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Juvenile Finfish and Blue Crab Stock Assessment Program Bottom Trawl Survey Annual Data Summary Report Series Volume 1993

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DELAWARE

Annual Data Summary Report Series

Volume 1993

By

Patrick J. Geer

Christopher F. Bonzek

Herbert M. Austin

Special Scientific Report
No. 124 Volume 1993

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Dennis L. Taylor, Dean and Director

April 1994

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vol. 124
1993

JUVENILE FINFISH AND BLUE CRAB STOCK ASSESSMENT PROGRAM
BOTTOM TRAWL SURVEY
ANNUAL DATA SUMMARY REPORT SERIES
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Special Scientific Report No. 124 Volume 1993
College of William and Mary
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Virginia Institute of Marine Science
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April 1994

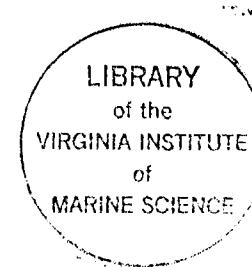


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EXECUTIVE SUMMARY

The Virginia Institute of Marine Science (VIMS) has conducted a trawl survey dating back to 1955. Over these forty years methods and objectives have varied according to funding sources and state and/or federal mandates. The present thrust of the program is to provide juvenile indices of relative abundance for recreationally, commercially, and ecologically important finfish and invertebrates. These measures of juvenile abundance are widely used as a key element in the management of the Atlantic States' coastal fishery resources. Estimates of juveniles (age-0) have been found to provide a reliable and early indicator of future year class strength. A review of previously available indices of juvenile abundance for important fishery resource species of the Chesapeake Bay by the Chesapeake Bay Stock Assessment Committee (CBSAC), a federal/state committee sponsored and funded by the National Oceanic and Atmospheric Administration (NOAA), resulted in the recommendation that, "a unified, consistent trawl program should be one of the primary monitoring tools for finfish and crab stock assessment." (Chesapeake Bay Program Stock Assessment Plan, Chesapeake Executive Council 1988).

There were several notable results in the survey this year. Two groups of invertebrates were officially added to the collection list. The penaeid shrimp are only of minor significance in Chesapeake Bay, but in certain years (1991) their abundance has been high enough to rank in the top twenty species caught. The squid species of the family Lologinidae have been included due to their overall abundance in the main stem bay (ranked 11th overall), Atlantic coast commercial value, and ecological factors. Both these groups of species were collected in past years but on an inconsistent basis. Other results worth mentioning include a large increase in the scup abundance, over six times that of the previous year. Although older summer flounder appeared abundant, there was a substantial decrease in juvenile abundance near the historic low of 1988. The blue crab population continues to be depressed, although catch rates were slightly higher than in recent years. In the tributaries, there has been a marked increase in young-of-the-year (YOY) striped bass and white perch which began in November and continued into the early months of 1994. Atmospherically, 1993 included a mild winter followed by an unusually cool, wet spring. The summer was one of drought conditions and record highs, making it the second hottest summer in recorded history.

The purpose of this summary is to provide an accurate account of trawl survey sampling performed during the calendar year 1993. Previous volumes of this series have served as excellent reference guides to resource managers, scientists, academics, as well as the general public. Since there are other venues which presently detail specific results of these data (Geer et al, 1993), conclusions are kept at a minimum in order to provide the most information in the available space.

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INTRODUCTION

This report summarizes data collected by the Virginia Institute of Marine Science (VIMS) monthly trawl survey cruises for January-December 1993. The trawl survey is a long term, broad scope monitoring program. Its primary goal is to produce annual indices of juvenile (mostly young-of-year) abundance of commercially, recreationally and ecologically important marine and estuarine finfish and invertebrates. The objective is to provide indices of sufficient accuracy and precision for both immediate resource management needs and long-term understanding of environmental influences on fishery resources. A second important product of this effort is the documentation and monitoring of habitat utilization by juveniles and smaller adults of these species. The program also provides a sound framework for the procurement of biological samples for life history studies and other concurrent scientific investigations relevant to fisheries resource management.

In order to facilitate the implementation of such a program, CBSAC has subsequently encouraged and directly supported pilot studies to develop a comprehensive Bay-wide trawl survey. In the Virginia portion of Chesapeake Bay the primary focus of this support was the initiation of a monthly trawl survey of the lower bay beginning January 1988. This greatly expanded the program and directly complimented the monthly trawl surveys of the major Virginia tributaries (James, York and Rappahannock rivers), which began in 1964, 1955 and 1962 respectively. These programs have continued with only slight modifications, mainly the addition of a solely dedicated research platform, the R/V Fish Hawk, in September 1990.

At present the program consists of a monthly random stratified design survey of the lower Chesapeake Bay initiated in 1988 (Chittenden, 1989) and fixed station mid-channel transects in each of the three major Virginia tributaries: the York, James, and Rappahannock rivers (Wojcik and Van Engel, 1988a, 1988b, 1989). The river survey is based upon a sampling program initiated in 1955. Changes in gear type and sampling methods used over the history of the survey are summarized in Figure 1.

The following tables and figures include data for all finfish and selected invertebrates (blue crabs, penaeid shrimp, and squid species) caught during 1993. The shrimp and squid species have been examined inconsistently in the past, with 1993 being the first year specimens have routinely been processed. The squid species include those of the family Lologinidae and consist mainly of long-finned squid, *Loligo pealei*, with a few brief squid, *Lolliguncula brevis*. Data are also presented showing station locations, atmospheric and hydrographic data collected at each station.

METHODS

All sampling was performed aboard the research vessel FISH HAWK. The sampling gear was a 30' semi-balloon otter trawl (Marinovich Gulf Shrimp Trawl) with 1½" stretch mesh body, a ¼" mesh cod end liner, attached tickler chain, 60' bridle length, and a 3:1 warp, using steel china-v doors (28" x 19"). The tow duration was five minutes bottom time at a speed of approximately 2½ knots. A sample day was defined as the period between sunrise and sunset.

At each station, station identification, beginning and ending latitude and longitude, depth, tidal stage, secchi depth, tow direction (upstream vs. downstream and relative to current), beginning and ending time, tow duration, air temperature, wind direction, wind speed, weather conditions, and sea state were recorded. Surface and bottom hydrographic data (temperature, salinity, and dissolved oxygen), were recorded immediately following the tow at a depth consistent with that of the trawling depth. Onboard processing of catches involved separating them according to species, and measuring individual lengths (to the nearest millimeter). For fish species, all lengths were taken as fork lengths unless no fork was present for a given species, in which case total length was measured. For blue crabs, point-to-point carapace width was measured (called long carapace width), the penaeid shrimp were measured for total length while the squid species were measured for mantle length. These data were entered directly into computer files using electronic measuring boards. Subsampling was performed when large homogeneous catches of a species were made. On these occasions, a subsampling protocol was followed with enumeration of the discarded sample taking priority over subsampling by volume. When subsampling was performed by volume the total weights of the discarded sample and of the subsample were taken and the individual fish in the subsample were enumerated and measured. Average weight per fish was then estimated from the subsample (total subsample weight ÷ total subsample number). Number of fish in the discarded catch was estimated by dividing total discarded weight by calculated average weight. Station and environmental data were recorded first on paper and later transferred to the computer database. A sample data sheet appears in Appendix A.

Chesapeake Bay Survey

The sampling design in the main stem bay was based on stratification by latitude and water depth. The bay was latitudinally divided into four 15 minute blocks (segments) labeled bottom (below 37°10'N), lower (37°10'-37°25'N), upper (37°25'-37°40'N), and top (above 37°40'N). Within each segment, depth strata were defined as eastern shore shoal areas (12-30 ft), western shore shoal areas (12-30 ft), plain areas (30-42 ft), and deep areas (>42 ft), resulting in a total of 16 strata. A map of the strata appears in Appendix B. The northern most portion of Virginia's waters (i.e. Top Bay) has not been sampled since 1988 because of funding constraints.

Station selection for each cruise was made randomly through use of the National Ocean Survey's Chesapeake Bay bathymetric grid system computerized files. This system contains position and depth records at ¼ mile intervals, the same distance as the average tow length.

Four stations were selected monthly for sampling in each plain stratum and three stations for each deep strata. During warm months (May through November) three stations were sampled in each shoal strata; during cold months (January through April, and December) only two shoal stations were sampled per strata.

Previous cruises have indicated few species occupy the main stem Chesapeake Bay during winter months. With this in mind a combined January/February cruise was conducted for the Bay in 1992 to better allocate our sampling resources. Further investigation indicated no significant difference in abundance for several key species during the months of January through March (Geer, unpublished). As a result a single Bay cruise in February was conducted in 1993 to represented the period from January through March.

River Survey

The fixed mid-channel river stations were defined at approximate 5-mile intervals from the river mouths to approximately the freshwater interface. Generally one tow was made at each station each month. A second tow, opposite in direction, was made at selected *blue crab index stations* during the warm months (May through November). During the cold months additional stations were occupied upstream to extend the range of the survey, enabling better monitoring of some anadromous species.

RESULTS

Catch data in this report represent total numbers caught. Average weight is given for some fish but not for blue crabs. Generally weights were not taken in the field except for subsampling purposes. As weights were only taken on specimens returned to the lab and those specimens tended to be smaller individuals (larger individuals were generally released) the average weights presented in this report (Tables 46-142) are probably biased downward. For some species, representative samples were brought back to the laboratory in order to establish accurate weight estimates and length-weight relationships. The effort to establish length-weight relationships will be expanded in the future so that biomass estimates of the trawl catch can be presented along with abundance estimates.

Figures 2-13 show the locations of the stations occupied each month in 1993. Table 1 shows the codes used for the various hydrographic and atmospheric parameters. The corresponding station information is located in Tables 2-13 (river survey) and Tables 14-23 (bay survey). The hydrographic and atmospheric data for the river survey is found in Tables 24-35, and for the bay in Tables 36-45.

Figures 14-44 geographically illustrate catch by month and station for the predominant species (the 18 most abundant finfish species - historically, three categories of blue crabs, plus other species of interest, arranged alphabetically) over the entire sampling area. These figures provide a helpful synopsis for showing temporal and geographic distribution of these species.

Figures 45-75 provide monthly length-frequency summaries for the above selected species. These graphs and accompanying statistics are useful in separating young of the year from older fish since the age of each fish is not taken. Calendar year is not the optimal way to present such data for species that spawn late in the year, however the figures are presented this way for convenience and consistency.

Catch, catch per unit effort (CPUE), and length statistics for the data pooled from both surveys for the entire year are in Table 46. Similar data for the river survey only, by river, pooled over months is presented in Tables 47-50. Likewise, data for the Chesapeake Bay survey only, by segment, pooled by months is shown in Tables 51-54. Tables 55-102 contain analogous data summaries by month and river for the river trawl survey and Tables 103-142 by month and segment for the Chesapeake Bay survey.

There were several notable results in the survey this year. Reasons for including the squid species in these summaries involved their potential as food source for larger fish species, their predation on larval and small juvenile finfish, and their minor commercial value to the Atlantic coast. Inclusion seems justified since they were the eleventh most abundant species overall, and fourth abundant in the bottom bay segment. Other results worth mentioning include a large increase in the scup abundance, over six times that of the previous year. Although older summer flounder appeared abundant, there was a substantial decrease in juvenile abundance as compared with recent years. Preliminary calculations indicate the juvenile

abundance to be near the historical low set in 1988. The blue crab population continues to be depressed, although catch rates were slightly higher than in recent years. In the tributaries, there has been a marked increase in YOY striped bass and white perch which began in November and continued into the early months of 1994. This observed increase in juvenile abundance is supported by other monitoring programs (Austin et al, 1994).

DISCUSSION

The purpose of this report is to present a quick visual summary of the data collected during the 1993 VIMS trawl survey. A more analytical review of these data for seven target species for 1988-1992 is presented by Geer et al, 1993.

Atmospheric conditions in 1993 included a relatively mild winter, followed by an unusually cool, wet spring. The summer temperatures reached record highs, making it the second hottest summer in over one hundred years. The only major change to sampling methodology involved the single bay cruise in February to represent the period from January to March. There were no changes in the sampling gear. A random stratified experimental survey was continued in the York River, the purpose being to provide comparisons between fixed and random surveys when an eventual switch to all random stations is made. The data for this experimental survey are not presented in this report. More experimental work was conducted comparing catches in present gear configurations to those in gears used in earlier survey years. These data will be used to try to standardize catch rates among gear types and provide a longer reliable time series of juvenile abundances. These comparisons are not presented in this report.

NOTICE

No portion of this report may be used without consent or citation on the Virginia Institute of Marine Science, Trawl Survey Project. For further information contact Chris Bonzek or Patrick Geer at the Virginia Institute of Marine Science, Gloucester Point, Virginia, 23062, Telephone (804) 642-7000, FAX (804) 642-7327.

Figure 1. Sampling system, design, and gear changes for the VIMS trawl survey.
1955-1994.

VIMS Juvenile Fish Trawl Survey

Sampling Changes 1955 - 1994

Tow Type

D = Duration

C = Duration and/or
Distance

Gear Type

10 = 30' Unlined/No Tickler

33 = 30' Lined/No Tickler

35 = 16' Lined/No Tickler

70 = 30' Lined/Tickler

Sampling System

F = Fixed

R = Random

C = Combination

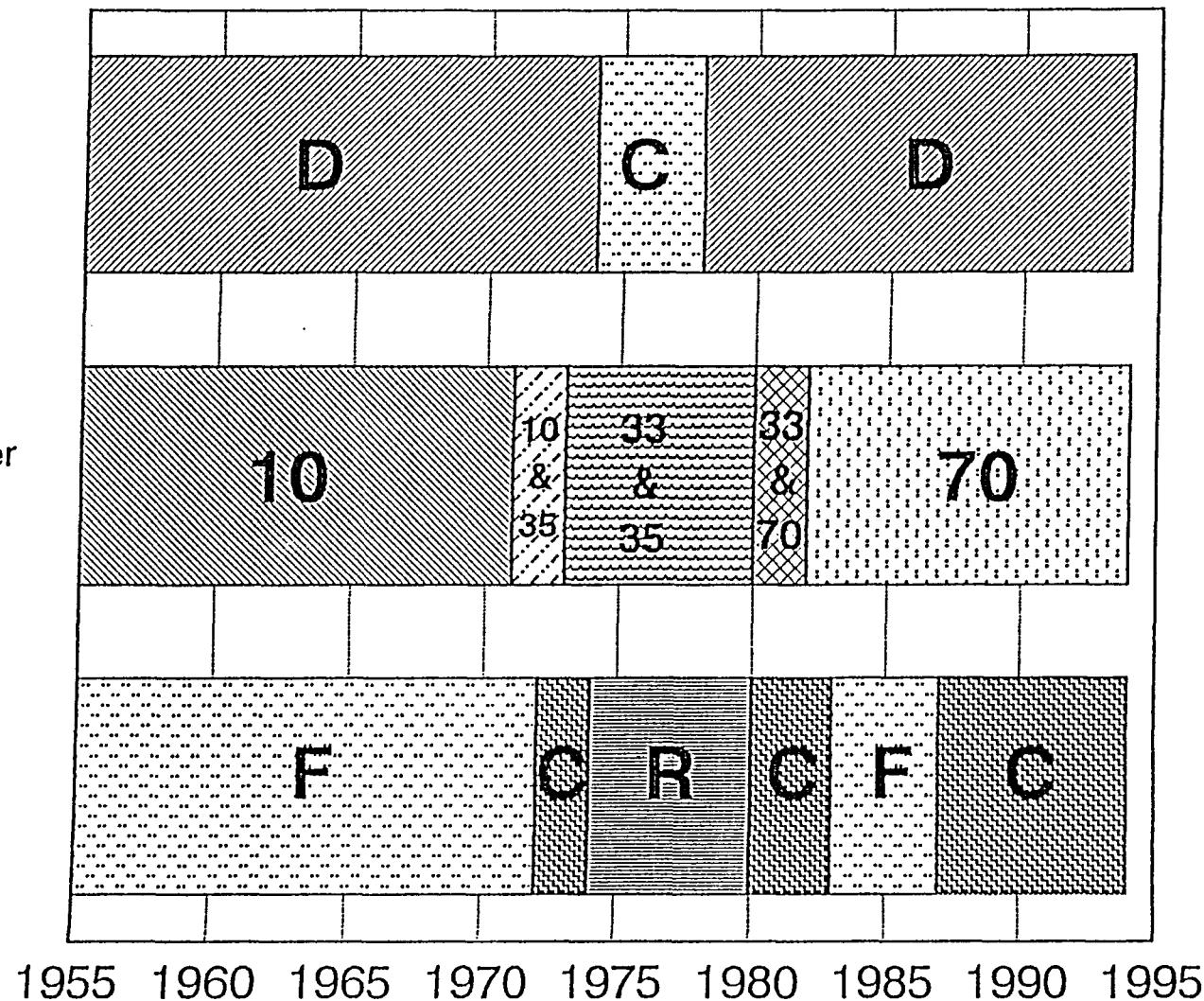


Figure 1.

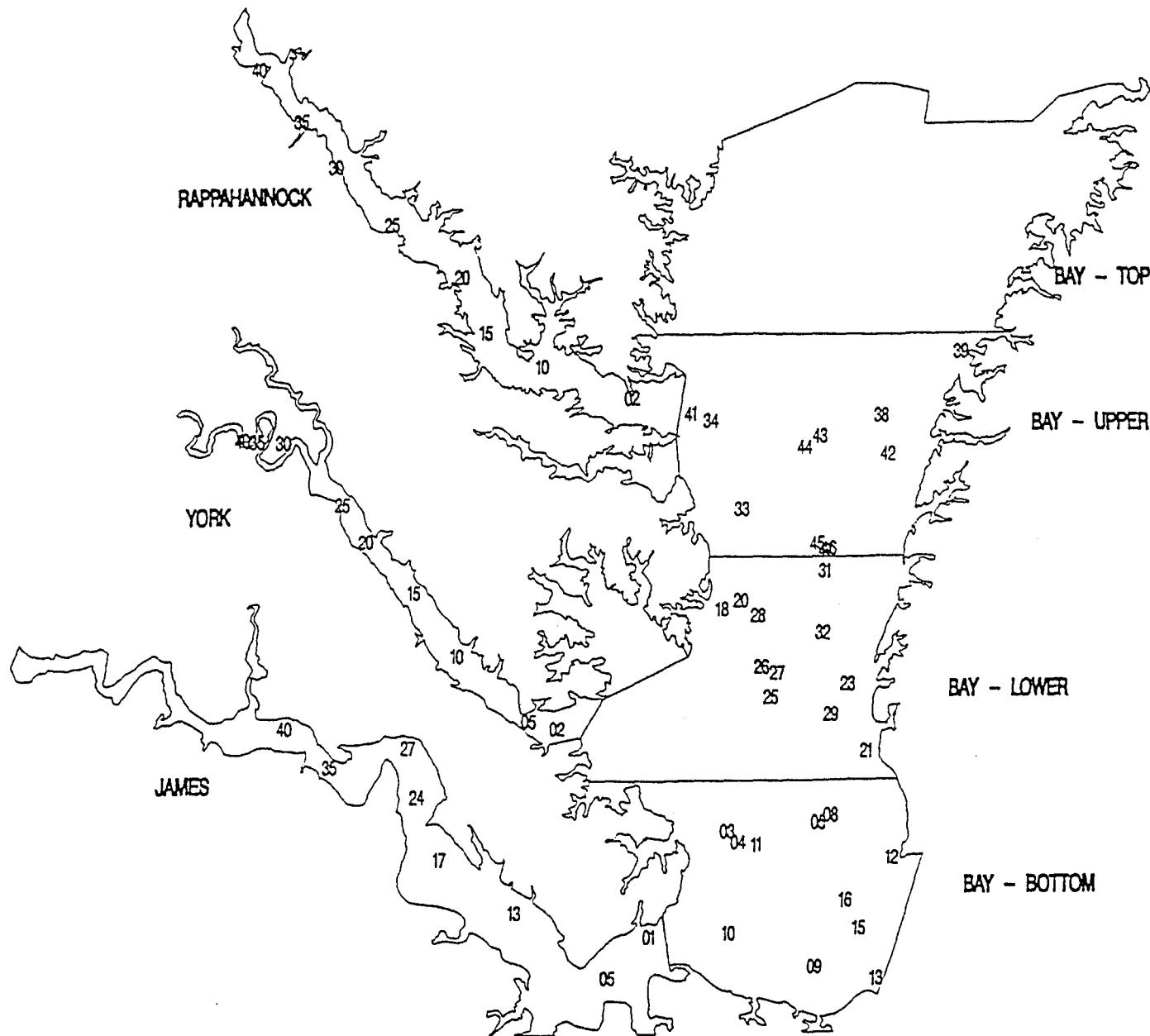
Figures 2-13. Stations sampled in 1993 by month.

Notes:

- A. Due to LORAN distortion at upriver stations and to computer software control of the placement of figures on these maps, the locations shown might vary slightly from the actual stations occupied. For exact coordinates refer to Tables 2-13 (rivers) and 14-23(bay).
- B. A single winter cruise was conducted in February for the Chesapeake Bay during the period from January through March 1993.
- C. Please note there are two stations at both mile 25 and 30 on the Rappahannock in December. This is due to sampling gear damage which forced cancellation of that day's work. It was decided to resample these stations the next day along with the other upriver stations. This was done for purposes of consistency in the juvenile index calculations.

Figure 2.

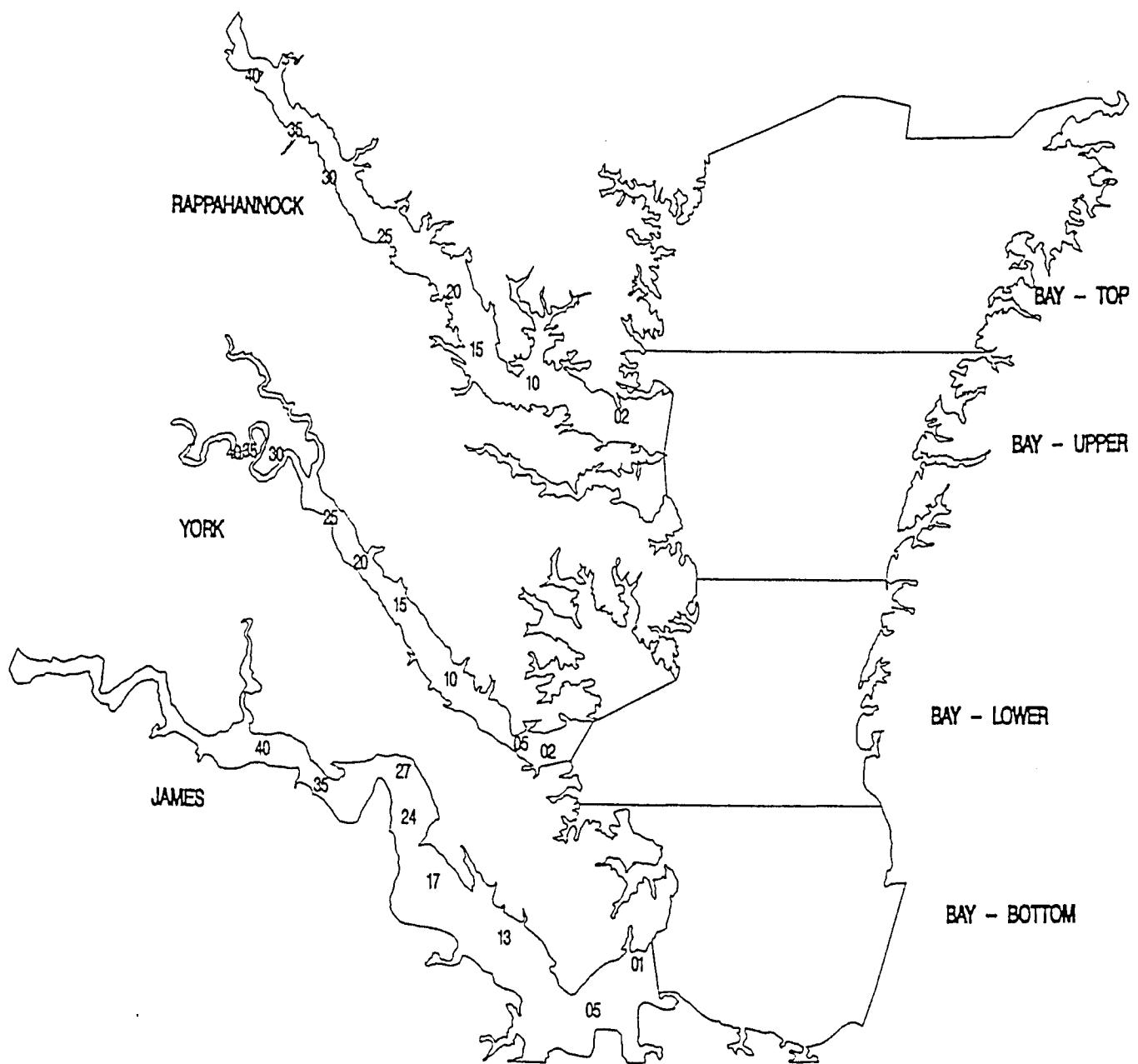
FEBRUARY, 1993 TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

Figure 3.

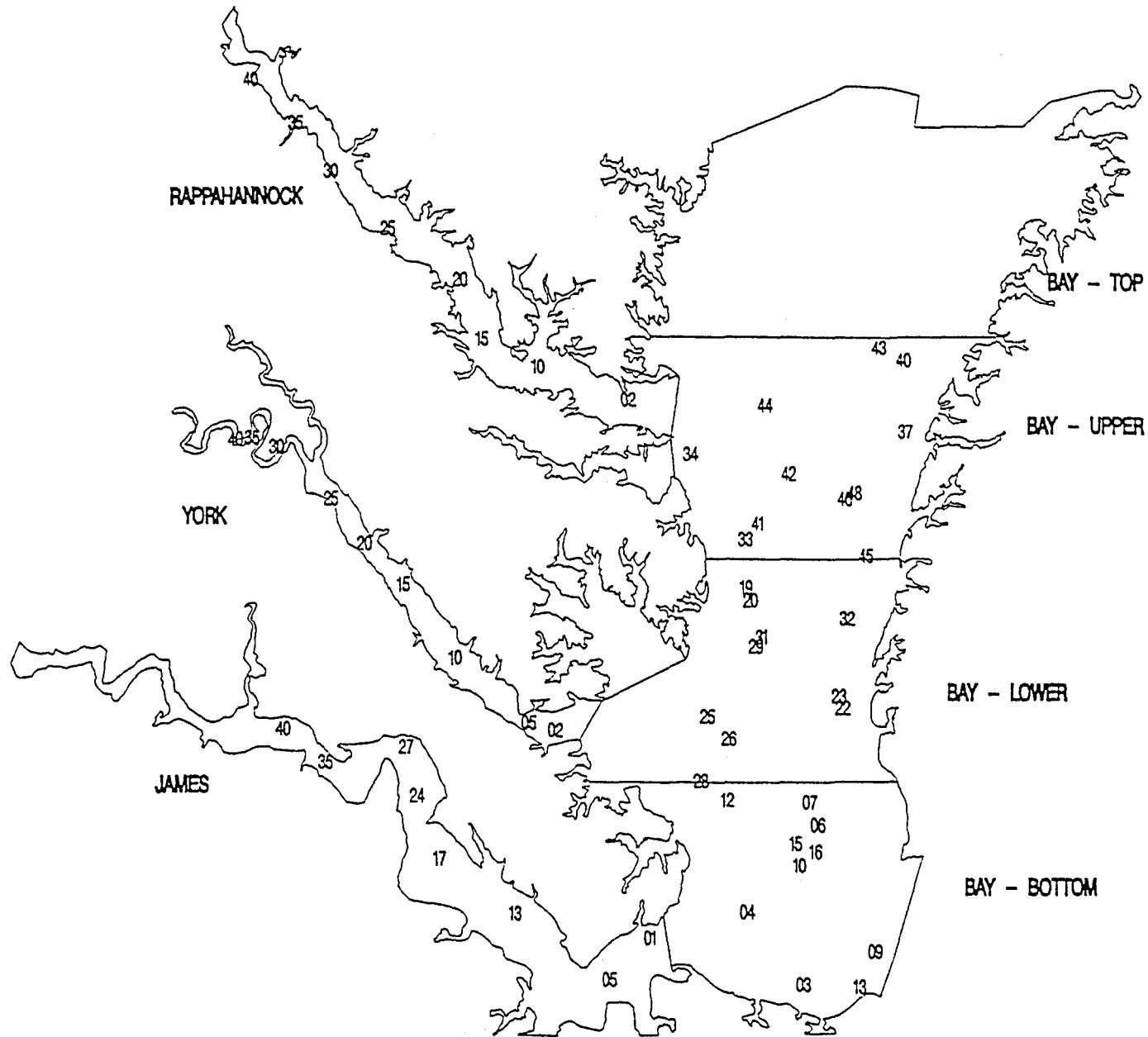
JANUARY, 1993
TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

Figure 4.

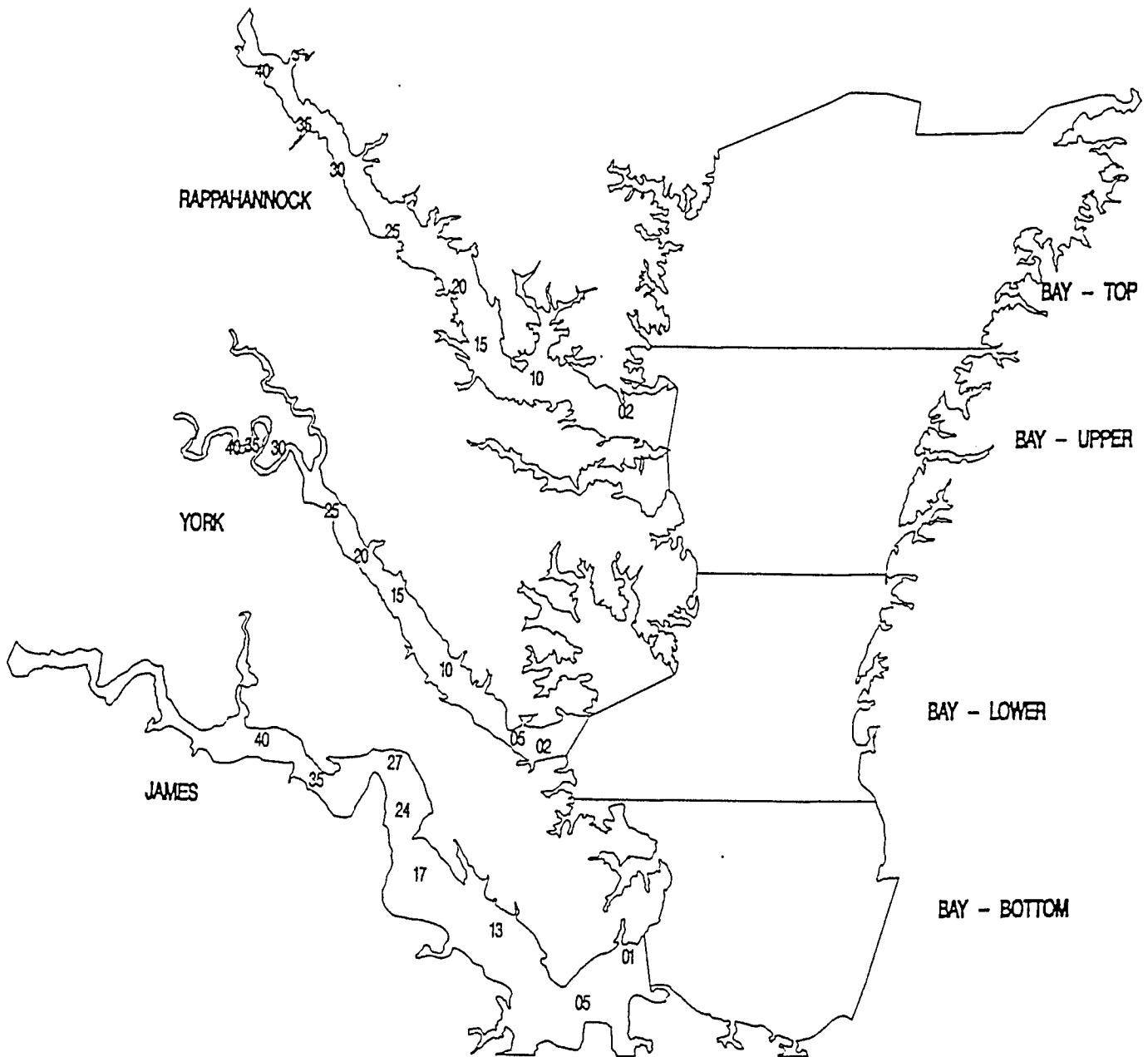
APRIL, 1993
TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

Figure 5.

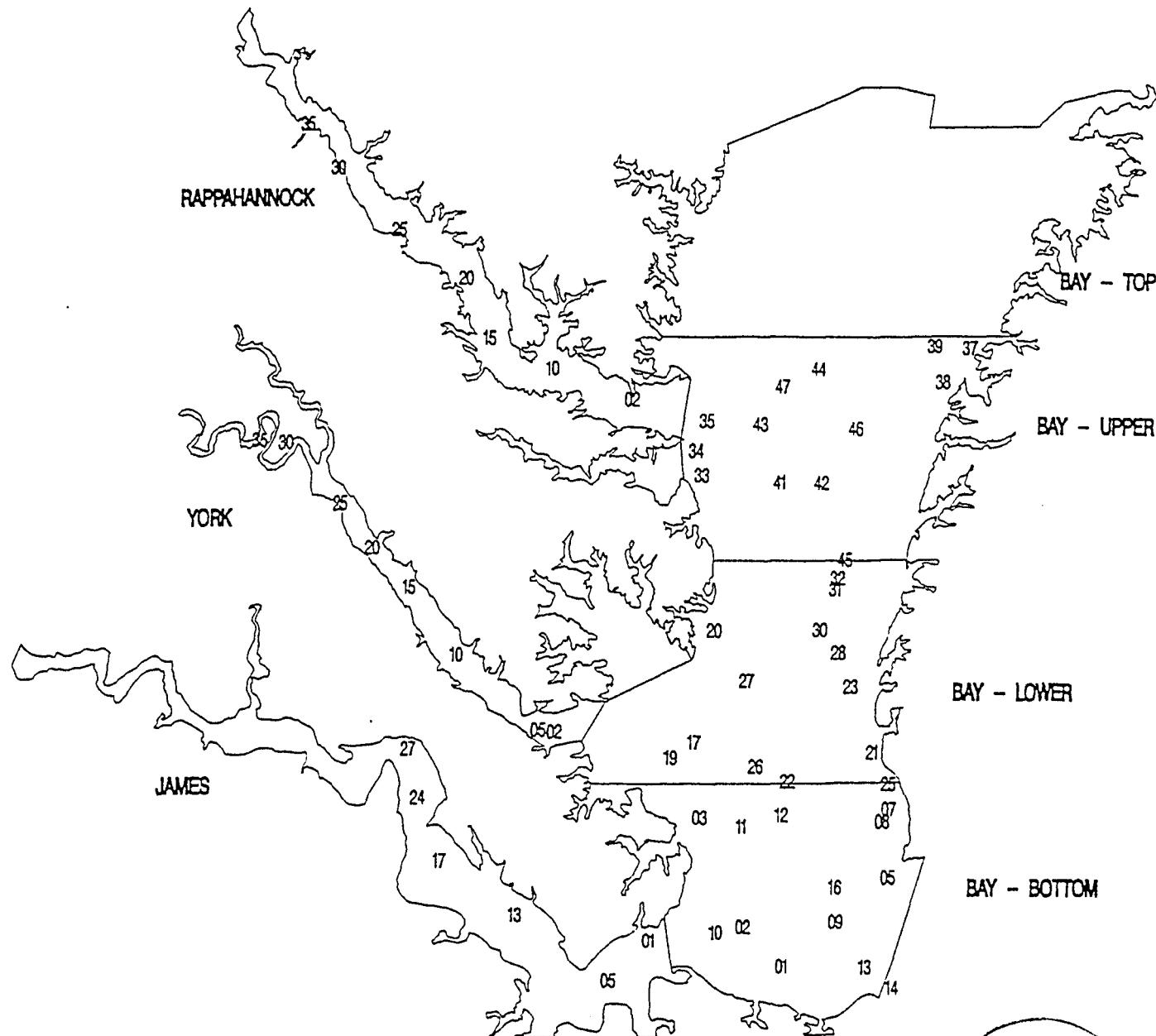
MARCH, 1993 TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

Figure 6.

JUNE, 1993
TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

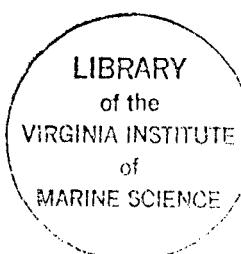
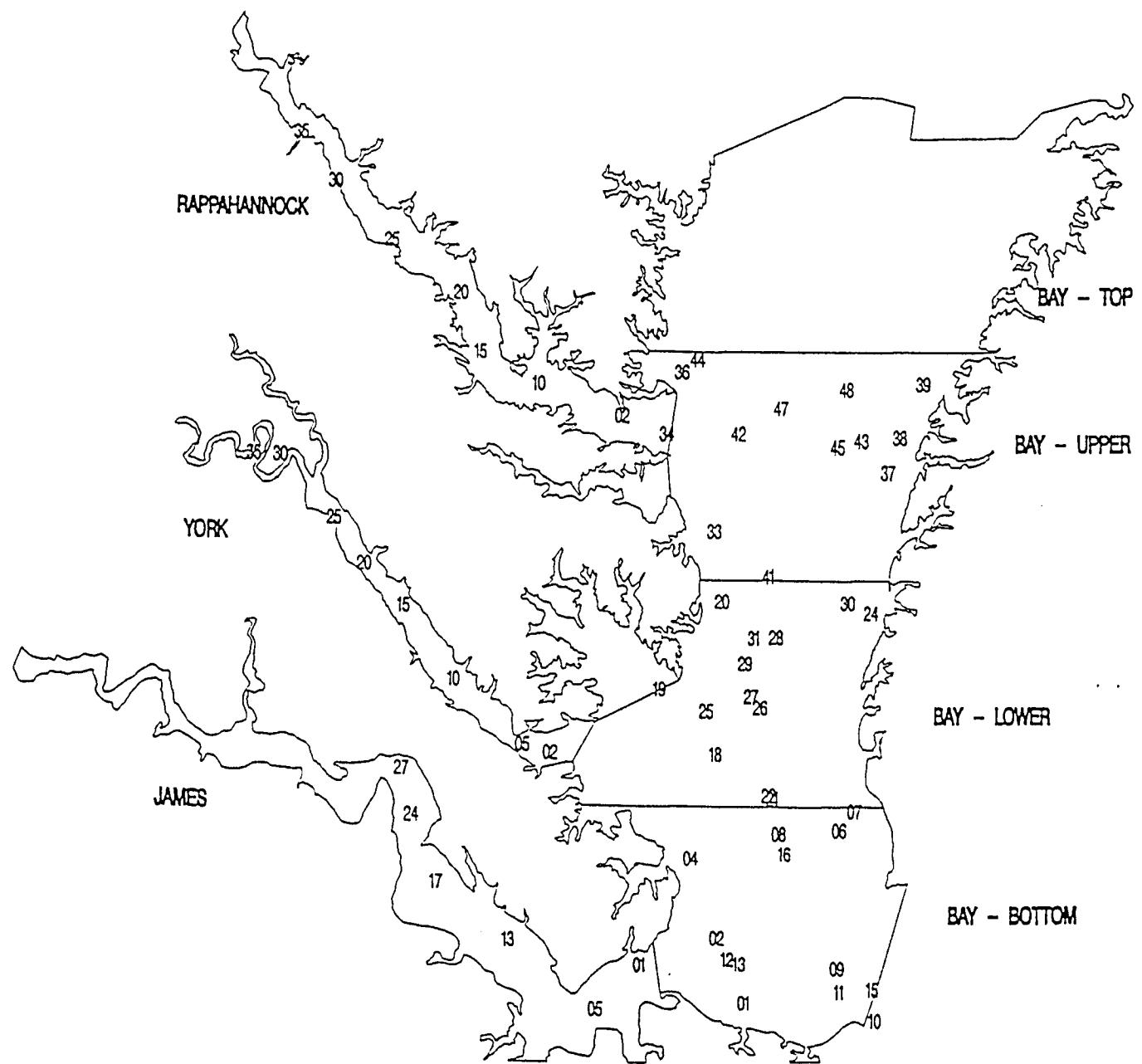


Figure 7.

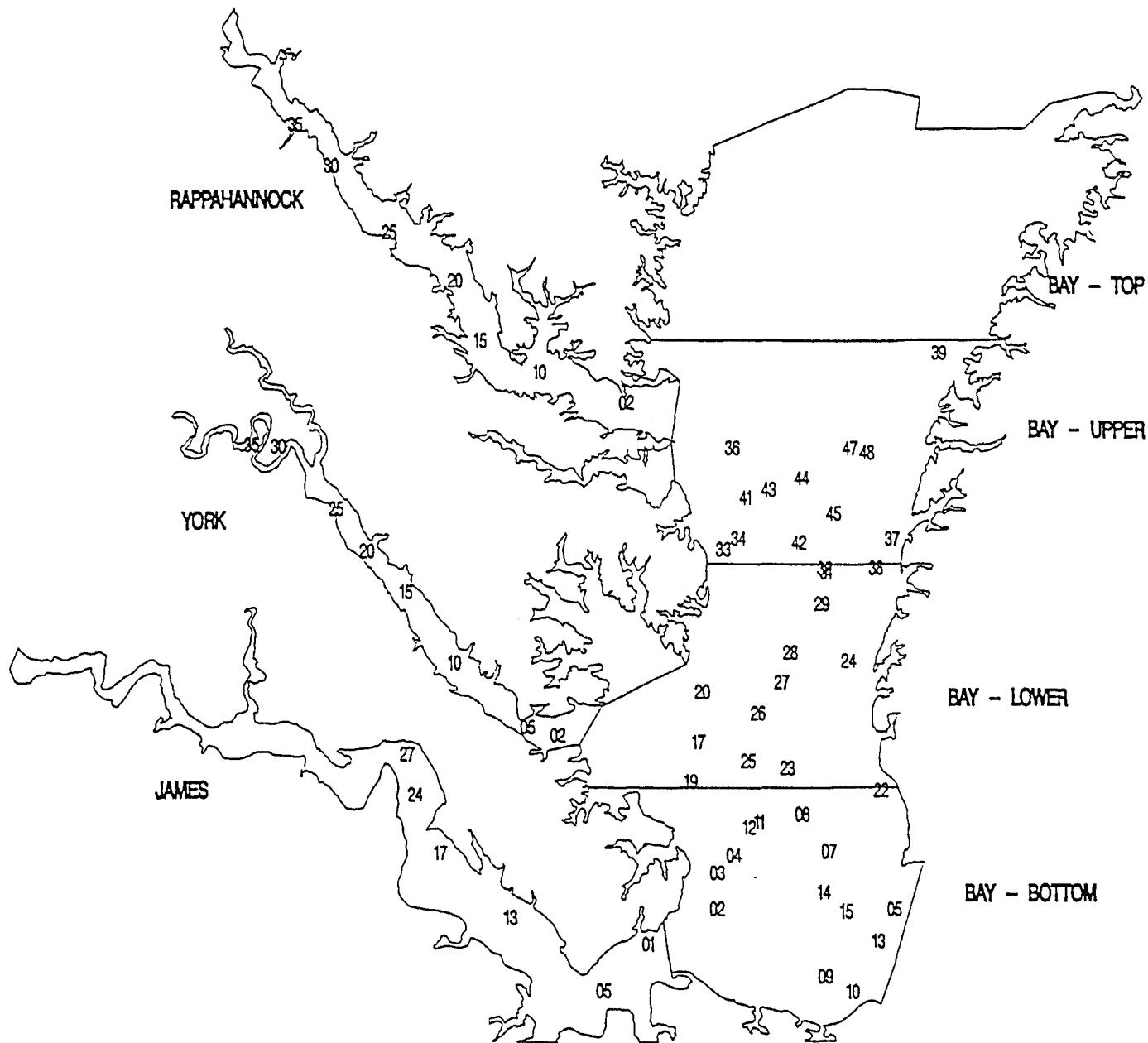
MAY, 1993
TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

Figure 8.

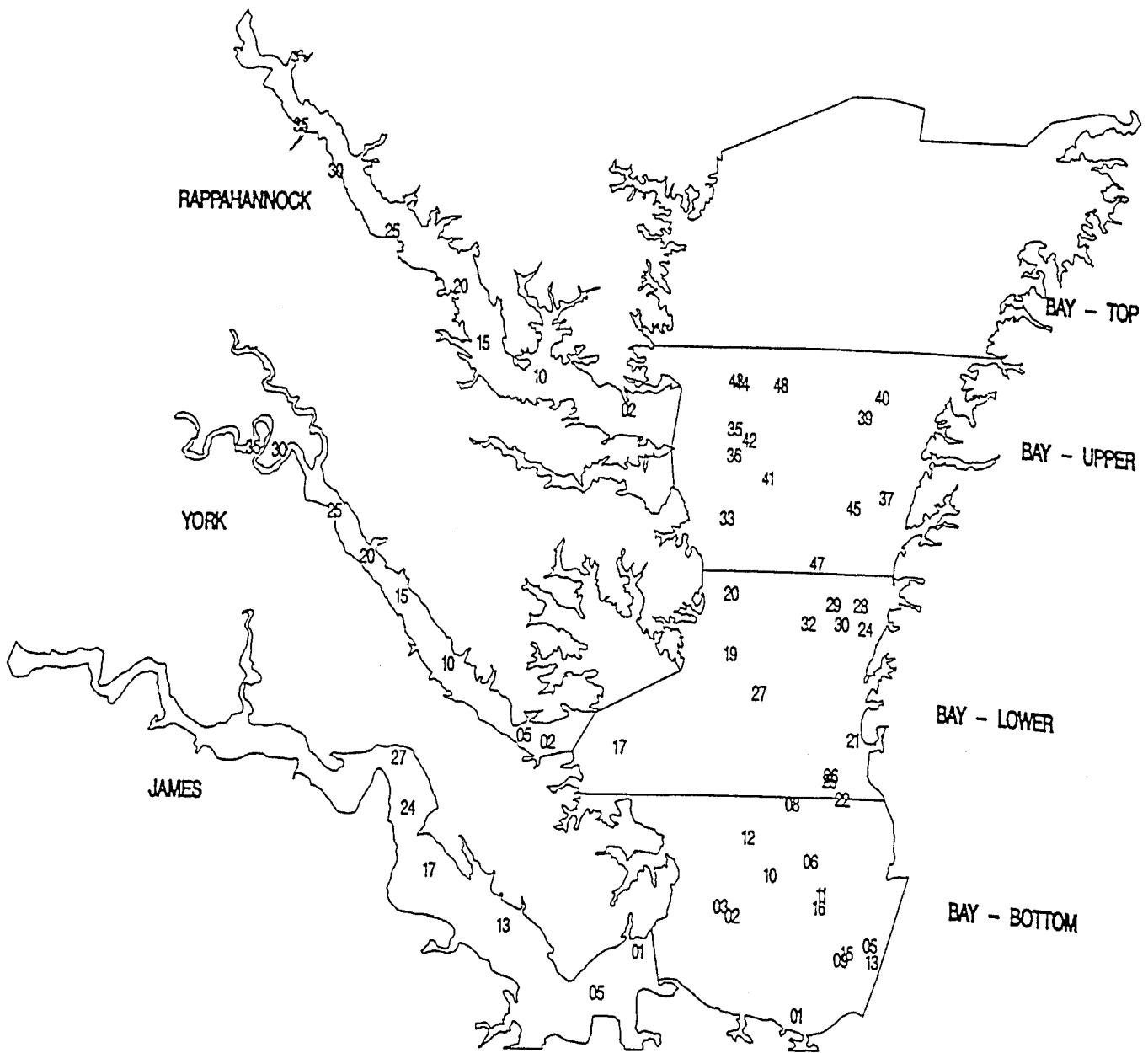
AUGUST, 1993
TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

Figure 9.

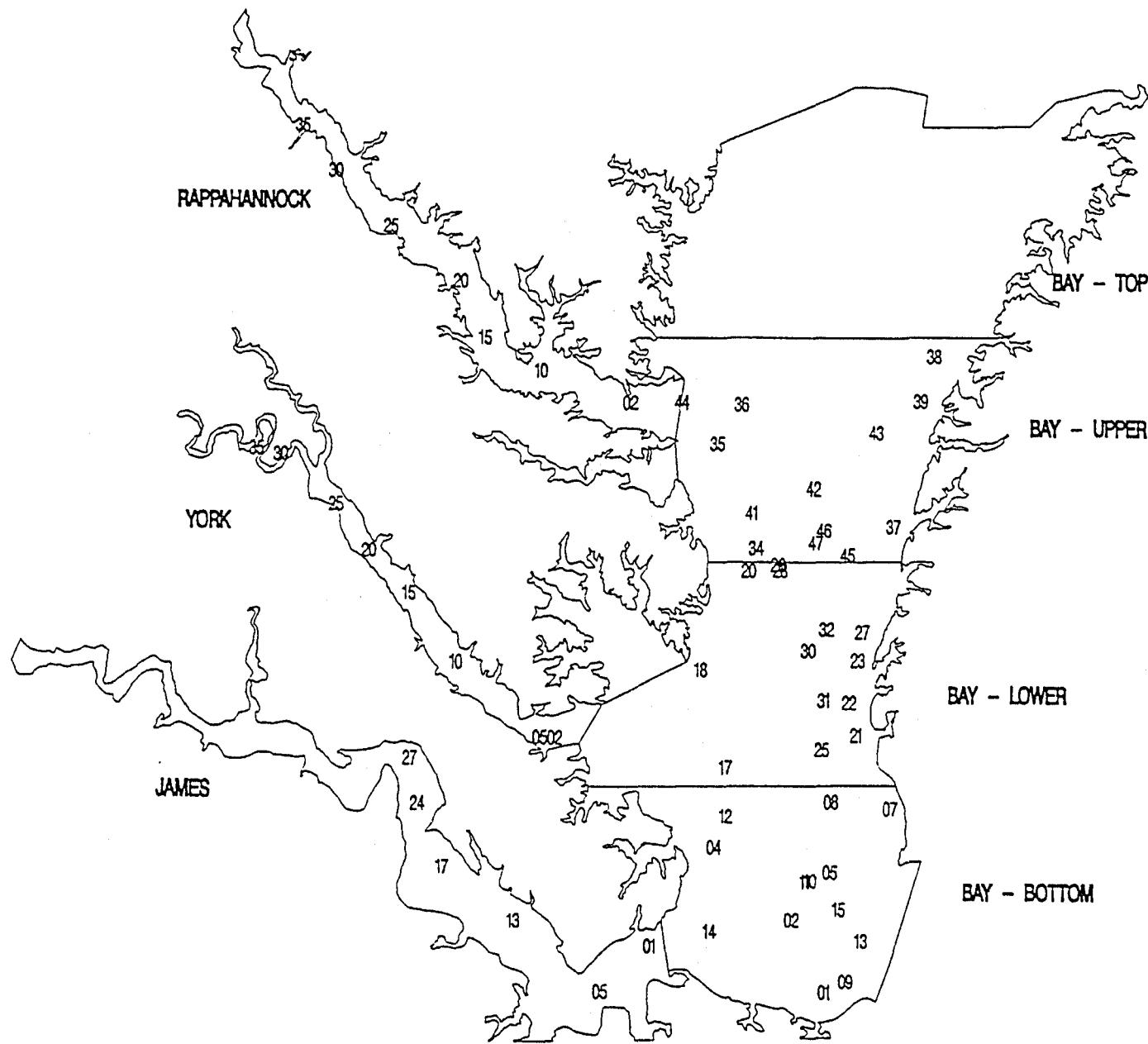
JULY, 1993
TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

Figure 10.

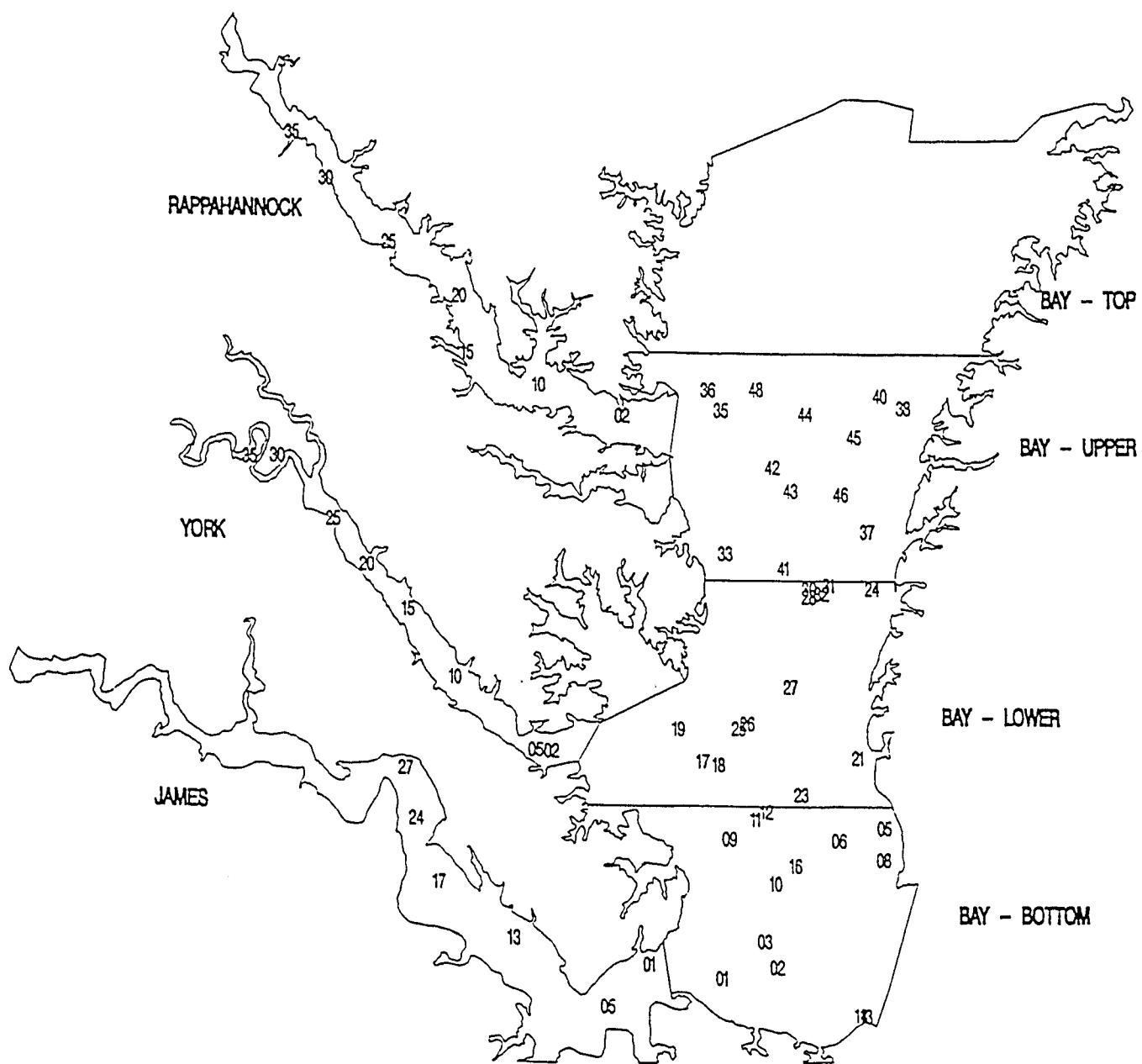
OCTOBER, 1993
TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

Figure 11.

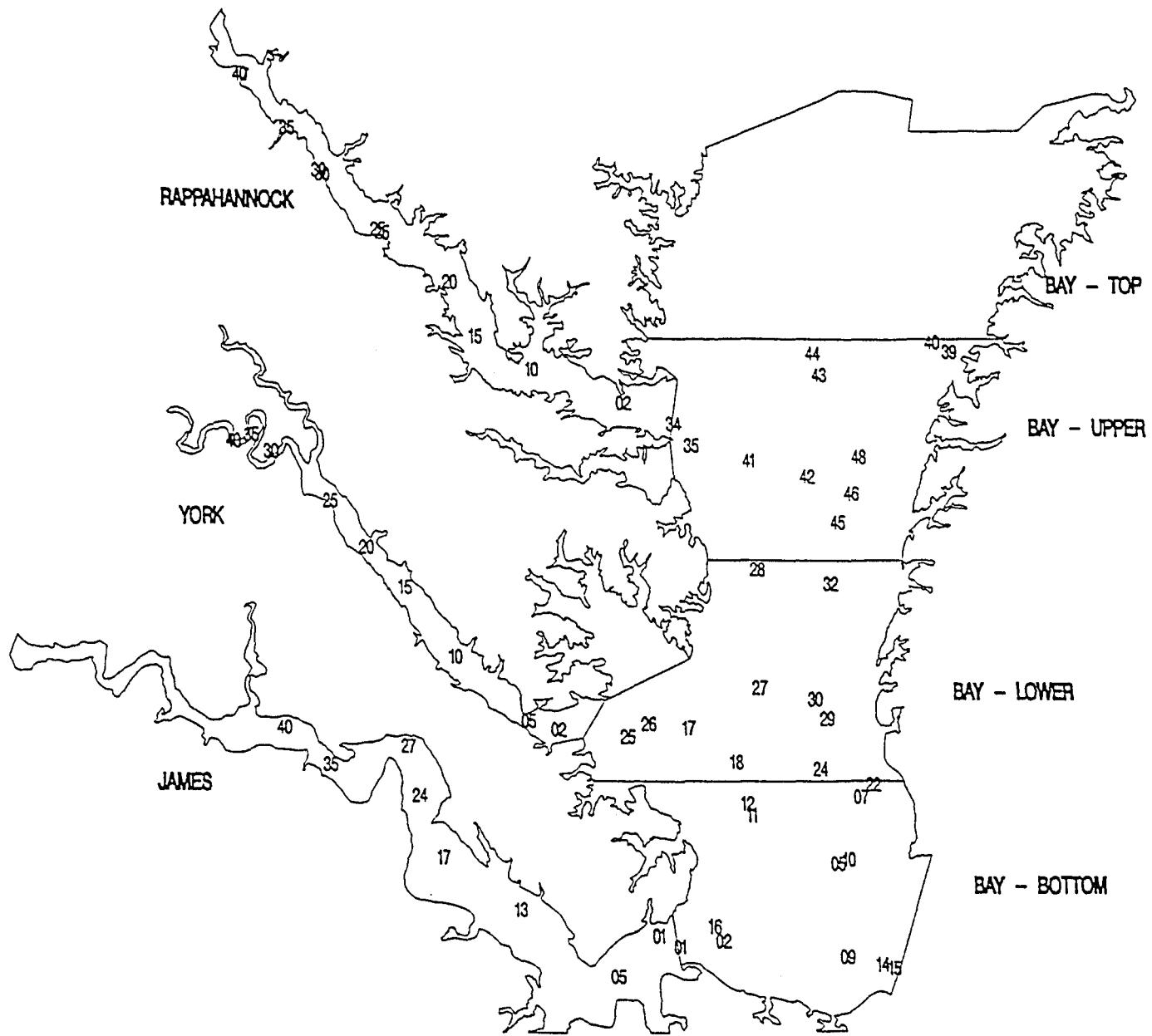
SEPTEMBER, 1993
TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

Figure 12.

