27	0.00	0.53	1.09	0.00	0.11	0.40
03AUG	SE	0.05	0.03	0.12	0.59	0.04	0.00	0.51	0.11	0.00	0.36	0.47	0.00	0.11	1.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG -	DENSITY	0.10	0.08	1.77	0.64	0.18	0.01	0.41	0.47	0.11	0.96	1.01	0.83	1.28	0.60
16AUG	SE	0.07	0.04	0.72	0.19	0.04	0.01	0.23	0.19	0.05	0.41	0.31	0.53	0.82	1.37
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG -	DENSITY	0.27	0.05	2.38	0.29	0.13	0.24	0.73	1.34	1.07	0.13	0.17	0.61	0.40	0.60
30AUG	SE	0.15	0.04	0.62	0.16	0.09	0.23	0.38	0.74	0.58	0.07	0.17	0.50	0.40	1.41
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP -	DENSITY	0.03	0.05	2.20	1.95	1.55	0.11	0.31	1.10	0.11	0.06	0.26	0.11	0.69	0.66
13SEP	SE	0.03	0.04	0.58	1.34	0.97	0.01	0.11	0.22	0.05	0.06	0.11	0.11	0.47	1.84
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP -	DENSITY	0.13	0.08	0.27	0.08	1.32	0.09	0.28	1.09	0.07	0.25	0.42	0.00	0.29	0.33
27SEP	SE	0.10	0.04	0.11	0.05	0.50	0.02	0.05	0.38	0.04	0.09	0.25	0.00	0.18	0.73
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT -	DENSITY	0.00	0.00	0.15	0.20	0.07	0.03	0.34	0.64	0.42	0.62	0.80	0.00	0.87	0.32
11OCT	SE	0.00	0.00	0.07	0.14	0.04	0.02	0.21	0.14	0.33	0.29	0.63	0.00	0.20	0.85
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT -	DENSITY	0.00	0.00	0.00	0.00	0.00	0.03	0.13	0.02	0.01	0.00	0.06	0.00	0.00	0.02
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.02	0.01	0.00	0.04	0.00	0.00	0.07
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV -	DENSITY	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.22	0.07	0.00	0.00	0.02
09NOV	SE	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.04	0.00	0.00	0.11
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV -	DENSITY	0.15	0.25	0.00	0.00	0.00	0.01	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.04
30NOV	SE	0.05	0.10	0.00	0.00	0.00	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.12
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-10 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
01JUL-	ST. CROP	0	57	180	789	283	1416	8391	7342	229	2045	1648	3142	457	25977
06JUL	SE	0	57	79	360	102	553	5437	2051	157	1650	340	2786	380	6707
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	0	0	179	110	3	44	165	716	4	267	11	42	0	1543
19JUL	SE	0	0	83	51	3	42	107	304	4	102	11	42	0	357
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	20	6	102	249	18	0	141	81	0	75	192	0	8	892
03AUG	SE	10	6	37	88	7	0	72	32	0	51	82	0	8	157
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	22	18	571	95	37	2	57	139	19	136	178	134	91	1497
16AUG	SE	15	9	233	28	9	2	33	57	8	58	54	85	58	277
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	57	12	766	42	26	49	102	399	178	18	30	98	29	1806
30AUG	SE	32	8	200	24	18	47	54	221	97	10	30	81	29	337
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	7	12	708	289	324	23	44	329	18	8	47	18	49	1877
13SEP	SE	7	9	186	198	201	3	16	66	9	8	20	18	33	348
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	28	17	86	12	276	18	39	324	12	35	75	0	21	940
27SEP	SE	21	8	36	8	105	5	6	113	6	13	44	0	13	167
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	0	0	48	29	16	7	47	192	69	88	142	0	62	700
11OCT	SE	0	0	23	21	9	4	30	42	54	41	111	0	14	145
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	0	0	0	0	0	5	18	5	2	0	11	0	0	41
25OCT	SE	0	0	0	0	0	2	7	5	2	0	7	0	0	11
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	0	5	0	0	2	0	0	0	0	32	12	0	0	51
09NOV	SE	0	5	0	0	2	0	0	0	0	13	8	0	0	17
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	31	57	0	0	0	1	3	10	0	0	0	0	0	103
30NOV	SE	10	24	0	0	0	1	3	7	0	0	0	0	0	27
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-11 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF STRIPED BASS YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	CPUE	0.00	25.64	0.71	0.33	3.67	0.67	0.38	0.88	3.00	3.13	0.26	0.00	3.22
13JUN	SE	0.00	21.40	0.71	0.33	0.67	0.67	0.26	0.74	2.86	1.41	0.10	0.00	21.68
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	67.00	3.82	7.71	9.67	126.00	1.67	35.38	96.25	26.38	12.73	39.05	23.17	37.40
27JUN	SE	63.53	1.80	2.42	0.88	105.98	0.67	32.81	57.39	22.45	4.15	14.79	7.45	142.98
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	84.00	23.27	8.86	55.00	7.33	8.00	44.75	6.63	1.50	25.27	18.21	17.42	25.02
12JUL	SE	42.00	5.56	3.03	36.69	4.67	6.11	36.06	2.36	0.76	10.74	5.34	6.93	68.61
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	3.20	25.75	13.21	13.20	14.40	0.83	2.00	2.20	4.60	25.00	18.20	19.71	11.86
26JUL	SE	1.71	5.28	2.27	5.01	4.30	0.48	0.84	1.24	1.63	10.08	6.83	16.09	22.18
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	68.60	13.17	7.21	3.80	9.80	5.33	0.00	1.40	10.00	5.56	5.60	28.29	13.23
09AUG	SE	19.62	2.97	2.30	1.62	3.87	2.22	0.00	1.17	5.94	1.94	1.78	16.84	27.36
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	26.20	14.96	3.57	4.20	10.40	6.50	1.60	0.60	5.00	9.78	2.90	6.29	7.67
23AUG	SE	15.22	2.83	1.32	1.28	6.77	3.44	0.51	0.40	2.05	2.67	1.43	2.90	17.97
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	12.00	13.42	10.50	4.20	5.40	8.00	6.40	0.00	0.20	12.33	0.50	9.14	6.84
07SEP	SE	3.32	2.74	2.09	0.97	2.01	2.61	3.59	0.00	0.20	4.82	0.31	5.36	9.98
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	5.60	17.42	18.43	4.00	4.20	6.83	1.60	1.60	1.20	3.89	1.30	0.00	5.51
20SEP	SE	3.53	4.16	9.54	3.30	1.96	2.68	0.93	0.93	0.97	1.79	0.98	0.00	12.22
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	38.80	12.25	48.71	12.80	7.20	8.33	6.40	0.40	0.20	1.44	0.70	0.29	11.46
04OCT	SE	16.01	4.08	30.36	4.20	3.56	1.69	5.91	0.40	0.20	0.65	0.26	0.29	35.54
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	1.20	3.38	2.50	24.60	6.00	5.50	5.80	0.40	0.20	1.00	1.20	0.00	4.31
18OCT	SE	0.97	0.92	0.98	20.16	2.45	1.82	2.56	0.24	0.20	0.44	0.55	0.00	20.63
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-12 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	1165	19	3	10	7	3	1	26	55	5	0	1294
13JUN	SE	0	972	19	3	2	7	2	1	25	25	2	0	973
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	505	173	207	89	332	18	251	119	227	224	768	315	3229
27JUN	SE	478	82	65	8	279	7	233	71	193	73	291	101	718
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	633	1057	238	507	19	85	318	8	13	444	358	237	3917
12JUL	SE	316	253	82	338	12	65	256	3	7	188	105	94	640
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	24	1170	355	122	38	9	14	3	40	439	358	268	2839
26JUL	SE	13	240	61	46	11	5	6	2	14	177	134	219	402
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	517	598	194	35	26	57	0	2	86	98	110	384	2106
09AUG	SE	148	135	62	15	10	24	0	1	51	34	35	229	319
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	197	680	96	39	27	69	11	1	43	172	57	85	1478
23AUG	SE	115	129	36	12	18	37	4	< 0.5	18	47	28	39	194
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	90	610	282	39	14	85	45	0	2	217	10	124	1518
07SEP	SE	25	124	56	9	5	28	25	0	2	85	6	73	182
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	42	791	496	37	11	73	11	2	10	68	26	0	1567
20SEP	SE	27	189	256	30	5	29	7	1	8	31	19	0	325
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	292	557	1310	118	19	89	45	< 0.5	2	25	14	4	2475
04OCT	SE	121	185	816	39	9	18	42	< 0.5	2	11	5	4	848
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	9	153	67	227	16	59	41	< 0.5	2	18	24	0	615
18OCT	SE	7	42	26	186	6	19	18	< 0.5	2	8	11	0	195
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-13 REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	1.27	1.73	0.20	0.23	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.49
23MAR	SE	0.88	0.40	0.20	0.23	0.00	0.00	0.00							1.01
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.35	0.97	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.19
30MAR	SE	0.35	0.01	0.00	0.00	0.00	0.00	0.00							0.35
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.42	1.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
06APR	SE	0.00	0.42	1.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.89
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.20	0.96	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
13APR	SE	0.00	0.00	0.20	0.57	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.37	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
25APR	SE	0.00	0.37	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.24	0.58	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
02MAY	SE	0.00	0.24	0.43	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
24MAY	SE	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.28	0.00	0.00	0.46	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.07
01JUN	SE	0.00	0.28	0.00	0.00	0.46	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.58
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-13 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.23	0.98	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.12
07JUN	SE	0.00	0.00	0.00	0.23	0.98	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	1.07
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.01
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.09	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.01
21JUN	SE	0.00	0.00	0.00	0.00	0.09	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.26	0.00	0.50	0.58	0.12
28JUN	SE	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.26	0.00	0.50	0.58	0.82
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-14 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	265	396	63	34	0	0	0	NS	NS	NS	NS	NS	NS	757
23MAR	SE	184	92	63	34	0	0	0							217
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	73	223	0	0	0	0	0	NS	NS	NS	NS	NS	NS	297
30MAR	SE	73	3	0	0	0	0	0							73
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	96	591	0	0	0	0	0	0	0	0	0	0	688
06APR	SE	0	96	591	0	0	0	0	0	0	0	0	0	0	599
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	64	141	39	0	0	0	0	0	0	0	0	244
13APR	SE	0	0	64	85	39	0	0	0	0	0	0	0	0	113
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	85	53	0	0	0	0	0	0	0	0	0	0	138
25APR	SE	0	85	53	0	0	0	0	0	0	0	0	0	0	100
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	56	187	95	0	0	0	0	0	0	0	0	0	337
02MAY	SE	0	56	139	62	0	0	0	0	0	0	0	0	0	163
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	82	0	0	0	0	0	0	0	0	82
24MAY	SE	0	0	0	0	82	0	0	0	0	0	0	0	0	82
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	64	0	0	96	0	29	0	0	0	0	0	0	189
01JUN	SE	0	64	0	0	96	0	29	0	0	0	0	0	0	119
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-14 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	0	0	0	34	204	0	53	0	0	0	0	0	0	291
07JUN	SE	0	0	0	34	204	0	53	0	0	0	0	0	0	213
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	19	0	0	0	0	0	0	19
15JUN	SE	0	0	0	0	0	0	19	0	0	0	0	0	0	19
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	18	0	6	0	0	0	0	0	0	24
21JUN	SE	0	0	0	0	18	0	6	0	0	0	0	0	0	19
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	47	0	0	0	0	37	0	81	41	206
28JUN	SE	0	0	0	0	29	0	0	0	0	37	0	81	41	102
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-15 REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-16 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL-	ST. CROP	0	0	0	4	0	0	1	0	0	0	0	0	0	6
06JUL	SE	0	0	0	4	0	0	1	0	0	0	0	0	0	4
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	0	0	36	0	0	0	0	0	0	0	0	0	0	36
19JUL	SE	0	0	24	0	0	0	0	0	0	0	0	0	0	24
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	0	0	8	0	0	0	0	0	0	0	0	0	0	8
30AUG	SE	0	0	8	0	0	0	0	0	0	0	0	0	0	8
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	0	0	8	0	0	0	0	0	0	0	0	0	0	8
13SEP	SE	0	0	8	0	0	0	0	0	0	0	0	0	0	8
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	0	0	8	0	0	0	0	0	0	0	0	0	0	8
27SEP	SE	0	0	8	0	0	0	0	0	0	0	0	0	0	8
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	0	4	0	0	0	0	0	0	0	0	0	0	0	4
30NOV	SE	0	4	0	0	0	0	0	0	0	0	0	0	0	4
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-17 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF STRIPED BASS YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.09	0.00	0.00	0.67	0.00	0.13	0.00	0.00	0.07	0.37	0.75	0.17
13JUN	SE	0.00	0.09	0.00	0.00	0.33	0.00	0.13	0.00	0.00	0.07	0.19	0.41	0.59
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.18	0.00	0.67	0.67	0.00	0.00	0.13	0.00	0.13	0.11	0.17	0.17
27JUN	SE	0.00	0.18	0.00	0.67	0.67	0.00	0.00	0.13	0.00	0.09	0.11	0.11	0.98
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.14	0.00	0.00	0.00	0.38	0.13	0.00	0.00	0.05	0.08	0.06
12JUL	SE	0.00	0.00	0.14	0.00	0.00	0.00	0.38	0.13	0.00	0.00	0.05	0.08	0.43
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.40	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.05
26JUL	SE	0.24	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.27
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
09AUG	SE	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.04	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.05
23AUG	SE	0.00	0.04	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.33
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.42	0.07	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	3.43	0.36
07SEP	SE	0.00	0.31	0.07	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	2.35	2.40
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.60	0.17	0.07	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
20SEP	SE	0.60	0.13	0.07	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.08	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
04OCT	SE	0.00	0.06	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.17	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
18OCT	SE	0.00	0.13	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-18 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	4	0	0	2	0	1	0	0	1	7	10	25
13JUN	SE	0	4	0	0	1	0	1	0	0	1	4	6	8
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	8	0	6	2	0	0	< 0.5	0	2	2	2	23
27JUN	SE	0	8	0	6	2	0	0	< 0.5	0	2	2	2	11
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	4	0	0	0	3	< 0.5	0	0	1	1	9
12JUL	SE	0	0	4	0	0	0	3	< 0.5	0	0	1	1	5
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	3	0	2	0	0	0	0	0	0	0	2	0	7
26JUL	SE	2	0	2	0	0	0	0	0	0	0	2	0	3
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	6	0	0	0	0	0	0	0	0	0	6
09AUG	SE	0	0	4	0	0	0	0	0	0	0	0	0	4
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	2	4	0	0	0	0	0	0	0	0	6	12
23AUG	SE	0	2	4	0	0	0	0	0	0	0	0	4	6
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	19	2	0	1	0	0	0	0	0	0	47	68
07SEP	SE	0	14	2	0	1	0	0	0	0	0	0	32	35
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	5	8	2	0	1	0	0	0	0	0	0	0	15
20SEP	SE	5	6	2	0	1	0	0	0	0	0	0	0	8
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	4	13	0	0	0	0	0	0	0	0	0	17
04OCT	SE	0	3	9	0	0	0	0	0	0	0	0	0	10
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	8	2	0	0	0	0	0	0	0	0	0	9
18OCT	SE	0	6	2	0	0	0	0	0	0	0	0	0	6
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-19 REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS OLDER-TAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.37	0.29	0.42	0.24	0.17	0.00	0.00	NS	NS	NS	NS	NS	NS	0.21
23MAR	SE	0.37	0.29	0.42	0.24	0.17	0.00	0.00							0.70
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.80	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.11
30MAR	SE	0.50	0.00	0.00	0.00	0.00	0.00	0.00							0.50
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.24	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
06APR	SE	0.24	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.59	0.00	0.26	0.00	0.51	0.62	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.17
13APR	SE	0.59	0.00	0.26	0.00	0.51	0.62	0.00	0.24	0.00	0.00	0.00	0.00	0.00	1.06
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.16	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.02
25APR	SE	0.00	0.00	0.16	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.16
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.00	0.00	0.00	0.00	0.00	0.07
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.80
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-19 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-20 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS
16MAR	SE	0	0	0	0	0	0	0						
	NO. TOWS	10	10	11	11	9	10	12						
21MAR-	ST. CROP	78	66	135	36	35	0	0	NS	NS	NS	NS	NS	NS
23MAR	SE	78	66	135	36	35	0	0						
	NO. TOWS	10	10	11	11	10	10	12						
28MAR-	ST. CROP	168	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS
30MAR	SE	104	0	0	0	0	0	0						
	NO. TOWS	10	10	11	11	10	10	12						
03APR-	ST. CROP	51	0	197	0	0	0	0	0	0	0	0	0	0
06APR	SE	51	0	197	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	ST. CROP	123	0	84	0	107	128	0	72	0	0	0	0	0
13APR	SE	123	0	84	0	107	128	0	72	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	ST. CROP	0	0	51	0	0	0	5	0	0	0	0	0	0
25APR	SE	0	0	51	0	0	0	5	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	ST. CROP	0	0	0	0	0	0	0	274	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	239	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-20 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
11JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
26JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
08AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-21 REGIONAL DENSITY (NO./1,000m3) OF STRIPED BASS OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.00	0.02	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.00	0.07	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.07	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.08	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.06	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-22 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
06JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
19JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	0	0	0	0	0	0	0	4	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	4	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	7
13SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	7
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	0	0	0	0	4	0	0	0	0	0	0
27SEP	SE	0	0	0	0	0	0	4	0	0	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	0	0	0	0	0	0	0	0	3	0	0	0	0
11OCT	SE	0	0	0	0	0	0	0	0	3	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	0	5	0	0	0	0	4	0	0	0	0	0	0
25OCT	SE	0	5	0	0	0	0	3	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	0	0	22	0	4	0	0	0	0	0	0	0	0
09NOV	SE	0	0	22	0	4	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	0	18	15	0	3	0	0	0	0	0	0	0	0
30NOV	SE	0	13	10	0	3	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-23 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF STRIPED BASS OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.01
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.13
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
26JUL	SE	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
09AUG	SE	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
07SEP	SE	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
20SEP	SE	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-24 REGIONAL STANDING CROP (IN THOUSANDS) OF STRIPED BASS OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	1	0	0	0	1
12JUL	SE	0	0	0	0	0	0	0	0	1	0	0	0	1
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	2	0	0	0	0	0	0	0	0	0	0	2
26JUL	SE	0	2	0	0	0	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	2	0	0	0	0	0	0	0	0	0	0	2
09AUG	SE	0	2	0	0	0	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	2	0	0	0	0	0	0	0	0	2
07SEP	SE	0	0	0	2	0	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	2	0	0	0	0	0	0	0	0	0	0	2
20SEP	SE	0	2	0	0	0	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-25 REGIONAL DENSITY (NO./1,000m³) OF WHITE PERCH EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.03
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.39
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.77	99.24	306.98	31.54
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.43	77.68	110.77	135.34
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.23	0.00	0.00	1.13	1.06	0.00	84.13	70.96	11.47	51.06	16.93
16MAY	SE	0.00	0.00	0.00	0.23	0.00	0.00	1.10	0.83	0.00	84.13	33.30	8.10	41.91	100.06
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.17	0.00	0.11	0.08	20.17	15.59	0.26	100.50	77.23	1.48	16.58
24MAY	SE	0.00	0.00	0.00	0.17	0.00	0.11	0.05	20.17	14.80	0.26	58.24	25.46	1.14	68.32
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.70	0.14	8.06	56.94	214.92	96.70	29.04
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.44	0.14	7.16	24.10	57.18	60.30	86.82
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-25 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	65.15	2.28	5.70	0.00	3.40	17.25	97.50	21.35
07JUN	SE	0.00	0.00	0.00	0.00	0.00	65.15	2.28	5.70	0.00	3.40	14.74	87.83	14.37
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	1.73	0.00	0.00	0.00	10.95
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	1.73	0.00	0.00	0.00	6.52
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-26 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	68	0	0	68
02MAY	SE	0	0	0	0	0	0	0	0	0	0	68	0	0	68
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	665	15952	21842	38458
09MAY	SE	0	0	0	0	0	0	0	0	0	0	604	12485	7881	14777
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST.CROP	0	0	0	35	0	0	159	316	0	11902	12510	1843	3633	30397
16MAY	SE	0	0	0	35	0	0	154	249	0	11902	5871	1303	2982	13667
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST.CROP	0	0	0	25	0	22	11	6012	2581	36	17717	12413	106	38923
24MAY	SE	0	0	0	25	0	22	7	6012	2449	36	10267	4092	81	12819
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST.CROP	0	0	0	0	0	0	5	208	24	1140	10038	34545	6880	52839
01JUN	SE	0	0	0	0	0	0	5	131	24	1013	4249	9191	4290	11044
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-26 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST.CROP	0	0	0	0	0	13515	319	1700	0	481	3042	15672	1519
07JUN	SE	0	0	0	0	0	13515	319	1700	0	481	2598	14118	1023
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST.CROP	0	0	0	0	0	0	20	0	286	0	0	0	779
15JUN	SE	0	0	0	0	0	0	20	0	286	0	0	0	464
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	250	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	250	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
11JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
26JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
08AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-27 REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.03
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.41
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.30	0.16	0.00	3.01	9.45	1.42	0.94	2.24	1.54	2.17	0.00	1.63
09MAY	SE	0.00	0.00	0.22	0.16	0.00	2.60	4.04	0.75	0.57	0.89	0.90	1.43	0.00	5.26
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.18	0.70	5.64	2.10	1.82	3.72	3.80	61.84	694.02	404.14	146.19	101.86
16MAY	SE	0.00	0.00	0.18	0.55	2.29	1.05	0.71	1.81	1.28	25.92	191.46	148.60	35.89	246.39
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.52	0.00	0.00	0.32	4.19	77.16	112.52	22.98	41.07	74.71	85.61	62.38	34.34	39.68
24MAY	SE	0.52	0.00	0.00	0.32	2.18	46.02	99.99	7.99	14.36	23.96	14.89	31.19	9.53	119.38
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.33	0.00	0.00	18.12	24.21	8.10	75.61	12.04	117.50	270.40	40.49
01JUN	SE	0.00	0.00	0.00	0.33	0.00	0.00	7.01	13.41	3.15	32.92	6.49	31.76	66.80	82.68
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-27 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	2.71	1.65	2.52	21.41	31.23	41.49	49.88	122.17	21.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	1.83	0.88	1.31	16.32	14.35	12.86	20.28	43.77	54.50
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.89	0.08	0.54	0.13	0.79	0.00	1.01	164.68	12.93
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.89	0.08	0.34	0.13	0.51	0.00	1.01	63.90	63.92
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.03
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.21
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.03
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.41
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-28 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	68	0	0	0	0	68
02MAY	SE	0	0	0	0	0	0	0	0	68	0	0	0	0	68
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	98	23	0	625	1321	422	155	317	272	349	0	3583
09MAY	SE	0	0	69	23	0	540	564	223	95	126	158	230	0	876
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	58	103	1176	435	254	1110	629	8749	122353	64959	10401	210227
16MAY	SE	0	0	58	82	477	218	100	539	212	3666	33753	23884	2553	41597
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	108	0	0	48	872	16007	15729	6850	6796	10569	15093	10027	2443	84541
24MAY	SE	108	0	0	48	455	9548	13978	2382	2376	3390	2626	5013	678	18495
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	49	0	0	2533	7219	1340	10697	2123	18885	19238	62085
01JUN	SE	0	0	0	49	0	0	980	3997	521	4657	1145	5104	4753	9426
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-28 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL
REGIONS
COMBINED