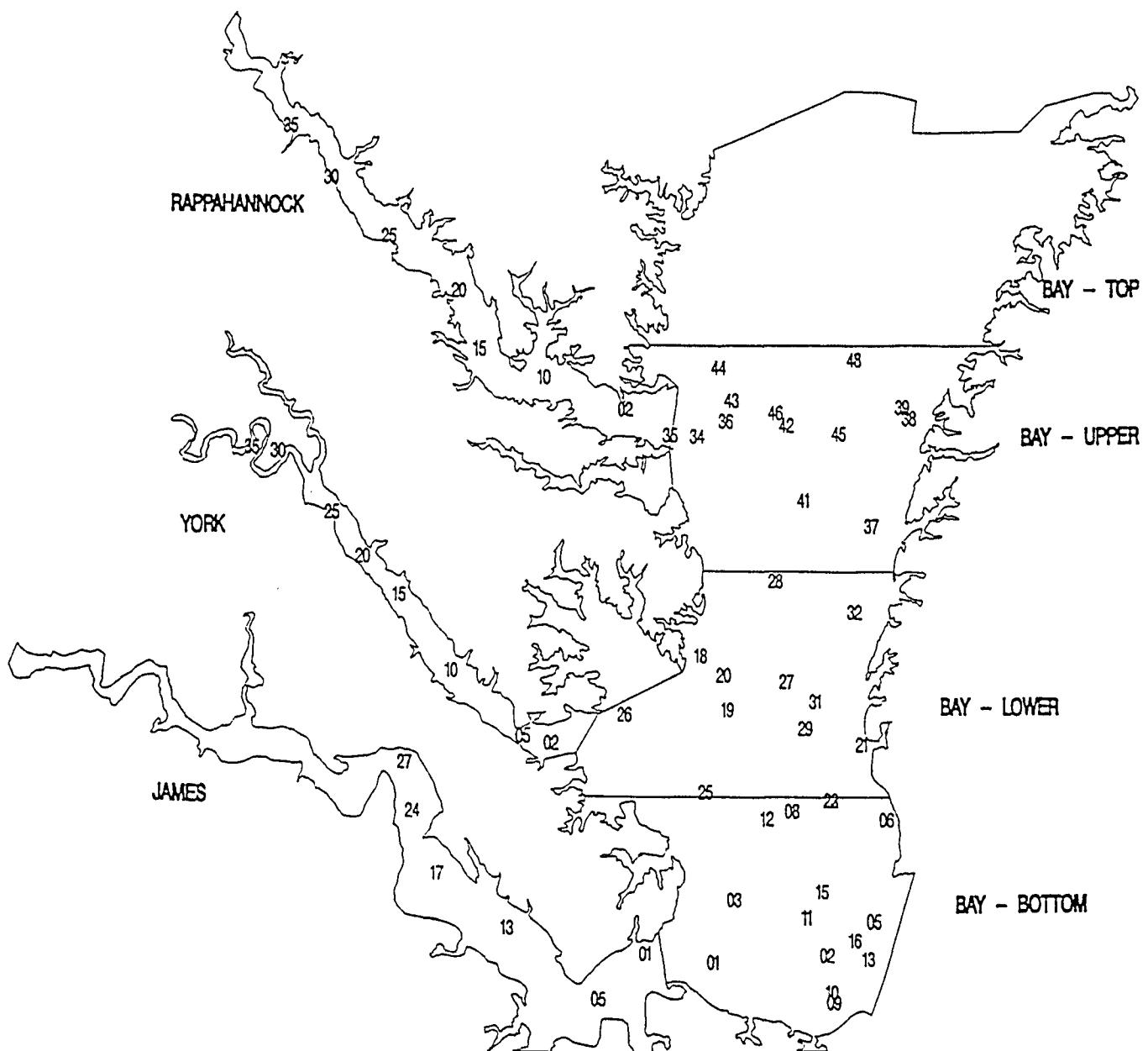
DECEMBER, 1993
TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

Figure 13.

NOVEMBER, 1993 TRAWL SURVEY STATION LOCATIONS



NOTE: FIGURES IN RIVERS INDICATE RIVER MILES,
FIGURES IN BAY INDICATE STATION NUMBERS

Figures 14-44.

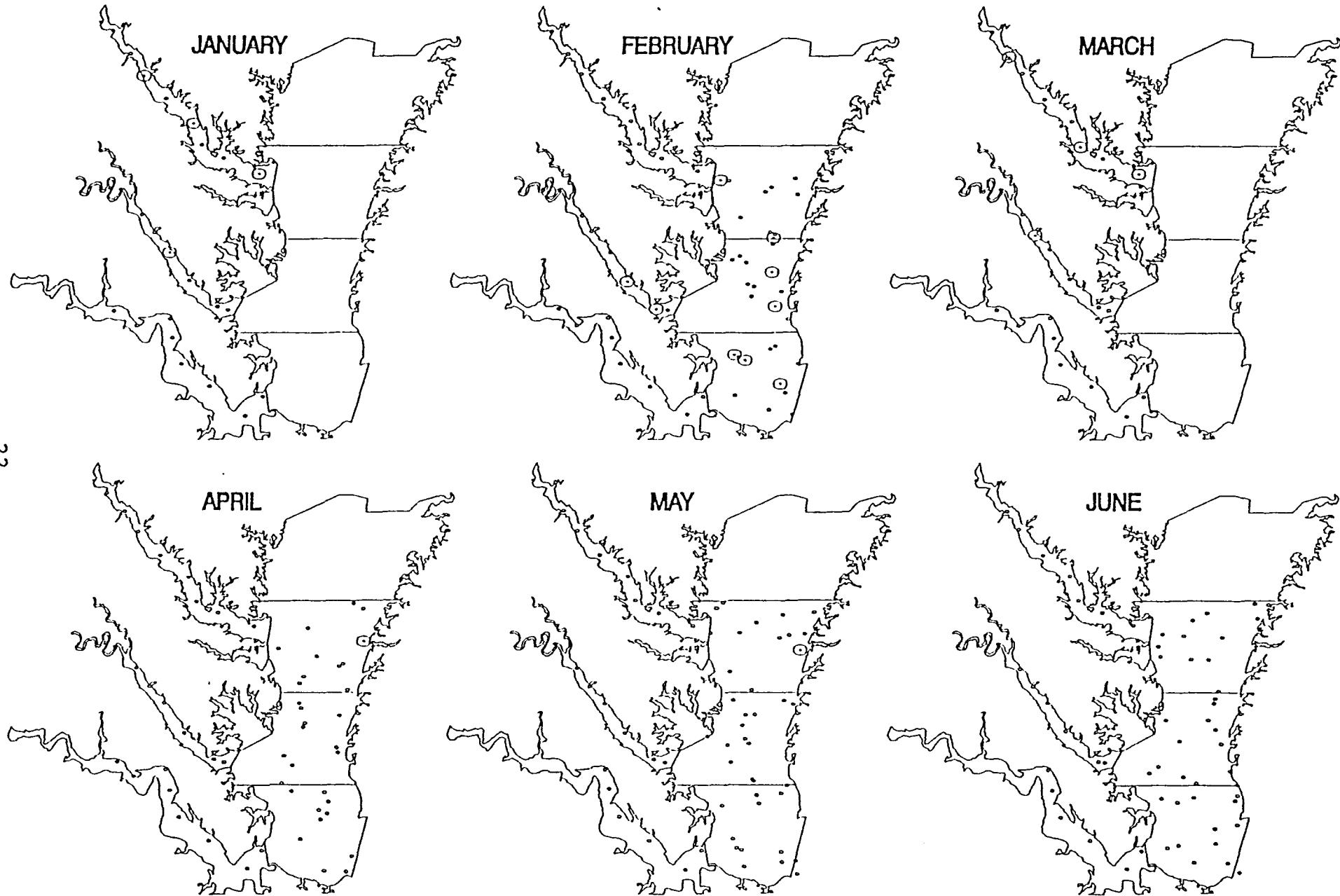
Geographic distribution, by month, of predominant species. Density values represent total number of specimens caught.

Notes:

- A. Due to LORAN distortion at upriver stations and to computer software control of the placement of figures on these maps, the locations shown may vary slightly from the actual stations occupied. For exact latitude and longitude refer to Tables 2-13.
- B. A single winter cruise was conducted in February for the Chesapeake Bay during the period from January through March 1993.
- C. For purposes of clarity, if a second tow was performed at a given station, the second tow will be offset two minutes north and two minutes east from the original coordinates.

Figure 14

Alewife



NUMBER CAUGHT: • = ZERO ○ = 1 to 9 ⊕ = 10 to 99 ⊗ = 100 to 999 ● = ≥ 1,000

Figure 14

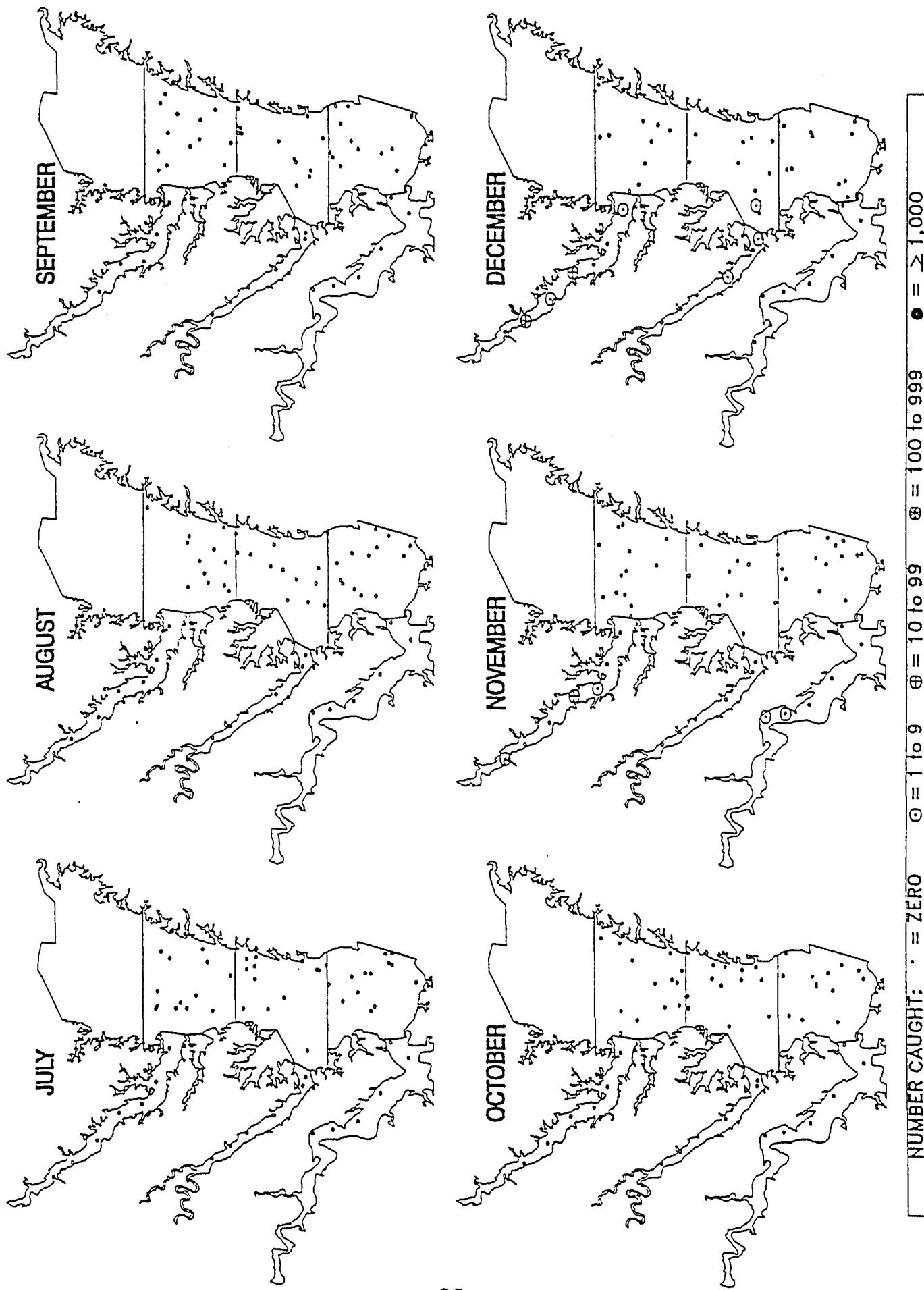


Figure 15

American Eel

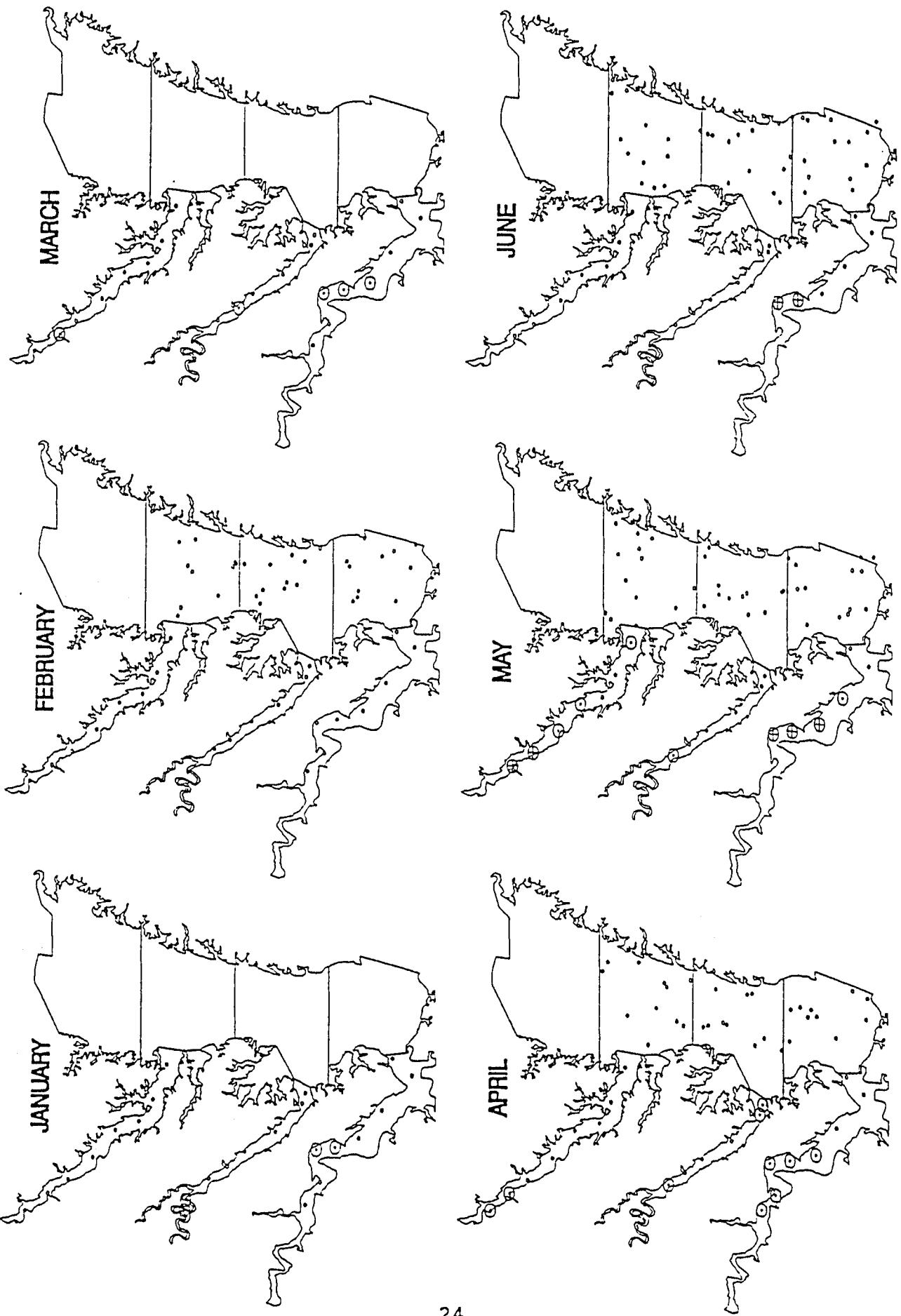


Figure 15

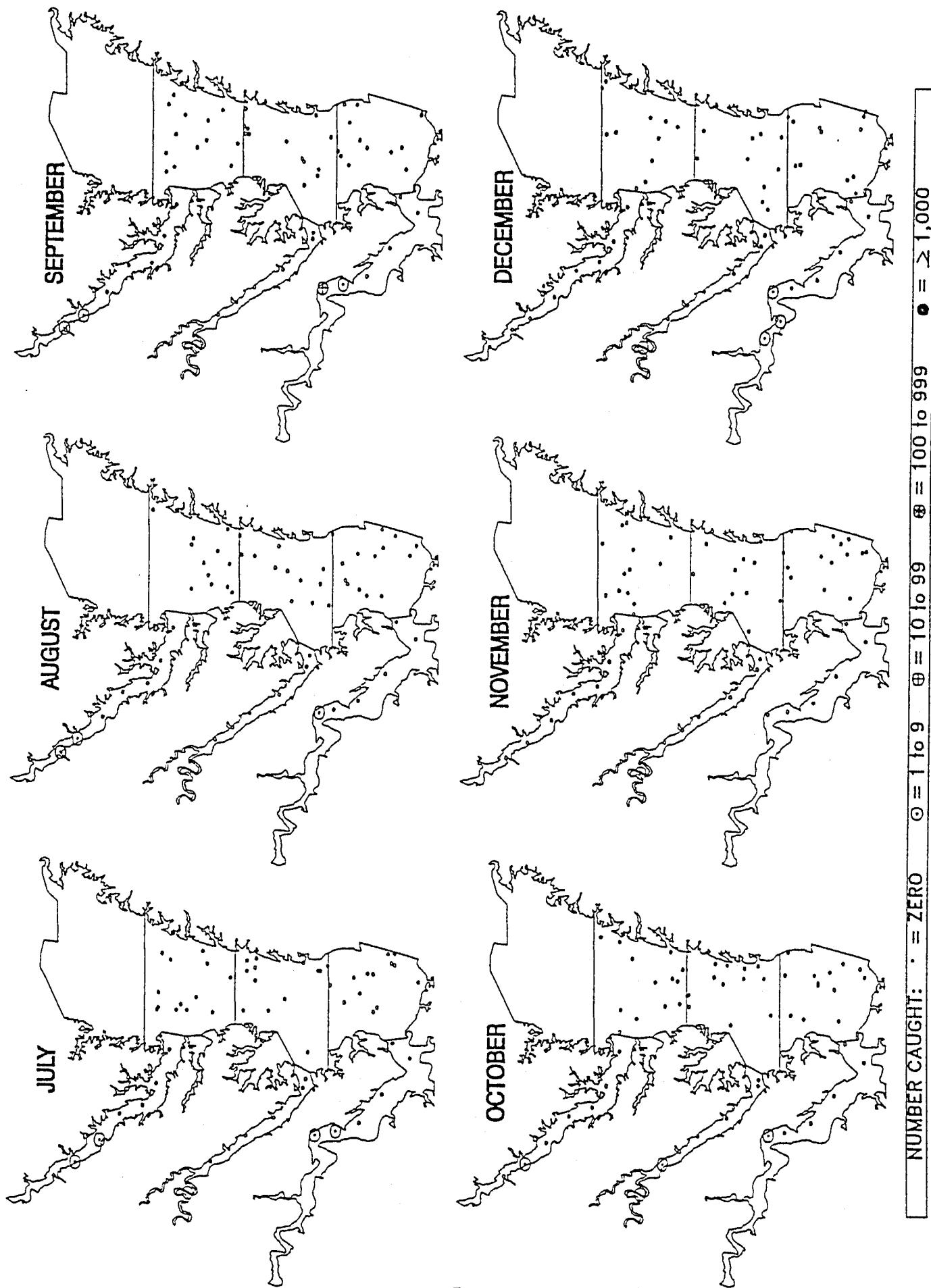


Figure 18

American Shad

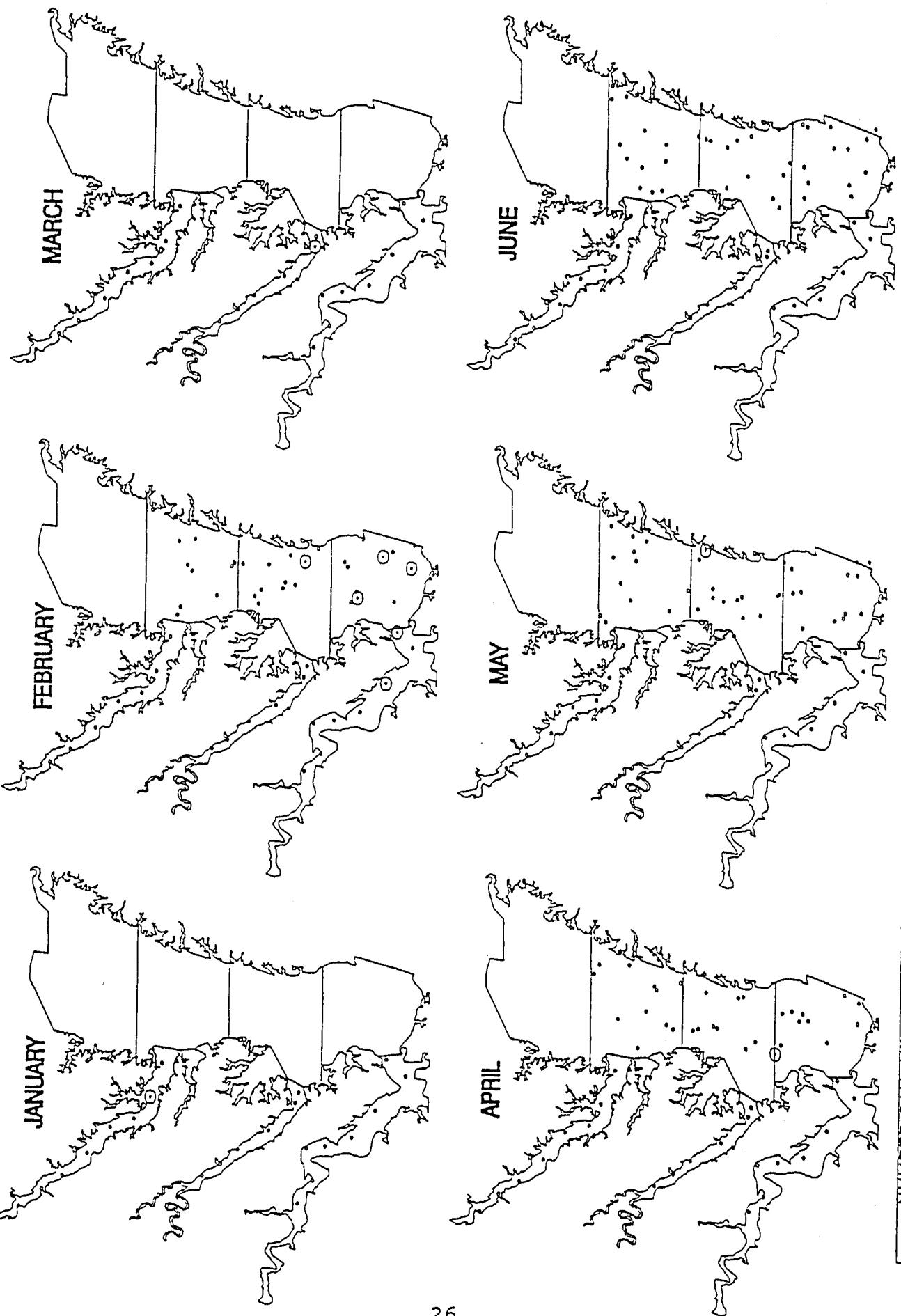


Figure 16

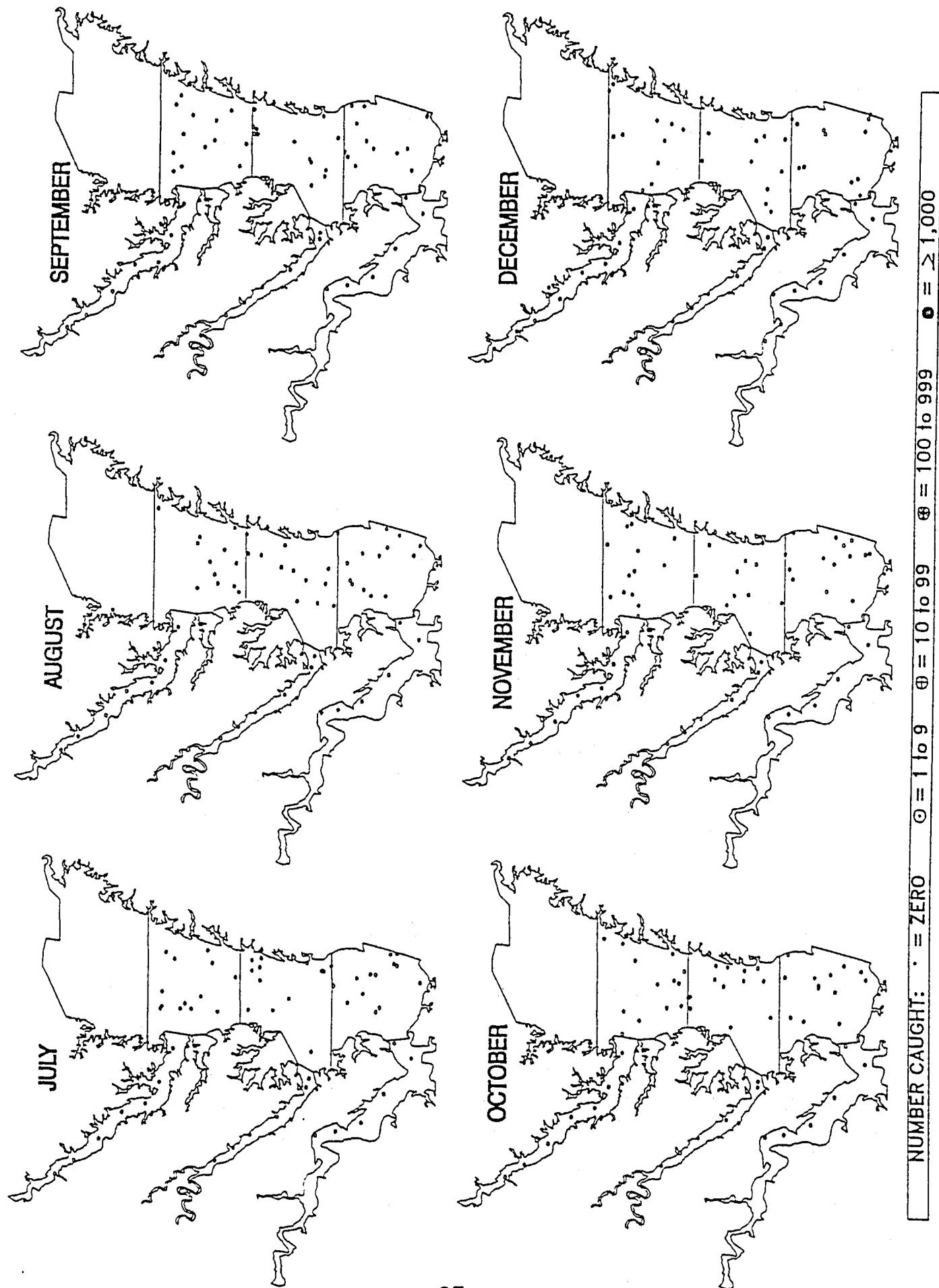


Figure 17

Atlantic Croaker

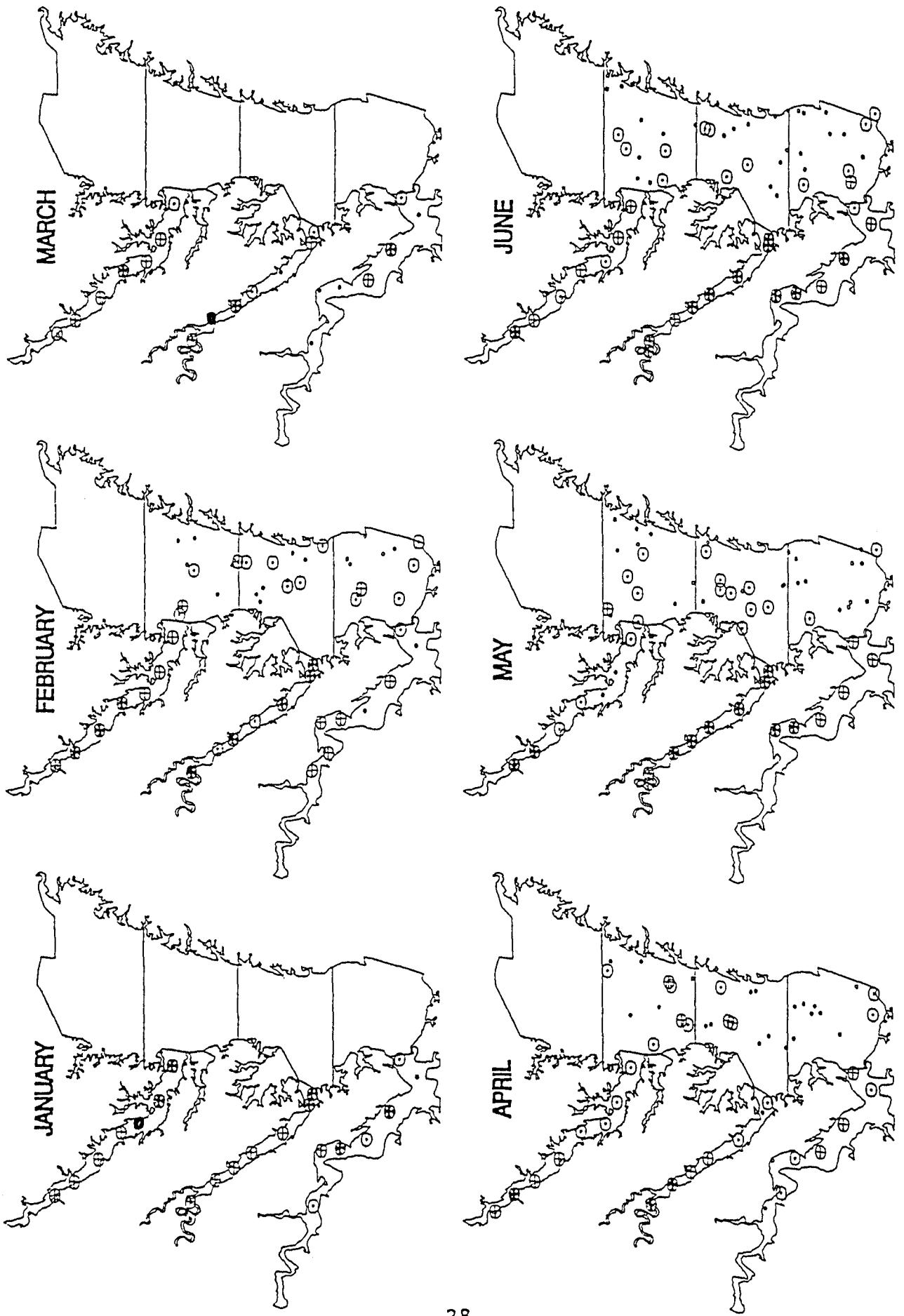


Figure 17

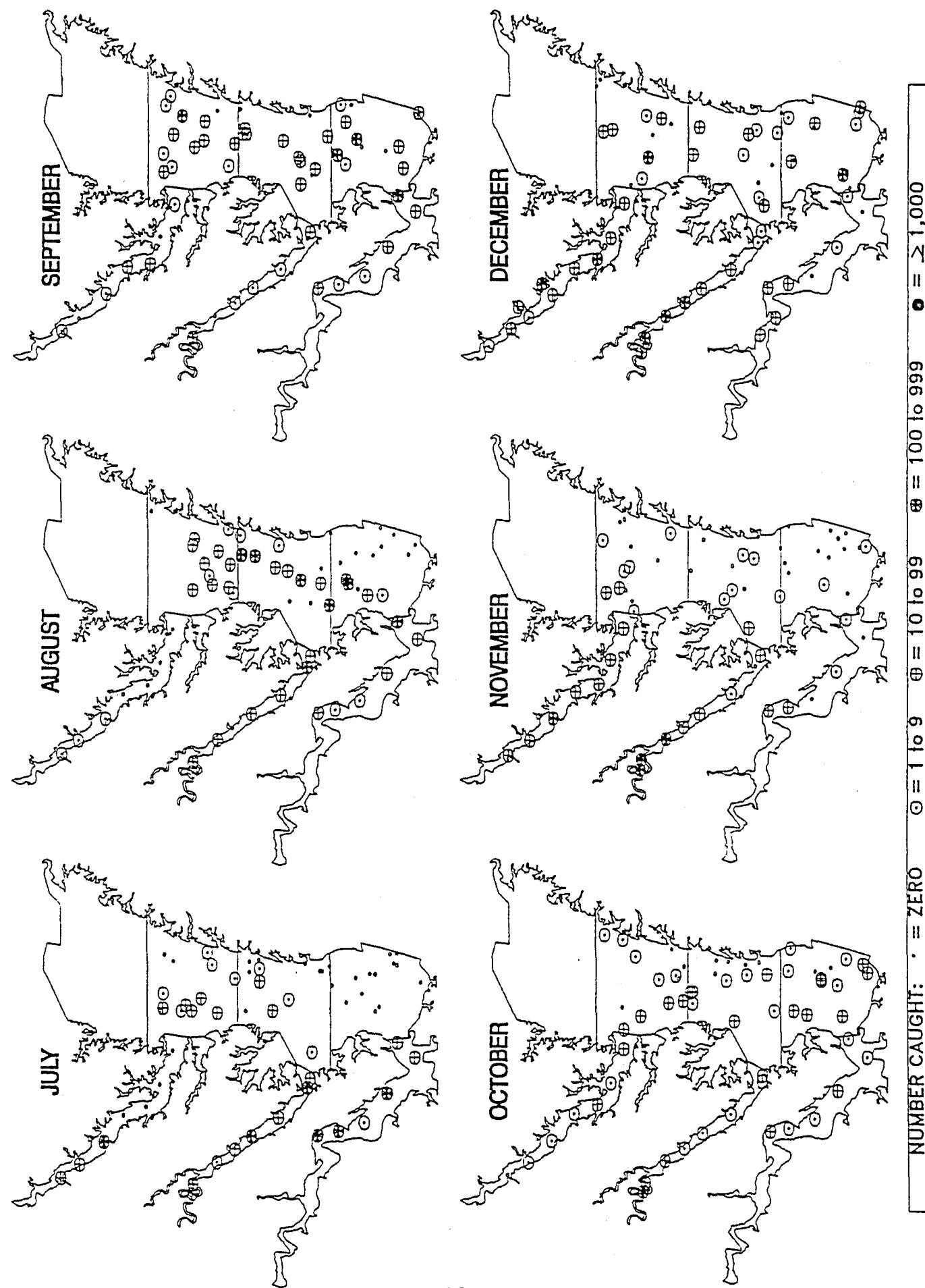


Figure 18

Atlantic Menhaden

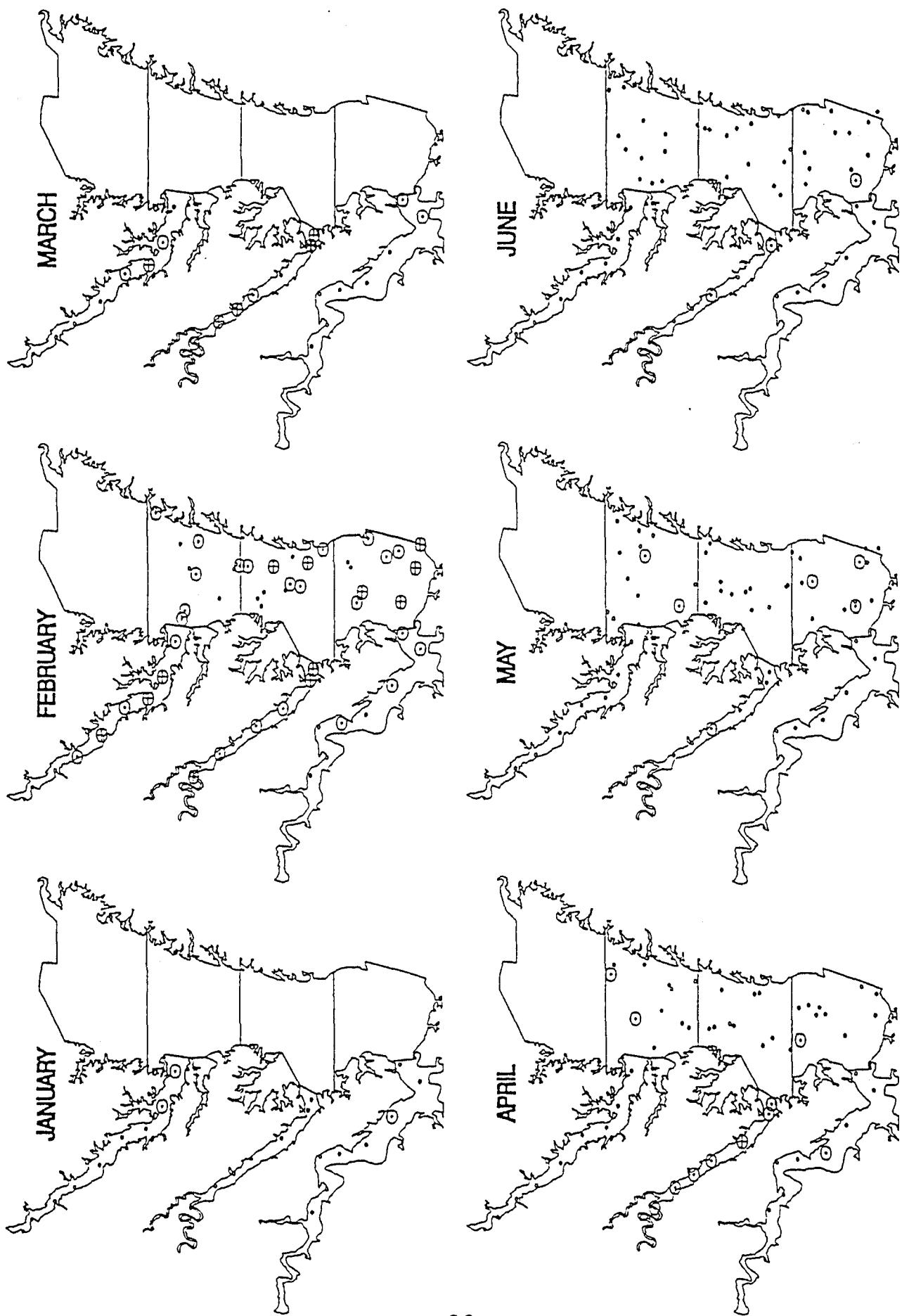


Figure 18

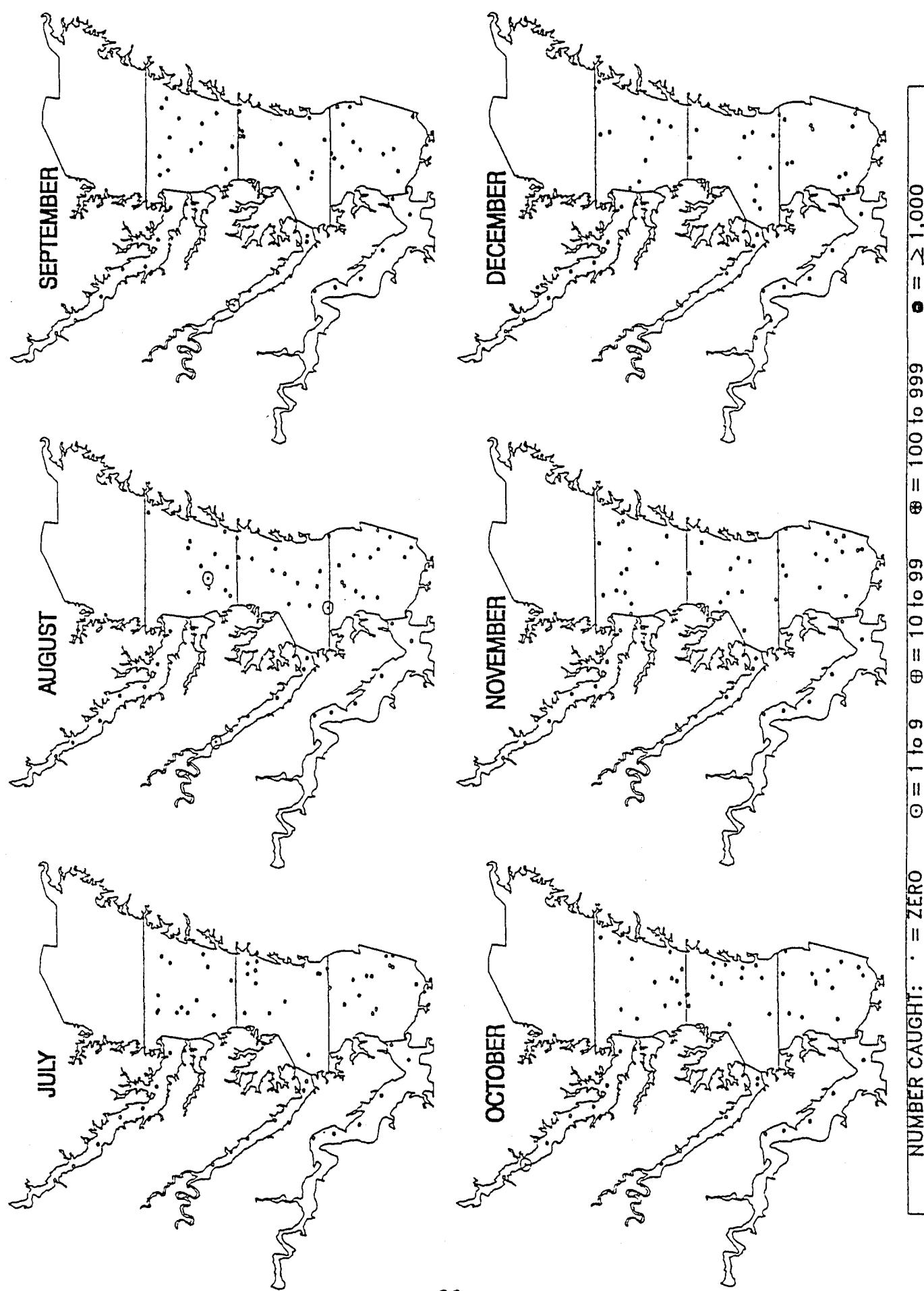


Figure 18

Atlantic Silverside

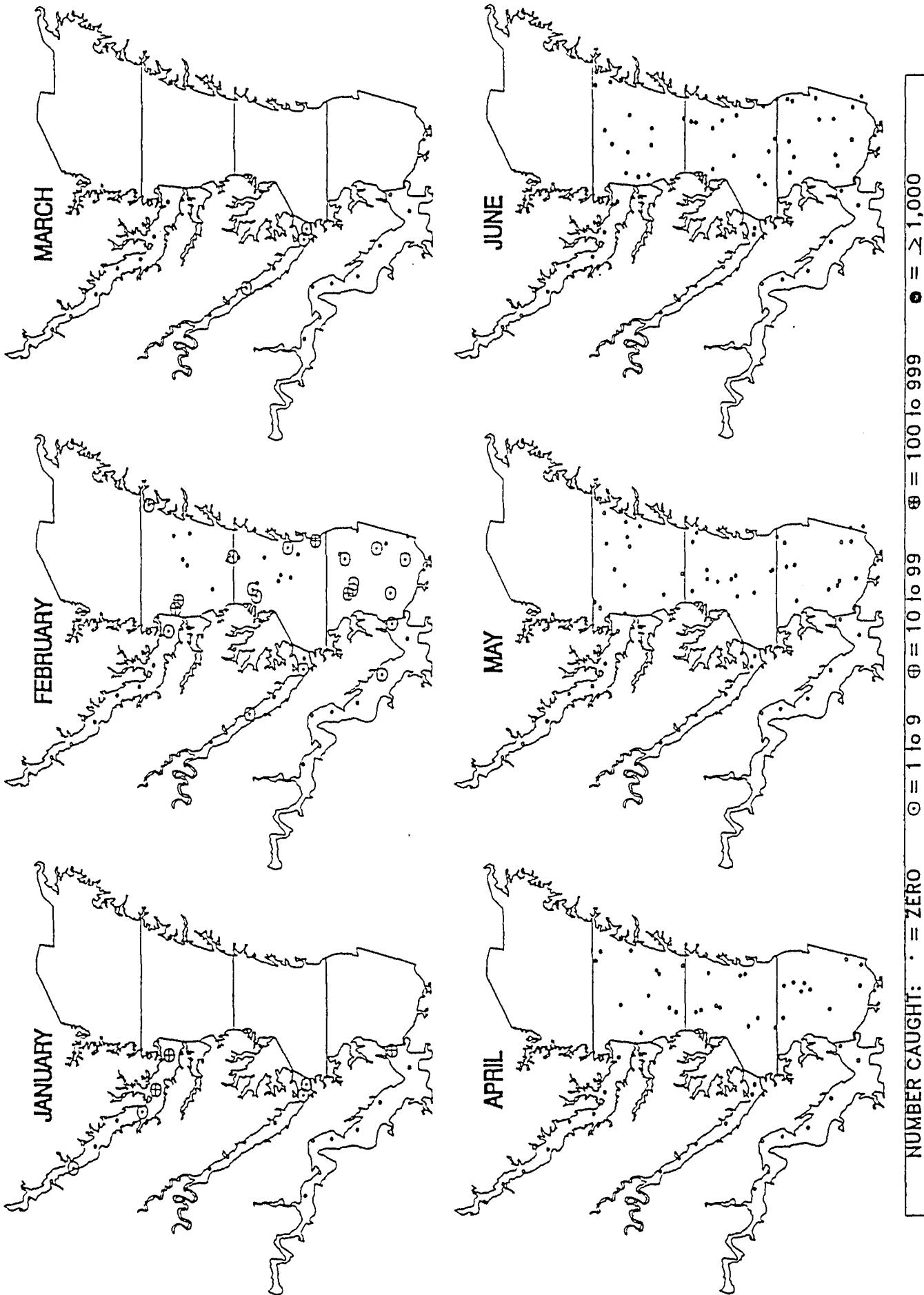


Figure 19

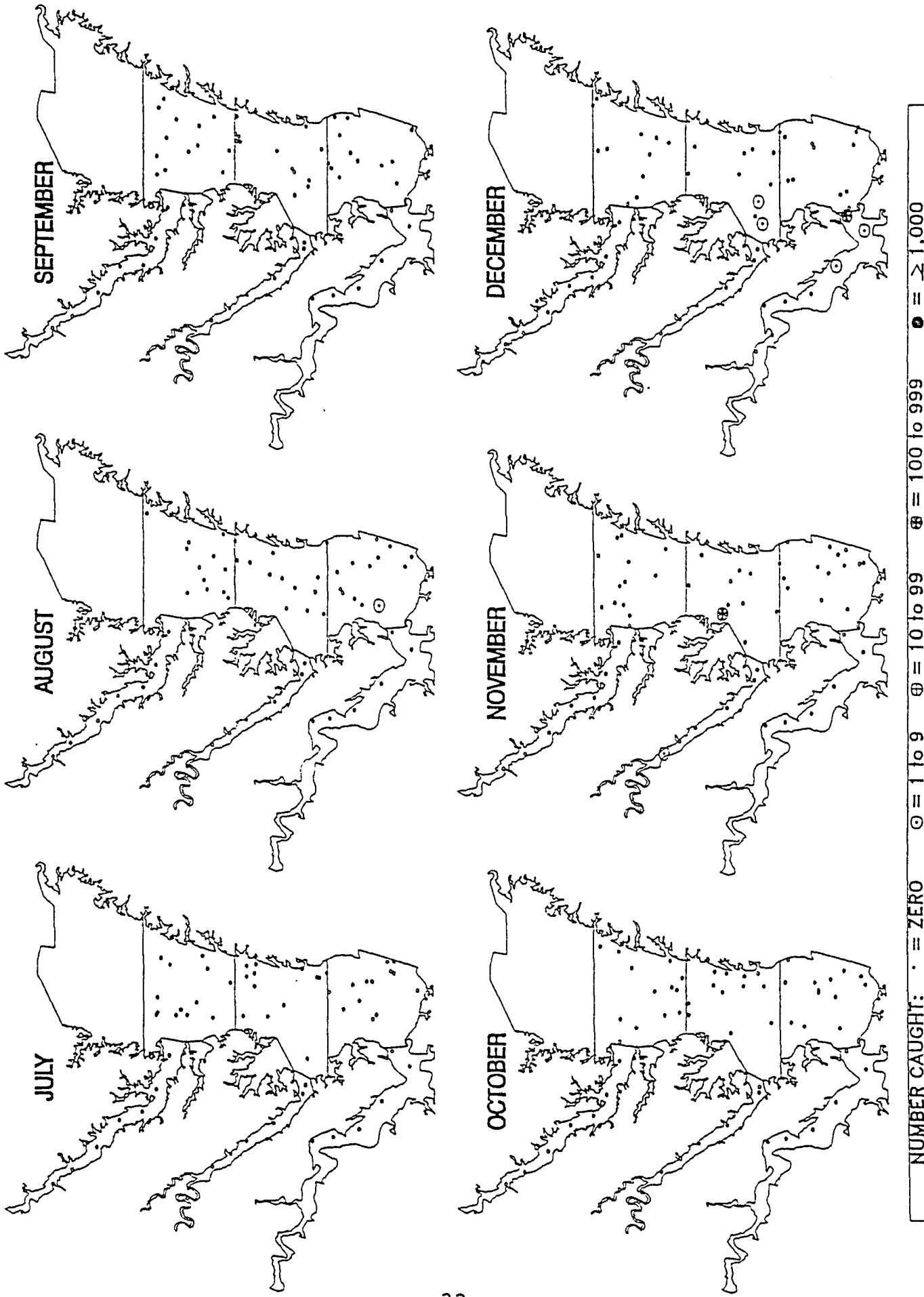


Figure 20

Atlantic Thread Herring

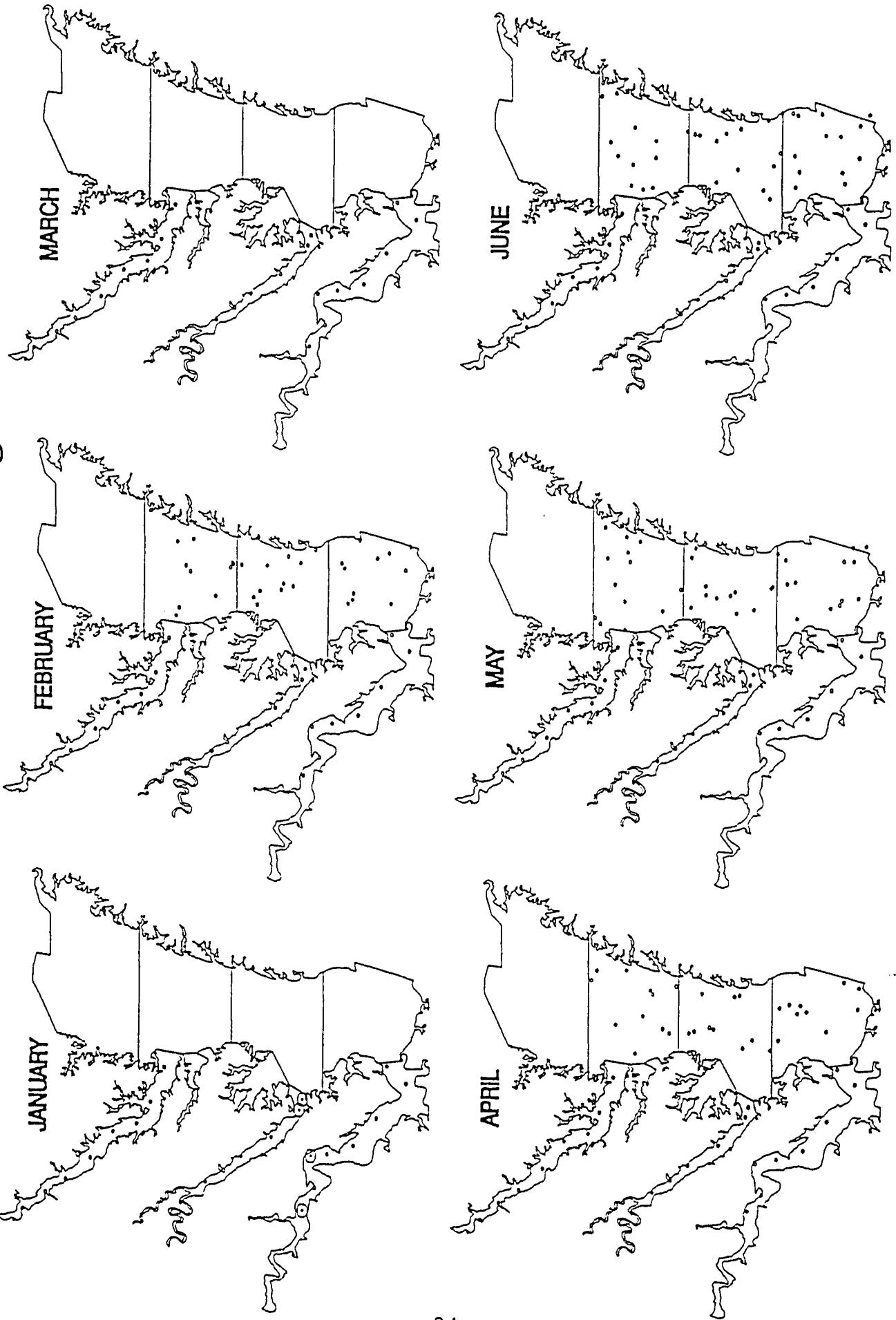


Figure 20

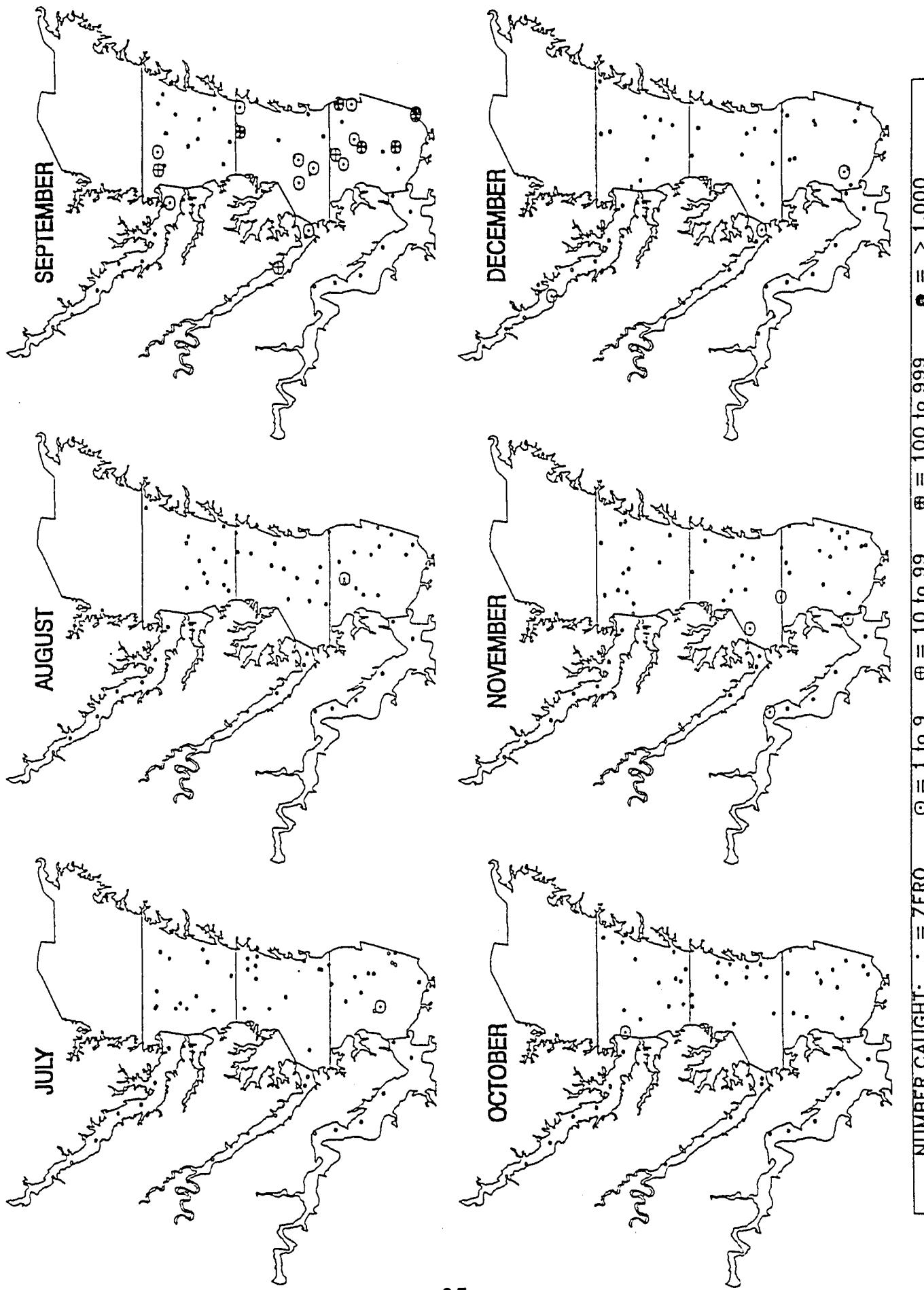


Figure 21

Bay Anchovy

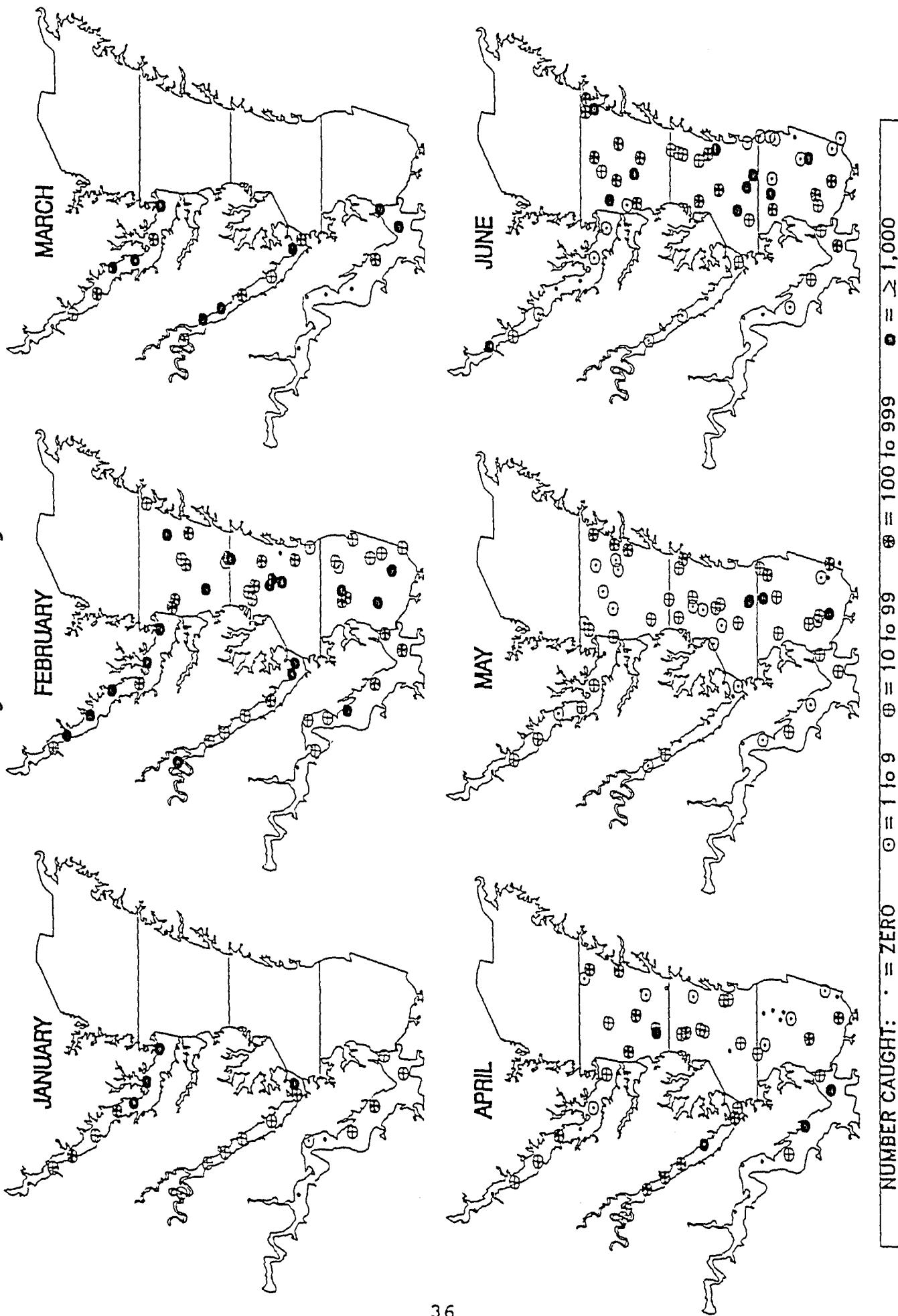


Figure 21

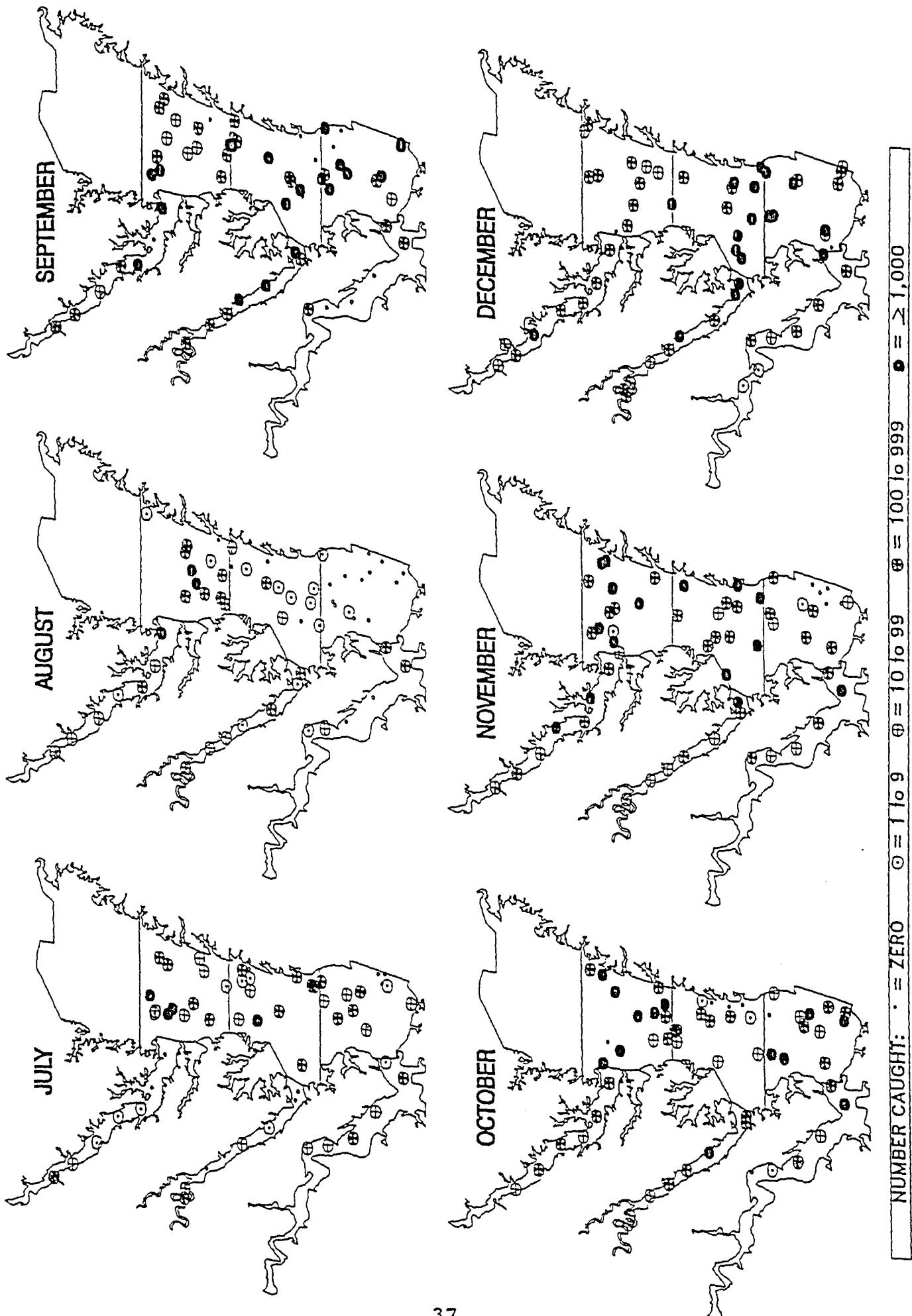
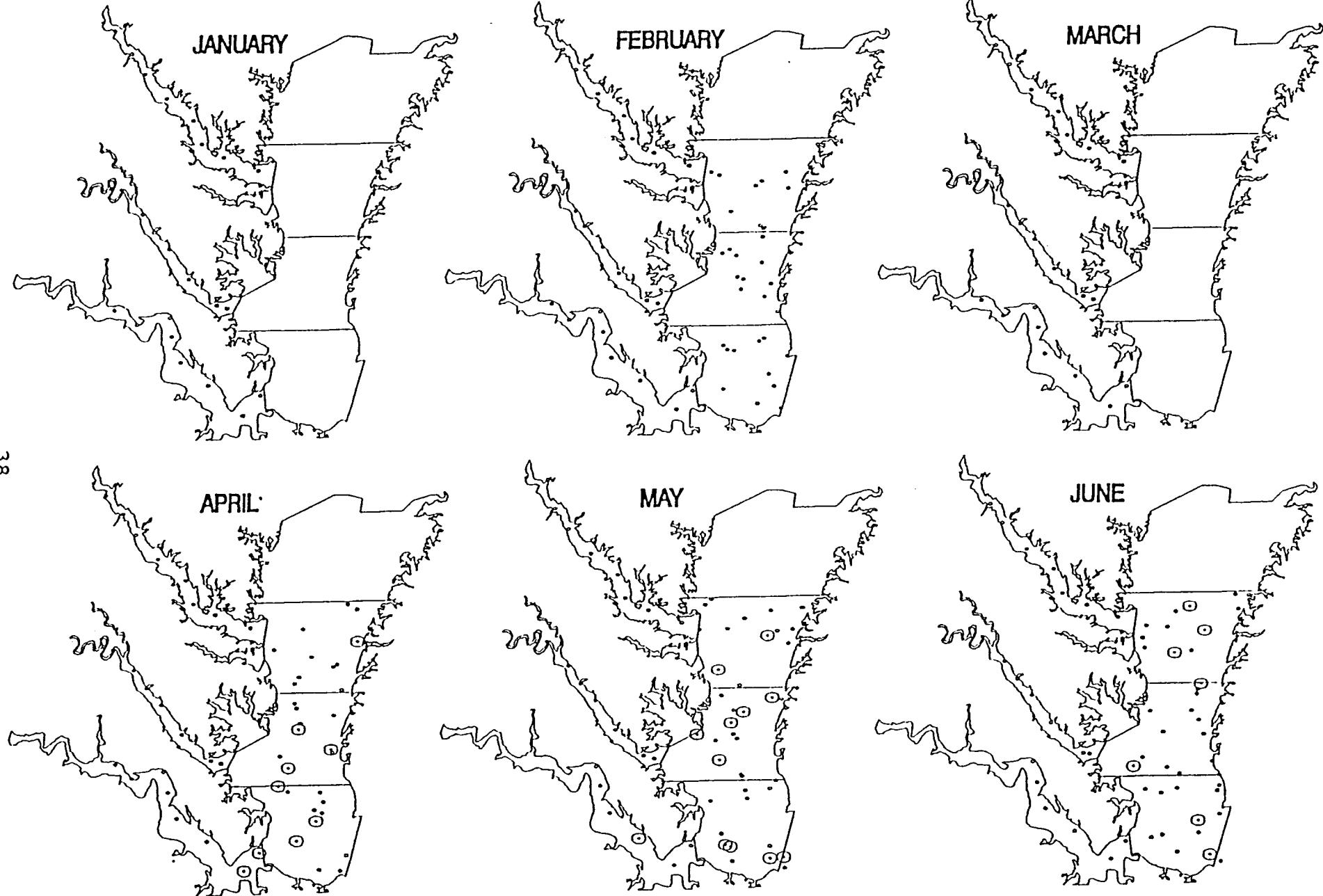