DATE	BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
04JUN- ST. CROP	0	0	0	0	0	563	231	752	3543	4417	7315	8017	8693	33530
07JUN SE	0	0	0	0	0	379	123	390	2700	2031	2267	3260	3114	6099
NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN- ST. CROP	0	0	0	0	0	186	12	161	22	112	0	163	11717	12371
15JUN SE	0	0	0	0	0	186	12	103	22	71	0	163	4547	4555
NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN- ST. CROP	0	0	0	0	0	0	0	107	0	0	0	0	0	107
21JUN SE	0	0	0	0	0	0	0	62	0	0	0	0	0	62
NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN- ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	29	29
28JUN SE	0	0	0	0	0	0	0	0	0	0	0	0	29	29
NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL- ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL SE	0	0	0	0	0	0	0	0						0
NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL- ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL SE	0	0	0	0	0	0	0	0						0
NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG- ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG SE	0	0	0	0	0	0	0	0						0
NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG- ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG SE	0	0	0	0	0	0	0	0						0
NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP- ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP SE	0	0	0	0	0	0	0	0						0
NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP- ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP SE	0	0	0	0	0	0	0	0						0
NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT- ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT SE	0	0	0	0	0	0	0	0						0
NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-29 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007															
															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	1.47	0.99	3.88	41.48	1056.56	1161.97	746.48	1525.94	2456.69	755.96	1414.88	323.96	730.02
07JUN	SE	0.00	1.10	0.45	1.34	15.88	209.30	181.43	278.84	624.56	1014.60	138.11	513.48	130.44	1368.93
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	18.77	3.10	12.80	101.68	328.25	846.92	1063.53	723.70	611.53	525.71	956.89	67.91	404.68
15JUN	SE	0.00	9.20	2.00	9.60	45.08	64.67	147.62	174.23	131.04	124.60	100.51	236.89	34.22	398.28
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	3.78	19.00	49.38	14.37	269.75	160.83	316.82	434.29	55.91	83.50	127.48	571.21	104.97	170.10
21JUN	SE	3.78	7.28	38.44	4.96	181.98	52.24	90.24	343.09	18.43	24.51	39.40	90.20	102.10	429.33
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.28	17.06	54.35	170.36	29.82	142.46	181.42	252.81	324.86	228.63	107.85
28JUN	SE	0.00	0.00	0.00	0.28	15.34	12.44	68.91	7.74	67.80	58.51	129.95	117.88	170.37	270.23
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.94	0.00	0.00	0.00	2.67	1.97	3.56	4.30	NS	NS	NS	NS	NS	1.68
11JUL	SE	0.94	0.00	0.00	0.00	1.82	1.85	1.80	0.73						3.37
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	NS	NS	NS	NS	NS	0.07
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56						0.56
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-30 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	23	26	0	5	0	0	0	0	0	0	54
09MAY	SE	0	0	0	23	26	0	5	0	0	0	0	0	0	35
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	47	52	586	1476	703	526	1814	2238	96120	0	0	103563
16MAY	SE	0	0	47	37	248	769	373	451	1297	1181	39571	0	0	39623
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	106	1551	4573	5496	8780	22213	60386	103209	203628	98925	0	217	509083
24MAY	SE	0	106	845	1081	1493	2465	7285	15853	48660	89980	21623	0	145	106049
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	1021	134	59	706	5064	53454	107958	604286	201804	120845	83727	89969	21158	1290185
01JUN	SE	762	108	59	157	1725	3508	51886	249890	73235	15847	26438	33794	8400	269591
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-30 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST. CROP	0	337	317	573	8641	219190	162432	222551	252519	347548	133272	227416	23050
07JUN	SE	0	251	146	198	3308	43421	25363	83130	103355	143536	24347	82533	9281
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST. CROP	0	4305	998	1892	21183	68098	118391	317074	119761	86513	92681	153803	4832
15JUN	SE	0	2111	643	1418	9392	13417	20636	51944	21685	17627	17720	38076	2435
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST. CROP	791	4358	15891	2124	56200	33364	44288	129477	9252	11813	22474	91811	7468
21JUN	SE	791	1670	12371	733	37913	10838	12614	102287	3050	3467	6945	14498	7265
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST. CROP	0	0	0	42	3554	11274	23814	8889	23575	25665	44570	52215	16267
28JUN	SE	0	0	0	42	3196	2580	9632	2308	11220	8278	22910	18947	12121
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST. CROP	196	0	0	0	556	408	498	1283	NS	NS	NS	NS	NS
11JUL	SE	196	0	0	0	379	384	251	217					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST. CROP	0	0	0	0	0	0	0	167	NS	NS	NS	NS	NS
26JUL	SE	0	0	0	0	0	0	0	167					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
08AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-31 REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-31 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.48	0.57
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.57
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	NS	NS	NS	NS	NS
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	NS	NS	NS	NS	NS
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	NS	NS	NS	NS	NS
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-32 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-32 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	237	41	278
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	138	41	144
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	14	0	NS	NS	NS	NS	NS	14
11JUL	SE	0	0	0	0	0	0	14	0						14
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	163	NS	NS	NS	NS	NS	163
26JUL	SE	0	0	0	0	0	0	0	81						81
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	157	NS	NS	NS	NS	NS	157
08AUG	SE	0	0	0	0	0	0	0	157						157
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	23	0	0	NS	NS	NS	NS	NS	23
22AUG	SE	0	0	0	0	0	23	0	0						23
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-33 REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	3.96	0.76	0.46	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	2.98	0.54	0.46	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.62	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.39	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.44	0.21	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.30	0.10	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.11	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.11	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005	0.29	0.09	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005	0.25	0.09	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005	0.43	0.43	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005	0.20	0.35	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.04	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	1.15	0.00	0.12	0.00	0.09
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.62	0.00	0.12	0.00	0.09
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.15	0.06	0.00	0.06
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.11	0.04	0.00	0.06
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.26	0.40	0.22	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.12	0.16	0.12	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.00	0.00	0.17	0.09	0.03	0.43	0.09	0.03	0.06	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.10	0.05	0.01	0.17	0.05	0.02	0.06	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-34 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	0	0	0	0	0	553	225	77	0	0	0	0
06JUL	SE	0	0	0	0	0	0	417	161	77	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	0	0	0	0	0	0	148	0	88	0	0	0
19JUL	SE	0	0	0	0	0	0	0	96	0	56	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	0	0	0	0	0	0	4	131	35	0	0	0	0
03AUG	SE	0	0	0	0	0	0	4	89	17	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	0	0	0	0	0	0	0	51	0	16	0	0	0
16AUG	SE	0	0	0	0	0	0	0	20	0	16	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	0	0	0	0	0	0	1	86	15	0	0	0	0
30AUG	SE	0	0	0	0	0	0	1	74	15	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	0	0	0	0	0	0	1	129	71	0	0	0	0
13SEP	SE	0	0	0	0	0	0	1	61	58	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	0	0	0	0	0	21	6	0	0	0	0
27SEP	SE	0	0	0	0	0	0	0	12	6	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	0	0	0	0	0	0	0	47	191	0	22	0	7
11OCT	SE	0	0	0	0	0	0	0	31	102	0	22	0	7
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	0	0	0	0	0	0	0	0	33	21	11	0	4
25OCT	SE	0	0	0	0	0	0	0	0	22	16	7	0	4
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	0	0	0	0	0	2	0	10	44	57	38	0	0
09NOV	SE	0	0	0	0	0	2	0	6	20	23	22	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	0	0	0	25	20	7	59	27	5	9	0	0	0
30NOV	SE	0	0	0	15	10	3	24	14	4	9	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-35 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF WHITE PERCH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	CPUE	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
13JUN	SE	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	3.33	0.00	2.00	0.00	1.50	0.00	0.40	7.74	0.58	1.30
27JUN	SE	0.00	0.00	0.00	2.40	0.00	1.53	0.00	0.78	0.00	0.16	4.32	0.43	5.25
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.82	0.14	2.33	2.67	0.00	10.38	2.63	0.13	0.93	18.05	0.25	3.19
12JUL	SE	0.00	0.64	0.14	2.33	2.67	0.00	8.28	2.34	0.13	0.46	10.07	0.18	13.74
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.96	20.71	6.80	1.40	5.17	6.80	4.20	1.00	8.33	7.60	0.00	5.25
26JUL	SE	0.00	0.47	14.15	3.57	0.98	2.51	4.26	3.71	0.77	5.06	3.83	0.00	17.12
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.21	0.29	0.40	2.20	12.33	2.60	4.60	3.00	10.00	7.50	1.43	3.71
09AUG	SE	0.00	0.17	0.16	0.24	1.02	4.74	1.08	2.91	1.90	4.84	5.76	1.27	9.75
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.04	2.64	0.00	0.20	4.33	7.80	3.60	1.00	2.78	1.00	0.00	1.95
23AUG	SE	0.00	0.04	1.50	0.00	0.20	3.39	3.73	2.06	0.77	1.09	0.52	0.00	5.83
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.20	0.00	1.00	5.00	1.40	4.40	7.89	0.20	0.00	1.67
07SEP	SE	0.00	0.00	0.00	0.20	0.00	0.45	2.81	1.17	3.67	2.52	0.13	0.00	5.42
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.83	3.00	0.00	0.40	1.17	6.20	7.20	0.40	2.22	2.40	0.00	1.99
20SEP	SE	0.00	0.79	2.50	0.00	0.40	0.75	4.18	5.77	0.40	0.89	1.31	0.00	7.81
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.57	0.60	0.00	0.67	1.40	1.40	0.00	3.22	1.00	0.00	0.74
04OCT	SE	0.00	0.00	0.50	0.60	0.00	0.49	0.98	1.17	0.00	1.09	0.73	0.00	2.21
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	2.86	0.60	0.20	1.17	3.00	0.00	0.20	0.22	3.20	0.00	0.95
18OCT	SE	0.00	0.00	1.73	0.60	0.20	0.75	1.55	0.00	0.20	0.22	1.93	0.00	3.19
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-36 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	0	8	0	0	0	0	0	0	0	0	0	0	8
13JUN	SE	0	6	0	0	0	0	0	0	0	0	0	0	6
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	31	0	21	0	2	0	7	152	8	221
27JUN	SE	0	0	0	22	0	16	0	1	0	3	85	6	90
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	37	4	22	7	0	74	3	1	16	355	3	522
12JUL	SE	0	29	4	22	7	0	59	3	1	8	198	2	210
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	44	557	63	4	55	48	5	9	146	150	0	1080
26JUL	SE	0	21	380	33	3	27	30	5	7	89	75	0	402
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	9	8	4	6	131	18	6	26	176	148	19	551
09AUG	SE	0	8	4	2	3	50	8	4	16	85	113	17	153
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	2	71	0	1	46	55	4	9	49	20	0	257
23AUG	SE	0	2	40	0	1	36	26	3	7	19	10	0	64
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	2	0	11	35	2	38	138	4	0	230
07SEP	SE	0	0	0	2	0	5	20	1	32	44	3	0	58
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	38	81	0	1	12	44	9	3	39	47	0	275
20SEP	SE	0	36	67	0	1	8	30	7	3	16	26	0	88
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	15	6	0	7	10	2	0	57	20	0	116
04OCT	SE	0	0	13	6	0	5	7	1	0	19	14	0	29
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	77	6	1	12	21	0	2	4	63	0	185
18OCT	SE	0	0	47	6	1	8	11	0	2	4	38	0	62
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-37 REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR-	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.20	13.21	13.21	2.79	0.39	NS	NS	NS	NS	NS	NS
23MAR-	SE	0.00	0.00	0.20	7.12	5.69	1.40	0.39						9.23
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	6.09	4.80	4.05	9.01	1.29	4.37	4.51	NS	NS	NS	NS	NS	NS
30MAR-	SE	3.31	2.88	0.82	7.22	0.17	1.24	0.97						8.63
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.48	0.63	1.26	2.56	11.79	2.12	1.17	0.76	0.23	1.61	0.60	0.00	0.00
06APR-	SE	0.28	0.63	0.45	1.42	8.53	1.20	0.76	0.76	0.23	0.70	0.35	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	1.75	11.53	3.78	5.46	0.00	1.17	0.99	1.86	2.16	0.00	0.00
13APR-	SE	0.00	0.00	1.54	5.00	3.60	2.39	0.00	0.50	0.52	1.86	2.16	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.24	4.65	0.75	3.99	4.42	0.00	0.53	0.00	0.00	0.00	0.00	0.00
19APR-	SE	0.00	0.24	1.89	0.32	2.21	2.87	0.00	0.53	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	2.72	0.39	0.00	0.66	0.37	0.78	0.28	0.00	0.00	0.00	0.00	0.00	0.00
25APR-	SE	0.62	0.39	0.00	0.39	0.33	0.22	0.21	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.23	4.77	19.18	0.05	0.14	1.07	0.00	0.00	0.00	0.00	0.00	0.00
02MAY-	SE	0.00	0.23	3.22	6.14	0.05	0.14	0.66	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.58	0.32	0.85	0.30	0.00	0.00	0.00	0.37	0.00	0.00	0.00
09MAY-	SE	0.00	0.00	0.41	0.32	0.61	0.15	0.00	0.00	0.00	0.37	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.17	0.00	0.76	0.14	0.17	0.00	0.00	0.00	0.00
16MAY-	SE	0.00	0.00	0.00	0.00	0.17	0.00	0.52	0.14	0.17	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.24	0.00	0.18	1.34	0.00	0.25	0.12	0.00	0.75	0.22	0.00	0.00
24MAY-	SE	0.00	0.12	0.00	0.18	0.60	0.00	0.22	0.12	0.00	0.47	0.22	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.77	0.20	0.12	0.00	0.00	1.67	0.00	0.00
01JUN-	SE	0.00	0.00	0.00	0.00	0.00	0.77	0.20	0.12	0.00	0.00	1.67	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-37 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.23	0.00	0.00	0.22	0.00	0.00	2.49	0.54	0.00	0.00	0.27
07JUN	SE	0.00	0.00	0.00	0.23	0.00	0.00	0.16	0.00	0.00	0.91	0.54	0.00	0.00	1.09
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.13	0.00	0.00	0.00	0.00	0.01
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.13	0.00	0.00	0.00	0.00	0.14
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.09	0.10	1.00	0.37	0.00	3.52	0.00	0.00	0.00	0.39
21JUN	SE	0.00	0.00	0.00	0.00	0.09	0.10	0.32	0.37	0.00	1.96	0.00	0.00	0.00	2.02
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.66	1.29	0.00	0.97	0.00	0.26
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.54	0.97	0.00	0.49	0.00	1.32
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.75	0.00	0.32	0.00	NS	NS	NS	NS	NS	0.13
11JUL	SE	0.00	0.00	0.00	0.00	0.75	0.00	0.32	0.00						0.82
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	NS	NS	NS	NS	NS	0.03
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28						0.28
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	NS	NS	NS	NS	NS	0.07
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56						0.56
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-38 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS
16MAR-	SE	0	0	0	0	0	0	0						0
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	ST. CROP	0	0	63	1952	2752	578	55	NS	NS	NS	NS	NS	NS
23MAR-	SE	0	0	63	1052	1186	290	55						1614
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	ST. CROP	1272	1102	1303	1331	269	907	631	NS	NS	NS	NS	NS	NS
30MAR-	SE	692	662	263	1066	35	257	136						1486
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	ST. CROP	100	144	407	378	2456	439	164	228	37	228	106	0	0
06APR-	SE	58	144	145	210	1777	249	107	228	37	99	61	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	ST. CROP	0	0	564	1703	788	1132	0	348	164	263	381	0	0
13APR-	SE	0	0	496	738	750	497	0	148	85	263	381	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	ST. CROP	0	55	1496	111	832	918	0	157	0	0	0	0	0
19APR-	SE	0	55	607	48	460	596	0	157	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	ST. CROP	568	89	0	98	78	162	39	0	0	0	0	0	0
25APR-	SE	130	89	0	57	69	47	30	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	ST. CROP	0	54	1534	2834	10	28	149	0	0	0	0	0	0
02MAY-	SE	0	54	1036	908	10	28	92	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	ST. CROP	0	0	188	47	177	62	0	0	0	53	0	0	0
09MAY-	SE	0	0	131	47	127	31	0	0	0	53	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	ST. CROP	0	0	0	0	36	0	106	40	28	0	0	0	0
16MAY-	SE	0	0	0	0	36	0	73	40	28	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	ST. CROP	0	55	0	27	280	0	35	35	0	106	38	0	0
24MAY-	SE	0	28	0	27	125	0	31	35	0	67	38	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	ST. CROP	0	0	0	0	0	160	28	35	0	0	294	0	0
01JUN-	SE	0	0	0	0	0	160	28	35	0	0	294	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-38 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	34	0	0	30	0	0	353	95	0	0	511
07JUN	SE	0	0	0	34	0	0	22	0	0	129	95	0	0	165
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	6	0	22	0	0	0	0	28
15JUN	SE	0	0	0	0	0	0	6	0	22	0	0	0	0	23
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	20	21	140	109	0	498	0	0	0	788
21JUN	SE	0	0	0	0	20	21	45	109	0	277	0	0	0	302
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	109	0	0	109	182	0	156	0	555
28JUN	SE	0	0	0	0	0	109	0	0	90	138	0	78	0	212
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	157	0	45	0	NS	NS	NS	NS	NS	202
11JUL	SE	0	0	0	0	157	0	45	0						163
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	82	NS	NS	NS	NS	NS	82
26JUL	SE	0	0	0	0	0	0	0	82						82
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	167	NS	NS	NS	NS	NS	167
19SEP	SE	0	0	0	0	0	0	0	167						167
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-39 REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
01JUL-	DENSITY	0.00	0.00	0.62	0.04	0.00	0.00	0.12	0.03	0.02	0.00	0.93	0.00	0.00	0.14
06JUL	SE	0.00	0.00	0.24	0.04	0.00	0.00	0.08	0.03	0.02	0.00	0.93	0.00	0.00	0.96
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	0.00	0.00	0.02	0.00	0.01	0.00	0.04	0.00	0.07	0.43	0.00	0.00	0.00	0.04
19JUL	SE	0.00	0.00	0.02	0.00	0.01	0.00	0.03	0.00	0.05	0.33	0.00	0.00	0.00	0.33
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	< 0.005
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.03
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005	0.00	0.00	0.00	0.07	0.12	0.00	0.01
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005	0.00	0.00	0.00	0.07	0.12	0.00	0.14
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	0.00	0.00	0.00	0.07	0.00	0.00	< 0.005	0.01	0.02	0.07	0.06	0.00	0.11	0.03
30AUG	SE	0.00	0.00	0.00	0.07	0.00	0.00	< 0.005	0.01	0.02	0.07	0.06	0.00	0.11	0.16
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.00	0.00	0.07	0.00	0.00	0.00	0.13	1.19	0.05	0.00	0.00	0.00	0.10	0.12
13SEP	SE	0.00	0.00	0.07	0.00	0.00	0.00	0.06	0.37	0.03	0.00	0.00	0.00	0.10	0.39
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.60	0.65	0.24	0.06	0.00	0.00	0.12
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.32	0.29	0.14	0.06	0.00	0.00	0.45
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.16	0.50	0.06	0.07	0.00	0.20	0.08
11OCT	SE	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.07	0.25	0.06	0.07	0.00	0.11	0.30
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.02	0.01	0.08	0.10	0.20	0.39	0.00	0.00	0.00	0.06
25OCT	SE	0.00	0.00	0.00	0.00	0.01	0.01	0.04	0.10	0.07	0.09	0.00	0.00	0.00	0.16
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.00	0.00	0.10	0.08	0.02	0.00	0.47	0.37	0.88	1.65	0.53	0.15	0.45	0.36
09NOV	SE	0.00	0.00	0.07	0.05	0.02	0.00	0.22	0.12	0.25	0.57	0.24	0.08	0.17	0.74
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.00	0.17	0.08	0.10	0.17	0.09	1.54	0.16	1.58	0.64	0.02	0.00	0.00	0.35
30NOV	SE	0.00	0.08	0.06	0.04	0.12	0.03	0.47	0.05	0.51	0.23	0.02	0.00	0.00	0.75
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-40 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL-	ST. CROP	0	0	199	5	0	0	17	9	3	0	164	0	0	398
06JUL	SE	0	0	78	5	0	0	11	9	3	0	164	0	0	182
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	0	0	7	0	2	0	5	0	11	61	0	0	0	87
19JUL	SE	0	0	7	0	2	0	5	0	8	46	0	0	0	48
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	0	0	0	0	0	0	0	5	3	0	0	0	0	8
03AUG	SE	0	0	0	0	0	0	0	5	3	0	0	0	0	6
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	0	0	0	0	0	0	1	0	0	0	12	19	0	32
16AUG	SE	0	0	0	0	0	0	1	0	0	0	12	19	0	23
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	0	0	0	10	0	0	1	4	3	9	11	0	7	46
30AUG	SE	0	0	0	10	0	0	1	4	3	9	11	0	7	20
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	0	0	23	0	0	0	18	356	8	0	0	0	7	412
13SEP	SE	0	0	23	0	0	0	8	110	5	0	0	0	7	113
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	0	0	0	0	0	0	5	180	108	33	10	0	0	337
27SEP	SE	0	0	0	0	0	0	4	96	47	19	10	0	0	109
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	0	0	0	0	1	0	0	48	83	8	13	0	14	167
11OCT	SE	0	0	0	0	1	0	0	19	42	8	13	0	8	49
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	0	0	0	0	4	3	11	30	32	55	0	0	0	135
25OCT	SE	0	0	0	0	3	2	5	30	11	13	0	0	0	35
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	0	0	33	12	4	0	65	111	145	234	93	24	32	754
09NOV	SE	0	0	23	8	4	0	31	37	41	81	42	14	12	115
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	0	39	27	15	36	19	215	49	262	91	4	0	0	757
30NOV	SE	0	18	18	6	26	6	66	16	84	32	4	0	0	119
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-41 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF WHITE PERCH YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	2.09	1.29	7.00	2.00	0.00	2.25	0.38	0.38	0.67	1.11	0.25	1.45
13JUN	SE	0.00	0.97	0.89	3.06	0.00	0.00	1.11	0.38	0.26	0.36	0.74	0.18	3.64
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.09	1.57	1.33	0.67	0.33	1.00	1.63	0.00	1.00	0.95	0.58	0.76
27JUN	SE	0.00	0.09	1.02	0.67	0.33	0.33	1.00	1.03	0.00	0.50	0.54	0.40	2.12
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.45	0.86	0.00	1.33	0.00	1.13	0.63	0.00	2.73	1.79	0.17	0.76
12JUL	SE	0.00	0.31	0.46	0.00	1.33	0.00	0.48	0.32	0.00	1.29	1.06	0.11	2.28
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.46	22.07	1.40	3.00	1.67	0.00	0.00	1.00	1.89	0.30	0.00	2.65
26JUL	SE	0.00	0.16	13.07	0.87	3.00	1.09	0.00	0.00	0.63	1.07	0.21	0.00	13.54
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.13	0.00	0.00	0.60	1.83	0.20	0.00	1.00	1.33	0.00	0.00	0.42
09AUG	SE	0.00	0.09	0.00	0.00	0.40	1.22	0.20	0.00	1.00	1.11	0.00	0.00	1.98
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.29	0.64	0.00	0.00	0.00	0.00	0.00	0.20	0.44	0.00	0.00	0.13
23AUG	SE	0.00	0.19	0.40	0.00	0.00	0.00	0.00	0.00	0.20	0.24	0.00	0.00	0.54
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.46	0.36	0.60	0.40	1.50	0.20	0.60	2.00	5.00	0.00	0.00	0.93
07SEP	SE	0.00	0.35	0.36	0.40	0.40	1.31	0.20	0.40	1.14	2.66	0.00	0.00	3.29
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	2.07	0.00	0.20	0.33	0.20	0.00	0.00	1.44	2.10	0.00	0.53
20SEP	SE	0.00	0.00	2.07	0.00	0.20	0.21	0.20	0.00	0.00	0.85	1.17	0.00	2.55
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.20	0.00	0.44	0.30	0.00	0.12
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.20	0.00	0.24	0.30	0.00	0.66
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.50	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.40	0.00	0.13
18OCT	SE	0.00	0.00	0.23	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.31	0.00	0.55
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-42 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	0	95	35	65	5	0	16	< 0.5	3	12	22	3	256
13JUN	SE	0	44	24	28	0	0	8	< 0.5	2	6	15	2	60
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	4	42	12	2	4	7	2	0	18	19	8	117
27JUN	SE	0	4	27	6	1	4	7	1	0	9	11	5	33
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	21	23	0	4	0	8	1	0	48	35	2	141
12JUL	SE	0	14	12	0	4	0	3	< 0.5	0	23	21	2	36
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	21	594	13	8	18	0	0	9	33	6	0	701
26JUL	SE	0	7	351	8	8	12	0	0	5	19	4	0	352
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	6	0	0	2	20	1	0	9	23	0	0	60
09AUG	SE	0	4	0	0	1	13	1	0	9	19	0	0	25
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	13	17	0	0	0	0	0	2	8	0	0	40
23AUG	SE	0	8	11	0	0	0	0	0	2	4	0	0	14
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	21	10	6	1	16	1	1	17	88	0	0	160
07SEP	SE	0	16	10	4	1	14	1	< 0.5	10	47	0	0	53
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	56	0	1	4	1	0	0	25	41	0	128
20SEP	SE	0	0	56	0	1	2	1	0	0	15	23	0	62
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	5	0	< 0.5	0	8	6	0	19
04OCT	SE	0	0	0	0	0	5	0	< 0.5	0	4	6	0	9
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	13	0	0	0	4	0	0	0	8	0	26
18OCT	SE	0	0	6	0	0	0	3	0	0	0	6	0	9
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-43 REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.40	2.77	2.36	0.50	0.19	0.20	NS	NS	NS	NS	NS	NS	0.92
23MAR	SE	0.00	0.32	2.01	1.08	0.50	0.19	0.20							2.38
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	1.52	1.94	0.69	0.00	0.00	0.71	0.60	NS	NS	NS	NS	NS	NS	0.78
30MAR	SE	0.57	0.56	0.47	0.00	0.00	0.55	0.38							1.14
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.23	3.95	2.89	0.17	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.58
06APR	SE	0.23	2.96	2.89	0.17	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	4.15
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	2.74	3.80	10.50	3.28	0.30	1.84	2.25	2.38	1.08	2.84	0.00	2.39
13APR	SE	0.00	0.00	1.62	1.88	6.56	1.28	0.27	1.20	2.25	1.51	1.08	1.64	0.00	7.97
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.24	6.77	3.59	3.67	4.46	0.00	0.00	1.72	1.48	0.00	1.09	0.00	1.77
19APR	SE	0.00	0.24	1.56	1.40	1.29	2.53	0.00	0.00	1.00	0.77	0.00	0.55	0.00	3.80
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	19.08	2.05	0.63	0.33	0.70	1.43	0.25	0.51	0.42	5.09	0.00	0.00	0.00	2.34
25APR	SE	8.72	1.80	0.36	0.23	0.32	1.24	0.21	0.51	0.28	2.58	0.00	0.00	0.00	9.39
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	1.47	1.32	3.62	12.42	0.20	0.27	2.07	1.25	1.55	1.82	0.00	0.00	0.34	2.03
02MAY	SE	0.31	0.54	2.68	5.99	0.16	0.27	0.53	0.67	1.31	0.80	0.00	0.00	0.34	6.84
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.94	0.00	0.16	0.17	0.30	0.22	0.13	0.12	2.16	0.00	0.00	0.00	0.32
09MAY	SE	0.00	0.60	0.00	0.16	0.17	0.15	0.22	0.13	0.12	0.65	0.00	0.00	0.00	0.98
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	1.45	0.36	0.22	0.21	3.56	1.61	0.34	0.00	0.43	0.00	0.00	0.63
16MAY	SE	0.00	0.00	0.73	0.21	0.18	0.21	1.46	0.52	0.34	0.00	0.27	0.00	0.00	1.80
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.12	0.18	0.17	0.18	0.10	0.62	0.00	0.62	2.01	0.00	1.03	0.00	0.39
24MAY	SE	0.00	0.12	0.18	0.17	0.10	0.10	0.21	0.00	0.36	0.72	0.00	1.03	0.00	1.36
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.16	0.10	0.47	0.71	0.31	0.77	0.25	3.37	1.07	0.55
01JUN	SE	0.00	0.00	0.00	0.00	0.16	0.10	0.24	0.26	0.18	0.50	0.25	0.96	0.54	1.31
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-43 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.30	0.00	0.00	0.22	0.20	0.76	0.52	2.97	0.12	1.24	0.89	0.00	0.00	0.56
07JUN	SE	0.30	0.00	0.00	0.22	0.13	0.48	0.40	1.61	0.12	0.59	0.89	0.00	0.00	2.07
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.51	0.00	0.20	0.31	0.00	1.24	0.18	1.33	1.83	0.00	0.51	0.57	0.51
15JUN	SE	0.00	0.51	0.00	0.20	0.20	0.00	0.80	0.18	0.69	0.50	0.00	0.51	0.57	1.53
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.18	0.00	0.04	0.00	0.12	0.54	0.00	0.00	0.57	0.11
21JUN	SE	0.00	0.00	0.00	0.00	0.18	0.00	0.04	0.00	0.12	0.31	0.00	0.00	0.57	0.69
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.11	0.00	0.94	0.00	0.50	0.19	0.91	2.13	1.32	2.47	0.00	0.66
28JUN	SE	0.00	0.00	0.11	0.00	0.84	0.00	0.25	0.19	0.49	0.99	0.78	0.99	0.00	1.90
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.26	NS	NS	NS	NS	NS	0.07
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.26						0.38
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	NS	NS	NS	NS	NS	0.03
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26						0.26
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.12	0.00	2.15	NS	NS	NS	NS	NS	0.28
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.87						0.88
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.48	0.60	1.02	NS	NS	NS	NS	NS	0.26
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.01	0.30	1.02						1.06
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.78	0.67	0.54	NS	NS	NS	NS	NS	0.25
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.67	0.32	0.54						0.92
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-44 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	93	892	349	104	40	28	NS	NS	NS	NS	NS	NS	1504
23MAR	SE	0	74	648	160	104	40	28							682
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	317	445	223	0	0	147	83	NS	NS	NS	NS	NS	NS	1216
30MAR	SE	118	128	151	0	0	114	53							263
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	48	907	929	25	0	0	41	0	0	0	0	0	0	1951
06APR	SE	48	678	929	25	0	0	41	0	0	0	0	0	0	1153
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	880	562	2188	681	42	549	373	337	191	456	0	6259
13APR	SE	0	0	521	278	1366	266	38	356	373	214	191	263	0	1645
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	55	2180	531	765	926	0	0	285	209	0	176	0	5127
19APR	SE	0	55	503	207	270	525	0	0	166	109	0	88	0	833
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	3987	470	203	49	145	297	34	151	70	720	0	0	0	6127
25APR	SE	1823	413	117	34	67	258	30	151	47	364	0	0	0	1934
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	308	302	1164	1835	42	56	289	374	256	258	0	0	24	4908
02MAY	SE	65	124	863	885	33	56	74	199	217	113	0	0	24	1287
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	215	0	24	36	63	31	40	20	305	0	0	0	734
09MAY	SE	0	138	0	24	36	32	31	40	20	93	0	0	0	183
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	466	52	45	44	498	481	56	0	76	0	0	1718
16MAY	SE	0	0	234	30	37	44	205	154	56	0	47	0	0	360
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	27	58	25	37	21	86	0	102	285	0	165	0	807
24MAY	SE	0	27	58	25	22	21	29	0	59	102	0	165	0	218
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	34	21	66	212	51	109	44	541	76	1154
01JUN	SE	0	0	0	0	34	21	33	77	29	71	44	154	38	204
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-44 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	63	0	0	33	43	157	73	885	20	175	156	0	0	1606
07JUN	SE	63	0	0	33	26	100	56	480	20	84	156	0	0	530
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	117	0	29	64	0	173	54	220	259	0	82	41	1039
15JUN	SE	0	117	0	29	42	0	112	54	114	70	0	82	41	241
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	37	0	6	0	20	77	0	0	41	180
21JUN	SE	0	0	0	0	37	0	6	0	20	44	0	0	41	74
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	36	0	195	0	70	57	151	301	232	397	0	1440
28JUN	SE	0	0	36	0	174	0	35	57	81	140	137	158	0	326
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	39	78	NS	NS	NS	NS	NS	117
08AUG	SE	0	0	0	0	0	0	39	78						87
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	76	NS	NS	NS	NS	NS	76
22AUG	SE	0	0	0	0	0	0	0	76						76
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	24	0	642	NS	NS	NS	NS	NS	666
06SEP	SE	0	0	0	0	0	24	0	259						260
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	100	85	303	NS	NS	NS	NS	NS	487
19SEP	SE	0	0	0	0	0	2	42	303						306
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	162	94	162	NS	NS	NS	NS	NS	418
03OCT	SE	0	0	0	0	0	140	44	162						218
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-45 REGIONAL DENSITY (NO./1,000m3) OF WHITE PERCH OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
01JUL-	DENSITY	0.00	0.28	0.14	0.33	0.17	0.10	0.86	1.51	0.65	0.86	0.07	0.88	1.37	0.55
06JUL	SE	0.00	0.17	0.09	0.13	0.06	0.04	0.18	0.70	0.21	0.38	0.07	0.45	0.39	1.06
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	0.00	0.11	0.34	0.34	0.29	0.03	0.55	0.20	0.28	0.70	0.99	0.65	4.46	0.69
19JUL	SE	0.00	0.08	0.12	0.09	0.09	0.01	0.23	0.05	0.07	0.24	0.42	0.13	1.20	1.34
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	0.00	0.00	0.14	0.09	0.14	0.02	0.17	0.32	0.23	0.87	0.68	0.74	6.27	0.74
03AUG	SE	0.00	0.00	0.08	0.07	0.06	0.02	0.11	0.10	0.05	0.44	0.07	0.44	3.77	3.82
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.00	0.00	0.21	0.57	0.23	0.04	0.10	0.57	0.31	1.38	0.54	1.19	2.38	0.58
16AUG	SE	0.00	0.00	0.07	0.20	0.09	0.03	0.07	0.19	0.11	0.22	0.29	0.41	0.49	0.80
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	0.00	0.00	0.16	0.11	0.12	0.06	0.36	1.05	0.82	2.59	1.34	0.14	3.64	0.80
30AUG	SE	0.00	0.00	0.08	0.08	0.09	0.03	0.21	0.36	0.48	0.98	0.48	0.14	2.05	2.41
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.00	0.00	0.24	0.22	0.23	0.26	0.39	0.95	0.62	3.90	0.62	0.95	10.11	1.42
13SEP	SE	0.00	0.00	0.13	0.12	0.06	0.06	0.17	0.22	0.43	2.14	0.24	0.09	4.51	5.03
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.00	0.00	0.10	0.11	0.42	0.11	0.41	0.63	1.57	1.84	2.85	1.95	11.59	1.66
27SEP	SE	0.00	0.00	0.06	0.08	0.21	0.07	0.17	0.15	0.24	0.66	1.64	1.25	5.40	5.83
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.00	0.00	0.30	0.38	0.18	0.08	0.28	0.72	0.51	1.82	0.76	1.04	4.01	0.77
11OCT	SE	0.00	0.00	0.13	0.20	0.05	0.04	0.06	0.26	0.23	0.62	0.44	0.70	1.50	1.88
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.00	0.02	0.42	0.47	0.04	0.07	1.78	0.33	1.90	3.02	0.82	0.31	2.19	0.87
25OCT	SE	0.00	0.02	0.36	0.17	0.03	0.02	0.35	0.11	0.37	0.78	0.39	0.12	0.83	1.37
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.05	0.33	1.38	0.15	0.22	0.01	0.42	0.42	0.48	2.03	0.00	0.08	0.31	0.45
09NOV	SE	0.04	0.11	0.72	0.05	0.09	0.01	0.26	0.10	0.13	0.78	0.00	0.08	0.24	1.15
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.48	2.91	0.55	0.32	0.16	0.06	0.58	0.21	0.79	0.38	0.02	0.04	0.00	0.50
30NOV	SE	0.17	1.03	0.19	0.22	0.05	0.02	0.16	0.16	0.27	0.29	0.02	0.04	0.00	1.18
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-46 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	65	44	49	36	20	120	450	107	122	12	141	97
06JUL	SE	0	40	29	18	12	9	26	209	35	54	12	72	28
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	25	109	50	61	5	77	59	46	99	175	104	318
19JUL	SE	0	19	38	13	19	3	32	16	11	34	74	21	86
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	0	0	46	13	28	5	23	96	38	123	121	119	446
03AUG	SE	0	0	27	10	12	5	16	30	9	62	12	70	268
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	0	0	66	84	48	9	14	171	52	195	95	192	169
16AUG	SE	0	0	21	30	20	6	9	55	19	30	51	66	35
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	0	0	50	16	24	13	50	313	135	367	236	23	259
30AUG	SE	0	0	25	12	19	6	30	106	79	138	85	23	146
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	0	0	78	33	47	53	55	283	102	551	109	152	719
13SEP	SE	0	0	43	18	12	13	24	66	71	303	42	14	321
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	31	16	87	23	58	189	260	260	502	314	825
27SEP	SE	0	0	19	12	45	15	24	45	40	93	290	201	384
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	0	0	96	56	37	16	39	215	85	258	133	167	285
11OCT	SE	0	0	43	29	10	9	9	77	38	88	78	112	107
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	0	4	134	70	8	15	249	98	314	428	144	51	156
25OCT	SE	0	4	114	26	6	5	49	33	62	110	68	20	59
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	11	77	444	23	46	2	59	126	80	287	0	12	22
09NOV	SE	8	25	232	8	19	2	36	30	22	110	0	12	17
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	101	668	176	48	34	12	82	61	130	54	4	6	0
30NOV	SE	35	237	62	33	11	4	22	49	44	41	4	6	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-47 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF WHITE PERCH OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	CPUE	3.33	3.09	0.43	4.33	0.67	0.00	3.13	0.13	0.50	2.07	1.42	4.58	1.97
13JUN	SE	2.40	0.88	0.30	2.85	0.33	0.00	1.59	0.13	0.50	0.87	0.76	1.54	4.62
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	2.45	1.57	4.33	0.33	1.00	17.75	3.75	0.25	1.67	1.95	2.08	3.10
27JUN	SE	0.00	2.36	1.11	2.33	0.33	0.58	14.10	1.95	0.25	0.75	0.89	1.06	14.76
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	1.00	3.71	0.00	0.33	0.33	0.75	0.25	0.13	2.60	0.53	0.33	0.83
12JUL	SE	0.00	0.43	3.07	0.00	0.33	0.33	0.31	0.16	0.13	1.07	0.37	0.26	3.36
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.40	12.63	8.57	0.80	1.40	0.67	0.00	0.00	1.80	3.56	2.10	0.14	2.67
26JUL	SE	0.24	10.89	5.02	0.58	1.40	0.67	0.00	0.00	1.80	2.22	1.14	0.14	12.50
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.20	0.92	0.71	0.00	0.80	0.67	0.00	0.40	0.40	7.33	0.10	0.14	0.97
09AUG	SE	0.20	0.37	0.34	0.00	0.58	0.67	0.00	0.40	0.24	3.14	0.10	0.14	3.34
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.20	0.88	0.93	0.00	0.00	0.17	0.20	0.20	0.20	2.78	1.30	0.00	0.57
23AUG	SE	0.20	0.58	0.59	0.00	0.00	0.17	0.20	0.20	0.20	1.32	0.76	0.00	1.79
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.80	1.25	1.21	0.20	0.00	0.67	0.80	0.00	0.80	0.67	0.00	0.00	0.53
07SEP	SE	0.58	0.53	0.64	0.20	0.00	0.42	0.80	0.00	0.58	0.44	0.00	0.00	1.56
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.04	0.14	0.00	0.00	0.17	0.00	0.00	0.00	0.11	1.20	0.00	0.14
20SEP	SE	0.00	0.04	0.10	0.00	0.00	0.17	0.00	0.00	0.00	0.11	0.57	0.00	0.62
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.20	0.04	0.00	0.00	0.20	0.33	0.00	0.00	0.00	1.56	0.20	0.14	0.22
04OCT	SE	0.20	0.04	0.00	0.00	0.20	0.21	0.00	0.00	0.00	0.77	0.20	0.14	0.88
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.29	0.00	0.20	0.33	0.20	0.00	0.00	0.00	0.00	0.00	0.08
18OCT	SE	0.00	0.00	0.13	0.00	0.20	0.33	0.20	0.00	0.00	0.00	0.00	0.00	0.45
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-48 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE PERCH OLDER-THAN-YEARLING IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	25	140	12	40	2	0	22	< 0.5	4	36	28	62	372
13JUN	SE	18	40	8	26	1	0	11	< 0.5	4	15	15	21	61
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	112	42	40	1	11	126	5	2	29	38	28	434
27JUN	SE	0	107	30	22	1	6	100	2	2	13	18	14	154
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	45	100	0	1	4	5	< 0.5	1	46	10	5	217
12JUL	SE	0	19	83	0	1	4	2	< 0.5	1	19	7	3	87
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	3	574	230	7	4	7	0	0	15	62	41	2	946
26JUL	SE	2	495	135	5	4	7	0	0	15	39	22	2	515
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	2	42	19	0	2	7	0	< 0.5	3	129	2	2	208
09AUG	SE	2	17	9	0	2	7	0	< 0.5	2	55	2	2	59
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	2	40	25	0	0	2	1	< 0.5	2	49	26	0	146
23AUG	SE	2	26	16	0	0	2	1	< 0.5	2	23	15	0	41
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	6	57	33	2	0	7	6	0	7	12	0	0	129
07SEP	SE	4	24	17	2	0	4	6	0	5	8	0	0	32
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	2	4	0	0	2	0	0	0	2	24	0	33
20SEP	SE	0	2	3	0	0	2	0	0	0	2	11	0	12
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	2	2	0	0	1	4	0	0	0	27	4	2	41
04OCT	SE	2	2	0	0	1	2	0	0	0	13	4	2	15
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	8	0	1	4	1	0	0	0	0	0	13
18OCT	SE	0	0	3	0	1	4	1	0	0	0	0	0	5
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-49 REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-49 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-50 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
14MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-50 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-51 REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	1.40	2.57	16.68	10.90	5.18	1.36	NS	NS	NS	NS	NS	NS	5.44
16MAR	SE	0.00	1.24	1.48	4.04	7.58	3.07	0.58							9.35
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.22	2.44	1.52	0.44	0.10	1.78	0.00	NS	NS	NS	NS	NS	NS	0.93
23MAR	SE	0.22	1.27	0.99	0.44	0.06	1.07	0.00							2.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	1.42	0.42	0.61	1.85	4.30	1.18	0.00	NS	NS	NS	NS	NS	NS	1.40
30MAR	SE	0.62	0.34	0.44	0.33	0.96	1.18	0.00							1.76
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	1.08	0.00	0.50	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
06APR	SE	0.00	1.08	0.00	0.27	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
13APR	SE	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-51 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-52 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	320	827	2465	2272	1076	190	NS	NS	NS	NS	NS	NS	7150
16MAR	SE	0	284	477	597	1580	637	81							1891
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	47	559	489	65	21	369	0	NS	NS	NS	NS	NS	NS	1549
23MAR	SE	47	291	320	65	12	221	0							492
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	296	97	196	273	895	244	0	NS	NS	NS	NS	NS	NS	2002
30MAR	SE	129	78	142	49	199	244	0							381
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	248	0	73	159	0	0	0	0	0	0	0	0	481
06APR	SE	0	248	0	40	128	0	0	0	0	0	0	0	0	282
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	42	0	0	0	0	0	0	0	0	0	0	42
13APR	SE	0	0	42	0	0	0	0	0	0	0	0	0	0	42
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-52 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-53 REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.62	10.75	30.16	147.31	34.76	4.55	1.00	NS	NS	NS	NS	NS	NS	32.74
16MAR	SE	0.45	5.05	6.07	30.98	12.43	2.72	0.58							34.42
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	8.40	84.62	18.63	1.28	1.08	1.54	0.00	NS	NS	NS	NS	NS	NS	16.51
23MAR	SE	2.63	17.70	5.88	0.62	0.82	0.60	0.00							18.88
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	73.81	84.36	2.55	3.79	0.55	0.62	0.00	NS	NS	NS	NS	NS	NS	23.67
30MAR	SE	25.85	49.92	0.86	0.80	0.19	0.55	0.00							56.23
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	8.27	53.53	7.16	0.00	0.09	0.10	0.00	0.26	0.00	0.72	0.00	0.00	0.00	5.39
06APR	SE	2.82	30.45	3.67	0.00	0.09	0.10	0.00	0.26	0.00	0.72	0.00	0.00	0.00	30.81
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.90	70.21	63.70	9.91	58.23	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.74
13APR	SE	0.58	26.78	14.71	3.86	24.34	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.27
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	8.08	72.24	7.70	0.73	0.00	0.00	0.00	0.00	0.00	0.00	2.03	0.00	0.00	6.98
19APR	SE	2.63	36.41	4.34	0.57	0.00	0.00	0.00	0.00	0.00	0.00	2.03	0.00	0.00	36.82
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	340.94	55.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.51
25APR	SE	174.19	45.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	179.94
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	5.40	153.92	284.74	5.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.58
02MAY	SE	1.72	86.33	197.75	2.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	215.79
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	72.90	194.30	19.25	16.48	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.40
09MAY	SE	25.61	66.49	9.63	10.79	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	72.71
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	2.06	103.70	7.20	1.06	4.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.12
16MAY	SE	1.19	68.43	1.91	0.83	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	68.50
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	2.93	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
24MAY	SE	1.58	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.61
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-53 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-54 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	ST. CROP	130	2466	9705	21763	7242	945	140	NS	NS	NS	NS	NS	NS
16MAR	SE	95	1159	1954	4577	2590	564	82						
	NO. TOWS	10	10	11	11	9	10	12						
21MAR-	ST. CROP	1755	19413	5997	189	224	318	0	NS	NS	NS	NS	NS	NS
23MAR	SE	549	4061	1892	92	170	124	0						
	NO. TOWS	10	10	11	11	10	10	12						
28MAR-	ST. CROP	15426	19354	820	559	114	129	0	NS	NS	NS	NS	NS	NS
30MAR	SE	5403	11453	277	118	40	113	0						
	NO. TOWS	10	10	11	11	10	10	12						
03APR-	ST. CROP	1729	12282	2303	0	19	21	0	77	0	101	0	0	0
06APR	SE	588	6985	1183	0	19	21	0	77	0	101	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	ST. CROP	188	16107	20500	1463	12131	335	0	0	0	0	0	0	0
13APR	SE	121	6144	4735	570	5072	174	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	ST. CROP	1688	16574	2479	108	0	0	0	0	0	0	358	0	0
19APR	SE	550	8354	1398	84	0	0	0	0	0	0	358	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	ST. CROP	71260	12778	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	36408	10352	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	ST. CROP	1129	35312	91633	814	0	0	0	0	0	0	0	0	0
02MAY	SE	359	19806	63637	416	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	ST. CROP	15238	44576	6196	2434	262	0	0	0	0	0	0	0	0
09MAY	SE	5352	15254	3100	1594	262	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	ST. CROP	431	23790	2317	156	955	0	0	0	0	0	0	0	0
16MAY	SE	249	15699	615	123	411	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	ST. CROP	613	293	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	330	76	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-54 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-55 REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	1.22	5.79	6.91	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.95	1.76	4.00	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	2.99	89.92	8.16	1.98	10.16	0.72	1.46	0.13	0.00	0.00	0.00	0.00	0.00
16MAY	SE	2.18	74.12	1.87	1.25	4.91	0.30	1.12	0.13	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	37.31	13.53	11.86	4.38	1.37	1.35	0.00	0.48	0.00	0.25	0.00	0.00	0.00
24MAY	SE	18.99	4.08	3.82	0.96	1.02	0.54	0.00	0.48	0.00	0.25	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.92	42.68	6.18	1.67	2.00	22.04	1.02	0.23	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.53	30.29	3.18	0.67	0.56	6.94	0.77	0.15	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-55 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	23.25	1.64	4.86	0.23	2.09	0.97	0.54	0.91	0.00	0.00	0.00	0.00	0.00	2.65
07JUN	SE	22.07	0.98	1.40	0.23	1.39	0.55	0.34	0.91	0.00	0.00	0.00	0.00	0.00	22.21
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	2.46	4.38	0.67	0.81	2.53	1.93	2.63	0.00	0.39	0.00	0.00	0.00	0.00	1.22
15JUN	SE	0.95	0.76	0.37	0.52	1.22	1.45	1.15	0.00	0.39	0.00	0.00	0.00	0.00	2.64
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	24.51	2.36	0.00	0.00	0.55	0.62	0.39	0.18	0.00	0.00	0.00	0.00	0.00	2.20
21JUN	SE	14.25	1.41	0.00	0.00	0.26	0.38	0.26	0.18	0.00	0.00	0.00	0.00	0.00	14.33
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	1.62	1.54	0.34	0.00	0.68	3.47	0.76	0.19	0.00	0.00	0.00	0.00	0.00	0.66
28JUN	SE	1.62	1.19	0.23	0.00	0.68	1.33	0.48	0.19	0.00	0.00	0.00	0.00	0.00	2.57
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	5.56	2.61	0.30	0.00	1.52	8.46	5.08	1.07	NS	NS	NS	NS	NS	3.08
11JUL	SE	2.81	2.61	0.30	0.00	0.77	2.67	4.65	1.07						6.73
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.81	2.82	0.27	NS	NS	NS	NS	NS	0.49
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.52	1.15	0.27						1.29
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	5.02	0.00	0.00	0.00	0.00	1.30	0.56	0.00	NS	NS	NS	NS	NS	0.86
08AUG	SE	1.13	0.00	0.00	0.00	0.00	0.83	0.38	0.00						1.46
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	2.29	0.90	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.40
22AUG	SE	1.15	0.90	0.00	0.00	0.00	0.00	0.00	0.00						1.46
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	2.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.29
06SEP	SE	2.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00						2.30
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	4.18	0.00	0.00	0.00	0.00	0.25	0.00	0.00	NS	NS	NS	NS	NS	0.55
19SEP	SE	4.18	0.00	0.00	0.00	0.00	0.14	0.00	0.00						4.18
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	NS	NS	NS	NS	NS	0.05
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00						0.40
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-56 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	255	1327	2225	279	0	0	0	0	0	0	0	0	0	4087
09MAY	SE	199	404	1287	192	0	0	0	0	0	0	0	0	0	1377
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	626	20630	2627	293	2116	148	204	39	0	0	0	0	0	26683
16MAY	SE	456	17006	603	185	1023	63	157	39	0	0	0	0	0	17055
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	7798	3103	3816	648	286	281	0	144	0	36	0	0	0	16111
24MAY	SE	3969	935	1231	141	213	112	0	144	0	36	0	0	0	4271
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	193	9792	1988	247	416	4573	143	70	0	0	0	0	0	17422
01JUN	SE	112	6949	1023	99	117	1439	108	44	0	0	0	0	0	7174
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-56 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS														AL	COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS		
04JUN-	ST. CROP	4859	376	1564	34	436	202	76	271	0	0	0	0	0	7816
07JUN	SE	4613	224	451	34	290	115	48	271	0	0	0	0	0	4659
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	513	1005	215	120	528	400	368	0	65	0	0	0	0	3213
15JUN	SE	198	173	118	77	254	301	161	0	65	0	0	0	0	524
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	5123	541	0	0	114	129	55	52	0	0	0	0	0	6015
21JUN	SE	2978	324	0	0	54	78	37	52	0	0	0	0	0	2997
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	339	354	110	0	142	721	106	57	0	0	0	0	0	1829
28JUN	SE	339	273	73	0	142	275	67	57	0	0	0	0	0	547
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	1162	599	97	0	317	1754	710	320	NS	NS	NS	NS	NS	4960
11JUL	SE	588	599	97	0	160	554	649	320						1253
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	168	394	79	NS	NS	NS	NS	NS	641
26JUL	SE	0	0	0	0	0	108	161	79						209
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	1049	0	0	0	0	270	78	0	NS	NS	NS	NS	NS	1398
08AUG	SE	237	0	0	0	0	172	54	0						298
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	478	207	0	0	0	0	0	0	NS	NS	NS	NS	NS	685
22AUG	SE	240	207	0	0	0	0	0	0						317
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	481	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	481
06SEP	SE	481	0	0	0	0	0	0	0						481
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	873	0	0	0	0	51	0	0	NS	NS	NS	NS	NS	925
19SEP	SE	873	0	0	0	0	30	0	0						874
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	84	0	0	NS	NS	NS	NS	NS	84
03OCT	SE	0	0	0	0	0	84	0	0						84
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-57 REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL-	DENSITY	3.84	0.71	0.11	0.62	0.37	1.20	0.62	0.00	0.00	0.00	0.00	0.00	0.11	0.58
06JUL	SE	0.89	0.20	0.09	0.20	0.31	0.35	0.23	0.00	0.00	0.00	0.00	0.00	0.11	1.08
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	1.97	3.20	0.03	0.00	0.02	1.10	0.50	0.04	0.00	0.00	0.00	0.00	0.00	0.53
19JUL	SE	0.78	1.35	0.03	0.00	0.02	0.28	0.27	0.03	0.00	0.00	0.00	0.00	0.00	1.60
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	1.46	0.67	0.00	0.00	2.04	3.01	0.14	0.06	0.02	0.00	0.00	0.00	0.00	0.57
03AUG	SE	0.84	0.31	0.00	0.00	1.40	1.18	0.07	0.05	0.02	0.00	0.00	0.00	0.00	2.04
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.60	0.34	0.00	0.00	0.00	0.00	0.04	0.17	0.00	0.00	0.00	0.00	0.00	0.09
16AUG	SE	0.25	0.12	0.00	0.00	0.00	0.00	0.03	0.17	0.00	0.00	0.00	0.00	0.00	0.32
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	2.73	0.73	0.12	0.03	0.02	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.28
30AUG	SE	0.73	0.27	0.06	0.03	0.02	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.78
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.73	0.59	0.09	0.11	0.05	0.37	< 0.005	0.06	0.00	0.00	0.00	0.00	0.00	0.15
13SEP	SE	0.35	0.17	0.05	0.05	0.03	0.24	< 0.005	0.03	0.00	0.00	0.00	0.00	0.00	0.46
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.94	0.02	0.02	0.00	0.00	0.18	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.09
27SEP	SE	0.48	0.02	0.02	0.00	0.00	0.06	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.48
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.11	0.09	0.00	0.00	0.01	0.17	0.06	0.08	0.07	0.00	0.00	0.00	0.00	0.05
11OCT	SE	0.04	0.06	0.00	0.00	0.01	0.06	0.04	0.03	0.07	0.00	0.00	0.00	0.00	0.13
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.02	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01
25OCT	SE	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.04
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.02	0.02	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
09NOV	SE	0.02	0.02	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
30NOV	SE	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-58 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL-	ST. CROP	803	163	37	91	78	248	86	0	0	0	0	0	8	1514
06JUL	SE	185	46	27	30	65	73	33	0	0	0	0	0	8	221
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	411	734	11	0	3	229	69	12	0	0	0	0	0	1469
19JUL	SE	162	309	11	0	3	59	37	8	0	0	0	0	0	356
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	306	154	0	0	424	625	20	19	3	0	0	0	0	1550
03AUG	SE	175	72	0	0	292	245	10	15	3	0	0	0	0	426
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	126	78	0	0	0	0	5	51	0	0	0	0	0	260
16AUG	SE	51	27	0	0	0	0	4	51	0	0	0	0	0	78
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	571	168	39	4	5	2	5	0	0	0	0	0	0	793
30AUG	SE	152	61	19	4	4	2	5	0	0	0	0	0	0	165
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	152	136	28	16	10	76	1	17	0	0	0	0	0	437
13SEP	SE	73	38	16	8	7	50	1	10	0	0	0	0	0	99
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	197	5	8	0	0	37	0	9	0	0	0	0	0	255
27SEP	SE	100	5	8	0	0	11	0	6	0	0	0	0	0	101
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	23	21	0	0	3	35	8	25	11	0	0	0	0	125
11OCT	SE	9	15	0	0	3	12	5	10	11	0	0	0	0	26
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	5	0	0	0	0	13	0	0	2	0	0	0	0	20
25OCT	SE	5	0	0	0	0	5	0	0	2	0	0	0	0	8
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	5	5	0	0	4	5	0	0	0	0	0	0	0	19
09NOV	SE	5	5	0	0	3	4	0	0	0	0	0	0	0	8
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	0	12	0	0	0	0	0	0	0	0	0	0	0	12
30NOV	SE	0	7	0	0	0	0	0	0	0	0	0	0	0	7
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-59 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF ATLANTIC TOMCOD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
13JUN	SE	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-60 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	5	0	0	0	0	0	0	0	0	0	0	0	5
13JUN	SE	3	0	0	0	0	0	0	0	0	0	0	0	3
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
26JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-61 REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.45	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.45	0.00	0.00	0.00	0.00	0.00	0.00						0.06
	NO. TOWS	10	10	11	11	10	10	12						0.45
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-61 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-62 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	94	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	94
30MAR	SE	94	0	0	0	0	0	0							94
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	24	0	0	0	0	0	0	0	0	0	24
09MAY	SE	0	0	0	24	0	0	0	0	0	0	0	0	0	24
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-62 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-63 REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC TOMCOD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.03	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.03	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-64 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	0	9	0	0	0	0	0	0	0	0	0	0
06JUL	SE	0	0	9	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
19JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	0	8	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	8	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
11OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	4	0	0	0	0	3	0	0	0	0	0	0	0
25OCT	SE	4	0	0	0	0	3	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	0	6	6	0	2	0	0	0	0	0	0	0	0
30NOV	SE	0	6	6	0	2	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-65 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF ATLANTIC TOMCOD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-66 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC TOMCOD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
26JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-67 REGIONAL DENSITY (NO./1,000m3) OF BAY ANCHOVY EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	683.48	47.40	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	0.00	56.33
24MAY	SE	401.19	34.41	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	0.00	402.67
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	8999.43	8481.18	5378.56	57.06	5.79	0.00	1.28	0.00	0.00	0.60	11.25	0.00	0.00	1764.24
01JUN	SE	1622.28	2633.38	2065.23	25.96	4.62	0.00	1.25	0.00	0.00	0.60	11.25	0.00	0.00	3719.21
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-67 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF BAY ANCHOVY EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	26035.41	30648.65	7034.13	161.72	11.35	0.22	0.66	0.00	2.93	0.50	7.94	0.00	0.00	4915.65
07JUN	SE	13254.37	11617.89	4591.55	91.32	5.68	0.22	0.66	0.00	2.68	0.50	0.62	0.00	0.00	18213.85
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	11862.54	13684.83	6884.60	4.02	4.97	0.46	0.47	0.00	0.00	0.64	6.77	2.00	0.40	2496.29
15JUN	SE	1607.74	3360.20	4669.54	2.49	4.87	0.46	0.35	0.00	0.00	0.64	6.77	2.00	0.40	5973.31
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	43528.33	17460.66	1.90	3.50	0.00	0.00	1.79	16.70	0.00	0.00	0.00	0.00	0.00	4693.30
21JUN	SE	13787.11	10650.77	1.63	1.73	0.00	0.00	1.45	16.70	0.00	0.00	0.00	0.00	0.00	17421.93
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	10043.58	25700.44	8244.21	437.68	31.94	0.20	0.00	0.00	0.00	1.30	0.00	0.00	0.40	3419.98
28JUN	SE	3001.68	13637.16	2521.31	122.68	19.58	0.20	0.00	0.00	0.00	0.65	0.00	0.00	0.40	14189.95
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	8738.45	13694.84	177.78	351.79	34.01	0.38	0.00	0.00	NS	NS	NS	NS	NS	2874.66
11JUL	SE	3373.30	7199.73	41.44	165.19	9.51	0.25	0.00	0.00						7952.63
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	1119.31	2721.26	19.05	15.19	34.62	0.35	0.29	0.00	NS	NS	NS	NS	NS	488.76
26JUL	SE	111.89	1312.85	11.02	10.36	5.42	0.22	0.29	0.00						1317.71
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	1738.25	1540.72	5.43	2.45	2.83	0.00	0.00	0.00	NS	NS	NS	NS	NS	411.21
08AUG	SE	677.25	1283.31	3.65	2.45	2.79	0.00	0.00	0.00						1451.07
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	136.55	2.71	0.00	0.00	8.43	0.84	0.00	0.00	NS	NS	NS	NS	NS	18.57
22AUG	SE	37.63	2.71	0.00	0.00	7.00	0.84	0.00	0.00						38.38
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	3.70	5.44	0.00	0.00	13.41	0.00	0.00	0.00	NS	NS	NS	NS	NS	2.82
06SEP	SE	3.70	4.13	0.00	0.00	7.92	0.00	0.00	0.00						9.66
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.26
19SEP	SE	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00						2.09
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-68 REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
14MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST.CROP	142855	10875	108	0	0	0	0	0	0	0	201	0	0	154038
24MAY	SE	83855	7895	77	0	0	0	0	0	0	0	201	0	0	84226
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST.CROP	1880998	1945755	1730882	8430	1207	0	179	0	0	85	1983	0	0	5569520
01JUN	SE	339078	604152	664614	3836	962	0	174	0	0	85	1983	0	0	960055
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-68 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST.CROP	5441735	7031423	2263663	23892	2365	45	92	0	486	70	1400	0	0	14765170
07JUN	SE	2770334	2665380	1477613	13491	1183	45	92	0	444	70	110	0	0	4118558
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST.CROP	2479423	3139578	2215544	594	1036	96	65	0	0	90	1194	321	29	7837970
15JUN	SE	336038	770898	1502713	367	1015	96	49	0	0	90	1194	321	29	1722020
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST.CROP	9097981	4005829	613	517	0	0	250	4979	0	0	0	0	0	13110169
21JUN	SE	2881684	2443504	525	255	0	0	203	4979	0	0	0	0	0	3778206
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST.CROP	2099238	5896203	2653081	64661	6655	42	0	0	0	183	0	0	29	10720092
28JUN	SE	627389	3128641	811388	18124	4080	42	0	0	0	92	0	0	29	3292523
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST.CROP	1826448	3141875	57211	51973	7086	79	0	0	NS	NS	NS	NS	NS	5084672
11JUL	SE	705064	1651764	13337	24405	1982	51	0	0						1796167
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST.CROP	233950	624312	6129	2244	7213	72	41	0	NS	NS	NS	NS	NS	873962
26JUL	SE	23387	301195	3547	1531	1130	46	41	0						302128
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST.CROP	363317	353472	1747	362	590	0	0	0	NS	NS	NS	NS	NS	719488
08AUG	SE	141554	294418	1176	362	582	0	0	0						326683
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST.CROP	28540	621	0	0	1756	174	0	0	NS	NS	NS	NS	NS	31091
22AUG	SE	7865	621	0	0	1459	174	0	0						8026
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST.CROP	772	1247	0	0	2794	0	0	0	NS	NS	NS	NS	NS	4814
06SEP	SE	772	947	0	0	1649	0	0	0						2053
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST.CROP	437	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	437
19SEP	SE	437	0	0	0	0	0	0	0						437
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-69 REGIONAL DENSITY (NO./1,000m3) OF BAY ANCHOVY YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	24.74	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	15.75	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-69 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF BAY ANCHOVY YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	4.30	3.84	1.23	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72
07JUN	SE	3.04	2.24	0.74	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.85
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	107.44	14.37	19.53	5.58	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.33
15JUN	SE	30.53	5.51	7.44	3.03	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.05
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	1.55	9.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81
28JUN	SE	0.00	1.55	9.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.16
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-70 REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	5170	0	0	0	10	0	0	0	0	0	0	0	0	5180
01JUN	SE	3291	0	0	0	10	0	0	0	0	0	0	0	0	3291
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-70 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS														AL	COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS		
04JUN-	ST. CROP	898	881	395	0	7	0	0	0	0	0	0	0	0	2182
07JUN	SE	636	513	237	0	7	0	0	0	0	0	0	0	0	851
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	22457	3296	6286	825	80	0	0	0	0	0	0	0	0	32944
15JUN	SE	6381	1263	2395	448	80	0	0	0	0	0	0	0	0	6946
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	356	2906	0	0	0	0	0	0	0	0	0	0	3263
28JUN	SE	0	356	2906	0	0	0	0	0	0	0	0	0	0	2928
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-71 REGIONAL DENSITY (NO./1,000m3) OF BAY ANCHOVY POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	42.21	0.00	11.92	2.53	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.40
01JUN	SE	23.52	0.00	9.69	2.53	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.57
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-71 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF BAY ANCHOVY POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
04JUN-	DENSITY	106.27	51.54	48.28	9.42	5.02	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	17.00
07JUN	SE	32.31	22.73	21.46	3.90	2.79	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	45.22
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	1902.27	2959.71	2461.76	5453.69	1045.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1063.29
15JUN	SE	284.91	739.96	670.84	1405.45	745.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1900.01
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	1791.75	2924.84	7818.72	9895.36	3603.09	68.88	2.50	1.96	0.00	0.00	0.00	0.00	0.00	2008.24
21JUN	SE	412.80	856.58	1361.73	1967.84	1934.61	33.16	2.02	1.96	0.00	0.00	0.00	0.00	0.00	3220.97
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	4904.64	6221.55	4875.34	6964.65	4751.73	313.51	359.72	0.86	0.00	1.30	0.00	0.00	0.00	2184.10
28JUN	SE	1910.85	2040.28	544.36	921.04	1429.85	103.57	120.29	0.86	0.00	1.30	0.00	0.00	0.00	3320.91
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	1578.61	4130.89	8107.92	9129.00	2980.61	479.67	249.00	904.67	NS	NS	NS	NS	NS	3445.05
11JUL	SE	563.53	954.80	2049.84	2248.18	904.42	92.77	58.88	444.65						3393.10
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	3119.84	3255.40	892.44	1106.16	1036.61	201.43	645.00	15.92	NS	NS	NS	NS	NS	1284.10
26JUL	SE	1067.80	788.49	184.73	292.11	283.88	79.25	153.50	6.63						1411.33
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	1315.19	629.86	1219.71	924.87	256.98	21.40	178.44	126.21	NS	NS	NS	NS	NS	584.08
08AUG	SE	472.62	150.90	271.83	300.88	74.38	5.03	53.54	91.53						653.73
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	2303.77	1050.41	1696.42	1170.04	436.99	65.17	297.85	74.54	NS	NS	NS	NS	NS	886.90
22AUG	SE	179.24	136.43	576.41	308.11	160.61	31.02	91.00	36.22						717.13
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	654.24	243.39	445.48	1187.44	262.58	52.69	33.73	42.97	NS	NS	NS	NS	NS	365.32
06SEP	SE	164.25	59.16	142.16	313.83	27.10	12.03	9.78	13.40						387.72
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	289.01	292.12	486.00	346.75	161.10	21.37	64.75	306.39	NS	NS	NS	NS	NS	245.94
19SEP	SE	118.07	62.20	92.03	82.10	33.75	7.15	19.61	143.97						235.20
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	55.87	72.36	86.12	92.23	60.70	45.40	96.86	30.25	NS	NS	NS	NS	NS	67.48
03OCT	SE	17.44	36.99	15.80	19.38	25.73	9.99	55.82	6.86						78.89
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-72 REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	8822	0	3835	374	109	0	0	0	0	0	0	0	0	13139
01JUN	SE	4916	0	3119	374	100	0	0	0	0	0	0	0	0	5835
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-72 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007															ALL REGIONS COMBINED	
DATE			BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP		22211	11824	15536	1392	1045	0	0	0	77	0	0	0	0	52084
07JUN	SE		6753	5215	6907	576	582	0	0	0	77	0	0	0	0	11008
	NO. TOWS		7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP		397598	679017	792223	805710	217776	0	0	0	0	0	0	0	0	2892324
15JUN	SE		59550	169761	215886	207636	155346	0	0	0	0	0	0	0	0	382383
	NO. TOWS		7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP		374498	671017	2516154	1461908	750655	14290	350	586	0	0	0	0	0	5789458
21JUN	SE		86281	196518	438219	290722	403049	6879	283	586	0	0	0	0	0	696502
	NO. TOWS		7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP		1025133	1427349	1568940	1028936	989957	65040	50286	257	0	184	0	0	0	6156081
28JUN	SE		399393	468083	175181	136072	297890	21486	16816	257	0	184	0	0	0	719237
	NO. TOWS		7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP		329948	947709	2609223	1348688	620970	99511	34808	269714	NS	NS	NS	NS	NS	6260571
11JUL	SE		117785	219050	659663	332138	188423	19245	8230	132566						812922
	NO. TOWS		6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP		652085	746856	287197	163420	215964	41788	90165	4747	NS	NS	NS	NS	NS	2202223
26JUL	SE		223184	180896	59448	43155	59143	16441	21458	1976						303584
	NO. TOWS		6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP		274892	144502	392517	136637	53539	4439	24944	37627	NS	NS	NS	NS	NS	1069096
08AUG	SE		98783	34620	87480	44451	15497	1044	7484	27289						147062
	NO. TOWS		6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP		481516	240985	545928	172858	91042	13520	41637	22224	NS	NS	NS	NS	NS	1609709
22AUG	SE		37464	31301	185497	45519	33461	6436	12721	10799						200758
	NO. TOWS		6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP		136745	55838	143359	175429	54706	10930	4716	12811	NS	NS	NS	NS	NS	594533
06SEP	SE		34330	13573	45750	46364	5645	2495	1367	3996						75242
	NO. TOWS		6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP		60408	67019	156399	51228	33563	4433	9051	91345	NS	NS	NS	NS	NS	473446
19SEP	SE		24677	14271	29615	12129	7031	1483	2741	42922						61141
	NO. TOWS		6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP		11678	16601	27715	13626	12647	9419	13541	9019	NS	NS	NS	NS	NS	114246
03OCT	SE		3645	8487	5084	2863	5361	2073	7804	2046						14747
	NO. TOWS		6	11	13	14	13	8	10	6						81