Figure 22

Black Seabass



NUMBER CAUGHT: • = ZERO ○ = 1 to 9 + = 10 to 99 * = 100 to 999 ⬤ = ≥ 1,000

Figure 22

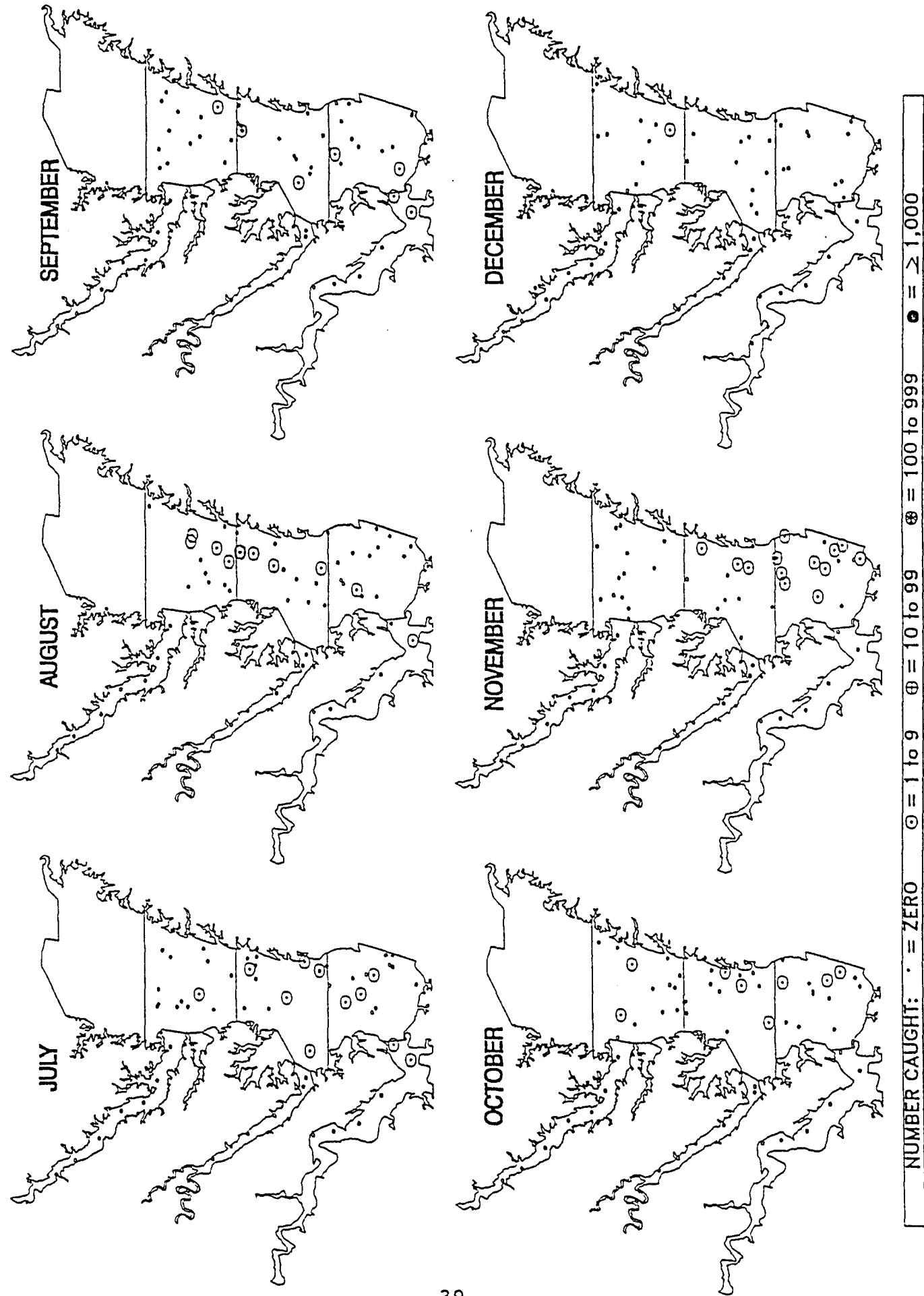
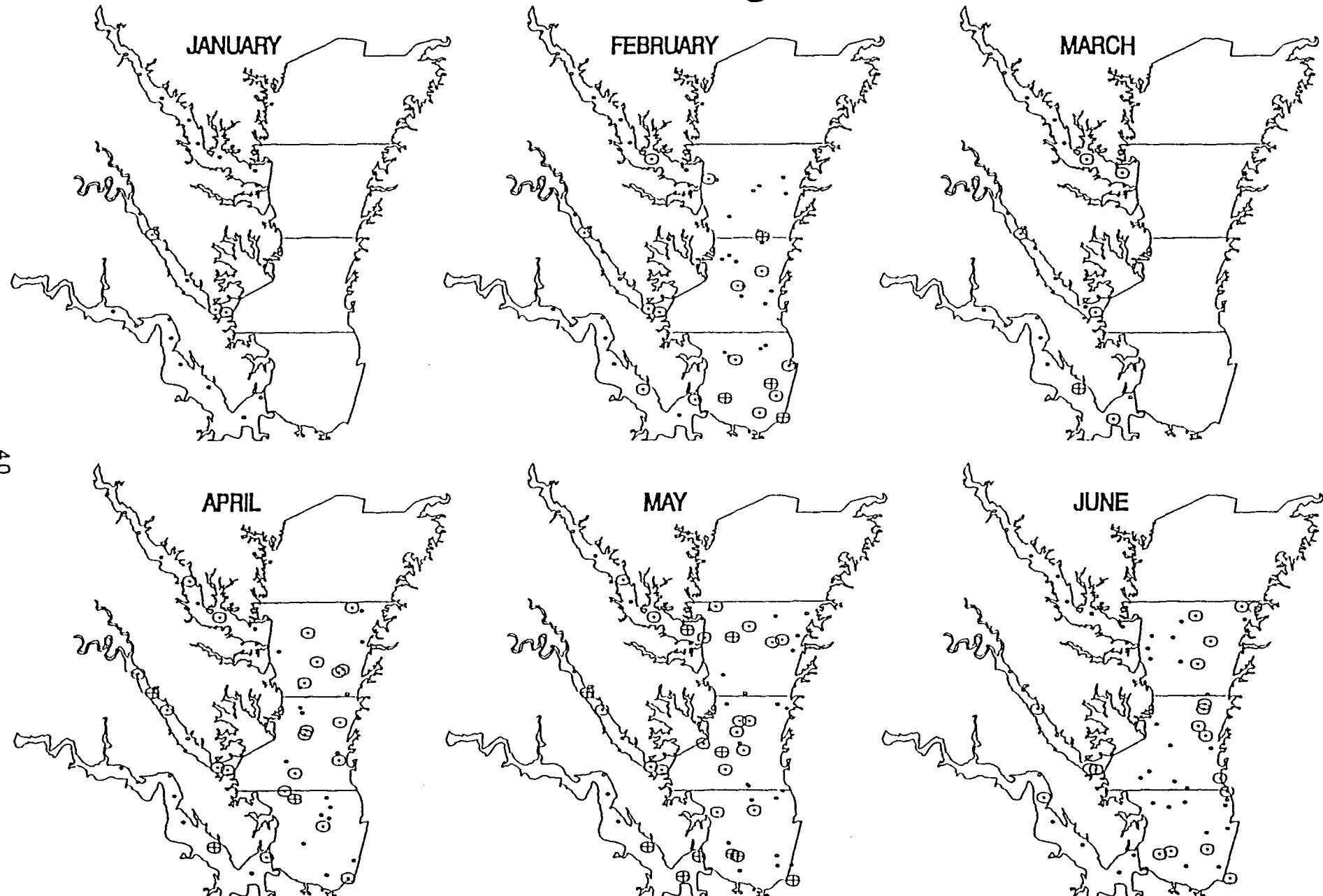


Figure 23

Blackcheek Tonguefish



04

NUMBER CAUGHT: • = ZERO ○ = 1 to 9 ⊕ = 10 to 99 ⊗ = 100 to 999 ● = ≥ 1,000

Figure 23

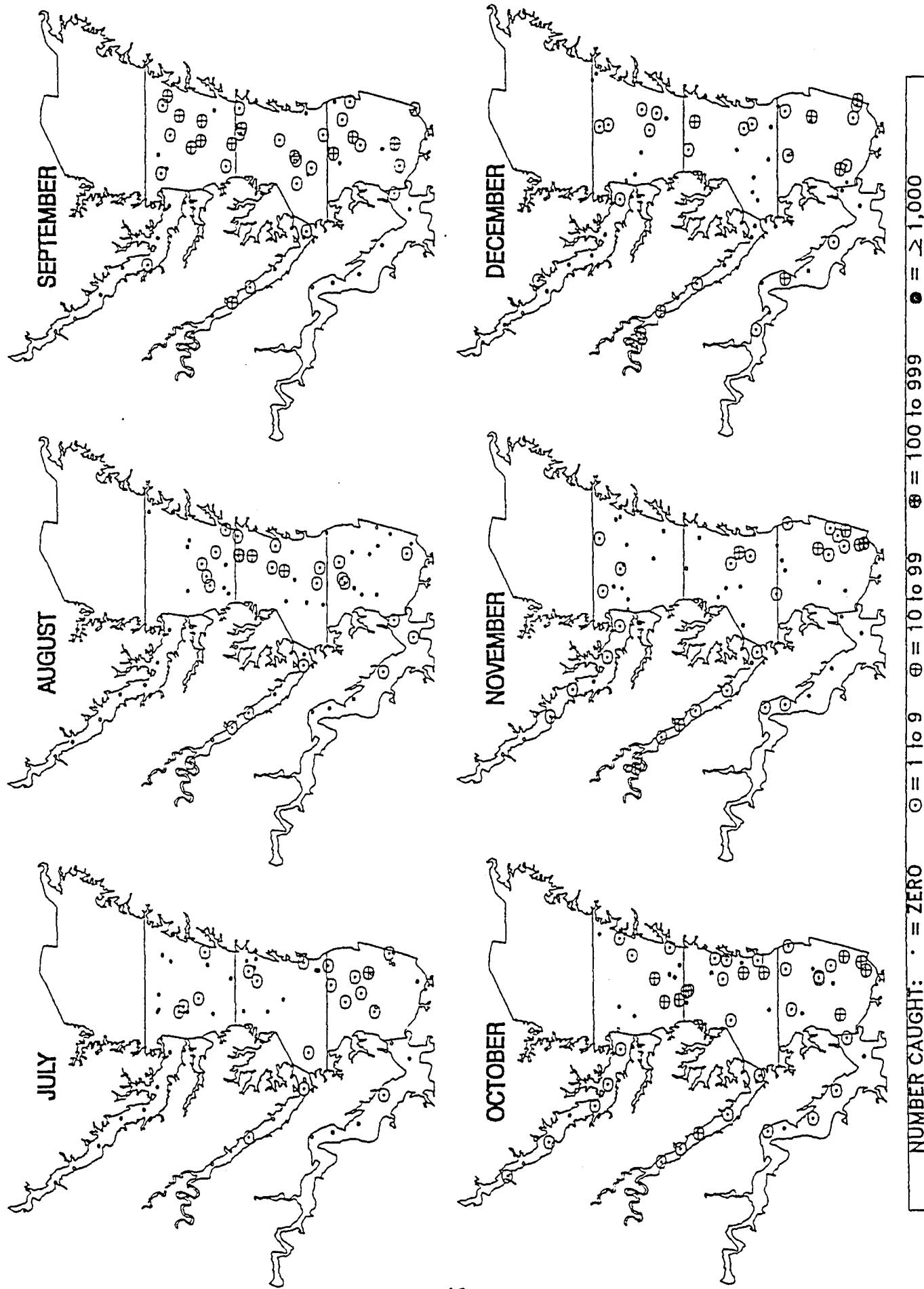


Figure 24

Blue Crab — Adult Female

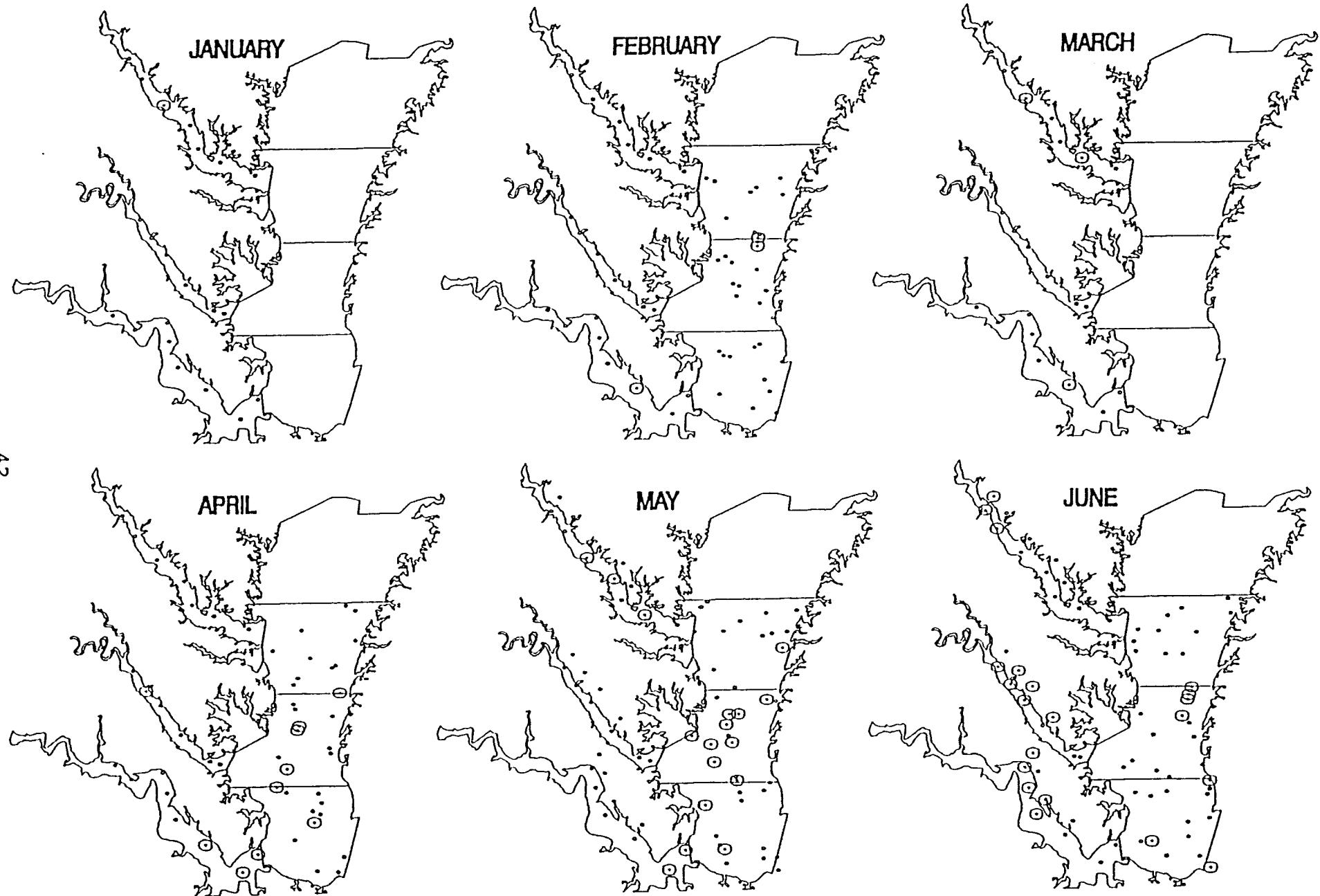


Figure 24

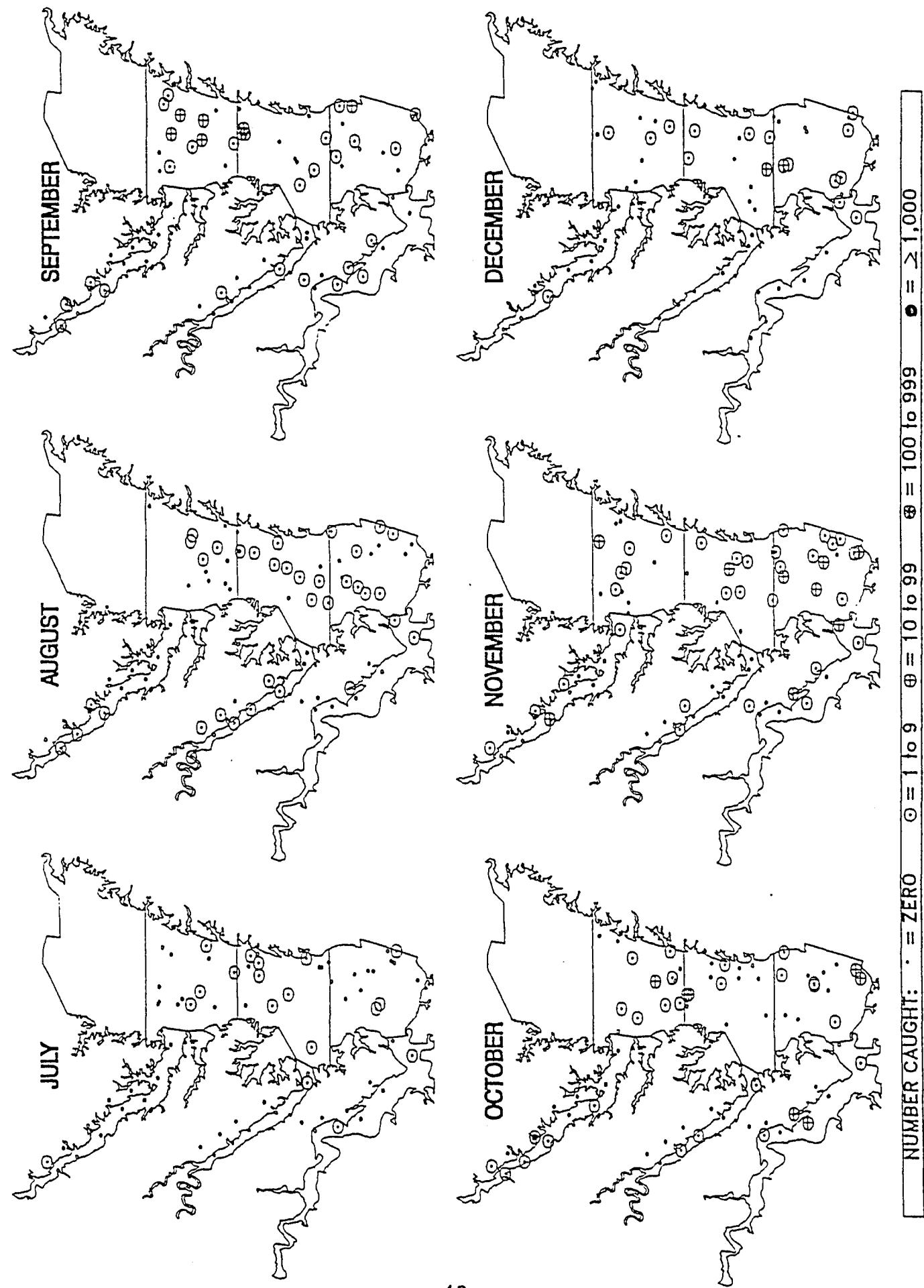


Figure 25
Blue Crab — Juvenile Female

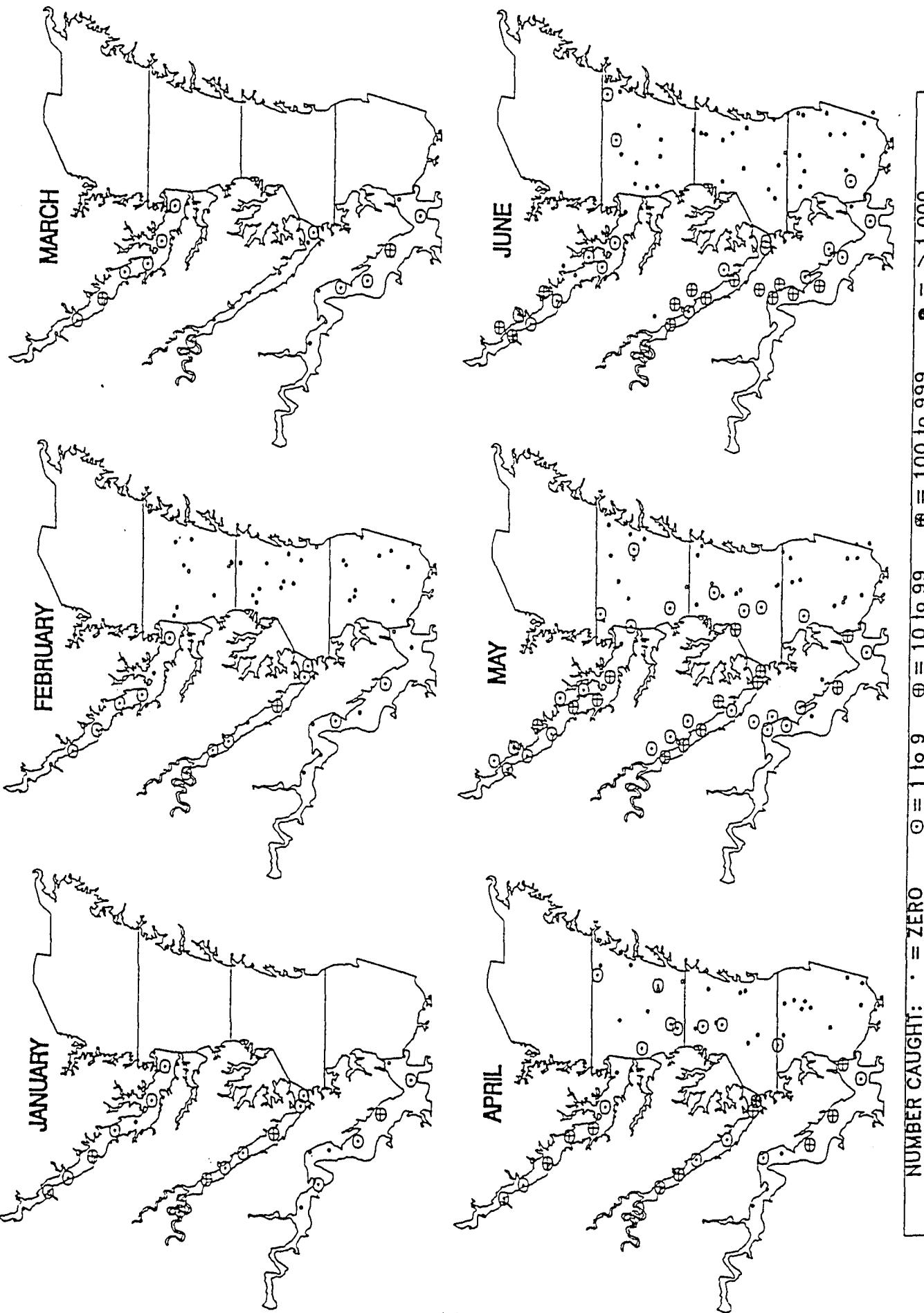


Figure 25

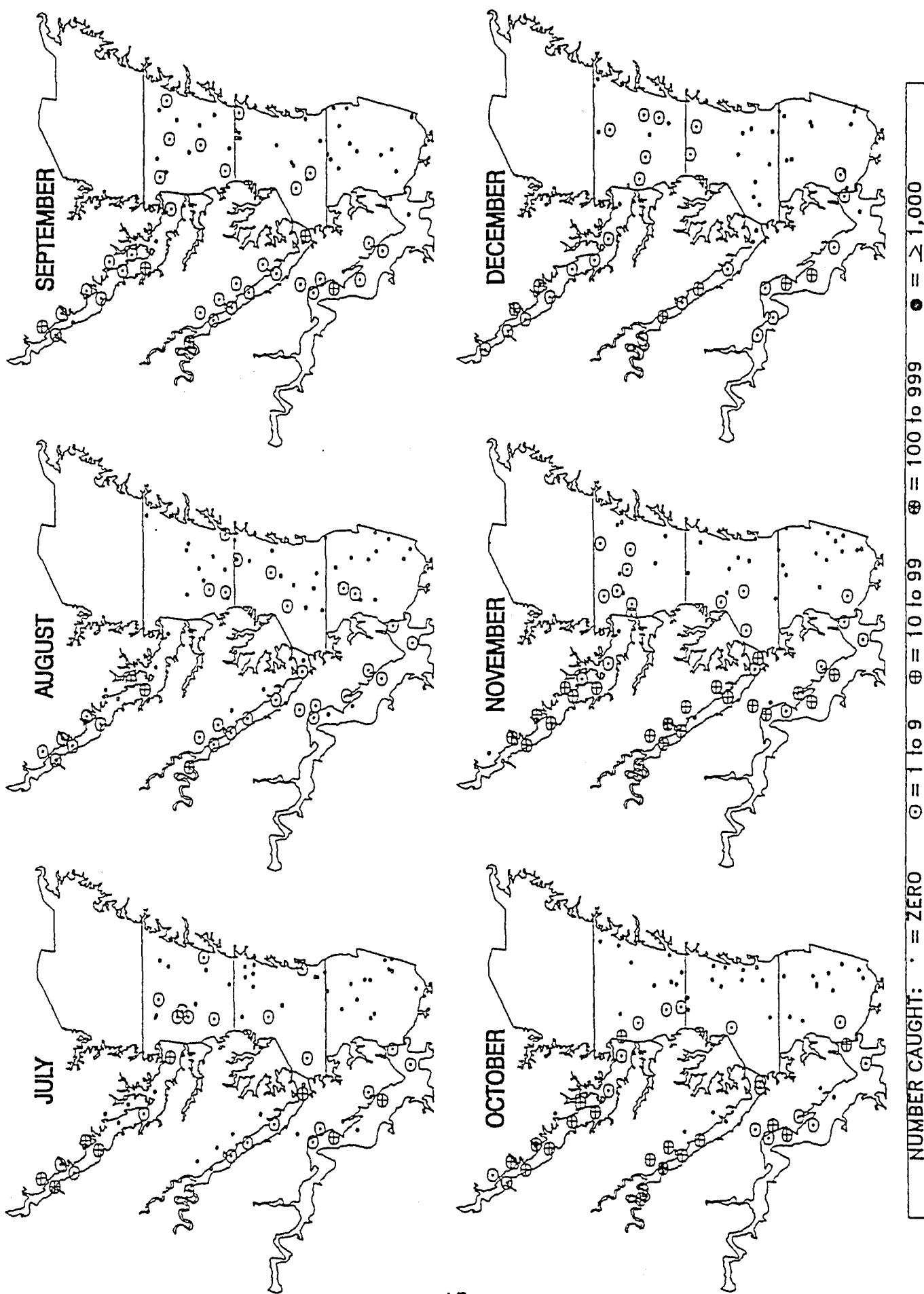


Figure 26

Blue Crab — Male

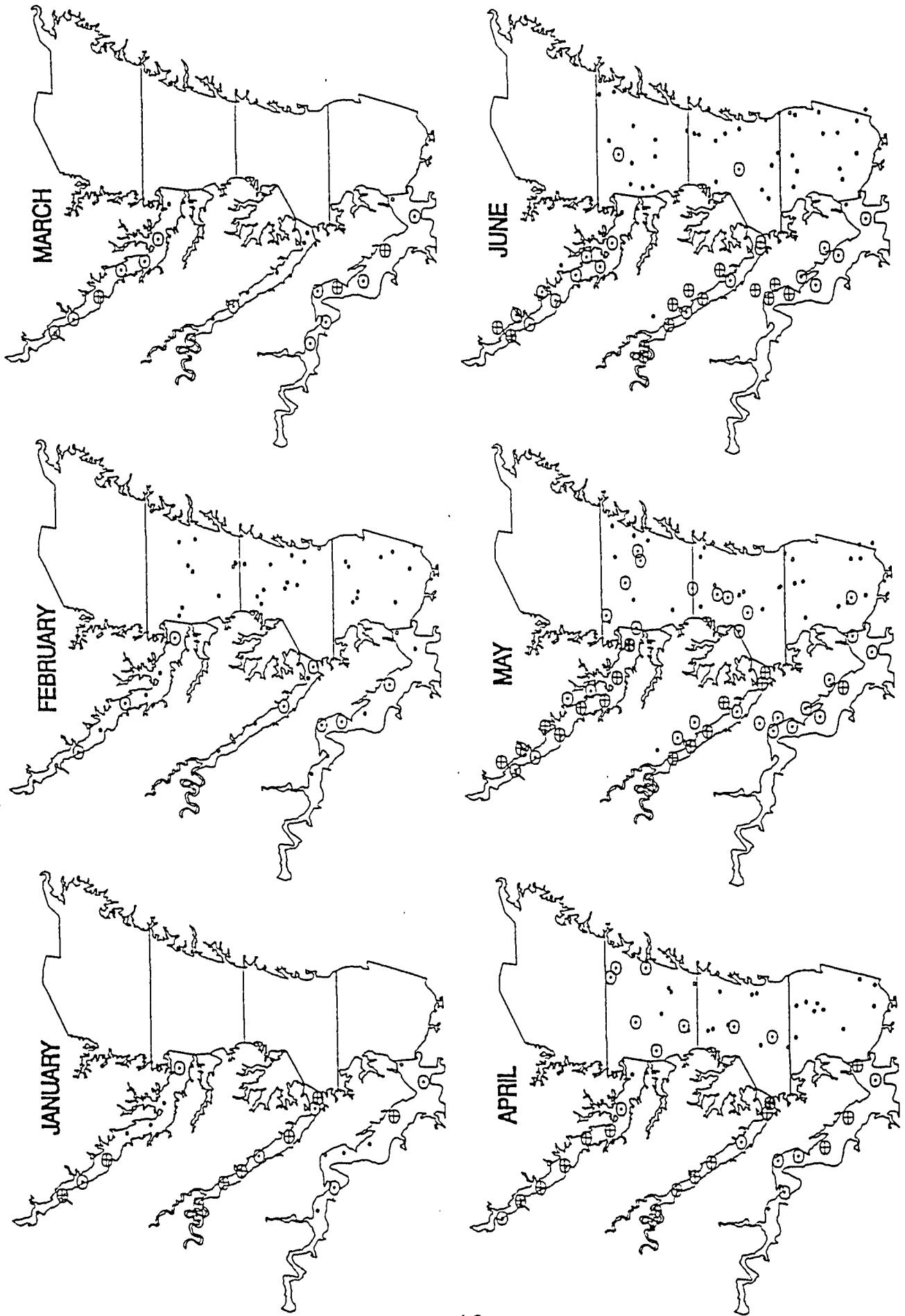


Figure 26

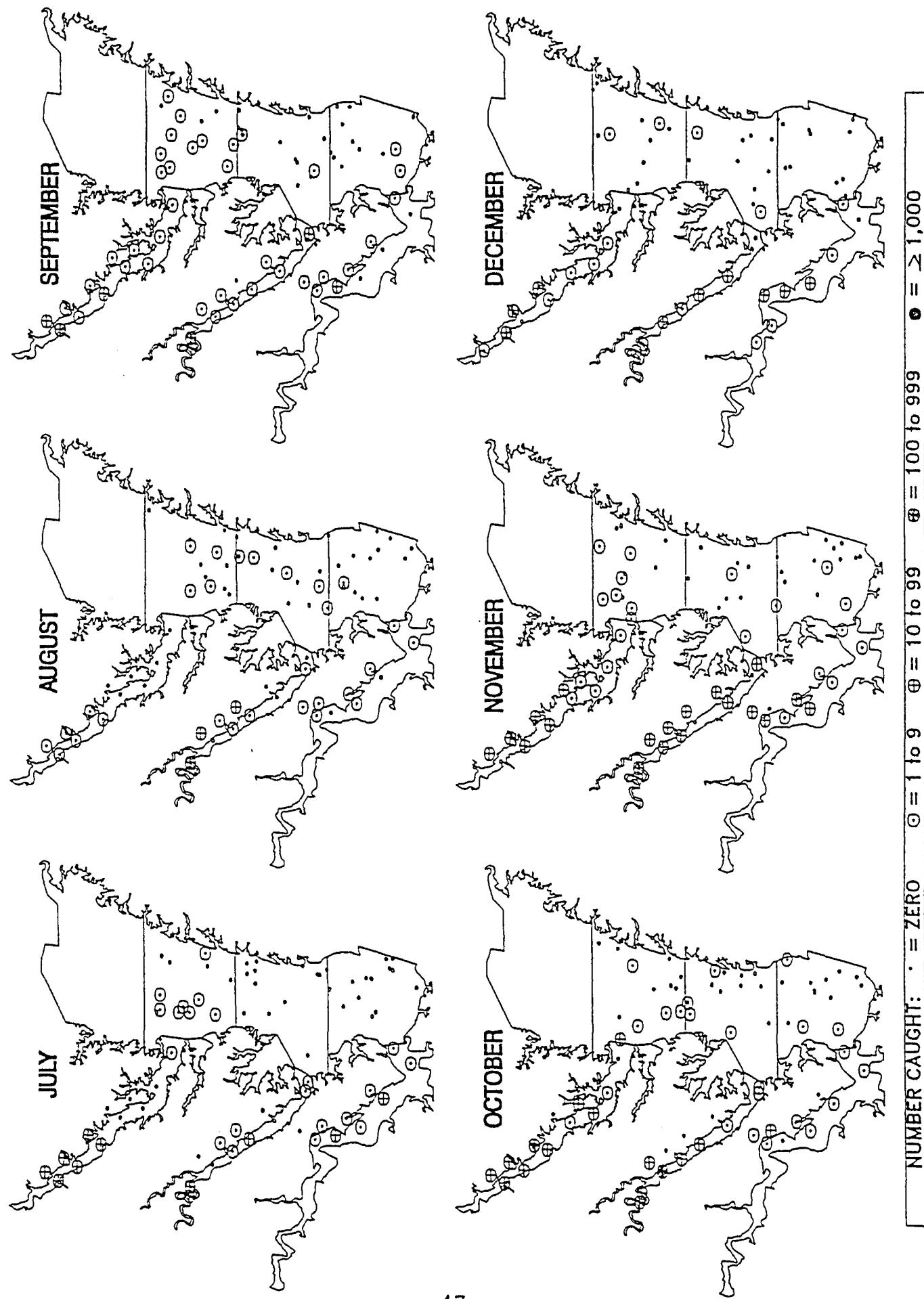


Figure 27

Blueback Herring

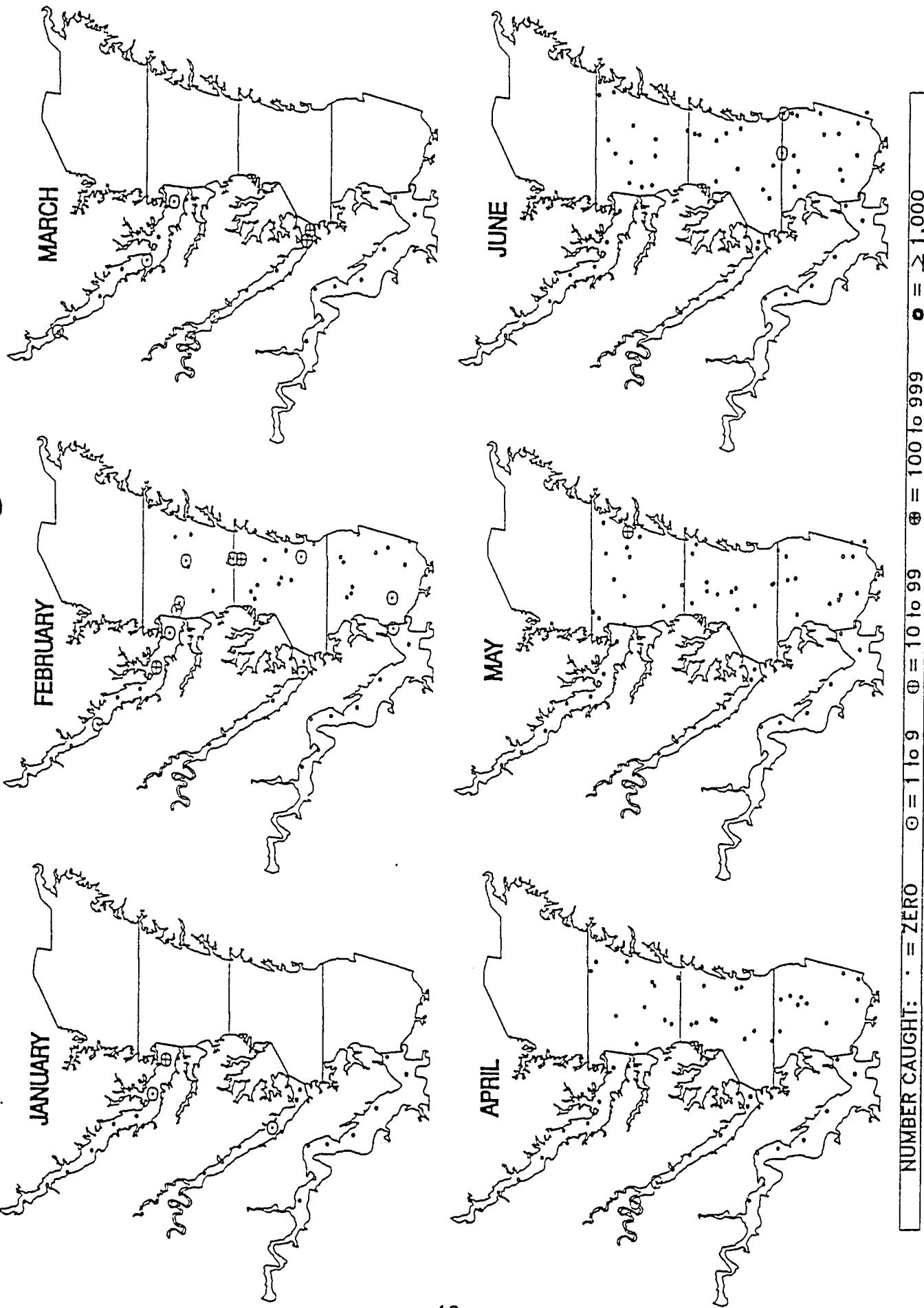


Figure 27

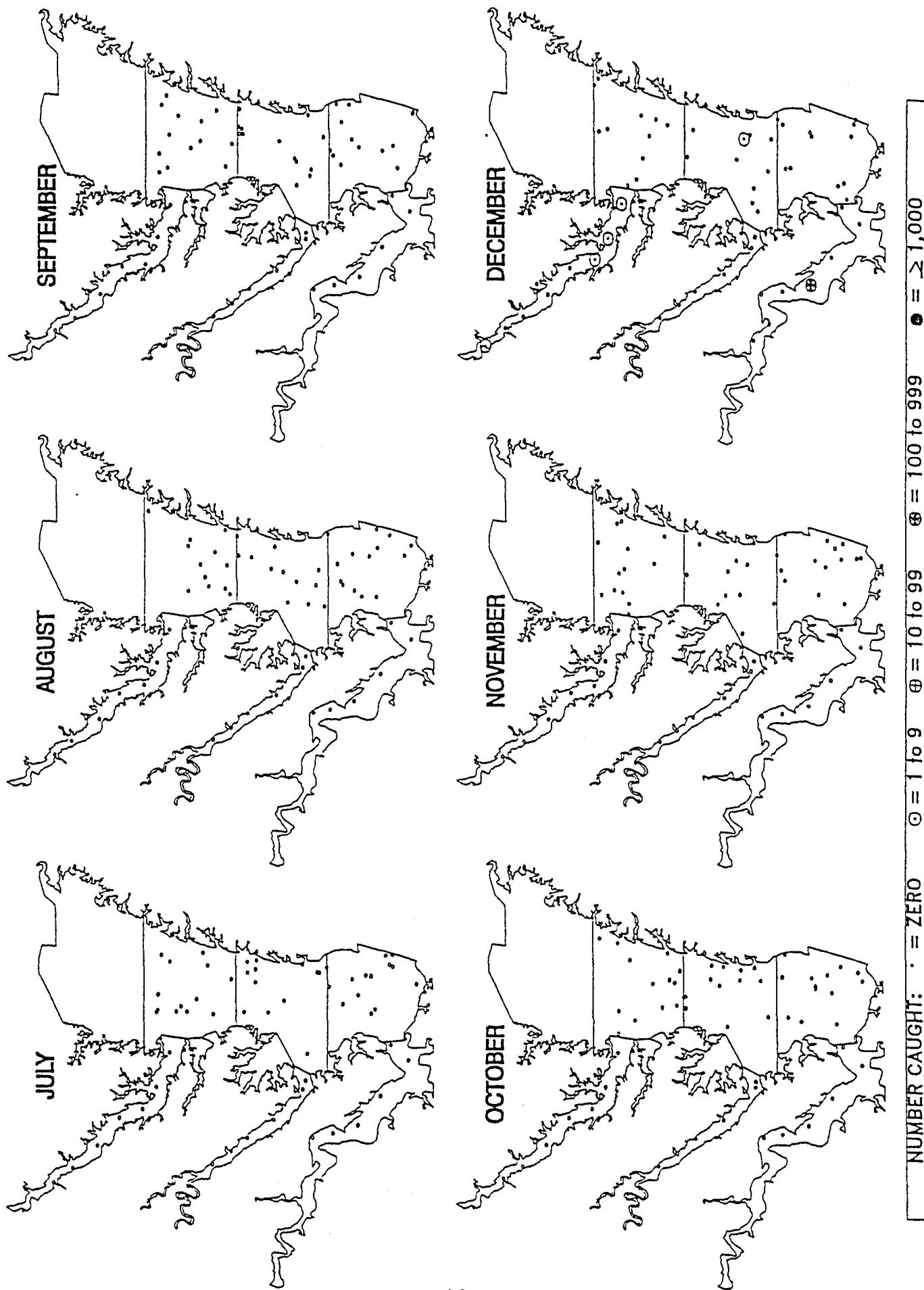


Figure 26

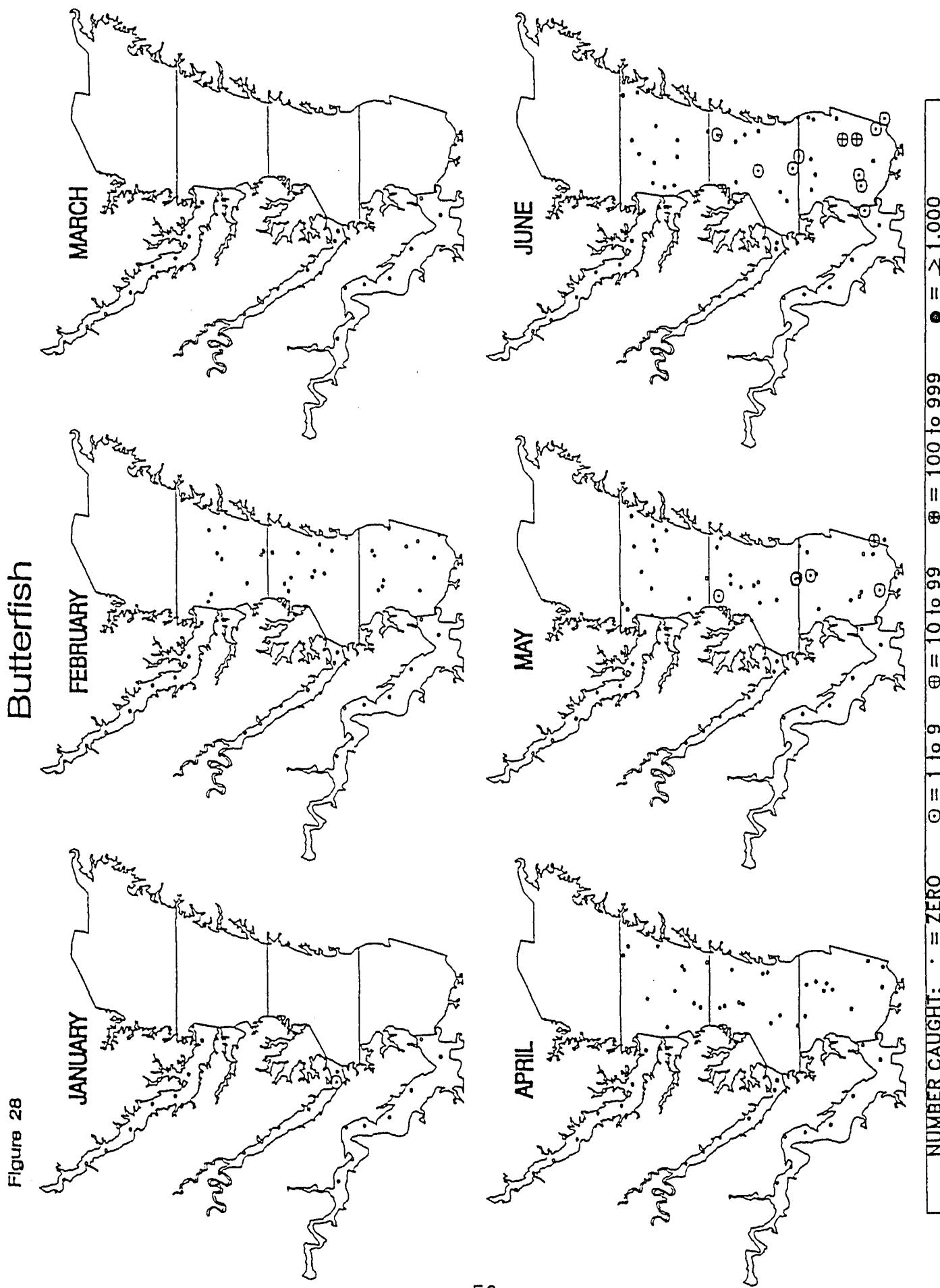


Figure 28

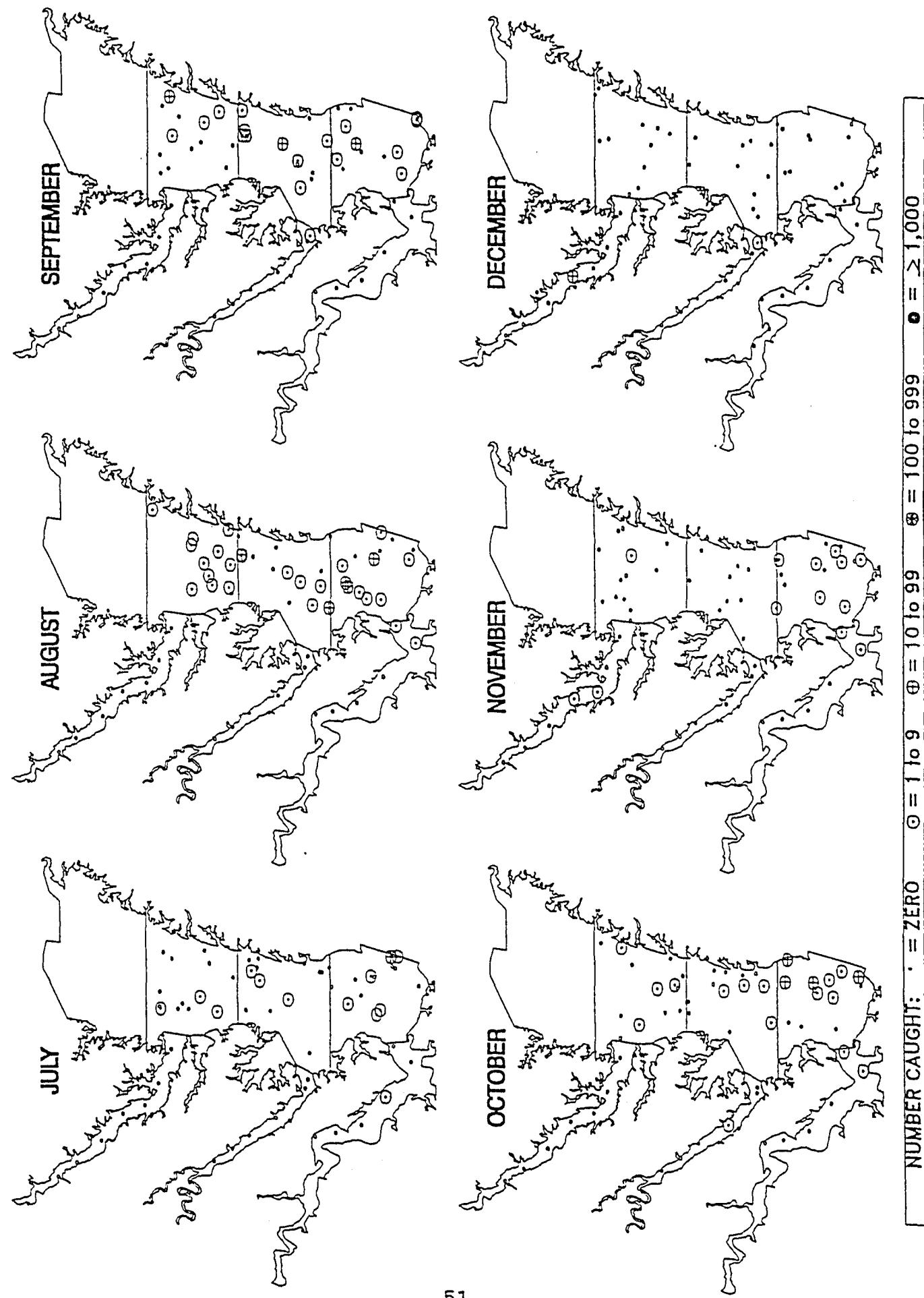
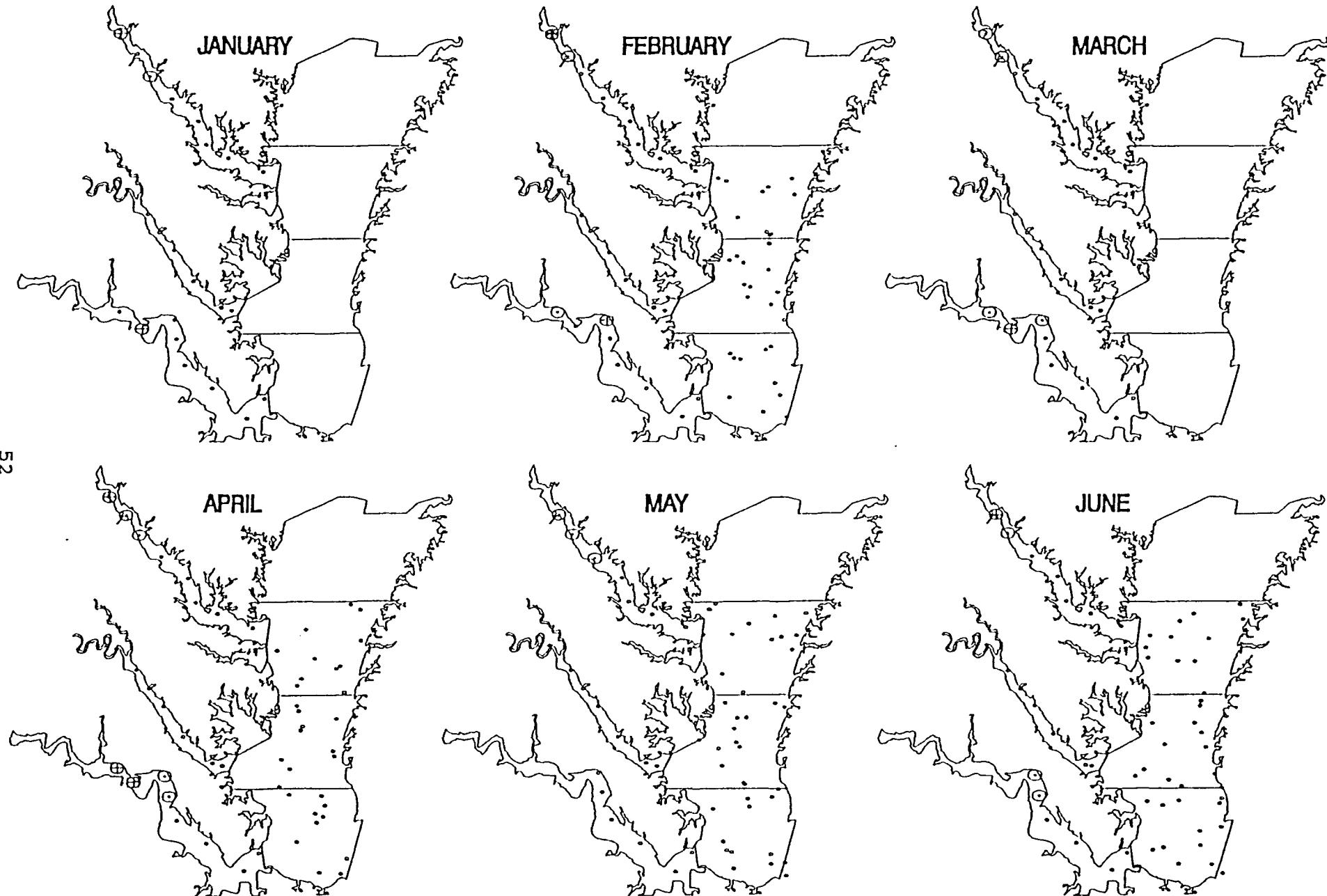


Figure 29

Channel Catfish



NUMBER CAUGHT: • = ZERO ○ = 1 to 9 ⊕ = 10 to 99 ◎ = 100 to 999 ● = > 1,000



Figure 29

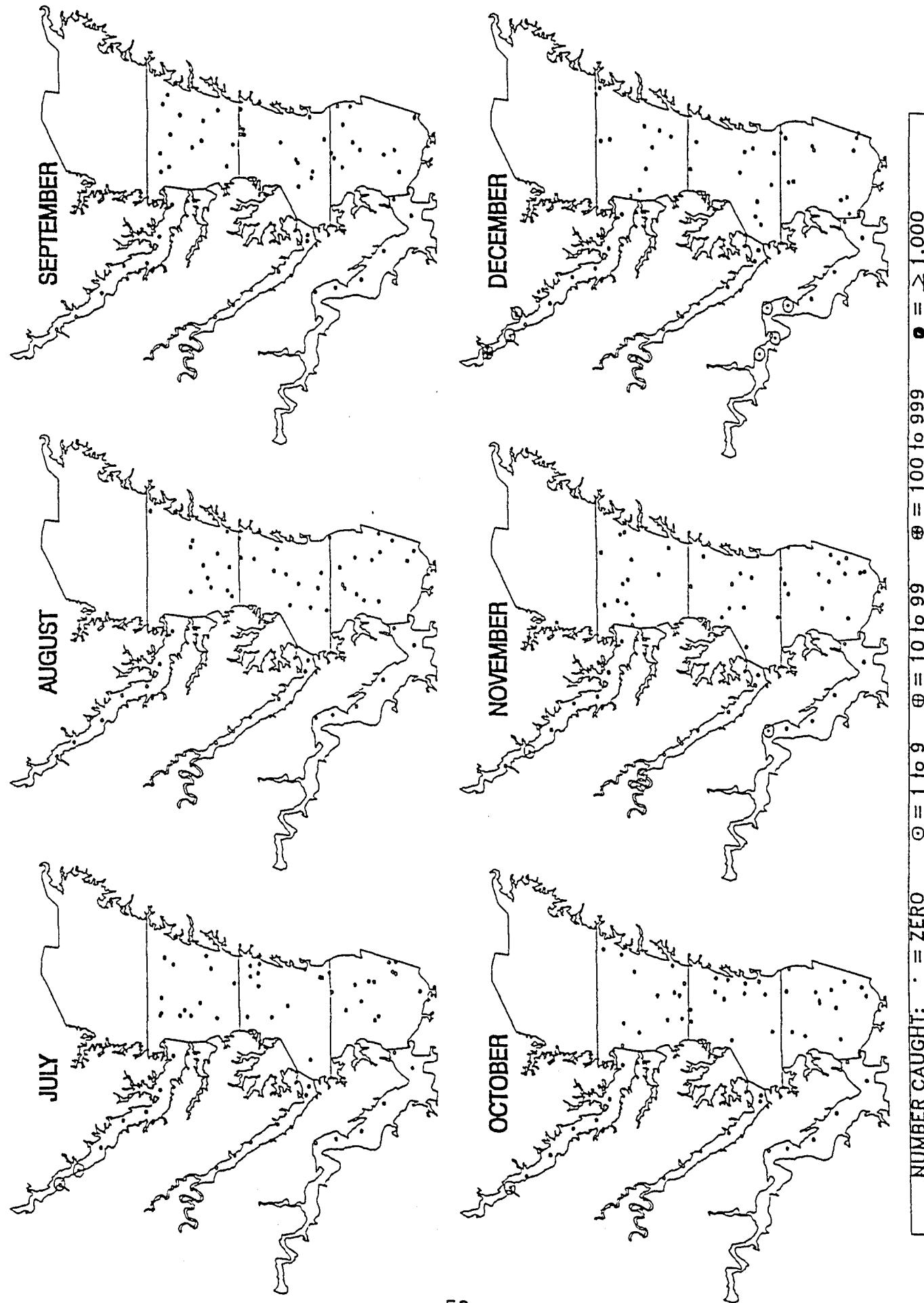


Figure 30

Hogchoker

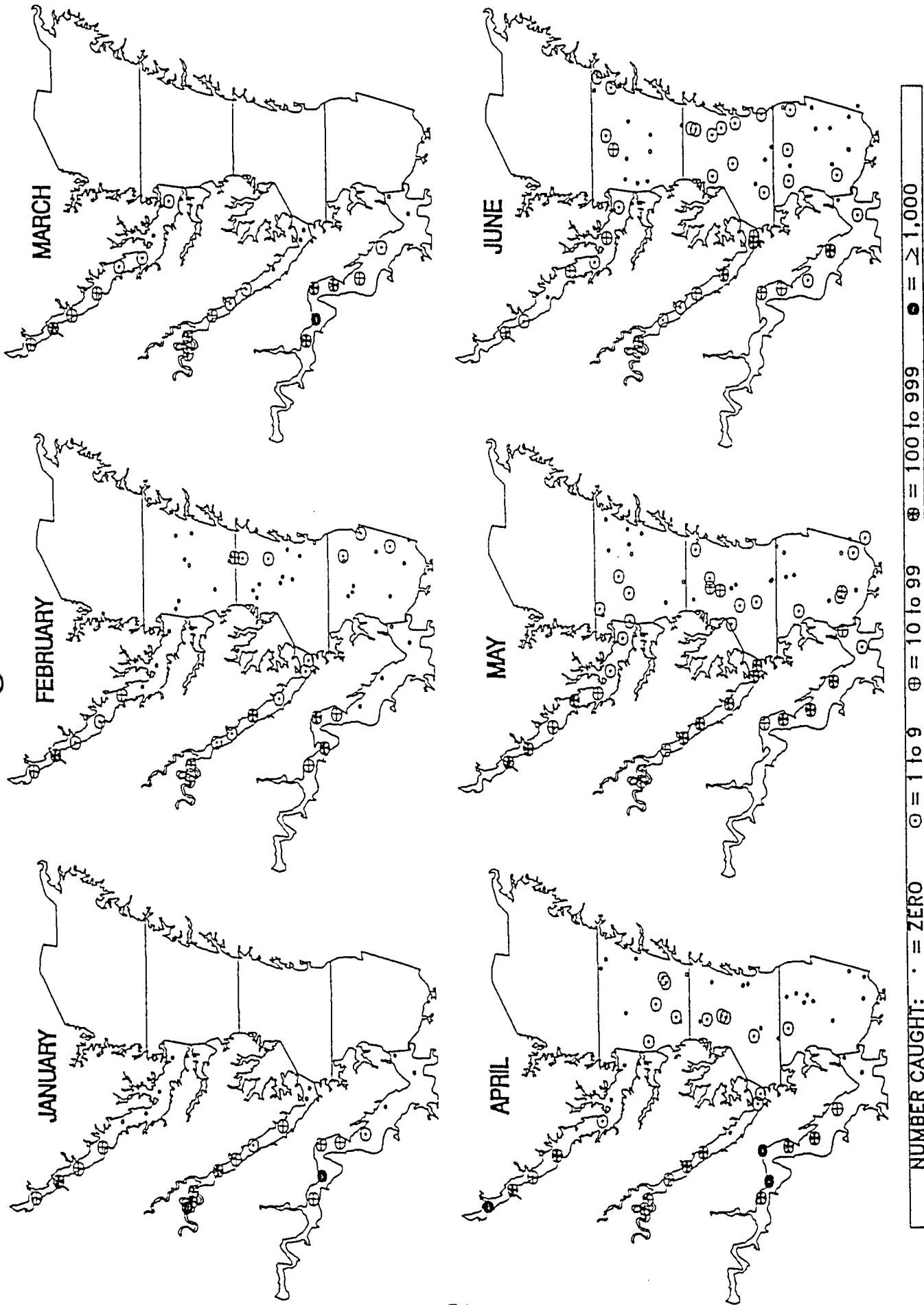


Figure 30

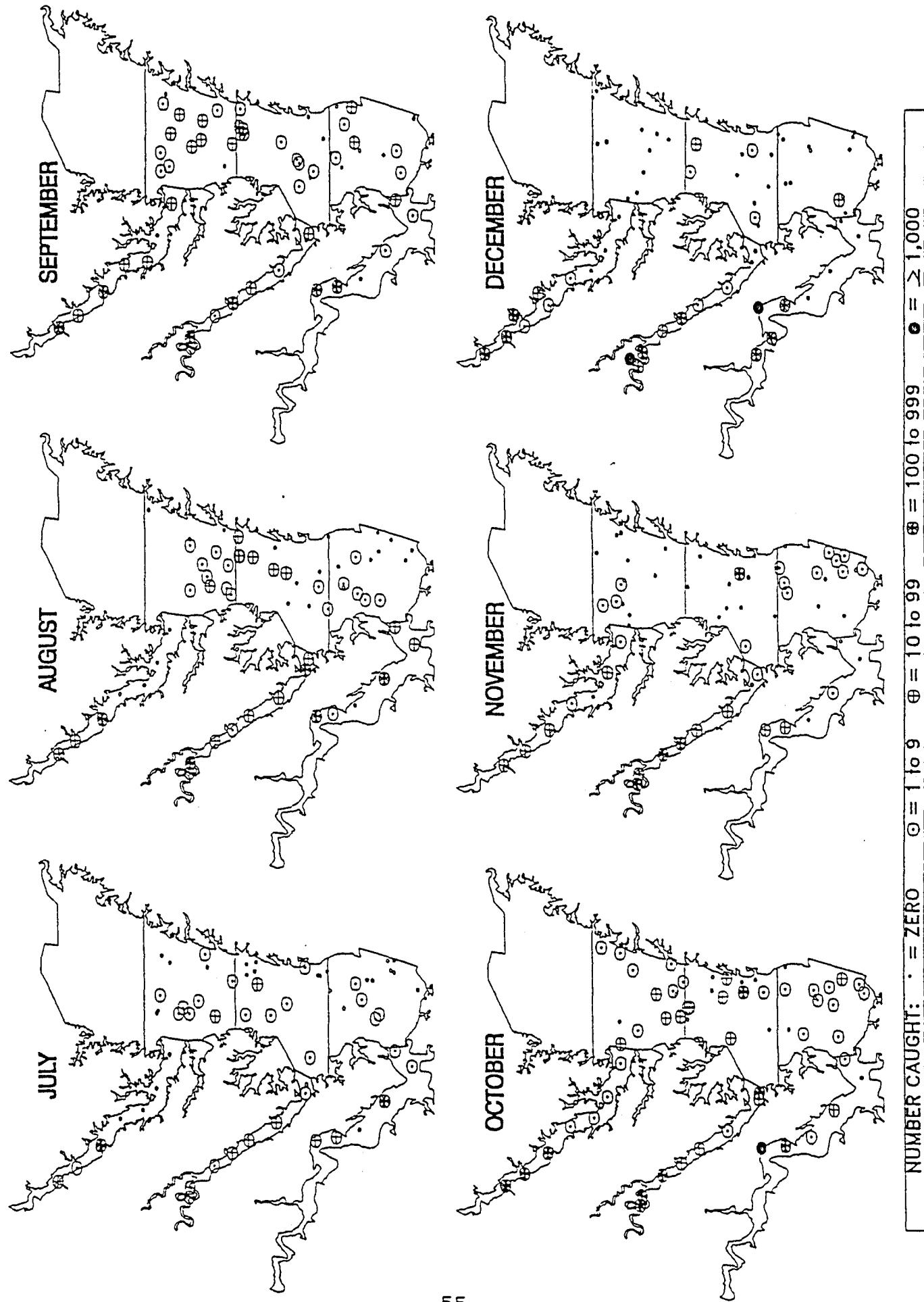


Figure 31

Northern Kingfish

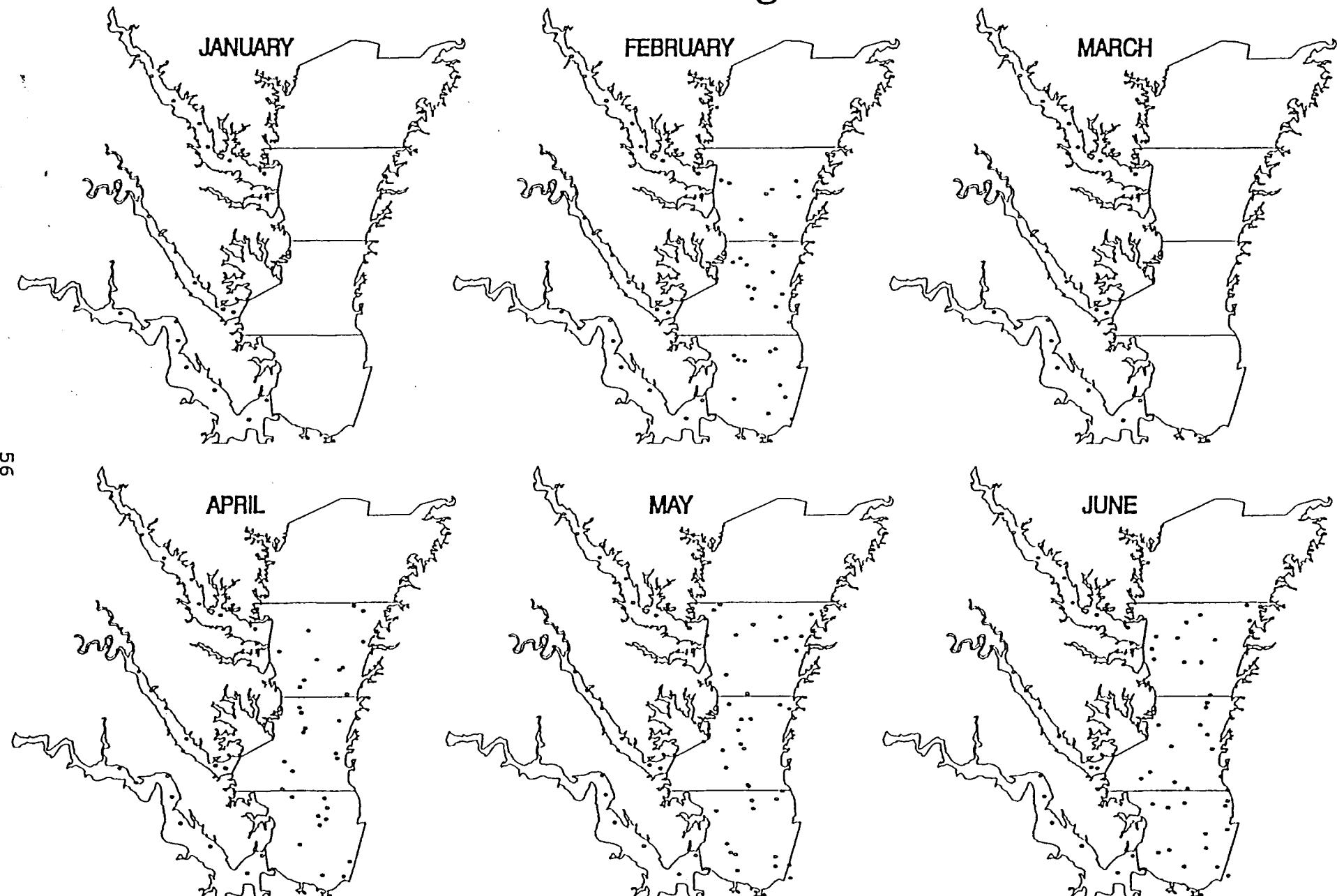


Figure 31

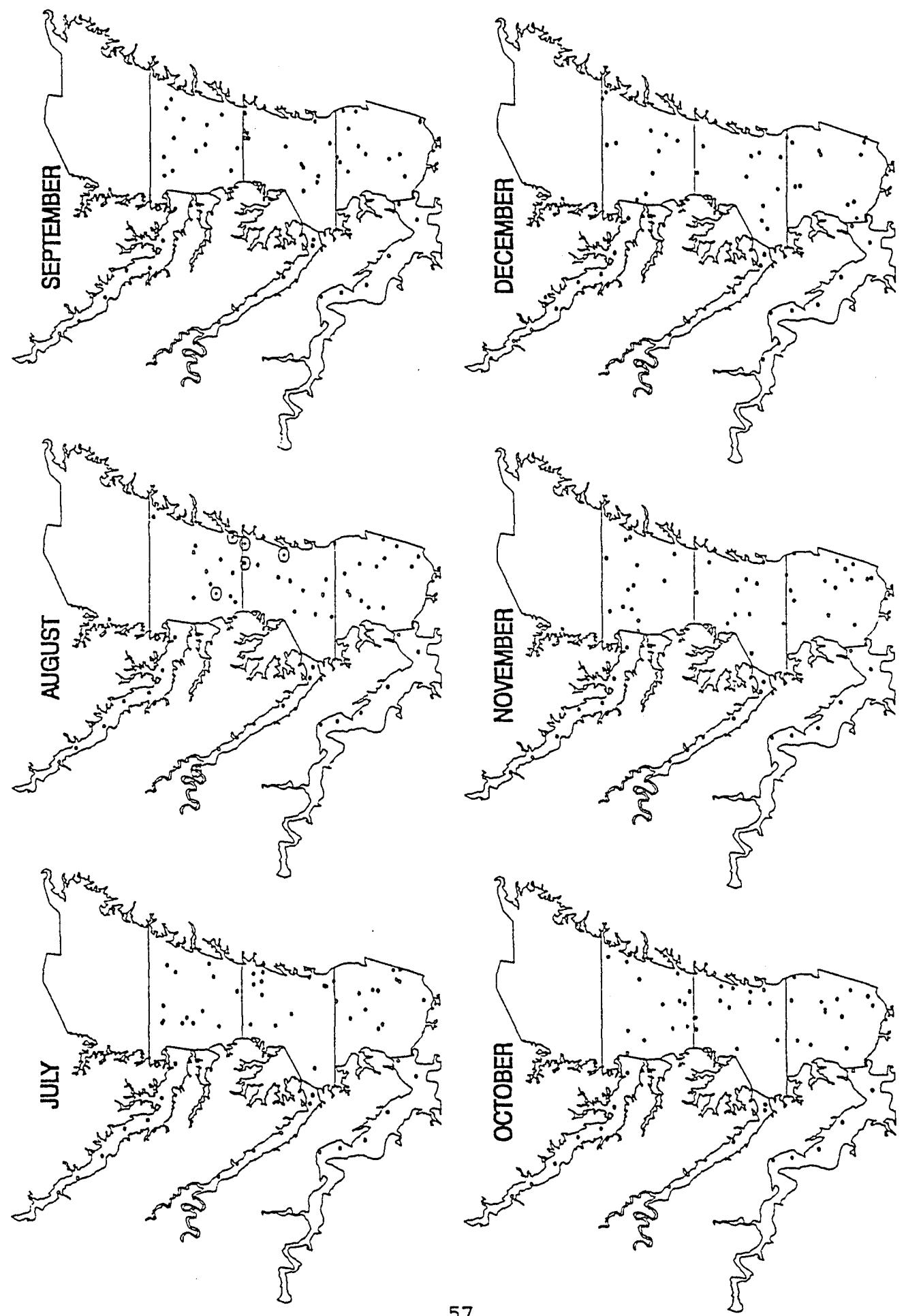


Figure 32

Northern Searobin

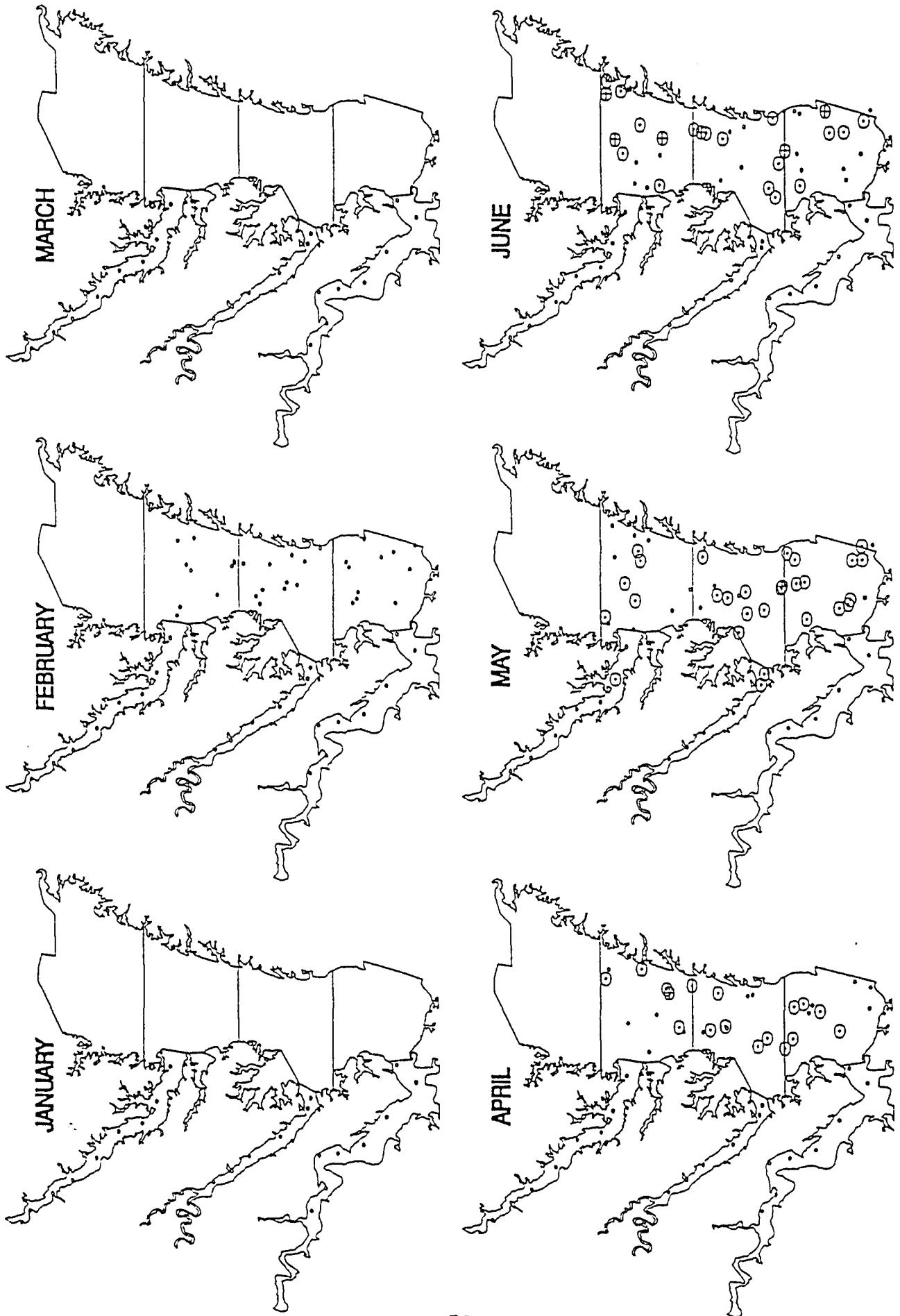


Figure 32

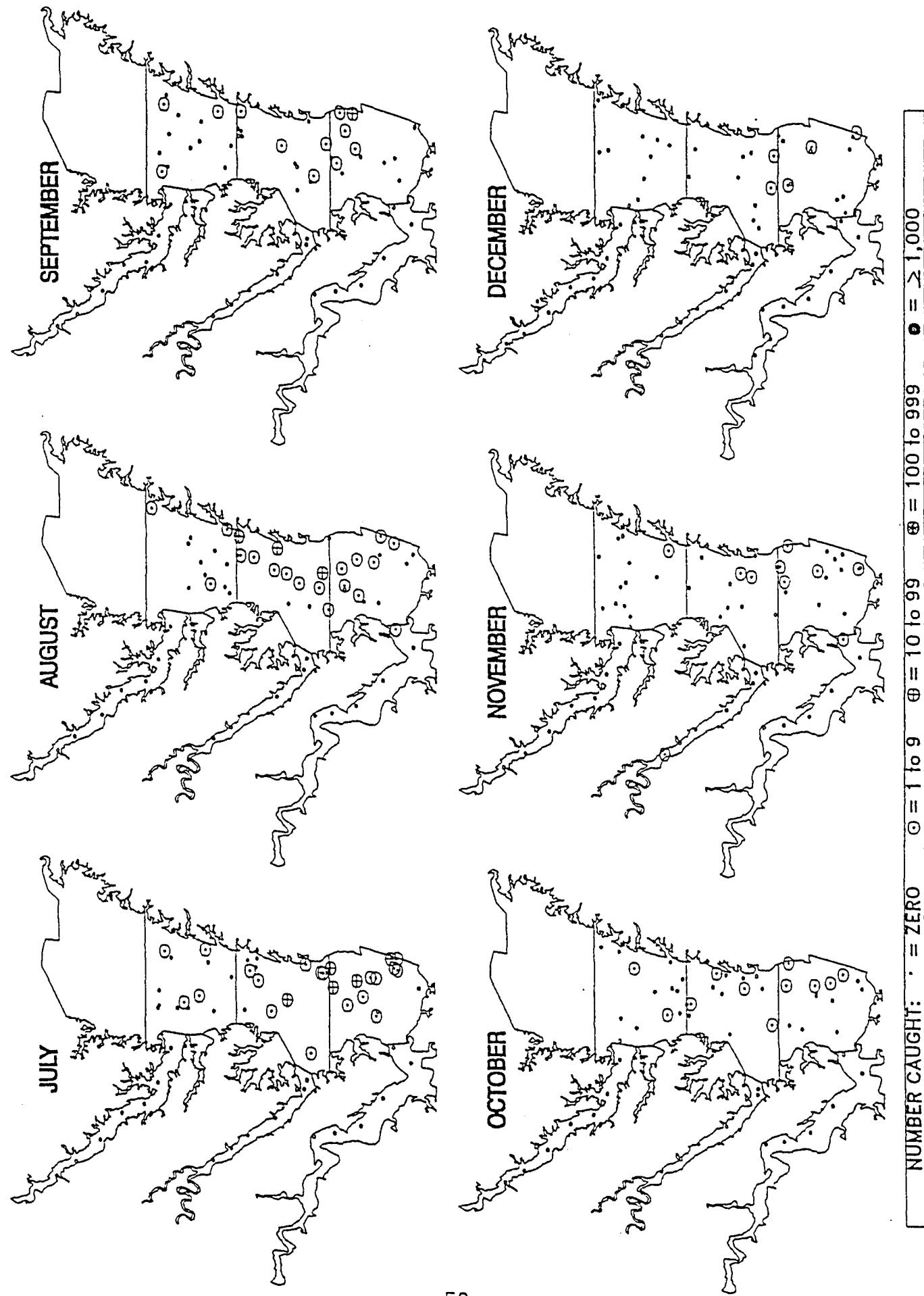
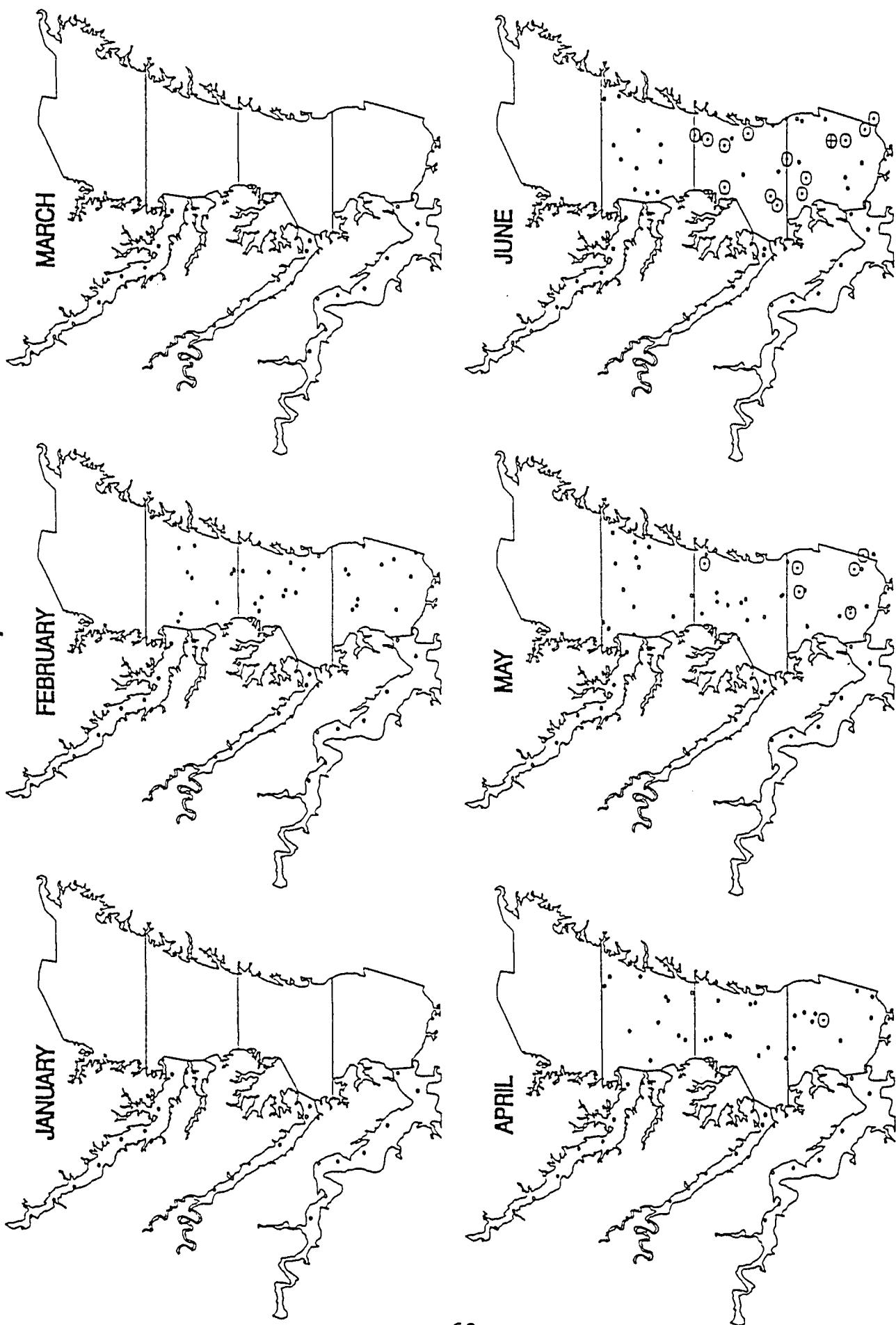


Figure 33

Scup



NUMBER CAUGHT: • = ZERO ◎ = 1 to 9 ⊕ = 10 to 99 ⊖ = 100 to 999 ● = ≥ 1,000

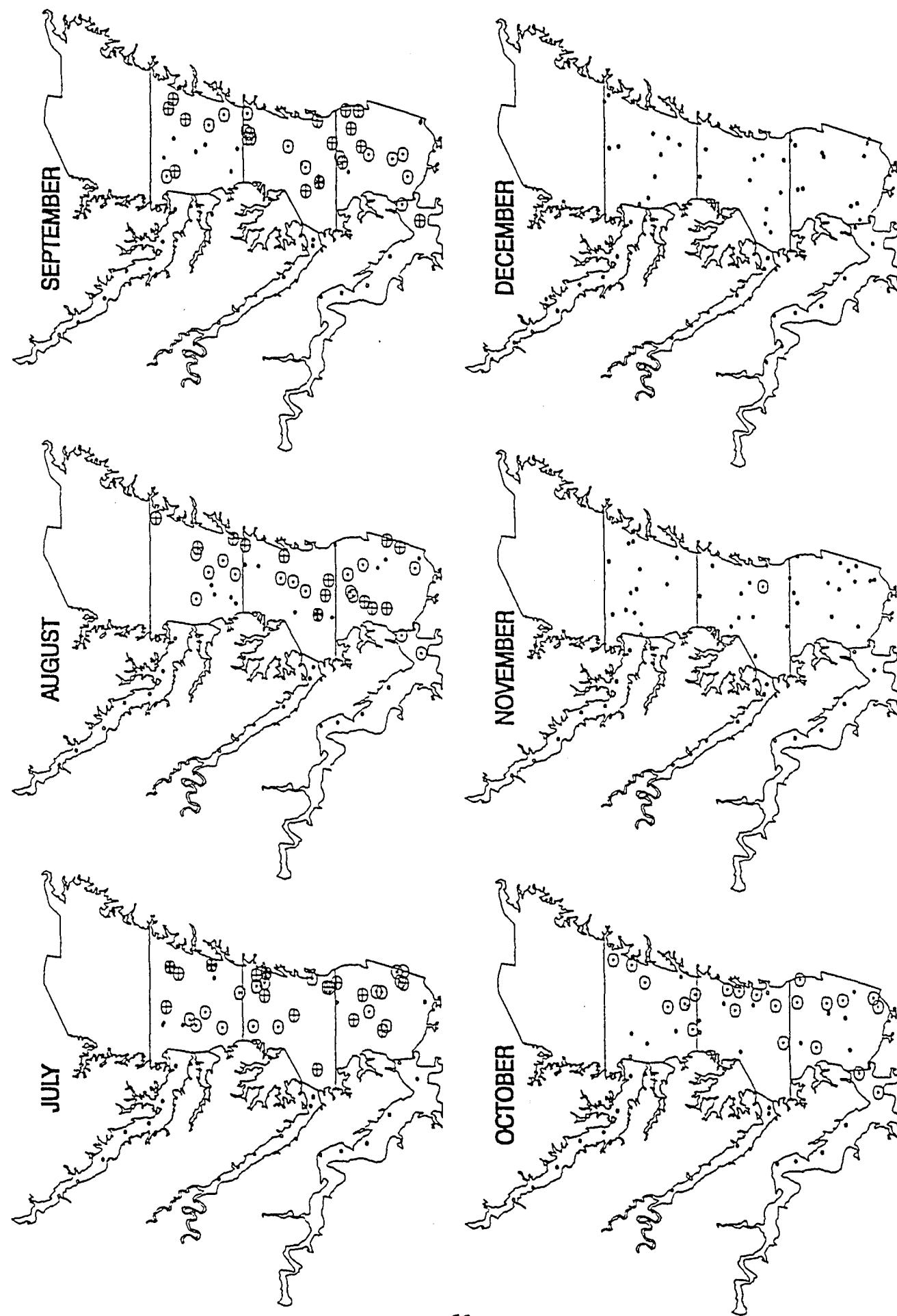
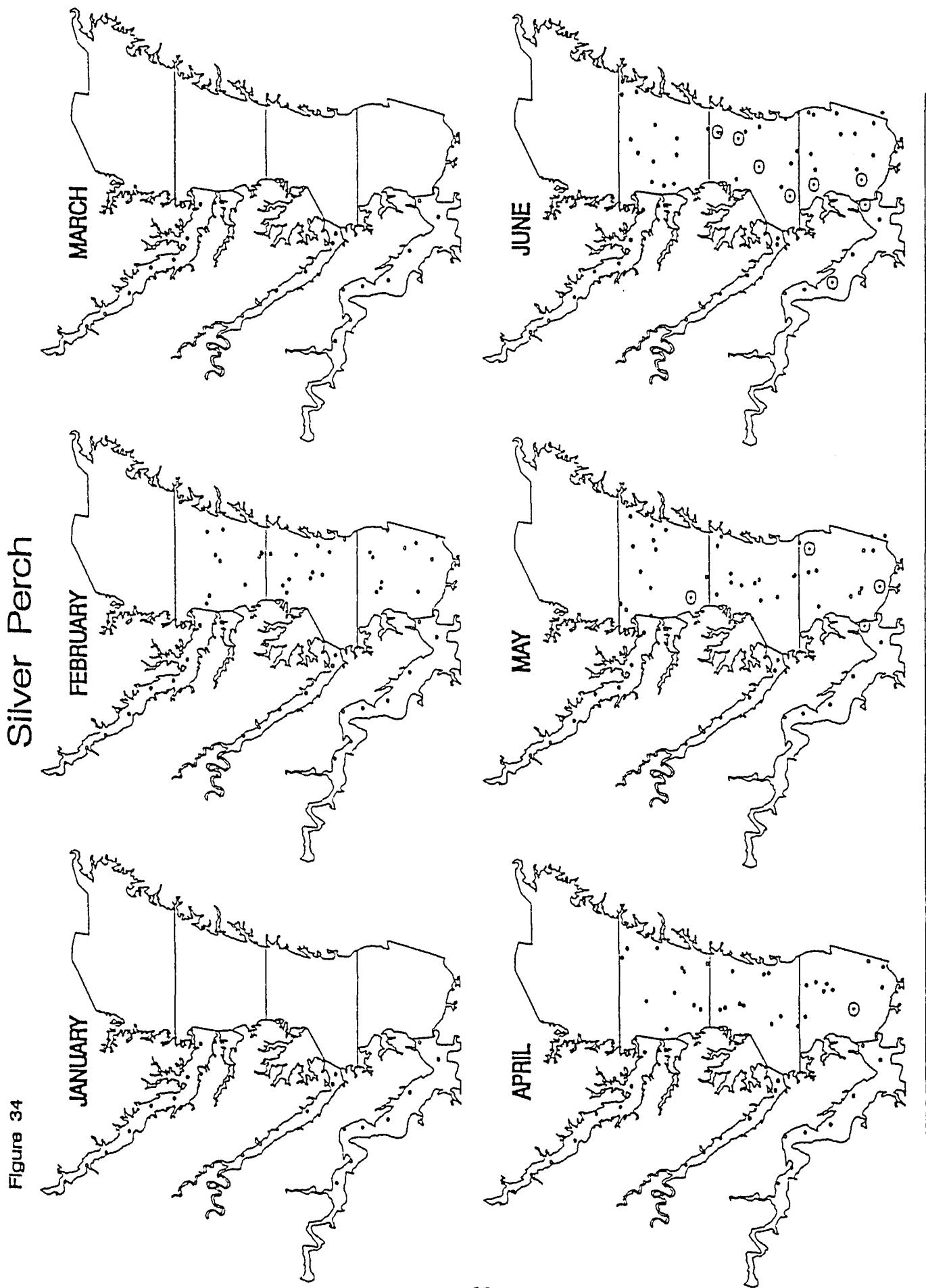