TABLE E-73 REGIONAL DENSITY (NO./1,000m³) OF BAY ANCHOVY YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

[illegible]

TABLE E-73 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF BAY ANCHOVY YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.64	24.60	35.30	0.22	107.56	10.69	7.02	0.00	NS	NS	NS	NS	NS
11JUL	SE	0.64	18.90	23.53	0.22	52.91	7.26	1.99	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	294.93	1003.01	284.68	151.47	10.86	298.16	2.17	NS	NS	NS	NS	NS
26JUL	SE	0.00	146.15	332.42	140.38	51.35	6.24	235.28	1.60					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	168.22	779.48	1545.40	1243.65	208.92	80.45	214.54	266.97	NS	NS	NS	NS	NS
08AUG	SE	24.74	215.95	313.88	443.08	58.89	12.61	81.81	206.83					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	216.73	258.86	540.04	179.17	46.90	64.38	199.82	67.84	NS	NS	NS	NS	NS
22AUG	SE	51.69	138.63	193.99	67.63	17.71	7.50	136.73	24.45					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	129.59	478.84	559.83	343.72	171.21	76.10	116.62	448.13	NS	NS	NS	NS	NS
06SEP	SE	64.49	82.98	196.52	73.11	49.84	18.79	23.21	81.72					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	220.72	275.74	614.01	372.01	85.45	59.78	87.80	266.02	NS	NS	NS	NS	NS
19SEP	SE	57.75	61.35	136.33	117.99	29.64	16.78	53.44	154.23					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	161.69	253.80	276.65	413.18	92.78	135.41	234.41	47.80	NS	NS	NS	NS	NS
03OCT	SE	73.29	32.88	58.56	123.33	21.41	26.64	74.48	7.70					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-74 REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	83	0	0	0	0	0	NS	NS	NS	NS	NS	NS	83
16MAR	SE	0	83	0	0	0	0	0							83
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-74 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	133	5643	11361	32	22408	2218	981	0	NS	NS	NS	NS	NS	42775
11JUL	SE	133	4336	7571	32	11023	1506	278	0						14142
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	67663	322779	42057	31556	2253	41680	648	NS	NS	NS	NS	NS	508635
26JUL	SE	0	33529	106978	20739	10699	1294	32891	477						119150
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	35160	178829	497327	183733	43525	16691	29991	79594	NS	NS	NS	NS	NS	1064848
08AUG	SE	5172	49543	101010	65459	12270	2616	11437	61662						145120
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	45300	59388	173790	26470	9772	13357	27934	20225	NS	NS	NS	NS	NS	376235
22AUG	SE	10803	31805	62428	9991	3689	1557	19113	7290						74564
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	27085	109856	180160	50781	35669	15787	16303	133603	NS	NS	NS	NS	NS	569244
06SEP	SE	13479	19037	63241	10800	10383	3898	3245	24362						73398
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	46134	63260	197595	54960	17802	12401	12273	79310	NS	NS	NS	NS	NS	483735
19SEP	SE	12071	14075	43872	17431	6175	3482	7470	45980						69229
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	33795	58228	89030	61042	19330	28091	32768	14251	NS	NS	NS	NS	NS	336536
03OCT	SE	15318	7543	18846	18220	4460	5526	10412	2297						33805
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-75 REGIONAL DENSITY (NO./1,000m3) OF BAY ANCHOVY YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

ALL REGIONS COMBINED														
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	15.08	202.29	216.63	272.60	819.57	51.04	128.43	0.75	0.00	0.00	0.00	0.00	0.00
06JUL	SE	9.50	97.82	59.27	52.80	252.93	16.54	76.02	0.54	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	89.65	288.73	621.48	707.35	924.97	152.74	289.61	88.18	0.00	17.91	0.00	0.00	0.00
19JUL	SE	50.12	25.34	122.06	149.02	251.87	46.49	63.64	45.93	0.00	8.23	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	74.53	705.89	538.99	56.81	65.82	46.59	318.88	59.44	0.35	0.00	0.00	0.00	0.00
03AUG	SE	19.30	152.90	135.10	12.87	12.91	16.76	129.75	21.76	0.35	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	45.16	197.67	469.44	195.56	139.96	32.37	116.47	82.23	0.00	10.27	71.18	0.91	0.00
16AUG	SE	21.71	39.80	65.86	38.54	41.51	12.11	51.85	21.19	0.00	5.13	71.11	0.91	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	103.89	154.44	421.10	742.49	101.92	25.29	77.43	98.61	79.92	34.78	0.00	14.10	0.30
30AUG	SE	53.52	30.02	64.66	264.37	32.25	8.05	25.89	22.52	15.84	11.87	0.00	14.10	0.30
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	78.37	369.94	192.62	113.95	121.33	49.71	45.09	136.94	42.91	32.39	39.86	8.81	1.15
13SEP	SE	31.13	68.70	27.05	21.82	39.00	10.22	14.80	81.23	14.32	11.74	38.05	5.75	1.15
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	61.45	170.78	124.33	74.95	82.95	38.63	56.26	100.10	37.44	7.00	34.64	0.00	0.59
27SEP	SE	21.44	25.22	30.88	14.89	14.04	9.12	24.65	29.72	22.53	2.77	3.97	0.00	0.59
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	18.55	59.91	41.30	35.19	86.77	56.08	47.41	40.19	13.73	84.95	0.00	0.00	15.75
11OCT	SE	4.93	11.56	11.10	10.94	25.38	16.76	11.07	14.50	9.43	33.11	0.00	0.00	15.75
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.07	0.21	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.05	0.15	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-76 REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL-	ST. CROP	3152	46410	69714	40274	170747	10588	17954	222	0	0	0	0	0	359060
06JUL	SE	1986	22442	19074	7800	52695	3431	10627	160	0	0	0	0	0	61917
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	18738	66241	199999	104501	192704	31688	40485	26288	0	2533	0	0	0	683178
19JUL	SE	10475	5814	39279	22016	52473	9645	8896	13694	0	1165	0	0	0	72702
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	15578	161946	173452	8393	13713	9666	44577	17720	57	0	0	0	0	445102
03AUG	SE	4034	35078	43476	1902	2689	3478	18138	6486	57	0	0	0	0	59422
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	9440	45350	151073	28892	29158	6715	16282	24515	0	1452	12549	147	0	325573
16AUG	SE	4539	9131	21196	5694	8648	2513	7248	6317	0	725	12537	147	0	30281
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	21715	35432	135515	109692	21234	5247	10824	29398	13225	4920	0	2266	21	389491
30AUG	SE	11187	6887	20810	39057	6719	1670	3619	6714	2622	1680	0	2266	21	47455
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	16381	84872	61987	16834	25277	10313	6303	40827	7101	4582	7028	1416	82	283005
13SEP	SE	6506	15760	8704	3224	8126	2121	2069	24218	2370	1661	6709	925	82	33052
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	12843	39181	40010	11073	17283	8014	7865	29843	6196	990	6106	0	42	179448
27SEP	SE	4480	5786	9938	2200	2926	1892	3446	8861	3729	392	700	0	42	16560
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	3877	13744	13290	5199	18077	11634	6628	11983	2273	12017	0	0	1120	99841
11OCT	SE	1030	2652	3572	1617	5288	3476	1548	4324	1561	4684	0	0	1120	10500
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	14	49	6	0	0	0	0	5	0	0	0	0	0	74
25OCT	SE	10	35	6	0	0	0	0	5	0	0	0	0	0	37
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	0	5	0	0	0	1	0	0	0	0	0	0	0	6
09NOV	SE	0	5	0	0	0	1	0	0	0	0	0	0	0	5
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-77 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF BAY ANCHOVY YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	3.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
27JUN	SE	0.00	0.00	3.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.86
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	5.27	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
12JUL	SE	0.00	3.61	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.62
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
26JUL	SE	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.46	0.00	0.00	35.80	0.00	0.00	0.00	0.00	0.00	0.10	0.00	3.03
09AUG	SE	0.00	0.38	0.00	0.00	35.80	0.00	0.00	0.00	0.00	0.00	0.10	0.00	35.80
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.21	0.29	0.00	7.20	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.66
07SEP	SE	0.00	0.21	0.29	0.00	7.20	0.17	0.00	0.00	0.00	0.00	0.00	0.00	7.21
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	2.80	17.04	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	1.67
20SEP	SE	1.71	11.40	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	11.53
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	1.00	0.33	0.00	0.00	0.20	0.00	48.60	0.00	0.00	0.00	0.00	0.00	4.18
04OCT	SE	1.00	0.22	0.00	0.00	0.20	0.00	41.29	0.00	0.00	0.00	0.00	0.00	41.30
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	1.20	10.92	0.00	0.00	0.20	0.17	0.00	0.00	1.20	0.00	0.00	0.00	1.14
18OCT	SE	0.73	6.66	0.00	0.00	0.20	0.17	0.00	0.00	1.20	0.00	0.00	0.00	6.81
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-78 REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	104	0	0	0	0	0	0	0	0	0	104
27JUN	SE	0	0	104	0	0	0	0	0	0	0	0	0	104
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	240	0	3	0	0	0	0	0	0	0	0	243
12JUL	SE	0	164	0	3	0	0	0	0	0	0	0	0	164
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	29	0	0	0	0	0	0	0	0	0	29
26JUL	SE	0	0	27	0	0	0	0	0	0	0	0	0	27
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	21	0	0	94	0	0	0	0	0	2	0	117
09AUG	SE	0	17	0	0	94	0	0	0	0	0	2	0	96
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	9	8	0	19	2	0	0	0	0	0	0	38
07SEP	SE	0	9	8	0	19	2	0	0	0	0	0	0	23
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	21	774	0	0	0	2	0	0	0	0	0	0	797
20SEP	SE	13	518	0	0	0	2	0	0	0	0	0	0	518
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	8	15	0	0	1	0	345	0	0	0	0	0	368
04OCT	SE	8	10	0	0	1	0	293	0	0	0	0	0	293
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	9	496	0	0	1	2	0	0	10	0	0	0	518
18OCT	SE	6	303	0	0	1	2	0	0	10	0	0	0	303
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-79 REGIONAL DENSITY (NO./1,000m3) OF BAY ANCHOVY YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.42	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.42	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	1.53	0.19	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	1.06	0.19	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.70	0.00	0.69	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.44	0.00	0.40	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	13.30	8.13	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	5.41	1.97	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	26.34	29.11	4.14	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	16.31	19.97	1.43	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-79 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF BAY ANCHOVY YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	25.24	50.75	9.64	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.59
07JUN	SE	9.27	16.43	4.95	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.51
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	35.02	86.27	12.14	3.54	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.61
15JUN	SE	17.29	35.66	2.38	1.55	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.74
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	19.46	28.61	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71
21JUN	SE	8.11	10.82	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.53
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	7.70	17.08	11.57	1.69	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	2.96
28JUN	SE	4.22	5.46	4.65	0.91	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	8.38
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.97	6.23	1.61	1.28	1.15	0.00	0.20	0.00	NS	NS	NS	NS	NS	1.43
11JUL	SE	0.97	3.22	1.14	0.95	0.71	0.00	0.20	0.00						3.75
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	3.16	2.80	3.26	0.46	0.00	0.00	0.04	0.00	NS	NS	NS	NS	NS	1.21
26JUL	SE	3.16	1.80	1.25	0.46	0.00	0.00	0.04	0.00						3.87
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	3.92	9.60	0.83	0.00	0.00	0.60	0.00	0.00	NS	NS	NS	NS	NS	1.87
08AUG	SE	0.87	4.32	0.83	0.00	0.00	0.60	0.00	0.00						4.52
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	2.42	7.89	0.85	0.00	0.00	0.11	0.00	0.00	NS	NS	NS	NS	NS	1.41
22AUG	SE	2.42	2.01	0.85	0.00	0.00	0.11	0.00	0.00						3.26
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	2.30	0.00	3.40	0.00	1.45	3.07	0.51	6.87	NS	NS	NS	NS	NS	2.20
06SEP	SE	2.30	0.00	2.70	0.00	1.04	1.84	0.31	6.61						7.80
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	2.05	2.25	0.00	1.64	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.74
19SEP	SE	2.05	2.25	0.00	1.16	0.00	0.00	0.00	0.00						3.26
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	3.06	0.58	0.11	0.35	0.24	NS	NS	NS	NS	NS	0.54
03OCT	SE	0.00	0.00	0.00	1.68	0.58	0.11	0.30	0.24						1.82
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-80 REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL	
														REGIONS	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	COMBINED
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	88	91	0	0	0	0	0	0	0	0	0	0	0	179
02MAY	SE	88	91	0	0	0	0	0	0	0	0	0	0	0	126
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	320	43	52	0	0	0	0	0	0	0	0	0	0	415
09MAY	SE	222	43	52	0	0	0	0	0	0	0	0	0	0	232
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	145	0	222	84	0	0	0	0	0	0	0	0	0	452
16MAY	SE	93	0	128	61	0	0	0	0	0	0	0	0	0	169
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	2779	1865	832	0	0	0	0	0	0	0	0	0	0	5476
24MAY	SE	1130	451	334	0	0	0	0	0	0	0	0	0	0	1262
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	5505	6679	1332	25	0	0	0	0	0	0	0	0	0	13541
01JUN	SE	3408	4581	461	25	0	0	0	0	0	0	0	0	0	5728
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-80 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	5275	11643	3102	0	21	0	0	0	0	0	0	0	0	20041
07JUN	SE	1937	3770	1592	0	21	0	0	0	0	0	0	0	0	4528
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	7319	19791	3906	523	191	0	0	0	0	0	0	0	0	31731
15JUN	SE	3613	8181	765	230	191	0	0	0	0	0	0	0	0	8981
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	4066	6563	35	0	0	0	0	0	0	0	0	0	0	10664
21JUN	SE	1695	2483	35	0	0	0	0	0	0	0	0	0	0	3007
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	1610	3919	3724	249	0	0	65	0	0	0	0	0	0	9567
28JUN	SE	883	1252	1497	135	0	0	65	0	0	0	0	0	0	2147
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	202	1429	519	189	240	0	29	0	NS	NS	NS	NS	NS	2608
11JUL	SE	202	738	367	141	149	0	29	0						874
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	660	641	1048	69	0	0	6	0	NS	NS	NS	NS	NS	2424
26JUL	SE	660	414	403	69	0	0	6	0						880
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	819	2202	266	0	0	125	0	0	NS	NS	NS	NS	NS	3412
08AUG	SE	182	991	266	0	0	125	0	0						1049
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	506	1809	272	0	0	23	0	0	NS	NS	NS	NS	NS	2609
22AUG	SE	506	461	272	0	0	23	0	0						737
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	481	0	1095	0	302	637	71	2047	NS	NS	NS	NS	NS	4633
06SEP	SE	481	0	868	0	217	382	43	1970						2249
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	429	517	0	242	0	0	0	0	NS	NS	NS	NS	NS	1188
19SEP	SE	429	517	0	171	0	0	0	0						693
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	452	121	22	49	72	NS	NS	NS	NS	NS	717
03OCT	SE	0	0	0	248	121	22	41	72						289
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-81 REGIONAL DENSITY (NO./1,000m3) OF BAY ANCHOVY YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

SURVEY, 2007															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL -	DENSITY	0.37	0.81	0.00	0.04	0.01	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
06JUL	SE	0.34	0.60	0.00	0.04	0.01	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL -	DENSITY	0.38	7.86	1.84	0.52	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91
19JUL	SE	0.38	3.26	0.99	0.31	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.53
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL -	DENSITY	0.76	10.96	0.59	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95
03AUG	SE	0.76	4.35	0.40	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.43
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG -	DENSITY	0.03	0.15	0.04	0.00	0.00	0.36	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.07
16AUG	SE	0.03	0.11	0.04	0.00	0.00	0.24	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.39
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG -	DENSITY	0.04	0.00	0.76	0.00	0.00	0.23	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.11
30AUG	SE	0.04	0.00	0.37	0.00	0.00	0.23	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.58
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP -	DENSITY	0.07	0.63	0.06	0.23	0.02	0.23	0.35	0.02	0.00	0.00	0.00	0.00	0.00	0.12
13SEP	SE	0.05	0.31	0.06	0.13	0.02	0.23	0.34	0.02	0.00	0.00	0.00	0.00	0.00	0.54
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP -	DENSITY	0.38	0.43	0.12	0.00	0.00	1.34	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.24
27SEP	SE	0.14	0.16	0.04	0.00	0.00	0.60	0.79	0.00	0.00	0.00	0.00	0.00	0.00	1.01
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT -	DENSITY	0.00	0.51	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
11OCT	SE	0.00	0.51	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT -	DENSITY	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
25OCT	SE	0.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV -	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV -	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-82 REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL-	ST. CROP	78	186	0	5	2	108	0	0	0	0	0	0	0	379
06JUL	SE	71	137	0	5	2	73	0	0	0	0	0	0	0	171
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	80	1802	592	77	248	0	0	0	0	0	0	0	0	2799
19JUL	SE	80	748	318	45	162	0	0	0	0	0	0	0	0	834
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	158	2515	190	10	0	0	0	0	0	0	0	0	0	2873
03AUG	SE	158	998	129	7	0	0	0	0	0	0	0	0	0	1018
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	7	33	14	0	0	75	38	0	0	0	0	0	0	167
16AUG	SE	7	24	14	0	0	51	38	0	0	0	0	0	0	70
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	8	0	245	0	0	48	56	0	0	0	0	0	0	356
30AUG	SE	8	0	120	0	0	48	53	0	0	0	0	0	0	139
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	15	144	18	35	4	49	49	5	0	0	0	0	0	319
13SEP	SE	10	72	18	19	4	49	48	5	0	0	0	0	0	104
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	79	98	39	0	0	279	115	0	0	0	0	0	0	610
27SEP	SE	29	36	13	0	0	125	110	0	0	0	0	0	0	173
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	0	118	213	0	0	0	0	0	0	0	0	0	0	331
11OCT	SE	0	118	147	0	0	0	0	0	0	0	0	0	0	188
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	5	35	0	0	0	0	0	0	0	0	0	0	0	40
25OCT	SE	5	15	0	0	0	0	0	0	0	0	0	0	0	16
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-83 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF BAY ANCHOVY YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	2.67	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
13JUN	SE	2.67	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
27JUN	SE	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
12JUL	SE	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
26JUL	SE	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
20SEP	SE	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.02
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.20
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-84 REGIONAL STANDING CROP (IN THOUSANDS) OF BAY ANCHOVY YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	20	8	0	0	0	0	0	0	0	0	0	0	28
13JUN	SE	20	8	0	0	0	0	0	0	0	0	0	0	22
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	21	0	0	0	0	0	0	0	0	0	0	21
27JUN	SE	0	17	0	0	0	0	0	0	0	0	0	0	17
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	3	0	0	0	0	0	0	0	0	3
12JUL	SE	0	0	0	3	0	0	0	0	0	0	0	0	3
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	2	0	0	0	0	0	0	0	0	0	0	2
26JUL	SE	0	2	0	0	0	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	2	0	0	0	0	0	0	0	0	0	0	0	2
20SEP	SE	2	0	0	0	0	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	1	0	0	0	0	0	1
04OCT	SE	0	0	0	0	0	0	1	0	0	0	0	0	1
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-85 REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.03	4.20	2.97	1.62
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	3.63	1.70	1.25
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.38	3.32	108.69
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.38	2.57	70.57
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.69	2.75	1.40	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.69	1.26	1.03	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.82	0.00	29.13	3.48	2.10
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.82	0.00	20.19	1.62	2.10
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.26	4.39	0.54
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	2.51	0.54
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-85 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.65	0.00	0.20
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.65	0.00	2.65
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-86 REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
14MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST.CROP	0	0	0	0	0	0	0	0	0	1137	740	478	115	2469
02MAY	SE	0	0	0	0	0	0	0	0	0	744	640	274	89	1023
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST.CROP	0	0	0	0	0	0	0	45	0	0	67	533	7733	8379
09MAY	SE	0	0	0	0	0	0	0	45	0	0	67	413	5021	5038
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	806	484	225	0	1515
16MAY	SE	0	0	0	0	0	0	0	0	0	806	223	165	0	852
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST.CROP	0	0	0	0	0	0	0	0	798	0	5135	560	149	6642
24MAY	SE	0	0	0	0	0	0	0	0	798	0	3560	261	149	3661
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	398	705	39	1142
01JUN	SE	0	0	0	0	0	0	0	0	0	0	131	403	39	426
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-86 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	426	0	426
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	426	0	426
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-87 REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.23	9.49	3.31	1.69
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.23	7.57	3.31	12.38
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.94	3.44	0.49
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68	2.40	2.93
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	8.01	0.69
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	5.73	5.80
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-87 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-88 REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	1626	1525	236	3387
16MAY	SE	0	0	0	0	0	0	0	0	0	0	1626	1216	236	2045
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	473	245	718
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	271	171	320
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	152	570	721
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	152	407	435
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-88 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
														AL	COMBINED
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-89 REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.02
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.22
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	0.00	0.30
24MAY	SE	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	0.00	3.52
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.64	5.02	4.24	6.47	1.95
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.64	5.02	4.24	3.24	12.11
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-89 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL
REGIONS
COMBINED