Figure 33

Figure 34



NUMBER CAUGHT: · = ZERO ⊖ = 1 to 9 ⊕ = 10 to 99 ⊕ = 100 to 999 ⊕ = ≥ 1,000

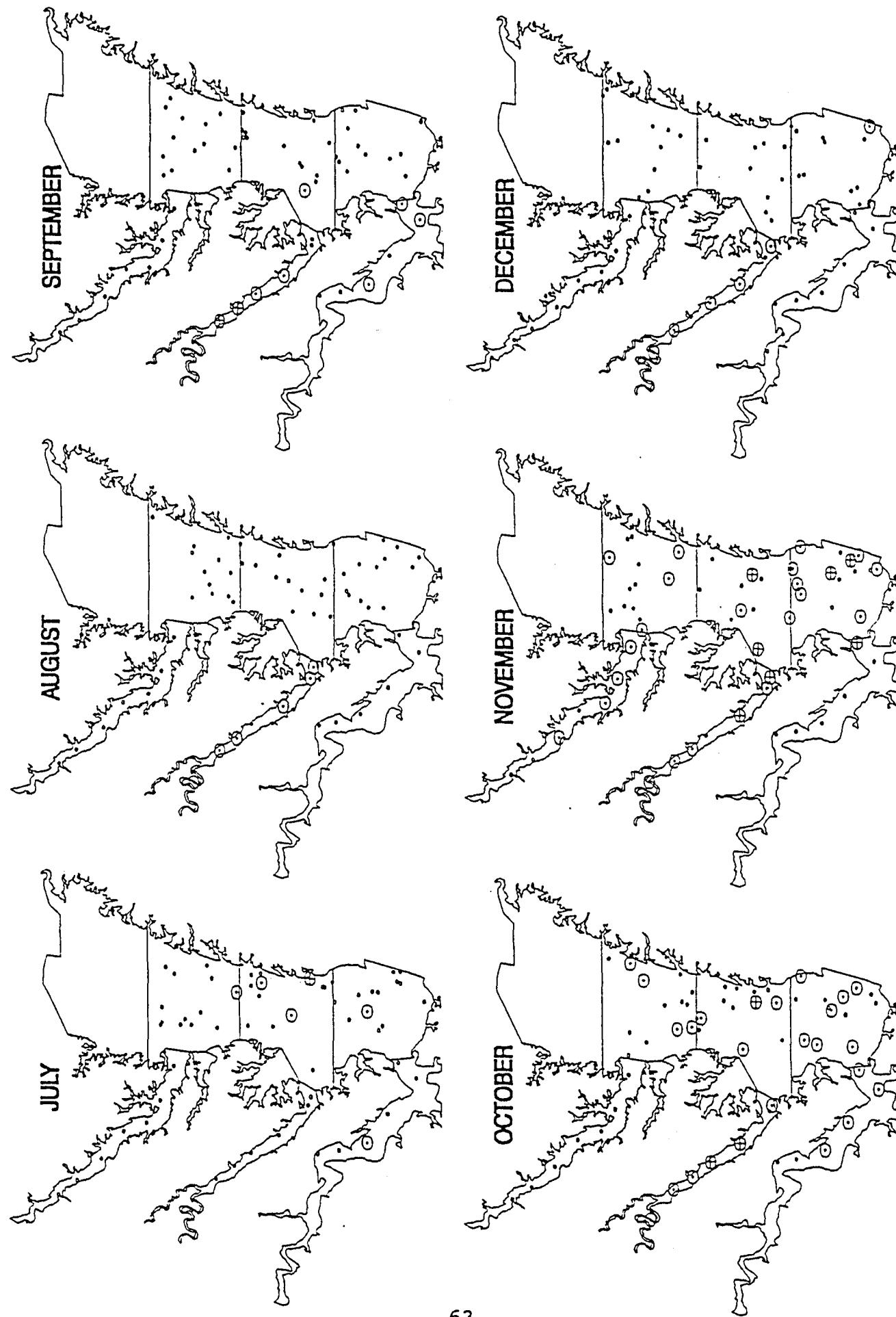


Figure 34

Figure 35

Smallmouth Flounder

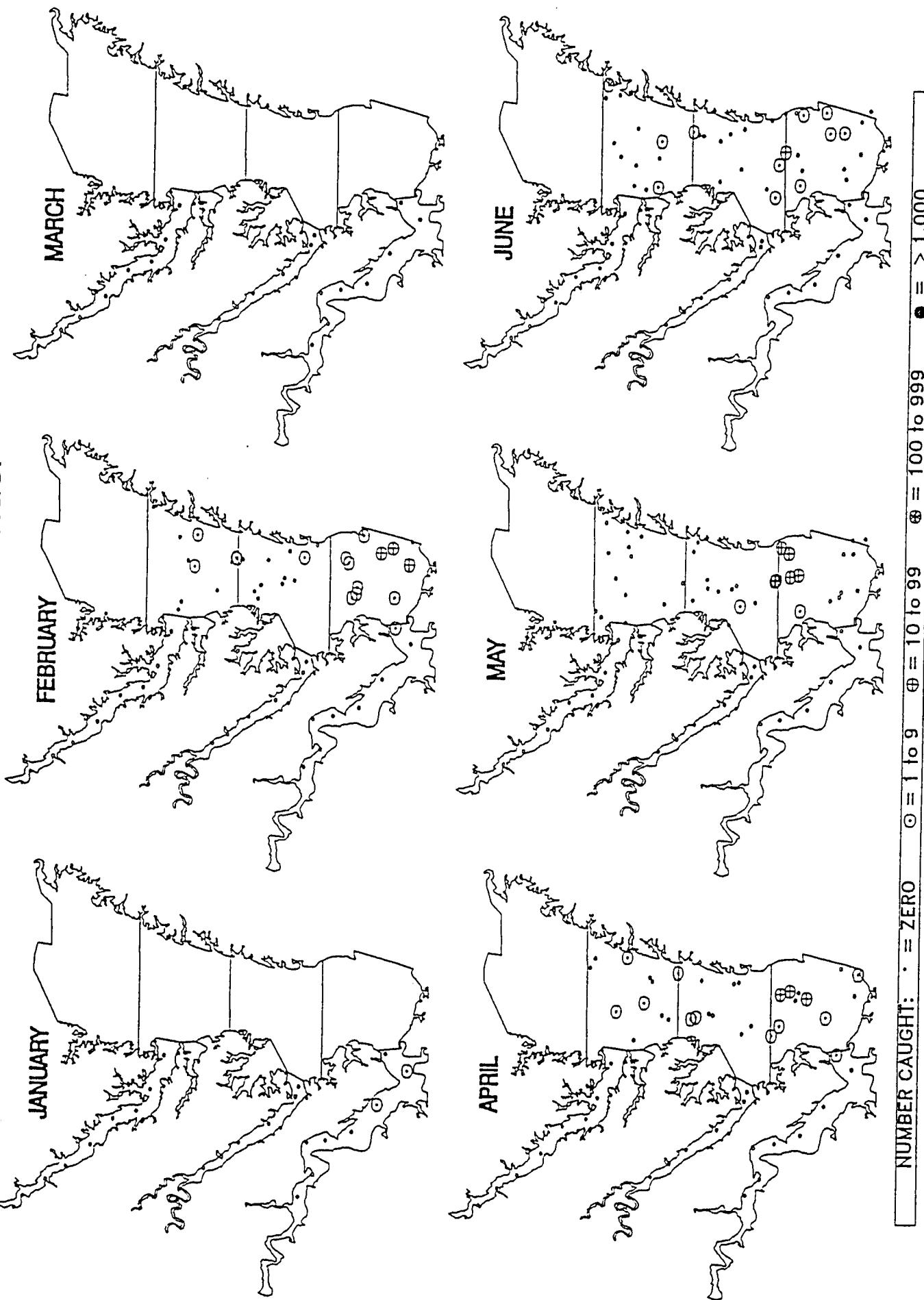


Figure 35

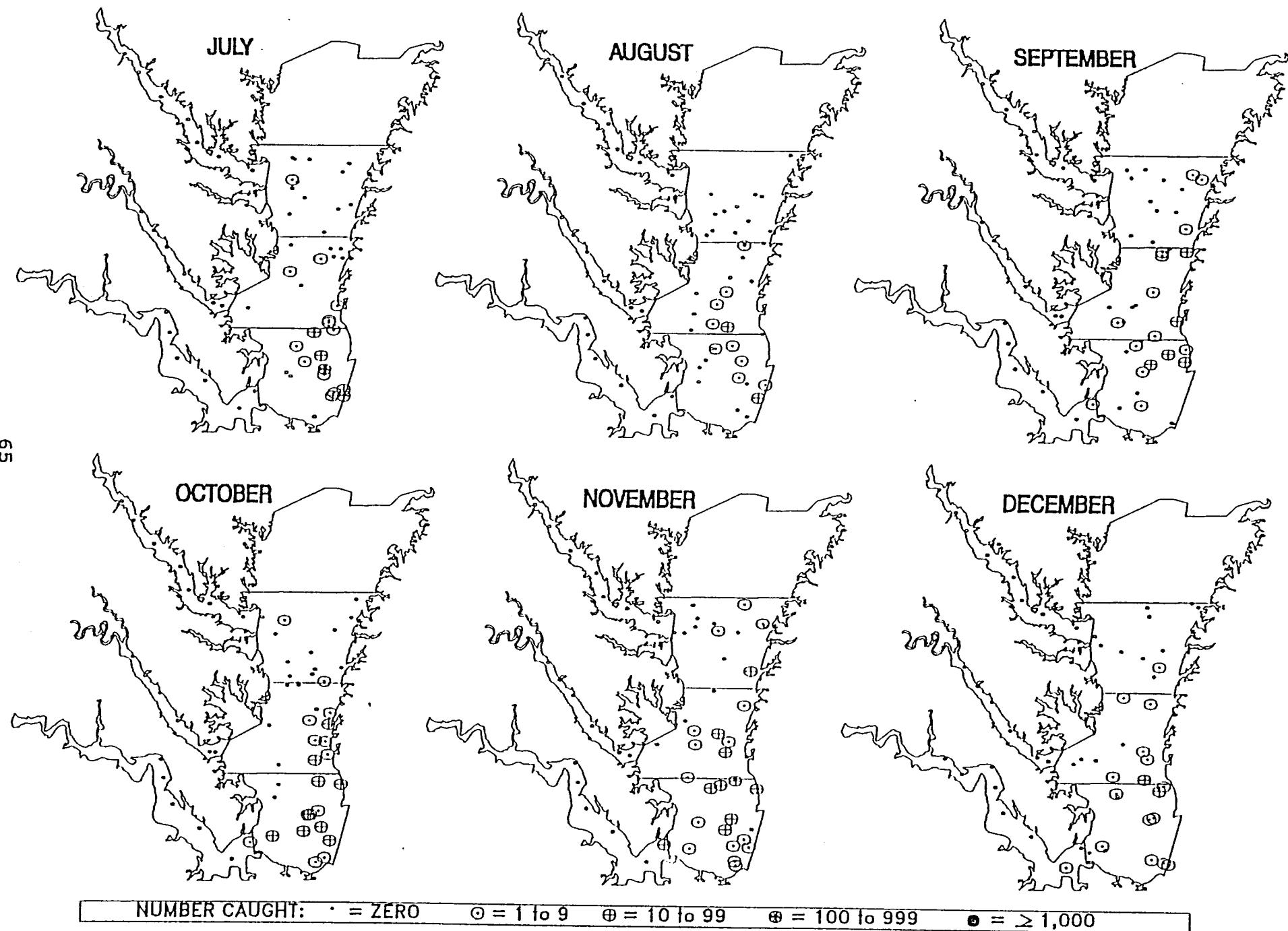


Figure 36

Southern Kingfish

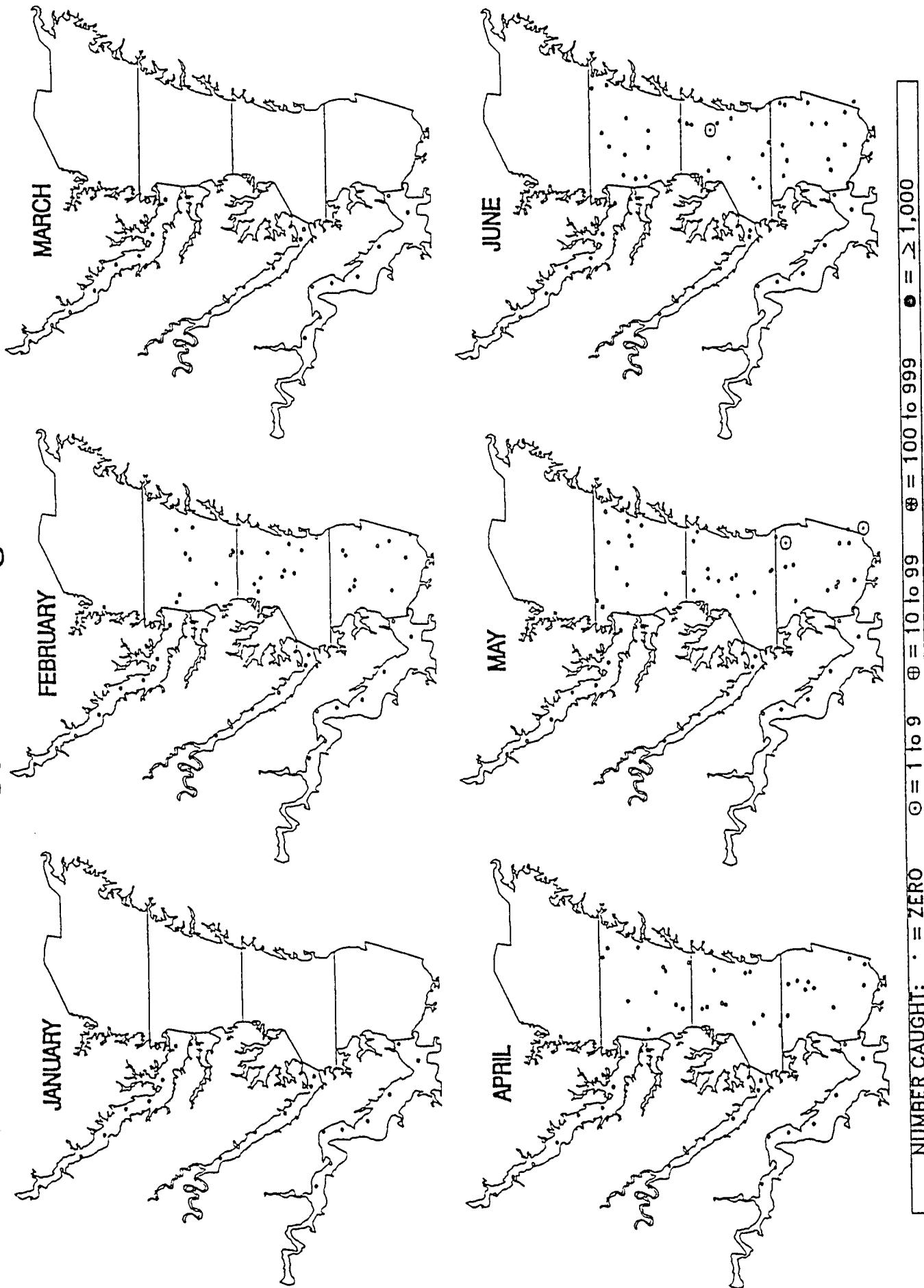


Figure 36

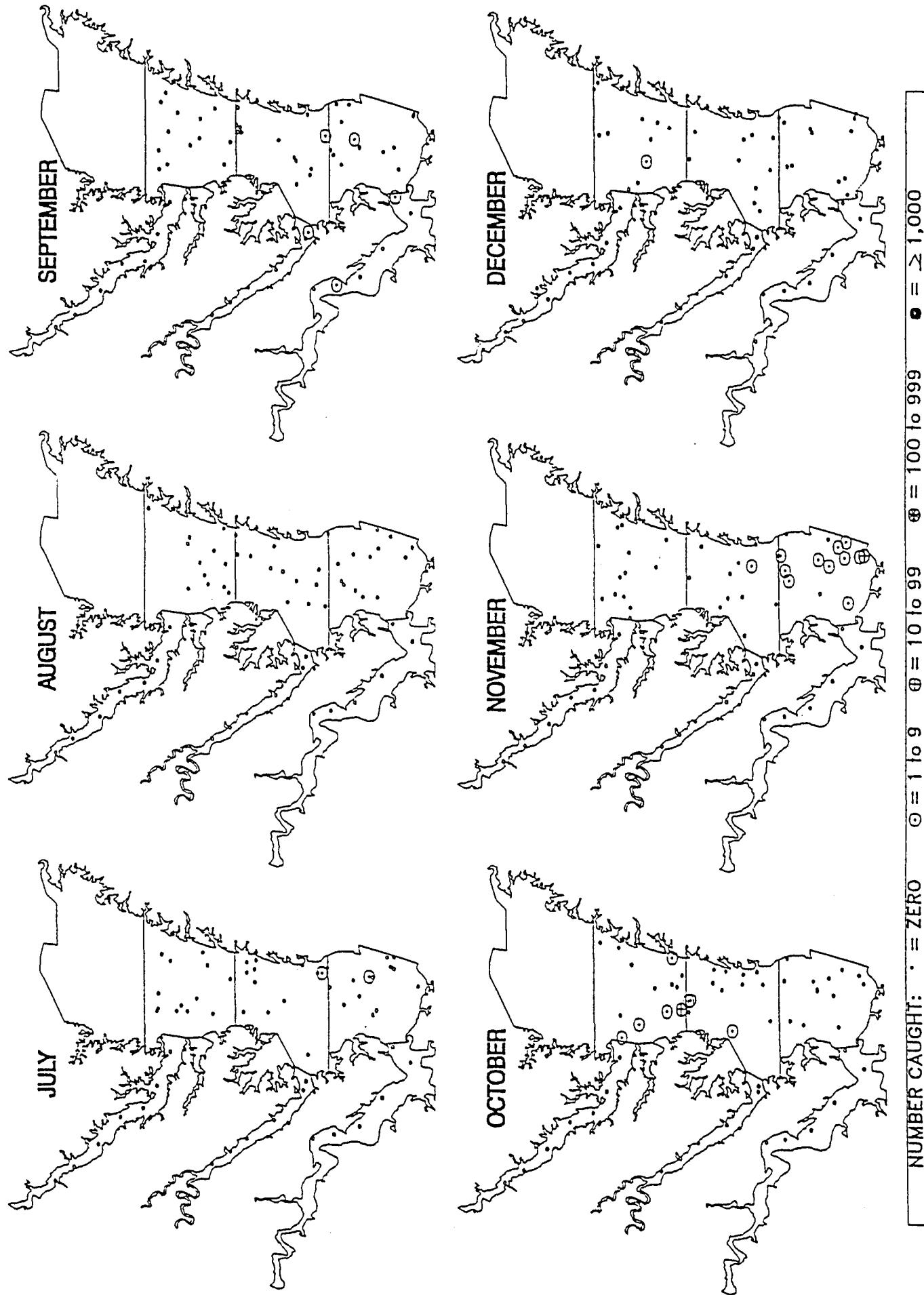


Figure 37

Spot

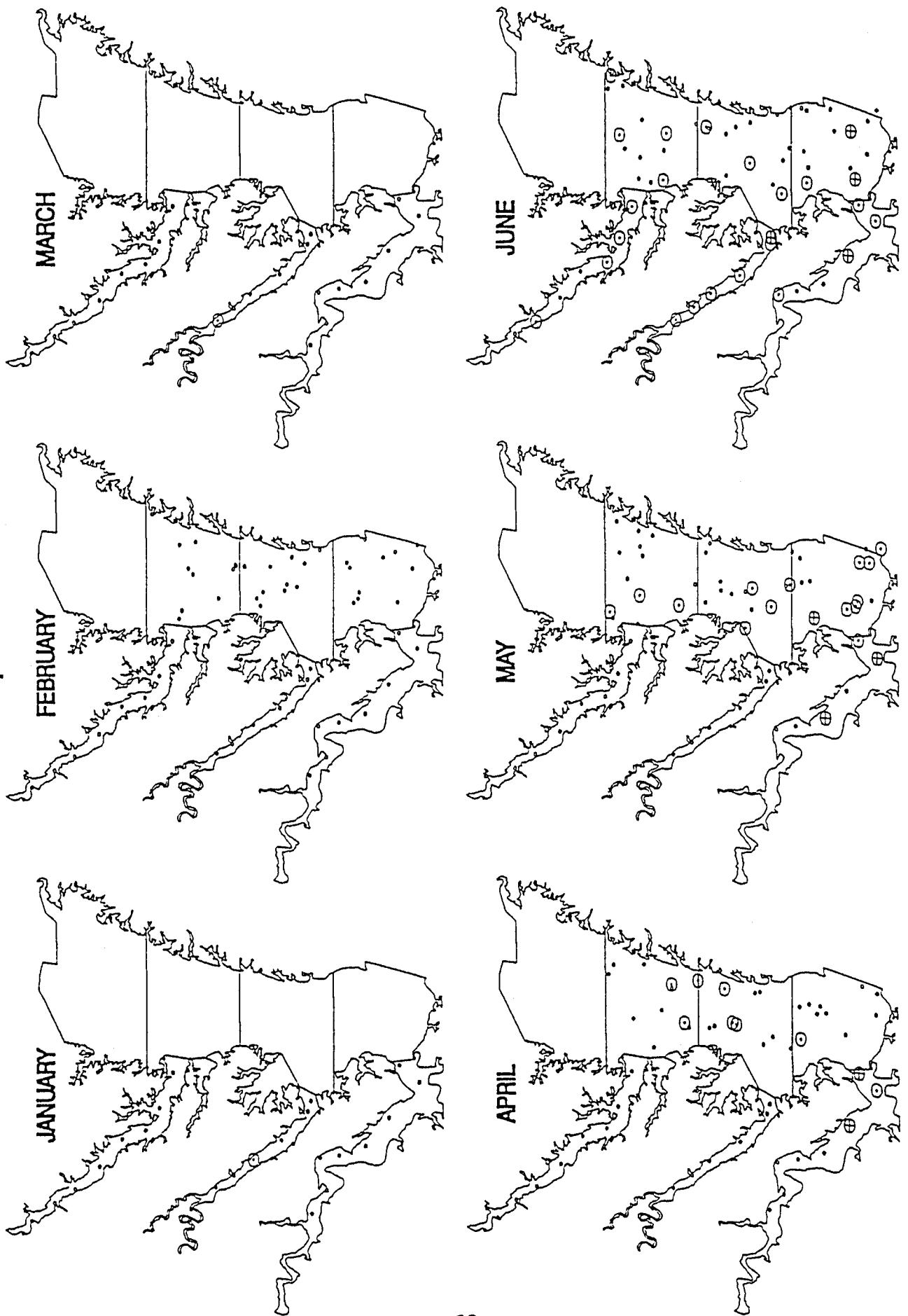


Figure 37

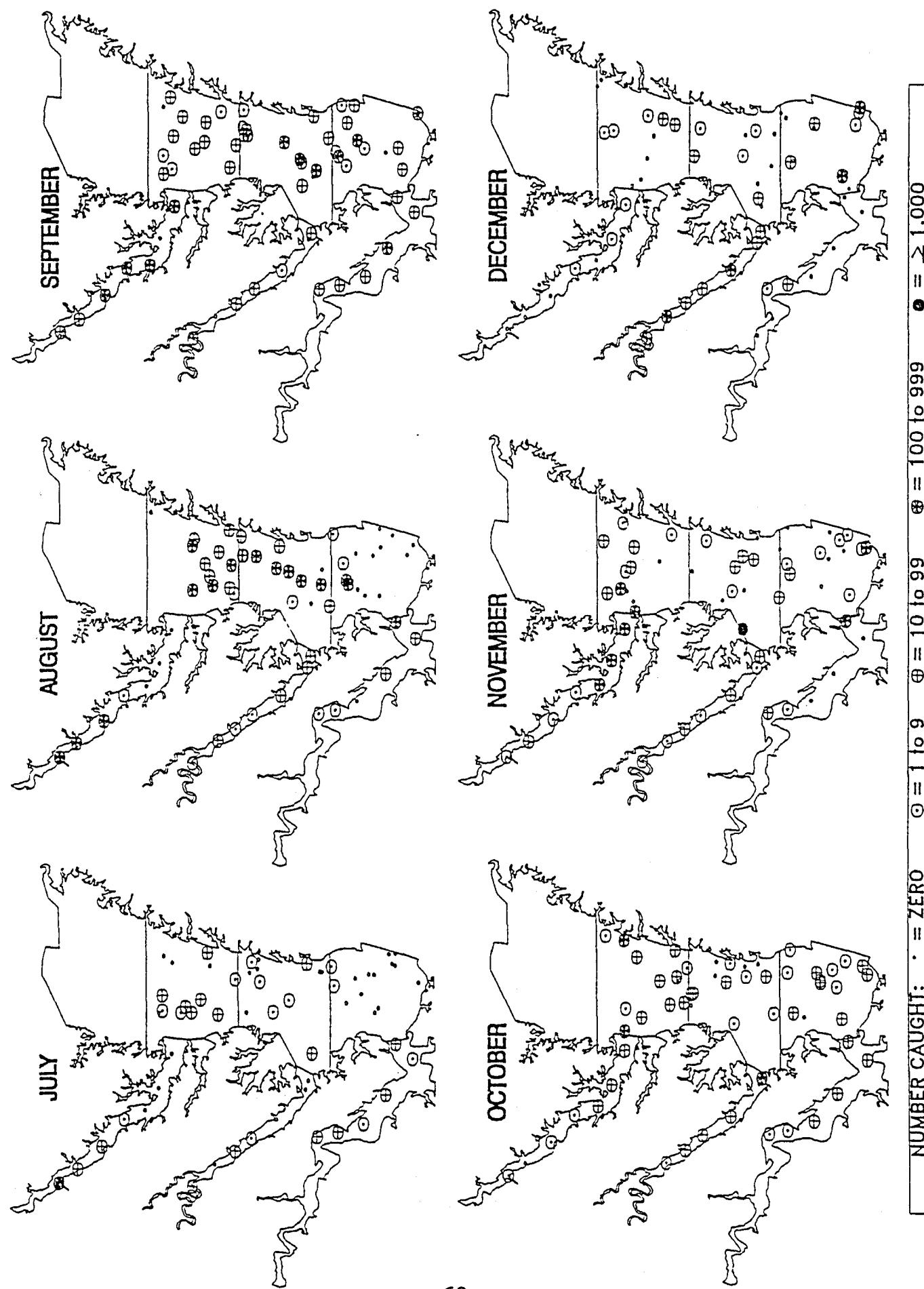


Figure 38

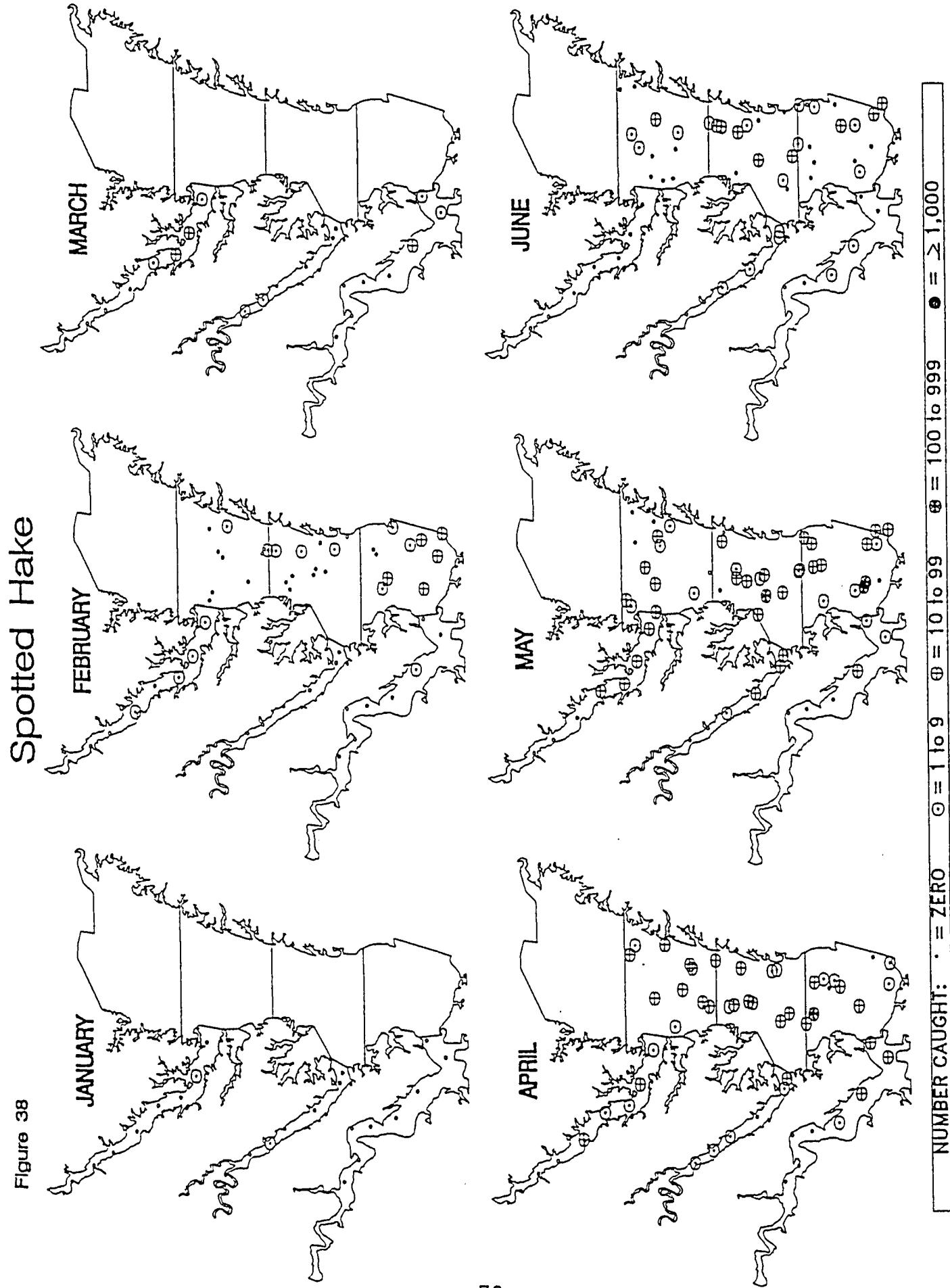


Figure 38

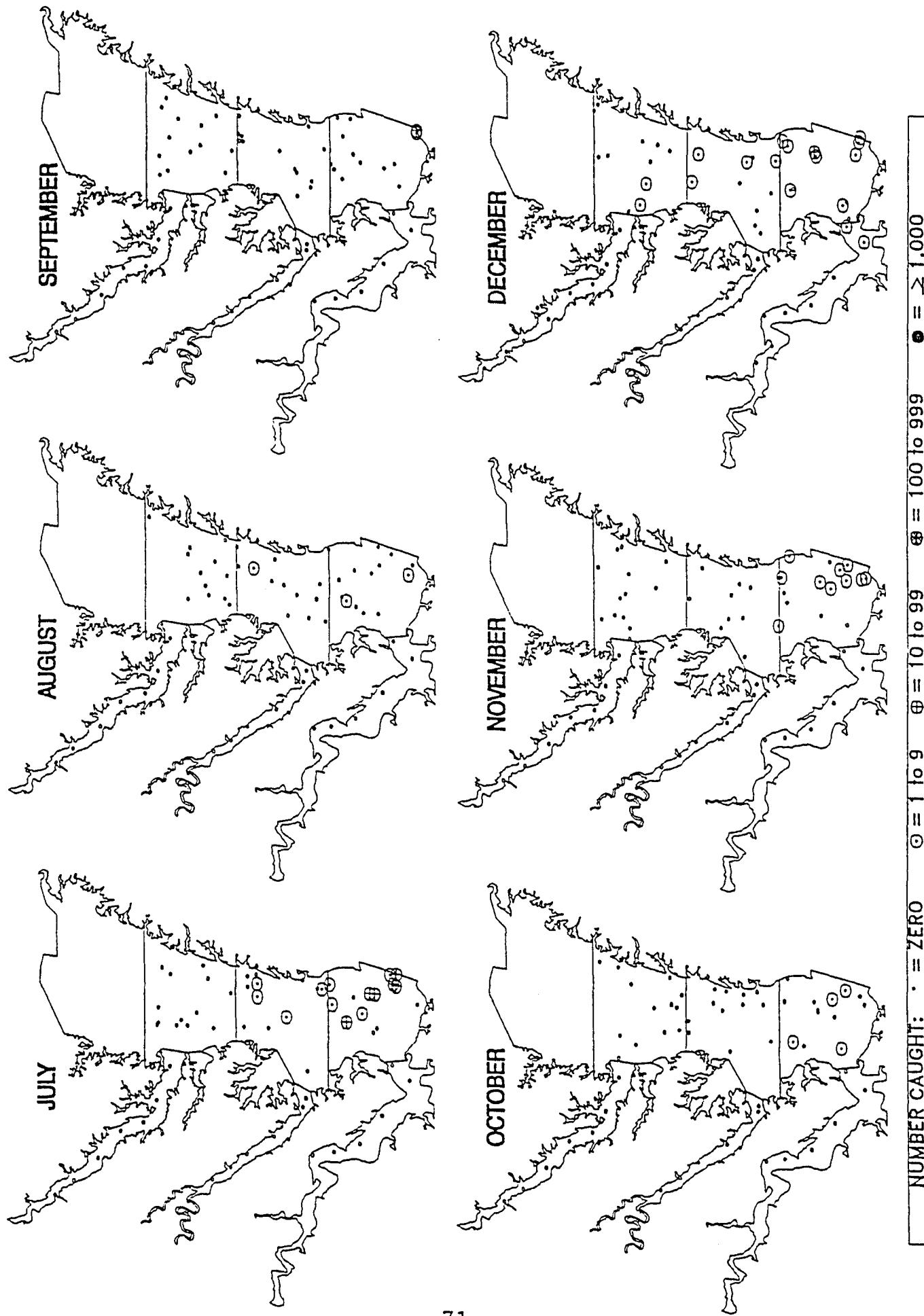


Figure 39

Striped Anchovy

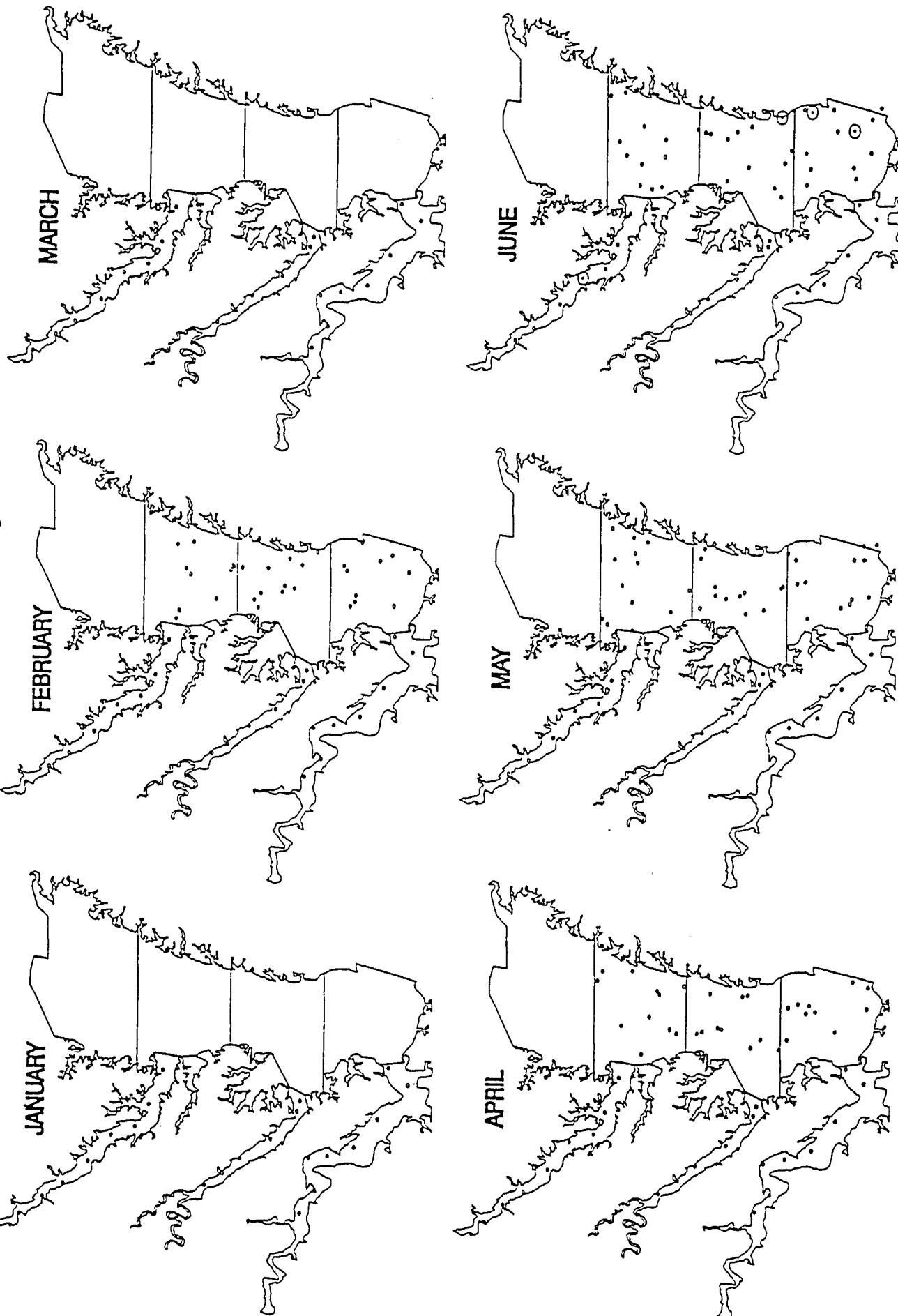


Figure 39

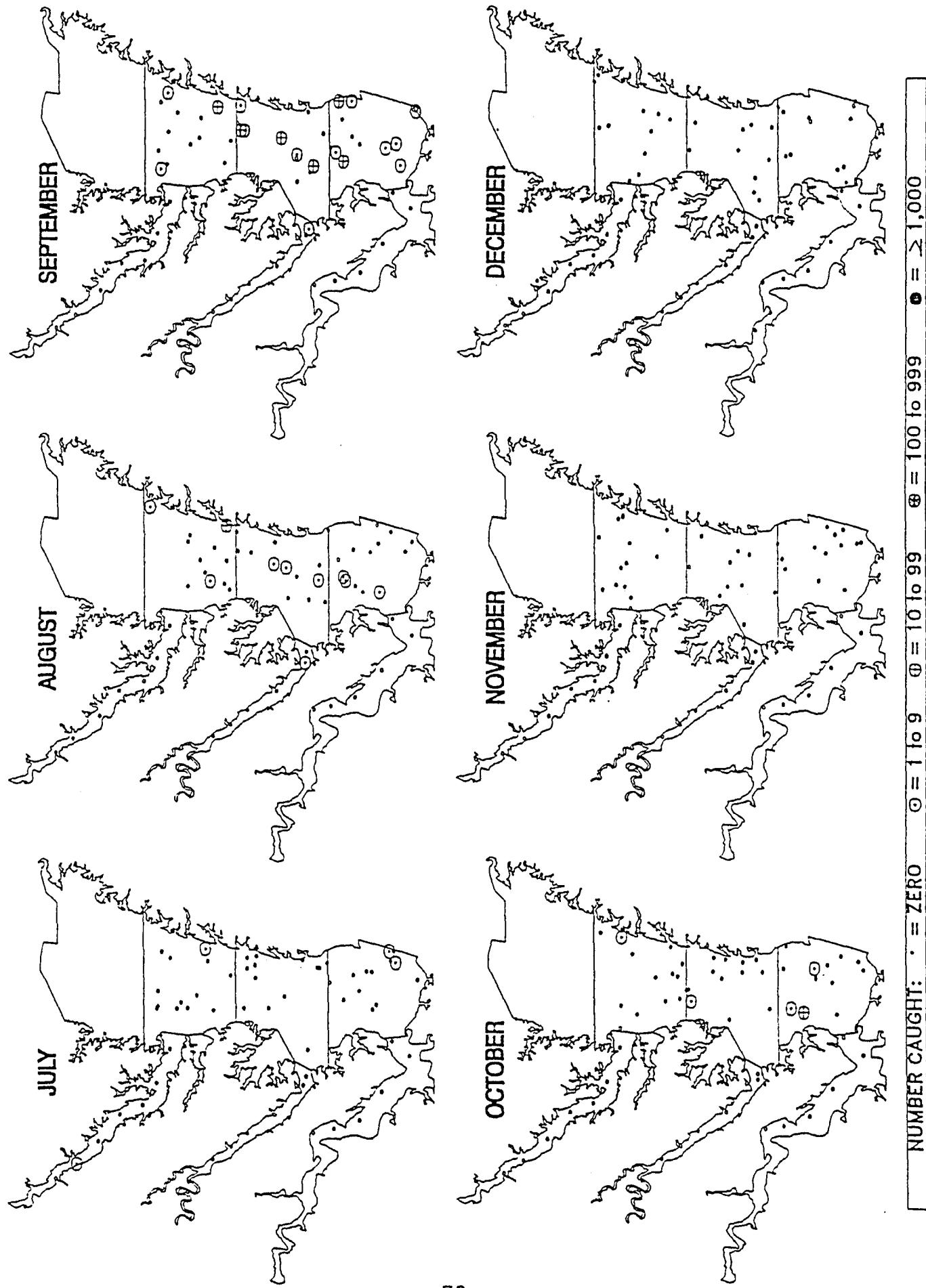


Figure 40

Striped Bass

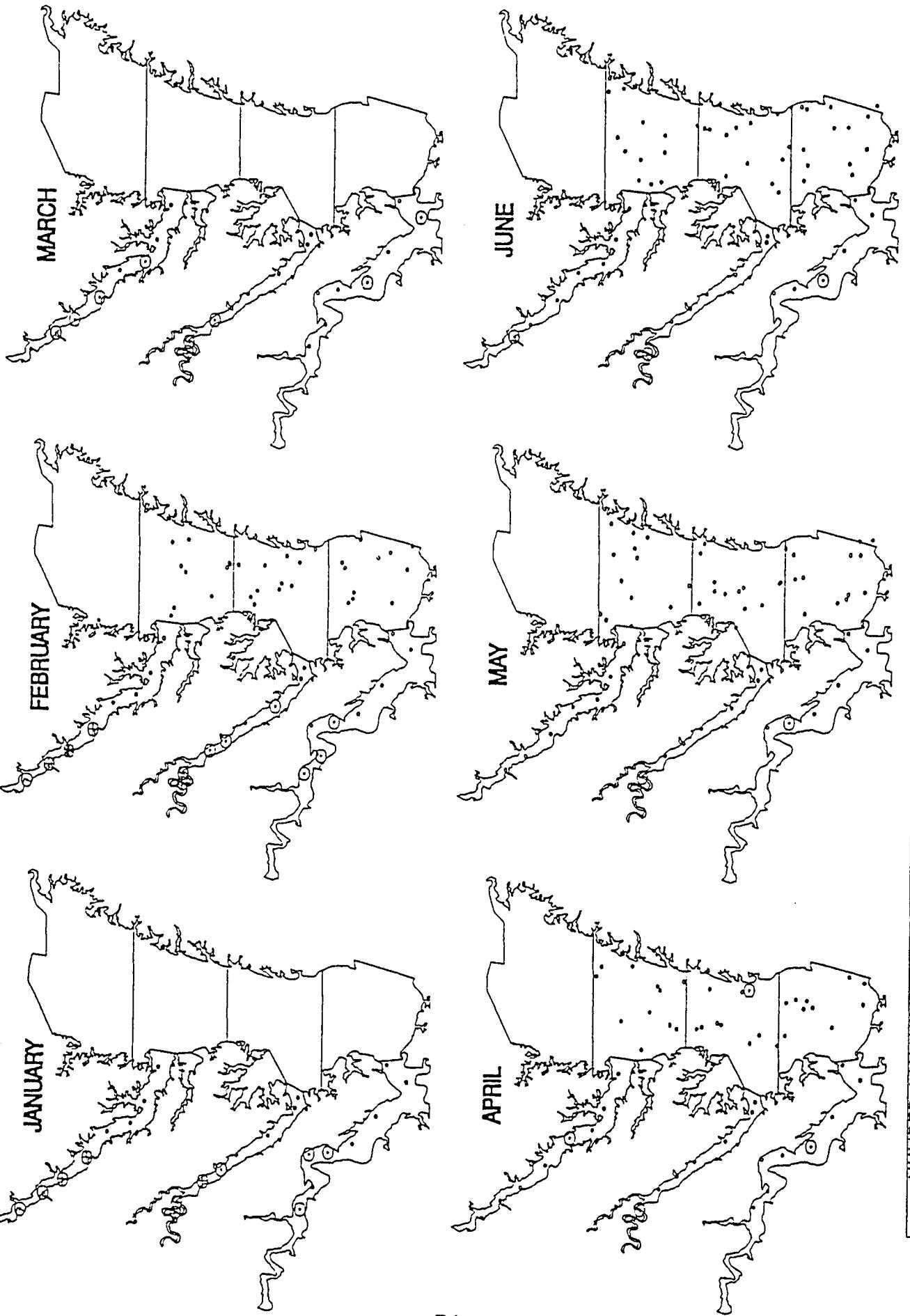


Figure 40

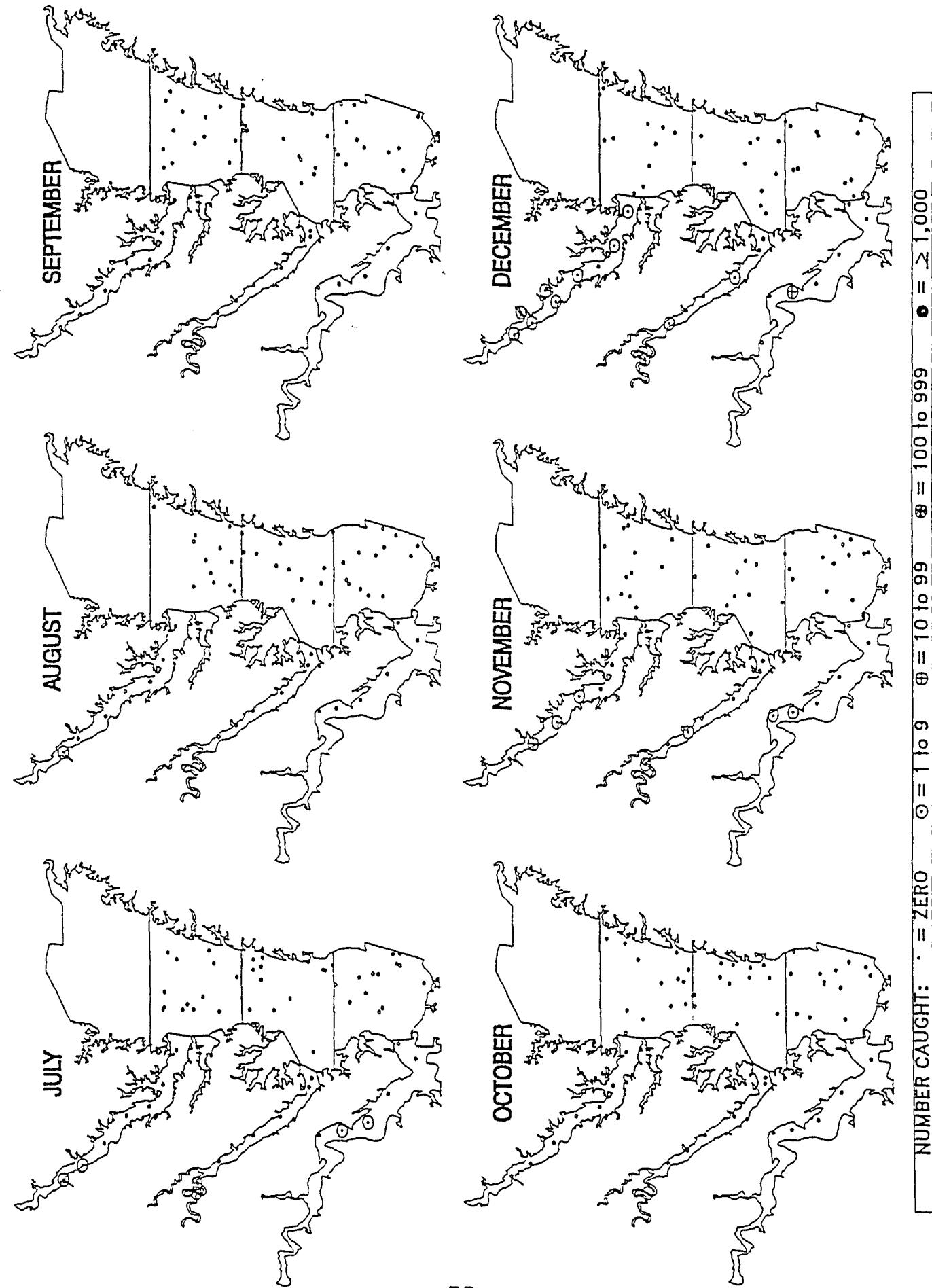
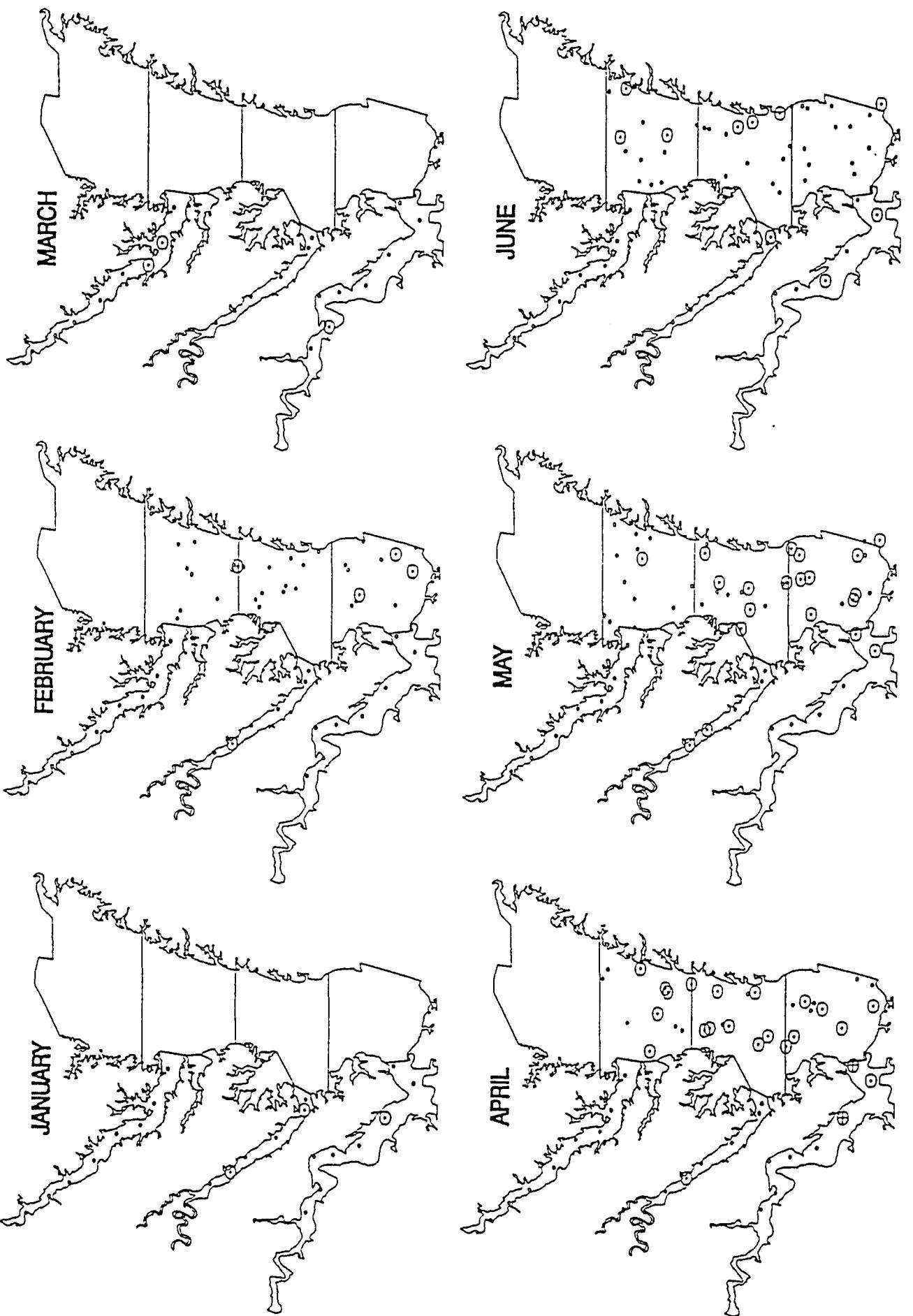


Figure 41

Summer Flounder



NUMBER CAUGHT: · = ZERO ⊖ = 1 to 9 ⊕ = 10 to 99 ⊙ = 100 to 999 ⬤ = ≥ 1,000

Figure 41

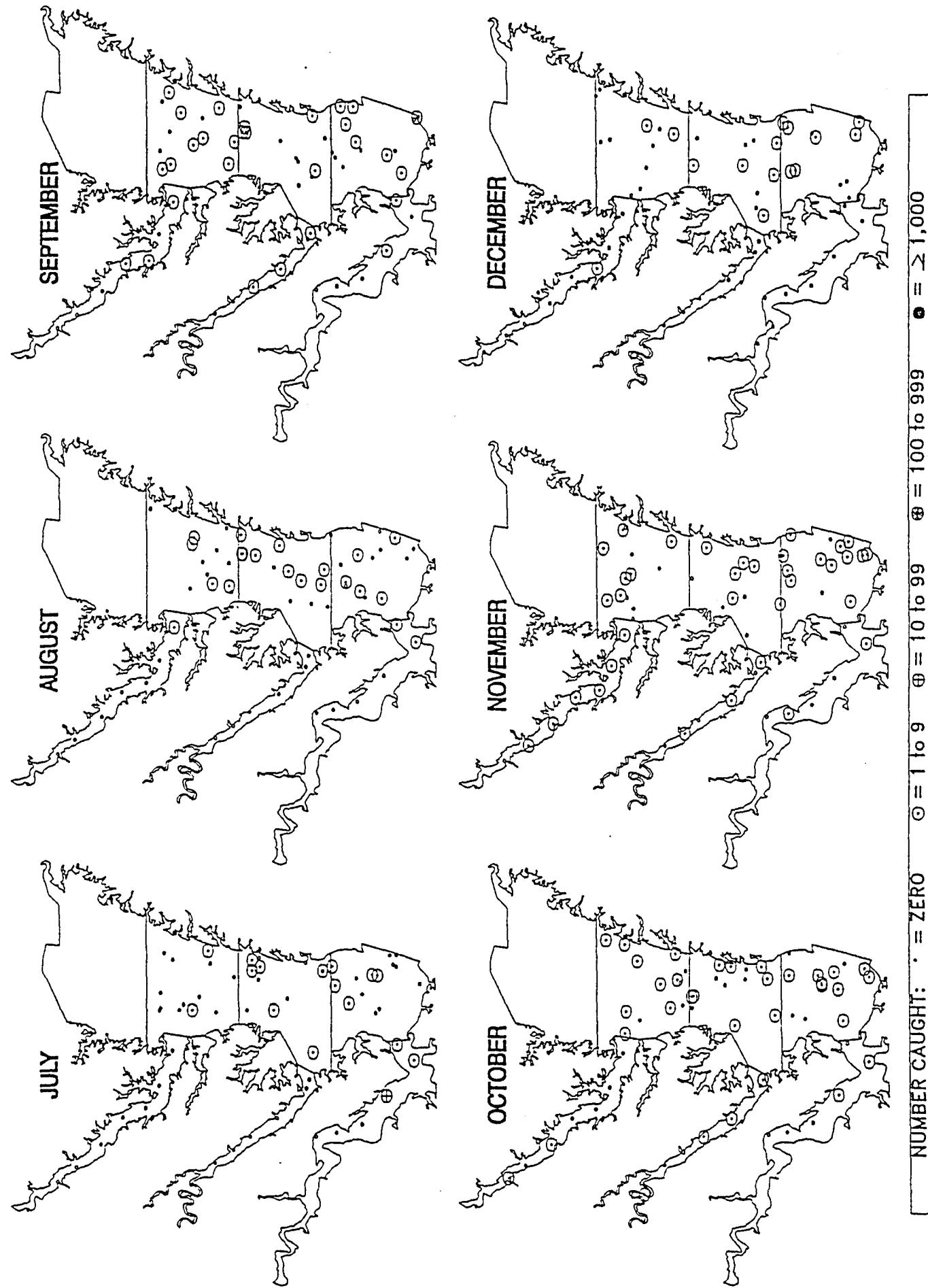


Figure 42

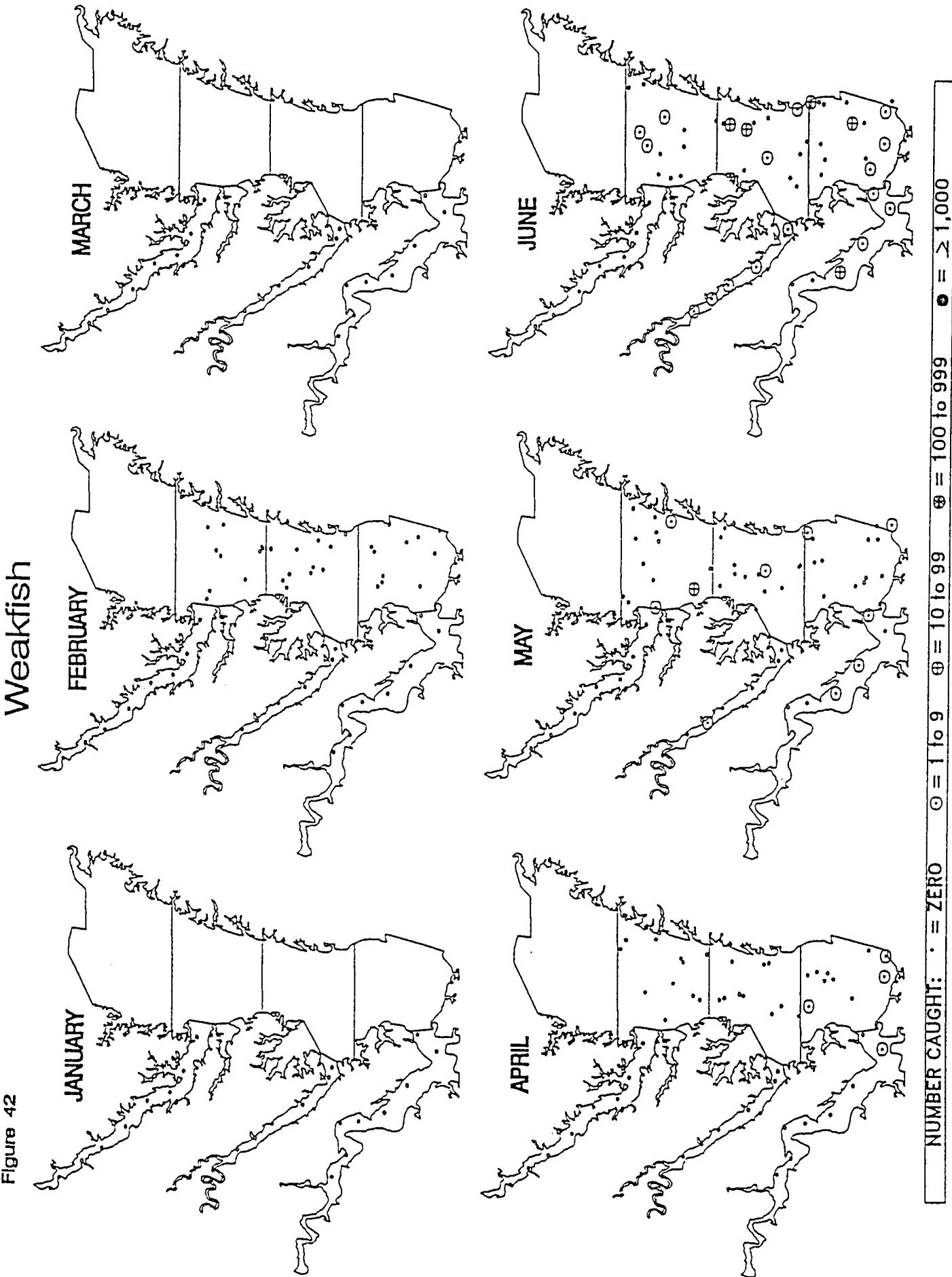


Figure 42

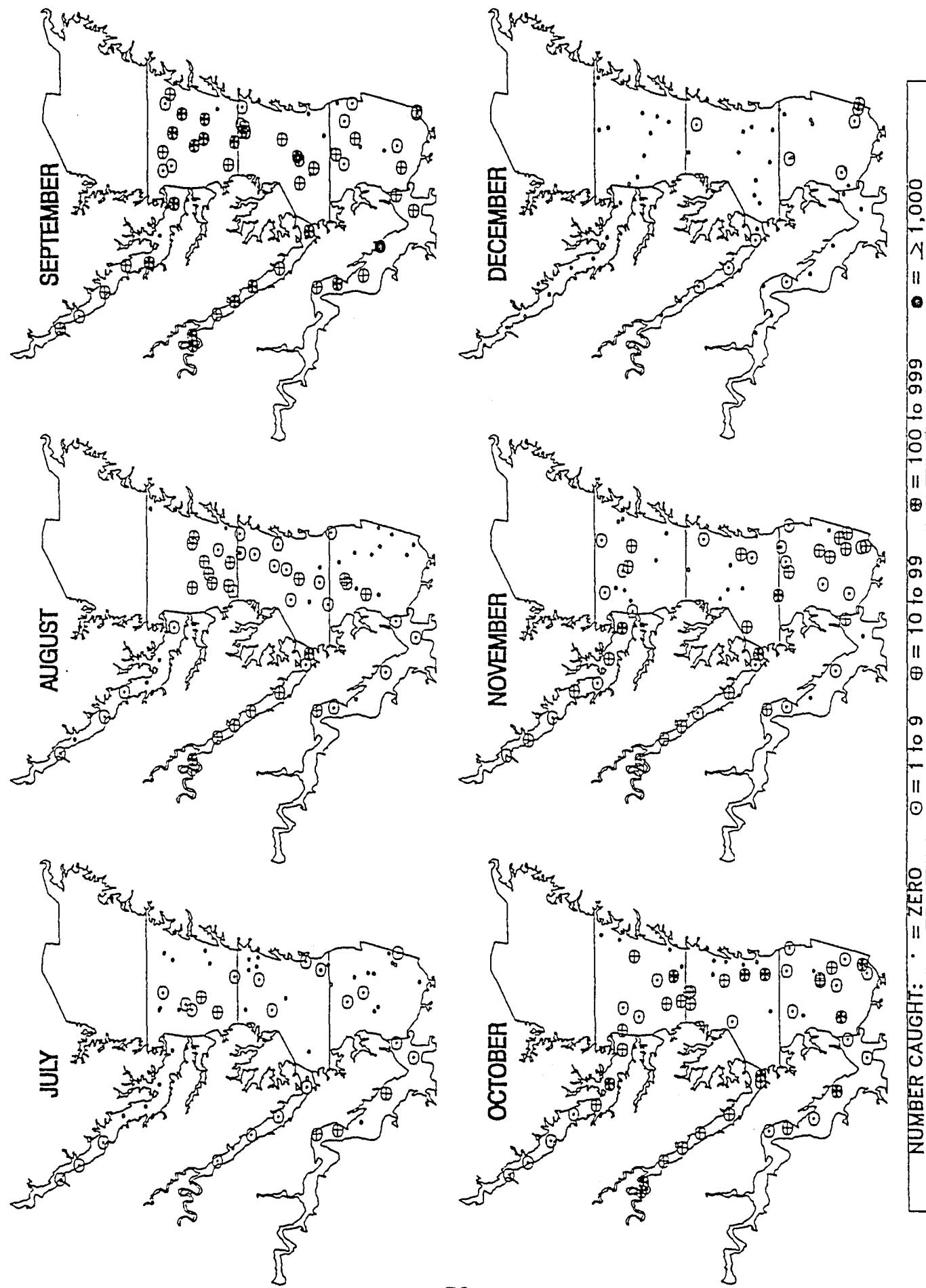
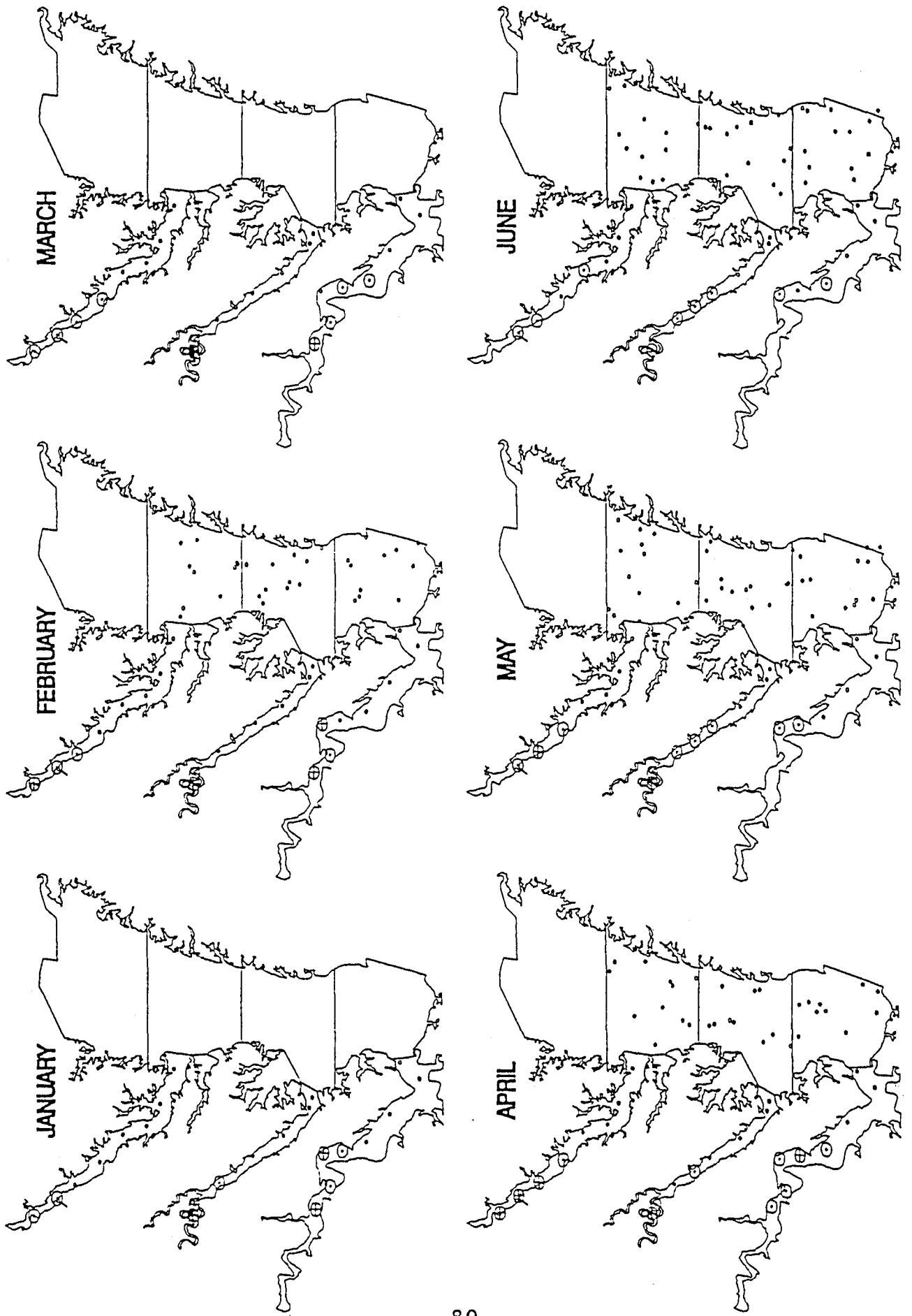


Figure 43

White Catfish



NUMBER CAUGHT: · = ZERO ○ = 1 to 9 □ = 10 to 99 + = 100 to 999 ⊕ = ≥ 1,000

Figure 43

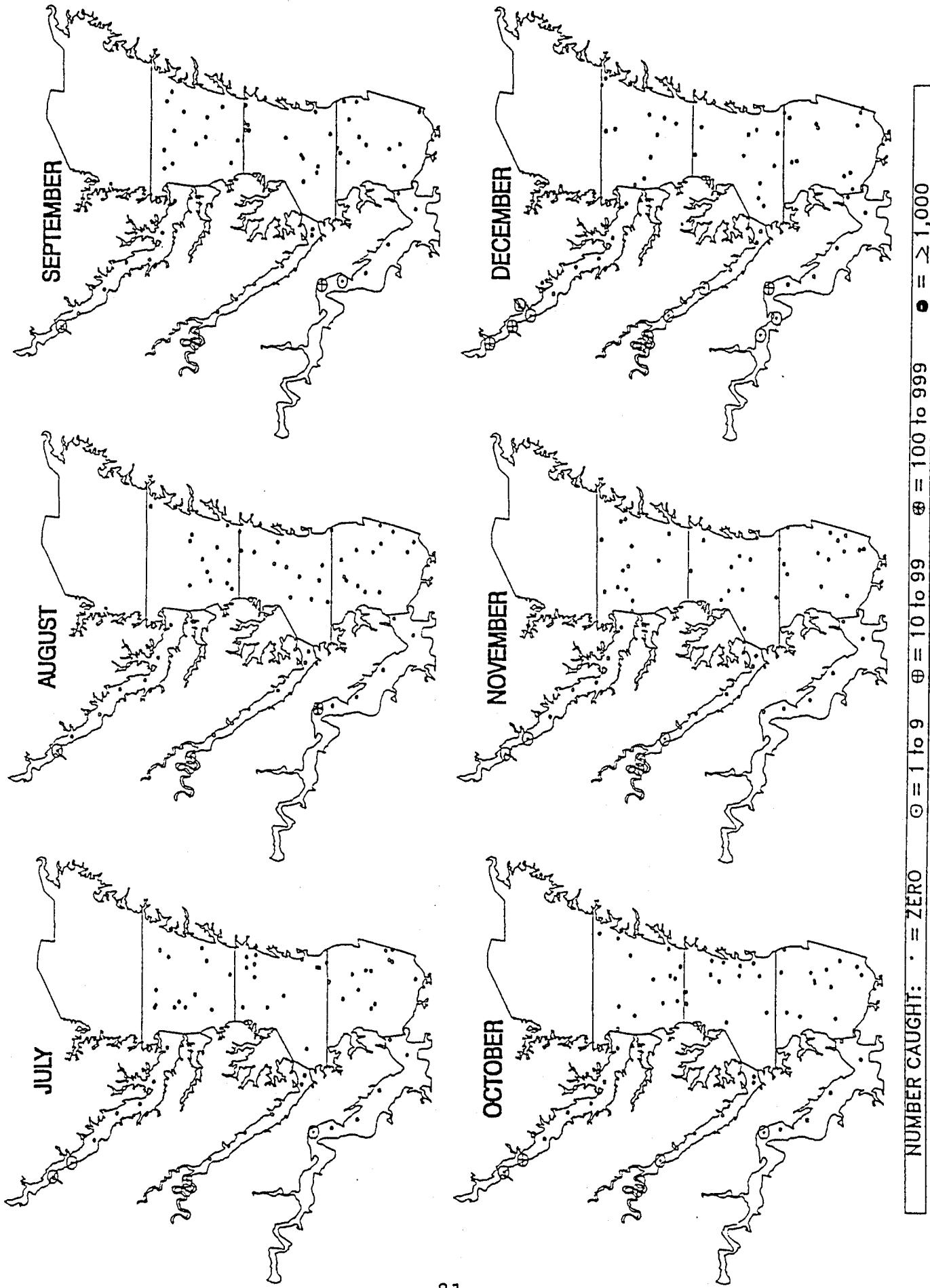


Figure 44

White Perch

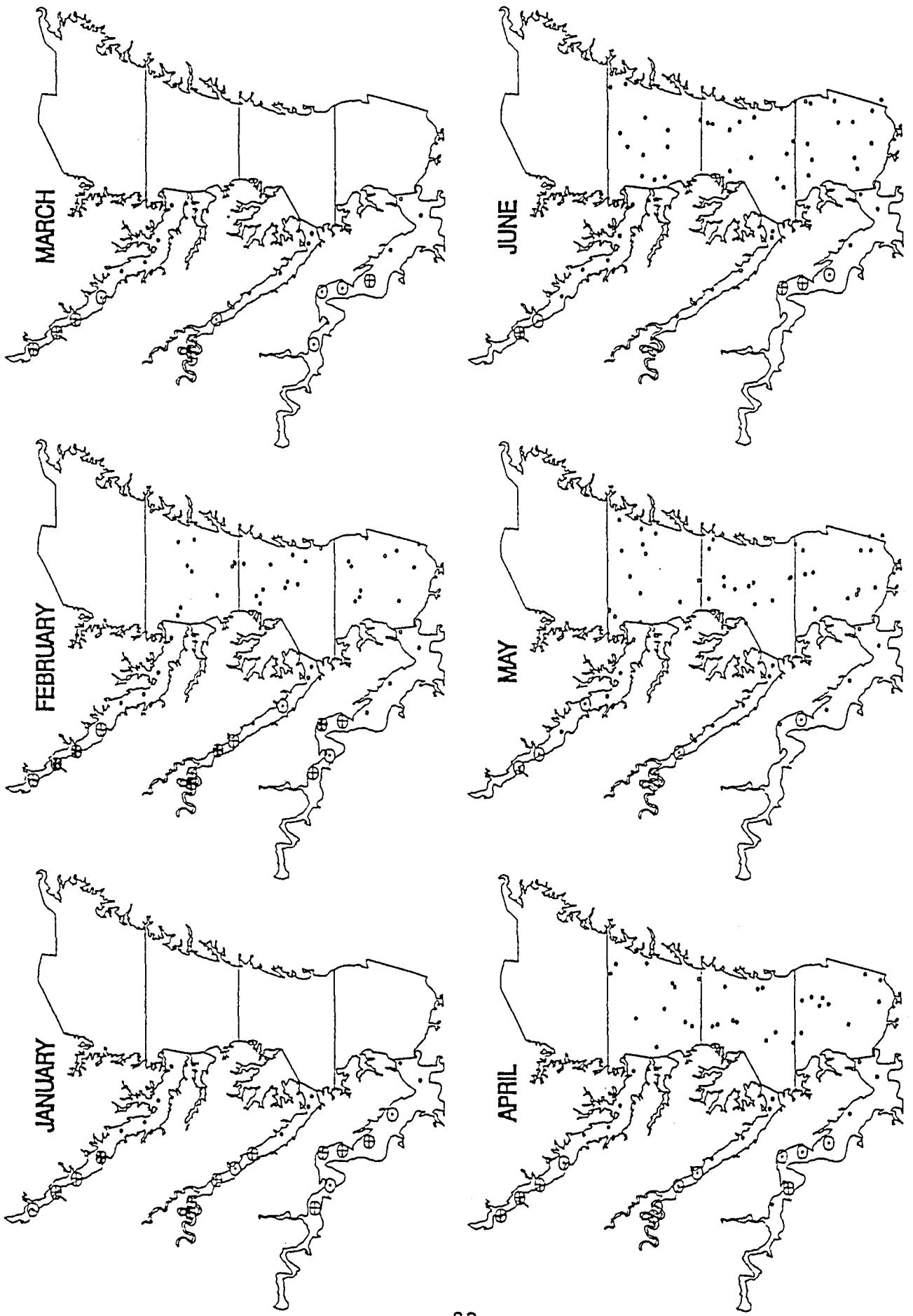
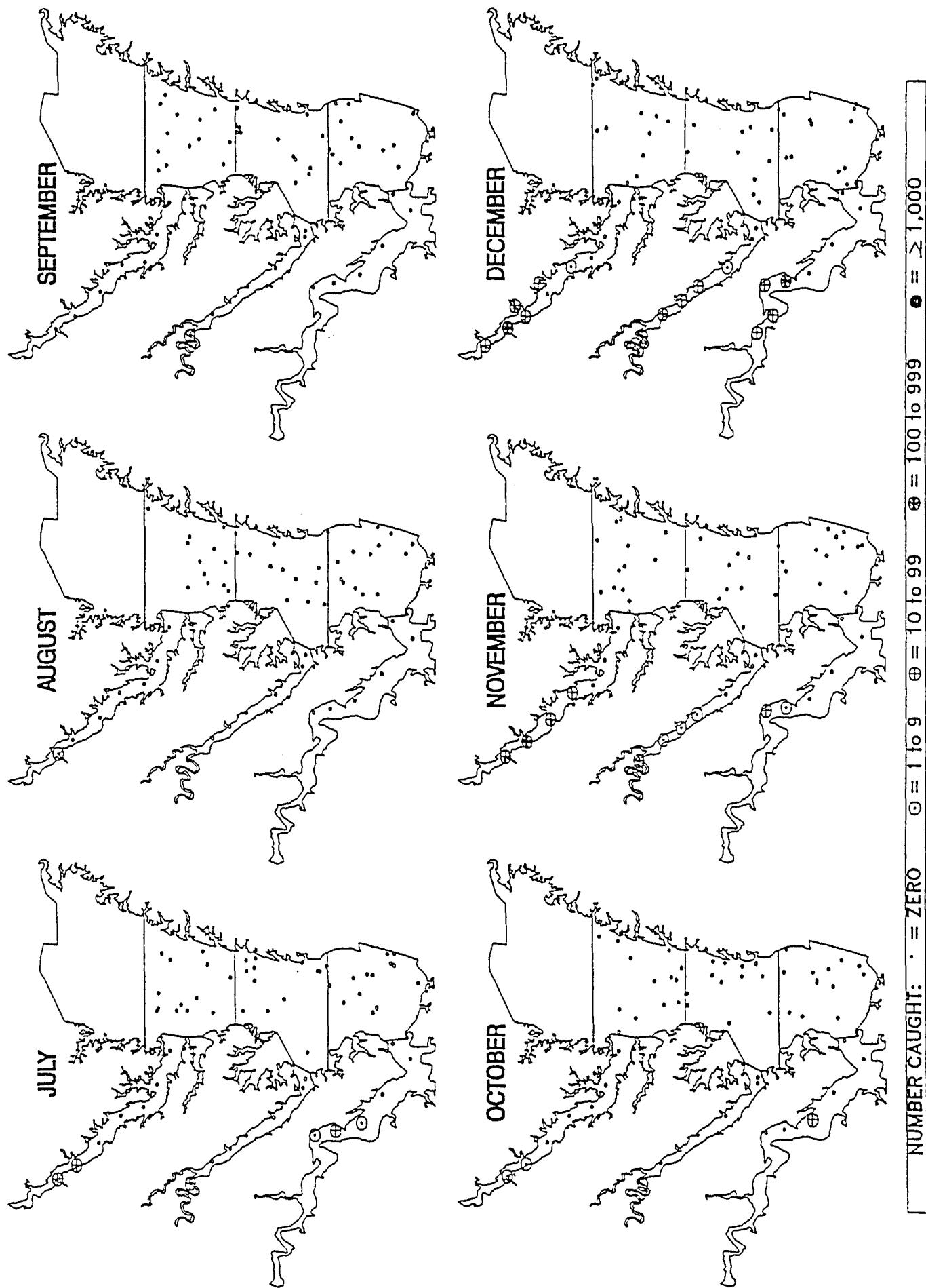


Figure 44



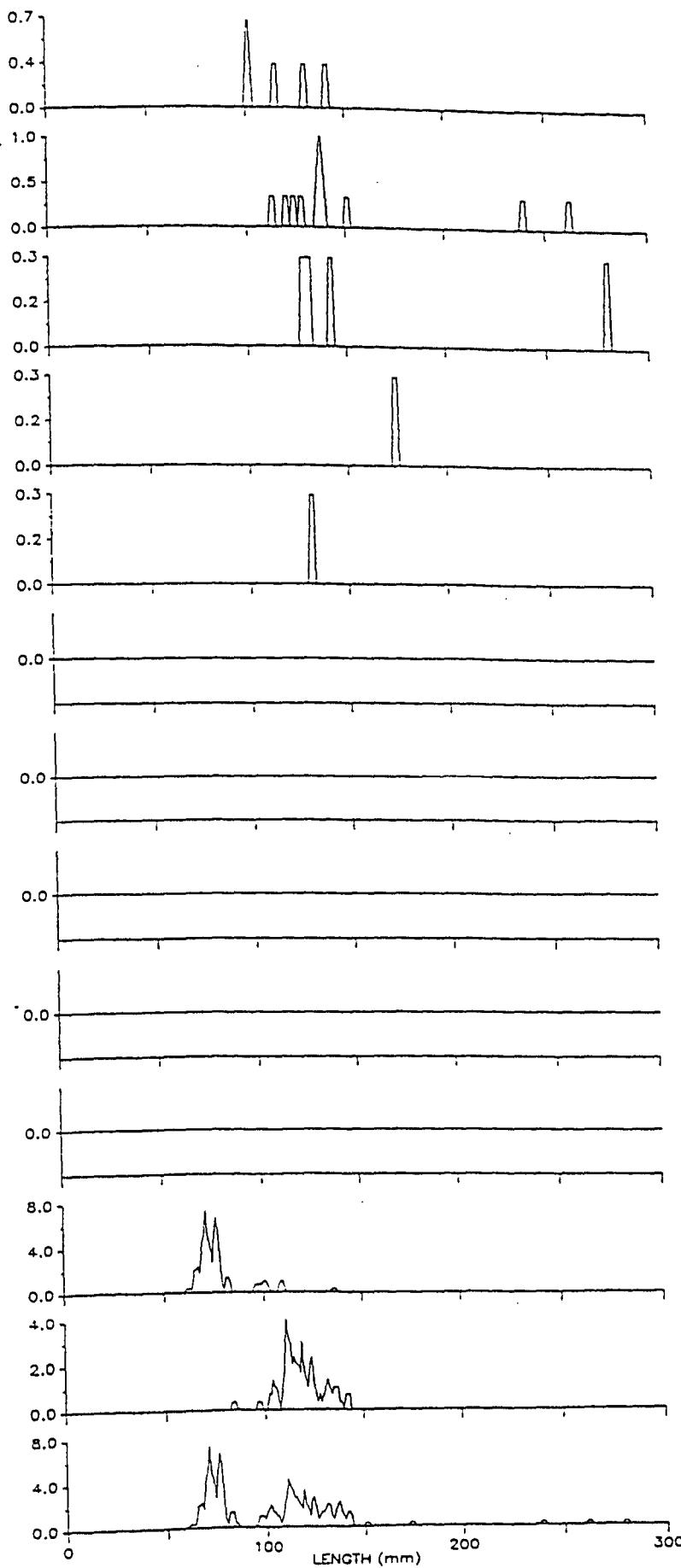
Figures 45-75. Monthly length frequency summaries for the predominant species.

Explanations:

- A. These figures represent all fish of each species presented from both the river and bay surveys.
- B. For curve smoothing, the values plotted are a moving average of three of the number of fish caught at each millimeter length group; therefore fractional values can occur.
- C. The bottom plot on each page is a summary of all fish for the entire year.
- D. The values to the right of the month name on each plot represent the inclusive dates of the cruises during the month, in format year-month-day.
- E. The catch per haul data presented here should not be used as a young-of-year (YOY) index. No distinction has been made in these calculations between YOY and older fish.

Figure 45.

Alewife



JANUARY 930106 - 930114
 NO. CGBT. - 5 MEAN SIZE - 115.8
 NO. MEAS. - 5 S.E. SIZE - 7.8
 NO. HAULS - 25 MIN. SIZE - 99
 CAT./HAUL - 0.2 MAX. SIZE - 139

FEBRUARY 930203 - 930223
 NO. CGBT. - 11 MEAN SIZE - 151.4
 NO. MEAS. - 11 S.E. SIZE - 14.9
 NO. HAULS - 58 MIN. SIZE - 111
 CAT./HAUL - 0.2 MAX. SIZE - 260

MARCH 930301 - 930311
 NO. CGBT. - 4 MEAN SIZE - 168.3
 NO. MEAS. - 4 S.E. SIZE - 36.7
 NO. HAULS - 25 MIN. SIZE - 126
 CAT./HAUL - 0.2 MAX. SIZE - 278

APRIL 930405 - 930429
 NO. CGBT. - 1 MEAN SIZE - 172
 NO. MEAS. - 1 S.E. SIZE -
 NO. HAULS - 56 MIN. SIZE - 172
 CAT./HAUL - 0 MAX. SIZE - 172

MAY 930506 - 930513
 NO. CGBT. - 1 MEAN SIZE - 129
 NO. MEAS. - 1 S.E. SIZE -
 NO. HAULS - 60 MIN. SIZE - 129
 CAT./HAUL - 0 MAX. SIZE - 129

JUNE 930602 - 930615
 NO. CGBT. - 0 MEAN SIZE -
 NO. MEAS. - 0 S.E. SIZE -
 NO. HAULS - 60 MIN. SIZE -
 CAT./HAUL - 0 MAX. SIZE -

JULY 930701 - 930715
 NO. CGBT. - 0 MEAN SIZE -
 NO. MEAS. - 0 S.E. SIZE -
 NO. HAULS - 60 MIN. SIZE -
 CAT./HAUL - 0 MAX. SIZE -

AUGUST 930803 - 930817
 NO. CGBT. - 0 MEAN SIZE -
 NO. MEAS. - 0 S.E. SIZE -
 NO. HAULS - 60 MIN. SIZE -
 CAT./HAUL - 0 MAX. SIZE -

SEPTEMBER 930907 - 930920
 NO. CGBT. - 0 MEAN SIZE -
 NO. MEAS. - 0 S.E. SIZE -
 NO. HAULS - 60 MIN. SIZE -
 CAT./HAUL - 0 MAX. SIZE -

OCTOBER 931004 - 931019
 NO. CGBT. - 0 MEAN SIZE -
 NO. MEAS. - 0 S.E. SIZE -
 NO. HAULS - 60 MIN. SIZE -
 CAT./HAUL - 0 MAX. SIZE -

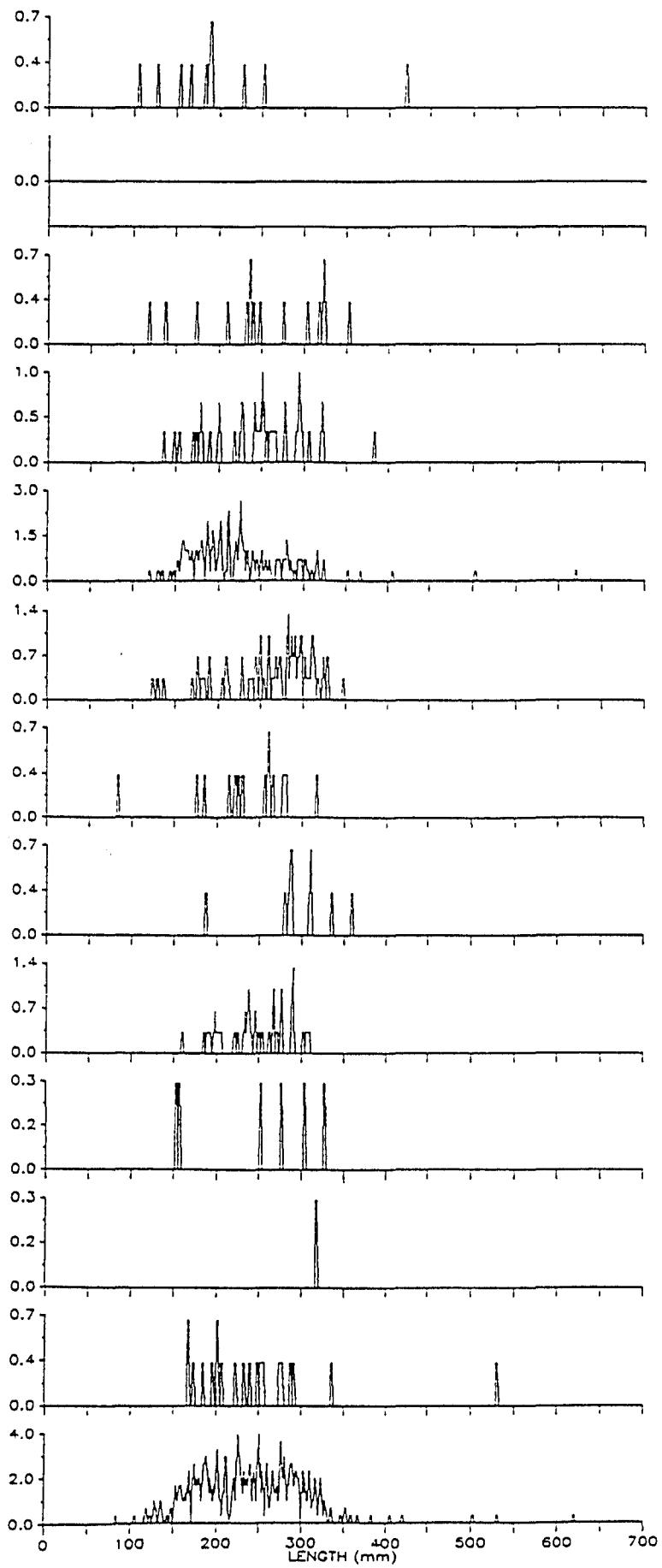
NOVEMBER 931102 - 931111
 NO. CGBT. - 73 MEAN SIZE - 75.4
 NO. MEAS. - 73 S.E. SIZE - 1.5
 NO. HAULS - 60 MIN. SIZE - 60
 CAT./HAUL - 1.2 MAX. SIZE - 134

DECEMBER 931201 - 931213
 NO. CGBT. - 55 MEAN SIZE - 116.3
 NO. MEAS. - 55 S.E. SIZE - 1.5
 NO. HAULS - 60 MIN. SIZE - 82
 CAT./HAUL - 0.9 MAX. SIZE - 140

JAN - DEC 930106 - 931213
 NO. CGBT. - 150 MEAN SIZE - 100.8
 NO. MEAS. - 150 S.E. SIZE - 2.8
 NO. HAULS - 644 MIN. SIZE - 60
 CAT./HAUL - 0.2 MAX. SIZE - 278

Figure 46.