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49	21.46	7.25	2.40
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49	9.34	7.25	12.09
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.13	7.59	46.35	4.54
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	7.59	34.93	36.08
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	0.00	8.19	0.71
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	0.00	8.19	8.25
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60	0.00	0.00	4.02	0.00	0.43
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	0.00	0.00	4.02	0.00	4.15
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-90 REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL	
														REGIONS	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	COMBINED
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	39	0	0	39
16MAY	SE	0	0	0	0	0	0	0	0	0	0	39	0	0	39
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	122	0	0	0	0	0	0	0	0	563	0	684
24MAY	SE	0	0	122	0	0	0	0	0	0	0	0	563	0	576
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	1363	886	682	460	3391
01JUN	SE	0	0	0	0	0	0	0	0	0	1363	886	682	230	1778
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-90 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	439	3449	516	4404
07JUN	SE	0	0	0	0	0	0	0	0	0	0	439	1501	516	1647
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	905	1220	3297	5422
15JUN	SE	0	0	0	0	0	0	0	0	0	0	860	1220	2486	2899
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	182	0	583	764
21JUN	SE	0	0	0	0	0	0	0	0	0	0	182	0	583	610
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	265	0	0	646	0	910
28JUN	SE	0	0	0	0	0	0	0	0	175	0	0	646	0	669
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-91 REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-91 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	1.94	13.04	0.42	1.20
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	1.37	11.54	0.42	11.64
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	1.19	1.74	1.54	2.04	5.18	0.93
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	1.19	1.27	1.13	2.04	4.40	5.29
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.20	9.15	NS	NS	NS	NS	NS	1.17
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.20	9.15						9.15
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.21	0.51	0.47	0.00	0.00	0.36	0.27	NS	NS	NS	NS	NS	0.23
26JUL	SE	0.00	0.21	0.51	0.47	0.00	0.00	0.29	0.27						0.82
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	NS	NS	NS	NS	NS	0.01
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00						0.09
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	NS	NS	NS	NS	NS	0.03
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26						0.26
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-92 REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-92 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	37	341	2095	30	2503
21JUN	SE	0	0	0	0	0	0	0	0	0	37	242	1856	30	1872
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	118	197	246	271	328	369	1529
28JUN	SE	0	0	0	0	0	0	0	118	197	179	200	328	313	574
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	28	2728	NS	NS	NS	NS	NS	2756
11JUL	SE	0	0	0	0	0	0	28	2728						2728
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	49	165	69	0	0	51	79	NS	NS	NS	NS	NS	412
26JUL	SE	0	49	165	69	0	0	40	79						205
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	13	0	NS	NS	NS	NS	NS	13
08AUG	SE	0	0	0	0	0	0	13	0						13
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	78	NS	NS	NS	NS	NS	78
06SEP	SE	0	0	0	0	0	0	0	78						78
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-93 REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
01JUL-	DENSITY	0.00	0.02	0.00	0.07	0.74	2.30	0.39	0.00	0.00	0.00	0.00	0.50	0.32	0.33
06JUL	SE	0.00	0.02	0.00	0.05	0.74	1.16	0.39	0.00	0.00	0.00	0.00	0.50	0.32	1.55
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.00	0.31	0.07	0.50	0.00	0.07
19JUL	SE	0.00	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.00	0.31	0.07	0.50	0.00	0.59
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.03
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.21
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.02
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.25
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	< 0.005
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.02
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.04	0.02	0.00	0.00	0.00	0.00	0.03	0.04	0.00	0.13	0.06	0.00	0.20	0.04
27SEP	SE	0.04	0.02	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.08	0.06	0.00	0.11	0.16
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.02	0.00	0.00	0.00	0.00	0.01
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.02	0.00	0.00	0.00	0.00	0.04
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-94 REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL-	ST. CROP	0	5	0	10	154	477	55	0	0	0	0	80	23	804
06JUL	SE	0	5	0	7	154	241	54	0	0	0	0	80	23	303
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	0	0	0	0	4	0	5	0	0	44	12	80	0	145
19JUL	SE	0	0	0	0	4	0	4	0	0	44	12	80	0	93
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	57	0	57
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	34	0	34
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	0	0	0	0	0	0	0	73	0	0	0	0	0	73
30AUG	SE	0	0	0	0	0	0	0	73	0	0	0	0	0	73
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	0	0	0	0	0	0	0	4	3	0	0	0	0	7
13SEP	SE	0	0	0	0	0	0	0	4	3	0	0	0	0	5
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	8	6	0	0	0	0	4	12	0	18	11	0	14	73
27SEP	SE	8	6	0	0	0	0	4	6	0	11	11	0	8	21
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	0	0	0	0	0	0	4	4	4	0	0	0	0	12
11OCT	SE	0	0	0	0	0	0	4	4	4	0	0	0	0	7
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-95 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF AMERICAN SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.09	0.29	0.00	0.00	0.00	0.00	11.38	0.13	1.73	7.26	6.42	2.27
13JUN	SE	0.00	0.09	0.29	0.00	0.00	0.00	0.00	8.23	0.13	0.78	2.59	5.64	10.34
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.67	6.67	4.75	10.50	9.63	1.20	8.79	28.58	5.90
27JUN	SE	0.00	0.00	0.00	0.00	0.33	3.67	2.13	7.86	4.08	0.60	6.22	14.11	18.29
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.73	1.29	0.67	1.00	16.67	21.50	6.63	3.88	3.80	3.42	13.83	6.12
12JUL	SE	0.00	0.38	0.84	0.33	1.00	5.24	16.60	3.81	3.04	0.98	1.80	5.48	19.05
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.04	0.93	0.00	0.00	5.67	9.00	7.40	7.80	3.22	5.30	5.86	3.77
26JUL	SE	0.00	0.04	0.66	0.00	0.00	3.90	2.97	3.63	3.10	1.26	2.04	3.31	7.99
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.43	0.00	0.40	1.83	1.40	4.00	0.80	3.33	4.70	6.71	1.97
09AUG	SE	0.00	0.00	0.43	0.00	0.24	0.60	0.40	1.45	0.37	0.55	1.32	2.61	3.44
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.08	1.14	0.00	0.20	11.50	3.80	2.60	2.00	1.89	1.30	5.14	2.47
23AUG	SE	0.00	0.08	0.57	0.00	0.20	5.16	1.74	1.17	0.84	1.17	0.60	3.28	6.68
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.04	0.00	0.20	0.40	2.67	1.80	2.60	2.80	0.44	1.00	5.57	1.46
07SEP	SE	0.00	0.04	0.00	0.20	0.24	1.50	0.80	0.87	1.39	0.44	0.30	3.09	3.94
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.43	0.00	0.00	1.33	1.20	0.80	2.00	4.56	1.70	0.14	1.01
20SEP	SE	0.00	0.00	0.43	0.00	0.00	0.61	0.97	0.80	0.95	2.53	0.60	0.14	3.14
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.40	1.83	1.60	0.20	2.40	1.00	0.00	0.86	0.69
04OCT	SE	0.00	0.00	0.00	0.00	0.40	0.75	1.12	0.20	1.69	0.44	0.00	0.70	2.36
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	1.00	0.33	0.00	3.80	4.40	0.67	1.10	0.29	0.97
18OCT	SE	0.00	0.00	0.00	0.00	1.00	0.21	0.00	2.11	3.12	0.29	0.53	0.29	3.96
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-96 REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	4	8	0	0	0	0	14	1	30	143	87	288
13JUN	SE	0	4	8	0	0	0	0	10	1	14	51	77	94
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	2	71	34	13	83	21	173	388	785
27JUN	SE	0	0	0	0	1	39	15	10	35	10	122	192	234
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	33	35	6	3	178	153	8	33	67	67	188	770
12JUL	SE	0	17	23	3	3	56	118	5	26	17	35	74	160
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	2	25	0	0	60	64	9	67	57	104	80	468
26JUL	SE	0	2	18	0	0	41	21	4	27	22	40	45	86
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	12	0	1	20	10	5	7	59	92	91	296
09AUG	SE	0	0	12	0	1	6	3	2	3	10	26	35	47
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	4	31	0	1	122	27	3	17	33	26	70	334
23AUG	SE	0	4	15	0	1	55	12	1	7	21	12	45	78
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	2	0	2	1	28	13	3	24	8	20	76	176
07SEP	SE	0	2	0	2	1	16	6	1	12	8	6	42	48
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	12	0	0	14	9	1	17	80	33	2	168
20SEP	SE	0	0	12	0	0	7	7	1	8	44	12	2	49
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	1	20	11	< 0.5	21	18	0	12	82
04OCT	SE	0	0	0	0	1	8	8	< 0.5	15	8	0	10	22
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	3	4	0	5	38	12	22	4	86
18OCT	SE	0	0	0	0	3	2	0	3	27	5	10	4	30
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-97 REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-97 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-98 REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-98 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
11JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
26JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
08AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-99 REGIONAL DENSITY (NO./1,000m3) OF AMERICAN SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-100 REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
06JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
19JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
11OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-101 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF AMERICAN SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-102 REGIONAL STANDING CROP (IN THOUSANDS) OF AMERICAN SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
26JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-103 REGIONAL DENSITY (NO./1,000m3) OF ALOSA SPP. EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.55	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.55	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	115.45	609.01
09MAY	SE	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	88.66	207.68
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	9.32	26.62	230.59
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	5.46	11.13	193.58
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	2.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.00	56.33	36.81
24MAY	SE	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.33	23.41	33.65
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.62	174.25	74.93
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84	153.68	49.78
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-103 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ALOSA SPP. EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	2.82	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	27.27	2.18
07JUN	SE	0.00	2.82	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	14.11	1.48
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-104 REGIONAL STANDING CROP (IN THOUSANDS) OF ALOSA SPP. EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	204	88	0	292
02MAY	SE	0	0	0	0	0	0	0	0	0	0	118	88	0	148
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST.CROP	0	98	0	0	0	0	0	0	0	0	135	18556	43331	62120
09MAY	SE	0	98	0	0	0	0	0	0	0	0	67	14251	14777	20529
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	293	1643	4279	16406	22620
16MAY	SE	0	0	0	0	0	0	0	0	0	293	963	1789	13773	13925
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST.CROP	490	0	0	0	0	0	0	0	0	0	2997	9053	2619	15159
24MAY	SE	369	0	0	0	0	0	0	0	0	0	2527	3763	2394	5140
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	285	28007	5331	33623
01JUN	SE	0	0	0	0	0	0	0	0	0	0	147	24702	3542	24955
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-104 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ALOSA SPP. EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST.CROP	0	647	0	0	0	0	53	0	0	0	0	4382	155
07JUN	SE	0	647	0	0	0	0	53	0	0	0	0	2269	105
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	41
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	41
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
11JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
26JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
08AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-105 REGIONAL DENSITY (NO./1,000m³) OF ALOSA SPP. YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.00	1.37	0.00	0.00	0.00	0.00	0.14
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.97	0.00	0.00	0.00	0.00	1.06
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	1.72	0.15	1.27	0.95	15.93	17.14	8.75	11.79	7.33	1.92	5.15
09MAY	SE	0.00	0.00	0.00	0.62	0.05	1.27	0.35	7.29	4.93	3.13	4.29	3.06	1.00	10.87
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	1.05	0.77	0.87	3.47	3.85	147.55	572.95	561.26	99.37
16MAY	SE	0.00	0.00	0.00	0.00	0.00	1.05	0.56	0.75	1.25	2.23	98.07	165.95	204.93	281.36
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	87.75	0.54	0.00	0.16	0.05	0.00	0.13	0.65	0.89	0.87	1.96	172.18	210.35	36.58
24MAY	SE	84.31	0.54	0.00	0.16	0.05	0.00	0.09	0.54	0.54	0.67	1.96	69.37	67.10	128.17
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	143.37	109.92	0.45	1.06	0.05	0.00	0.00	0.62	0.49	3.70	4.31	62.09	357.02	52.54
01JUN	SE	42.27	104.33	0.45	0.63	0.05	0.00	0.00	0.62	0.49	2.15	4.04	11.99	81.08	139.33
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-105 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ALOSA SPP. YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-07JUN	DENSITY	99.84	68.56	26.24	0.44	0.00	3.05	0.13	0.00	1.79	4.48	69.61	42.58	228.57	41.95
	SE	23.03	34.22	11.82	0.44	0.00	2.18	0.13	0.00	1.79	4.14	68.65	30.87	100.00	132.41
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-15JUN	DENSITY	64.56	62.80	6.23	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.00	0.00	10.38	11.14
	SE	35.32	30.55	4.14	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.00	0.00	5.33	47.19
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-21JUN	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09	0.08
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09	1.09
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-28JUN	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	0.08
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	1.06
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-11JUL	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-26JUL	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-08AUG	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-22AUG	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-06SEP	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-19SEP	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-03OCT	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-106 REGIONAL STANDING CROP (IN THOUSANDS) OF ALOSA SPP. YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	67	0	227	0	0	0	0	293
02MAY	SE	0	0	0	0	0	0	61	0	160	0	0	0	0	171
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	255	32	264	133	4751	2837	1238	2078	1178	136	12901
09MAY	SE	0	0	0	91	11	264	49	2174	816	443	756	492	71	2547
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	218	107	260	575	545	26013	92091	39933	159742
16MAY	SE	0	0	0	0	0	218	79	225	207	315	17289	26674	14581	34975
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	18342	124	0	24	10	0	17	193	147	123	345	27675	14967	61966
24MAY	SE	17621	124	0	24	10	0	12	162	90	95	345	11150	4774	21396
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	29965	25217	145	156	10	0	0	185	82	524	760	9980	25402	92425
01JUN	SE	8835	23937	145	92	10	0	0	185	82	304	713	1927	5769	26243
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-106 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ALOSA SPP. YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL
REGIONS
COMBINED

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
04JUN-	ST. CROP	20868	15728	8445	65	0	634	18	0	296	634	12271	6844	16263	82066
07JUN	SE	4814	7852	3803	65	0	451	18	0	296	586	12102	4961	7115	17934
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	13494	14408	2004	0	0	0	0	0	144	0	0	0	738	30789
15JUN	SE	7382	7008	1331	0	0	0	0	0	144	0	0	0	379	10273
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	78	78
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	78	78
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	75	75
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	75	75
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-107 REGIONAL DENSITY (NO./1,000m3) OF ALOSA SPP. POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.09	0.91	9.56	1.03	6.81	12.22	16.18	25.33	6.21	1.17	0.00	0.00	6.12
09MAY	SE	0.00	0.09	0.31	3.12	0.64	3.94	5.17	7.42	5.15	1.18	1.17	0.00	0.00	11.70
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	1.69	0.75	3.22	15.44	28.43	9.60	9.41	82.51	22.76	1771.88	801.00	71.64	216.79
16MAY	SE	0.00	0.86	0.43	1.15	7.03	9.65	3.47	2.74	68.34	4.29	853.63	276.17	7.68	899.92
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	448.17	86.88	0.89	18.91	26.48	70.22	7.50	37.68	60.15	643.59	2409.57	740.97	142.41	361.03
24MAY	SE	159.34	30.18	0.51	7.38	4.32	21.25	4.44	25.32	27.90	269.56	591.51	277.35	90.18	732.03
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	1025.90	814.22	122.37	28.88	25.15	18.47	43.45	193.79	422.47	1738.28	3540.45	1809.54	1756.26	887.63
01JUN	SE	391.96	145.93	56.07	4.02	5.41	8.40	17.91	61.53	116.59	429.99	1539.20	704.79	212.35	1814.31
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-107 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ALOSA SPP. POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007														
														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	614.22	338.95	201.06	62.12	85.80	118.75	147.67	219.84	949.71	4694.48	3710.61	4954.60	3385.26
07JUN	SE	205.98	113.17	40.18	12.02	19.97	27.53	31.64	40.56	386.84	1120.13	749.93	1420.60	1444.59
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	399.34	412.04	304.76	104.36	29.11	137.36	116.73	222.19	925.52	1804.00	1370.09	3008.73	912.29
15JUN	SE	160.96	112.43	88.27	49.70	11.38	30.23	20.80	44.60	338.79	417.74	373.50	1148.01	184.94
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	42.52	37.09	4.33	25.96	22.66	40.11	492.56	293.66	195.90	834.23	536.71	1789.44	677.40
21JUN	SE	21.10	13.73	4.33	18.36	12.54	17.19	160.22	180.36	62.72	193.50	68.23	326.50	448.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	60.48	0.00	0.00	0.00	13.42	11.17	16.04	117.13	242.44	432.06	418.19	1346.28	586.44
28JUN	SE	23.64	0.00	0.00	0.00	9.91	7.36	5.62	28.40	61.05	76.26	140.68	414.93	393.37
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.00	0.00	0.00	5.91	14.49	7.40	7.06	7.30	NS	NS	NS	NS	NS
11JUL	SE	0.00	0.00	0.00	5.91	14.49	4.25	4.66	3.79					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	3.37	0.00	0.00	0.00	0.00	0.00	0.00	1.10	NS	NS	NS	NS	NS
26JUL	SE	3.37	0.00	0.00	0.00	0.00	0.00	0.00	1.10					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-108 REGIONAL STANDING CROP (IN THOUSANDS) OF ALOSA SPP. POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	22	294	1413	215	1412	1709	4823	4193	878	207	0	0	15165
09MAY	SE	0	22	100	460	133	818	723	2213	851	167	207	0	0	2669
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	387	240	475	3216	5897	1342	2806	13654	3219	312375	128746	5097	477455
16MAY	SE	0	197	139	171	1464	2002	485	817	11309	607	150490	44390	546	157333
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	93674	19931	287	2793	5516	14568	1049	11235	9953	91048	424797	119097	10132	804082
24MAY	SE	33304	6925	164	1090	901	4409	620	7549	4618	38134	104281	44579	6416	124958
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	214426	186799	39379	4267	5240	3832	6074	57777	69912	245914	624166	290851	124957	1873592
01JUN	SE	81925	33479	18044	594	1127	1742	2504	18344	19294	60830	271354	113281	15108	315074
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-108 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ALOSA SPP. POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	COMBINED
04JUN-	ST. CROP	128380	77762	64702	9177	17875	24636	20643	65542	157163	664127	654164	796362	240859	2921391
07JUN	SE	43052	25962	12929	1777	4161	5711	4423	12092	64015	158465	132210	228335	102781	335116
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	83467	94530	98074	15418	6064	28496	16318	66242	153160	255212	241541	483599	64909	1607029
15JUN	SE	33643	25793	28407	7342	2370	6271	2908	13298	56064	59098	65846	184521	13158	219273
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	8886	8509	1394	3835	4722	8321	68855	87549	32419	118018	94620	287620	48197	772946
21JUN	SE	4410	3149	1394	2712	2612	3566	22397	53772	10379	27374	12029	52479	31875	90681
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	12640	0	0	0	2795	2318	2242	34922	40119	61123	73725	216390	41725	488000
28JUN	SE	4941	0	0	0	2065	1526	785	8467	10103	10789	24802	66693	27988	78538
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	874	3019	1535	987	2175	NS	NS	NS	NS	NS	8589
11JUL	SE	0	0	0	874	3019	882	652	1130						3515
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	703	0	0	0	0	0	0	329	NS	NS	NS	NS	NS	1032
26JUL	SE	703	0	0	0	0	0	0	329						776
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-109 REGIONAL DENSITY (NO./1,000m3) OF ALOSA SPP. YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-109 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ALOSA SPP. YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-110 REGIONAL STANDING CROP (IN THOUSANDS) OF ALOSA SPP. YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-110 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ALOSA SPP. YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-111 REGIONAL DENSITY (NO./1,000m3) OF ALOSA SPP. YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.42	0.00	0.00	0.00	0.41	13.67	18.53	130.06	0.46	97.71	232.58	469.15	73.90
06JUL	SE	0.42	0.00	0.00	0.00	0.34	7.45	9.41	41.19	0.46	30.53	61.03	373.90	48.82
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.38	0.00	1.03	0.25	0.00	0.25	0.47	15.55	7.32	19.01	3.95	11.82	19.08
19JUL	SE	0.38	0.00	0.60	0.25	0.00	0.25	0.42	8.47	3.51	11.35	3.75	6.53	19.08
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.35	1.09	0.00	0.00	0.00	0.00	0.62	33.63	22.08	25.16	1.07	4.56
03AUG	SE	0.00	0.35	0.84	0.00	0.00	0.00	0.00	0.32	24.73	6.17	16.30	0.53	4.10
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.62
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.62
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-112 REGIONAL STANDING CROP (IN THOUSANDS) OF ALOSA SPP. YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL -	ST. CROP	88	0	0	0	85	2835	2591	38774	77	13823	41004	75408	5258	179942
06JUL	SE	88	0	0	0	71	1546	1315	12279	77	4318	10759	60097	3473	62554
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL -	ST. CROP	80	0	333	37	0	52	66	4636	1211	2690	696	1900	1358	13058
19JUL	SE	80	0	193	37	0	52	59	2524	582	1605	661	1050	1358	3567
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL -	ST. CROP	0	81	352	0	0	0	0	185	5566	3124	4435	172	324	14240
03AUG	SE	0	81	271	0	0	0	0	96	4093	873	2874	86	291	5095
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG -	ST. CROP	0	0	0	0	0	0	0	0	0	76	0	0	44	120
16AUG	SE	0	0	0	0	0	0	0	0	0	76	0	0	44	87
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG -	ST. CROP	0	0	0	0	0	0	0	0	0	46	0	0	0	46
30AUG	SE	0	0	0	0	0	0	0	0	0	46	0	0	0	46
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-113 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF ALOSA SPP. YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.86	0.00	2.00	29.33	33.13	125.63	3.25	38.33	30.53	13.58	23.05
13JUN	SE	0.00	0.00	0.55	0.00	1.00	8.65	24.13	57.41	2.41	20.44	11.79	8.91	67.79
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	16.33	75.33	189.38	135.13	517.25	297.53	166.05	105.17	125.18
27JUN	SE	0.00	0.00	0.00	0.00	14.38	70.39	138.53	62.69	316.89	202.04	107.90	49.81	428.54
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.67	0.67	50.67	103.50	39.63	16.63	11.87	173.16	1.25	33.17
12JUL	SE	0.00	0.00	0.00	0.67	0.33	27.38	47.17	14.19	14.84	5.28	134.32	0.99	146.52
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	10.33	11.00	146.20	10.60	0.00	6.50	0.00	15.39
26JUL	SE	0.00	0.00	0.00	0.00	0.00	8.17	11.00	72.07	6.81	0.00	6.50	0.00	73.96
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.80	0.00	0.00	53.40	12.60	18.78	0.00	0.00	7.13
09AUG	SE	0.00	0.00	0.00	0.00	0.80	0.00	0.00	53.40	12.60	16.94	0.00	0.00	57.43
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-114 REGIONAL STANDING CROP (IN THOUSANDS) OF ALOSA SPP. YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	0	0	23	0	5	312	235	156	28	673	601	185	2218
13JUN	SE	0	0	15	0	3	92	171	71	21	359	232	121	491
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	43	802	1344	168	4453	5223	3267	1429	16729
27JUN	SE	0	0	0	0	38	750	983	78	2728	3547	2123	677	5150
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	6	2	540	734	49	143	208	3407	17	5106
12JUL	SE	0	0	0	6	1	292	335	18	128	93	2643	13	2685
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	0	110	78	181	91	0	128	0	589
26JUL	SE	0	0	0	0	0	87	78	89	59	0	128	0	204
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	2	0	0	66	108	330	0	0	506
09AUG	SE	0	0	0	0	2	0	0	66	108	297	0	0	323
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-115 REGIONAL DENSITY (NO./1,000m3) OF ALEWIFE YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-115 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ALEWIFE YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.38
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.38
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	10.82	1.80	0.00	0.82	6.65	41.41	20.65
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	7.80	1.04	0.00	0.82	4.20	13.48	19.82
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.58	12.48	92.83	1.50	93.36	73.50	210.97	210.64
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.58	4.33	53.07	0.96	24.32	30.66	43.99	195.59
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	3.39	3.70	1.64	0.18	0.37	4.80	13.66	77.30	NS	NS	NS	NS	NS
11JUL	SE	2.86	2.49	1.03	0.18	0.30	3.53	7.79	49.20					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	0.48	0.00	0.00	0.00	0.00	1.45	5.18	NS	NS	NS	NS	NS
26JUL	SE	0.00	0.48	0.00	0.00	0.00	0.00	0.59	4.47					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.94	0.23	0.77	0.00	0.00	0.00	0.04	2.90	NS	NS	NS	NS	NS
08AUG	SE	0.94	0.23	0.77	0.00	0.00	0.00	0.04	1.45					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.90	0.00	0.00	0.00	0.00	0.40	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.90	0.00	0.00	0.00	0.00	0.32	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	1.89	0.00	0.00	0.00	0.23	0.48	0.79	NS	NS	NS	NS	NS
06SEP	SE	0.00	1.89	0.00	0.00	0.00	0.13	0.36	0.01					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.92	1.80	0.28	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.61	1.02	0.28					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	1.27	0.91	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.67	0.35	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-116 REGIONAL STANDING CROP (IN THOUSANDS) OF ALEWIFE YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-116 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ALEWIFE YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST. CROP	0	0	0	0	0	0	0	53	0	0	0	0	27
15JUN	SE	0	0	0	0	0	0	0	53	0	0	0	0	27
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST. CROP	0	0	0	0	0	0	1512	538	0	116	1173	6656	1469
21JUN	SE	0	0	0	0	0	0	1090	311	0	116	741	2167	1410
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST. CROP	0	0	0	0	0	121	1744	27677	249	13208	12957	33910	14987
28JUN	SE	0	0	0	0	0	121	605	15821	160	3440	5406	7071	13916
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST. CROP	708	848	528	27	78	995	1910	23046	NS	NS	NS	NS	NS
11JUL	SE	598	572	333	27	62	732	1089	14667					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST. CROP	0	110	0	0	0	0	202	1544	NS	NS	NS	NS	NS
26JUL	SE	0	110	0	0	0	0	82	1334					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST. CROP	197	53	247	0	0	0	6	866	NS	NS	NS	NS	NS
08AUG	SE	197	53	247	0	0	0	6	434					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST. CROP	0	207	0	0	0	0	56	0	NS	NS	NS	NS	NS
22AUG	SE	0	207	0	0	0	0	45	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST. CROP	0	434	0	0	0	47	66	237	NS	NS	NS	NS	NS
06SEP	SE	0	434	0	0	0	27	51	2					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST. CROP	0	0	0	0	0	191	251	83	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	126	143	83					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST. CROP	0	0	0	0	0	264	128	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	138	50	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-117 REGIONAL DENSITY (NO./1,000m3) OF ALEWIFE YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL -	DENSITY	0.00	0.00	0.00	0.04	1.10	3.40	2.84	12.14	0.00	0.97	14.86	6.83	4.61	3.60
06JUL	SE	0.00	0.00	0.00	0.04	0.76	0.99	0.92	4.02	0.00	0.67	11.10	3.50	3.23	12.84
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL -	DENSITY	0.00	0.37	0.54	0.12	1.12	0.48	0.41	3.76	0.02	8.19	0.00	0.50	0.65	1.24
19JUL	SE	0.00	0.35	0.34	0.12	0.53	0.33	0.41	1.09	0.02	5.99	0.00	0.50	0.37	6.18
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL -	DENSITY	0.62	1.93	0.22	0.00	0.00	0.45	0.00	1.05	0.00	0.76	0.00	0.00	0.00	0.39
03AUG	SE	0.41	0.44	0.22	0.00	0.00	0.45	0.00	0.49	0.00	0.44	0.00	0.00	0.00	1.02
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG -	DENSITY	0.43	0.38	0.00	0.02	0.00	0.19	0.08	0.79	0.00	1.62	0.44	42.20	2.18	3.72
16AUG	SE	0.40	0.31	0.00	0.02	0.00	0.19	0.04	0.52	0.00	0.96	0.27	40.94	1.88	41.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG -	DENSITY	0.03	0.00	0.25	0.00	0.00	0.00	0.00	1.24	8.38	0.65	0.00	0.00	0.00	0.81
30AUG	SE	0.03	0.00	0.25	0.00	0.00	0.00	0.00	0.76	6.76	0.41	0.00	0.00	0.00	6.82
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP -	DENSITY	0.06	0.00	0.00	0.00	0.00	0.01	0.45	1.20	5.58	1.12	0.06	0.00	0.00	0.65
13SEP	SE	0.06	0.00	0.00	0.00	0.00	0.01	0.35	0.53	3.61	0.85	0.06	0.00	0.00	3.76
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP -	DENSITY	0.00	0.00	0.00	0.00	0.02	0.01	0.16	0.57	0.06	0.83	0.96	0.00	1.08	0.28
27SEP	SE	0.00	0.00	0.00	0.00	0.02	0.01	0.14	0.48	0.04	0.25	0.90	0.00	0.66	1.24
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT -	DENSITY	0.05	0.00	0.02	0.00	0.00	0.01	0.03	0.04	0.34	1.87	0.27	0.00	0.00	0.20
11OCT	SE	0.03	0.00	0.02	0.00	0.00	0.01	0.03	0.03	0.14	0.75	0.27	0.00	0.00	0.81
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT -	DENSITY	0.02	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.01
25OCT	SE	0.02	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.04
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV -	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV -	DENSITY	0.00	0.05	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
30NOV	SE	0.00	0.05	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-118 REGIONAL STANDING CROP (IN THOUSANDS) OF ALEWIFE YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	0	0	5	230	705	397	3618	0	137	2620	1097	328
06JUL	SE	0	0	0	5	158	204	128	1199	0	94	1958	562	229
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	86	175	17	234	100	58	1122	4	1159	0	80	46
19JUL	SE	0	80	111	17	111	68	58	325	4	847	0	80	27
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	130	442	70	0	0	94	0	313	0	108	0	0	0
03AUG	SE	85	102	70	0	0	94	0	146	0	63	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	90	87	0	4	0	40	11	234	0	230	78	6784	155
16AUG	SE	84	71	0	4	0	40	6	155	0	136	48	6580	134
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	7	0	82	0	0	0	0	369	1387	92	0	0	0
30AUG	SE	7	0	82	0	0	0	0	226	1119	58	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	13	0	0	0	0	2	63	359	923	158	11	0	0
13SEP	SE	13	0	0	0	0	2	49	157	597	120	11	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	0	0	4	2	22	170	10	117	169	0	77
27SEP	SE	0	0	0	0	4	2	20	142	7	35	158	0	47
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	11	0	8	0	0	2	5	12	57	265	48	0	0
11OCT	SE	7	0	8	0	0	2	5	8	23	106	48	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	5	4	0	0	0	0	1	0	0	0	5	0	0
25OCT	SE	5	4	0	0	0	0	1	0	0	0	5	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	0	10	0	3	2	0	0	0	0	0	0	0	0
30NOV	SE	0	10	0	3	2	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-119 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF ALEWIFE YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.67	0.67	0.00	0.00	36.88	0.00	2.68	0.00	3.41
27JUN	SE	0.00	0.00	0.00	0.00	0.67	0.67	0.00	0.00	36.73	0.00	2.14	0.00	36.81
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.36	0.14	17.00	1.33	1.67	22.88	0.00	0.13	4.07	4.74	0.08	4.37
12JUL	SE	0.00	0.36	0.14	17.00	1.33	1.67	12.97	0.00	0.13	2.05	2.30	0.08	21.71
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	1.25	2.00	1.20	60.20	14.50	13.40	1.40	0.00	5.44	3.90	14.71	9.83
26JUL	SE	0.00	0.54	1.13	0.73	44.44	8.39	8.55	0.60	0.00	2.23	2.89	12.72	47.92
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.08	3.14	0.00	0.00	5.00	8.40	2.00	0.00	4.89	11.60	5.43	3.38
09AUG	SE	0.00	0.08	2.52	0.00	0.00	1.53	5.64	0.89	0.00	2.36	6.53	5.43	10.91
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.04	1.07	0.00	0.00	23.00	75.40	6.80	0.00	5.89	4.60	0.14	9.75
23AUG	SE	0.00	0.04	0.93	0.00	0.00	19.19	43.75	3.40	0.00	2.13	3.84	0.14	48.10
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.60	0.00	3.67	78.20	4.20	1.80	7.11	4.30	2.71	8.55
07SEP	SE	0.00	0.00	0.00	0.40	0.00	1.76	40.35	2.97	0.80	2.54	4.30	2.71	40.90
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	1.33	14.00	11.00	0.00	10.22	0.40	0.00	3.08
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.99	10.33	5.94	0.00	4.30	0.22	0.00	12.71
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.33	19.20	1.00	0.20	5.11	0.30	0.00	2.18
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.33	14.72	1.00	0.20	1.98	0.15	0.00	14.89
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.07	0.00	0.00	0.00	19.80	3.60	0.00	2.00	2.70	0.43	2.38
18OCT	SE	0.00	0.00	0.07	0.00	0.00	0.00	9.66	2.91	0.00	1.33	0.96	0.43	10.23
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-120 REGIONAL STANDING CROP (IN THOUSANDS) OF ALEWIFE YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	2	7	0	0	317	0	53	0	379
27JUN	SE	0	0	0	0	2	7	0	0	316	0	42	0	319
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	17	4	157	4	18	162	0	1	71	93	1	527
12JUL	SE	0	17	4	157	4	18	92	0	1	36	45	1	192
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	57	54	11	159	154	95	2	0	96	77	200	904
26JUL	SE	0	24	30	7	117	89	61	1	0	39	57	173	248
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	4	85	0	0	53	60	2	0	86	228	74	591
09AUG	SE	0	4	68	0	0	16	40	1	0	41	128	74	173
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	2	29	0	0	245	535	8	0	103	91	2	1015
23AUG	SE	0	2	25	0	0	204	310	4	0	37	76	2	382
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	6	0	39	555	5	15	125	85	37	866
07SEP	SE	0	0	0	4	0	19	286	4	7	45	85	37	305
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	14	99	14	0	179	8	0	315
20SEP	SE	0	0	0	0	0	11	73	7	0	76	4	0	106
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	4	136	1	2	90	6	0	238
04OCT	SE	0	0	0	0	0	4	104	1	2	35	3	0	110
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	2	0	0	0	140	4	0	35	53	6	241
18OCT	SE	0	0	2	0	0	0	69	4	0	23	19	6	75
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-121 REGIONAL DENSITY (NO./1,000m3) OF ALEWIFE YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.19	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.03
23MAR	SE	0.19	0.00	0.00	0.00	0.00	0.00	0.00							0.19
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.20	0.00	NS	NS	NS	NS	NS	NS	0.03
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.13	0.00							0.13
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
06APR	SE	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.32	0.00	0.17	0.00	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.10
19APR	SE	0.00	0.25	0.00	0.17	0.00	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.84
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.02
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.21
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-121 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ALEWIFE YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.02
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.00	NS	NS	NS	NS	NS	0.09
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.00						0.71
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	NS	NS	NS	NS	NS	0.01
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00						0.11
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-122 REGIONAL STANDING CROP (IN THOUSANDS) OF ALEWIFE YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS
16MAR	SE	0	0	0	0	0	0	0						0
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	ST. CROP	39	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS
23MAR	SE	39	0	0	0	0	0	0						39
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	ST. CROP	0	0	0	0	0	42	0	NS	NS	NS	NS	NS	NS
30MAR	SE	0	0	0	0	0	26	0						26
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	ST. CROP	0	0	0	0	24	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	24	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	ST. CROP	0	0	0	0	0	17	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	17	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	ST. CROP	0	74	0	25	0	0	0	0	130	0	0	0	0
19APR	SE	0	58	0	25	0	0	0	0	130	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	ST. CROP	0	0	0	0	0	0	29	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	29	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-122 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ALEWIFE YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	48	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	48	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST. CROP	0	0	0	0	0	0	99	0	NS	NS	NS	NS	NS
11JUL	SE	0	0	0	0	0	0	99	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
26JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
08AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST. CROP	0	0	0	0	0	23	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	23	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-123 REGIONAL DENSITY (NO./1,000m3) OF ALEWIFE YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
06JUL	SE	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	< 0.005
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	< 0.005
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.04
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.00	0.01
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.04
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	< 0.005
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-124 REGIONAL STANDING CROP (IN THOUSANDS) OF ALEWIFE YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL-	ST. CROP	0	0	0	0	5	0	0	0	0	0	0	0	0	5
06JUL	SE	0	0	0	0	5	0	0	0	0	0	0	0	0	5
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	0	0	0	0	0	0	0	0	4	0	0	0	0	4
19JUL	SE	0	0	0	0	0	0	0	0	4	0	0	0	0	4
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	0	0	0	0	0	0	4	5	0	0	0	0	0	9
30AUG	SE	0	0	0	0	0	0	4	5	0	0	0	0	0	6
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	0	0	0	0	0	0	4	0	0	0	0	0	0	4
27SEP	SE	0	0	0	0	0	0	4	0	0	0	0	0	0	4
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	0	0	0	0	0	0	4	0	7	0	0	0	0	11
11OCT	SE	0	0	0	0	0	0	4	0	5	0	0	0	0	6
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	5	0	0	0	5
09NOV	SE	0	0	0	0	0	0	0	0	0	5	0	0	0	5
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-125 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF ALEWIFE YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-126 REGIONAL STANDING CROP (IN THOUSANDS) OF ALEWIFE YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
26JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-127 REGIONAL DENSITY (NO./1,000m3) OF BLUEBACK HERRING YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-127 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF BLUEBACK HERRING YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	1.78	0.00	0.00	0.14
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	1.09	0.00	0.00	1.09
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	26.16	0.00	15.17	2.04	7.03	86.24	NS	NS	NS	NS	NS	17.08
11JUL	SE	0.00	0.00	26.16	0.00	5.54	1.10	4.42	61.37						67.10
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.76	2.34	10.17	23.40	8.95	1.37	8.10	144.63	NS	NS	NS	NS	NS	24.97
26JUL	SE	0.76	1.25	3.65	13.20	3.12	0.83	1.63	96.36						97.41
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	11.31	1.66	2.54	9.34	6.93	4.33	7.75	52.18	NS	NS	NS	NS	NS	12.00
08AUG	SE	5.89	1.66	2.54	7.81	4.68	2.89	3.22	35.09						37.11
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	2.71	0.00	0.00	0.63	1.67	4.28	39.00	NS	NS	NS	NS	NS	6.04
22AUG	SE	0.00	2.71	0.00	0.00	0.63	1.48	1.85	24.44						24.71
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.82	1.27	84.92	NS	NS	NS	NS	NS	10.88
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.35	1.18	69.39						69.40
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.64	0.72	17.49	16.85	NS	NS	NS	NS	NS	4.46
19SEP	SE	0.00	0.00	0.00	0.00	0.64	0.47	6.80	12.89						14.59
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.08	8.49	21.35	3.17	NS	NS	NS	NS	NS	4.14
03OCT	SE	0.00	0.00	0.00	0.00	0.08	4.16	9.73	1.43						10.67
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-128 REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEBACK HERRING YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-128 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEBACK HERRING YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	11	0	0	0	314	0	0	326
28JUN	SE	0	0	0	0	0	0	11	0	0	0	191	0	0	192
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	8419	0	3161	424	983	25710	NS	NS	NS	NS	NS	38697
11JUL	SE	0	0	8419	0	1153	227	618	18296						20184
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	159	537	3272	3457	1866	285	1132	43119	NS	NS	NS	NS	NS	53827
26JUL	SE	159	287	1175	1951	650	172	228	28728						28829
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	2363	382	817	1380	1443	898	1083	15555	NS	NS	NS	NS	NS	23922
08AUG	SE	1231	382	817	1154	976	600	451	10463						10707
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	621	0	0	132	347	599	11627	NS	NS	NS	NS	NS	13326
22AUG	SE	0	621	0	0	132	306	259	7287						7326
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	169	178	25318	NS	NS	NS	NS	NS	25664
06SEP	SE	0	0	0	0	0	73	165	20687						20688
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	133	149	2445	5024	NS	NS	NS	NS	NS	7751
19SEP	SE	0	0	0	0	133	98	950	3843						3962
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	16	1762	2985	944	NS	NS	NS	NS	NS	5707
03OCT	SE	0	0	0	0	16	863	1359	427						1666
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-129 REGIONAL DENSITY (NO./1,000m3) OF BLUEBACK HERRING YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.02	0.00	0.43	1.50	0.00	0.00	13.02	10.83	2.47	2.17
06JUL	SE	0.00	0.00	0.00	0.00	0.01	0.00	0.43	1.21	0.00	0.00	7.38	6.02	1.41	9.72
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	0.38	0.00	0.16	0.00	2.31	3.46	0.12	10.15	0.24	11.83	13.29	24.21	7.80	5.69
19JUL	SE	0.38	0.00	0.11	0.00	0.86	1.38	0.07	3.21	0.15	5.55	5.73	9.42	7.20	14.74
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	0.59	4.84	0.22	1.86	0.64	0.60	0.00	6.32	4.99	17.13	47.12	6.80	6.69	7.52
03AUG	SE	0.30	2.22	0.13	0.60	0.35	0.42	0.00	2.49	4.45	5.88	21.11	4.05	3.50	23.25
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.05	0.05	0.00	0.25	0.06	0.00	0.00	5.62	0.56	36.81	13.55	8.06	13.61	6.05
16AUG	SE	0.03	0.03	0.00	0.20	0.03	0.00	0.00	4.00	0.26	16.68	2.73	2.21	11.09	20.73
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.21	0.00	6.34	33.73	26.60	3.10	1.61	7.11	6.05
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.21	0.00	5.87	19.67	7.63	2.92	0.85	5.35	22.75
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.01	0.06	4.74	24.90	12.84	0.94	4.06	2.96	3.89
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.01	0.04	1.63	14.19	10.34	0.61	3.26	1.21	17.98
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.00	0.03	0.00	0.00	0.02	0.02	0.11	2.34	28.70	40.88	22.22	1.60	20.65	8.97
27SEP	SE	0.00	0.03	0.00	0.00	0.02	0.01	0.05	0.83	8.01	5.98	6.26	1.40	9.01	14.94
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.00	0.02	0.00	0.02	0.00	0.00	0.06	0.08	12.81	75.35	15.86	4.75	12.72	9.36
11OCT	SE	0.00	0.02	0.00	0.02	0.00	0.00	0.06	0.05	3.26	37.33	3.90	1.99	2.25	37.80
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	< 0.005
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.02
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-130 REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEBACK HERRING YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	COMBINED
01JUL -	ST. CROP	0	0	0	0	3	0	60	448	0	0	2295	1740	176	4723
06JUL	SE	0	0	0	0	2	0	60	360	0	0	1302	968	101	1665
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL -	ST. CROP	80	0	50	0	481	717	17	3027	40	1673	2343	3891	555	12875
19JUL	SE	80	0	37	0	179	286	9	956	24	786	1010	1515	512	2286
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL -	ST. CROP	123	1111	71	275	134	125	0	1884	827	2424	8308	1093	476	16851
03AUG	SE	63	508	42	89	74	88	0	743	736	832	3721	651	249	4050
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG -	ST. CROP	11	12	0	37	12	0	0	1676	92	5208	2389	1295	968	11700
16AUG	SE	7	8	0	30	5	0	0	1192	43	2360	482	356	789	2824
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG -	ST. CROP	0	0	0	0	0	44	0	1889	5582	3764	547	260	506	12591
30AUG	SE	0	0	0	0	0	44	0	1751	3256	1080	514	137	380	3907
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP -	ST. CROP	0	0	0	0	0	2	9	1413	4120	1816	166	653	211	8390
13SEP	SE	0	0	0	0	0	2	6	485	2348	1463	108	524	86	2860
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP -	ST. CROP	0	6	0	0	4	3	16	697	4750	5784	3917	256	1469	16902
27SEP	SE	0	6	0	0	4	2	8	247	1326	846	1104	225	641	2053
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT -	ST. CROP	0	5	0	3	0	0	8	24	2120	10660	2796	763	905	17284
11OCT	SE	0	5	0	3	0	0	8	16	539	5281	687	320	160	5365
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT -	ST. CROP	0	0	0	0	0	0	3	4	0	0	0	0	0	7
25OCT	SE	0	0	0	0	0	0	3	4	0	0	0	0	0	5
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-131 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF BLUEBACK HERRING YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.13	0.00	0.00	0.74	0.83	0.17
27JUN	SE	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.13	0.00	0.00	0.30	0.66	0.81
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.33	7.67	2.33	76.50	1.38	0.13	0.80	66.89	0.58	13.05
12JUL	SE	0.00	0.00	0.00	0.33	7.67	1.20	40.04	0.60	0.13	0.48	55.38	0.50	68.78
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.13	1.07	2.00	0.40	49.17	24.80	772.40	4.20	294.00	633.20	462.14	186.96
26JUL	SE	0.00	0.07	0.72	1.55	0.40	20.55	16.50	403.17	2.37	93.06	508.60	353.39	745.30
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	7.21	0.00	4.20	48.17	761.20	365.80	210.40	129.00	220.70	18.57	147.10
09AUG	SE	0.00	0.00	7.14	0.00	2.58	32.60	703.99	210.16	205.41	57.43	167.54	9.00	783.92
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.07	0.00	0.00	43.33	189.60	9.00	283.60	330.89	184.70	33.43	89.55
23AUG	SE	0.00	0.00	0.07	0.00	0.00	15.88	121.42	6.28	188.78	147.00	122.17	22.13	296.13
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.20	4.60	50.50	71.80	60.80	448.80	203.11	52.40	52.71	78.74
07SEP	SE	0.00	0.00	0.00	0.20	3.19	13.00	24.41	29.14	280.97	73.47	28.63	35.70	296.75
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.04	0.00	0.00	0.00	64.00	369.00	146.00	103.40	93.11	65.20	0.43	70.10
20SEP	SE	0.00	0.04	0.00	0.00	0.00	47.80	206.66	120.69	100.41	23.51	25.16	0.30	266.14
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.80	5.83	200.60	175.80	329.00	124.89	46.20	7.86	74.25
04OCT	SE	0.00	0.00	0.00	0.00	0.80	3.50	160.40	111.10	305.67	66.28	13.61	7.21	368.98
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	1.60	0.00	18.80	29.40	437.00	17.33	20.40	7.29	44.32
18OCT	SE	0.00	0.00	0.00	0.00	1.03	0.00	10.79	21.05	190.92	10.59	9.14	6.79	193.01
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-132 REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEBACK HERRING YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	1	0	0	< 0.5	0	0	14	11	27
27JUN	SE	0	0	0	0	1	0	0	< 0.5	0	0	6	9	11
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	3	20	25	543	2	1	14	1316	8	1932
12JUL	SE	0	0	0	3	20	13	284	1	1	8	1090	7	1126
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	6	29	18	1	524	176	958	36	5161	12459	6279	25646
26JUL	SE	0	3	19	14	1	219	117	500	20	1634	10007	4801	11233
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	194	0	11	513	5401	454	1811	2265	4342	252	15244
09AUG	SE	0	0	192	0	7	347	4995	261	1768	1008	3296	122	6340
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	2	0	0	462	1345	11	2441	5809	3634	454	14159
23AUG	SE	0	0	2	0	0	169	862	8	1625	2581	2404	301	3992
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	2	12	538	509	75	3864	3566	1031	716	10313
07SEP	SE	0	0	0	2	8	139	173	36	2419	1290	563	485	2849
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	2	0	0	0	682	2618	181	890	1635	1283	6	7296
20SEP	SE	0	2	0	0	0	509	1466	150	864	413	495	4	1896
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	2	62	1423	218	2832	2192	909	107	7746
04OCT	SE	0	0	0	0	2	37	1138	138	2631	1164	268	98	3111
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	4	0	133	36	3762	304	401	99	4741
18OCT	SE	0	0	0	0	3	0	77	26	1644	186	180	92	1668
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-133 REGIONAL DENSITY (NO./1,000m3) OF BLUEBACK HERRING YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.28	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.04
16MAR	SE	0.28	0.00	0.00	0.00	0.00	0.00	0.00							0.28
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.57	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.08
30MAR	SE	0.00	0.57	0.00	0.00	0.00	0.00	0.00							0.57
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
19APR	SE	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
25APR	SE	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.02
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.22
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-133 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF BLUEBACK HERRING YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	0.08
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.53
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.02
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.26
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-134 REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEBACK HERRING YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	59	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	59
16MAR	SE	59	0	0	0	0	0	0							59
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	131	0	0	0	0	0	NS	NS	NS	NS	NS	NS	131
30MAR	SE	0	131	0	0	0	0	0							131
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	17	0	0	0	0	0	0	0	17
13APR	SE	0	0	0	0	0	17	0	0	0	0	0	0	0	17
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	74	0	0	0	0	0	0	0	0	0	0	74
19APR	SE	0	0	74	0	0	0	0	0	0	0	0	0	0	74
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	54	0	0	0	0	0	0	0	0	0	0	54
25APR	SE	0	0	54	0	0	0	0	0	0	0	0	0	0	54
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	30	0	0	0	0	0	0	30
24MAY	SE	0	0	0	0	0	0	30	0	0	0	0	0	0	30
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-134 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEBACK HERRING YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	76	76
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	38	38
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	37	0	0	0	37
15JUN	SE	0	0	0	0	0	0	0	0	0	37	0	0	0	37
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-135 REGIONAL DENSITY (NO./1,000m3) OF BLUEBACK HERRING YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-136 REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEBACK HERRING YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
06JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
19JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
11OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-137 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF BLUEBACK HERRING YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.03
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.23
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	< 0.005
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-138 REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEBACK HERRING YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	7	0	7
13JUN	SE	0	0	0	0	0	0	0	0	0	0	5	0	5
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	1	0	1
12JUL	SE	0	0	0	0	0	0	0	0	0	0	1	0	1
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
26JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-139 REGIONAL DENSITY (NO./1,000m3) OF GIZZARD SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	< 0.005
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-140 REGIONAL STANDING CROP (IN THOUSANDS) OF GIZZARD SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
01JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	0	0	0	0	0	0	3	0	0	0	0	0	0	3
09NOV	SE	0	0	0	0	0	0	3	0	0	0	0	0	0	3
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	0	0	0	0	0	3	0	5	0	0	0	0	0	8
30NOV	SE	0	0	0	0	0	3	0	5	0	0	0	0	0	6
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-141 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF GIZZARD SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.35
26JUL	SE	0.00	0.00	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.14	3.52
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.33	1.00	0.00	0.00	0.00	0.00	0.00	0.11
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.21	1.00	0.00	0.00	0.00	0.00	0.00	1.02
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	1.40	0.33	0.20	0.00	0.00	0.00	0.00	0.00	0.16
23AUG	SE	0.00	0.00	0.00	0.00	1.40	0.33	0.20	0.00	0.00	0.00	0.00	0.00	1.45
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.04	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.04
07SEP	SE	0.00	0.04	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.40
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.01
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.02
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.20
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
18OCT	SE	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-142 REGIONAL STANDING CROP (IN THOUSANDS) OF GIZZARD SHAD YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	11	0	0	0	0	0	0	2	12
26JUL	SE	0	0	0	0	9	0	0	0	0	0	0	2	9
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	4	7	0	0	0	0	0	11
09AUG	SE	0	0	0	0	0	2	7	0	0	0	0	0	7
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	4	4	1	0	0	0	0	0	9
23AUG	SE	0	0	0	0	4	4	1	0	0	0	0	0	5
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	2	0	0	0	0	3	0	0	0	0	0	5
07SEP	SE	0	2	0	0	0	0	3	0	0	0	0	0	3
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	2	0	0	2
20SEP	SE	0	0	0	0	0	0	0	0	0	2	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	1	0	0	0	0	0	1
04OCT	SE	0	0	0	0	0	0	1	0	0	0	0	0	1
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	2	0	0	0	0	0	0	0	2
18OCT	SE	0	0	0	0	2	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-143 REGIONAL DENSITY (NO./1,000m3) OF GIZZARD SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-144 REGIONAL STANDING CROP (IN THOUSANDS) OF GIZZARD SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
06JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
19JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
11OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	0	0	0	0	0	0	3	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	3	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-145 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF GIZZARD SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	1.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
27JUN	SE	0.00	0.00	0.00	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.04
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.50
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
26JUL	SE	0.00	0.00	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.60
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.02
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.20
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.07	0.00	0.20	3.50	0.00	0.00	1.20	0.00	0.00	0.00	0.41
07SEP	SE	0.00	0.00	0.07	0.00	0.20	2.55	0.00	0.00	1.20	0.00	0.00	0.00	2.83
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
20SEP	SE	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.20	0.00	0.78	0.00	0.00	0.15
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.20	0.00	0.78	0.00	0.00	1.16
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.04
18OCT	SE	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.30
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-146 REGIONAL STANDING CROP (IN THOUSANDS) OF GIZZARD SHAD YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	12	0	0	0	0	0	0	0	0	12
27JUN	SE	0	0	0	8	0	0	0	0	0	0	0	0	8
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	4	0	0	0	0	0	4
12JUL	SE	0	0	0	0	0	0	4	0	0	0	0	0	4
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	7	0	0	0	0	0	0	0	7
26JUL	SE	0	0	0	0	7	0	0	0	0	0	0	0	7
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	1	0	0	0	0	0	1
09AUG	SE	0	0	0	0	0	0	1	0	0	0	0	0	1
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	2	0	1	37	0	0	10	0	0	0	50
07SEP	SE	0	0	2	0	1	27	0	0	10	0	0	0	29
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	2	0	0	0	0	0	0	0	2
20SEP	SE	0	0	0	0	1	0	0	0	0	0	0	0	1
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	9	0	< 0.5	0	14	0	0	23
04OCT	SE	0	0	0	0	0	9	0	< 0.5	0	14	0	0	16
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	1	0	0	0	0	4	0	0	4
18OCT	SE	0	0	0	0	1	0	0	0	0	4	0	0	4
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-147 REGIONAL DENSITY (NO./1,000m3) OF RAINBOW SMELT YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-147 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF RAINBOW SMELT YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-148 REGIONAL STANDING CROP (IN THOUSANDS) OF RAINBOW SMELT YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	171	0	0	0	0	0	0	0	0	0	0	0	171
01JUN	SE	0	171	0	0	0	0	0	0	0	0	0	0	0	171
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-148 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF RAINBOW SMELT YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-149 REGIONAL DENSITY (NO./1,000m3) OF RAINBOW SMELT YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-16MAR	DENSITY SE NO. TOWS	0.00 0.00 10	0.00 0.00 10	0.00 0.00 11	0.00 0.00 11	0.00 0.00 9	0.00 0.00 10	0.00 0.00 12	NS	NS	NS	NS	NS	NS	0.00 0.00 73
21MAR-23MAR	DENSITY SE NO. TOWS	0.00 0.00 10	0.00 0.00 10	0.00 0.00 11	0.00 0.00 11	0.00 0.00 10	0.00 0.00 10	0.00 0.00 12	NS	NS	NS	NS	NS	NS	0.00 0.00 74
28MAR-30MAR	DENSITY SE NO. TOWS	0.00 0.00 10	0.00 0.00 10	0.00 0.00 11	0.00 0.00 11	0.00 0.00 10	0.00 0.00 10	0.00 0.00 12	NS	NS	NS	NS	NS	NS	0.00 0.00 74
03APR-06APR	DENSITY SE NO. TOWS	0.00 0.00 7	0.00 0.00 13	0.00 0.00 15	0.00 0.00 15	0.00 0.00 12	0.00 0.00 10	0.00 0.00 11	0.00 0.00 6	0.00 0.00 7	0.00 0.00 7	0.00 0.00 7	0.00 0.00 7	0.00 0.00 9	0.00 0.00 126
10APR-13APR	DENSITY SE NO. TOWS	0.00 0.00 7	0.00 0.00 13	0.00 0.00 15	0.00 0.00 15	0.00 0.00 12	0.00 0.00 10	0.00 0.00 11	0.00 0.00 6	0.00 0.00 7	0.00 0.00 7	0.00 0.00 7	0.00 0.00 7	0.00 0.00 9	0.00 0.00 126
16APR-19APR	DENSITY SE NO. TOWS	0.00 0.00 7	0.00 0.00 13	0.00 0.00 15	0.00 0.00 15	0.00 0.00 12	0.00 0.00 10	0.00 0.00 11	0.00 0.00 6	0.00 0.00 7	0.00 0.00 7	0.00 0.00 7	0.00 0.00 7	0.00 0.00 5	0.00 0.00 122
23APR-25APR	DENSITY SE NO. TOWS	0.00 0.00 6	0.00 0.00 13	0.00 0.00 15	0.00 0.00 15	0.00 0.00 12	0.00 0.00 6	0.00 0.00 14	0.00 0.00 10	0.00 0.00 11	0.00 0.00 7	0.00 0.00 8	0.00 0.00 8	0.00 0.00 10	0.00 0.00 135
30APR-02MAY	DENSITY SE NO. TOWS	0.00 0.00 6	0.00 0.00 13	0.00 0.00 15	0.00 0.00 15	0.00 0.00 12	0.00 0.00 6	0.00 0.00 14	0.00 0.00 10	0.00 0.00 11	0.00 0.00 7	0.00 0.00 8	0.00 0.00 8	0.00 0.00 10	0.00 0.00 135
07MAY-09MAY	DENSITY SE NO. TOWS	0.00 0.00 6	0.00 0.00 13	0.00 0.00 15	0.00 0.00 15	0.00 0.00 12	0.00 0.00 6	0.00 0.00 14	0.00 0.00 10	0.00 0.00 11	0.00 0.00 7	0.00 0.00 8	0.00 0.00 8	0.00 0.00 10	0.00 0.00 135
14MAY-16MAY	DENSITY SE NO. TOWS	0.00 0.00 8	0.00 0.00 10	0.00 0.00 14	0.00 0.00 14	0.00 0.00 13	0.00 0.00 7	0.00 0.00 14	0.00 0.00 10	0.00 0.00 9	0.00 0.00 7	0.00 0.00 8	0.00 0.00 6	0.00 0.00 6	0.00 0.00 126
21MAY-24MAY	DENSITY SE NO. TOWS	0.00 0.00 8	0.00 0.00 10	0.00 0.00 14	0.00 0.00 14	0.00 0.00 13	0.00 0.00 7	0.00 0.00 14	0.00 0.00 10	0.00 0.00 9	0.00 0.00 7	0.00 0.00 8	0.00 0.00 6	0.00 0.00 6	0.00 0.00 126
29MAY-01JUN	DENSITY SE NO. TOWS	0.00 0.00 8	0.00 0.00 10	0.00 0.00 14	0.00 0.00 14	0.00 0.00 13	0.00 0.00 7	0.00 0.00 14	0.00 0.00 10	0.00 0.00 9	0.00 0.00 7	0.00 0.00 8	0.00 0.00 6	0.00 0.00 6	0.00 0.00 126

TABLE E-149 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF RAINBOW SMELT YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-150 REGIONAL STANDING CROP (IN THOUSANDS) OF RAINBOW SMELT YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-150 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF RAINBOW SMELT YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-151 REGIONAL DENSITY (NO./1,000m3) OF RAINBOW SMELT YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-152 REGIONAL STANDING CROP (IN THOUSANDS) OF RAINBOW SMELT YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
06JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
19JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
11OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-153 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF RAINBOW SMELT YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-154 REGIONAL STANDING CROP (IN THOUSANDS) OF RAINBOW SMELT YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
26JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-155 REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-155 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	2698.50	7103.95	153.27	0.65	0.00	0.61	0.00	0.00	0.00	0.00	0.00	3.01	0.00
15JUN	SE	1047.99	4641.48	40.76	0.65	0.00	0.52	0.00	0.00	0.00	0.00	0.00	3.01	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	5944.96	399.28	0.00	1.47	0.00	0.00	2.04	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	4556.18	386.36	0.00	1.08	0.00	0.00	2.04	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	6567.94	2955.58	392.04	0.21	9.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	2017.51	566.98	104.26	0.21	7.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	18151.93	5208.27	14.79	3.75	0.04	0.00	0.00	0.00	NS	NS	NS	NS	NS
11JUL	SE	15328.56	3158.56	13.80	2.03	0.04	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	267.28	1627.73	355.47	61.15	16.25	0.00	0.08	0.00	NS	NS	NS	NS	NS
26JUL	SE	20.25	1487.39	206.45	29.14	5.65	0.00	0.08	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	51.08	226.06	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
08AUG	SE	21.73	217.73	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-156 REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
14MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST.CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-156 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER EGGS IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST.CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST.CROP	564020	1629790	49324	96	0	127	0	0	0	0	0	485	0	2243842
15JUN	SE	219044	1064849	13116	96	0	107	0	0	0	0	0	485	0	1087223
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST.CROP	1242572	91604	0	217	0	0	285	0	0	0	0	0	0	1334679
21JUN	SE	952298	88638	0	160	0	0	285	0	0	0	0	0	0	956414
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST.CROP	1372784	678070	126164	31	1931	0	0	0	0	0	0	0	0	2178981
28JUN	SE	421686	130076	33552	31	1514	0	0	0	0	0	0	0	0	442568
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST.CROP	3793988	1194883	4760	555	8	0	0	0	NS	NS	NS	NS	NS	4994194
11JUL	SE	3203866	724639	4440	300	8	0	0	0						3284795
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST.CROP	55864	373435	114395	9034	3386	0	12	0	NS	NS	NS	NS	NS	556126
26JUL	SE	4233	341236	66438	4304	1178	0	12	0						347698
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST.CROP	10676	51862	0	0	0	0	0	0	NS	NS	NS	NS	NS	62538
08AUG	SE	4542	49952	0	0	0	0	0	0						50158
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST.CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-157 REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-157 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	6.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	6.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-158 REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	136	0	0	0	0	0	0	0	0	0	0	136
01JUN	SE	0	0	136	0	0	0	0	0	0	0	0	0	0	136
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-158 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	677	0	0	0	0	0	0	0	0	0	0	677
15JUN	SE	0	0	677	0	0	0	0	0	0	0	0	0	0	677
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	1385	0	0	0	0	0	0	0	0	0	0	0	1385
21JUN	SE	0	1385	0	0	0	0	0	0	0	0	0	0	0	1385
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-159 REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-159 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	3.01	0.00	3.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49
28JUN	SE	0.00	0.00	3.01	0.00	1.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.60
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.79	39.09	64.78	11.40	19.75	6.43	NS	NS	NS	NS	NS	17.78
11JUL	SE	0.00	0.00	0.79	25.16	35.71	8.39	10.76	6.43						46.22
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	5.99	0.00	1.73	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.97
26JUL	SE	0.00	5.99	0.00	1.73	0.00	0.00	0.00	0.00						6.24
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	1.37	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.17
08AUG	SE	0.00	0.00	1.37	0.00	0.00	0.00	0.00	0.00						1.37
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-160 REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR -	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR -	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR -	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-160 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST. CROP	0	0	969	0	712	0	0	0	0	0	0	0	0
28JUN	SE	0	0	969	0	413	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST. CROP	0	0	256	5774	13495	2365	2760	1917	NS	NS	NS	NS	NS
11JUL	SE	0	0	256	3718	7440	1740	1505	1917					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST. CROP	0	1375	0	255	0	0	0	0	NS	NS	NS	NS	NS
26JUL	SE	0	1375	0	255	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST. CROP	0	0	441	0	0	0	0	0	NS	NS	NS	NS	NS
08AUG	SE	0	0	441	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-161 REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-161 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.53	NS	NS	NS	NS	NS
26JUL	SE	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.53					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	2.69	2.33	4.70	NS	NS	NS	NS	NS
08AUG	SE	0.00	0.00	0.00	0.00	0.00	2.49	1.82	3.94					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.12	0.00	1.65	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.12	0.00	1.65					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.11	0.61	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.11	0.30	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-162 REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-162 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	65	0	0	0	0	0	0	0	0	0	0	0	65
21JUN	SE	0	65	0	0	0	0	0	0	0	0	0	0	0	65
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	166	0	0	158	NS	NS	NS	NS	NS	324
26JUL	SE	0	0	0	0	166	0	0	158						230
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	558	326	1402	NS	NS	NS	NS	NS	2285
08AUG	SE	0	0	0	0	0	516	254	1175						1309
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	26	0	0	NS	NS	NS	NS	NS	26
22AUG	SE	0	0	0	0	0	26	0	0						26
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	24	0	492	NS	NS	NS	NS	NS	516
06SEP	SE	0	0	0	0	0	24	0	492						493
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	23	85	0	NS	NS	NS	NS	NS	108
19SEP	SE	0	0	0	0	0	23	42	0						48
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	140	0	0	NS	NS	NS	NS	NS	140
03OCT	SE	0	0	0	0	0	140	0	0						140
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-163 REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.22	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.22	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.02	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.02	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.19	0.03	0.21	0.05	0.00	0.00	0.12	0.21
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.19	0.03	0.21	0.05	0.00	0.00	0.12	0.12
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.00	1.19	0.00	0.07	0.00	0.01	< 0.005	0.27	0.07	0.27	0.06	0.00	0.00
30AUG	SE	0.00	0.94	0.00	0.07	0.00	0.01	< 0.005	0.25	0.05	0.27	0.06	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.00	0.00	0.28	0.03	2.02	2.21	2.41	0.75	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.15	0.02	0.33	0.78	0.58	0.17	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.03	0.00	0.00	0.20	0.69	1.85	1.73	1.05	1.69	0.51	8.12	0.12	1.46
27SEP	SE	0.03	0.00	0.00	0.17	0.25	0.47	0.41	0.44	0.39	0.23	5.68	0.12	0.58
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.17	1.20	1.78	1.84	1.55	1.35	5.63	0.49	3.73
11OCT	SE	0.00	0.00	0.00	0.00	0.08	0.45	0.49	0.54	0.44	0.51	4.81	0.25	1.71
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.15	0.00	0.00	0.00	0.00	0.03	0.53	0.26	0.44	2.34	0.18	0.00	0.00
25OCT	SE	0.15	0.00	0.00	0.00	0.00	0.03	0.22	0.10	0.13	0.59	0.08	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.02	0.00	0.00	0.17	0.29	0.92	3.69	1.77	2.49	3.42	1.46	0.00	0.13
09NOV	SE	0.02	0.00	0.00	0.09	0.14	0.26	0.68	0.54	0.46	1.38	0.86	0.00	0.08
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.00	0.00	0.31	0.66	0.48	1.56	0.23	0.15	0.03	0.18	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.18	0.44	0.15	0.36	0.10	0.07	0.03	0.14	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-164 REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL-	ST. CROP	0	0	0	5	0	0	0	0	0	0	0	0	0	5
06JUL	SE	0	0	0	5	0	0	0	0	0	0	0	0	0	5
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	0	0	0	0	0	110	0	65	0	0	0	0	0	176
19JUL	SE	0	0	0	0	0	74	0	65	0	0	0	0	0	99
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	0	0	0	0	0	42	0	0	4	0	0	0	0	46
03AUG	SE	0	0	0	0	0	42	0	0	4	0	0	0	0	42
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	0	0	0	0	0	40	4	64	9	0	0	19	15	152
16AUG	SE	0	0	0	0	0	40	4	64	9	0	0	19	9	79
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	0	272	0	10	0	2	1	81	11	38	11	0	0	426
30AUG	SE	0	215	0	10	0	2	1	74	8	38	11	0	0	231
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	0	0	0	41	7	418	309	719	125	0	0	0	0	1619
13SEP	SE	0	0	0	22	5	68	109	172	29	0	0	0	0	217
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	7	0	0	29	144	383	242	313	279	72	1431	19	104	3023
27SEP	SE	7	0	0	25	53	97	58	131	65	32	1002	19	41	1022
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	0	0	0	0	36	250	249	548	257	191	993	79	265	2867
11OCT	SE	0	0	0	0	16	93	69	162	73	73	848	40	122	886
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	32	0	0	0	0	7	74	79	72	331	31	0	0	626
25OCT	SE	32	0	0	0	0	5	31	30	21	83	14	0	0	103
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	4	0	0	26	60	191	516	529	412	484	258	0	9	2490
09NOV	SE	4	0	0	14	30	54	95	160	76	195	152	0	6	325
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	0	0	0	46	138	99	219	67	25	5	31	0	0	631
30NOV	SE	0	0	0	26	91	30	50	28	12	5	25	0	0	118
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-165 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF HOGCHOKER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	< 0.005
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.07	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
26JUL	SE	0.00	0.00	0.07	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	1.00	0.50	0.00	0.00	0.20	0.89	0.00	0.00	0.22
09AUG	SE	0.00	0.00	0.00	0.00	0.77	0.34	0.00	0.00	0.20	0.45	0.00	0.00	0.98
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.20	0.40	0.22	0.00	0.00	0.10
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.20	0.40	0.22	0.00	0.00	0.60
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	9.60	2.33	0.20	0.40	1.40	1.00	0.20	0.00	1.26
07SEP	SE	0.00	0.00	0.00	0.00	9.11	2.33	0.20	0.40	0.87	0.41	0.20	0.00	9.46
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.40	2.50	0.00	0.00	0.00	0.33	1.40	0.00	0.39
20SEP	SE	0.00	0.00	0.00	0.00	0.24	1.93	0.00	0.00	0.00	0.17	0.43	0.00	2.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.20	0.20	1.33	0.00	0.00	0.00	0.00	0.00	0.00	0.14
04OCT	SE	0.00	0.00	0.00	0.20	0.20	1.33	0.00	0.00	0.00	0.00	0.00	0.00	1.36
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.80	1.33	0.00	0.20	0.00	0.11	0.70	0.00	0.26
18OCT	SE	0.00	0.00	0.00	0.00	0.58	0.80	0.00	0.20	0.00	0.11	0.40	0.00	1.09
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-166 REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	1	0	1
27JUN	SE	0	0	0	0	0	0	0	0	0	0	1	0	1
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	2	0	1	0	0	0	0	0	0	0	3
26JUL	SE	0	0	2	0	1	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	3	5	0	0	2	16	0	0	25
09AUG	SE	0	0	0	0	2	4	0	0	2	8	0	0	9
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	4	0	< 0.5	3	4	0	0	11
23AUG	SE	0	0	0	0	0	4	0	< 0.5	3	4	0	0	6
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	25	25	1	< 0.5	12	18	4	0	86
07SEP	SE	0	0	0	0	24	25	1	< 0.5	8	7	4	0	36
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	1	27	0	0	0	6	28	0	61
20SEP	SE	0	0	0	0	1	21	0	0	0	3	8	0	22
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	2	1	14	0	0	0	0	0	0	17
04OCT	SE	0	0	0	2	1	14	0	0	0	0	0	0	14
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	2	14	0	< 0.5	0	2	14	0	32
18OCT	SE	0	0	0	0	2	9	0	< 0.5	0	2	8	0	12
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-167 REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.20	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.20	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.36	0.91	0.90	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.21	0.14	0.90	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.24	0.19	1.96	0.39	0.00	3.63	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.24	0.19	0.84	0.20	0.00	2.85	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	1.51	0.29	2.42	2.89	1.05	0.21	0.70	0.12	0.33	0.00	0.00	0.00
09MAY	SE	0.00	0.57	0.29	2.11	1.14	0.13	0.21	0.45	0.12	0.33	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	3.03	3.59	1.90	0.68	3.88	2.02	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.47	1.52	1.04	0.42	1.69	0.75	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.12	0.50	1.20	0.04	0.21	0.04	0.12	0.92	1.96	0.22	0.00	0.00
24MAY	SE	0.00	0.12	0.27	0.48	0.04	0.21	0.04	0.12	0.58	1.96	0.22	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	1.20	0.00	0.17	0.77	0.81	0.11	0.00	0.00	2.86	8.75	0.00
01JUN	SE	0.00	0.00	0.64	0.00	0.17	0.77	0.01	0.11	0.00	0.00	1.39	4.74	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-167 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.21	0.10	0.32	0.00	0.00	0.83	1.04	0.27	0.00	0.51	0.25
07JUN	SE	0.00	0.00	0.00	0.21	0.10	0.20	0.00	0.00	0.52	0.43	0.27	0.00	0.51	0.94
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.10	0.13	0.36	0.75	0.52	0.55	0.00	0.57	0.23
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.10	0.13	0.36	0.36	0.52	0.32	0.00	0.57	0.99
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.19	0.11	0.46	0.00	0.00	0.00	0.26	0.48	0.00	0.11
21JUN	SE	0.00	0.00	0.00	0.00	0.11	0.11	0.41	0.00	0.00	0.00	0.26	0.48	0.00	0.70
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.41	0.00	0.00	0.00	0.10	0.72	0.12	0.56	0.13	0.27	0.00	0.49	0.00	0.22
28JUN	SE	0.41	0.00	0.00	0.00	0.10	0.56	0.12	0.36	0.13	0.27	0.00	0.49	0.00	0.98
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.48	0.19	0.00	0.00	1.69	0.24	0.64	0.00	NS	NS	NS	NS	NS	0.40
11JUL	SE	0.48	0.19	0.00	0.00	1.39	0.14	0.64	0.00						1.62
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.28	NS	NS	NS	NS	NS	0.13
26JUL	SE	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.28						0.80
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	2.41	0.08	0.26	NS	NS	NS	NS	NS	0.34
08AUG	SE	0.00	0.00	0.00	0.00	0.00	1.54	0.05	0.26						1.56
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	1.41	0.00	0.00	5.22	0.51	0.34	1.31	0.00	NS	NS	NS	NS	NS	1.10
22AUG	SE	1.41	0.00	0.00	2.25	0.51	0.21	1.31	0.00						3.01
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.26	NS	NS	NS	NS	NS	0.12
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.26						0.72
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	1.07	4.90	1.70	0.28	NS	NS	NS	NS	NS	0.99
19SEP	SE	0.00	0.00	0.00	0.00	0.80	3.48	1.13	0.28						3.75
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	2.21	1.45	4.24	1.63	NS	NS	NS	NS	NS	1.19
03OCT	SE	0.00	0.00	0.00	0.00	1.58	1.16	1.73	1.63						3.07
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-168 REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS
16MAR-	SE	0	0	0	0	0	0	0						
	NO. TOWS	10	10	11	11	9	10	12						
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS
23MAR-	SE	0	0	0	0	0	0	0						
	NO. TOWS	10	10	11	11	10	10	12						
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS
30MAR-	SE	0	0	0	0	0	0	0						
	NO. TOWS	10	10	11	11	10	10	12						
03APR-	ST. CROP	0	0	0	0	0	0	41	0	0	0	0	0	0
06APR-	SE	0	0	0	0	0	0	41	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	ST. CROP	0	0	64	0	0	33	0	0	0	0	0	0	0
13APR-	SE	0	0	64	0	0	20	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	ST. CROP	0	0	116	134	186	0	0	0	0	40	0	0	0
19APR-	SE	0	0	67	21	186	0	0	0	0	40	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	ST. CROP	0	0	0	27	0	0	0	0	0	47	0	0	0
25APR-	SE	0	0	0	27	0	0	0	0	0	47	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	ST. CROP	0	56	61	290	82	0	508	0	0	0	0	0	0
02MAY-	SE	0	56	61	124	41	0	398	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	ST. CROP	0	347	93	357	602	217	30	209	20	47	0	0	0
09MAY-	SE	0	131	93	312	237	28	30	133	20	47	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	ST. CROP	0	0	974	530	395	141	542	601	0	0	0	0	0
16MAY-	SE	0	0	150	224	218	88	236	223	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	ST. CROP	0	28	162	177	9	44	5	36	151	277	38	0	0
24MAY-	SE	0	28	87	71	9	44	5	36	96	277	38	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	ST. CROP	0	0	386	0	35	160	114	34	0	0	504	1407	0
01JUN-	SE	0	0	207	0	35	160	2	34	0	0	245	761	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-168 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	0	0	0	32	21	66	0	0	138	147	47	0	36	487
07JUN	SE	0	0	0	32	21	42	0	0	85	61	47	0	36	133
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	22	19	107	123	74	97	0	41	481
15JUN	SE	0	0	0	0	0	22	19	107	60	74	56	0	41	161
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	39	22	64	0	0	0	45	77	0	248
21JUN	SE	0	0	0	0	24	22	57	0	0	0	45	77	0	111
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	85	0	0	0	20	150	17	165	22	38	0	79	0	578
28JUN	SE	85	0	0	0	20	116	17	107	22	38	0	79	0	203
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	101	43	0	0	352	49	89	0	NS	NS	NS	NS	NS	635
11JUL	SE	101	43	0	0	289	28	89	0						323
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	172	0	0	0	0	0	84	NS	NS	NS	NS	NS	256
26JUL	SE	0	172	0	0	0	0	0	84						191
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	500	12	78	NS	NS	NS	NS	NS	590
08AUG	SE	0	0	0	0	0	320	7	78						329
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	295	0	0	772	106	72	183	0	NS	NS	NS	NS	NS	1427
22AUG	SE	295	0	0	332	106	44	183	0						494
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	140	0	78	NS	NS	NS	NS	NS	218
06SEP	SE	0	0	0	0	0	140	0	78						160
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	224	1017	238	83	NS	NS	NS	NS	NS	1562
19SEP	SE	0	0	0	0	167	721	158	83						761
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	461	302	592	485	NS	NS	NS	NS	NS	1839
03OCT	SE	0	0	0	0	329	240	241	485						677
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-169 REGIONAL DENSITY (NO./1,000m3) OF HOGCHOKER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

SURVEY, 2007															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL -	DENSITY	1.30	3.43	1.47	0.50	0.35	0.65	0.04	0.05	0.00	0.06	0.15	0.12	0.11	0.63
06JUL	SE	0.23	1.09	0.68	0.17	0.16	0.33	0.04	0.02	0.00	0.06	0.09	0.12	0.11	1.38
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL -	DENSITY	1.87	5.78	3.44	0.48	0.17	0.29	0.04	0.13	0.10	0.41	0.06	0.13	0.00	0.99
19JUL	SE	0.32	1.74	1.24	0.22	0.11	0.15	0.03	0.07	0.04	0.23	0.06	0.13	0.00	2.20
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL -	DENSITY	1.53	1.45	1.53	0.87	1.12	0.82	0.13	0.22	0.21	0.15	0.20	0.49	0.52	0.71
03AUG	SE	0.65	0.37	0.47	0.59	0.42	0.52	0.08	0.10	0.07	0.15	0.13	0.25	0.32	1.34
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG -	DENSITY	3.43	1.56	3.00	0.54	0.47	0.67	0.52	0.31	0.47	1.43	0.53	0.97	1.48	1.18
16AUG	SE	1.71	0.65	1.09	0.19	0.21	0.24	0.17	0.14	0.14	0.57	0.22	0.51	0.56	2.38
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG -	DENSITY	1.20	0.92	3.21	0.53	0.87	0.76	0.88	0.61	0.38	1.03	0.40	0.00	0.58	0.88
30AUG	SE	0.27	0.39	1.06	0.17	0.55	0.15	0.20	0.10	0.12	0.43	0.10	0.00	0.58	1.51
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP -	DENSITY	1.59	5.87	6.70	4.27	3.42	1.64	1.75	1.46	1.12	1.51	0.43	0.93	0.50	2.40
13SEP	SE	0.40	2.19	1.00	2.00	0.78	0.24	0.57	0.34	0.21	0.53	0.10	0.74	0.19	3.46
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP -	DENSITY	0.23	0.02	1.10	1.14	2.24	3.70	4.29	2.47	3.08	2.81	0.49	0.84	2.72	1.93
27SEP	SE	0.19	0.02	0.34	0.51	0.82	0.50	0.93	0.52	0.69	1.45	0.17	0.32	0.62	2.36
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT -	DENSITY	0.61	0.57	3.70	2.20	1.51	2.88	4.52	2.91	3.19	4.82	1.58	0.00	0.00	2.19
11OCT	SE	0.37	0.24	0.77	0.87	0.71	1.11	0.33	0.80	0.84	0.74	1.15	0.00	0.00	2.57
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT -	DENSITY	0.50	0.46	2.10	5.57	0.35	1.19	3.75	1.94	2.45	4.73	0.92	0.75	0.76	1.96
25OCT	SE	0.22	0.32	1.08	2.77	0.14	0.29	0.65	0.69	0.31	1.26	0.33	0.24	0.32	3.45
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV -	DENSITY	0.03	1.48	2.83	4.80	3.42	2.34	4.14	1.68	0.81	0.79	0.16	0.08	0.00	1.74
09NOV	SE	0.03	0.49	1.04	1.86	1.19	0.65	0.91	0.55	0.27	0.18	0.10	0.05	0.00	2.81
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV -	DENSITY	0.00	0.21	1.27	8.36	3.97	2.80	1.39	0.41	0.05	0.78	0.06	0.00	0.00	1.48
30NOV	SE	0.00	0.07	0.39	3.37	1.55	0.75	0.32	0.18	0.03	0.45	0.04	0.00	0.00	3.86
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-170 REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

SURVEY, 2007														ALL REGIONS	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	COMBINED
01JUL - 06JUL	ST. CROP	271	787	474	74	72	134	6	13	0	9	27	20	8	1896
	SE	48	250	219	26	34	69	6	7	0	9	16	20	8	347
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL - 19JUL	ST. CROP	390	1326	1108	71	34	59	5	40	16	58	11	21	0	3139
	SE	67	400	400	32	22	30	4	22	7	33	11	21	0	574
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL - 03AUG	ST. CROP	321	333	493	129	234	170	19	64	34	21	35	79	37	1970
	SE	136	85	150	88	88	107	11	28	12	21	22	39	23	281
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG - 16AUG	ST. CROP	718	358	964	80	99	139	73	92	78	202	94	156	105	3157
	SE	358	148	350	28	43	49	24	41	23	81	40	82	40	545
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG - 30AUG	ST. CROP	252	212	1032	78	181	157	123	183	63	145	70	0	42	2538
	SE	55	89	341	25	115	32	27	31	19	60	17	0	42	387
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP - 13SEP	ST. CROP	333	1347	2157	631	712	340	245	436	185	214	75	149	36	6861
	SE	83	502	321	295	163	51	79	101	35	75	17	120	14	719
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP - 27SEP	ST. CROP	48	6	354	169	468	768	599	735	509	397	86	135	193	4467
	SE	40	6	110	75	170	104	130	154	114	205	30	52	44	400
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT - 11OCT	ST. CROP	128	130	1191	325	314	597	632	867	528	682	279	0	0	5675
	SE	77	55	249	128	147	231	46	239	139	105	203	0	0	541
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT - 25OCT	ST. CROP	105	106	677	823	73	246	525	577	406	670	162	120	54	4543
	SE	45	73	346	410	29	60	91	205	51	178	58	39	23	624
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV - 09NOV	ST. CROP	6	339	910	709	713	485	578	501	134	112	28	13	0	4529
	SE	6	113	334	275	248	136	127	165	45	26	17	9	0	571
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV - 30NOV	ST. CROP	0	48	410	1235	826	582	194	122	8	110	11	0	0	3546
	SE	0	16	126	498	324	156	45	54	5	64	7	0	0	635
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-171 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF HOGCHOKER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.33	0.18	0.00	4.67	0.67	0.00	0.13	0.00	0.00	0.00	0.00	0.08	0.50
13JUN	SE	0.33	0.12	0.00	2.91	0.67	0.00	0.13	0.00	0.00	0.00	0.00	0.08	3.01
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.71	1.33	0.33	0.00	0.00	0.13	0.00	0.07	0.32	0.00	0.24
27JUN	SE	0.00	0.00	0.36	0.88	0.33	0.00	0.00	0.13	0.00	0.07	0.15	0.00	1.03
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.45	0.14	9.00	0.00	0.00	0.00	0.13	0.00	0.13	1.58	0.00	0.95
12JUL	SE	0.00	0.16	0.14	8.00	0.00	0.00	0.00	0.13	0.00	0.09	0.87	0.00	8.05
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.40	0.04	0.21	21.20	0.00	0.33	0.00	0.00	0.60	0.44	0.20	0.00	1.95
26JUL	SE	0.40	0.04	0.11	21.20	0.00	0.33	0.00	0.00	0.40	0.24	0.13	0.00	21.21
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	1.80	0.00	0.00	0.20	1.20	1.00	0.00	0.00	0.00	0.56	0.00	0.00	0.40
09AUG	SE	0.92	0.00	0.00	0.20	0.49	0.68	0.00	0.00	0.00	0.29	0.00	0.00	1.29
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.20	0.00	0.04
23AUG	SE	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.13	0.00	0.20
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.20	0.00	0.00	0.00	0.00	0.17	0.00	0.40	0.40	0.67	0.00	0.00	0.15
07SEP	SE	0.20	0.00	0.00	0.00	0.00	0.17	0.00	0.40	0.24	0.44	0.00	0.00	0.69
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.10	0.00	0.03
20SEP	SE	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.10	0.00	0.18
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	0.00	0.11	0.00	0.00	0.13
04OCT	SE	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	0.00	0.11	0.00	0.00	1.12
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
18OCT	SE	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-172 REGIONAL STANDING CROP (IN THOUSANDS) OF HOGCHOKER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	3	8	0	43	2	0	1	0	0	0	0	1	58
13JUN	SE	3	6	0	27	2	0	1	0	0	0	0	1	28
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	19	12	1	0	0	< 0.5	0	1	6	0	40
27JUN	SE	0	0	10	8	1	0	0	< 0.5	0	1	3	0	13
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	21	4	83	0	0	0	< 0.5	0	2	31	0	141
12JUL	SE	0	7	4	74	0	0	0	< 0.5	0	2	17	0	76
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	3	2	6	195	0	4	0	0	5	8	4	0	226
26JUL	SE	3	2	3	195	0	4	0	0	3	4	3	0	196
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	14	0	0	2	3	11	0	0	0	10	0	0	39
09AUG	SE	7	0	0	2	1	7	0	0	0	5	0	0	12
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	6	0	0	0	0	0	0	0	2	4	0	12
23AUG	SE	0	4	0	0	0	0	0	0	0	2	3	0	5
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	2	0	0	0	0	2	0	< 0.5	3	12	0	0	19
07SEP	SE	2	0	0	0	0	2	0	< 0.5	2	8	0	0	8
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	4	0	0	0	0	0	0	2	2	0	8
20SEP	SE	0	0	3	0	0	0	0	0	0	2	2	0	4
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	16	0	0	0	2	0	0	18
04OCT	SE	0	0	0	0	0	12	0	0	0	2	0	0	12
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	2	0	0	0	0	0	0	0	0	0	2
18OCT	SE	0	0	2	0	0	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-173 REGIONAL DENSITY (NO./1,000m3) OF SPOTTAIL SHINER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-173 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF SPOTTAIL SHINER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.95	8.19	1.24
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.95	8.19	11.41
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.84	0.60
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.84	7.84
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-174 REGIONAL STANDING CROP (IN THOUSANDS) OF SPOTTAIL SHINER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-174 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF SPOTTAIL SHINER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	1278	583	1860
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	1278	583	1404
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	558	558
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	558	558
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-175 REGIONAL DENSITY (NO./1,000m3) OF SPOTTAIL SHINER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.02
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.32
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	< 0.005
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.00	< 0.005
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.04
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	< 0.005
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-176 REGIONAL STANDING CROP (IN THOUSANDS) OF SPOTTAIL SHINER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