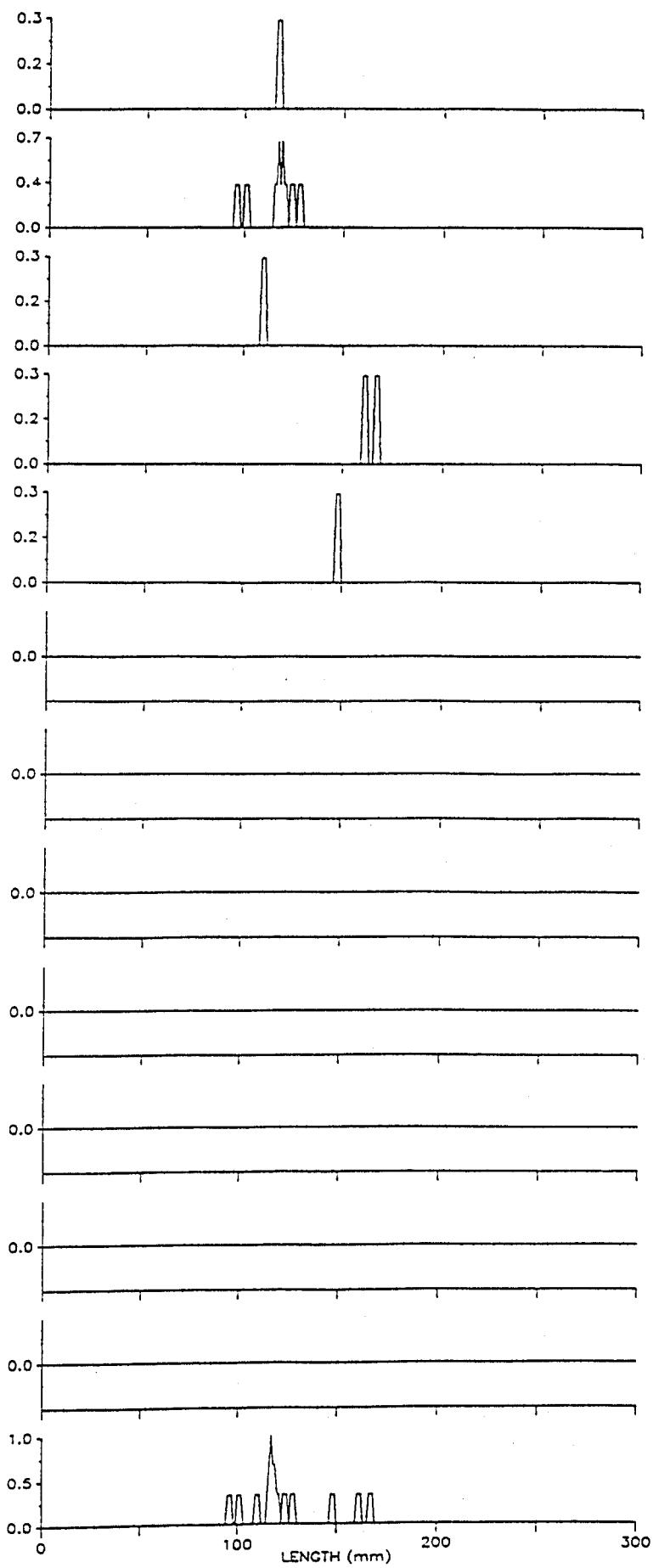
American Eel



JANUARY	930106 - 930114	MEAN SIZE	- 198.4
NO. CGHT.	- 11	S.E. SIZE	- 25.3
NO. MEAS.	- 11	MIN. SIZE	- 104
NO. HAULS	- 25	MAX. SIZE	- 419
CAT./HAUL	- 0.4		
FEBRUARY	930203 - 930223	MEAN SIZE	- .
NO. CGHT.	- 0	S.E. SIZE	- .
NO. MEAS.	- 0	MIN. SIZE	- .
NO. HAULS	- 58	MAX. SIZE	- .
CAT./HAUL	- 0		
MARCH	930301 - 930311	MEAN SIZE	- 246.7
NO. CGHT.	- 15	S.E. SIZE	- 17.9
NO. MEAS.	- 15	MIN. SIZE	- 117
NO. HAULS	- 25	MAX. SIZE	- 351
CAT./HAUL	- 0.6		
APRIL	930405 - 930429	MEAN SIZE	- 241.3
NO. CGHT.	- 36	S.E. SIZE	- 9.2
NO. MEAS.	- 36	MIN. SIZE	- 134
NO. HAULS	- 56	MAX. SIZE	- 381
CAT./HAUL	- 0.6		
MAY	930506 - 930513	MEAN SIZE	- 226.6
NO. CGHT.	- 127	S.E. SIZE	- 5.1
NO. MEAS.	- 127	MIN. SIZE	- 118
NO. HAULS	- 50	MAX. SIZE	- 618
CAT./HAUL	- 2.1		
JUNE	930602 - 930615	MEAN SIZE	- 257.9
NO. CGHT.	- 62	S.E. SIZE	- 6.7
NO. MEAS.	- 62	MIN. SIZE	- 122
NO. HAULS	- 60	MAX. SIZE	- 345
CAT./HAUL	- 1		
JULY	930701 - 930715	MEAN SIZE	- 230.4
NO. CGHT.	- 14	S.E. SIZE	- 15.3
NO. MEAS.	- 14	MIN. SIZE	- 82
NO. HAULS	- 60	MAX. SIZE	- 315
CAT./HAUL	- 0.2		
AUGUST	930803 - 930817	MEAN SIZE	- 291.4
NO. CGHT.	- 9	S.E. SIZE	- 15.9
NO. MEAS.	- 9	MIN. SIZE	- 185
NO. HAULS	- 60	MAX. SIZE	- 357
CAT./HAUL	- 0.2		
SEPTEMBER	930907 - 930920	MEAN SIZE	- 244.5
NO. CGHT.	- 35	S.E. SIZE	- 6.5
NO. MEAS.	- 35	MIN. SIZE	- 158
NO. HAULS	- 60	MAX. SIZE	- 307
CAT./HAUL	- 0.6		
OCTOBER	931004 - 931019	MEAN SIZE	- 243
NO. CGHT.	- 6	S.E. SIZE	- 30.3
NO. MEAS.	- 5	MIN. SIZE	- 151
NO. HAULS	- 60	MAX. SIZE	- 325
CAT./HAUL	- 0.1		
NOVEMBER	931102 - 931111	MEAN SIZE	- 316
NO. CGHT.	- 1	S.E. SIZE	- 316
NO. MEAS.	- 1	MIN. SIZE	- 316
NO. HAULS	- 60	MAX. SIZE	- 316
CAT./HAUL	- 0		
DECEMBER	931201 - 931213	MEAN SIZE	- 245.8
NO. CGHT.	- 20	S.E. SIZE	- 18.1
NO. MEAS.	- 20	MIN. SIZE	- 166
NO. HAULS	- 60	MAX. SIZE	- 529
CAT./HAUL	- 0.3		
JAN - DEC	930106 - 931213	MEAN SIZE	- 239.4
NO. CGHT.	- 336	S.E. SIZE	- 3.5
NO. MEAS.	- 336	MIN. SIZE	- 82
NO. HAULS	- 644	MAX. SIZE	- 618
CAT./HAUL	- 0.5		

Figure 47.

American Shad



JANUARY 930106 - 930114
 NO. C.GHT. - 1 MEAN SIZE - 115
 NO. MEAS. - 1 S.E. SIZE - .
 NO. HAULS - 25 MIN. SIZE - 115
 CAT./HAUL - 0 MAX. SIZE - 115

FEBRUARY 930203 - 930223
 NO. C.GHT. - 7 MEAN SIZE - 112.7
 NO. MEAS. - 7 S.E. SIZE - 4.5
 NO. HAULS - 58 MIN. SIZE - 94
 CAT./HAUL - 0.1 MAX. SIZE - 126

MARCH 930301 - 930311
 NO. C.GHT. - 1 MEAN SIZE - 108
 NO. MEAS. - 1 S.E. SIZE - .
 NO. HAULS - 25 MIN. SIZE - 108
 CAT./HAUL - 0 MAX. SIZE - 108

APRIL 930405 - 930429
 NO. C.GHT. - 2 MEAN SIZE - 162
 NO. MEAS. - 2 S.E. SIZE - 3
 NO. HAULS - 56 MIN. SIZE - 159
 CAT./HAUL - 0 MAX. SIZE - 165

MAY 930506 - 930513
 NO. C.GHT. - 1 MEAN SIZE - 146
 NO. MEAS. - 1 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - 146
 CAT./HAUL - 0 MAX. SIZE - 146

JUNE 930602 - 930615
 NO. C.GHT. - 0 MEAN SIZE - .
 NO. MEAS. - 0 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - .
 CAT./HAUL - 0 MAX. SIZE - .

JULY 930701 - 930715
 NO. C.GHT. - 0 MEAN SIZE - .
 NO. MEAS. - 0 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - .
 CAT./HAUL - 0 MAX. SIZE - .

AUGUST 930803 - 930817
 NO. C.GHT. - 0 MEAN SIZE - .
 NO. MEAS. - 0 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - .
 CAT./HAUL - 0 MAX. SIZE - .

SEPTEMBER 930907 - 930920
 NO. C.GHT. - 0 MEAN SIZE - .
 NO. MEAS. - 0 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - .
 CAT./HAUL - 0 MAX. SIZE - .

OCTOBER 931004 - 931019
 NO. C.GHT. - 0 MEAN SIZE - .
 NO. MEAS. - 0 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - .
 CAT./HAUL - 0 MAX. SIZE - .

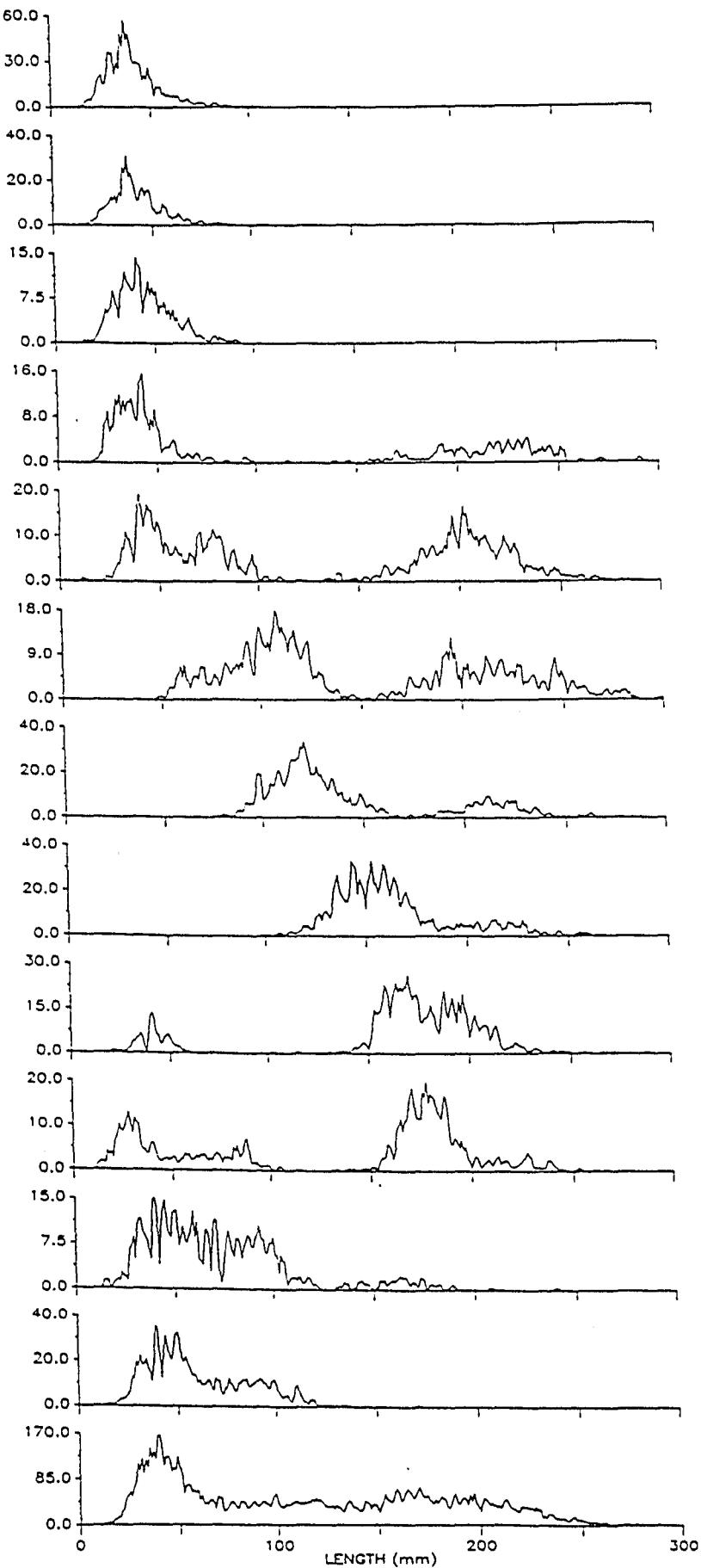
NOVEMBER 931102 - 931111
 NO. C.GHT. - 0 MEAN SIZE - .
 NO. MEAS. - 0 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - .
 CAT./HAUL - 0 MAX. SIZE - .

DECEMBER 931201 - 931213
 NO. C.GHT. - 0 MEAN SIZE - .
 NO. MEAS. - 0 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - .
 CAT./HAUL - 0 MAX. SIZE - .

JAN - DEC 930106 - 931213
 NO. C.GHT. - 12 MEAN SIZE - 123.5
 NO. MEAS. - 12 S.E. SIZE - 6.4
 NO. HAULS - 644 MIN. SIZE - 94
 CAT./HAUL - 0 MAX. SIZE - 165

Figure 48.

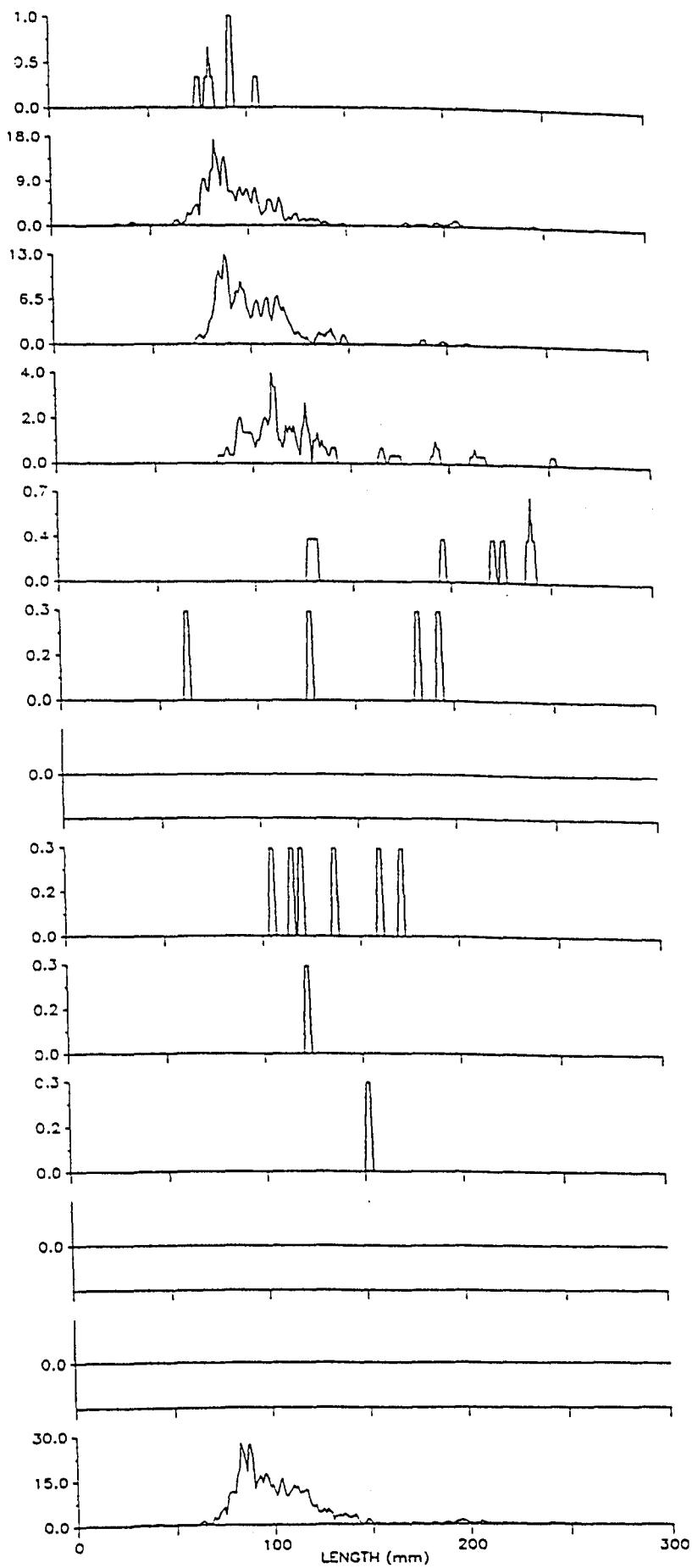
Atlantic Croaker



JANUARY	930106 - 930114			
NO. CGHT.	- 3634	MEAN SIZE	-	39
NO. MEAS.	- 1053	S.E. SIZE	-	0.4
NO. HAULS	- 25	MIN. SIZE	-	13
CAT./HAUL	- 145.4	MAX. SIZE	-	101
FEBRUARY	930203 - 930223			
NO. CGHT.	- 3010	MEAN SIZE	-	40.6
NO. MEAS.	- 528	S.E. SIZE	-	0.6
NO. HAULS	- 58	MIN. SIZE	-	13
CAT./HAUL	- 51.9	MAX. SIZE	-	150
MARCH	930301 - 930311			
NO. CGHT.	- 3093	MEAN SIZE	-	42.8
NO. MEAS.	- 336	S.E. SIZE	-	0.8
NO. HAULS	- 25	MIN. SIZE	-	13
CAT./HAUL	- 123.7	MAX. SIZE	-	90
APRIL	930405 - 930429			
NO. CGHT.	- 1385	MEAN SIZE	-	102.5
NO. MEAS.	- 495	S.E. SIZE	-	3.9
NO. HAULS	- 56	MIN. SIZE	-	16
CAT./HAUL	- 24.7	MAX. SIZE	-	289
MAY	930506 - 930513			
NO. CGHT.	- 1929	MEAN SIZE	-	128.7
NO. MEAS.	- 1131	S.E. SIZE	-	2.3
NO. HAULS	- 60	MIN. SIZE	-	21
CAT./HAUL	- 32.2	MAX. SIZE	-	270
JUNE	930602 - 930615			
NO. CGHT.	- 2926	MEAN SIZE	-	148.6
NO. MEAS.	- 1111	S.E. SIZE	-	1.9
NO. HAULS	- 60	MIN. SIZE	-	46
CAT./HAUL	- 48.8	MAX. SIZE	-	305
JULY	930701 - 930715			
NO. CGHT.	- 2812	MEAN SIZE	-	140.4
NO. MEAS.	- 1287	S.E. SIZE	-	1.2
NO. HAULS	- 60	MIN. SIZE	-	30
CAT./HAUL	- 46.9	MAX. SIZE	-	284
AUGUST	930803 - 930817			
NO. CGHT.	- 2492	MEAN SIZE	-	161
NO. MEAS.	- 1336	S.E. SIZE	-	0.8
NO. HAULS	- 60	MIN. SIZE	-	88
CAT./HAUL	- 41.5	MAX. SIZE	-	270
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 1461	MEAN SIZE	-	161.3
NO. MEAS.	- 1136	S.E. SIZE	-	1.5
NO. HAULS	- 60	MIN. SIZE	-	19
CAT./HAUL	- 24.4	MAX. SIZE	-	286
OCTOBER	931004 - 931019			
NO. CGHT.	- 1164	MEAN SIZE	-	128.7
NO. MEAS.	- 922	S.E. SIZE	-	2.3
NO. HAULS	- 60	MIN. SIZE	-	11
CAT./HAUL	- 19.4	MAX. SIZE	-	264
NOVEMBER	931102 - 931111			
NO. CGHT.	- 1820	MEAN SIZE	-	69.8
NO. MEAS.	- 759	S.E. SIZE	-	1.3
NO. HAULS	- 60	MIN. SIZE	-	13
CAT./HAUL	- 30.3	MAX. SIZE	-	238
DECEMBER	931201 - 931213			
NO. CGHT.	- 2828	MEAN SIZE	-	58.5
NO. MEAS.	- 1237	S.E. SIZE	-	0.7
NO. HAULS	- 60	MIN. SIZE	-	13
CAT./HAUL	- 47.1	MAX. SIZE	-	245
JAN - DEC	930106 - 931213			
NO. CGHT.	- 28554	MEAN SIZE	-	111.3
NO. MEAS.	- 11331	S.E. SIZE	-	0.6
NO. HAULS	- 644	MIN. SIZE	-	11
CAT./HAUL	- 44.3	MAX. SIZE	-	305

Figure 49.

Atlantic Menhaden



JANUARY 930106 - 930114
 NO. CGHT. - 7 MEAN SIZE - 86.3
 NO. MEAS. - 7 S.E. SIZE - 3.8
 NO. HAULS - 25 MIN. SIZE - 73
 CAT./HAUL - 0.3 MAX. SIZE - 103

FEBRUARY 930203 - 930223
 NO. CGHT. - 370 MEAN SIZE - 95.3
 NO. MEAS. - 370 S.E. SIZE - 1.4
 NO. HAULS - 58 MIN. SIZE - 31
 CAT./HAUL - 6.4 MAX. SIZE - 243

MARCH 930301 - 930311
 NO. CGHT. - 572 MEAN SIZE - 100.2
 NO. MEAS. - 310 S.E. SIZE - 1.2
 NO. HAULS - 25 MIN. SIZE - 71
 CAT./HAUL - 22.9 MAX. SIZE - 208

APRIL 930405 - 930429
 NO. CGHT. - 84 MEAN SIZE - 120.9
 NO. MEAS. - 84 S.E. SIZE - 3.6
 NO. HAULS - 56 MIN. SIZE - 81
 CAT./HAUL - 1.5 MAX. SIZE - 250

MAY 930506 - 930513
 NO. CGHT. - 7 MEAN SIZE - 195.4
 NO. MEAS. - 7 S.E. SIZE - 18.4
 NO. HAULS - 60 MIN. SIZE - 126
 CAT./HAUL - 0.1 MAX. SIZE - 239

JUNE 930602 - 930615
 NO. CGHT. - 4 MEAN SIZE - 139.5
 NO. MEAS. - 4 S.E. SIZE - 29.6
 NO. HAULS - 60 MIN. SIZE - 62
 CAT./HAUL - 0.1 MAX. SIZE - 191

JULY 930701 - 930715
 NO. CGHT. - 0 MEAN SIZE - .
 NO. MEAS. - 0 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - .
 CAT./HAUL - 0 MAX. SIZE - .

AUGUST 930803 - 930817
 NO. CGHT. - 6 MEAN SIZE - 132.7
 NO. MEAS. - 6 S.E. SIZE - 10.7
 NO. HAULS - 60 MIN. SIZE - 103
 CAT./HAUL - 0.1 MAX. SIZE - 169

SEPTEMBER 930907 - 930920
 NO. CGHT. - 1 MEAN SIZE - 120
 NO. MEAS. - 1 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - 120
 CAT./HAUL - 0 MAX. SIZE - 120

OCTOBER 931004 - 931019
 NO. CGHT. - 1 MEAN SIZE - 150
 NO. MEAS. - 1 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - 150
 CAT./HAUL - 0 MAX. SIZE - 150

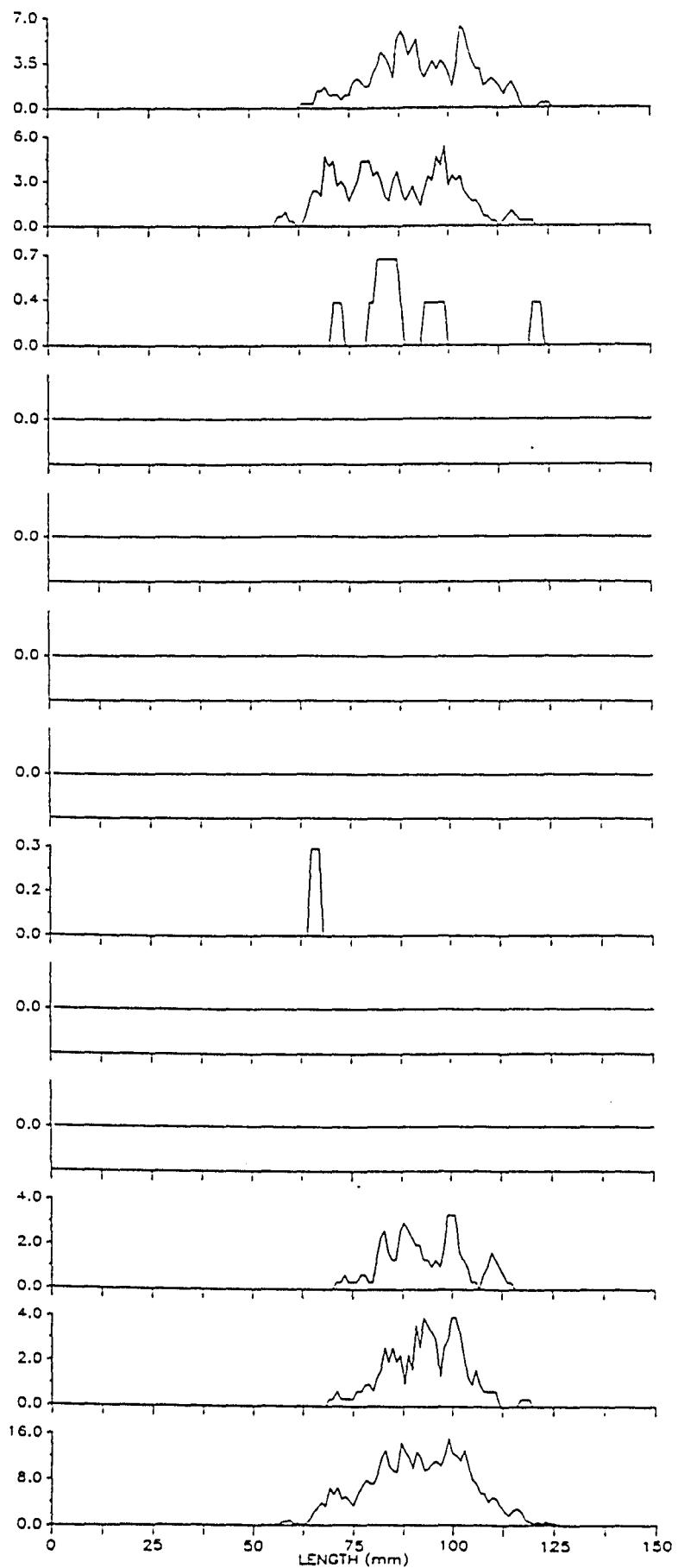
NOVEMBER 931102 - 931111
 NO. CGHT. - 0 MEAN SIZE - .
 NO. MEAS. - 0 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - .
 CAT./HAUL - 0 MAX. SIZE - .

DECEMBER 931201 - 931213
 NO. CGHT. - 0 MEAN SIZE - .
 NO. MEAS. - 0 S.E. SIZE - .
 NO. HAULS - 60 MIN. SIZE - .
 CAT./HAUL - 0 MAX. SIZE - .

JAN - DEC 930106 - 931213
 NO. CGHT. - 1052 MEAN SIZE - 101.4
 NO. MEAS. - 790 S.E. SIZE - 1
 NO. HAULS - 644 MIN. SIZE - 31
 CAT./HAUL - 1.6 MAX. SIZE - 250

Figure 50.

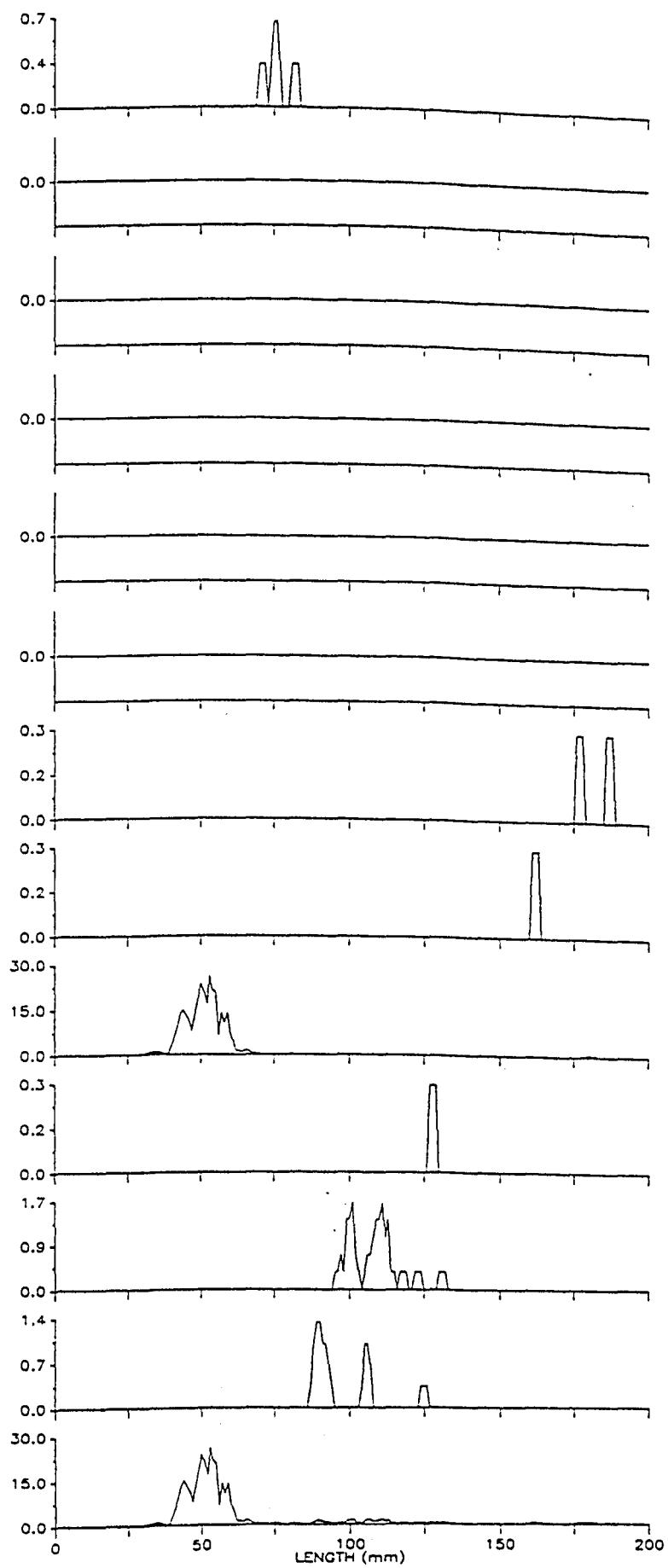
Atlantic Silverside



JANUARY	930106 - 930114	MEAN SIZE	-	91.6
NO. CGHT.	- 145	S.E. SIZE	-	1
NO. MEAS.	- 145	MIN. SIZE	-	62
NO. HAULS	- 25	MAX. SIZE	-	122
CAT./HAUL	- 5.8			
FEBRUARY	930203 - 930223	MEAN SIZE	-	84.5
NO. CGHT.	- 136	S.E. SIZE	-	1.2
NO. MEAS.	- 136	MIN. SIZE	-	56
NO. HAULS	- 58	MAX. SIZE	-	118
CAT./HAUL	- 2.3			
MARCH	930301 - 930311	MEAN SIZE	-	87.8
NO. CGHT.	- 9	S.E. SIZE	-	4.8
NO. MEAS.	- 9	MIN. SIZE	-	70
NO. HAULS	- 25	MAX. SIZE	-	120
CAT./HAUL	- 0.4			
APRIL	930405 - 930429	MEAN SIZE	-	.
NO. CGHT.	- 0	S.E. SIZE	-	.
NO. MEAS.	- 0	MIN. SIZE	-	.
NO. HAULS	- 56	MAX. SIZE	-	.
CAT./HAUL	- 0			
MAY	930506 - 930513	MEAN SIZE	-	.
NO. CGHT.	- 0	S.E. SIZE	-	.
NO. MEAS.	- 0	MIN. SIZE	-	.
NO. HAULS	- 60	MAX. SIZE	-	.
CAT./HAUL	- 0			
JUNE	930602 - 930615	MEAN SIZE	-	.
NO. CGHT.	- 0	S.E. SIZE	-	.
NO. MEAS.	- 0	MIN. SIZE	-	.
NO. HAULS	- 60	MAX. SIZE	-	.
CAT./HAUL	- 0			
JULY	930701 - 930715	MEAN SIZE	-	.
NO. CGHT.	- 0	S.E. SIZE	-	.
NO. MEAS.	- 0	MIN. SIZE	-	.
NO. HAULS	- 60	MAX. SIZE	-	.
CAT./HAUL	- 0			
AUGUST	930803 - 930817	MEAN SIZE	-	64
NO. CGHT.	- 1	S.E. SIZE	-	64
NO. MEAS.	- 1	MIN. SIZE	-	64
NO. HAULS	- 60	MAX. SIZE	-	64
CAT./HAUL	- 0			
SEPTEMBER	930907 - 930920	MEAN SIZE	-	.
NO. CGHT.	- 0	S.E. SIZE	-	.
NO. MEAS.	- 0	MIN. SIZE	-	.
NO. HAULS	- 60	MAX. SIZE	-	.
CAT./HAUL	- 0			
OCTOBER	931004 - 931019	MEAN SIZE	-	.
NO. CGHT.	- 0	S.E. SIZE	-	.
NO. MEAS.	- 0	MIN. SIZE	-	.
NO. HAULS	- 60	MAX. SIZE	-	.
CAT./HAUL	- 0			
NOVEMBER	931102 - 931111	MEAN SIZE	-	91.5
NO. CGHT.	- 151	S.E. SIZE	-	1.3
NO. MEAS.	- 59	MIN. SIZE	-	70
NO. HAULS	- 60	MAX. SIZE	-	112
CAT./HAUL	- 2.5			
DECEMBER	931201 - 931213	MEAN SIZE	-	91.4
NO. CGHT.	- 141	S.E. SIZE	-	1.1
NO. MEAS.	- 76	MIN. SIZE	-	68
NO. HAULS	- 60	MAX. SIZE	-	116
CAT./HAUL	- 2.4			
JAN - DEC	930106 - 931213	MEAN SIZE	-	89.1
NO. CGHT.	- 583	S.E. SIZE	-	0.6
NO. MEAS.	- 426	MIN. SIZE	-	56
NO. HAULS	- 644	MAX. SIZE	-	122
CAT./HAUL	- 0.9			

Figure 51.

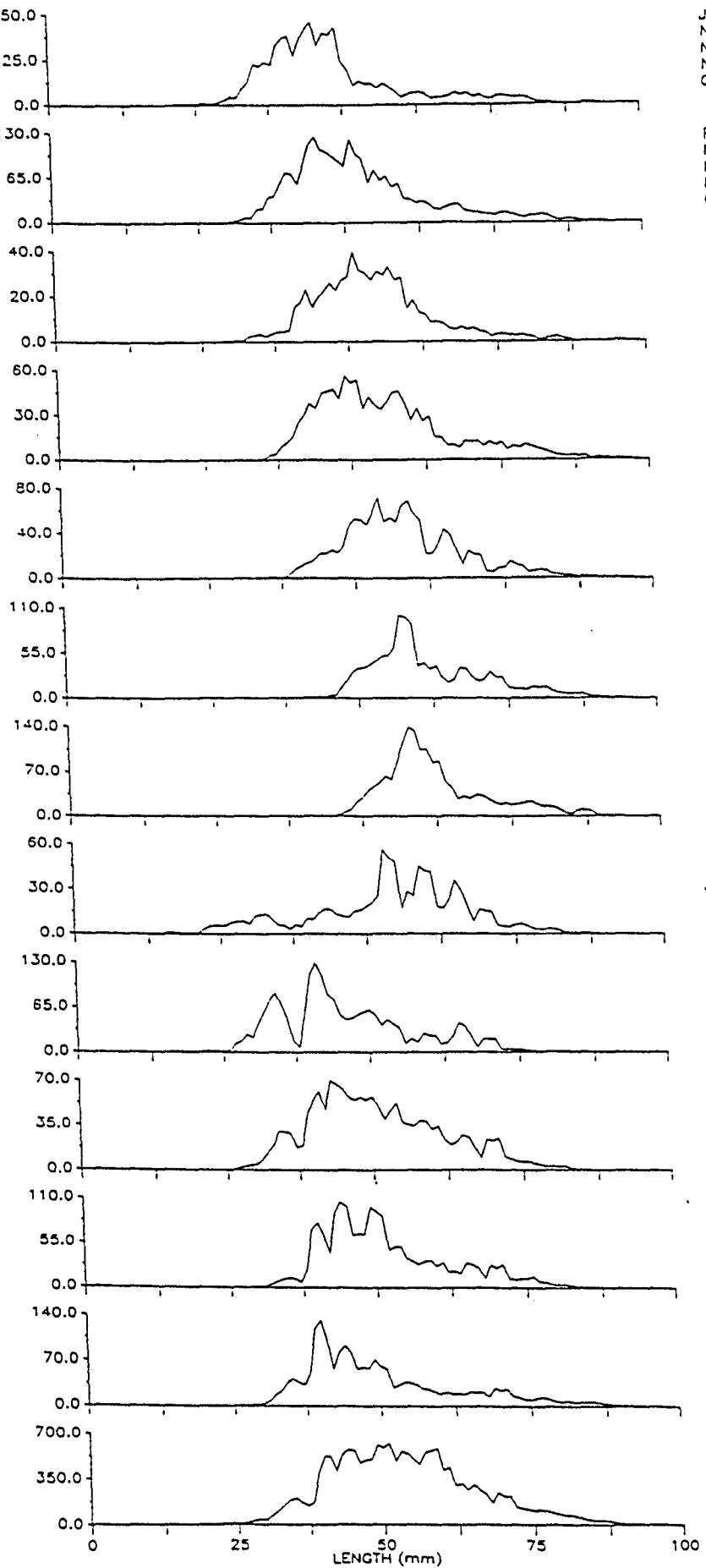
Atlantic Thread Herring



JANUARY	930106 - 930114			
NO. CGHT.	- 4	MEAN SIZE	- 74	
NO. MEAS.	- 4	S.E. SIZE	- 2.3	
NO. HAULS	- 25	MIN. SIZE	- 69	
CAT./HAUL	- 0.2	MAX. SIZE	- 80	
FEBRUARY	930203 - 930223			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 58	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
MARCH	930301 - 930311			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 25	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
APRIL	930405 - 930429			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 56	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
MAY	930506 - 930513			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 60	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
JUNE	930602 - 930615			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 50	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
JULY	930701 - 930715			
NO. CGHT.	- 2	MEAN SIZE	- 180	
NO. MEAS.	- 2	S.E. SIZE	- 5	
NO. HAULS	- 60	MIN. SIZE	- 175	
CAT./HAUL	- 0	MAX. SIZE	- 185	
AUGUST	930803 - 930817			
NO. CGHT.	- 1	MEAN SIZE	- 160	
NO. MEAS.	- 1	S.E. SIZE	- .	
NO. HAULS	- 60	MIN. SIZE	- 160	
CAT./HAUL	- 0	MAX. SIZE	- 160	
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 1218	MEAN SIZE	- 49.9	
NO. MEAS.	- 313	S.E. SIZE	- 0.7	
NO. HAULS	- 60	MIN. SIZE	- 30	
CAT./HAUL	- 20.3	MAX. SIZE	- 179	
OCTOBER	931004 - 931019			
NO. CGHT.	- 1	MEAN SIZE	- 126	
NO. MEAS.	- 1	S.E. SIZE	- .	
NO. HAULS	- 60	MIN. SIZE	- 126	
CAT./HAUL	- 0	MAX. SIZE	- 126	
NOVEMBER	931102 - 931111			
NO. CGHT.	- 20	MEAN SIZE	- 106.5	
NO. MEAS.	- 20	S.E. SIZE	- 2	
NO. HAULS	- 60	MIN. SIZE	- 94	
CAT./HAUL	- 0.3	MAX. SIZE	- 129	
DECEMBER	931201 - 931213			
NO. CGHT.	- 11	MEAN SIZE	- 95.6	
NO. MEAS.	- 11	S.E. SIZE	- 3.5	
NO. HAULS	- 60	MIN. SIZE	- 86	
CAT./HAUL	- 0.2	MAX. SIZE	- 123	
JAN - DEC	930106 - 931213			
NO. CGHT.	- 1257	MEAN SIZE	- 56.1	
NO. MEAS.	- 352	S.E. SIZE	- 1.2	
NO. HAULS	- 644	MIN. SIZE	- 30	
CAT./HAUL	- 2	MAX. SIZE	- 185	

Figure 52.

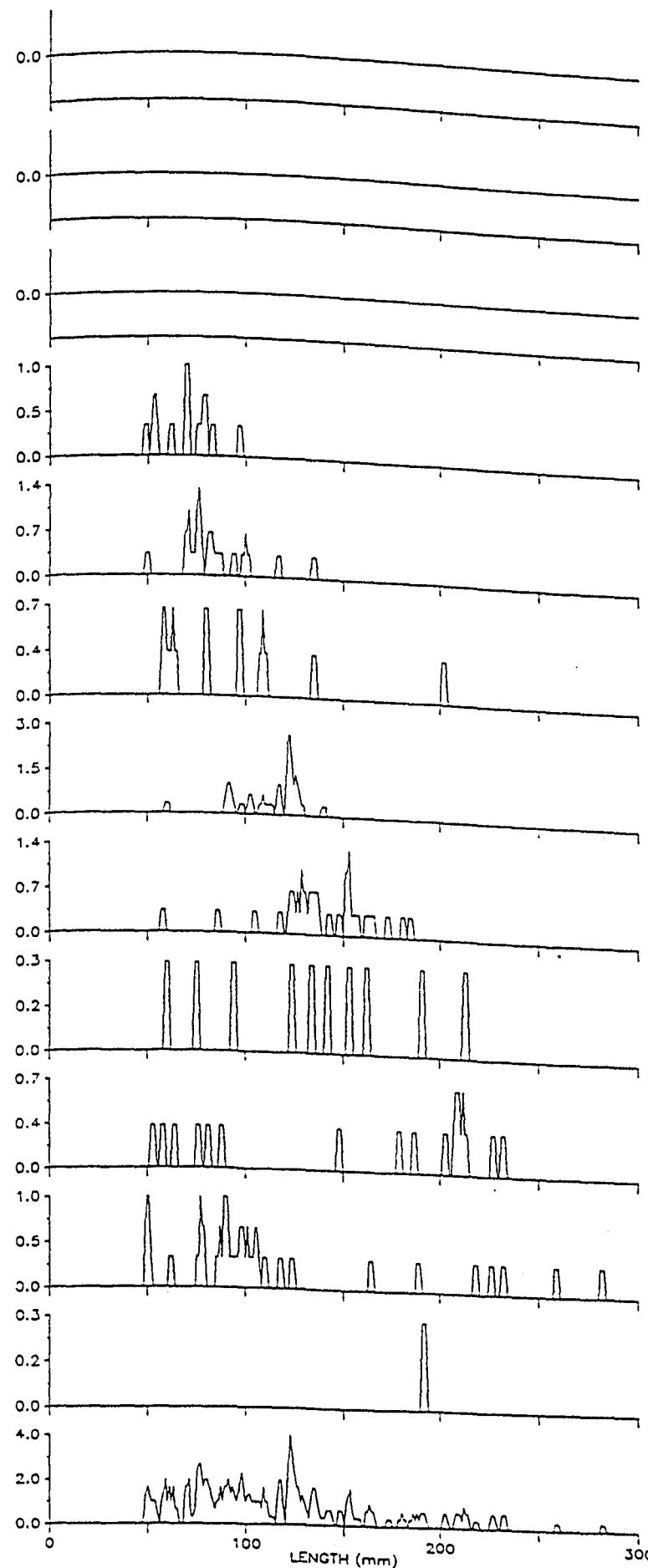
Bay Anchovy



JANUARY	930106 - 930114	MEAN SIZE	-	46
NO. CGHT.	- 9760	S.E. SIZE	-	0.4
NO. MEAS.	- 784	MIN. SIZE	-	21
NO. HAULS	- 25	MAX. SIZE	-	89
CAT./HAUL	- 390.4			
FEBRUARY	930203 - 930223	MEAN SIZE	-	50.3
NO. CGHT.	- 498785	S.E. SIZE	-	0.2
NO. MEAS.	- 2359	MIN. SIZE	-	19
NO. HAULS	- 58	MAX. SIZE	-	94
CAT./HAUL	- 3427.3			
MARCH	930301 - 930311	MEAN SIZE	-	52.1
NO. CGHT.	- 54318	S.E. SIZE	-	0.4
NO. MEAS.	- 674	MIN. SIZE	-	28
NO. HAULS	- 25	MAX. SIZE	-	93
CAT./HAUL	- 2172.7			
APRIL	930405 - 930429	MEAN SIZE	-	53.4
NO. CGHT.	- 12213	S.E. SIZE	-	0.3
NO. MEAS.	- 1161	MIN. SIZE	-	34
NO. HAULS	- 56	MAX. SIZE	-	94
CAT./HAUL	- 218.1			
MAY	930505 - 930513	MEAN SIZE	-	56
NO. CGHT.	- 11155	S.E. SIZE	-	0.3
NO. MEAS.	- 1257	MIN. SIZE	-	33
NO. HAULS	- 60	MAX. SIZE	-	93
CAT./HAUL	- 185.9			
JUNE	930602 - 930615	MEAN SIZE	-	59.5
NO. CGHT.	- 24940	S.E. SIZE	-	0.3
NO. MEAS.	- 1269	MIN. SIZE	-	38
NO. HAULS	- 60	MAX. SIZE	-	91
CAT./HAUL	- 415.7			
JULY	930701 - 930715	MEAN SIZE	-	60.4
NO. CGHT.	- 17751	S.E. SIZE	-	0.2
NO. MEAS.	- 1763	MIN. SIZE	-	39
NO. HAULS	- 60	MAX. SIZE	-	94
CAT./HAUL	- 295.9			
AUGUST	930803 - 930817	MEAN SIZE	-	52
NO. CGHT.	- 16469	S.E. SIZE	-	0.4
NO. MEAS.	- 948	MIN. SIZE	-	14
NO. HAULS	- 60	MAX. SIZE	-	84
CAT./HAUL	- 274.5			
SEPTEMBER	930907 - 930920	MEAN SIZE	-	43.9
NO. CGHT.	- 79380	S.E. SIZE	-	0.3
NO. MEAS.	- 1958	MIN. SIZE	-	15
NO. HAULS	- 60	MAX. SIZE	-	83
CAT./HAUL	- 1323			
OCTOBER	931004 - 931019	MEAN SIZE	-	48.7
NO. CGHT.	- 51406	S.E. SIZE	-	0.3
NO. MEAS.	- 1585	MIN. SIZE	-	26
NO. HAULS	- 60	MAX. SIZE	-	81
CAT./HAUL	- 856.8			
NOVEMBER	931102 - 931111	MEAN SIZE	-	49.3
NO. CGHT.	- 70897	S.E. SIZE	-	0.2
NO. MEAS.	- 1812	MIN. SIZE	-	26
NO. HAULS	- 60	MAX. SIZE	-	85
CAT./HAUL	- 1181.6			
DECEMBER	931201 - 931213	MEAN SIZE	-	48
NO. CGHT.	- 65345	S.E. SIZE	-	0.3
NO. MEAS.	- 1935	MIN. SIZE	-	25
NO. HAULS	- 60	MAX. SIZE	-	94
CAT./HAUL	- 1089.1			
JAN - DEC	930106 - 931213	MEAN SIZE	-	51.3
NO. CGHT.	- 612419	S.E. SIZE	-	0.1
NO. MEAS.	- 17535	MIN. SIZE	-	14
NO. HAULS	- 644	MAX. SIZE	-	94
CAT./HAUL	- 951			

Figure 53.

Black Seabass



JANUARY 930106 - 930114
 NO. CGHT. - 0 MEAN SIZE -
 NO. MEAS. - 0 S.E. SIZE -
 NO. HAULS - 25 MIN. SIZE -
 CAT./HAUL - 0 MAX. SIZE -

FEBRUARY 930203 - 930223
 NO. CGHT. - 0 MEAN SIZE -
 NO. MEAS. - 0 S.E. SIZE -
 NO. HAULS - 58 MIN. SIZE -
 CAT./HAUL - 0 MAX. SIZE -

MARCH 930301 - 930311
 NO. CGHT. - 0 MEAN SIZE -
 NO. MEAS. - 0 S.E. SIZE -
 NO. HAULS - 25 MIN. SIZE -
 CAT./HAUL - 0 MAX. SIZE -

APRIL 930405 - 930429
 NO. CGHT. - 12 MEAN SIZE - 68.2
 NO. MEAS. - 12 S.E. SIZE - 4
 NO. HAULS - 56 MIN. SIZE - 47
 CAT./HAUL - 0.2 MAX. SIZE - 95

MAY 930506 - 930513
 NO. CGHT. - 17 MEAN SIZE - 83.1
 NO. MEAS. - 17 S.E. SIZE - 4.8
 NO. HAULS - 50 MIN. SIZE - 48
 CAT./HAUL - 0.3 MAX. SIZE - 133

JUNE 930602 - 930615
 NO. CGHT. - 12 MEAN SIZE - 94
 NO. MEAS. - 12 S.E. SIZE - 11.9
 NO. HAULS - 60 MIN. SIZE - 56
 CAT./HAUL - 0.2 MAX. SIZE - 200

JULY 930701 - 930715
 NO. CGHT. - 28 MEAN SIZE - 111
 NO. MEAS. - 28 S.E. SIZE - 3.2
 NO. HAULS - 60 MIN. SIZE - 58
 CAT./HAUL - 0.5 MAX. SIZE - 138

AUGUST 930803 - 930817
 NO. CGHT. - 26 MEAN SIZE - 136.2
 NO. MEAS. - 26 S.E. SIZE - 5.5
 NO. HAULS - 60 MIN. SIZE - 56
 CAT./HAUL - 0.4 MAX. SIZE - 183

SEPTEMBER 930907 - 930920
 NO. CGHT. - 10 MEAN SIZE - 132.8
 NO. MEAS. - 10 S.E. SIZE - 15.4
 NO. HAULS - 60 MIN. SIZE - 58
 CAT./HAUL - 0.2 MAX. SIZE - 211

OCTOBER 931004 - 931019
 NO. CGHT. - 16 MEAN SIZE - 150.3
 NO. MEAS. - 16 S.E. SIZE - 17.3
 NO. HAULS - 60 MIN. SIZE - 51
 CAT./HAUL - 0.3 MAX. SIZE - 230

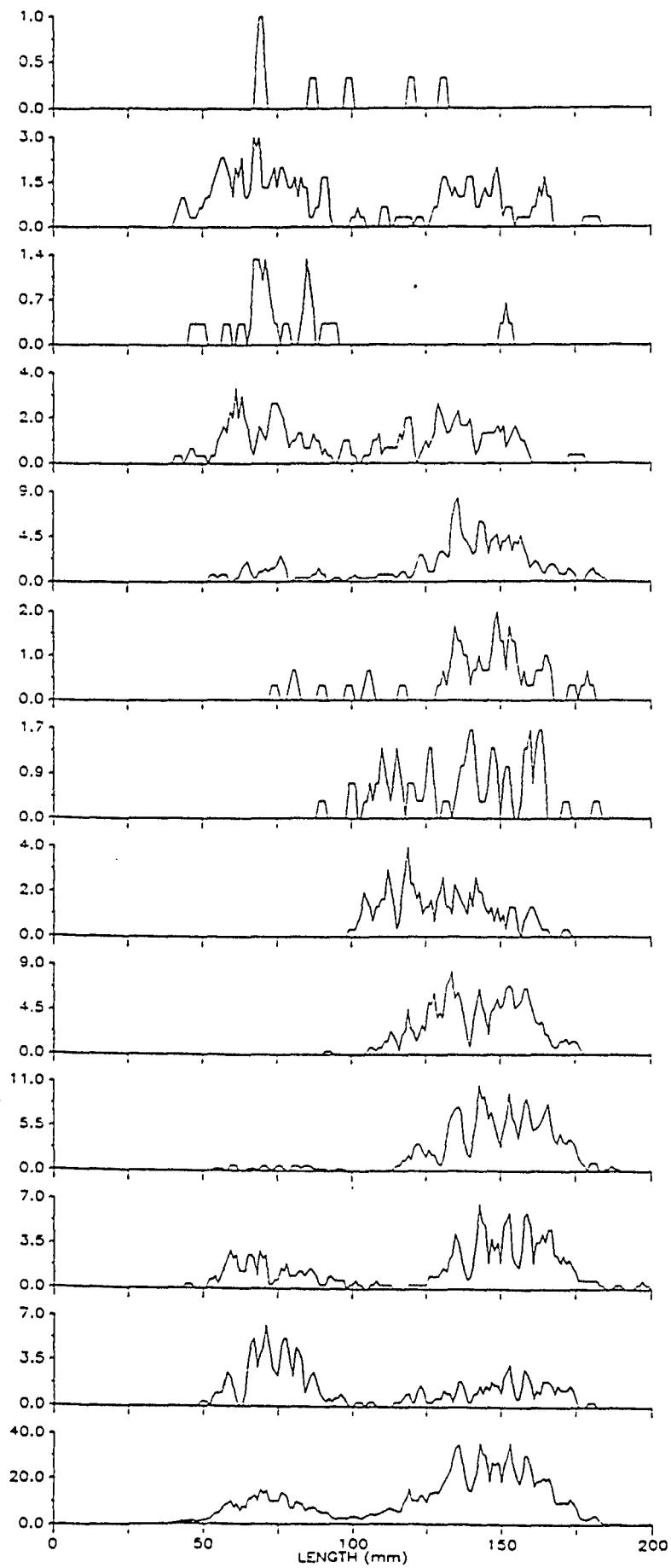
NOVEMBER 931102 - 931111
 NO. CGHT. - 29 MEAN SIZE - 119.2
 NO. MEAS. - 29 S.E. SIZE - 12
 NO. HAULS - 60 MIN. SIZE - 48
 CAT./HAUL - 0.5 MAX. SIZE - 280

DECEMBER 931201 - 931213
 NO. CGHT. - 1 MEAN SIZE - 190
 NO. MEAS. - 1 S.E. SIZE - 190
 NO. HAULS - 60 MIN. SIZE - 190
 CAT./HAUL - 0 MAX. SIZE - 190

JAN - DEC 930106 - 931213
 NO. CGHT. - 151 MEAN SIZE - 115.1
 NO. MEAS. - 151 S.E. SIZE - 4
 NO. HAULS - 644 MIN. SIZE - 47
 CAT./HAUL - 0.2 MAX. SIZE - 280

Figure 54.