ALL REGIONS														ALL COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL -	ST. CROP	0	0	0	0	0	0	0	0	0	45	0	0	0	45
06JUL	SE	0	0	0	0	0	0	0	0	0	45	0	0	0	45
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP -	ST. CROP	0	0	0	0	0	0	0	4	0	0	0	0	0	4
27SEP	SE	0	0	0	0	0	0	0	4	0	0	0	0	0	4
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT -	ST. CROP	0	0	0	0	0	0	4	0	0	0	0	0	0	4
11OCT	SE	0	0	0	0	0	0	4	0	0	0	0	0	0	4
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV -	ST. CROP	0	0	0	0	0	0	3	0	0	5	0	0	0	8
09NOV	SE	0	0	0	0	0	0	3	0	0	5	0	0	0	6
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV -	ST. CROP	0	0	0	0	0	0	0	0	3	0	0	0	0	3
30NOV	SE	0	0	0	0	0	0	0	0	3	0	0	0	0	3
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-177 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF SPOTTAIL SHINER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	1.88	0.40	1.11	1.33	0.42
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	1.88	0.34	0.55	0.54	2.08
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.67	2.38	10.25	7.00	0.87	18.16	146.75	15.51
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.33	1.53	9.00	3.14	0.31	7.53	70.86	71.92
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.27	0.14	1.00	19.33	0.00	21.13	14.63	0.00	7.60	20.53	121.17	17.15
12JUL	SE	0.00	0.27	0.14	1.00	19.33	0.00	11.09	9.44	0.00	2.87	14.80	79.89	84.84
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	2.29	0.20	2.60	13.67	37.80	5.20	0.20	20.67	52.20	292.00	35.57
26JUL	SE	0.00	0.00	1.39	0.20	1.03	9.01	13.77	1.98	0.20	13.89	28.46	97.69	104.03
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.93	0.00	0.60	8.67	24.40	8.80	2.40	32.67	11.60	113.14	16.93
09AUG	SE	0.00	0.00	0.79	0.00	0.24	6.42	18.05	5.19	1.12	10.44	5.48	55.38	60.02
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	1.00	0.00	0.20	4.33	50.20	36.40	0.80	32.44	8.50	25.71	13.30
23AUG	SE	0.00	0.00	0.65	0.00	0.20	4.33	17.86	14.06	0.80	14.45	4.71	17.73	32.89
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	24.00	25.60	10.60	29.67	0.40	82.71	14.42
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	13.08	11.23	8.02	8.18	0.22	77.44	80.16
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.50	0.00	0.00	2.83	22.40	17.80	0.20	11.67	0.40	29.57	7.11
20SEP	SE	0.00	0.00	0.43	0.00	0.00	1.74	20.21	5.60	0.20	3.21	0.31	25.92	33.54
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.60	0.17	6.00	40.00	0.00	11.89	6.00	1.00	5.47
04OCT	SE	0.00	0.00	0.00	0.00	0.40	0.17	1.97	18.62	0.00	4.71	3.11	0.85	19.58
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.40	2.50	29.80	8.20	0.00	5.33	2.50	18.43	5.60
18OCT	SE	0.00	0.00	0.00	0.00	0.24	1.28	12.21	3.25	0.00	1.80	0.95	15.59	20.21
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-178 REGIONAL STANDING CROP (IN THOUSANDS) OF SPOTTAIL SHINER YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	4	0	0	16	7	22	18	67
13JUN	SE	0	0	0	0	0	4	0	0	16	6	11	7	22
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	7	17	13	60	15	357	1994	2463
27JUN	SE	0	0	0	0	0	4	11	11	27	5	148	963	975
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	12	4	9	51	0	150	18	0	133	404	1646	2428
12JUL	SE	0	12	4	9	51	0	79	12	0	50	291	1085	1129
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	61	2	7	146	268	6	2	363	1027	3967	5849
26JUL	SE	0	0	37	2	3	96	98	2	2	244	560	1327	1468
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	25	0	2	92	173	11	21	573	228	1537	2663
09AUG	SE	0	0	21	0	1	68	128	6	10	183	108	752	796
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	27	0	1	46	356	45	7	570	167	349	1568
23AUG	SE	0	0	17	0	1	46	127	17	7	254	93	241	387
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	170	32	91	521	8	1124	1946
07SEP	SE	0	0	0	0	0	0	93	14	69	144	4	1052	1068
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	13	0	0	30	159	22	2	205	8	402	841
20SEP	SE	0	0	12	0	0	19	143	7	2	56	6	352	385
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	2	2	43	50	0	209	118	14	436
04OCT	SE	0	0	0	0	1	2	14	23	0	83	61	11	107
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	1	27	211	10	0	94	49	250	642
18OCT	SE	0	0	0	0	1	14	87	4	0	32	19	212	232
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-179 REGIONAL DENSITY (NO./1,000m3) OF SPOTTAIL SHINER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	1.08	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	1.08	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.24	0.00	0.00	0.23	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.24	0.00	0.00	0.23	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.26	0.73	0.00	0.53
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.26	0.48	0.00	0.53
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-179 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF SPOTTAIL SHINER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.58	0.51	0.10
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.58	0.51	0.81
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.57	0.12
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.57	1.16
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.53	0.00	0.00	0.00	0.27
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95	0.00	0.00	0.00	1.95
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	0.00	0.00	0.00	0.08
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	0.00	0.00	0.00	1.03
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	NS	NS	NS	NS	NS	0.03
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28						0.28
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-180 REGIONAL STANDING CROP (IN THOUSANDS) OF SPOTTAIL SHINER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	76	0	76
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	76	0	76
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	20	0	0	0	0	0	174	0	194
19APR	SE	0	0	0	0	0	20	0	0	0	0	0	174	0	175
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	32	72	0	0	40	0	0	144
24MAY	SE	0	0	0	0	0	0	27	72	0	0	40	0	0	87
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	27	0	0	37	129	0	38	231
01JUN	SE	0	0	0	0	0	0	27	0	0	37	85	0	38	104
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-180 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF SPOTTAIL SHINER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	37	0	93	36	166
07JUN	SE	0	0	0	0	0	0	0	0	0	37	0	93	36	106
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	163	41	204
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	163	41	168
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	499	0	0	0	499
21JUN	SE	0	0	0	0	0	0	0	0	0	275	0	0	0	275
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	145	0	0	0	145
28JUN	SE	0	0	0	0	0	0	0	0	0	145	0	0	0	145
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	82	NS	NS	NS	NS	NS	82
26JUL	SE	0	0	0	0	0	0	0	82						82
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-181 REGIONAL DENSITY (NO./1,000m3) OF SPOTTAIL SHINER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.13	0.00	0.01
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.13	0.00	0.13
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.12	0.00	0.00	0.01
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.07	0.00	0.00	0.09
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	< 0.005
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.01
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-182 REGIONAL STANDING CROP (IN THOUSANDS) OF SPOTTAIL SHINER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
06JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	0	0	0	0	0	1	0	0	0	0	21	0
19JUL	SE	0	0	0	0	0	0	1	0	0	0	0	21	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	8	21	0	0
27SEP	SE	0	0	0	0	0	0	0	0	0	8	12	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
11OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	6	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	6	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	10	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	6	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-183 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF SPOTTAIL SHINER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.00	0.00	0.00	1.16	0.25	0.19
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.90	0.13	1.02
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	3.88	1.00	0.13	0.73	0.21	1.92	0.66
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	2.45	0.87	0.13	0.38	0.12	1.02	2.82
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	1.33	0.00	1.63	0.38	0.13	0.27	0.11	0.08	0.33
12JUL	SE	0.00	0.00	0.00	0.00	1.33	0.00	0.84	0.26	0.13	0.15	0.07	0.08	1.62
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.04	0.79	0.20	0.20	2.17	7.00	0.00	0.00	0.00	0.10	1.57	1.01
26JUL	SE	0.00	0.04	0.41	0.20	0.20	2.17	6.26	0.00	0.00	0.00	0.10	0.95	6.71
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.14	0.00	0.00	1.17	0.60	0.00	0.00	0.00	0.00	0.00	0.16
09AUG	SE	0.00	0.00	0.10	0.00	0.00	0.75	0.40	0.00	0.00	0.00	0.00	0.00	0.85
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.21	0.00	0.00	0.83	1.00	0.60	0.00	0.00	0.10	0.00	0.23
23AUG	SE	0.00	0.00	0.21	0.00	0.00	0.83	0.45	0.60	0.00	0.00	0.10	0.00	1.14
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.00	0.40	1.44	0.30	0.00	0.25
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.40	0.80	0.30	0.00	1.06
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.07	0.00	0.00	0.17	3.40	3.20	0.00	0.56	0.80	0.00	0.68
20SEP	SE	0.00	0.00	0.07	0.00	0.00	0.17	3.40	2.73	0.00	0.44	0.49	0.00	4.41
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.20	0.00	0.60	2.20	0.00	3.89	1.70	0.00	0.72
04OCT	SE	0.00	0.00	0.00	0.00	0.20	0.00	0.24	0.97	0.00	1.42	0.79	0.00	1.92
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.40	0.83	8.60	5.00	0.00	6.00	4.20	0.00	2.09
18OCT	SE	0.00	0.00	0.00	0.00	0.24	0.83	5.29	1.97	0.00	3.06	2.15	0.00	6.82
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-184 REGIONAL STANDING CROP (IN THOUSANDS) OF SPOTTAIL SHINER YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	6	0	0	0	23	3	32
13JUN	SE	0	0	0	0	0	0	3	0	0	0	18	2	18
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	27	1	1	13	4	26	73
27JUN	SE	0	0	0	0	0	0	17	1	1	7	2	14	23
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	4	0	12	< 0.5	1	5	2	1	24
12JUL	SE	0	0	0	0	4	0	6	< 0.5	1	3	1	1	8
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	2	21	2	1	23	50	0	0	0	2	21	121
26JUL	SE	0	2	11	2	1	23	44	0	0	0	2	13	53
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	4	0	0	12	4	0	0	0	0	0	21
09AUG	SE	0	0	3	0	0	8	3	0	0	0	0	0	9
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	6	0	0	9	7	1	0	0	2	0	24
23AUG	SE	0	0	6	0	0	9	3	1	0	0	2	0	11
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	6	0	3	25	6	0	40
07SEP	SE	0	0	0	0	0	0	3	0	3	14	6	0	16
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	2	0	0	2	24	4	0	10	16	0	57
20SEP	SE	0	0	2	0	0	2	24	3	0	8	10	0	27
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	1	0	4	3	0	68	33	0	109
04OCT	SE	0	0	0	0	1	0	2	1	0	25	16	0	29
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	1	9	61	6	0	105	83	0	265
18OCT	SE	0	0	0	0	1	9	38	2	0	54	42	0	78
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-185 REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC STURGEON YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-185 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC STURGEON YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00	0.07
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00	0.94
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-186 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC STURGEON YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007															ALL
															REGIONS
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	COMBINED
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-186 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC STURGEON YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST. CROP	0	0	0	0	0	0	0	281	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	281	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
11JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
26JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
08AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-187 REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC STURGEON POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.01
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.12
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-187 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC STURGEON POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.14	0.00	0.00	0.00	0.00	0.08
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.14	0.00	0.00	0.00	0.00	0.95
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-188 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC STURGEON POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	35	0	0	0	0	0	35
01JUN	SE	0	0	0	0	0	0	0	35	0	0	0	0	0	35
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-188 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC STURGEON POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST. CROP	0	0	0	0	0	0	0	281	22	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	281	22	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
11JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
26JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
08AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-189 REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-189 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-190 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-190 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-191 REGIONAL DENSITY (NO./1,000m3) OF ATLANTIC STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.09	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.08	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.06	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.06	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-192 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
06JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	0	0	0	0	2	0	0	3	0	0	0	0
19JUL	SE	0	0	0	0	0	2	0	0	3	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	0	0	0	0	0	6	0	0	6	0	0	0	0
03AUG	SE	0	0	0	0	0	3	0	0	6	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	0	0	0	0	0	0	0	4	9	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	4	6	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	0	0	0	0	0	1	0	0	3	0	0	0	0
13SEP	SE	0	0	0	0	0	1	0	0	3	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	0	0	0	0	0	8	0	0	0	0	0
27SEP	SE	0	0	0	0	0	0	0	8	0	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	0	0	0	0	0	7	0	8	0	0	0	0	0
11OCT	SE	0	0	0	0	0	5	0	6	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	0	0	0	0	0	0	0	4	16	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	4	13	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	6	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	6	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	0	0	0	0	0	4	3	18	0	0	0	0	0
30NOV	SE	0	0	0	0	0	2	3	18	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-193 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF ATLANTIC STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-194 REGIONAL STANDING CROP (IN THOUSANDS) OF ATLANTIC STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
26JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-195 REGIONAL DENSITY (NO./1,000m3) OF SHORTRNOSE STURGEON YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-195 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF SHORTRNOSE STURGEON YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007														
														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-196 REGIONAL STANDING CROP (IN THOUSANDS) OF SHORTRNOSE STURGEON YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-196 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF SHORTRIVER STURGEON YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-197 REGIONAL DENSITY (NO./1,000m3) OF SHORTRNOSE STURGEON POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.66	0.20
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.51
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60	0.12
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.92
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-197 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF SHORTRNOSE STURGEON POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.05
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.60
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-198 REGIONAL STANDING CROP (IN THOUSANDS) OF SHORTRNOSE STURGEON POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	189	189
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	36	36
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	114	114
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	65	65
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-198 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF SHORTRIVER STURGEON POST YOLK-SAC LARVAE IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	106	0	0	106
07JUN	SE	0	0	0	0	0	0	0	0	0	0	106	0	0	106
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-199 REGIONAL DENSITY (NO./1,000m3) OF SHORTRNOSE STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS	0.00
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.02
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.32
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-199 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF SHORTRNOSE STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-200 REGIONAL STANDING CROP (IN THOUSANDS) OF SHORTRIVER STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	23	23
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	23	23
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-200 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF SHORTRIVER STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
11JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
26JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
08AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-201 REGIONAL DENSITY (NO./1,000m3) OF SHORTRNOSE STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.00	0.00	0.04	0.00	0.01	0.00	0.03	0.05	0.06	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.04	0.00	0.01	0.00	0.02	0.03	0.06	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-202 REGIONAL STANDING CROP (IN THOUSANDS) OF SHORTRNOSE STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
06JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	9	0	0	0
19JUL	SE	0	0	0	0	0	0	0	0	0	9	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	3	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	3	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	ST. CROP	0	0	0	5	0	2	0	9	8	8	0	0	0
16AUG	SE	0	0	0	5	0	2	0	6	6	8	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	ST. CROP	0	0	0	0	0	4	0	0	6	0	0	0	0
13SEP	SE	0	0	0	0	0	1	0	0	4	0	0	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	ST. CROP	0	0	0	0	0	0	0	4	3	0	0	0	0
27SEP	SE	0	0	0	0	0	0	0	4	3	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	ST. CROP	0	0	0	0	0	2	5	0	0	0	0	0	0
11OCT	SE	0	0	0	0	0	2	5	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	ST. CROP	0	0	0	0	0	4	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	2	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-203 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF SHORTRIVER STURGEON YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-204 REGIONAL STANDING CROP (IN THOUSANDS) OF SHORINOSE STURGEON THAN-YEARLING AND OLDER-IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
26JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-205 REGIONAL DENSITY (NO./1,000m3) OF WHITE CATFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-205 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF WHITE CATFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	NS	NS	NS	NS	NS	0.03
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28						0.28
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-206 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE CATFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-206 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE CATFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
11JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	83	NS	NS	NS	NS	NS	83
19SEP	SE	0	0	0	0	0	0	0	83						83
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-207 REGIONAL DENSITY (NO./1,000m3) OF WHITE CATFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	ALL REGIONS COMBINED
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.05
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.37
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00	0.00	< 0.005
13SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.03
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	< 0.005
11OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.02
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	< 0.005
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	< 0.005
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.03
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
30NOV	SE	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-208 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE CATFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
01JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	46	46
06JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	27	27
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	0	0	0	0	0	0	0	13	3	0	0	0	0	16
13SEP	SE	0	0	0	0	0	0	0	7	3	0	0	0	0	7
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	0	0	0	0	0	0	0	4	3	0	0	0	0	7
11OCT	SE	0	0	0	0	0	0	0	4	3	0	0	0	0	5
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	0	0	0	0	0	0	0	5	0	0	0	0	0	5
25OCT	SE	0	0	0	0	0	0	0	5	0	0	0	0	0	5
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	0	0	0	0	0	0	3	0	3	0	0	0	0	6
09NOV	SE	0	0	0	0	0	0	3	0	3	0	0	0	0	4
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	0	0	0	0	5	0	0	0	0	0	0	0	0	5
30NOV	SE	0	0	0	0	4	0	0	0	0	0	0	0	0	4
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-209 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF WHITE CATFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-210 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE CATFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
26JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-211 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF WHITE CATFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.14	0.00	0.00	0.00	0.00	0.02
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.14	0.00	0.00	0.00	0.00	0.22
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.00	0.00	0.05
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.48
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.05
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.64
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.53	0.52	0.00	0.00	0.00	0.09
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.53	0.52	0.00	0.00	0.00	0.75
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.15	0.00	0.10	0.27	NS	NS	NS	NS	NS	0.07
11JUL	SE	0.00	0.00	0.00	0.00	0.15	0.00	0.10	0.27						0.32
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
08AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
22AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	NS	NS	NS	NS	NS	0.03
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26						0.26
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	NS	NS	NS	NS	NS	0.04
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00						0.30
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-212 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE CATFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	44	0	0	NS	NS	NS	NS	NS	NS	44
16MAR	SE	0	0	0	0	44	0	0							44
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	139	35	0	0	NS	NS	NS	NS	NS	NS	173
23MAR	SE	0	0	0	70	35	0	0							78
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	10	0	0	NS	NS	NS	NS	NS	NS	10
30MAR	SE	0	0	0	0	10	0	0							10
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	117	28	107	0	0	0	0	0	0	0	0	252
13APR	SE	0	0	68	28	107	0	0	0	0	0	0	0	0	130
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	180	58	29	158	0	0	0	0	0	0	0	426
19APR	SE	0	0	116	58	29	141	0	0	0	0	0	0	0	194
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	53	0	68	27	0	0	0	0	0	0	0	148
25APR	SE	0	0	53	0	68	27	0	0	0	0	0	0	0	91
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	61	211	90	28	75	0	0	0	0	0	0	466
02MAY	SE	0	0	61	67	90	28	46	0	0	0	0	0	0	139
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	68	95	0	0	32	0	0	0	0	0	0	0	194
09MAY	SE	0	68	55	0	0	32	0	0	0	0	0	0	0	93
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	52	0	74	22	28	0	0	0	0	0	0	175
16MAY	SE	0	0	52	0	42	22	28	0	0	0	0	0	0	75
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	27	0	0	27	0	0	0	0	0	0	53
24MAY	SE	0	0	0	27	0	0	27	0	0	0	0	0	0	38
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	25	35	21	0	0	0	0	0	0	0	82
01JUN	SE	0	0	0	25	35	21	0	0	0	0	0	0	0	48
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-212 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE CATFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	52	22	0	0	0	0	75
07JUN	SE	0	0	0	0	0	0	0	52	22	0	0	0	0	57
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	103	0	0	0	0	103
15JUN	SE	0	0	0	0	0	0	0	0	79	0	0	0	0	79
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	91	0	0	0	91
21JUN	SE	0	0	0	0	0	0	0	0	0	91	0	0	0	91
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	0	0	23	0	0	87	74	0	0	0	184
28JUN	SE	0	0	0	0	0	23	0	0	87	74	0	0	0	116
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	0	0	0	0	31	0	14	80	NS	NS	NS	NS	NS	126
11JUL	SE	0	0	0	0	31	0	14	80						87
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	79	NS	NS	NS	NS	NS	79
06SEP	SE	0	0	0	0	0	0	0	79						79
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	43	0	NS	NS	NS	NS	NS	43
03OCT	SE	0	0	0	0	0	0	43	0						43
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-213 REGIONAL DENSITY (NO./1,000m3) OF WHITE CATFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

SURVEY, 2007															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL -	DENSITY	0.00	0.00	0.00	0.03	0.04	0.00	0.10	0.00	0.00	0.13	0.00	0.13	0.00	0.03
06JUL	SE	0.00	0.00	0.00	0.03	0.03	0.00	0.07	0.00	0.00	0.13	0.00	0.13	0.00	0.20
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL -	DENSITY	0.00	0.00	0.00	0.08	0.02	0.00	0.04	0.00	0.00	0.00	0.00	0.13	0.00	0.02
19JUL	SE	0.00	0.00	0.00	0.06	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.13	0.00	0.14
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL -	DENSITY	0.00	0.00	0.00	0.06	0.00	0.00	0.11	0.03	0.00	0.00	0.00	0.00	0.00	0.02
03AUG	SE	0.00	0.00	0.00	0.04	0.00	0.00	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.09
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG -	DENSITY	0.00	0.00	0.00	0.00	0.09	0.01	0.07	0.02	0.00	0.00	0.21	0.00	0.00	0.03
16AUG	SE	0.00	0.00	0.00	0.00	0.05	0.01	0.04	0.02	0.00	0.00	0.13	0.00	0.00	0.14
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG -	DENSITY	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.02
30AUG	SE	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.15
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP -	DENSITY	0.00	0.00	0.06	0.00	0.03	0.06	0.04	0.05	0.00	0.00	0.07	0.00	0.00	0.02
13SEP	SE	0.00	0.00	0.06	0.00	0.02	0.04	0.03	0.03	0.00	0.00	0.07	0.00	0.00	0.11
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP -	DENSITY	0.00	0.00	0.00	0.03	0.11	0.01	0.04	0.03	0.09	0.07	0.00	0.13	0.00	0.04
27SEP	SE	0.00	0.00	0.00	0.03	0.08	0.01	0.03	0.02	0.04	0.07	0.00	0.13	0.00	0.18
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT -	DENSITY	0.00	0.00	0.00	0.10	0.02	0.02	0.01	0.05	0.10	0.00	0.13	0.12	0.00	0.04
11OCT	SE	0.00	0.00	0.00	0.10	0.01	0.01	0.01	0.02	0.04	0.00	0.08	0.12	0.00	0.18
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT -	DENSITY	0.00	0.00	0.00	0.05	0.03	0.00	0.09	0.06	0.09	0.04	0.31	0.00	0.31	0.07
25OCT	SE	0.00	0.00	0.00	0.05	0.02	0.00	0.08	0.04	0.05	0.04	0.25	0.00	0.15	0.32
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV -	DENSITY	0.00	0.00	0.10	0.03	0.06	0.00	0.03	0.00	0.00	0.04	0.09	0.04	0.06	0.03
09NOV	SE	0.00	0.00	0.07	0.03	0.04	0.00	0.02	0.00	0.00	0.04	0.05	0.04	0.06	0.13
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV -	DENSITY	0.00	0.02	0.08	0.15	0.05	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02
30NOV	SE	0.00	0.02	0.03	0.07	0.02	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.09
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-214 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE CATFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

SURVEY, 2007														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL -	ST. CROP	0	0	0	4	8	0	14	0	0	18	0	21	0
06JUL	SE	0	0	0	4	5	0	10	0	0	18	0	21	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL -	ST. CROP	0	0	0	12	4	0	6	0	0	0	0	20	0
19JUL	SE	0	0	0	8	4	0	4	0	0	0	0	20	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL -	ST. CROP	0	0	0	9	0	0	15	10	0	0	0	0	0
03AUG	SE	0	0	0	7	0	0	10	6	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG -	ST. CROP	0	0	0	0	19	2	10	5	0	0	37	0	0
16AUG	SE	0	0	0	0	10	2	6	5	0	0	22	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG -	ST. CROP	0	0	9	0	6	0	0	0	0	0	0	23	0
30AUG	SE	0	0	9	0	4	0	0	0	0	0	0	23	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP -	ST. CROP	0	0	18	0	5	12	6	14	0	0	12	0	0
13SEP	SE	0	0	18	0	4	7	5	7	0	0	12	0	0
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP -	ST. CROP	0	0	0	4	23	2	6	9	15	9	0	21	0
27SEP	SE	0	0	0	4	16	2	4	6	7	9	0	21	0
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT -	ST. CROP	0	0	0	15	4	4	2	16	16	0	24	20	0
11OCT	SE	0	0	0	15	3	2	1	7	7	0	14	20	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT -	ST. CROP	0	0	0	7	6	0	13	19	14	5	54	0	22
25OCT	SE	0	0	0	7	4	0	11	13	9	5	45	0	10
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV -	ST. CROP	0	0	33	4	12	0	4	0	0	5	16	6	4
09NOV	SE	0	0	21	4	9	0	3	0	0	5	8	6	4
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV -	ST. CROP	0	5	25	22	10	2	0	5	0	0	0	0	0
30NOV	SE	0	5	10	11	5	2	0	5	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-215 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF WHITE CATFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.01
13JUN	SE	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.12
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.01
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
26JUL	SE	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	< 0.005
09AUG	SE	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
07SEP	SE	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-216 REGIONAL STANDING CROP (IN THOUSANDS) OF WHITE CATFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	4	0	0	0	0	0	0	0	0	0	1	5
13JUN	SE	0	4	0	0	0	0	0	0	0	0	0	1	4
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	1	1
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	1	1
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	2	0	0	0	0	0	0	0	0	2
26JUL	SE	0	0	0	2	0	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	2	0	0	0	0	0	0	0	0	0	0	2
09AUG	SE	0	2	0	0	0	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	2	0	0	0	0	0	0	0	0	0	2
07SEP	SE	0	0	2	0	0	0	0	0	0	0	0	0	2
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-217 REGIONAL DENSITY (NO./1,000m3) OF WEAKFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-217 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF WEAKFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	DENSITY	0.00	0.00	3.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	3.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	DENSITY	0.00	0.00	0.00	4.52	113.53	12.25	0.25	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	4.52	106.26	10.22	0.25	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	DENSITY	5.13	8.84	8.10	4.51	54.79	29.52	28.84	3.75	NS	NS	NS	NS	NS
11JUL	SE	3.15	5.49	8.10	1.52	27.09	8.26	19.49	3.75					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	DENSITY	0.00	8.07	0.48	0.46	2.23	7.65	3.42	0.00	NS	NS	NS	NS	NS
26JUL	SE	0.00	4.47	0.48	0.46	1.65	4.11	1.91	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	DENSITY	7.38	6.25	0.77	1.79	1.12	5.12	6.16	0.00	NS	NS	NS	NS	NS
08AUG	SE	4.84	3.14	0.77	1.04	1.12	2.18	3.71	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	DENSITY	2.49	7.28	1.61	8.59	0.57	1.10	0.72	0.00	NS	NS	NS	NS	NS
22AUG	SE	1.28	4.04	1.61	5.32	0.57	0.43	0.72	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	DENSITY	10.60	0.42	0.00	0.00	0.00	0.12	0.09	0.27	NS	NS	NS	NS	NS
06SEP	SE	5.98	0.42	0.00	0.00	0.00	0.12	0.05	0.27					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	NS	NS	NS	NS	NS
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	DENSITY	0.00	3.43	0.00	0.00	0.08	0.12	0.37	0.00	NS	NS	NS	NS	NS
03OCT	SE	0.00	3.43	0.00	0.00	0.08	0.12	0.33	0.00					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-218 REGIONAL STANDING CROP (IN THOUSANDS) OF WEAKFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-218 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF WEAKFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	0	0	1118	0	0	0	0	0	0	0	0	0	0	1118
21JUN	SE	0	0	1118	0	0	0	0	0	0	0	0	0	0	1118
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	0	0	668	23652	2541	35	0	0	0	0	0	0	26896
28JUN	SE	0	0	0	668	22139	2120	35	0	0	0	0	0	0	22250
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	1073	2029	2606	667	11415	6124	4031	1118	NS	NS	NS	NS	NS	29063
11JUL	SE	658	1259	2606	225	5644	1713	2724	1118						7233
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	1851	154	69	465	1588	478	0	NS	NS	NS	NS	NS	4604
26JUL	SE	0	1026	154	69	343	853	267	0						1413
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	1543	1434	247	265	234	1062	861	0	NS	NS	NS	NS	NS	5645
08AUG	SE	1012	721	247	153	234	453	518	0						1469
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	520	1670	517	1269	118	229	101	0	NS	NS	NS	NS	NS	4423
22AUG	SE	267	926	517	787	118	90	101	0						1359
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	2215	96	0	0	0	24	13	80	NS	NS	NS	NS	NS	2428
06SEP	SE	1250	96	0	0	0	24	8	80						1256
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	25	0	0	NS	NS	NS	NS	NS	25
19SEP	SE	0	0	0	0	0	25	0	0						25
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	788	0	0	16	25	51	0	NS	NS	NS	NS	NS	880
03OCT	SE	0	788	0	0	16	25	46	0						790
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-219 REGIONAL DENSITY (NO./1,000m3) OF WEAKFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

															ALL REGIONS
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	COMBINED
01JUL -	DENSITY	0.25	0.80	0.17	4.22	7.97	8.72	2.56	0.00	0.00	0.06	0.00	0.00	0.00	1.90
06JUL	SE	0.10	0.52	0.09	0.80	3.89	5.32	2.33	0.00	0.00	0.06	0.00	0.00	0.00	7.06
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL -	DENSITY	0.45	1.83	6.10	0.38	2.10	1.55	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.99
19JUL	SE	0.18	0.52	4.56	0.27	1.02	0.47	0.43	0.00	0.00	0.00	0.00	0.00	0.00	4.75
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL -	DENSITY	0.12	1.60	0.76	0.37	0.83	0.89	0.43	0.08	0.00	0.00	0.00	0.00	0.00	0.39
03AUG	SE	0.12	0.69	0.35	0.20	0.40	0.40	0.15	0.07	0.00	0.00	0.00	0.00	0.00	1.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG -	DENSITY	0.34	0.13	0.29	0.00	0.04	0.15	0.64	0.02	0.00	0.00	0.00	0.00	0.00	0.12
16AUG	SE	0.13	0.08	0.13	0.00	0.02	0.05	0.24	0.02	0.00	0.00	0.00	0.00	0.00	0.32
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG -	DENSITY	1.17	0.74	1.16	0.00	0.04	0.17	0.20	0.13	0.00	0.00	0.00	0.00	0.00	0.28
30AUG	SE	0.44	0.38	0.56	0.00	0.03	0.06	0.12	0.07	0.00	0.00	0.00	0.00	0.00	0.82
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP -	DENSITY	0.51	1.07	0.69	0.59	0.16	1.54	0.10	0.05	0.00	0.00	0.00	0.00	0.00	0.36
13SEP	SE	0.15	0.26	0.20	0.27	0.05	0.58	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.74
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP -	DENSITY	1.56	0.13	0.10	0.22	0.16	0.78	0.10	0.16	0.00	0.00	0.00	0.00	0.00	0.25
27SEP	SE	0.55	0.09	0.06	0.22	0.04	0.63	0.05	0.08	0.00	0.00	0.00	0.00	0.00	0.88
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT -	DENSITY	0.92	0.13	0.10	0.15	0.10	0.11	0.07	0.11	0.00	0.00	0.00	0.00	0.00	0.13
11OCT	SE	0.50	0.08	0.08	0.09	0.05	0.05	0.04	0.07	0.00	0.00	0.00	0.00	0.00	0.53
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT -	DENSITY	0.46	0.20	0.00	0.00	0.00	0.02	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.06
25OCT	SE	0.16	0.10	0.00	0.00	0.00	0.01	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.19
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV -	DENSITY	0.02	0.02	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
09NOV	SE	0.02	0.02	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV -	DENSITY	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
30NOV	SE	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-220 REGIONAL STANDING CROP (IN THOUSANDS) OF WEAKFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
														AL	
01JUL-	ST. CROP	53	184	54	623	1661	1810	358	0	0	8	0	0	0	4752
06JUL	SE	20	119	28	118	811	1103	326	0	0	8	0	0	0	1417
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	93	419	1964	56	438	322	74	0	0	0	0	0	0	3366
19JUL	SE	38	120	1467	41	212	98	60	0	0	0	0	0	0	1493
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	24	367	243	55	173	186	60	24	0	0	0	0	0	1133
03AUG	SE	24	159	112	30	83	83	21	19	0	0	0	0	0	232
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	71	29	94	0	7	31	89	5	0	0	0	0	0	327
16AUG	SE	28	19	43	0	5	11	34	5	0	0	0	0	0	65
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	244	170	372	0	8	36	28	39	0	0	0	0	0	897
30AUG	SE	91	87	180	0	7	12	17	22	0	0	0	0	0	222
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	106	246	224	87	34	320	14	15	0	0	0	0	0	1045
13SEP	SE	32	60	64	39	11	120	6	8	0	0	0	0	0	158
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	325	30	31	33	33	161	13	46	0	0	0	0	0	674
27SEP	SE	116	20	19	33	8	131	6	25	0	0	0	0	0	182
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	192	29	33	22	20	22	10	33	0	0	0	0	0	361
11OCT	SE	104	18	25	14	10	10	6	20	0	0	0	0	0	112
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	96	45	0	0	0	4	5	5	0	0	0	0	0	155
25OCT	SE	32	23	0	0	0	2	4	5	0	0	0	0	0	40
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	5	5	0	4	5	0	0	0	0	0	0	0	0	18
09NOV	SE	5	5	0	4	3	0	0	0	0	0	0	0	0	9
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	14	10	0	0	0	0	0	0	0	0	0	0	0	24
30NOV	SE	7	7	0	0	0	0	0	0	0	0	0	0	0	10
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-221 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF WEAKFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
12JUL	SE	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.29	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
26JUL	SE	0.00	0.19	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-222 REGIONAL STANDING CROP (IN THOUSANDS) OF WEAKFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	4	0	0	0	0	0	0	0	0	0	0	4
12JUL	SE	0	4	0	0	0	0	0	0	0	0	0	0	4
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	13	2	0	0	0	0	0	0	0	0	0	15
26JUL	SE	0	8	2	0	0	0	0	0	0	0	0	0	9
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-223 REGIONAL DENSITY (NO./1,000m3) OF WEAKFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-223 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF WEAKFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
11JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	DENSITY	0.94	1.83	0.00	0.00	0.00	0.00	0.05	0.00	NS	NS	NS	NS	NS	0.35
08AUG	SE	0.94	0.85	0.00	0.00	0.00	0.00	0.05	0.00						1.27
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	DENSITY	0.00	1.59	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.20
22AUG	SE	0.00	1.59	0.00	0.00	0.00	0.00	0.00	0.00						1.59
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
06SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
19SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
03OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-224 REGIONAL STANDING CROP (IN THOUSANDS) OF WEAKFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS
16MAR	SE	0	0	0	0	0	0	0						
	NO. TOWS	10	10	11	11	9	10	12						
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS
23MAR	SE	0	0	0	0	0	0	0						
	NO. TOWS	10	10	11	11	10	10	12						
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS
30MAR	SE	0	0	0	0	0	0	0						
	NO. TOWS	10	10	11	11	10	10	12						
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-224 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF WEAKFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
04JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
15JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
18JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
21JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
28JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
11JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
26JUL	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
06AUG-	ST. CROP	197	421	0	0	0	0	6	0	NS	NS	NS	NS	NS
08AUG	SE	197	195	0	0	0	0	6	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
20AUG-	ST. CROP	0	364	0	0	0	0	0	0	NS	NS	NS	NS	NS
22AUG	SE	0	364	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
06SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
19SEP	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS
03OCT	SE	0	0	0	0	0	0	0	0					
	NO. TOWS	6	11	13	14	13	8	10	6					

TABLE E-225 REGIONAL DENSITY (NO./1,000m3) OF WEAKFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.09	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.16	0.11	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.08	0.05	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-226 REGIONAL STANDING CROP (IN THOUSANDS) OF WEAKFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG-	ST. CROP	0	26	7	0	0	0	0	0	0	0	0	0	0	34
16AUG	SE	0	22	7	0	0	0	0	0	0	0	0	0	0	23
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG-	ST. CROP	14	0	0	0	0	0	0	0	0	0	0	0	0	14
30AUG	SE	9	0	0	0	0	0	0	0	0	0	0	0	0	9
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP-	ST. CROP	0	38	36	4	5	2	0	0	0	0	0	0	0	85
13SEP	SE	0	18	17	4	4	0	0	0	0	0	0	0	0	26
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP-	ST. CROP	7	7	0	0	0	0	0	0	0	0	0	0	0	14
27SEP	SE	7	7	0	0	0	0	0	0	0	0	0	0	0	10
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT-	ST. CROP	0	0	7	0	0	2	0	0	0	0	0	0	0	10
11OCT	SE	0	0	7	0	0	2	0	0	0	0	0	0	0	8
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT-	ST. CROP	0	4	0	0	0	0	0	0	0	0	0	0	0	4
25OCT	SE	0	4	0	0	0	0	0	0	0	0	0	0	0	4
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV-	ST. CROP	0	0	0	0	2	0	0	0	0	0	0	0	0	2
09NOV	SE	0	0	0	0	2	0	0	0	0	0	0	0	0	2
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-227 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF WEAKFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26JUL	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23AUG	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20SEP	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-228 REGIONAL STANDING CROP (IN THOUSANDS) OF WEAKFISH YEARLING AND OLDER IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS COMBINED	
													AL	
11JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
13JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
27JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
12JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
26JUL	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
09AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
23AUG	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
07SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
20SEP	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
04OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0
18OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-229 REGIONAL DENSITY (NO./1,000m3) OF BLUEFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
14MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
16MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	9	10	12						73
21MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
23MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
28MAR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	NS
30MAR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	10	10	11	11	10	10	12						74
03APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
10APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9
16APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5
23APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25APR	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
30APR-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
07MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10
14MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
21MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24MAY	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6
29MAY-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01JUN	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6

TABLE E-229 (CONT.) REGIONAL DENSITY (NO./1,000m3) OF BLUEFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-07JUN	DENSITY	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	SE	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-15JUN	DENSITY	0.00	0.51	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	SE	0.00	0.51	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-21JUN	DENSITY	0.77	0.09	0.00	0.41	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
	SE	0.77	0.09	0.00	0.21	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-28JUN	DENSITY	0.00	1.57	0.33	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
	SE	0.00	0.85	0.14	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-11JUL	DENSITY	0.36	0.00	0.71	0.00	0.00	0.00	0.00	0.27	NS	NS	NS	NS	NS	0.17
	SE	0.36	0.00	0.42	0.00	0.00	0.00	0.00	0.27						0.61
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-26JUL	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-08AUG	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-22AUG	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-06SEP	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-19SEP	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-03OCT	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	NS	NS	NS	0.00
	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-230 REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

															ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
14MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
16MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	9	10	12							73
21MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
23MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
28MAR-	ST. CROP	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	NS	0
30MAR	SE	0	0	0	0	0	0	0							0
	NO. TOWS	10	10	11	11	10	10	12							74
03APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
10APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	9	126
16APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	7	13	15	15	12	10	11	6	7	7	7	7	5	122
23APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25APR	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
30APR-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
07MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	6	13	15	15	12	6	14	10	11	7	8	8	10	135
14MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
21MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24MAY	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126
29MAY-	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01JUN	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	8	10	14	14	13	7	14	10	9	7	8	6	6	126

TABLE E-230 (CONT.) REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM LONG RIVER SURVEY, 2007

ALL REGIONS COMBINED															
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
04JUN-	ST. CROP	0	21	0	0	0	0	0	0	0	0	0	0	0	21
07JUN	SE	0	21	0	0	0	0	0	0	0	0	0	0	0	21
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
11JUN-	ST. CROP	0	117	89	0	0	0	0	0	0	0	0	0	0	205
15JUN	SE	0	117	89	0	0	0	0	0	0	0	0	0	0	147
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
18JUN-	ST. CROP	162	20	0	61	174	0	0	0	0	0	0	0	0	417
21JUN	SE	162	20	0	31	174	0	0	0	0	0	0	0	0	240
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
25JUN-	ST. CROP	0	359	107	0	115	0	0	0	0	0	0	0	0	580
28JUN	SE	0	194	44	0	53	0	0	0	0	0	0	0	0	206
	NO. TOWS	7	11	14	11	13	9	16	7	10	7	6	6	6	123
09JUL-	ST. CROP	76	0	228	0	0	0	0	80	NS	NS	NS	NS	NS	383
11JUL	SE	76	0	134	0	0	0	0	80						174
	NO. TOWS	6	11	13	14	13	8	10	6						81
24JUL-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
26JUL	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
06AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
08AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
20AUG-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
22AUG	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
04SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
06SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
17SEP-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
19SEP	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81
01OCT-	ST. CROP	0	0	0	0	0	0	0	0	NS	NS	NS	NS	NS	0
03OCT	SE	0	0	0	0	0	0	0	0						0
	NO. TOWS	6	11	13	14	13	8	10	6						81

TABLE E-231 REGIONAL DENSITY (NO./1,000m3) OF BLUEFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL
01JUL-	DENSITY	0.00	0.00	0.00	0.03	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06JUL	SE	0.00	0.00	0.00	0.03	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
16JUL-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19JUL	SE	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
30JUL-	DENSITY	0.00	0.32	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03AUG	SE	0.00	0.32	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8
13AUG-	DENSITY	0.00	0.00	0.00	0.00	0.01	0.00	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00
16AUG	SE	0.00	0.00	0.00	0.00	0.01	0.00	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
27AUG-	DENSITY	0.00	0.00	0.11	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30AUG	SE	0.00	0.00	0.11	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
10SEP-	DENSITY	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13SEP	SE	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8
24SEP-	DENSITY	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27SEP	SE	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8
08OCT-	DENSITY	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11OCT	SE	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8
22OCT-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25OCT	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8
05NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7
26NOV-	DENSITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30NOV	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8

TABLE E-232 REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM FALL JUVENILE SURVEY, 2007

														ALL REGIONS COMBINED	
DATE		BT	YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	AL	
01JUL -	ST. CROP	0	0	0	5	0	51	0	0	0	0	0	0	0	56
06JUL	SE	0	0	0	5	0	51	0	0	0	0	0	0	0	51
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
16JUL -	ST. CROP	0	0	0	0	0	48	0	0	0	0	0	0	0	48
19JUL	SE	0	0	0	0	0	48	0	0	0	0	0	0	0	48
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
30JUL -	ST. CROP	0	74	0	4	0	0	0	0	0	0	0	0	0	78
03AUG	SE	0	74	0	4	0	0	0	0	0	0	0	0	0	74
	NO. TOWS	14	18	24	23	22	22	21	22	14	10	6	6	8	210
13AUG -	ST. CROP	0	0	0	0	1	0	1	0	0	0	0	0	0	2
16AUG	SE	0	0	0	0	1	0	1	0	0	0	0	0	0	1
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
27AUG -	ST. CROP	0	0	36	5	0	0	0	0	0	0	0	0	0	41
30AUG	SE	0	0	36	5	0	0	0	0	0	0	0	0	0	37
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
10SEP -	ST. CROP	0	0	0	4	0	0	0	0	0	0	0	0	0	4
13SEP	SE	0	0	0	4	0	0	0	0	0	0	0	0	0	4
	NO. TOWS	14	18	23	22	22	23	22	22	14	10	6	6	8	210
24SEP -	ST. CROP	0	0	0	4	0	0	0	0	0	0	0	0	0	4
27SEP	SE	0	0	0	4	0	0	0	0	0	0	0	0	0	4
	NO. TOWS	14	18	25	22	22	22	22	22	14	10	6	5	8	210
08OCT -	ST. CROP	0	4	0	0	0	0	0	0	0	0	0	0	0	4
11OCT	SE	0	4	0	0	0	0	0	0	0	0	0	0	0	4
	NO. TOWS	14	18	24	22	22	22	22	22	14	10	6	6	8	210
22OCT -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25OCT	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	11	15	12	15	10	10	8	10	10	8	150
05NOV -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	14	11	15	12	15	10	10	8	10	10	7	150
26NOV -	ST. CROP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30NOV	SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO. TOWS	12	16	13	12	14	12	15	10	10	8	10	10	8	150

TABLE E-233 REGIONAL CATCH-PER-UNIT-EFFORT (CPUE) OF BLUEFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	CPUE	0.00	0.00	0.29	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
13JUN	SE	0.00	0.00	0.18	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	CPUE	0.00	2.09	0.00	0.00	3.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45
27JUN	SE	0.00	0.67	0.00	0.00	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.13
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	CPUE	1.00	2.73	2.57	0.00	1.33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80
12JUL	SE	0.58	1.55	1.38	0.00	1.33	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.72
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	CPUE	6.40	13.00	8.43	1.20	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49
26JUL	SE	5.16	6.89	6.75	0.97	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.99
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	CPUE	0.20	1.17	1.07	0.60	1.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.36
09AUG	SE	0.20	0.50	0.55	0.60	0.77	0.33	0.00	0.00	0.00	0.00	0.00	0.00	1.29
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	CPUE	0.20	0.54	0.71	0.00	0.20	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.15
23AUG	SE	0.20	0.46	0.46	0.00	0.20	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.73
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	CPUE	1.00	0.17	1.14	0.60	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.26
07SEP	SE	0.77	0.08	0.36	0.24	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.91
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	CPUE	0.40	0.25	0.14	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
20SEP	SE	0.40	0.12	0.10	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	CPUE	0.20	0.08	0.71	0.20	0.20	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.14
04OCT	SE	0.20	0.08	0.57	0.20	0.20	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.70
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	CPUE	0.00	0.08	0.07	0.20	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.07
18OCT	SE	0.00	0.06	0.07	0.20	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.55
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

TABLE E-234 REGIONAL STANDING CROP (IN THOUSANDS) OF BLUEFISH YOUNG-OF-YEAR IN HUDSON RIVER ESTUARY DETERMINED FROM
BEACH SEINE SURVEY, 2007

DATE		YK	TZ	CH	IP	WP	CW	PK	HP	KG	SG	CS	ALL REGIONS	
													AL	COMBINED
11JUN-	ST. CROP	0	0	8	9	0	0	0	0	0	0	0	0	17
13JUN	SE	0	0	5	9	0	0	0	0	0	0	0	0	10
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
25JUN-	ST. CROP	0	95	0	0	9	0	0	0	0	0	0	0	104
27JUN	SE	0	30	0	0	5	0	0	0	0	0	0	0	31
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
09JUL-	ST. CROP	8	124	69	0	4	21	0	0	0	0	0	0	225
12JUL	SE	4	70	37	0	4	11	0	0	0	0	0	0	80
	NO. TOWS	3	11	7	3	3	3	8	8	8	15	19	12	100
23JUL-	ST. CROP	48	591	227	11	2	0	0	0	0	0	0	0	879
26JUL	SE	39	313	181	9	1	0	0	0	0	0	0	0	364
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
06AUG-	ST. CROP	2	53	29	6	3	4	0	0	0	0	0	0	95
09AUG	SE	2	22	15	6	2	4	0	0	0	0	0	0	28
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
20AUG-	ST. CROP	2	25	19	0	1	2	0	0	0	0	0	0	48
23AUG	SE	2	21	12	0	1	2	0	0	0	0	0	0	24
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
04SEP-	ST. CROP	8	8	31	6	0	2	0	0	0	0	0	0	53
07SEP	SE	6	4	10	2	0	2	0	0	0	0	0	0	12
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
17SEP-	ST. CROP	3	11	4	7	0	0	0	0	0	0	0	0	26
20SEP	SE	3	6	3	3	0	0	0	0	0	0	0	0	8
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
01OCT-	ST. CROP	2	4	19	2	1	4	0	0	0	0	0	0	30
04OCT	SE	2	4	15	2	1	2	0	0	0	0	0	0	16
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100
15OCT-	ST. CROP	0	4	2	2	0	5	0	0	0	0	0	0	13
18OCT	SE	0	3	2	2	0	5	0	0	0	0	0	0	7
	NO. TOWS	5	24	14	5	5	6	5	5	5	9	10	7	100

Appendix F

Length Frequency Distribution

APPENDIX F
LIST OF TABLES

<u>Number</u>	<u>Title</u>
F-1	Length frequency distribution of larval and young-of-year striped bass in Hudson River estuary determined from Long River Survey, 2007.
F-2	Length frequency distribution of young-of-year striped bass in Hudson River estuary determined from Fall Juvenile Survey, 2007.
F-3	Length frequency distribution of young-of-year striped bass in Hudson River estuary determined from Beach Seine Survey, 2007.
F-4	Length frequency distribution of larval and young-of-year white perch in Hudson River estuary determined from Long River Survey, 2007.
F-5	Length frequency distribution of young-of-year white perch in Hudson River estuary determined from Fall Juvenile Survey, 2007.
F-6	Length frequency distribution of young-of-year white perch in Hudson River estuary determined from Beach Seine Survey, 2007.
F-7	Length frequency distribution of larval and young-of-year Atlantic tomcod in Hudson River estuary determined from Long River Survey, 2007.
F-8	Length frequency distribution of young-of-year Atlantic tomcod in Hudson River estuary determined from Fall Juvenile Survey, 2007.
F-9	Length frequency distribution of young-of-year Atlantic tomcod in Hudson River estuary determined from Beach Seine Survey, 2007.
F-10	Length frequency distribution of larval and young-of-year bay anchovy in Hudson River estuary determined from Long River Survey, 2007.
F-11	Length frequency distribution of young-of-year bay anchovy in Hudson River estuary determined from Fall Juvenile Survey, 2007.
F-12	Length frequency distribution of young-of-year bay anchovy in Hudson River estuary determined from Beach Seine Survey, 2007.
F-13	Length frequency distribution of larval and young-of-year American shad in Hudson River estuary determined from Long River Survey, 2007.
F-14	Length frequency distribution of young-of-year American shad in Hudson River estuary determined from Fall Juvenile Survey, 2007.

APPENDIX F

LIST OF TABLES (CONTINUED)

<u>Number</u>	<u>Title</u>
F-15	Length frequency distribution of young-of-year American shad in Hudson River estuary determined from Beach Seine Survey, 2007.
F-16	Length frequency distribution of young-of-year alewife in Hudson River estuary determined from Fall Juvenile Survey, 2007.
F-17	Length frequency distribution of young-of-year alewife in Hudson River estuary determined from Beach Seine Survey, 2007.
F-18	Length frequency distribution of young-of-year blueback herring in Hudson River estuary determined from Fall Juvenile Survey, 2007.
F-19	Length frequency distribution of young-of-year blueback herring in Hudson River estuary determined from Beach Seine Survey, 2007.
F-20	Length frequency distribution of young-of-year spottail shiner in Hudson River estuary determined from Fall Juvenile Survey, 2007.
F-21	Length frequency distribution of young-of-year spottail shiner in Hudson River estuary determined from Beach Seine Survey, 2007.
F-22	Length frequency distribution of young-of-year white catfish in Hudson River estuary determined from Fall Juvenile Survey, 2007.
F-23	Length frequency distribution of young-of-year white catfish in Hudson River estuary determined from Beach Seine Survey, 2007.
F-24	Length frequency distribution of young-of-year weakfish in Hudson River estuary determined from Fall Juvenile Survey, 2007.
F-25	Length frequency distribution of young-of-year weakfish in Hudson River estuary determined from Beach Seine Survey, 2007.

Table F-1 Length Frequency Distribution of Larval and Young-of-Year Striped Bass in Hudson River Estuary Determined from Long River Survey, 2007

DATES	0.0- 1.9	2.0- 3.9	4.0- 5.9	6.0- 7.9	8.0- 9.9	10.0- 11.9	12.0- 13.9	14.0- 15.9	16.0- 17.9	18.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9
14MAR - 16MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21MAR - 23MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28MAR - 30MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03APR - 06APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10APR - 13APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16APR - 19APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23APR - 25APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30APR - 02MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07MAY - 09MAY	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14MAY - 16MAY	0	171	344	60	0	0	0	0	0	0	0	0	0	0	0	0	0
21MAY - 24MAY	0	74	1061	1420	10	0	0	0	0	0	0	0	0	0	0	0	0
29MAY - 01JUN	0	12	606	1915	307	17	0	0	0	0	0	0	0	0	0	0	0
04JUN - 07JUN	0	15	500	1311	658	235	24	3	0	0	0	0	0	0	0	0	0
11JUN - 15JUN	0	10	260	912	1032	628	301	92	29	9	5	0	0	0	0	0	0
18JUN - 21JUN	0	5	79	486	773	586	304	162	84	57	53	14	2	0	0	0	0
25JUN - 28JUN	0	0	8	61	434	515	329	170	81	40	53	60	44	36	8	2	0
09JUL - 11JUL	0	0	0	1	2	10	57	40	17	7	15	30	45	26	14	19	5
24JUL - 26JUL	0	0	0	0	0	0	0	1	0	0	2	0	1	1	0	1	2
06AUG - 08AUG	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	4
20AUG - 22AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
04SEP - 06SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17SEP - 19SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01OCT - 03OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	288	2861	6166	3216	1991	1015	468	211	113	128	105	93	64	22	24	11
DATES	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9+	N	MEAN	MIN	MED	MAX	SD
14MAR - 16MAR	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
21MAR - 23MAR	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
28MAR - 30MAR	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
03APR - 06APR	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
10APR - 13APR	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
16APR - 19APR	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
23APR - 25APR	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
30APR - 02MAY	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
07MAY - 09MAY	0	0	0	0	0	0	0	0	0	0	0	4	4.6	3.8	4.7	5.2	0.6
14MAY - 16MAY	0	0	0	0	0	0	0	0	0	0	0	575	4.6	2.8	4.5	7.0	0.9
21MAY - 24MAY	0	0	0	0	0	0	0	0	0	0	0	2565	6.0	2.8	6.0	8.5	0.8
29MAY - 01JUN	0	0	0	0	0	0	0	0	0	0	0	2857	6.7	3.5	6.6	10.9	1.1
04JUN - 07JUN	0	0	0	0	0	0	0	0	0	0	0	2746	7.4	2.8	7.2	14.8	1.7
11JUN - 15JUN	0	0	0	0	0	0	0	0	0	0	0	3278	9.1	2.8	8.8	22.0	2.5
18JUN - 21JUN	0	0	0	0	0	0	0	0	0	0	0	2605	10.6	2.4	9.8	32.0	3.6
25JUN - 28JUN	0	0	0	0	0	0	0	0	0	0	0	1841	13.5	5.3	11.5	45.0	6.4
09JUL - 11JUL	3	0	0	0	0	0	0	0	0	0	0	291	25.2	7.8	23.0	56.0	12.0
24JUL - 26JUL	1	2	0	1	0	0	0	0	0	0	0	12	44.6	14.3	50.5	71.0	19.0
06AUG - 08AUG	2	2	0	0	1	1	0	1	0	0	0	14	56.2	25.0	54.0	93.0	18.9
20AUG - 22AUG	2	2	3	0	0	1	2	0	0	0	0	12	66.5	48.0	65.0	88.0	13.7
04SEP - 06SEP	0	0	1	1	0	0	0	0	0	0	0	2	68.0	66.0	68.0	70.0	2.8
17SEP - 19SEP	2	0	1	5	4	4	0	1	3	0	1	21	79.5	57.0	79.0	105.0	13.1
01OCT - 03OCT	2	0	1	2	1	0	1	1	0	0	0	8	73.8	57.0	73.5	91.0	12.6
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	12	6	6	9	6	6	3	3	3	0	1	16831					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-2 Length Frequency Distribution of Young-of-Year Striped Bass in Hudson River Estuary Determined from Fall Juvenile Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9
01JUL-06JUL	49	17	6	17	27	7	12	5	1	1	1	0	0	0	0	0
16JUL-19JUL	6	6	0	1	5	7	12	15	8	9	9	1	1	0	0	0
30JUL-03AUG	0	0	1	0	5	5	7	10	17	14	9	10	2	1	2	0
13AUG-16AUG	0	0	0	1	1	1	3	4	9	11	16	17	16	13	8	7
27AUG-30AUG	0	0	0	0	0	0	1	4	4	4	11	12	16	12	14	5
10SEP-13SEP	0	0	0	0	0	0	0	1	2	6	6	9	15	21	9	14
24SEP-27SEP	0	0	0	0	0	0	0	0	0	2	7	4	6	8	16	19
08OCT-11OCT	0	0	0	0	0	0	0	1	1	2	7	7	9	9	10	15
22OCT-25OCT	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	2
05NOV-09NOV	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	0
26NOV-30NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	55	23	7	19	38	20	35	40	42	49	66	60	67	66	67	66
DATES	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9	130.0- 134.9	135.0- 139.9+	N	MEAN	MIN	MED	MAX	SD
01JUL-06JUL	0	0	0	0	0	0	0	0	0	0	144	24.3	9.0	23.5	61.0	12.0
16JUL-19JUL	0	0	0	0	0	0	0	0	0	0	82	43.7	11.0	47.0	71.0	15.4
30JUL-03AUG	1	0	0	0	0	0	0	0	0	0	86	53.8	22.0	53.0	92.0	12.5
13AUG-16AUG	3	1	2	0	0	0	0	0	0	0	116	67.2	29.0	66.5	102.0	13.9
27AUG-30AUG	10	7	5	1	1	0	1	0	0	0	108	76.5	43.0	75.0	121.0	15.4
10SEP-13SEP	13	7	5	5	1	3	1	0	0	0	120	81.1	48.0	79.0	122.0	15.4
24SEP-27SEP	16	6	7	2	2	1	2	2	1	0	101	86.7	56.0	87.0	130.0	15.0
08OCT-11OCT	5	3	4	2	5	1	0	0	0	0	81	81.9	48.0	82.0	118.0	15.1
22OCT-25OCT	2	3	2	2	0	0	1	0	0	0	15	94.6	71.0	95.0	124.0	12.7
05NOV-09NOV	1	1	0	0	0	0	0	0	0	1	10	87.6	74.0	81.5	135.0	18.1
26NOV-30NOV	1	2	2	1	3	2	2	0	2	1	22	105.5	81.0	105.5	135.0	17.0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====					
	52	30	27	13	12	7	7	2	3	2	885					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-3 Length Frequency Distribution of Young-of-Year Striped Bass in Hudson River Estuary Determined from Beach Seine Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9
11JUN-13JUN	8	30	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25JUN-27JUN	0	10	30	43	32	31	12	0	0	0	0	0	0	0	0	0	0
09JUL-12JUL	0	1	0	10	12	26	35	31	25	8	1	1	0	0	0	0	0
23JUL-26JUL	0	0	0	1	3	17	17	12	24	22	12	15	15	2	1	0	0
06AUG-09AUG	0	0	0	0	1	6	16	20	30	20	18	12	12	10	3	6	0
20AUG-23AUG	0	0	0	0	0	0	4	7	8	29	18	19	33	10	11	6	2
04SEP-07SEP	0	0	0	0	0	0	0	8	9	19	21	23	27	16	16	9	9
17SEP-20SEP	0	0	0	0	0	0	0	1	7	12	12	13	15	14	15	24	14
01OCT-04OCT	0	0	0	0	0	0	0	0	1	2	8	19	25	17	17	24	13
15OCT-18OCT	0	0	0	0	0	0	0	0	0	3	6	21	22	18	18	14	14
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	8	41	56	54	48	80	84	79	104	115	96	123	149	87	81	83	52
DATES	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9	130.0- 134.9	135.0- 139.9	140.0- 144.9	145.0- 149.9+	N	MEAN	MIN	MED	MAX	SD
11JUN-13JUN	0	0	0	0	0	0	0	0	0	0	0	64	18.0	12.0	18.0	24.0	3.0
25JUN-27JUN	0	0	0	0	0	0	0	0	0	0	0	158	29.1	16.0	28.0	43.0	6.9
09JUL-12JUL	0	0	0	0	0	0	0	0	0	0	0	150	42.7	18.0	43.0	67.0	8.1
23JUL-26JUL	0	0	0	0	0	0	0	0	0	0	0	148	54.3	26.0	54.5	80.0	11.8
06AUG-09AUG	0	0	0	0	0	0	0	0	0	0	0	159	57.6	33.0	56.0	89.0	12.5
20AUG-23AUG	2	3	0	0	0	0	0	0	0	0	0	159	66.8	42.0	66.0	104.0	12.4
04SEP-07SEP	7	1	1	0	0	0	0	0	0	0	0	167	70.8	45.0	70.0	107.0	13.3
17SEP-20SEP	18	5	3	4	1	0	0	0	0	0	0	159	79.5	46.0	80.0	115.0	15.5
01OCT-04OCT	12	8	7	3	4	0	0	1	0	0	0	165	82.6	54.0	81.0	132.0	14.9
15OCT-18OCT	10	14	6	5	2	3	0	3	0	1	0	161	84.9	57.0	82.0	144.0	17.1
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	49	31	17	12	7	3	0	4	0	1	0	1490					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-4 Length Frequency Distribution of Larval and Young-of-Year White Perch in Hudson River Estuary Determined from Long River Survey, 2007

DATES	0.0- 1.9	2.0- 3.9	4.0- 5.9	6.0- 7.9	8.0- 9.9	10.0- 11.9	12.0- 13.9	14.0- 15.9	16.0- 17.9	18.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9
14MAR - 16MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21MAR - 23MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28MAR - 30MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03APR - 06APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10APR - 13APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16APR - 19APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23APR - 25APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30APR - 02MAY	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07MAY - 09MAY	0	77	55	0	0	0	0	0	0	0	0	0	0	0
14MAY - 16MAY	0	451	268	0	0	0	0	0	0	0	0	0	0	0
21MAY - 24MAY	0	418	1009	17	0	0	0	0	0	0	0	0	0	0
29MAY - 01JUN	0	428	849	369	8	1	0	0	0	0	0	0	0	0
04JUN - 07JUN	0	285	710	621	335	23	1	0	0	0	0	0	0	0
11JUN - 15JUN	0	205	712	826	423	60	4	0	0	0	0	0	0	0
18JUN - 21JUN	0	30	373	694	529	184	54	6	5	2	1	1	0	0
25JUN - 28JUN	0	2	36	291	696	233	71	20	1	1	1	0	0	0
09JUL - 11JUL	0	0	0	3	9	2	9	9	0	0	0	1	1	0
24JUL - 26JUL	0	0	0	0	0	1	1	0	0	0	1	1	0	0
06AUG - 08AUG	0	0	0	0	0	0	0	0	0	0	1	0	0	1
20AUG - 22AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04SEP - 06SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17SEP - 19SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01OCT - 03OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	1896	4013	2821	2000	504	140	35	6	3	4	3	1	1
DATES	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9+	N	MEAN	MIN	MED	MAX	SD	
14MAR - 16MAR	0	0	0	0	0	0	0	0	.	.	.	.	.
21MAR - 23MAR	0	0	0	0	0	0	0	0	.	.	.	.	.
28MAR - 30MAR	0	0	0	0	0	0	0	0	.	.	.	.	.
03APR - 06APR	0	0	0	0	0	0	0	0	.	.	.	.	.
10APR - 13APR	0	0	0	0	0	0	0	0	.	.	.	.	.
16APR - 19APR	0	0	0	0	0	0	0	0	.	.	.	.	.
23APR - 25APR	0	0	0	0	0	0	0	0	.	.	.	.	.
30APR - 02MAY	0	0	0	0	0	0	0	1	4.1	4.1	4.1	4.1	.	
07MAY - 09MAY	0	0	0	0	0	0	0	132	3.8	2.8	3.9	4.5	0.3	
14MAY - 16MAY	0	0	0	0	0	0	0	719	3.8	2.4	3.8	5.0	0.4	
21MAY - 24MAY	0	0	0	0	0	0	0	1444	4.2	2.3	4.1	7.7	0.5	
29MAY - 01JUN	0	0	0	0	0	0	0	1655	4.9	2.5	4.5	10.0	1.2	
04JUN - 07JUN	0	0	0	0	0	0	0	1975	6.1	2.5	5.9	12.3	1.8	
11JUN - 15JUN	0	0	0	0	0	0	0	2230	6.4	2.5	6.4	12.5	1.8	
18JUN - 21JUN	0	0	0	0	0	0	0	1879	7.7	3.3	7.5	26.0	2.2	
25JUN - 28JUN	0	0	0	0	0	0	0	1352	9.0	3.1	8.9	21.5	1.8	
09JUL - 11JUL	0	0	0	0	0	0	0	34	12.8	6.6	13.3	31.0	5.2	
24JUL - 26JUL	0	0	0	0	0	0	0	4	18.3	10.9	17.6	27.0	8.0	
06AUG - 08AUG	0	0	0	0	0	0	0	2	30.0	24.0	30.0	36.0	8.5	
20AUG - 22AUG	0	0	0	0	0	1	0	1	67.0	67.0	67.0	67.0	.	
04SEP - 06SEP	0	0	0	0	0	0	0	0	.	.	.	.	.
17SEP - 19SEP	0	0	0	0	0	0	0	0	.	.	.	.	.
01OCT - 03OCT	0	0	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====	=====	=====						
	0	0	0	0	0	1	0	11428						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-5 Length Frequency Distribution of Young-of-Year White Perch in Hudson River Estuary Determined from Fall Juvenile Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9
01JUL-06JUL	9	2	0	0	0	0	0	0	0	0	0	0	0
16JUL-19JUL	2	1	2	0	0	0	0	0	0	0	0	0	0
30JUL-03AUG	0	1	3	3	4	1	5	1	0	0	0	0	0
13AUG-16AUG	0	0	0	1	3	4	3	2	0	0	0	1	0
27AUG-30AUG	0	0	0	0	0	1	2	5	0	0	0	1	1
10SEP-13SEP	0	0	0	0	0	0	1	5	8	6	3	3	1
24SEP-27SEP	0	0	0	0	0	0	0	1	0	2	1	2	1
08OCT-11OCT	0	0	0	0	0	0	0	1	2	2	5	6	1
22OCT-25OCT	0	0	0	0	0	0	0	0	0	0	3	4	2
05NOV-09NOV	0	0	0	0	0	0	0	0	0	2	2	3	2
26NOV-30NOV	0	0	0	0	0	0	0	0	0	0	0	0	3
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	11	4	5	4	7	6	11	15	10	12	14	20	11
DATES	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9+	N	MEAN	MIN	MED	MAX	SD
01JUL-06JUL	0	0	0	0	0	0	0	11	13.0	11.0	13.0	16.0	1.7
16JUL-19JUL	0	0	0	0	0	0	0	5	16.8	13.0	15.0	22.0	4.4
30JUL-03AUG	0	0	0	0	0	0	0	18	31.9	19.0	30.0	47.0	8.7
13AUG-16AUG	0	0	0	0	0	0	0	14	40.0	29.0	38.0	66.0	9.0
27AUG-30AUG	0	0	0	0	0	0	0	10	48.9	37.0	45.0	71.0	11.1
10SEP-13SEP	0	1	0	0	0	0	0	28	55.8	40.0	54.5	81.0	8.8
24SEP-27SEP	0	0	0	0	0	0	0	7	61.3	47.0	61.0	71.0	8.1
08OCT-11OCT	3	2	3	2	1	0	0	32	69.7	48.0	66.5	95.0	12.8
22OCT-25OCT	0	0	2	1	2	2	0	17	77.8	60.0	70.0	102.0	15.5
05NOV-09NOV	1	1	3	3	6	1	0	24	81.3	56.0	85.5	100.0	14.3
26NOV-30NOV	1	3	6	23	11	2	0	49	90.5	72.0	92.0	102.0	6.7
	=====	=====	=====	=====	=====	=====	=====	=====					
	5	7	14	29	20	5	0	215					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-6 Length Frequency Distribution of Young-of-Year White Perch in Hudson River Estuary Determined from Beach Seine Survey, 2007

	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9
DATES													
11JUN-13JUN	0	0	0	0	0	1	1	0	0	0	0	0	0
25JUN-27JUN	0	3	8	3	9	6	0	4	4	0	0	0	0
09JUL-12JUL	0	0	1	22	10	5	7	6	6	1	0	0	0
23JUL-26JUL	0	0	0	2	7	21	31	26	23	14	5	5	0
06AUG-09AUG	0	0	0	0	1	1	5	12	30	25	7	9	0
20AUG-23AUG	0	0	0	0	0	1	0	0	5	6	6	19	26
04SEP-07SEP	0	0	0	0	0	0	0	0	0	1	3	1	5
17SEP-20SEP	0	0	0	0	0	0	0	0	0	1	3	1	5
01OCT-04OCT	0	0	0	0	0	0	0	0	0	1	2	0	4
15OCT-18OCT	0	0	0	0	0	0	0	0	0	0	4	3	8
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	3	9	27	27	35	44	48	68	49	30	38	48
DATES	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9+	N	MEAN	MIN	MED	MAX	SD	
11JUN-13JUN	0	0	0	0	0	0	2	39.0	37.0	39.0	41.0	2.8	
25JUN-27JUN	0	0	0	0	0	0	37	32.9	17.0	32.0	54.0	10.9	
09JUL-12JUL	0	0	0	0	0	0	58	35.5	24.0	32.5	59.0	9.2	
23JUL-26JUL	1	0	0	0	0	0	136	46.6	25.0	45.0	75.0	9.1	
06AUG-09AUG	2	1	0	0	0	0	95	55.0	34.0	54.0	82.0	8.2	
20AUG-23AUG	10	4	0	0	0	0	78	68.4	39.0	70.0	82.0	8.0	
04SEP-07SEP	10	20	7	3	0	0	50	79.1	57.0	81.0	90.0	7.7	
17SEP-20SEP	18	18	14	4	0	0	66	78.9	55.0	81.0	91.0	8.0	
01OCT-04OCT	5	10	9	8	2	0	41	82.8	57.0	84.0	95.0	9.1	
15OCT-18OCT	5	10	10	14	3	0	57	81.7	61.0	83.0	96.0	9.6	
	=====	=====	=====	=====	=====	=====	=====						
	51	63	40	29	5	0	620						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-7 Length Frequency Distribution of Larval and Young-of-Year Atlantic Tomcod in Hudson River Estuary Determined from Long River Survey, 2007

	0.0- 1.9	2.0- 3.9	4.0- 5.9	6.0- 7.9	8.0- 9.9	10.0- 11.9	12.0- 13.9	14.0- 15.9	16.0- 17.9	18.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9
DATES	1.9	3.9	5.9	7.9	9.9	11.9	13.9	15.9	17.9	19.9	24.9	29.9	34.9	39.9	44.9	49.9	54.9	59.9	64.9
	0	0	0	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14MAR-16MAR	0	1	7	406	167	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21MAR-23MAR	0	0	3	176	176	3	0	0	0	0	0	0	0	0	0	0	0	0	0
28MAR-30MAR	0	0	0	68	187	28	3	0	0	0	0	0	0	0	0	0	0	0	0
03APR-06APR	0	0	0	14	55	120	13	0	0	0	0	0	0	0	0	0	0	0	0
10APR-13APR	0	0	0	14	66	139	190	52	7	0	0	0	0	0	0	0	0	0	0
16APR-19APR	0	0	0	1	3	31	112	67	9	0	0	0	0	0	0	0	0	0	0
23APR-25APR	0	0	0	0	2	2	7	19	60	61	26	0	0	0	0	0	0	0	0
30APR-02MAY	0	0	0	0	0	5	9	19	43	101	246	12	0	0	0	0	0	0	0
07MAY-09MAY	0	0	0	0	0	0	1	0	0	3	26	152	127	16	0	0	0	0	0
14MAY-16MAY	0	0	0	0	0	0	0	1	1	1	6	53	148	93	15	0	0	0	0
21MAY-24MAY	0	0	0	0	0	0	0	0	0	0	2	4	11	28	54	88	52	10	0
29MAY-01JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	45	82	82	20
04JUN-07JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	24	33	15
11JUN-15JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	14	11
18JUN-21JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	10	14
25JUN-28JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
09JUL-11JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
24JUL-26JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06AUG-08AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20AUG-22AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04SEP-06SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17SEP-19SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01OCT-03OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	1	10	683	664	328	335	158	120	166	306	221	286	137	93	138	166	149	62
DATES	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9+	N	MEAN	MIN	MED	MAX	SD	
	0	0	0	0	0	0	0	0	0	0	0	0	12	8.3	7.4	8.3	9.3	0.6	
14MAR-16MAR	0	0	0	0	0	0	0	0	0	0	0	0	581	7.6	3.7	7.6	9.6	0.7	
21MAR-23MAR	0	0	0	0	0	0	0	0	0	0	0	0	358	8.0	5.5	8.0	10.4	0.8	
28MAR-30MAR	0	0	0	0	0	0	0	0	0	0	0	0	286	8.7	6.9	8.7	12.5	1.0	
03APR-06APR	0	0	0	0	0	0	0	0	0	0	0	0	202	10.2	6.9	10.4	12.7	1.3	
10APR-13APR	0	0	0	0	0	0	0	0	0	0	0	0	468	11.9	6.4	12.1	17.2	1.9	
16APR-19APR	0	0	0	0	0	0	0	0	0	0	0	0	223	13.4	7.9	13.4	17.3	1.5	
23APR-25APR	0	0	0	0	0	0	0	0	0	0	0	0	177	17.8	9.7	17.9	23.7	2.3	
30APR-02MAY	0	0	0	0	0	0	0	0	0	0	0	0	435	20.4	11.1	20.7	26.8	2.8	
07MAY-09MAY	0	0	0	0	0	0	0	0	0	0	0	0	325	29.2	13.5	29.4	38.0	3.4	
14MAY-16MAY	0	0	0	0	0	0	0	0	0	0	0	0	318	33.0	14.0	33.0	43.0	4.1	
21MAY-24MAY	0	0	0	0	0	0	0	0	0	0	0	0	251	45.2	21.8	46.0	60.0	6.4	
29MAY-01JUN	6	2	0	0	0	0	0	0	0	0	0	0	266	53.3	40.0	53.0	73.0	6.0	
04JUN-07JUN	16	5	3	1	0	0	0	0	0	0	0	0	111	58.9	41.0	58.0	80.0	7.3	
11JUN-15JUN	19	27	10	4	1	0	0	0	0	0	0	0	93	67.2	50.0	67.0	85.0	7.9	
18JUN-21JUN	17	10	13	5	1	0	0	0	0	0	0	0	74	67.5	49.0	67.0	87.0	8.4	
25JUN-28JUN	2	8	15	12	10	1	0	1	0	0	0	0	51	78.8	54.0	79.0	104.0	7.9	
09JUL-11JUL	3	9	29	23	23	7	3	3	1	1	0	0	103	82.4	63.0	82.0	110.0	8.1	
24JUL-26JUL	1	1	3	7	1	3	2	0	0	0	0	0	18	83.2	65.0	81.5	97.0	7.9	
06AUG-08AUG	1	1	3	5	9	3	1	1	1	0	0	0	25	85.7	69.0	86.0	107.0	8.1	
20AUG-22AUG	0	0	0	1	0	0	0	0	0	1	1	0	3	103.7	81.0	111.0	119.0	20.0	
04SEP-06SEP	0	0	0	0	0	1	0	0	0	0	0	0	1	93.0	93.0	93.0	93.0	.	
17SEP-19SEP	0	0	0	1	0	1	0	0	1	1	0	0	4	97.5	84.0	98.0	110.0	12.5	
01OCT-03OCT	0	0	0	0	0	0	0	0	1	0	2	0	3	107.7	101.0	110.0	112.0	5.9	
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	65	63	76	59	45	16	6	6	3	5	1	0	4388						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-8 Length Frequency Distribution of Young-of-Year Atlantic Tomcod in Hudson River Estuary Determined from Fall Juvenile Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9
01JUL-06JUL	0	0	0	0	0	0	0	0	0	0	0	2	13	26	29	18	16	4
16JUL-19JUL	0	0	0	0	0	0	0	0	1	0	1	0	4	13	26	8	8	9
30JUL-03AUG	0	0	0	0	0	0	0	0	0	0	0	1	1	9	18	6	14	8
13AUG-16AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	6	3
27AUG-30AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	16	10	8
10SEP-13SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	9	7	6
24SEP-27SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	8	6
08OCT-11OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	3
22OCT-25OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1
05NOV-09NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26NOV-30NOV	0	0	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	1	3	18	53	89	66	77	48
DATES	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9	130.0- 134.9	135.0- 139.9	140.0- 144.9	145.0- 149.9	150.0- 154.9	155.0- 159.9+	N	MEAN	MIN	MED	MAX	SD
01JUL-06JUL	0	0	0	0	0	0	0	0	0	0	0	0	108	82.1	69.0	82.0	98.0	6.9
16JUL-19JUL	4	5	2	0	0	0	0	0	0	0	0	0	81	86.4	53.0	83.0	111.0	10.9
30JUL-03AUG	6	5	4	4	0	0	0	0	0	0	0	0	76	91.2	68.0	90.0	118.0	12.1
13AUG-16AUG	5	3	7	0	0	0	0	0	0	0	0	0	32	97.7	75.0	99.0	113.0	11.3
27AUG-30AUG	4	3	2	1	0	0	0	0	0	0	0	0	51	92.8	76.0	92.0	119.0	9.0
10SEP-13SEP	5	8	8	4	6	2	2	0	0	0	0	0	64	102.3	77.0	101.5	133.0	14.6
24SEP-27SEP	7	1	5	1	1	2	0	1	0	0	0	0	38	101.1	81.0	98.5	135.0	13.0
08OCT-11OCT	6	5	4	12	1	2	0	0	0	0	0	0	40	106.9	86.0	107.5	126.0	10.4
22OCT-25OCT	0	1	1	2	1	1	0	1	0	0	0	0	11	109.5	86.0	111.0	137.0	16.0
05NOV-09NOV	0	0	0	0	0	1	1	1	2	1	0	1	7	140.0	126.0	142.0	155.0	10.3
26NOV-30NOV	0	0	0	0	0	0	1	1	0	0	0	0	2	133.0	130.0	133.0	136.0	4.2
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====					
	37	31	33	24	9	8	4	4	2	1	0	1	510					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-9 Length Frequency Distribution of Young-of-Year Atlantic Tomcod in Hudson River Estuary Determined from Beach Seine Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9
11JUN-13JUN	0	0	0	0	0	0	0	0	0	0
25JUN-27JUN	0	0	0	0	0	0	0	0	0	0
09JUL-12JUL	0	0	0	0	0	0	0	0	0	0
23JUL-26JUL	0	0	0	0	0	0	0	0	0	0
06AUG-09AUG	0	0	0	0	0	0	0	0	0	0
20AUG-23AUG	0	0	0	0	0	0	0	0	0	0
04SEP-07SEP	0	0	0	0	0	0	0	0	0	0
17SEP-20SEP	0	0	0	0	0	0	0	0	0	0
01OCT-04OCT	0	0	0	0	0	0	0	0	0	0
15OCT-18OCT	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	0	0	0	0	0
DATES	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9+	N	MEAN	MIN	MED	MAX	SD
11JUN-13JUN	0	0	1	1	2	72.5	70.0	72.5	75.0	3.5
25JUN-27JUN	0	0	0	0	0	.	.	.	.	.
09JUL-12JUL	0	0	0	0	0	.	.	.	.	.
23JUL-26JUL	0	0	0	0	0	.	.	.	.	.
06AUG-09AUG	0	0	0	0	0	.	.	.	.	.
20AUG-23AUG	0	0	0	0	0	.	.	.	.	.
04SEP-07SEP	0	0	0	0	0	.	.	.	.	.
17SEP-20SEP	0	0	0	0	0	.	.	.	.	.
01OCT-04OCT	0	0	0	0	0	.	.	.	.	.
15OCT-18OCT	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====					
	0	0	1	1	2					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-10 Length Frequency Distribution of Larval and Young-of-Year Bay Anchovy in Hudson River Estuary Determined from Long River Survey, 2007