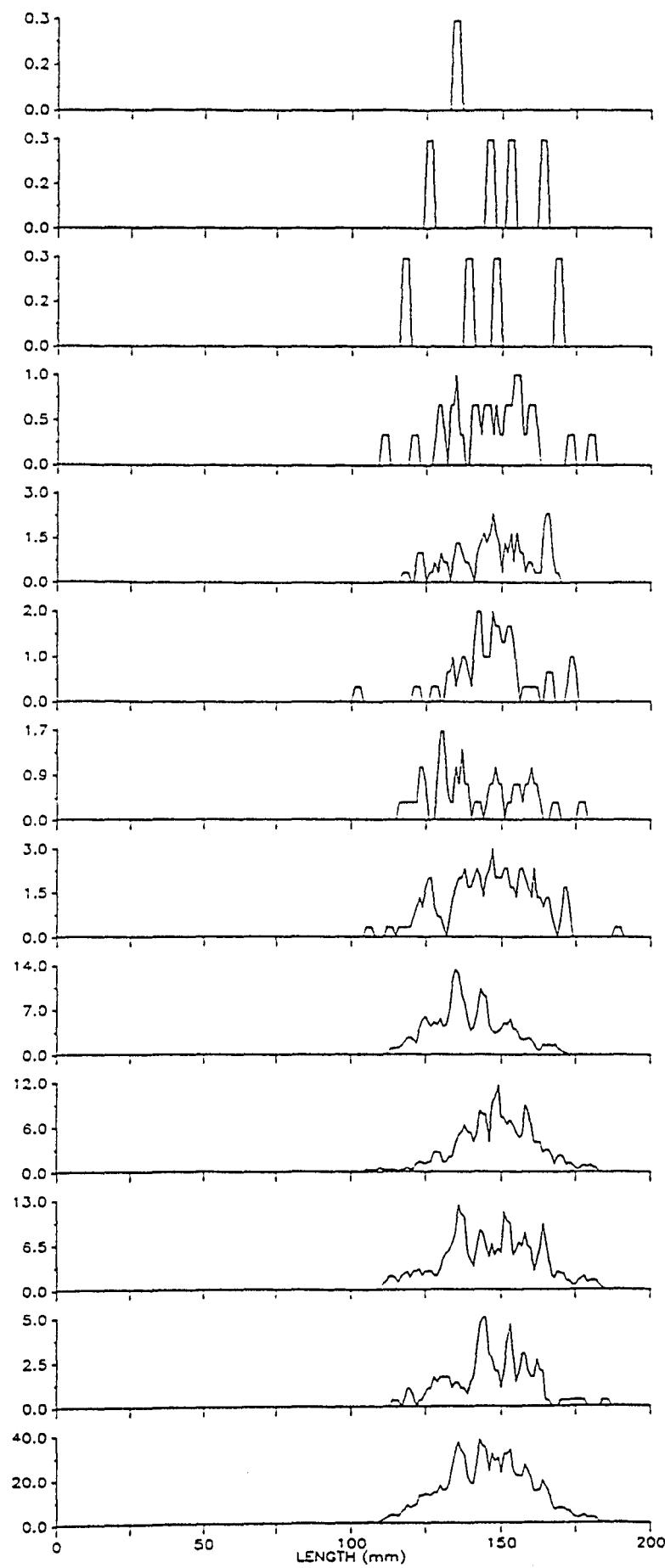
Blackcheek Tonguefish



JANUARY	930106 - 930114			
NO. CGHT.	- 7	MEAN SIZE	- 90.1	
NO. MEAS.	- 7	S.E. SIZE	- 9.7	
NO. HAULS	- 25	MIN. SIZE	- 67	
CAT./HAUL	- 0.3	MAX. SIZE	- 129	
FEBRUARY	930203 - 930223			
NO. CGHT.	- 121	MEAN SIZE	- 96.1	
NO. MEAS.	- 121	S.E. SIZE	- 3.6	
NO. HAULS	- 58	MIN. SIZE	- 40	
CAT./HAUL	- 2.1	MAX. SIZE	- 180	
MARCH	930301 - 930311			
NO. CGHT.	- 22	MEAN SIZE	- 77.8	
NO. MEAS.	- 22	S.E. SIZE	- 5.6	
NO. HAULS	- 25	MIN. SIZE	- 45	
CAT./HAUL	- 0.9	MAX. SIZE	- 151	
APRIL	930405 - 930429			
NO. CGHT.	- 133	MEAN SIZE	- 102.2	
NO. MEAS.	- 133	S.E. SIZE	- 3.1	
NO. HAULS	- 56	MIN. SIZE	- 40	
CAT./HAUL	- 2.4	MAX. SIZE	- 175	
MAY	930506 - 930513			
NO. CGHT.	- 210	MEAN SIZE	- 130.6	
NO. MEAS.	- 210	S.E. SIZE	- 2.1	
NO. HAULS	- 60	MIN. SIZE	- 51	
CAT./HAUL	- 3.5	MAX. SIZE	- 182	
JUNE	930602 - 930615			
NO. CGHT.	- 45	MEAN SIZE	- 138.2	
NO. MEAS.	- 45	S.E. SIZE	- 3.8	
NO. HAULS	- 60	MIN. SIZE	- 72	
CAT./HAUL	- 0.8	MAX. SIZE	- 178	
JULY	930701 - 930715			
NO. CGHT.	- 51	MEAN SIZE	- 134.9	
NO. MEAS.	- 51	S.E. SIZE	- 3.1	
NO. HAULS	- 60	MIN. SIZE	- 88	
CAT./HAUL	- 0.9	MAX. SIZE	- 180	
AUGUST	930803 - 930817			
NO. CGHT.	- 94	MEAN SIZE	- 128.1	
NO. MEAS.	- 94	S.E. SIZE	- 1.8	
NO. HAULS	- 60	MIN. SIZE	- 98	
CAT./HAUL	- 1.6	MAX. SIZE	- 170	
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 274	MEAN SIZE	- 140.3	
NO. MEAS.	- 244	S.E. SIZE	- 1	
NO. HAULS	- 60	MIN. SIZE	- 90	
CAT./HAUL	- 4.6	MAX. SIZE	- 174	
OCTOBER	931004 - 931019			
NO. CGHT.	- 405	MEAN SIZE	- 144.6	
NO. MEAS.	- 309	S.E. SIZE	- 1.3	
NO. HAULS	- 60	MIN. SIZE	- 53	
CAT./HAUL	- 6.8	MAX. SIZE	- 186	
NOVEMBER	931102 - 931111			
NO. CGHT.	- 430	MEAN SIZE	- 128.1	
NO. MEAS.	- 228	S.E. SIZE	- 2.6	
NO. HAULS	- 60	MIN. SIZE	- 43	
CAT./HAUL	- 7.2	MAX. SIZE	- 196	
DECEMBER	931201 - 931213			
NO. CGHT.	- 190	MEAN SIZE	- 103.7	
NO. MEAS.	- 190	S.E. SIZE	- 2.9	
NO. HAULS	- 60	MIN. SIZE	- 48	
CAT./HAUL	- 3.2	MAX. SIZE	- 178	
JAN - DEC	930106 - 931213			
NO. CGHT.	- 1982	MEAN SIZE	- 125.7	
NO. MEAS.	- 1654	S.E. SIZE	- 0.9	
NO. HAULS	- 644	MIN. SIZE	- 40	
CAT./HAUL	- 3.1	MAX. SIZE	- 196	

Figure 55.

Blue Crab - Adult Female



JANUARY 930106 - 930114
 NO. CGHT. - 1 MEAN SIZE - 133
 NO. MEAS. - 1 S.E. SIZE -
 NO. HAULS - 25 MIN. SIZE - 133
 CAT./HAUL - 0 MAX. SIZE - 133

FEBRUARY 930203 - 930223
 NO. CGHT. - 4 MEAN SIZE - 145.3
 NO. MEAS. - 4 S.E. SIZE - 8
 NO. HAULS - 58 MIN. SIZE - 124
 CAT./HAUL - 0.1 MAX. SIZE - 162

MARCH 930301 - 930311
 NO. CGHT. - 4 MEAN SIZE - 141.5
 NO. MEAS. - 4 S.E. SIZE - 10.6
 NO. HAULS - 25 MIN. SIZE - 116
 CAT./HAUL - 0.2 MAX. SIZE - 167

APRIL 930405 - 930429
 NO. CGHT. - 23 MEAN SIZE - 144.2
 NO. MEAS. - 23 S.E. SIZE - 3.3
 NO. HAULS - 56 MIN. SIZE - 109
 CAT./HAUL - 0.4 MAX. SIZE - 178

MAY 930506 - 930513
 NO. CGHT. - 46 MEAN SIZE - 145
 NO. MEAS. - 46 S.E. SIZE - 2
 NO. HAULS - 60 MIN. SIZE - 116
 CAT./HAUL - 0.8 MAX. SIZE - 166

JUNE 930602 - 930615
 NO. CGHT. - 39 MEAN SIZE - 145
 NO. MEAS. - 38 S.E. SIZE - 2.3
 NO. HAULS - 60 MIN. SIZE - 100
 CAT./HAUL - 0.7 MAX. SIZE - 172

JULY 930701 - 930715
 NO. CGHT. - 29 MEAN SIZE - 140.2
 NO. MEAS. - 29 S.E. SIZE - 2.9
 NO. HAULS - 60 MIN. SIZE - 115
 CAT./HAUL - 0.5 MAX. SIZE - 175

AUGUST 930803 - 930817
 NO. CGHT. - 85 MEAN SIZE - 144.2
 NO. MEAS. - 85 S.E. SIZE - 1.7
 NO. HAULS - 60 MIN. SIZE - 104
 CAT./HAUL - 1.4 MAX. SIZE - 157

SEPTEMBER 930907 - 930920
 NO. CGHT. - 243 MEAN SIZE - 137.6
 NO. MEAS. - 243 S.E. SIZE - 0.8
 NO. HAULS - 60 MIN. SIZE - 112
 CAT./HAUL - 4.1 MAX. SIZE - 169

OCTOBER 931004 - 931019
 NO. CGHT. - 239 MEAN SIZE - 146.7
 NO. MEAS. - 239 S.E. SIZE - 0.8
 NO. HAULS - 60 MIN. SIZE - 104
 CAT./HAUL - 4 MAX. SIZE - 179

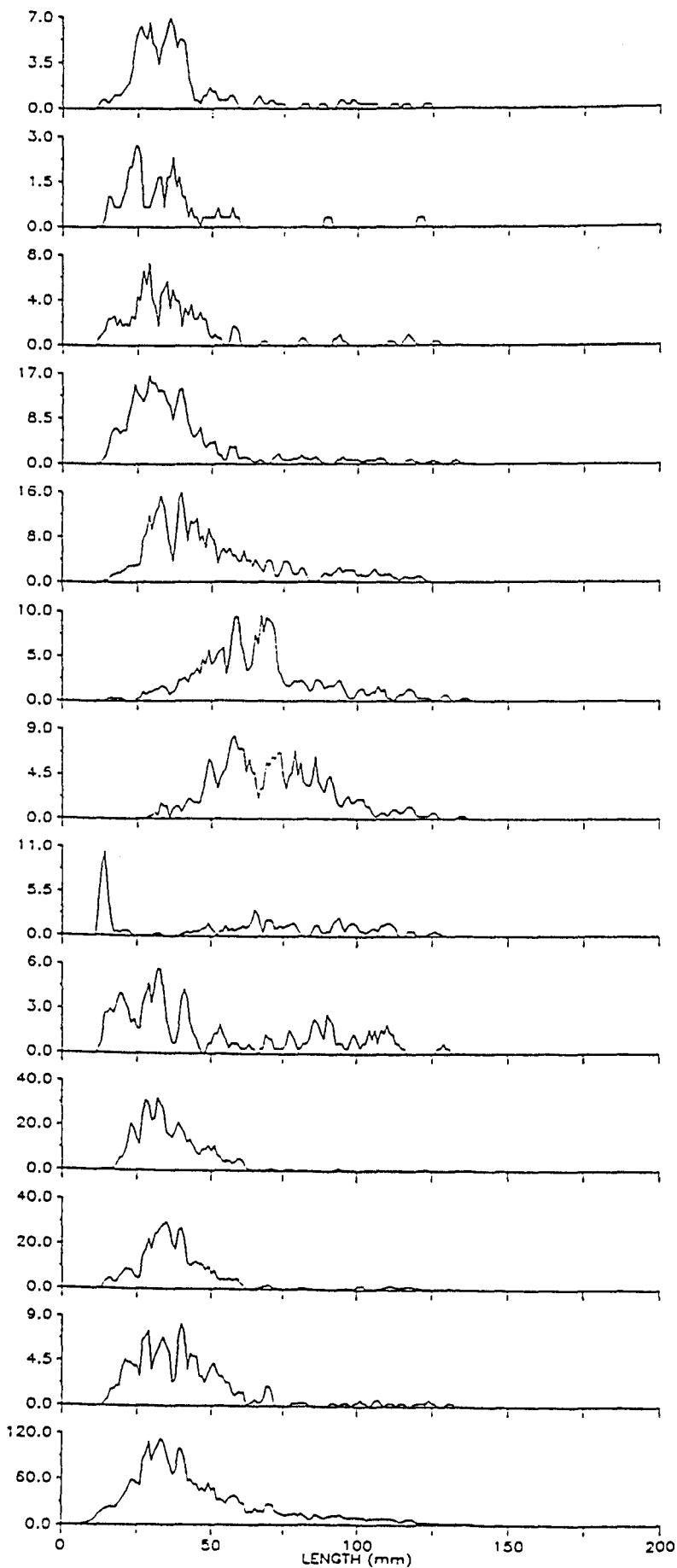
NOVEMBER 931102 - 931111
 NO. CGHT. - 397 MEAN SIZE - 144.6
 NO. MEAS. - 314 S.E. SIZE - 0.9
 NO. HAULS - 60 MIN. SIZE - 109
 CAT./HAUL - 6.6 MAX. SIZE - 181

DECEMBER 931201 - 931213
 NO. CGHT. - 94 MEAN SIZE - 144.9
 NO. MEAS. - 94 S.E. SIZE - 1.4
 NO. HAULS - 60 MIN. SIZE - 113
 CAT./HAUL - 1.6 MAX. SIZE - 183

JAN - DEC 930106 - 931213
 NO. CGHT. - 1204 MEAN SIZE - 143.4
 NO. MEAS. - 1120 S.E. SIZE - 0.4
 NO. HAULS - 644 MIN. SIZE - 100
 CAT./HAUL - 1.9 MAX. SIZE - 187

Figure 56.

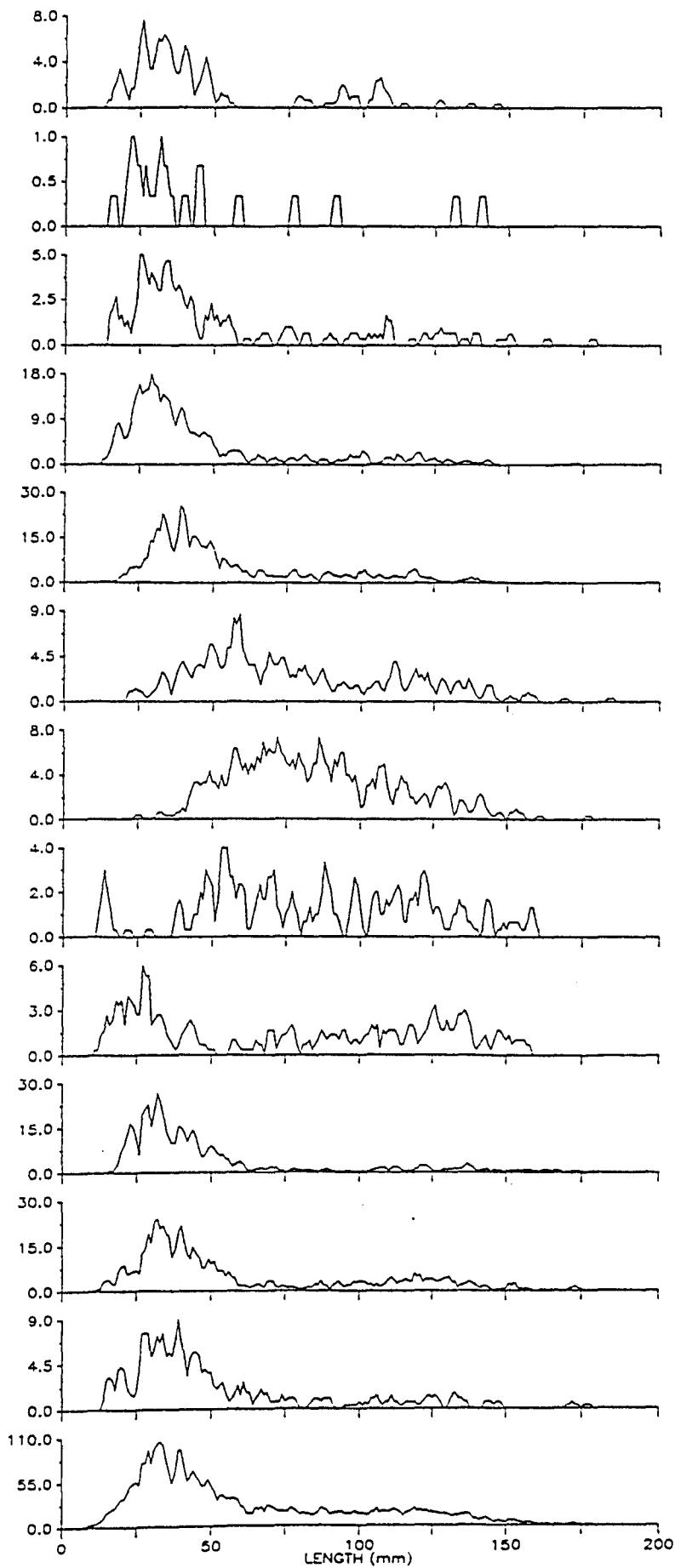
Blue Crab - Juvenile Female



JANUARY	930106 - 930114	MEAN SIZE	-	37.9
NO. CGHT.	- 146	S.E. SIZE	-	1.7
NO. MEAS.	- 146	MIN. SIZE	-	11
NO. HAULS	- 25	MAX. SIZE	-	121
CAT./HAUL	- 5.8			
FEBRUARY	930203 - 930223	MEAN SIZE	-	31.6
NO. CGHT.	- 49	S.E. SIZE	-	2.7
NO. MEAS.	- 49	MIN. SIZE	-	9
NO. HAULS	- 58	MAX. SIZE	-	119
CAT./HAUL	- 0.8			
MARCH	930301 - 930311	MEAN SIZE	-	36.5
NO. CGHT.	- 137	S.E. SIZE	-	1.8
NO. MEAS.	- 137	MIN. SIZE	-	11
NO. HAULS	- 25	MAX. SIZE	-	124
CAT./HAUL	- 5.5			
APRIL	930405 - 930429	MEAN SIZE	-	36.8
NO. CGHT.	- 492	S.E. SIZE	-	1
NO. MEAS.	- 413	MIN. SIZE	-	8
NO. HAULS	- 56	MAX. SIZE	-	131
CAT./HAUL	- 8.8			
MAY	930506 - 930513	MEAN SIZE	-	48.8
NO. CGHT.	- 427	S.E. SIZE	-	1.1
NO. MEAS.	- 427	MIN. SIZE	-	13
NO. HAULS	- 60	MAX. SIZE	-	120
CAT./HAUL	- 7.1			
JUNE	930602 - 930615	MEAN SIZE	-	64
NO. CGHT.	- 271	S.E. SIZE	-	1.3
NO. MEAS.	- 271	MIN. SIZE	-	14
NO. HAULS	- 50	MAX. SIZE	-	134
CAT./HAUL	- 4.5			
JULY	930701 - 930715	MEAN SIZE	-	69.2
NO. CGHT.	- 281	S.E. SIZE	-	1.2
NO. MEAS.	- 281	MIN. SIZE	-	28
NO. HAULS	- 60	MAX. SIZE	-	133
CAT./HAUL	- 4.7			
AUGUST	930803 - 930817	MEAN SIZE	-	49.9
NO. CGHT.	- 146	S.E. SIZE	-	3.1
NO. MEAS.	- 146	MIN. SIZE	-	5
NO. HAULS	- 60	MAX. SIZE	-	125
CAT./HAUL	- 2.4			
SEPTEMBER	930907 - 930920	MEAN SIZE	-	49.6
NO. CGHT.	- 164	S.E. SIZE	-	2.5
NO. MEAS.	- 164	MIN. SIZE	-	9
NO. HAULS	- 60	MAX. SIZE	-	128
CAT./HAUL	- 2.7			
OCTOBER	931004 - 931019	MEAN SIZE	-	36.9
NO. CGHT.	- 642	S.E. SIZE	-	0.7
NO. MEAS.	- 642	MIN. SIZE	-	2
NO. HAULS	- 60	MAX. SIZE	-	146
CAT./HAUL	- 10.7			
NOVEMBER	931102 - 931111	MEAN SIZE	-	39.2
NO. CGHT.	- 667	S.E. SIZE	-	0.8
NO. MEAS.	- 620	MIN. SIZE	-	7
NO. HAULS	- 60	MAX. SIZE	-	130
CAT./HAUL	- 11.1			
DECEMBER	931201 - 931213	MEAN SIZE	-	40.3
NO. CGHT.	- 228	S.E. SIZE	-	1.5
NO. MEAS.	- 207	MIN. SIZE	-	10
NO. HAULS	- 60	MAX. SIZE	-	129
CAT./HAUL	- 3.8			
JAN - DEC	930106 - 931213	MEAN SIZE	-	44.7
NO. CGHT.	- 3650	S.E. SIZE	-	0.4
NO. MEAS.	- 3503	MIN. SIZE	-	2
NO. HAULS	- 644	MAX. SIZE	-	146
CAT./HAUL	- 5.7			

Figure 57.

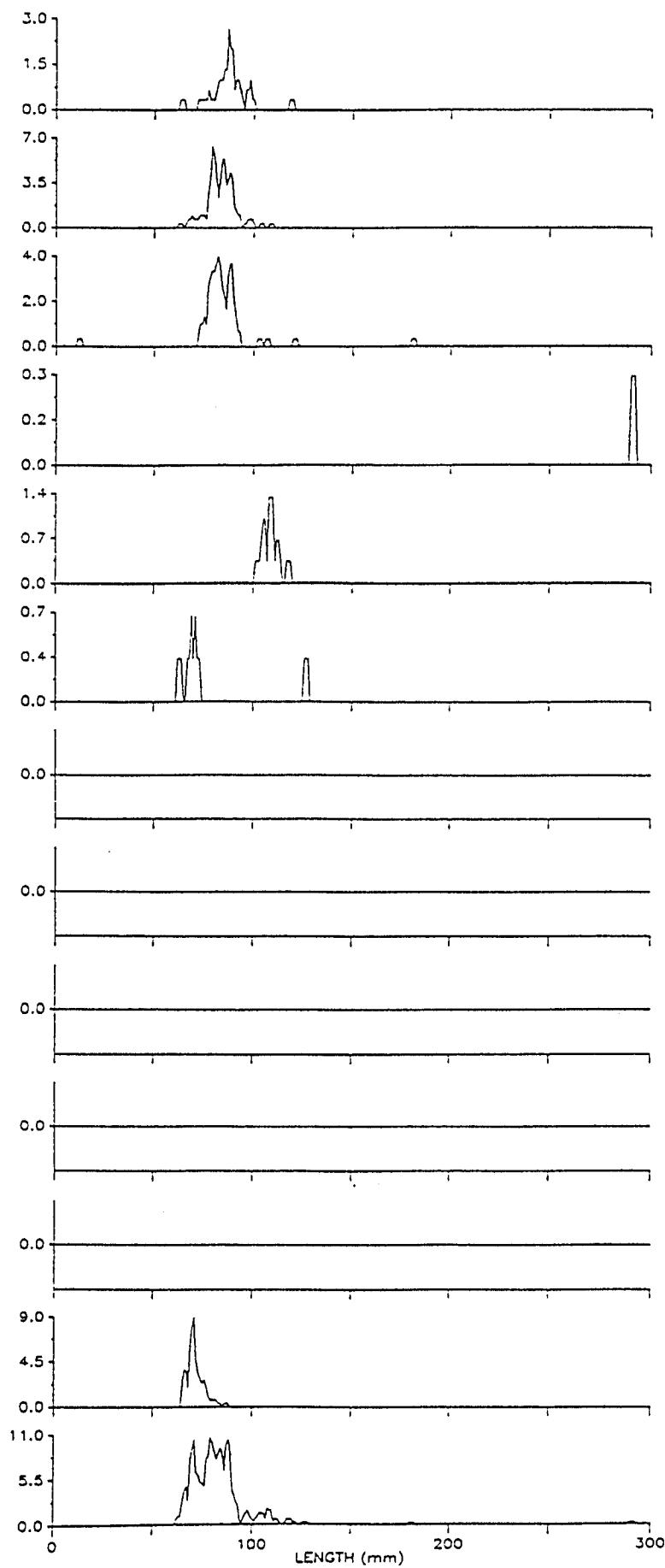
Blue Crab - Male



JANUARY	930106 - 930114			
NO. CGHT.	- 165	MEAN SIZE	- 45.4	
NO. MEAS.	- 165	S.E. SIZE	- 2.3	
NO. HAULS	- 25	MIN. SIZE	- 13	
CAT./HAUL	- 6.6	MAX. SIZE	- 144	
FEBRUARY	930203 - 930223			
NO. CGHT.	- 21	MEAN SIZE	- 42.9	
NO. MEAS.	- 21	S.E. SIZE	- 8	
NO. HAULS	- 58	MIN. SIZE	- 8	
CAT./HAUL	- 0.4	MAX. SIZE	- 139	
MARCH	930301 - 930311			
NO. CGHT.	- 141	MEAN SIZE	- 53.5	
NO. MEAS.	- 141	S.E. SIZE	- 3.2	
NO. HAULS	- 25	MIN. SIZE	- 14	
CAT./HAUL	- 5.6	MAX. SIZE	- 176	
APRIL	930405 - 930429			
NO. CGHT.	- 527	MEAN SIZE	- 43.4	
NO. MEAS.	- 454	S.E. SIZE	- 1.4	
NO. HAULS	- 56	MIN. SIZE	- 10	
CAT./HAUL	- 9.4	MAX. SIZE	- 170	
MAY	930506 - 930513			
NO. CGHT.	- 638	MEAN SIZE	- 52.8	
NO. MEAS.	- 638	S.E. SIZE	- 1.1	
NO. HAULS	- 60	MIN. SIZE	- 12	
CAT./HAUL	- 10.6	MAX. SIZE	- 161	
JUNE	930602 - 930615			
NO. CGHT.	- 322	MEAN SIZE	- 76.6	
NO. MEAS.	- 322	S.E. SIZE	- 1.9	
NO. HAULS	- 60	MIN. SIZE	- 20	
CAT./HAUL	- 5.4	MAX. SIZE	- 182	
JULY	930701 - 930715			
NO. CGHT.	- 385	MEAN SIZE	- 83.3	
NO. MEAS.	- 385	S.E. SIZE	- 1.4	
NO. HAULS	- 60	MIN. SIZE	- 23	
CAT./HAUL	- 6.4	MAX. SIZE	- 175	
AUGUST	930803 - 930817			
NO. CGHT.	- 186	MEAN SIZE	- 80	
NO. MEAS.	- 186	S.E. SIZE	- 2.9	
NO. HAULS	- 60	MIN. SIZE	- 6	
CAT./HAUL	- 3.1	MAX. SIZE	- 157	
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 216	MEAN SIZE	- 76	
NO. MEAS.	- 216	S.E. SIZE	- 3.2	
NO. HAULS	- 60	MIN. SIZE	- 8	
CAT./HAUL	- 3.6	MAX. SIZE	- 155	
OCTOBER	931004 - 931019			
NO. CGHT.	- 591	MEAN SIZE	- 49.6	
NO. MEAS.	- 591	S.E. SIZE	- 1.5	
NO. HAULS	- 60	MIN. SIZE	- 10	
CAT./HAUL	- 9.9	MAX. SIZE	- 201	
NOVEMBER	931102 - 931111			
NO. CGHT.	- 740	MEAN SIZE	- 58	
NO. MEAS.	- 715	S.E. SIZE	- 1.5	
NO. HAULS	- 60	MIN. SIZE	- 8	
CAT./HAUL	- 12.3	MAX. SIZE	- 172	
DECEMBER	931201 - 931213			
NO. CGHT.	- 299	MEAN SIZE	- 50.7	
NO. MEAS.	- 260	S.E. SIZE	- 2.1	
NO. HAULS	- 60	MIN. SIZE	- 13	
CAT./HAUL	- 5	MAX. SIZE	- 175	
JAN - DEC	930106 - 931213			
NO. CGHT.	- 4231	MEAN SIZE	- 59	
NO. MEAS.	- 4094	S.E. SIZE	- 0.6	
NO. HAULS	- 644	MIN. SIZE	- 6	
CAT./HAUL	- 6.6	MAX. SIZE	- 201	

Figure 58.

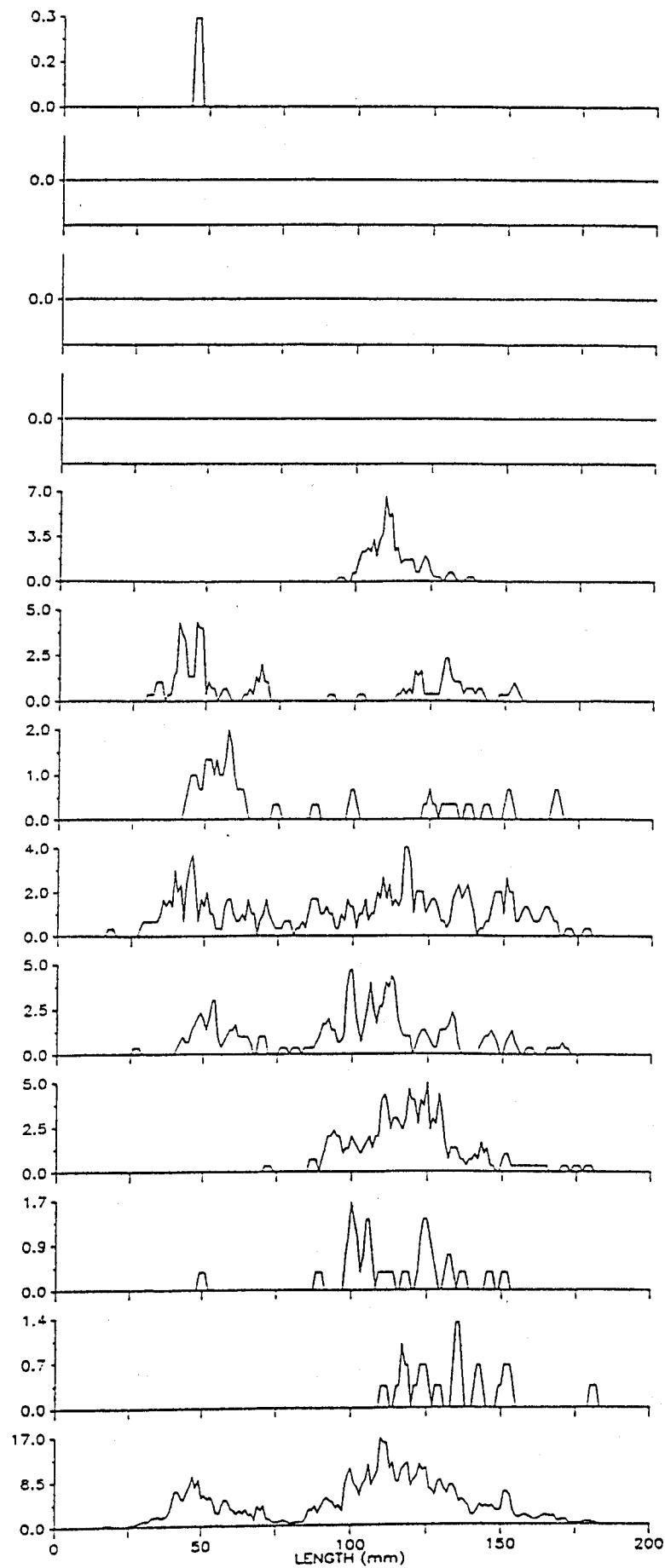
Bluedock Herring



JANUARY	930106 - 930114			
NO. CGHT.	- 25	MEAN SIZE	- 85.3	
NO. MEAS.	- 25	S.E. SIZE	- 2	
NO. HAULS	- 25	MIN. SIZE	- 62	
CAT./HAUL	- 1	MAX. SIZE	- 117	
FEBRUARY	930203 - 930223			
NO. CGHT.	- 74	MEAN SIZE	- 81.2	
NO. MEAS.	- 74	S.E. SIZE	- 0.9	
NO. HAULS	- 58	MIN. SIZE	- 61	
CAT./HAUL	- 1.3	MAX. SIZE	- 107	
MARCH	930301 - 930311			
NO. CGHT.	- 54	MEAN SIZE	- 84.3	
NO. MEAS.	- 54	S.E. SIZE	- 2.1	
NO. HAULS	- 25	MIN. SIZE	- 71	
CAT./HAUL	- 2.2	MAX. SIZE	- 179	
APRIL	930405 - 930429			
NO. CGHT.	- 2	MEAN SIZE	- 294.5	
NO. MEAS.	- 2	S.E. SIZE	- 5.5	
NO. HAULS	- 56	MIN. SIZE	- 289	
CAT./HAUL	- 0	MAX. SIZE	- 300	
MAY	930506 - 930513			
NO. CGHT.	- 11	MEAN SIZE	- 106.8	
NO. MEAS.	- 11	S.E. SIZE	- 1.3	
NO. HAULS	- 60	MIN. SIZE	- 100	
CAT./HAUL	- 0.2	MAX. SIZE	- 116	
JUNE	930602 - 930615			
NO. CGHT.	- 5	MEAN SIZE	- 78	
NO. MEAS.	- 5	S.E. SIZE	- 11.8	
NO. HAULS	- 60	MIN. SIZE	- 61	
CAT./HAUL	- 0.1	MAX. SIZE	- 125	
JULY	930701 - 930715			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 60	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
AUGUST	930803 - 930817			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 60	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 60	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
OCTOBER	931004 - 931019			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 60	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
NOVEMBER	931102 - 931111			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 60	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
DECEMBER	931201 - 931213			
NO. CGHT.	- 108	MEAN SIZE	- 69.6	
NO. MEAS.	- 58	S.E. SIZE	- 0.6	
NO. HAULS	- 60	MIN. SIZE	- 64	
CAT./HAUL	- 1.8	MAX. SIZE	- 85	
JAN - DEC	930106 - 931213			
NO. CGHT.	- 279	MEAN SIZE	- 82.5	
NO. MEAS.	- 229	S.E. SIZE	- 1.6	
NO. HAULS	- 644	MIN. SIZE	- 61	
CAT./HAUL	- 0.4	MAX. SIZE	- 300	

Figure 59.

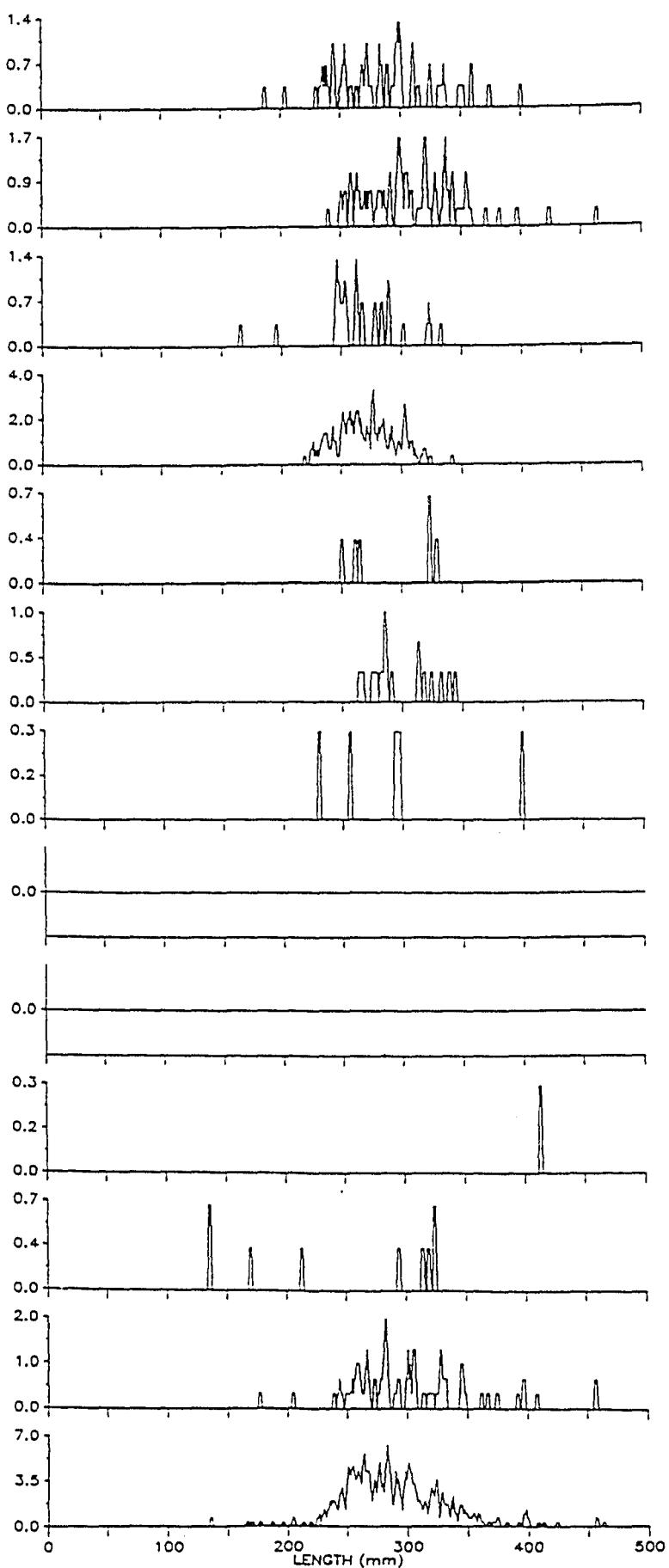
Butterfish



JANUARY	930106 - 930114			
NO. CGHT.	- 1	MEAN SIZE	- 44	
NO. MEAS.	- 1	S.E. SIZE	- .	
NO. HAULS	- 25	MIN. SIZE	- 44	
CAT./HAUL	- 0	MAX. SIZE	- 44	
FEBRUARY	930203 - 930223			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 58	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
MARCH	930301 - 930311			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 25	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
APRIL	930405 - 930429			
NO. CGHT.	- 0	MEAN SIZE	- .	
NO. MEAS.	- 0	S.E. SIZE	- .	
NO. HAULS	- 56	MIN. SIZE	- .	
CAT./HAUL	- 0	MAX. SIZE	- .	
MAY	930506 - 930513			
NO. CGHT.	- 67	MEAN SIZE	- 110	
NO. MEAS.	- 67	S.E. SIZE	- 1	
NO. HAULS	- 50	MIN. SIZE	- 93	
CAT./HAUL	- 1.1	MAX. SIZE	- 136	
JUNE	930602 - 930615			
NO. CGHT.	- 78	MEAN SIZE	- 77.6	
NO. MEAS.	- 78	S.E. SIZE	- 4.7	
NO. HAULS	- 60	MIN. SIZE	- 29	
CAT./HAUL	- 1.3	MAX. SIZE	- 152	
JULY	930701 - 930715			
NO. CGHT.	- 36	MEAN SIZE	- 80.6	
NO. MEAS.	- 36	S.E. SIZE	- 6.8	
NO. HAULS	- 60	MIN. SIZE	- 42	
CAT./HAUL	- 0.6	MAX. SIZE	- 166	
AUGUST	930803 - 930817			
NO. CGHT.	- 179	MEAN SIZE	- 97.9	
NO. MEAS.	- 179	S.E. SIZE	- 3.1	
NO. HAULS	- 60	MIN. SIZE	- 16	
CAT./HAUL	- 3	MAX. SIZE	- 176	
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 142	MEAN SIZE	- 96.4	
NO. MEAS.	- 142	S.E. SIZE	- 2.7	
NO. HAULS	- 60	MIN. SIZE	- 25	
CAT./HAUL	- 2.4	MAX. SIZE	- 169	
OCTOBER	931004 - 931019			
NO. CGHT.	- 140	MEAN SIZE	- 117.5	
NO. MEAS.	- 133	S.E. SIZE	- 1.6	
NO. HAULS	- 60	MIN. SIZE	- 70	
CAT./HAUL	- 2.3	MAX. SIZE	- 177	
NOVEMBER	931102 - 931111			
NO. CGHT.	- 26	MEAN SIZE	- 111.5	
NO. MEAS.	- 26	S.E. SIZE	- 4	
NO. HAULS	- 60	MIN. SIZE	- 48	
CAT./HAUL	- 0.4	MAX. SIZE	- 149	
DECEMBER	931201 - 931213			
NO. CGHT.	- 18	MEAN SIZE	- 132.8	
NO. MEAS.	- 18	S.E. SIZE	- 4	
NO. HAULS	- 60	MIN. SIZE	- 109	
CAT./HAUL	- 0.3	MAX. SIZE	- 179	
JAN - DEC	930106 - 931213			
NO. CGHT.	- 687	MEAN SIZE	- 100.7	
NO. MEAS.	- 680	S.E. SIZE	- 1.3	
NO. HAULS	- 644	MIN. SIZE	- 16	
CAT./HAUL	- 1.1	MAX. SIZE	- 179	

Figure 60.

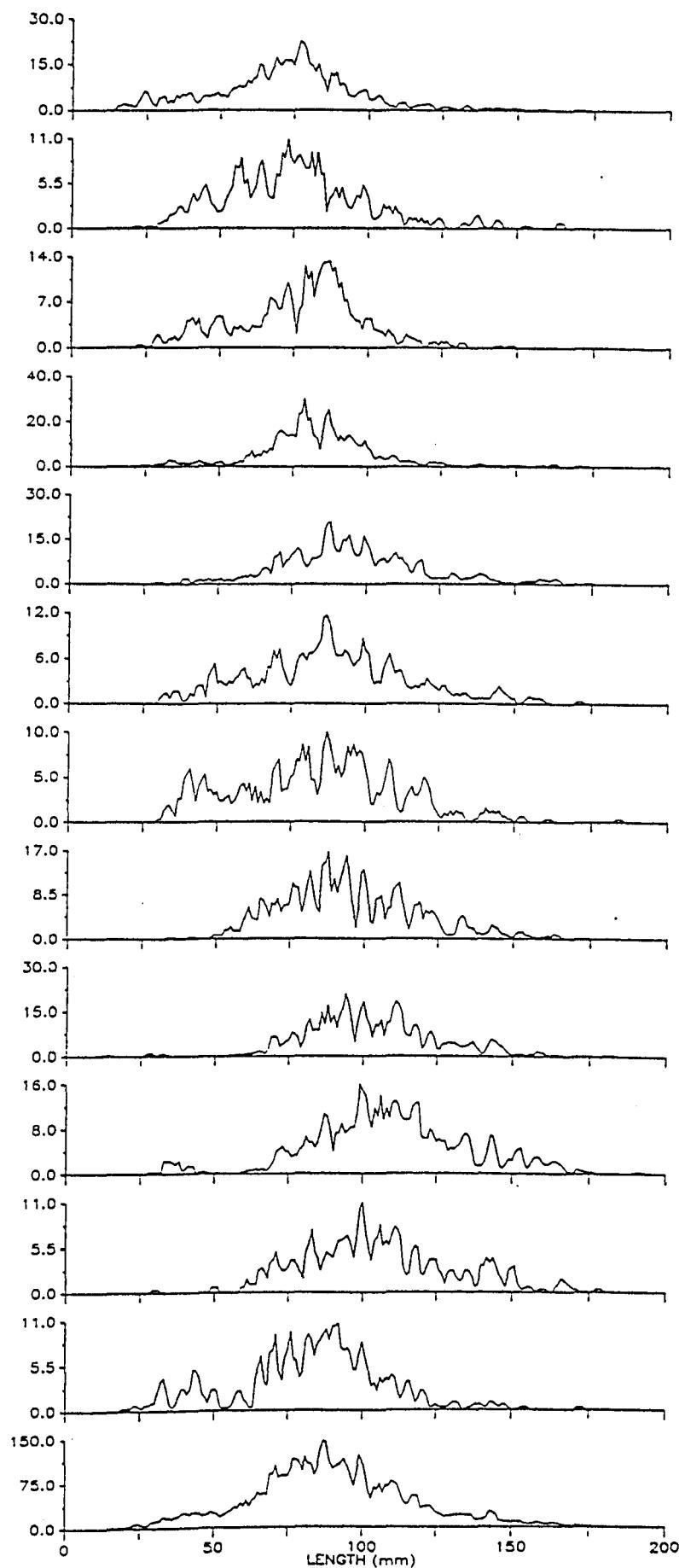
Channel Catfish



JANUARY	930106 - 930114	MEAN SIZE	- 285.5
NO. CGHT.	- 50	S.E. SIZE	- 6.2
NO. MEAS.	- 50	MIN. SIZE	- 185
NO. HAULS	- 25	MAX. SIZE	- 398
CAT./HAUL	- 2		
FEBRUARY	930203 - 930223	MEAN SIZE	- 308.4
NO. CGHT.	- 143	S.E. SIZE	- 5
NO. MEAS.	- 70	MIN. SIZE	- 238
NO. HAULS	- 58	MAX. SIZE	- 461
CAT./HAUL	- 2.5		
MARCH	930301 - 930311	MEAN SIZE	- 264.4
NO. CGHT.	- 29	S.E. SIZE	- 6.3
NO. MEAS.	- 29	MIN. SIZE	- 164
NO. HAULS	- 25	MAX. SIZE	- 331
CAT./HAUL	- 1.2		
APRIL	930405 - 930429	MEAN SIZE	- 269.2
NO. CGHT.	- 138	S.E. SIZE	- 2.3
NO. MEAS.	- 119	MIN. SIZE	- 217
NO. HAULS	- 56	MAX. SIZE	- 340
CAT./HAUL	- 2.5		
MAY	930506 - 930513	MEAN SIZE	- 289.8
NO. CGHT.	- 6	S.E. SIZE	- 15
NO. MEAS.	- 6	MIN. SIZE	- 248
NO. HAULS	- 60	MAX. SIZE	- 327
CAT./HAUL	- 0.1		
JUNE	930602 - 930615	MEAN SIZE	- 297.9
NO. CGHT.	- 16	S.E. SIZE	- 6.5
NO. MEAS.	- 16	MIN. SIZE	- 262
NO. HAULS	- 60	MAX. SIZE	- 342
CAT./HAUL	- 0.3		
JULY	930701 - 930715	MEAN SIZE	- 293.2
NO. CGHT.	- 5	S.E. SIZE	- 28.8
NO. MEAS.	- 5	MIN. SIZE	- 228
NO. HAULS	- 60	MAX. SIZE	- 397
CAT./HAUL	- 0.1		
AUGUST	930803 - 930817	MEAN SIZE	- .
NO. CGHT.	- 0	S.E. SIZE	- .
NO. MEAS.	- 0	MIN. SIZE	- .
NO. HAULS	- 60	MAX. SIZE	- .
CAT./HAUL	- 0		
SEPTEMBER	930907 - 930920	MEAN SIZE	- .
NO. CGHT.	- 0	S.E. SIZE	- .
NO. MEAS.	- 0	MIN. SIZE	- .
NO. HAULS	- 60	MAX. SIZE	- .
CAT./HAUL	- 0		
OCTOBER	931004 - 931019	MEAN SIZE	- 411
NO. CGHT.	- 1	S.E. SIZE	- .
NO. MEAS.	- 1	MIN. SIZE	- 411
NO. HAULS	- 60	MAX. SIZE	- 411
CAT./HAUL	- 0		
NOVEMBER	931102 - 931111	MEAN SIZE	- 245.8
NO. CGHT.	- 9	S.E. SIZE	- 27.8
NO. MEAS.	- 9	MIN. SIZE	- 134
NO. HAULS	- 60	MAX. SIZE	- 322
CAT./HAUL	- 0.2		
DECEMBER	931201 - 931213	MEAN SIZE	- 304.6
NO. CGHT.	- 127	S.E. SIZE	- 7.2
NO. MEAS.	- 66	MIN. SIZE	- 175
NO. HAULS	- 60	MAX. SIZE	- 516
CAT./HAUL	- 2.1		
JAN - DEC	930106 - 931213	MEAN SIZE	- 286.4
NO. CGHT.	- 524	S.E. SIZE	- 2.4
NO. MEAS.	- 371	MIN. SIZE	- 134
NO. HAULS	- 644	MAX. SIZE	- 516
CAT./HAUL	- 0.8		

Figure 6l.

Hogchoker



JANUARY 930106 - 930114
 NO. CGHT. - 5273 MEAN SIZE - 69.7
 NO. MEAS. - 746 S.E. SIZE - 0.9
 NO. HAULS - 25 MIN. SIZE - 14
 CAT./HAUL - 210.9 MAX. SIZE - 168

FEBRUARY 930203 - 930223
 NO. CGHT. - 1716 MEAN SIZE - 72.8
 NO. MEAS. - 397 S.E. SIZE - 1.2
 NO. HAULS - 58 MIN. SIZE - 20
 CAT./HAUL - 29.6 MAX. SIZE - 162

MARCH 930301 - 930311
 NO. CGHT. - 2785 MEAN SIZE - 75.3
 NO. MEAS. - 422 S.E. SIZE - 1
 NO. HAULS - 25 MIN. SIZE - 21
 CAT./HAUL - 111.4 MAX. SIZE - 146

APRIL 930405 - 930429
 NO. CGHT. - 6367 MEAN SIZE - 81.2
 NO. MEAS. - 671 S.E. SIZE - 0.8
 NO. HAULS - 56 MIN. SIZE - 23
 CAT./HAUL - 113.7 MAX. SIZE - 193

MAY 930506 - 930513
 NO. CGHT. - 4572 MEAN SIZE - 92.3
 NO. MEAS. - 658 S.E. SIZE - 0.9
 NO. HAULS - 60 MIN. SIZE - 28
 CAT./HAUL - 76.2 MAX. SIZE - 172

JUNE 930602 - 930615
 NO. CGHT. - 1018 MEAN SIZE - 86
 NO. MEAS. - 427 S.E. SIZE - 1.3
 NO. HAULS - 60 MIN. SIZE - 29
 CAT./HAUL - 17 MAX. SIZE - 169

JULY 930701 - 930715
 NO. CGHT. - 781 MEAN SIZE - 82
 NO. MEAS. - 423 S.E. SIZE - 1.3
 NO. HAULS - 60 MIN. SIZE - 29
 CAT./HAUL - 13 MAX. SIZE - 182

AUGUST 930803 - 930817
 NO. CGHT. - 2095 MEAN SIZE - 92.8
 NO. MEAS. - 561 S.E. SIZE - 1
 NO. HAULS - 60 MIN. SIZE - 33
 CAT./HAUL - 34.9 MAX. SIZE - 162

SEPTEMBER 930907 - 930920
 NO. CGHT. - 2393 MEAN SIZE - 100.6
 NO. MEAS. - 673 S.E. SIZE - 0.8
 NO. HAULS - 60 MIN. SIZE - 11
 CAT./HAUL - 39.9 MAX. SIZE - 179

OCTOBER 931004 - 931019
 NO. CGHT. - 5597 MEAN SIZE - 106.6
 NO. MEAS. - 642 S.E. SIZE - 1
 NO. HAULS - 60 MIN. SIZE - 27
 CAT./HAUL - 93.3 MAX. SIZE - 189

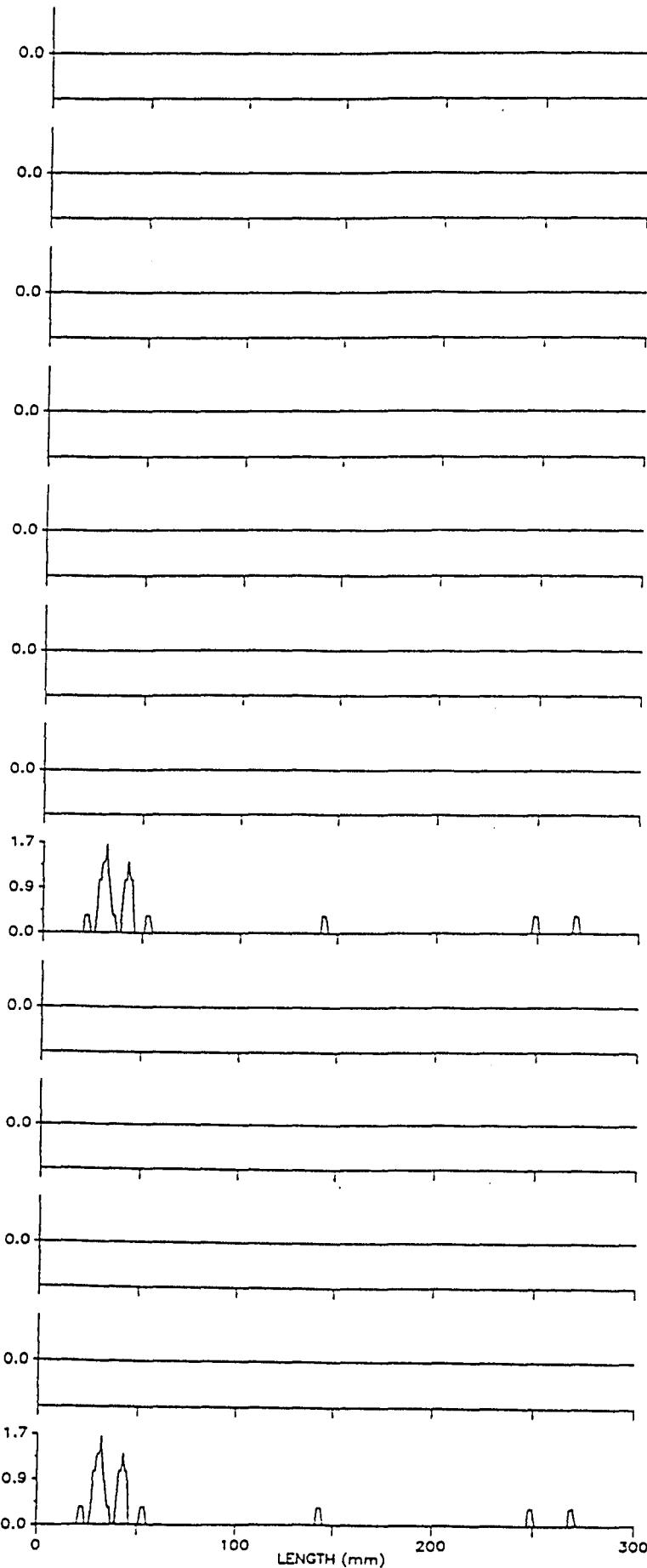
NOVEMBER 931102 - 931111
 NO. CGHT. - 1399 MEAN SIZE - 103.1
 NO. MEAS. - 380 S.E. SIZE - 1.3
 NO. HAULS - 60 MIN. SIZE - 28
 CAT./HAUL - 23.3 MAX. SIZE - 176

DECEMBER 931201 - 931213
 NO. CGHT. - 7618 MEAN SIZE - 80.9
 NO. MEAS. - 416 S.E. SIZE - 1.2
 NO. HAULS - 60 MIN. SIZE - 18
 CAT./HAUL - 127 MAX. SIZE - 170

JAN - DEC 930106 - 931213
 NO. CGHT. - 1614 MEAN SIZE - 87.3
 NO. MEAS. - 6416 S.E. SIZE - 0.3
 NO. HAULS - 644 MIN. SIZE - 11
 CAT./HAUL - 64.6 MAX. SIZE - 193

Figure 62.

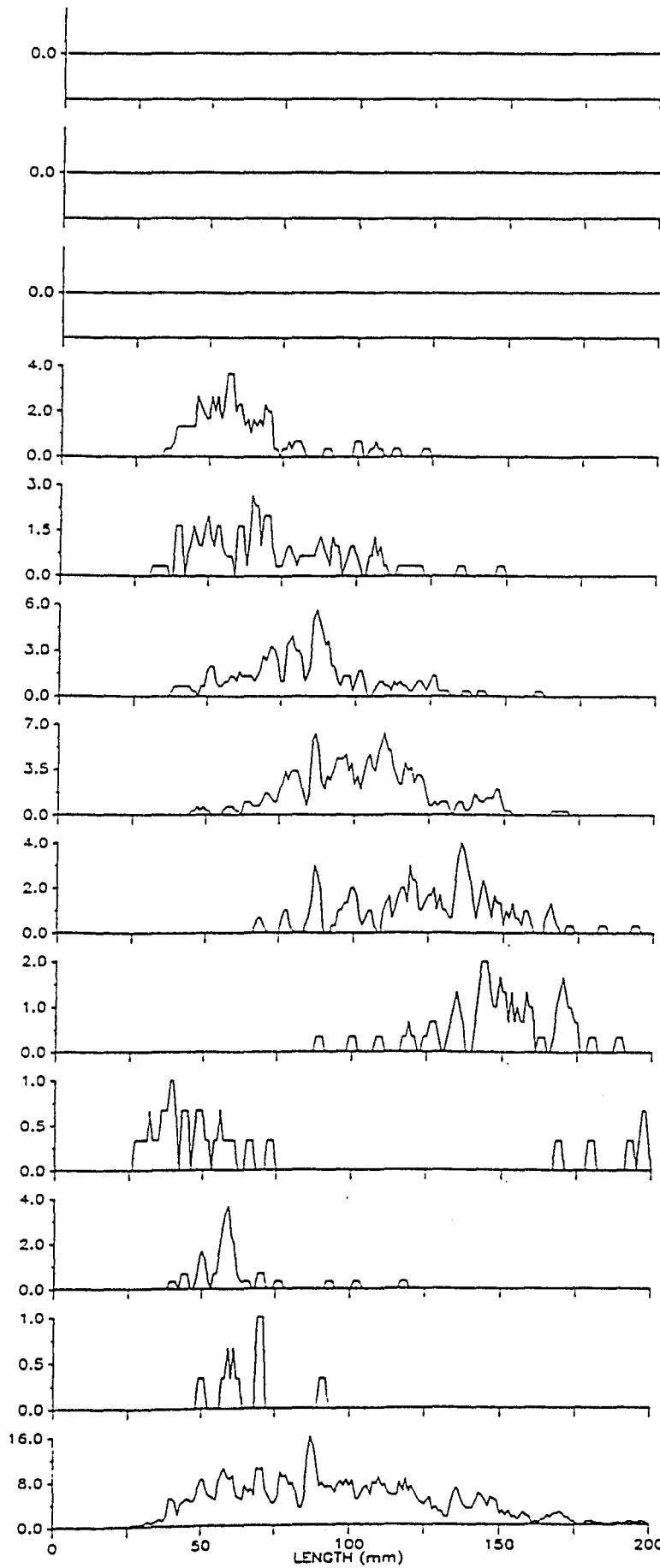
Northern Kingfish



JANUARY	930106 - 930114			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 25	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
FEBRUARY	930203 - 930223			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 58	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
MARCH	930301 - 930311			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 25	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
APRIL	930405 - 930429			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 56	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
MAY	930506 - 930513			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
JUNE	930602 - 930615			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
JULY	930701 - 930715			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
AUGUST	930803 - 930817			
NO. CGHT.	- 20	MEAN SIZE	-	61.6
NO. MEAS.	- 20	S.E. SIZE	-	16
NO. HAULS	- 60	MIN. SIZE	-	20
CAT./HAUL	- 0.3	MAX. SIZE	-	267
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
OCTOBER	931004 - 931019			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
NOVEMBER	931102 - 931111			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
DECEMBER	931201 - 931213			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
JAN - DEC	930106 - 931213			
NO. CGHT.	- 20	MEAN SIZE	-	61.6
NO. MEAS.	- 20	S.E. SIZE	-	16
NO. HAULS	- 644	MIN. SIZE	-	20
CAT./HAUL	- 0	MAX. SIZE	-	267

Figure 63.

Northern Searobin



JANUARY 930106 - 930114
 NO. CGHT. - 0 MEAN SIZE -
 NO. MEAS. - 0 S.E. SIZE -
 NO. HAULS - 25 MIN. SIZE -
 CAT./HAUL - 0 MAX. SIZE -

FEBRUARY 930203 - 930223
 NO. CGHT. - 0 MEAN SIZE -
 NO. MEAS. - 0 S.E. SIZE -
 NO. HAULS - 58 MIN. SIZE -
 CAT./HAUL - 0 MAX. SIZE -

MARCH 930301 - 930311
 NO. CGHT. - 0 MEAN SIZE -
 NO. MEAS. - 0 S.E. SIZE -
 NO. HAULS - 25 MIN. SIZE -
 CAT./HAUL - 0 MAX. SIZE -

APRIL 930405 - 930429
 NO. CGHT. - 78 MEAN SIZE - 58.9
 NO. MEAS. - 78 S.E. SIZE - 2
 NO. HAULS - 56 MIN. SIZE - 34
 CAT./HAUL - 1.4 MAX. SIZE - 121

MAY 930506 - 930513
 NO. CGHT. - 78 MEAN SIZE - 69.8
 NO. MEAS. - 78 S.E. SIZE - 2.8
 NO. HAULS - 60 MIN. SIZE - 30
 CAT./HAUL - 1.3 MAX. SIZE - 146

JUNE 930602 - 930615
 NO. CGHT. - 141 MEAN SIZE - 81.5
 NO. MEAS. - 137 S.E. SIZE - 1.9
 NO. HAULS - 60 MIN. SIZE - 37
 CAT./HAUL - 2.4 MAX. SIZE - 159

JULY 930701 - 930715
 NO. CGHT. - 217 MEAN SIZE - 100.2
 NO. MEAS. - 217 S.E. SIZE - 1.5
 NO. HAULS - 60 MIN. SIZE - 44
 CAT./HAUL - 3.6 MAX. SIZE - 168

AUGUST 930803 - 930817
 NO. CGHT. - 112 MEAN SIZE - 122.1
 NO. MEAS. - 112 S.E. SIZE - 2.4
 NO. HAULS - 60 MIN. SIZE - 66
 CAT./HAUL - 1.9 MAX. SIZE - 192

SEPTEMBER 930907 - 930920
 NO. CGHT. - 50 MEAN SIZE - 145.9
 NO. MEAS. - 49 S.E. SIZE - 2.9
 NO. HAULS - 60 MIN. SIZE - 87
 CAT./HAUL - 0.8 MAX. SIZE - 187

OCTOBER 931004 - 931019
 NO. CGHT. - 23 MEAN SIZE - 74.9
 NO. MEAS. - 23 S.E. SIZE - 12.7
 NO. HAULS - 60 MIN. SIZE - 26
 CAT./HAUL - 0.4 MAX. SIZE - 196

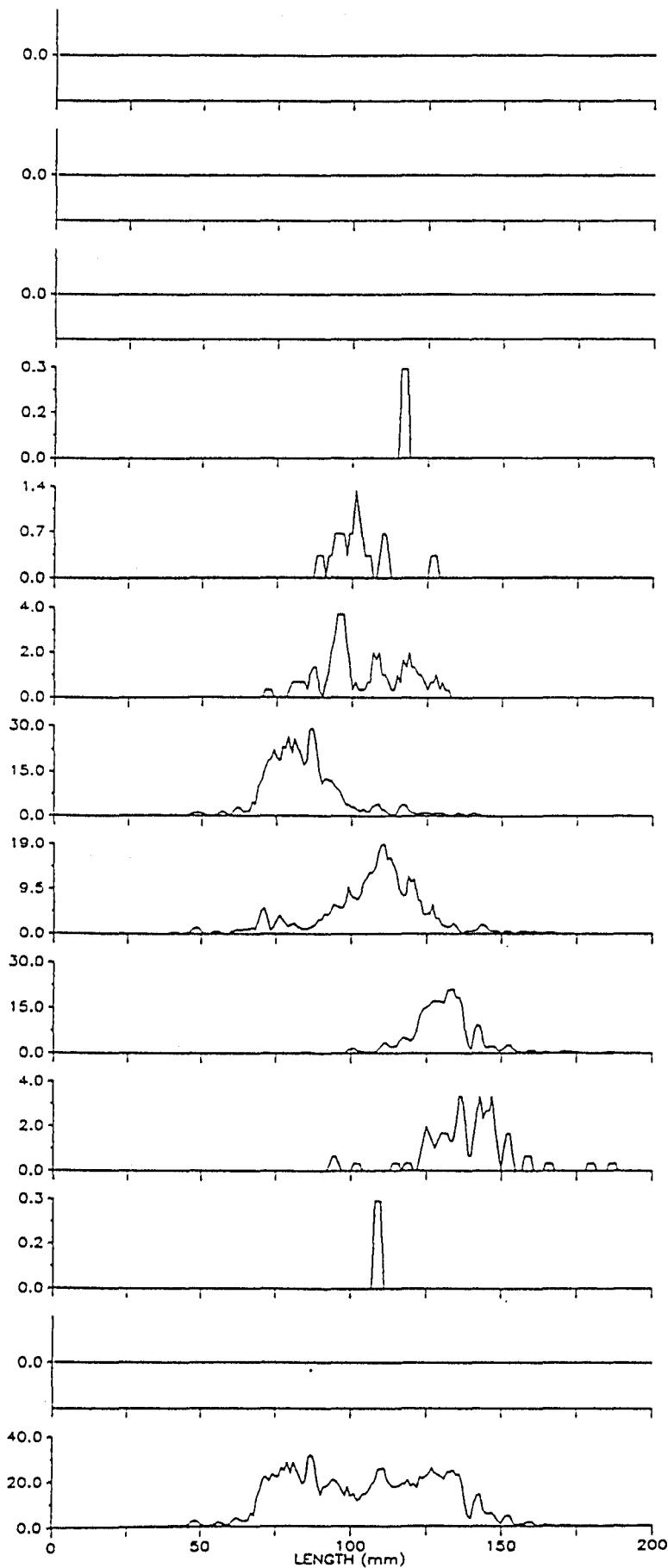
NOVEMBER 931102 - 931111
 NO. CGHT. - 33 MEAN SIZE - 59.3
 NO. MEAS. - 33 S.E. SIZE - 2.8
 NO. HAULS - 60 MIN. SIZE - 38
 CAT./HAUL - 0.6 MAX. SIZE - 116

DECEMBER 931201 - 931213
 NO. CGHT. - 8 MEAN SIZE - 64.4
 NO. MEAS. - 8 S.E. SIZE - 4.3
 NO. HAULS - 60 MIN. SIZE - 48
 CAT./HAUL - 0.1 MAX. SIZE - 89

JAN - DEC 930106 - 931213
 NO. CGHT. - 740 MEAN SIZE - 92.5
 NO. MEAS. - 735 S.E. SIZE - 1.3
 NO. HAULS - 644 MIN. SIZE - 26
 CAT./HAUL - 1.1 MAX. SIZE - 196

Figure 64.