DATES	0.0- 1.9	2.0- 3.9	4.0- 5.9	6.0- 7.9	8.0- 9.9	10.0- 11.9	12.0- 13.9	14.0- 15.9	16.0- 17.9	18.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9
14MAR - 16MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21MAR - 23MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28MAR - 30MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03APR - 06APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10APR - 13APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16APR - 19APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23APR - 25APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30APR - 02MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07MAY - 09MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14MAY - 16MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21MAY - 24MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29MAY - 01JUN	0	44	20	0	0	0	0	0	0	0	0	0	0	0
04JUN - 07JUN	0	48	253	31	0	0	0	0	0	0	0	0	0	0
11JUN - 15JUN	0	85	489	518	365	110	27	2	0	0	0	0	0	0
18JUN - 21JUN	0	2	102	369	444	437	292	94	25	8	0	0	0	0
25JUN - 28JUN	0	8	118	224	301	414	406	384	256	157	56	0	0	0
09JUL - 11JUL	0	4	35	168	281	336	307	258	186	193	376	218	14	0
24JUL - 26JUL	0	1	13	62	100	233	232	268	179	179	324	296	184	55
06AUG - 08AUG	0	1	31	78	46	41	43	68	132	143	390	240	382	379
20AUG - 22AUG	0	0	5	21	55	117	122	119	105	93	392	451	183	220
04SEP - 06SEP	0	0	2	32	59	56	54	98	110	125	323	235	274	323
17SEP - 19SEP	0	0	0	6	43	77	70	52	67	65	414	214	164	300
01OCT - 03OCT	0	0	0	0	0	6	20	34	42	45	123	207	222	240
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	193	1068	1509	1694	1827	1573	1377	1102	1008	2398	1861	1423	1517
DATES	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9+	N	MEAN	MIN	MED	MAX	SD	
14MAR - 16MAR	1	0	0	0	0	0	0	1	40.0	40.0	40.0	40.0	.	
21MAR - 23MAR	0	0	0	0	0	0	0	0	.	.	.	.	.
28MAR - 30MAR	0	0	0	0	0	0	0	0	.	.	.	.	.
03APR - 06APR	0	0	0	0	0	0	0	0	.	.	.	.	.
10APR - 13APR	0	0	0	0	0	0	0	0	.	.	.	.	.
16APR - 19APR	0	0	0	0	0	0	0	0	.	.	.	.	.
23APR - 25APR	0	0	0	0	0	0	0	0	.	.	.	.	.
30APR - 02MAY	0	0	0	0	0	0	0	0	.	.	.	.	.
07MAY - 09MAY	0	0	0	0	0	0	0	0	.	.	.	.	.
14MAY - 16MAY	0	0	0	0	0	0	0	0	.	.	.	.	.
21MAY - 24MAY	0	0	0	0	0	0	0	0	.	.	.	.	.
29MAY - 01JUN	0	0	0	0	0	0	0	64	3.7	2.7	3.6	5.4	0.6	
04JUN - 07JUN	0	0	0	0	0	0	0	332	4.9	2.3	4.9	7.9	0.8	
11JUN - 15JUN	0	0	0	0	0	0	0	1596	6.9	2.4	6.7	14.4	2.1	
18JUN - 21JUN	0	0	0	0	0	0	0	1773	9.9	3.7	9.8	19.3	2.7	
25JUN - 28JUN	0	0	0	0	0	0	0	2324	12.4	3.4	12.4	24.6	4.0	
09JUL - 11JUL	1	0	0	0	0	0	0	2377	15.5	3.3	14.4	43.0	6.1	
24JUL - 26JUL	17	0	0	0	0	0	0	2143	19.3	3.1	17.8	44.0	7.7	
06AUG - 08AUG	120	32	4	0	0	0	0	2130	26.4	3.7	26.8	53.0	9.9	
20AUG - 22AUG	89	62	34	10	1	0	0	2079	25.5	4.7	25.1	61.0	10.3	
04SEP - 06SEP	191	61	50	22	0	0	0	2017	28.2	5.4	28.0	60.0	11.2	
17SEP - 19SEP	258	85	40	32	13	4	1	1908	29.8	6.2	28.0	70.0	11.8	
01OCT - 03OCT	367	173	57	22	7	1	0	1568	35.2	10.1	37.0	66.0	10.2	
	=====	=====	=====	=====	=====	=====	=====	=====						
	1044	413	185	86	21	5	1	20312						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-11 Length Frequency Distribution of Young-of-Year Bay Anchovy in Hudson River Estuary Determined from Fall Juvenile Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9+	N	MEAN	MIN	MED	MAX	SD
01JUL-06JUL	14	47	53	22	0	0	0	0	0	0	0	0	0	140	19.5	7.0	20.0	28.0	4.6
16JUL-19JUL	2	21	75	68	24	5	0	1	0	0	0	0	0	196	24.8	13.0	24.5	47.0	4.9
30JUL-03AUG	0	3	19	24	57	50	16	4	0	0	0	0	0	173	32.4	15.0	33.0	49.0	6.3
13AUG-16AUG	0	1	11	39	68	50	23	1	1	0	0	0	0	194	32.9	16.0	33.0	51.0	5.6
27AUG-30AUG	0	2	9	25	59	55	23	6	3	0	0	0	0	182	34.0	15.0	34.0	52.0	6.2
10SEP-13SEP	0	0	13	18	37	61	43	8	8	1	0	0	0	189	36.2	21.0	37.0	55.0	6.9
24SEP-27SEP	0	0	8	23	30	39	64	13	10	1	0	0	0	188	37.2	21.0	38.5	55.0	7.2
08OCT-11OCT	0	0	0	8	28	49	76	27	8	0	0	0	0	196	39.5	26.0	40.0	53.0	5.6
22OCT-25OCT	0	0	0	0	1	4	2	2	1	1	0	1	0	12	43.8	32.0	41.0	67.0	9.9
05NOV-09NOV	0	0	0	0	0	0	0	1	0	0	0	0	0	2	52.5	45.0	52.5	60.0	10.6
26NOV-30NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	16	74	188	227	304	313	247	63	31	3	0	1	0	1472					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-12 Length Frequency Distribution of Young-of-Year Bay Anchovy in Hudson River Estuary Determined from Beach Seine Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9+	N	MEAN	MIN	MED	MAX	SD
11JUN-13JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
25JUN-27JUN	0	0	1	1	1	1	1	0	0	0	0	0	5	31.4	22.0	33.0	41.0	7.5
09JUL-12JUL	0	4	3	5	1	1	0	0	0	0	0	0	14	24.6	17.0	24.0	38.0	6.1
23JUL-26JUL	0	0	0	0	4	2	0	0	0	0	0	0	6	33.8	31.0	33.0	38.0	2.6
06AUG-09AUG	0	0	0	1	8	5	2	1	1	0	0	0	18	36.2	27.0	34.5	50.0	6.2
20AUG-23AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
04SEP-07SEP	0	0	2	4	2	5	7	0	0	0	0	0	20	34.9	24.0	38.0	44.0	7.2
17SEP-20SEP	0	0	0	0	2	9	9	8	1	2	2	0	33	43.4	31.0	40.0	62.0	7.5
01OCT-04OCT	0	0	0	1	5	5	4	10	6	3	0	0	34	43.8	28.0	45.5	58.0	8.7
15OCT-18OCT	0	0	0	1	4	7	8	7	4	2	1	0	34	43.1	28.0	42.5	62.0	8.3
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	4	6	13	27	35	31	26	12	7	3	0	164					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-13 Length Frequency Distribution of Larval and Young-of-Year American Shad in Hudson River Estuary Determined from Long River Survey, 2007

DATES	0.0- 1.9	2.0- 3.9	4.0- 5.9	6.0- 7.9	8.0- 9.9	10.0- 11.9	12.0- 13.9	14.0- 15.9	16.0- 17.9	18.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9
14MAR - 16MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21MAR - 23MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28MAR - 30MAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03APR - 06APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10APR - 13APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16APR - 19APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23APR - 25APR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30APR - 02MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07MAY - 09MAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14MAY - 16MAY	0	0	0	0	1	11	0	0	0	0	0	0	0	0	0
21MAY - 24MAY	0	0	0	0	8	8	3	1	0	0	0	0	0	0	0
29MAY - 01JUN	0	0	0	0	0	10	7	2	1	1	0	0	0	0	0
04JUN - 07JUN	0	0	0	0	0	0	2	1	1	0	4	0	0	0	0
11JUN - 15JUN	0	0	0	0	0	0	0	0	0	1	11	11	1	0	0
18JUN - 21JUN	0	0	0	0	0	0	0	0	0	0	0	2	4	3	2
25JUN - 28JUN	0	0	0	0	0	0	0	0	0	0	3	1	3	2	3
09JUL - 11JUL	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
24JUL - 26JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06AUG - 08AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20AUG - 22AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04SEP - 06SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17SEP - 19SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01OCT - 03OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	9	29	12	4	2	2	18	17	8	5	5
DATES	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9+	N	MEAN	MIN	MED	MAX	SD
14MAR - 16MAR	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
21MAR - 23MAR	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
28MAR - 30MAR	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
03APR - 06APR	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
10APR - 13APR	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
16APR - 19APR	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
23APR - 25APR	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
30APR - 02MAY	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
07MAY - 09MAY	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
14MAY - 16MAY	0	0	0	0	0	0	0	0	0	12	10.9	8.2	11.1	11.7	0.9
21MAY - 24MAY	0	0	0	0	0	0	0	0	0	20	10.5	8.2	10.1	14.5	1.8
29MAY - 01JUN	0	0	0	0	0	0	0	0	0	21	12.5	10.4	12.2	18.2	2.0
04JUN - 07JUN	0	0	0	0	0	0	0	0	0	8	18.0	12.7	18.9	23.7	4.3
11JUN - 15JUN	0	0	0	0	0	0	0	0	0	24	24.7	18.8	24.8	30.0	2.9
18JUN - 21JUN	1	0	0	0	0	0	0	0	0	12	35.1	28.3	34.5	48.0	5.9
25JUN - 28JUN	0	1	1	1	0	0	0	0	0	15	37.2	21.1	35.0	61.0	12.2
09JUL - 11JUL	0	0	1	0	0	0	0	0	0	4	35.8	28.0	29.0	57.0	14.2
24JUL - 26JUL	0	0	0	0	5	0	0	1	1	7	72.1	65.0	69.0	85.0	8.6
06AUG - 08AUG	0	0	0	0	0	1	1	0	0	2	73.5	72.0	73.5	75.0	2.1
20AUG - 22AUG	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
04SEP - 06SEP	0	0	0	0	0	0	0	1	0	1	80.0	80.0	80.0	80.0	.
17SEP - 19SEP	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
01OCT - 03OCT	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====					
	1	1	2	1	5	1	1	2	1	126					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-14 Length Frequency Distribution of Young-of-Year American Shad in Hudson River Estuary Determined from Fall Juvenile Survey, 2007

	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9
01JUL -06JUL	0	0	0	0	0	0	2	0	1	8	3	1	0	0	0
16JUL -19JUL	0	0	0	0	0	0	0	0	0	1	3	1	1	0	0
30JUL -03AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13AUG -16AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
27AUG -30AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10SEP -13SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24SEP -27SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08OCT -11OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22OCT -25OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05NOV -09NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26NOV -30NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	0	2	0	1	9	6	2	1	0	1
DATES	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9+	N	MEAN	MIN	MED	MAX	SD	
01JUL -06JUL	0	0	0	0	0	0	0	0	18	57.2	41.0	57.5	66.0	6.1	
16JUL -19JUL	0	0	0	0	0	0	0	0	6	64.2	59.0	63.0	70.0	4.4	
30JUL -03AUG	0	0	0	0	0	0	0	0	0	.	.	.	.	.
13AUG -16AUG	2	0	0	0	0	0	0	0	3	83.3	80.0	85.0	85.0	2.9	
27AUG -30AUG	0	0	1	0	0	0	0	0	1	97.0	97.0	97.0	97.0	.	
10SEP -13SEP	0	0	0	1	0	0	1	0	2	107.5	100.0	107.5	115.0	10.6	
24SEP -27SEP	3	1	1	5	0	0	1	0	11	97.4	85.0	100.0	115.0	9.0	
08OCT -11OCT	2	0	0	0	0	0	0	1	3	98.3	87.0	88.0	120.0	18.8	
22OCT -25OCT	0	0	0	0	0	0	0	0	0	.	.	.	.	.
05NOV -09NOV	0	0	0	0	0	0	0	0	0	.	.	.	.	.
26NOV -30NOV	0	0	0	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====	=====	=====	=====						
	7	1	2	6	0	0	2	1	44						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-15 Length Frequency Distribution of Young-of-Year American Shad in Hudson River Estuary Determined from Beach Seine Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9
11JUN-13JUN	0	1	5	8	7	2	1	1	0	0	0	0	0	0
25JUN-27JUN	0	0	0	1	15	15	15	11	3	1	0	0	0	0
09JUL-12JUL	0	0	0	0	0	2	4	10	15	41	7	3	0	0
23JUL-26JUL	0	0	0	0	0	0	0	1	4	11	23	27	7	0
06AUG-09AUG	0	0	0	0	0	0	0	0	0	0	4	13	16	10
20AUG-23AUG	0	0	0	0	0	0	0	0	0	0	0	0	18	27
04SEP-07SEP	0	0	0	0	0	0	0	0	0	0	0	1	1	13
17SEP-20SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01OCT-04OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15OCT-18OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	1	5	9	22	19	20	23	22	53	34	44	42	50
DATES	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9+	N	MEAN	MIN	MED	MAX	SD
11JUN-13JUN	0	0	0	0	0	0	0	0	25	28.4	19.0	29.0	45.0	6.3
25JUN-27JUN	0	0	0	0	0	0	0	0	61	39.7	29.0	39.0	57.0	6.4
09JUL-12JUL	0	0	0	0	0	0	0	0	85	54.8	38.0	56.0	68.0	6.2
23JUL-26JUL	0	0	0	0	0	0	0	0	75	63.1	49.0	64.0	71.0	5.2
06AUG-09AUG	2	0	0	0	0	0	0	0	45	71.2	62.0	72.0	80.0	4.5
20AUG-23AUG	32	3	1	0	0	0	0	0	81	78.8	71.0	79.0	90.0	4.3
04SEP-07SEP	25	8	1	1	0	0	0	0	50	81.5	68.0	82.0	97.0	4.7
17SEP-20SEP	8	17	12	3	1	0	0	0	41	88.3	80.0	88.0	100.0	4.7
01OCT-04OCT	4	10	12	9	3	2	0	0	40	92.4	83.0	91.0	106.0	5.9
15OCT-18OCT	1	0	9	5	6	1	1	0	23	96.3	84.0	95.0	113.0	6.6
	=====	=====	=====	=====	=====	=====	=====	=====	=====					
	72	38	35	18	10	3	1	0	526					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-16 Length Frequency Distribution of Young-of-Year Alewife in Hudson River Estuary Determined from Fall Juvenile Survey, 2007

	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9
01JUL -06JUL	0	0	0	0	0	0	45	25	12	2	0	0	0	0	0
16JUL -19JUL	0	0	0	0	0	0	8	14	13	11	2	0	0	0	0
30JUL -03AUG	0	0	0	0	0	0	5	8	4	5	4	1	2	2	0
13AUG -16AUG	0	0	0	0	0	0	1	0	4	5	9	7	6	1	1
27AUG -30AUG	0	0	0	0	0	0	1	3	4	4	5	0	1	0	1
10SEP -13SEP	0	0	0	0	0	0	0	2	8	11	12	8	3	1	0
24SEP -27SEP	0	0	0	0	0	0	0	0	0	5	4	14	8	5	4
08OCT -11OCT	0	0	0	0	0	0	0	0	0	2	3	4	7	5	5
22OCT -25OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05NOV -09NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26NOV -30NOV	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	0	60	52	45	45	39	34	29	15	11
DATES	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9+	N	MEAN	MIN	MED	MAX	SD	
01JUL -06JUL	0	0	0	0	0	0	0	0	84	45.2	41.0	44.0	55.0	3.7	
16JUL -19JUL	0	0	0	0	0	0	0	0	48	50.4	41.0	50.0	64.0	5.6	
30JUL -03AUG	0	0	0	0	0	0	0	0	31	54.3	41.0	54.0	76.0	10.0	
13AUG -16AUG	0	0	0	0	0	0	0	0	35	62.8	41.0	63.0	80.0	8.2	
27AUG -30AUG	1	0	0	0	0	0	0	0	20	58.7	42.0	55.0	87.0	11.4	
10SEP -13SEP	1	1	0	1	0	0	0	0	51	62.4	47.0	61.0	102.0	10.2	
24SEP -27SEP	3	0	0	0	0	0	0	0	43	70.1	56.0	69.0	88.0	8.5	
08OCT -11OCT	1	1	0	0	2	0	1	0	32	76.0	56.0	74.0	118.0	13.9	
22OCT -25OCT	2	2	0	0	0	0	0	0	4	90.0	86.0	90.0	94.0	3.7	
05NOV -09NOV	0	0	0	0	0	0	0	0	0	.	.	.	.	.
26NOV -30NOV	0	0	0	0	1	0	0	0	4	82.3	71.0	75.5	107.0	16.9	
	=====	=====	=====	=====	=====	=====	=====	=====	=====						
	8	4	0	1	3	0	1	0	352						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-17 Length Frequency Distribution of Young-of-Year Alewife in Hudson River Estuary Determined from Beach Seine Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9
11JUN-13JUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25JUN-27JUN	0	0	0	0	0	0	17	4	2	1	0	0	0	0	0
09JUL-12JUL	0	0	0	0	0	0	33	32	13	7	0	0	0	1	0
23JUL-26JUL	0	0	0	0	0	1	20	28	36	21	9	1	2	1	0
06AUG-09AUG	0	0	0	0	0	0	2	16	24	18	8	4	1	0	1
20AUG-23AUG	0	0	0	0	0	0	0	0	3	17	20	16	3	1	1
04SEP-07SEP	0	0	0	0	0	0	0	0	1	4	20	21	10	7	0
17SEP-20SEP	0	0	0	0	0	0	0	0	1	5	15	8	9	7	4
01OCT-04OCT	0	0	0	0	0	0	0	0	0	0	11	11	10	4	4
15OCT-18OCT	0	0	0	0	0	0	0	0	0	4	7	13	2	7	7
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	1	72	80	80	77	90	74	37	28	17
DATES	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9+	N	MEAN	MIN	MED	MAX	SD
11JUN-13JUN	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
25JUN-27JUN	0	0	0	0	0	0	0	0	0	24	44.3	41.0	42.5	59.0	4.5
09JUL-12JUL	0	0	0	0	0	0	0	0	0	86	46.7	41.0	46.0	77.0	5.6
23JUL-26JUL	2	1	0	0	0	0	0	0	0	126	52.7	39.0	52.0	94.0	9.0
06AUG-09AUG	0	0	0	0	0	0	0	0	0	78	54.9	41.0	53.5	81.0	6.9
20AUG-23AUG	0	2	0	0	0	1	0	1	0	67	64.9	51.0	63.0	122.0	11.8
04SEP-07SEP	0	0	0	0	0	0	0	0	0	66	66.6	53.0	66.5	79.0	5.6
17SEP-20SEP	0	0	0	0	0	0	0	0	0	50	67.6	54.0	66.5	83.0	7.5
01OCT-04OCT	1	1	0	0	0	0	0	0	0	42	70.3	61.0	69.0	90.0	7.1
15OCT-18OCT	1	1	3	1	0	0	0	0	0	47	72.6	55.0	69.0	101.0	11.5
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====					
	4	5	3	1	0	1	0	1	0	586					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-18 Length Frequency Distribution of Young-of-Year Blueback Herring in Hudson River Estuary Determined from Fall Juvenile Survey, 2007

	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9
DATES													
01JUL -06JUL	0	0	0	0	0	0	14	17	4	0	0	0	0
16JUL -19JUL	0	0	0	0	0	0	38	25	12	3	0	0	0
30JUL -03AUG	0	0	0	0	0	0	16	34	42	16	1	0	0
13AUG -16AUG	0	0	0	0	0	0	5	17	14	10	0	0	0
27AUG -30AUG	0	0	0	0	0	0	0	6	20	17	0	0	0
10SEP -13SEP	0	0	0	0	0	0	0	1	8	23	5	2	0
24SEP -27SEP	0	0	0	0	0	0	0	0	15	22	5	4	0
08OCT -11OCT	0	0	0	0	0	0	0	1	1	4	5	12	6
22OCT -25OCT	0	0	0	0	0	0	0	0	0	1	0	0	0
05NOV -09NOV	0	0	0	0	0	0	0	0	0	0	0	0	0
26NOV -30NOV	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	0	73	101	116	96	16	18	6
DATES	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9+	N	MEAN	MIN	MED	MAX	SD	
01JUL -06JUL	0	0	0	0	0	0	35	45.3	41.0	45.0	53.0	3.1	
16JUL -19JUL	0	0	0	0	0	0	78	45.6	41.0	45.0	57.0	4.1	
30JUL -03AUG	0	0	0	0	0	0	110	50.0	41.0	50.0	63.0	4.5	
13AUG -16AUG	0	0	0	0	0	0	47	50.0	41.0	50.0	60.0	4.7	
27AUG -30AUG	0	0	0	0	0	0	43	53.0	48.0	52.0	59.0	3.2	
10SEP -13SEP	1	0	0	0	0	0	42	57.8	49.0	57.5	77.0	5.2	
24SEP -27SEP	0	1	0	0	0	0	52	57.6	50.0	56.0	80.0	5.1	
08OCT -11OCT	0	0	0	0	0	0	30	64.5	49.0	66.0	72.0	5.8	
22OCT -25OCT	0	0	0	0	1	0	2	76.0	55.0	76.0	97.0	29.7	
05NOV -09NOV	0	0	0	0	0	0	0	.	.	.	.	.
26NOV -30NOV	0	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====	=====						
	1	1	0	0	1	0	439						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-19 Length Frequency Distribution of Young-of-Year Blueback Herring in Hudson River Estuary Determined from Beach Seine Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9
11JUN-13JUN	0	0	0	0	0	0	0	0	0	0	0	0
25JUN-27JUN	0	0	0	0	0	0	22	0	0	0	0	0
09JUL-12JUL	0	0	0	0	0	0	43	18	7	1	0	0
23JUL-26JUL	0	0	0	0	0	3	22	29	22	10	1	0
06AUG-09AUG	0	0	0	0	0	0	3	42	25	17	5	1
20AUG-23AUG	0	0	0	0	0	0	0	6	25	26	4	0
04SEP-07SEP	0	0	0	0	0	0	0	2	17	42	11	3
17SEP-20SEP	0	0	0	0	0	0	1	1	26	25	4	1
01OCT-04OCT	0	0	0	0	0	0	0	1	13	17	9	13
15OCT-18OCT	0	0	0	0	0	0	0	2	4	13	1	9
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	3	91	101	139	151	35	27
DATES	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9+	N	MEAN	MIN	MED	MAX	SD
11JUN-13JUN	0	0	0	0	0	0	0	.	.	.	.	.
25JUN-27JUN	0	0	0	0	0	0	22	41.6	40.0	41.0	44.0	1.1
09JUL-12JUL	0	0	0	0	0	0	69	44.4	41.0	43.0	56.0	3.6
23JUL-26JUL	0	0	0	0	0	0	88	48.3	36.0	48.0	63.0	5.5
06AUG-09AUG	0	0	0	0	0	0	94	51.2	41.0	50.0	66.0	5.0
20AUG-23AUG	0	0	0	0	0	0	62	54.3	45.0	54.5	64.0	4.0
04SEP-07SEP	1	0	0	0	0	0	78	57.1	49.0	56.5	73.0	4.2
17SEP-20SEP	0	0	1	0	0	0	66	55.7	43.0	55.0	81.0	5.1
01OCT-04OCT	7	0	0	0	0	1	68	61.2	48.0	60.0	95.0	7.4
15OCT-18OCT	15	4	0	0	0	0	48	64.3	47.0	66.5	79.0	8.6
	=====	=====	=====	=====	=====	=====	=====					
	23	4	1	0	0	1	595					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-20 Length Frequency Distribution of Young-of-Year Spottail Shiner in Hudson River Estuary Determined from Fall Juvenile Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9
01JUL - 06JUL	0	0	0	1	0	0	0	0	0	0	0
16JUL - 19JUL	0	0	0	0	0	0	0	0	0	0	0
30JUL - 03AUG	0	0	0	0	0	0	0	0	0	0	0
13AUG - 16AUG	0	0	0	0	0	0	0	0	0	0	0
27AUG - 30AUG	0	0	0	0	0	0	0	0	0	0	0
10SEP - 13SEP	0	0	0	0	0	0	0	0	0	0	0
24SEP - 27SEP	0	0	0	0	0	0	0	0	0	0	0
08OCT - 11OCT	0	0	0	0	0	0	0	0	0	0	0
22OCT - 25OCT	0	0	0	0	0	0	0	0	0	0	0
05NOV - 09NOV	0	0	0	0	0	0	0	0	0	0	0
26NOV - 30NOV	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	1	0	0	0	0	0	0	0
DATES	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9+	N	MEAN	MIN	MED	MAX	SD
01JUL - 06JUL	0	0	0	0	0	1	27.0	27.0	27.0	27.0	.
16JUL - 19JUL	0	0	0	0	0	0	.	.	.	.	.
30JUL - 03AUG	0	0	0	0	0	0	.	.	.	.	.
13AUG - 16AUG	0	0	0	0	0	0	.	.	.	.	.
27AUG - 30AUG	0	0	0	0	0	0	.	.	.	.	.
10SEP - 13SEP	0	0	0	0	0	0	.	.	.	.	.
24SEP - 27SEP	0	1	0	0	0	1	70.0	70.0	70.0	70.0	.
08OCT - 11OCT	0	0	0	1	0	1	83.0	83.0	83.0	83.0	.
22OCT - 25OCT	0	0	0	0	0	0	.	.	.	.	.
05NOV - 09NOV	1	0	0	0	0	1	65.0	65.0	65.0	65.0	.
26NOV - 30NOV	0	0	1	0	0	1	79.0	79.0	79.0	79.0	.
	=====	=====	=====	=====	=====	=====					
	1	1	1	1	0	5					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-21 Length Frequency Distribution of Young-of-Year Spottail Shiner in Hudson River Estuary Determined from Beach Seine Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9
11JUN-13JUN	6	15	0	0	0	1	0	0	0	0	0
25JUN-27JUN	0	4	21	10	3	0	0	0	0	0	0
09JUL-12JUL	0	0	1	4	22	11	8	3	0	0	0
23JUL-26JUL	0	0	0	0	0	15	42	24	8	10	1
06AUG-09AUG	0	0	0	0	0	1	7	15	25	17	4
20AUG-23AUG	0	0	0	0	0	0	5	11	15	13	8
04SEP-07SEP	0	0	0	0	0	0	0	2	1	6	2
17SEP-20SEP	0	0	0	0	0	0	0	4	4	5	8
01OCT-04OCT	0	0	0	0	0	0	0	0	1	0	3
15OCT-18OCT	0	0	0	0	0	0	0	0	0	2	5
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	6	19	22	14	25	28	62	59	54	53	31
DATES	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9+	N	MEAN	MIN	MED	MAX	SD
11JUN-13JUN	0	0	0	0	0	22	16.2	12.0	15.0	39.0	5.2
25JUN-27JUN	0	0	0	0	0	38	23.7	18.0	23.0	33.0	3.7
09JUL-12JUL	0	0	0	0	0	49	34.6	24.0	33.0	45.0	5.3
23JUL-26JUL	0	0	0	0	0	100	45.1	36.0	44.0	63.0	5.7
06AUG-09AUG	2	0	0	0	0	72	52.2	38.0	53.0	66.0	6.2
20AUG-23AUG	16	1	0	0	0	69	56.5	40.0	56.0	70.0	8.0
04SEP-07SEP	14	14	3	0	0	42	66.5	49.0	68.0	78.0	7.2
17SEP-20SEP	18	15	9	1	0	66	66.0	45.0	67.0	81.0	8.8
01OCT-04OCT	8	6	11	14	1	44	74.9	52.0	77.5	85.0	7.5
15OCT-18OCT	13	17	12	7	0	59	71.1	58.0	72.0	82.0	6.7
	=====	=====	=====	=====	=====	=====					
	71	53	35	22	1	561					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-22 Length Frequency Distribution of Young-of-Year White Catfish in Hudson River Estuary Determined from Fall Juvenile Survey, 2007

	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9
01JUL -06JUL	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
16JUL -19JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30JUL -03AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13AUG -16AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27AUG -30AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10SEP -13SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24SEP -27SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08OCT -11OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22OCT -25OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05NOV -09NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26NOV -30NOV	0	0	0	0	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
DATES	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9+	N	MEAN	MIN	MED	MAX	SD	
01JUL -06JUL	0	0	0	0	0	0	0	0	2	20.5	20.0	20.5	21.0	0.7	
16JUL -19JUL	0	0	0	0	0	0	0	0	0	.	.	.	.	.
30JUL -03AUG	0	0	0	0	0	0	0	0	0	.	.	.	.	.
13AUG -16AUG	0	0	0	0	0	0	0	0	0	.	.	.	.	.
27AUG -30AUG	0	0	0	0	0	0	0	0	0	.	.	.	.	.
10SEP -13SEP	3	1	0	0	0	0	0	0	4	88.3	85.0	89.0	90.0	2.2	
24SEP -27SEP	0	0	0	0	0	0	0	0	0	.	.	.	.	.
08OCT -11OCT	0	0	0	0	0	1	0	1	2	117.0	114.0	117.0	120.0	4.2	
22OCT -25OCT	0	0	0	0	1	0	0	0	1	105.0	105.0	105.0	105.0	.	
05NOV -09NOV	0	1	1	0	0	0	0	0	2	93.0	90.0	93.0	96.0	4.2	
26NOV -30NOV	0	0	0	2	0	0	0	0	2	102.5	102.0	102.5	103.0	0.7	
	=====	=====	=====	=====	=====	=====	=====	=====	=====						
	3	2	1	2	1	1	0	1	13						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-23 Length Frequency Distribution of Young-of-Year White Catfish in Hudson River Estuary Determined from Beach Seine Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9+	N	MEAN	MIN	MED	MAX	SD
11JUN-13JUN	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
25JUN-27JUN	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
09JUL-12JUL	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
23JUL-26JUL	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
06AUG-09AUG	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
20AUG-23AUG	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
04SEP-07SEP	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
17SEP-20SEP	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
01OCT-04OCT	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
15OCT-18OCT	0	0	0	0	0	0	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====					
	0	0	0	0	0	0	0	0	0	0	0	0					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-24 Length Frequency Distribution of Young-of-Year Weakfish in Hudson River Estuary Determined from Fall Juvenile Survey, 2007

	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9
DATES														
01JUL-06JUL	14	11	23	13	16	9	3	1	1	0	0	0	0	0
16JUL-19JUL	1	0	0	2	6	10	13	11	18	20	10	4	2	0
30JUL-03AUG	0	0	0	0	1	3	3	13	15	6	11	17	21	13
13AUG-16AUG	0	0	0	0	0	0	1	2	4	3	5	13	10	5
27AUG-30AUG	0	0	0	0	0	0	0	0	1	4	3	3	8	9
10SEP-13SEP	0	0	0	0	0	0	0	0	0	1	0	2	10	8
24SEP-27SEP	0	0	0	0	0	0	0	1	0	0	0	0	3	1
08OCT-11OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22OCT-25OCT	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05NOV-09NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26NOV-30NOV	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	15	11	23	15	23	22	20	28	39	34	29	39	54	37
DATES	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9	110.0- 114.9	115.0- 119.9	120.0- 124.9	125.0- 129.9	130.0- 134.9	135.0- 139.9	140.0- 144.9	145.0- 149.9
01JUL-06JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16JUL-19JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30JUL-03AUG	5	2	1	0	1	2	0	0	0	0	0	0	0	0
13AUG-16AUG	7	0	3	1	4	3	2	0	0	0	0	0	0	0
27AUG-30AUG	9	11	9	5	2	1	2	3	0	1	1	0	0	0
10SEP-13SEP	12	15	10	12	6	10	14	4	1	3	0	0	2	2
24SEP-27SEP	3	7	15	13	14	7	5	4	4	2	1	1	2	1
08OCT-11OCT	0	3	2	7	7	12	8	9	5	2	4	4	1	0
22OCT-25OCT	1	0	2	2	1	3	13	4	2	1	3	1	0	0
05NOV-09NOV	0	0	0	0	0	0	1	0	2	0	1	0	0	0
26NOV-30NOV	0	0	0	1	0	1	0	1	1	0	0	0	1	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	37	38	42	41	35	39	45	25	15	9	10	6	6	3
DATES	150.0- 154.9	155.0- 159.9	160.0- 164.9	165.0- 169.9	170.0- 174.9	175.0- 179.9	180.0- 184.9+	N	MEAN	MIN	MED	MAX	SD	
01JUL-06JUL	0	0	0	0	0	0	0	96	23.8	6.0	22.5	51.0	9.8	
16JUL-19JUL	0	0	0	0	0	0	0	99	49.5	13.0	51.0	72.0	11.0	
30JUL-03AUG	0	0	0	0	0	0	0	116	63.9	30.0	65.0	106.0	14.2	
13AUG-16AUG	0	0	0	0	0	0	0	66	73.5	42.0	70.5	111.0	16.5	
27AUG-30AUG	0	0	0	0	0	0	0	74	83.4	51.0	84.0	134.0	16.8	
10SEP-13SEP	0	0	0	0	0	0	0	112	95.1	57.0	93.0	147.0	17.7	
24SEP-27SEP	1	1	0	0	0	1	0	87	102.9	46.0	100.0	178.0	20.1	
08OCT-11OCT	0	0	0	0	0	0	0	64	111.2	85.0	110.0	143.0	13.9	
22OCT-25OCT	0	0	0	0	1	0	0	35	112.7	76.0	112.0	172.0	17.1	
05NOV-09NOV	0	0	0	1	0	0	0	5	131.0	112.0	124.0	167.0	21.1	
26NOV-30NOV	0	0	0	0	0	0	0	5	115.6	95.0	116.0	140.0	17.1	
	=====	=====	=====	=====	=====	=====	=====	=====						
	1	1	0	1	1	1	0	759						

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation

Table F-25 Length Frequency Distribution of Young-of-Year Weakfish in Hudson River Estuary Determined from Beach Seine Survey, 2007

DATES	10.0- 14.9	15.0- 19.9	20.0- 24.9	25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9
11JUN-13JUN	0	0	0	0	0	0	0	0	0	0	0	0	0
25JUN-27JUN	0	0	0	0	0	0	0	0	0	0	0	0	0
09JUL-12JUL	0	0	0	0	0	0	0	0	0	0	0	1	0
23JUL-26JUL	0	0	0	0	0	0	0	0	0	0	1	1	1
06AUG-09AUG	0	0	0	0	0	0	0	0	0	0	0	0	0
20AUG-23AUG	0	0	0	0	0	0	0	0	0	0	0	0	0
04SEP-07SEP	0	0	0	0	0	0	0	0	0	0	0	0	0
17SEP-20SEP	0	0	0	0	0	0	0	0	0	0	0	0	0
01OCT-04OCT	0	0	0	0	0	0	0	0	0	0	0	0	0
15OCT-18OCT	0	0	0	0	0	0	0	0	0	0	0	0	0
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
	0	0	0	0	0	0	0	0	0	0	1	2	1
DATES	75.0- 79.9	80.0- 84.9	85.0- 89.9	90.0- 94.9	95.0- 99.9	100.0- 104.9	105.0- 109.9+	N	MEAN	MIN	MED	MAX	SD
11JUN-13JUN	0	0	0	0	0	0	0	0	.	.	.	.	.
25JUN-27JUN	0	0	0	0	0	0	0	0	.	.	.	.	.
09JUL-12JUL	0	0	0	0	0	0	0	1	65.0	65.0	65.0	65.0	.
23JUL-26JUL	0	0	0	0	3	2	0	8	86.9	63.0	95.5	103.0	16.3
06AUG-09AUG	0	0	0	0	0	0	0	0	.	.	.	.	.
20AUG-23AUG	0	0	0	0	0	0	0	0	.	.	.	.	.
04SEP-07SEP	0	0	0	0	0	0	0	0	.	.	.	.	.
17SEP-20SEP	0	0	0	0	0	0	0	0	.	.	.	.	.
01OCT-04OCT	0	0	0	0	0	0	0	0	.	.	.	.	.
15OCT-18OCT	0	0	0	0	0	0	0	0	.	.	.	.	.
	=====	=====	=====	=====	=====	=====	=====	=====					
	0	0	0	0	3	2	0	9					

NOTE: Lengths are total lengths in mm, N = Number of lengths, MEAN = Mean length, MIN = Minimum length, MED = Median length, MAX = Maximum length, SD = Standard deviation