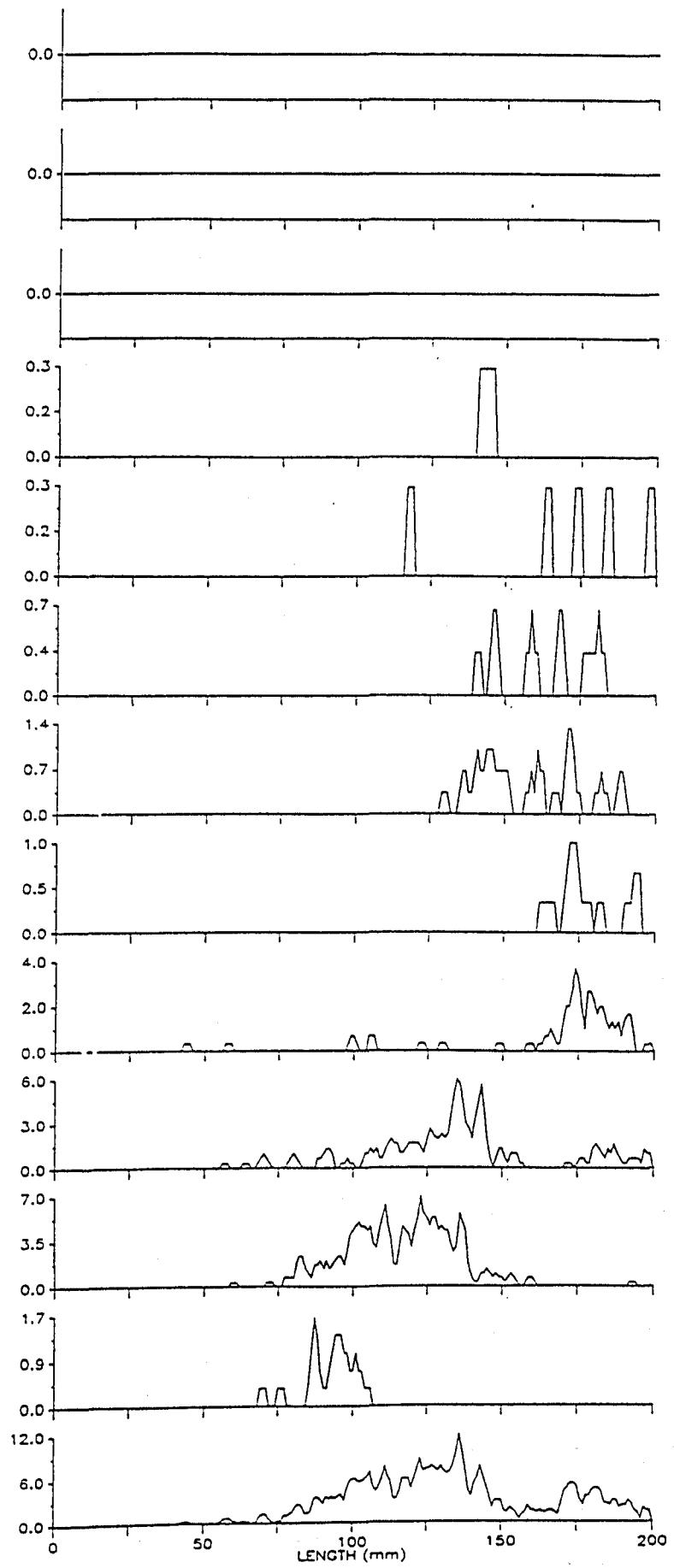
Scup



JANUARY	930106 - 930114			
NO. CGHT.	- 0	MEAN SIZE	-	
NO. MEAS.	- 0	S.E. SIZE	-	
NO. HAULS	- 25	MIN. SIZE	-	
CAT./HAUL	- 0	MAX. SIZE	-	
FEBRUARY	930203 - 930223			
NO. CGHT.	- 0	MEAN SIZE	-	
NO. MEAS.	- 0	S.E. SIZE	-	
NO. HAULS	- 58	MIN. SIZE	-	
CAT./HAUL	- 0	MAX. SIZE	-	
MARCH	930301 - 930311			
NO. CGHT.	- 0	MEAN SIZE	-	
NO. MEAS.	- 0	S.E. SIZE	-	
NO. HAULS	- 25	MIN. SIZE	-	
CAT./HAUL	- 0	MAX. SIZE	-	
APRIL	930405 - 930429			
NO. CGHT.	- 1	MEAN SIZE	-	115
NO. MEAS.	- 1	S.E. SIZE	-	
NO. HAULS	- 56	MIN. SIZE	-	115
CAT./HAUL	- 0	MAX. SIZE	-	115
MAY	930506 - 930513			
NO. CGHT.	- 13	MEAN SIZE	-	100.2
NO. MEAS.	- 13	S.E. SIZE	-	2.7
NO. HAULS	- 60	MIN. SIZE	-	87
CAT./HAUL	- 0.2	MAX. SIZE	-	125
JUNE	930602 - 930615			
NO. CGHT.	- 62	MEAN SIZE	-	101.4
NO. MEAS.	- 59	S.E. SIZE	-	1.8
NO. HAULS	- 60	MIN. SIZE	-	70
CAT./HAUL	- 1	MAX. SIZE	-	129
JULY	930701 - 930715			
NO. CGHT.	- 1102	MEAN SIZE	-	82.3
NO. MEAS.	- 625	S.E. SIZE	-	0.6
NO. HAULS	- 60	MIN. SIZE	-	32
CAT./HAUL	- 18.4	MAX. SIZE	-	140
AUGUST	930803 - 930817			
NO. CGHT.	- 513	MEAN SIZE	-	104.7
NO. MEAS.	- 463	S.E. SIZE	-	0.9
NO. HAULS	- 60	MIN. SIZE	-	39
CAT./HAUL	- 8.6	MAX. SIZE	-	164
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 476	MEAN SIZE	-	128.8
NO. MEAS.	- 386	S.E. SIZE	-	0.6
NO. HAULS	- 60	MIN. SIZE	-	83
CAT./HAUL	- 7.9	MAX. SIZE	-	184
OCTOBER	931004 - 931019			
NO. CGHT.	- 66	MEAN SIZE	-	136.7
NO. MEAS.	- 66	S.E. SIZE	-	1.9
NO. HAULS	- 60	MIN. SIZE	-	92
CAT./HAUL	- 1.1	MAX. SIZE	-	185
NOVEMBER	931102 - 931111			
NO. CGHT.	- 1	MEAN SIZE	-	107
NO. MEAS.	- 1	S.E. SIZE	-	
NO. HAULS	- 60	MIN. SIZE	-	107
CAT./HAUL	- 0	MAX. SIZE	-	107
DECEMBER	931201 - 931213			
NO. CGHT.	- 0	MEAN SIZE	-	
NO. MEAS.	- 0	S.E. SIZE	-	
NO. HAULS	- 60	MIN. SIZE	-	
CAT./HAUL	- 0	MAX. SIZE	-	
JAN - DEC	930106 - 931213			
NO. CGHT.	- 2234	MEAN SIZE	-	103
NO. MEAS.	- 1614	S.E. SIZE	-	0.6
NO. HAULS	- 644	MIN. SIZE	-	32
CAT./HAUL	- 3.5	MAX. SIZE	-	185

Figure 65.

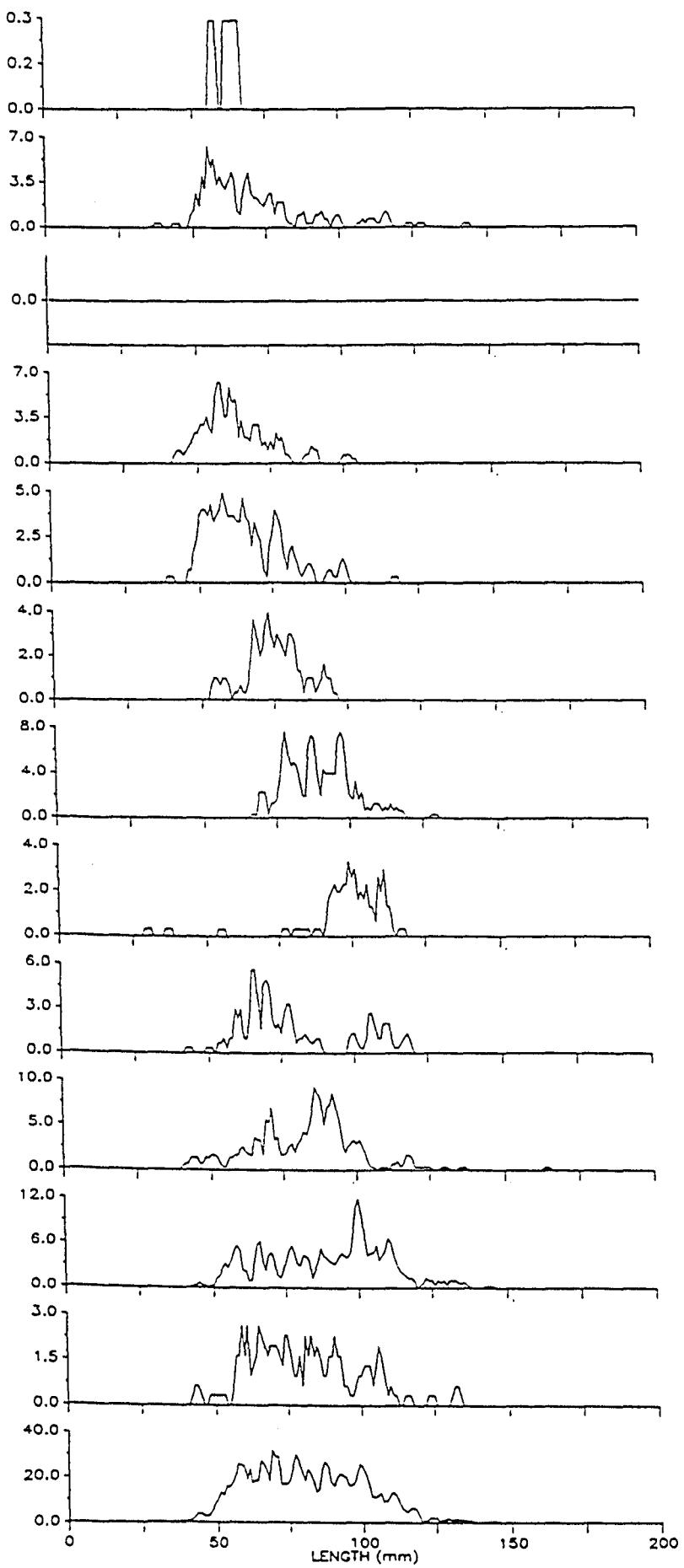
Silver Perch



JANUARY	930106 - 930114			
NO. CGHT.	- 0	MEAN SIZE	-	
NO. MEAS.	- 0	S.E. SIZE	-	
NO. HAULS	- 25	MIN. SIZE	-	
CAT./HAUL	- 0	MAX. SIZE	-	
FEBRUARY	930203 - 930223			
NO. CGHT.	- 0	MEAN SIZE	-	
NO. MEAS.	- 0	S.E. SIZE	-	
NO. HAULS	- 58	MIN. SIZE	-	
CAT./HAUL	- 0	MAX. SIZE	-	
MARCH	930301 - 930311			
NO. CGHT.	- 0	MEAN SIZE	-	
NO. MEAS.	- 0	S.E. SIZE	-	
NO. HAULS	- 25	MIN. SIZE	-	
CAT./HAUL	- 0	MAX. SIZE	-	
APRIL	930405 - 930429			
NO. CGHT.	- 2	MEAN SIZE	- 141.5	
NO. MEAS.	- 2	S.E. SIZE	- 1.5	
NO. HAULS	- 56	MIN. SIZE	- 140	
CAT./HAUL	- 0	MAX. SIZE	- 143	
MAY	930506 - 930513			
NO. CGHT.	- 5	MEAN SIZE	- 165.6	
NO. MEAS.	- 5	S.E. SIZE	- 13.6	
NO. HAULS	- 60	MIN. SIZE	- 116	
CAT./HAUL	- 0.1	MAX. SIZE	- 196	
JUNE	930602 - 930615			
NO. CGHT.	- 11	MEAN SIZE	- 164.7	
NO. MEAS.	- 11	S.E. SIZE	- 5.8	
NO. HAULS	- 60	MIN. SIZE	- 139	
CAT./HAUL	- 0.2	MAX. SIZE	- 204	
JULY	930701 - 930715			
NO. CGHT.	- 28	MEAN SIZE	- 157.8	
NO. MEAS.	- 28	S.E. SIZE	- 3.6	
NO. HAULS	- 60	MIN. SIZE	- 128	
CAT./HAUL	- 0.5	MAX. SIZE	- 206	
AUGUST	930803 - 930817			
NO. CGHT.	- 14	MEAN SIZE	- 179.6	
NO. MEAS.	- 14	S.E. SIZE	- 3.7	
NO. HAULS	- 60	MIN. SIZE	- 161	
CAT./HAUL	- 0.2	MAX. SIZE	- 205	
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 62	MEAN SIZE	- 166.7	
NO. MEAS.	- 62	S.E. SIZE	- 4	
NO. HAULS	- 60	MIN. SIZE	- 42	
CAT./HAUL	- 1	MAX. SIZE	- 203	
OCTOBER	931004 - 931019			
NO. CGHT.	- 151	MEAN SIZE	- 135.7	
NO. MEAS.	- 151	S.E. SIZE	- 2.6	
NO. HAULS	- 60	MIN. SIZE	- 55	
CAT./HAUL	- 2.5	MAX. SIZE	- 212	
NOVEMBER	931102 - 931111			
NO. CGHT.	- 228	MEAN SIZE	- 114.3	
NO. MEAS.	- 228	S.E. SIZE	- 1.3	
NO. HAULS	- 60	MIN. SIZE	- 58	
CAT./HAUL	- 3.8	MAX. SIZE	- 202	
DECEMBER	931201 - 931213			
NO. CGHT.	- 20	MEAN SIZE	- 90.4	
NO. MEAS.	- 20	S.E. SIZE	- 1.9	
NO. HAULS	- 60	MIN. SIZE	- 68	
CAT./HAUL	- 0.3	MAX. SIZE	- 103	
JAN - DEC	930106 - 931213			
NO. CGHT.	- 521	MEAN SIZE	- 131.6	
NO. MEAS.	- 521	S.E. SIZE	- 1.5	
NO. HAULS	- 644	MIN. SIZE	- 42	
CAT./HAUL	- 0.8	MAX. SIZE	- 212	

Figure 66.

Smallmouth Flounder



JANUARY 930106 - 930114
 NO. CGHT. - 3 MEAN SIZE - 59.3
 NO. MEAS. - 3 S.E. SIZE - 2.3
 NO. HAULS - 25 MIN. SIZE - 55
 CAT./HAUL - 0.1 MAX. SIZE - 63

FEBRUARY 930203 - 930223
 NO. CGHT. - 120 MEAN SIZE - 69.4
 NO. MEAS. - 120 S.E. SIZE - 1.8
 NO. HAULS - 58 MIN. SIZE - 36
 CAT./HAUL - 2.1 MAX. SIZE - 141

MARCH 930301 - 930311
 NO. CGHT. - 0 MEAN SIZE - .
 NO. MEAS. - 0 S.E. SIZE - .
 NO. HAULS - 25 MIN. SIZE - .
 CAT./HAUL - 0 MAX. SIZE - .

APRIL 930405 - 930429
 NO. CGHT. - 110 MEAN SIZE - 61.4
 NO. MEAS. - 110 S.E. SIZE - 1.2
 NO. HAULS - 56 MIN. SIZE - 41
 CAT./HAUL - 2 MAX. SIZE - 101

MAY 930506 - 930513
 NO. CGHT. - 121 MEAN SIZE - 63.9
 NO. MEAS. - 121 S.E. SIZE - 1.2
 NO. HAULS - 60 MIN. SIZE - 38
 CAT./HAUL - 2 MAX. SIZE - 115

JUNE 930602 - 930615
 NO. CGHT. - 66 MEAN SIZE - 73
 NO. MEAS. - 66 S.E. SIZE - 1.2
 NO. HAULS - 60 MIN. SIZE - 52
 CAT./HAUL - 1.1 MAX. SIZE - 93

JULY 930701 - 930715
 NO. CGHT. - 298 MEAN SIZE - 87.6
 NO. MEAS. - 155 S.E. SIZE - 0.9
 NO. HAULS - 60 MIN. SIZE - 65
 CAT./HAUL - 5 MAX. SIZE - 127

AUGUST 930803 - 930817
 NO. CGHT. - 54 MEAN SIZE - 95.4
 NO. MEAS. - 54 S.E. SIZE - 2.2
 NO. HAULS - 60 MIN. SIZE - 28
 CAT./HAUL - 0.9 MAX. SIZE - 115

SEPTEMBER 930907 - 930920
 NO. CGHT. - 105 MEAN SIZE - 77.3
 NO. MEAS. - 105 S.E. SIZE - 1.9
 NO. HAULS - 60 MIN. SIZE - 41
 CAT./HAUL - 1.8 MAX. SIZE - 117

OCTOBER 931004 - 931019
 NO. CGHT. - 251 MEAN SIZE - 80.6
 NO. MEAS. - 216 S.E. SIZE - 1.2
 NO. HAULS - 60 MIN. SIZE - 39
 CAT./HAUL - 4.2 MAX. SIZE - 162

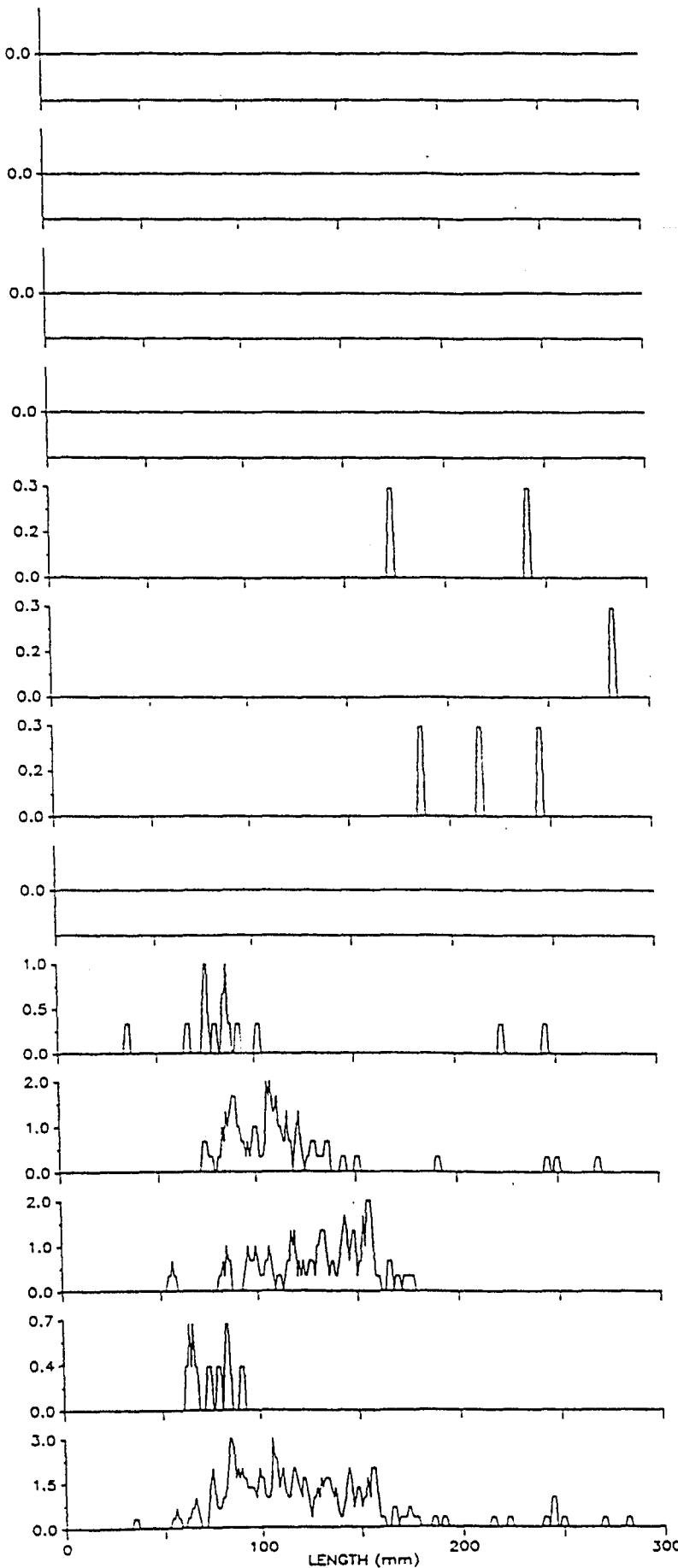
NOVEMBER 931102 - 931111
 NO. CGHT. - 293 MEAN SIZE - 86.8
 NO. MEAS. - 293 S.E. SIZE - 1.2
 NO. HAULS - 60 MIN. SIZE - 42
 CAT./HAUL - 4.9 MAX. SIZE - 142

DECEMBER 931201 - 931213
 NO. CGHT. - 91 MEAN SIZE - 78.7
 NO. MEAS. - 91 S.E. SIZE - 2
 NO. HAULS - 60 MIN. SIZE - 41
 CAT./HAUL - 1.5 MAX. SIZE - 131

JAN - DEC 930106 - 931213
 NO. CGHT. - 1512 MEAN SIZE - 78.5
 NO. MEAS. - 1334 S.E. SIZE - 0.5
 NO. HAULS - 644 MIN. SIZE - 28
 CAT./HAUL - 2.3 MAX. SIZE - 162

Figure 67.

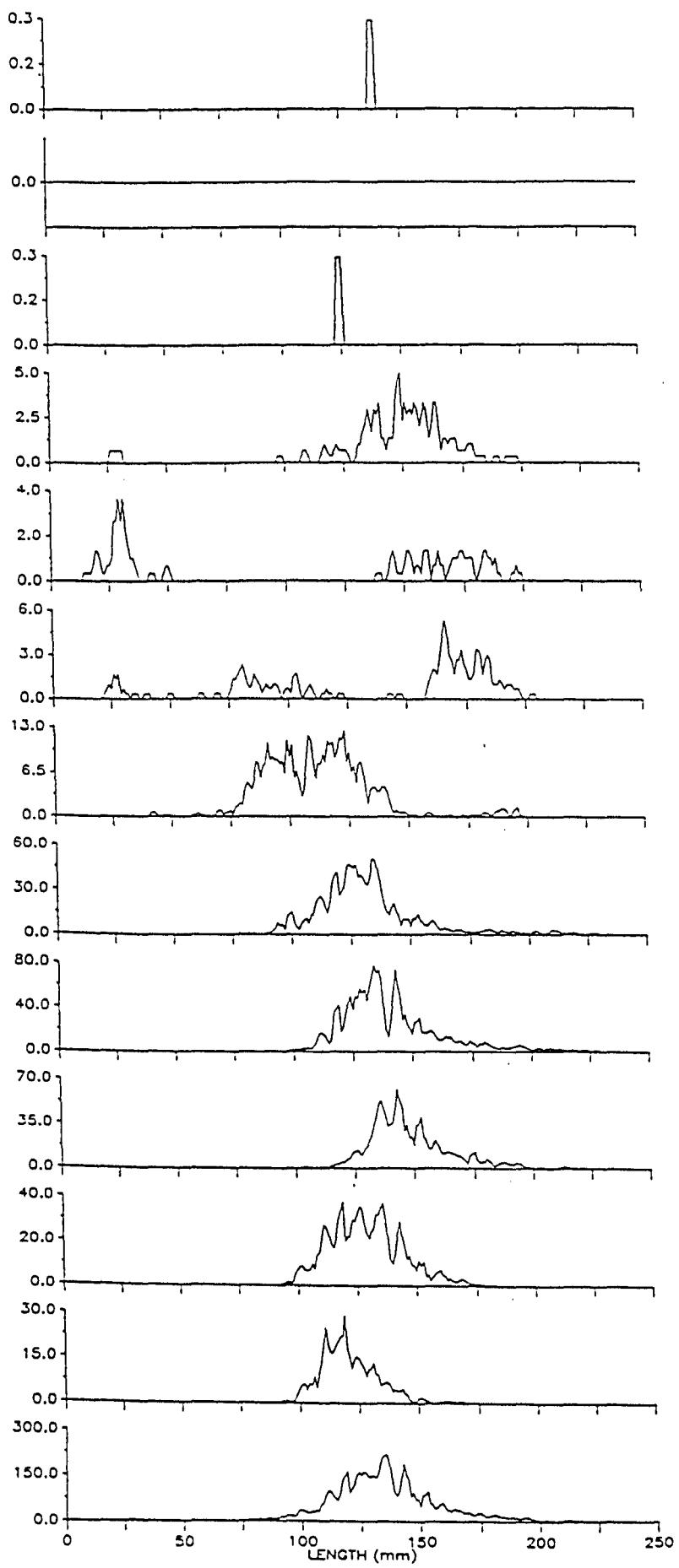
Southern Kingfish



JANUARY	930106 - 930114			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 25	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
FEBRUARY	930203 - 930223			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 58	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
MARCH	930301 - 930311			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 25	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
APRIL	930405 - 930429			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 56	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
MAY	930506 - 930513			
NO. CGHT.	- 2	MEAN SIZE	-	205
NO. MEAS.	- 2	S.E. SIZE	-	34
NO. HAULS	- 60	MIN. SIZE	-	171
CAT./HAUL	- 0	MAX. SIZE	-	239
JUNE	930602 - 930615			
NO. CGHT.	- 1	MEAN SIZE	-	280
NO. MEAS.	- 1	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	280
CAT./HAUL	- 0	MAX. SIZE	-	280
JULY	930701 - 930715			
NO. CGHT.	- 3	MEAN SIZE	-	213.3
NO. MEAS.	- 3	S.E. SIZE	-	17
NO. HAULS	- 60	MIN. SIZE	-	184
CAT./HAUL	- 0.1	MAX. SIZE	-	243
AUGUST	930803 - 930817			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 13	MEAN SIZE	-	100
NO. MEAS.	- 13	S.E. SIZE	-	16.9
NO. HAULS	- 60	MIN. SIZE	-	33
CAT./HAUL	- 0.2	MAX. SIZE	-	243
OCTOBER	931004 - 931019			
NO. CGHT.	- 56	MEAN SIZE	-	113.3
NO. MEAS.	- 56	S.E. SIZE	-	5.3
NO. HAULS	- 60	MIN. SIZE	-	72
CAT./HAUL	- 0.9	MAX. SIZE	-	268
NOVEMBER	931102 - 931111			
NO. CGHT.	- 64	MEAN SIZE	-	127.4
NO. MEAS.	- 64	S.E. SIZE	-	3.5
NO. HAULS	- 60	MIN. SIZE	-	53
CAT./HAUL	- 1.1	MAX. SIZE	-	175
DECEMBER	931201 - 931213			
NO. CGHT.	- 8	MEAN SIZE	-	73.8
NO. MEAS.	- 8	S.E. SIZE	-	3.6
NO. HAULS	- 60	MIN. SIZE	-	61
CAT./HAUL	- 0.1	MAX. SIZE	-	89
JAN - DEC	930106 - 931213			
NO. CGHT.	- 147	MEAN SIZE	-	120.5
NO. MEAS.	- 147	S.E. SIZE	-	3.6
NO. HAULS	- 644	MIN. SIZE	-	33
CAT./HAUL	- 0.2	MAX. SIZE	-	280

Figure 68.

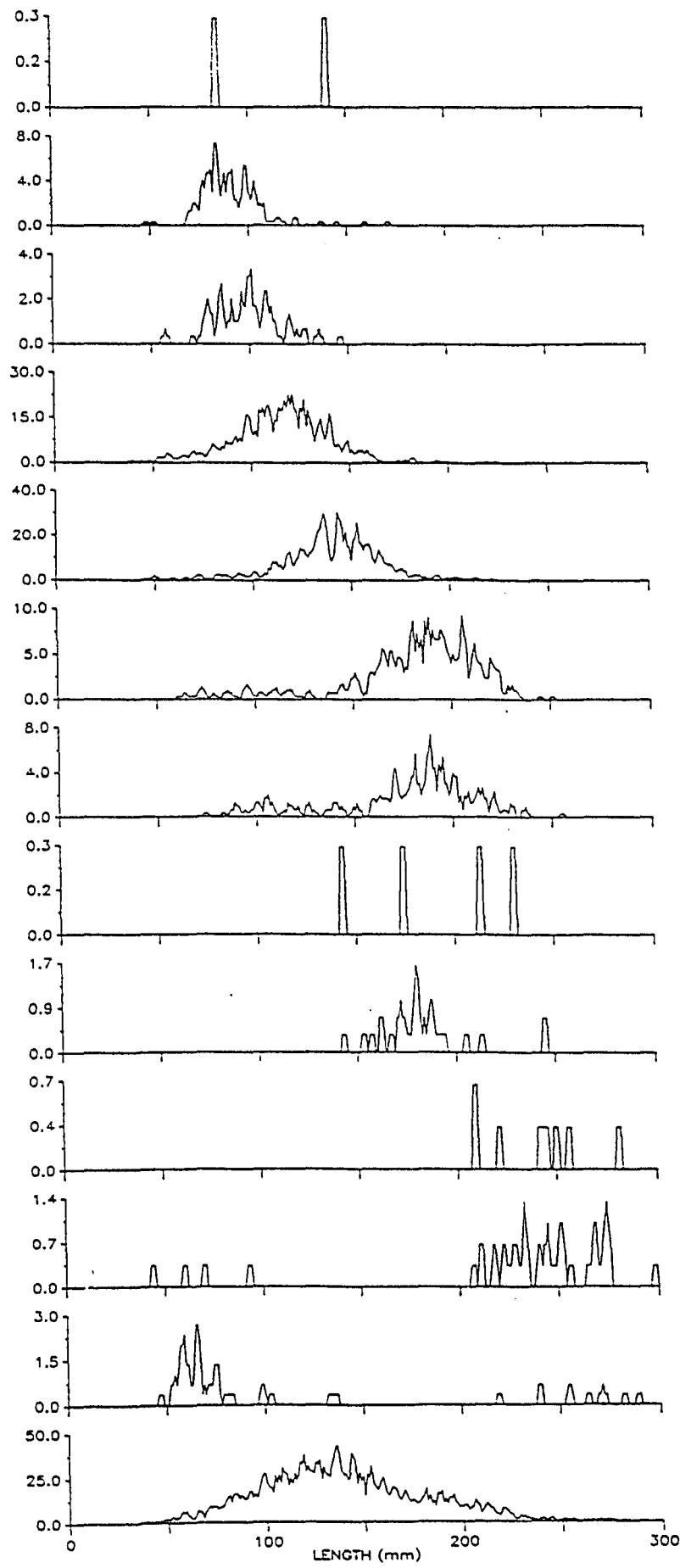
Spot



JANUARY	930106 - 930114	MEAN SIZE	- 137
NO. CGHT.	- 1	S.E. SIZE	- .
NO. MEAS.	- 1	MIN. SIZE	- 137
NO. HAULS	- 25	CAT./HAUL	- 0
		MAX. SIZE	- 137
FEBRUARY	930203 - 930223	MEAN SIZE	- .
NO. CGHT.	- 0	S.E. SIZE	- .
NO. MEAS.	- 0	MIN. SIZE	- .
NO. HAULS	- 58	CAT./HAUL	- 0
		MAX. SIZE	- .
MARCH	930301 - 930311	MEAN SIZE	- 122
NO. CGHT.	- 1	S.E. SIZE	- .
NO. MEAS.	- 1	MIN. SIZE	- 122
NO. HAULS	- 25	CAT./HAUL	- 0
		MAX. SIZE	- 122
APRIL	930405 - 930429	MEAN SIZE	- 144.5
NO. CGHT.	- 119	S.E. SIZE	- 2.6
NO. MEAS.	- 119	MIN. SIZE	- 25
NO. HAULS	- 56	CAT./HAUL	- 2.1
		MAX. SIZE	- 195
MAY	930506 - 930513	MEAN SIZE	- 102.9
NO. CGHT.	- 75	S.E. SIZE	- 8.1
NO. MEAS.	- 75	MIN. SIZE	- 13
NO. HAULS	- 60	CAT./HAUL	- 1.3
		MAX. SIZE	- 196
JUNE	930602 - 930615	MEAN SIZE	- 135.6
NO. CGHT.	- 135	S.E. SIZE	- 4.4
NO. MEAS.	- 135	MIN. SIZE	- 21
NO. HAULS	- 60	CAT./HAUL	- 2.3
		MAX. SIZE	- 201
JULY	930701 - 930715	MEAN SIZE	- 109.8
NO. CGHT.	- 811	S.E. SIZE	- 1.1
NO. MEAS.	- 484	MIN. SIZE	- 10
NO. HAULS	- 60	CAT./HAUL	- 13.5
		MAX. SIZE	- 194
AUGUST	930803 - 930817	MEAN SIZE	- 129.8
NO. CGHT.	- 3198	S.E. SIZE	- 0.6
NO. MEAS.	- 1548	MIN. SIZE	- 75
NO. HAULS	- 60	CAT./HAUL	- 53.3
		MAX. SIZE	- 226
SEPTEMBER	930907 - 930920	MEAN SIZE	- 138.7
NO. CGHT.	- 3515	S.E. SIZE	- 0.5
NO. MEAS.	- 2121	MIN. SIZE	- 87
NO. HAULS	- 60	CAT./HAUL	- 58.6
		MAX. SIZE	- 226
OCTOBER	931004 - 931019	MEAN SIZE	- 145.9
NO. CGHT.	- 2061	S.E. SIZE	- 0.5
NO. MEAS.	- 1424	MIN. SIZE	- 101
NO. HAULS	- 60	CAT./HAUL	- 34.4
		MAX. SIZE	- 240
NOVEMBER	931102 - 931111	MEAN SIZE	- 126.8
NO. CGHT.	- 3847	S.E. SIZE	- 0.4
NO. MEAS.	- 1175	MIN. SIZE	- 92
NO. HAULS	- 60	CAT./HAUL	- 64.1
		MAX. SIZE	- 186
DECEMBER	931201 - 931213	MEAN SIZE	- 118.6
NO. CGHT.	- 991	S.E. SIZE	- 0.5
NO. MEAS.	- 541	MIN. SIZE	- 91
NO. HAULS	- 60	CAT./HAUL	- 16.5
		MAX. SIZE	- 166
JAN - DEC	930106 - 931213	MEAN SIZE	- 132.8
NO. CGHT.	- 14754	S.E. SIZE	- 0.3
NO. MEAS.	- 7624	MIN. SIZE	- 10
NO. HAULS	- 644	CAT./HAUL	- 22.9
		MAX. SIZE	- 240

Figure 69

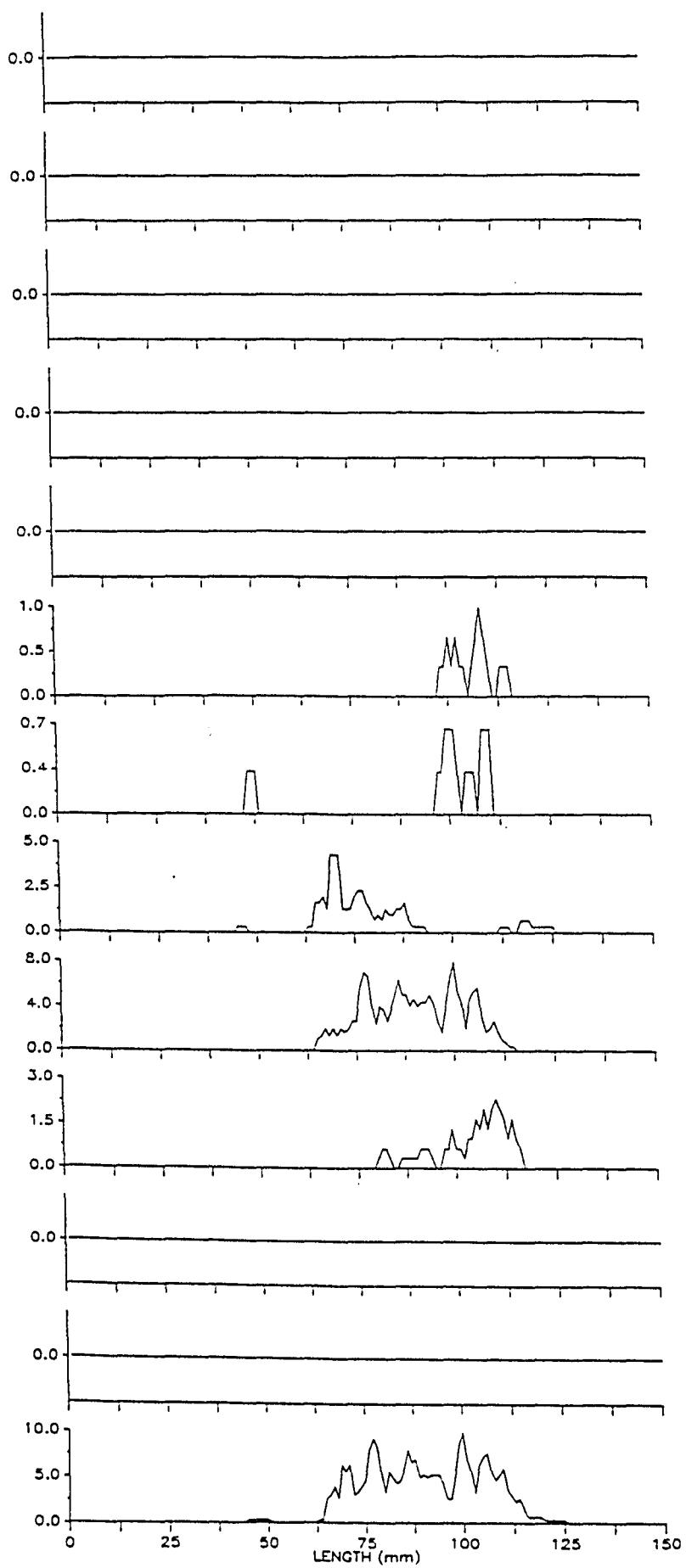
Spotted Hake



JANUARY	930106 - 930114			
NO. CGHT.	- 2	MEAN SIZE	-	110
NO. MEAS.	- 2	S.E. SIZE	-	28
NO. HAULS	- 25	MIN. SIZE	-	82
CAT./HAUL	- 0.1	MAX. SIZE	-	138
FEBRUARY	930203 - 930223			
NO. CGHT.	- 145	MEAN SIZE	-	89.1
NO. MEAS.	- 145	S.E. SIZE	-	1.3
NO. HAULS	- 58	MIN. SIZE	-	46
CAT./HAUL	- 2.5	MAX. SIZE	-	169
MARCH	930301 - 930311			
NO. CGHT.	- 75	MEAN SIZE	-	96.7
NO. MEAS.	- 75	S.E. SIZE	-	2
NO. HAULS	- 25	MIN. SIZE	-	54
CAT./HAUL	- 3	MAX. SIZE	-	144
APRIL	930405 - 930429			
NO. CGHT.	- 1038	MEAN SIZE	-	113.8
NO. MEAS.	- 950	S.E. SIZE	-	0.8
NO. HAULS	- 56	MIN. SIZE	-	36
CAT./HAUL	- 18.5	MAX. SIZE	-	238
MAY	930506 - 930513			
NO. CGHT.	- 1486	MEAN SIZE	-	138.1
NO. MEAS.	- 1025	S.E. SIZE	-	0.8
NO. HAULS	- 60	MIN. SIZE	-	44
CAT./HAUL	- 24.8	MAX. SIZE	-	259
JUNE	930602 - 930615			
NO. CGHT.	- 528	MEAN SIZE	-	178.1
NO. MEAS.	- 420	S.E. SIZE	-	1.7
NO. HAULS	- 60	MIN. SIZE	-	59
CAT./HAUL	- 8.8	MAX. SIZE	-	249
JULY	930701 - 930715			
NO. CGHT.	- 233	MEAN SIZE	-	173
NO. MEAS.	- 233	S.E. SIZE	-	2.4
NO. HAULS	- 60	MIN. SIZE	-	72
CAT./HAUL	- 3.9	MAX. SIZE	-	253
AUGUST	930803 - 930817			
NO. CGHT.	- 4	MEAN SIZE	-	188
NO. MEAS.	- 4	S.E. SIZE	-	19.6
NO. HAULS	- 60	MIN. SIZE	-	141
CAT./HAUL	- 0.1	MAX. SIZE	-	228
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 27	MEAN SIZE	-	180.7
NO. MEAS.	- 27	S.E. SIZE	-	4.5
NO. HAULS	- 60	MIN. SIZE	-	141
CAT./HAUL	- 0.5	MAX. SIZE	-	243
OCTOBER	931004 - 931019			
NO. CGHT.	- 8	MEAN SIZE	-	237.1
NO. MEAS.	- 8	S.E. SIZE	-	8.8
NO. HAULS	- 60	MIN. SIZE	-	207
CAT./HAUL	- 0.1	MAX. SIZE	-	279
NOVEMBER	931102 - 931111			
NO. CGHT.	- 38	MEAN SIZE	-	224.4
NO. MEAS.	- 38	S.E. SIZE	-	9.7
NO. HAULS	- 60	MIN. SIZE	-	42
CAT./HAUL	- 0.6	MAX. SIZE	-	296
DECEMBER	931201 - 931213			
NO. CGHT.	- 51	MEAN SIZE	-	115.2
NO. MEAS.	- 51	S.E. SIZE	-	12.3
NO. HAULS	- 60	MIN. SIZE	-	45
CAT./HAUL	- 0.9	MAX. SIZE	-	326
JAN - DEC	930106 - 931213			
NO. CGHT.	- 3635	MEAN SIZE	-	136.7
NO. MEAS.	- 2978	S.E. SIZE	-	0.8
NO. HAULS	- 644	MIN. SIZE	-	36
CAT./HAUL	- 5.6	MAX. SIZE	-	326

Figure 70.

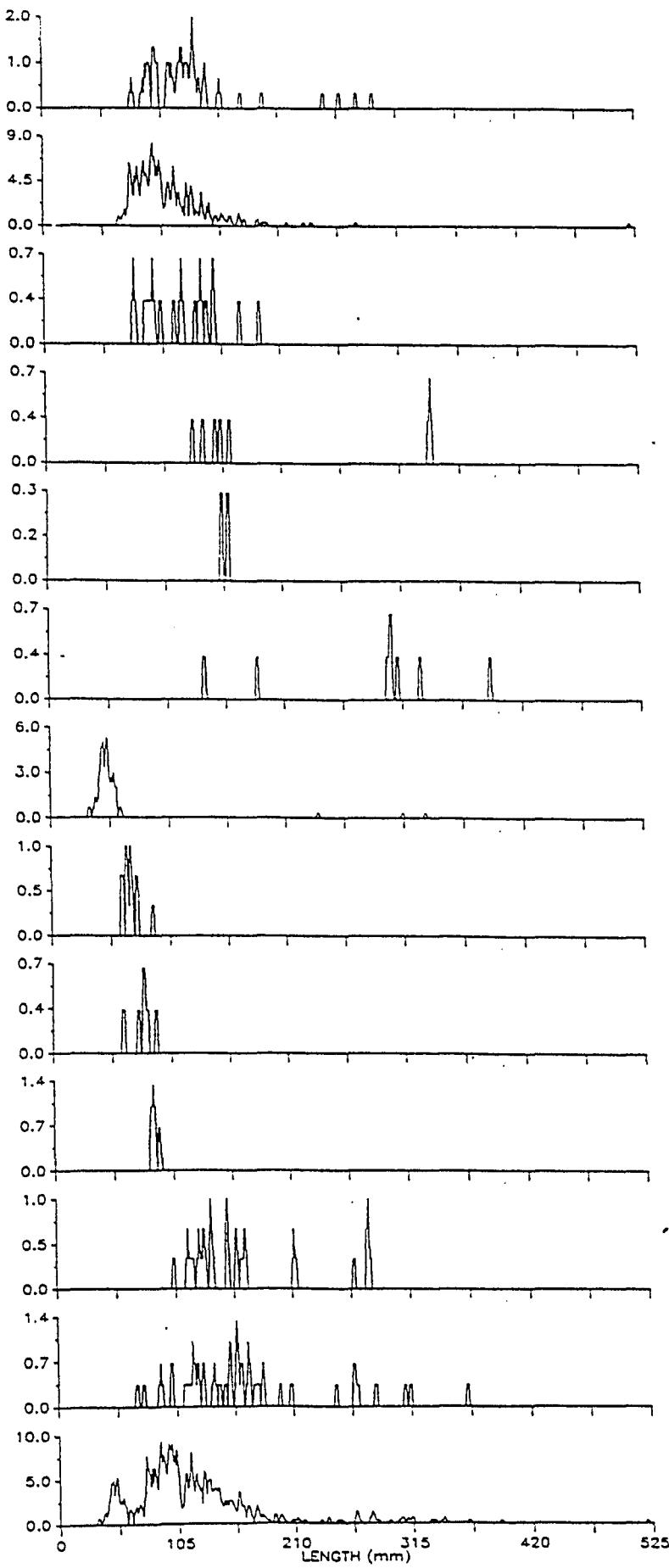
Striped Anchovy



JANUARY	930106 - 930114			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 25	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
FEBRUARY	930203 - 930223			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 58	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
MARCH	930301 - 930311			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 25	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
APRIL	930405 - 930429			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 56	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
MAY	930506 - 930513			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
JUNE	930602 - 930615			
NO. CGHT.	- 7	MEAN SIZE	- 103.9	.
NO. MEAS.	- 7	S.E. SIZE	- 2	.
NO. HAULS	- 60	MIN. SIZE	- 97	.
CAT./HAUL	- 0.1	MAX. SIZE	- 112	.
JULY	930701 - 930715			
NO. CGHT.	- 7	MEAN SIZE	- 93.9	.
NO. MEAS.	- 7	S.E. SIZE	- 8	.
NO. HAULS	- 60	MIN. SIZE	- 47	.
CAT./HAUL	- 0.1	MAX. SIZE	- 107	.
AUGUST	930803 - 930817			
NO. CGHT.	- 52	MEAN SIZE	- 76.8	.
NO. MEAS.	- 52	S.E. SIZE	- 2.1	.
NO. HAULS	- 60	MIN. SIZE	- 44	.
CAT./HAUL	- 0.9	MAX. SIZE	- 122	.
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 175	MEAN SIZE	- 88.1	.
NO. MEAS.	- 175	S.E. SIZE	- 0.9	.
NO. HAULS	- 60	MIN. SIZE	- 64	.
CAT./HAUL	- 2.9	MAX. SIZE	- 112	.
OCTOBER	931004 - 931019			
NO. CGHT.	- 31	MEAN SIZE	- 101.7	.
NO. MEAS.	- 31	S.E. SIZE	- 1.7	.
NO. HAULS	- 60	MIN. SIZE	- 79	.
CAT./HAUL	- 0.5	MAX. SIZE	- 113	.
NOVEMBER	931102 - 931111			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
DECEMBER	931201 - 931213			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 60	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
JAN - DEC	930106 - 931213			
NO. CGHT.	- 272	MEAN SIZE	- 88	.
NO. MEAS.	- 272	S.E. SIZE	- 0.9	.
NO. HAULS	- 644	MIN. SIZE	- 44	.
CAT./HAUL	- 0.4	MAX. SIZE	- 122	.

Figure 71.

Striped Bass



JANUARY 930106 - 930114
 NO. CGHT. - 55 MEAN SIZE - 129.8
 NO. MEAS. - 55 S.E. SIZE - 6.2
 NO. HAULS - 25 MIN. SIZE - 76
 CAT./HAUL - 2.2 MAX. SIZE - 292

FEBRUARY 930203 - 930223
 NO. CGHT. - 313 MEAN SIZE - 109.7
 NO. MEAS. - 313 S.E. SIZE - 2.2
 NO. HAULS - 58 MIN. SIZE - 64
 CAT./HAUL - 5.4 MAX. SIZE - 518

MARCH 930301 - 930311
 NO. CGHT. - 19 MEAN SIZE - 147.9
 NO. MEAS. - 19 S.E. SIZE - 27.7
 NO. HAULS - 25 MIN. SIZE - 76
 CAT./HAUL - 0.8 MAX. SIZE - 630

APRIL 930405 - 930429
 NO. CGHT. - 7 MEAN SIZE - 201
 NO. MEAS. - 7 S.E. SIZE - 36.1
 NO. HAULS - 56 MIN. SIZE - 128
 CAT./HAUL - 0.1 MAX. SIZE - 341

MAY 930506 - 930513
 NO. CGHT. - 2 MEAN SIZE - 156
 NO. MEAS. - 2 S.E. SIZE - 3
 NO. HAULS - 60 MIN. SIZE - 153
 CAT./HAUL - 0 MAX. SIZE - 159

JUNE 930602 - 930615
 NO. CGHT. - 8 MEAN SIZE - 281.8
 NO. MEAS. - 8 S.E. SIZE - 28.9
 NO. HAULS - 60 MIN. SIZE - 136
 CAT./HAUL - 0.1 MAX. SIZE - 390

JULY 930701 - 930715
 NO. CGHT. - 69 MEAN SIZE - 64.7
 NO. MEAS. - 69 S.E. SIZE - 9.5
 NO. HAULS - 60 MIN. SIZE - 32
 CAT./HAUL - 1.2 MAX. SIZE - 552

AUGUST 930803 - 930817
 NO. CGHT. - 11 MEAN SIZE - 68
 NO. MEAS. - 11 S.E. SIZE - 2.3
 NO. HAULS - 60 MIN. SIZE - 60
 CAT./HAUL - 0.2 MAX. SIZE - 87

SEPTEMBER 930907 - 930920
 NO. CGHT. - 6 MEAN SIZE - 76.5
 NO. MEAS. - 6 S.E. SIZE - 3.9
 NO. HAULS - 60 MIN. SIZE - 60
 CAT./HAUL - 0.1 MAX. SIZE - 89

OCTOBER 931004 - 931019
 NO. CGHT. - 8 MEAN SIZE - 86.1
 NO. MEAS. - 8 S.E. SIZE - 1.1
 NO. HAULS - 60 MIN. SIZE - 83
 CAT./HAUL - 0.1 MAX. SIZE - 91

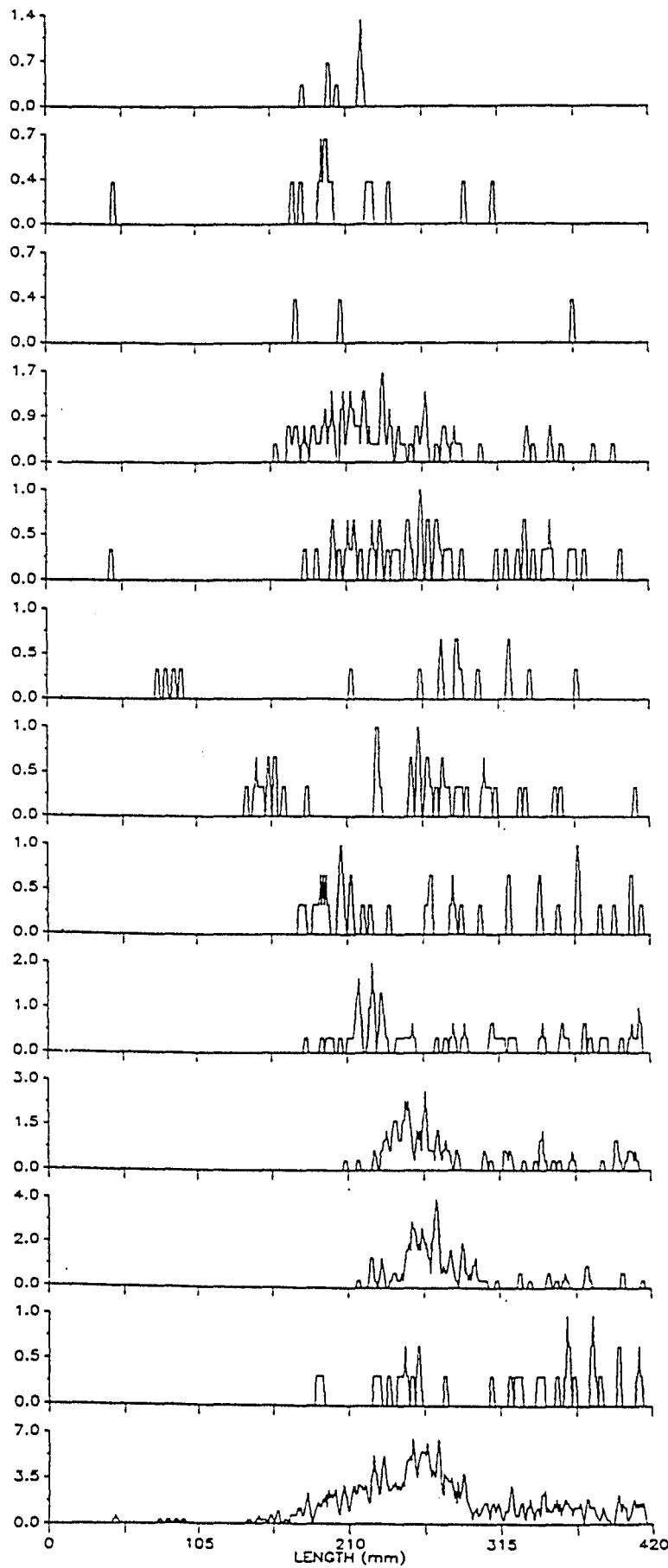
NOVEMBER 931102 - 931111
 NO. CGHT. - 25 MEAN SIZE - 164.9
 NO. MEAS. - 25 S.E. SIZE - 10.9
 NO. HAULS - 60 MIN. SIZE - 101
 CAT./HAUL - 0.4 MAX. SIZE - 277

DECEMBER 931201 - 931213
 NO. CGHT. - 45 MEAN SIZE - 165.6
 NO. MEAS. - 45 S.E. SIZE - 9.9
 NO. HAULS - 60 MIN. SIZE - 67
 CAT./HAUL - 0.8 MAX. SIZE - 362

JAN - DEC 930106 - 931213
 NO. CGHT. - 568 MEAN SIZE - 116.5
 NO. MEAS. - 568 S.E. SIZE - 2.7
 NO. HAULS - 644 MIN. SIZE - 32
 CAT./HAUL - 0.9 MAX. SIZE - 630

Figure 72.

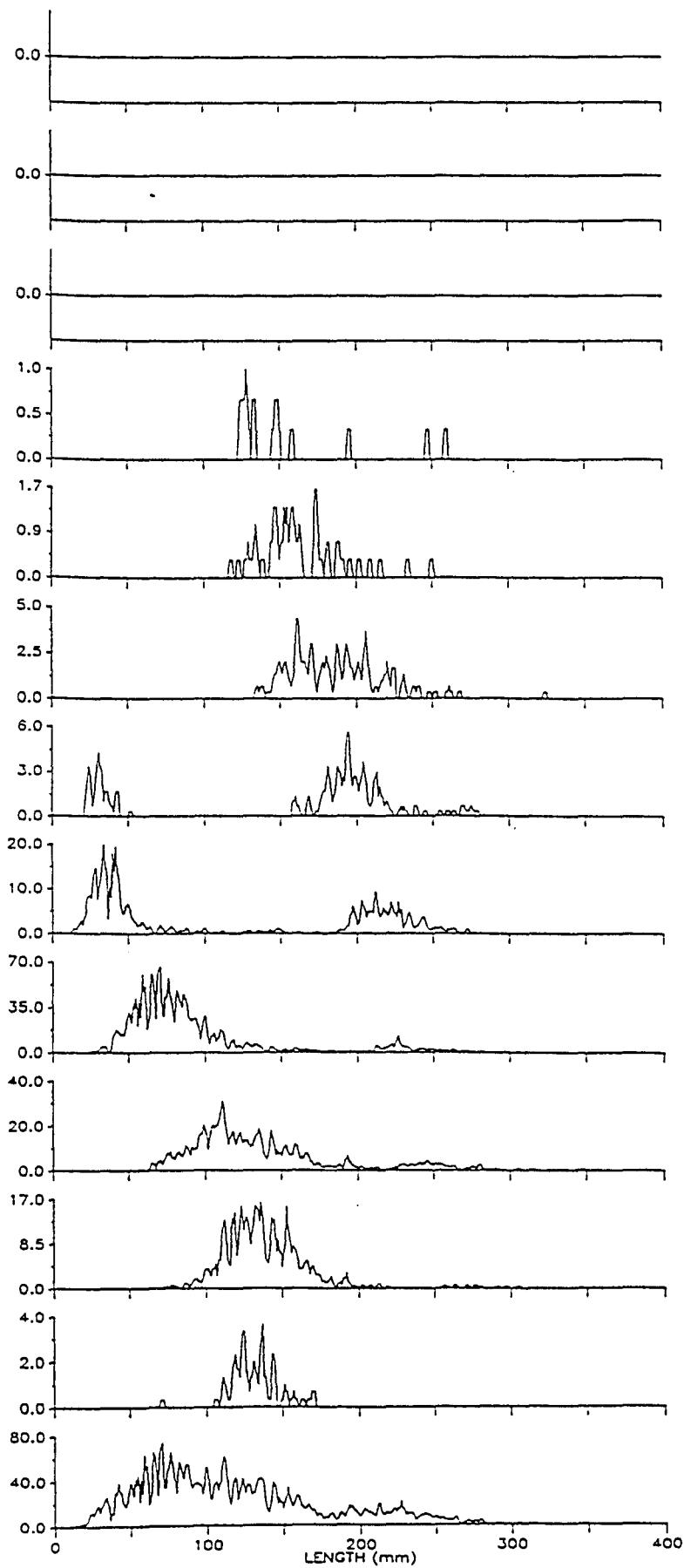
Summer Flounder



JANUARY	930106 - 930114		
NO. CGHT.	- 8	MEAN SIZE	- 205.9
NO. MEAS.	- 8	S.E. SIZE	- 5.4
NO. HAULS	- 25	MIN. SIZE	- 178
CAT./HAUL	- 0.3	MAX. SIZE	- 220
FEBRUARY	930203 - 930223		
NO. CGHT.	- 13	MEAN SIZE	- 203.8
NO. MEAS.	- 13	S.E. SIZE	- 17.6
NO. HAULS	- 58	MIN. SIZE	- 45
CAT./HAUL	- 0.2	MAX. SIZE	- 310
MARCH	930301 - 930311		
NO. CGHT.	- 3	MEAN SIZE	- 247.3
NO. MEAS.	- 3	S.E. SIZE	- 59.5
NO. HAULS	- 25	MIN. SIZE	- 173
CAT./HAUL	- 0.1	MAX. SIZE	- 365
APRIL	930405 - 930429		
NO. CGHT.	- 76	MEAN SIZE	- 244.2
NO. MEAS.	- 76	S.E. SIZE	- 7.5
NO. HAULS	- 56	MIN. SIZE	- 159
CAT./HAUL	- 1.4	MAX. SIZE	- 497
MAY	930506 - 930513		
NO. CGHT.	- 50	MEAN SIZE	- 283.9
NO. MEAS.	- 50	S.E. SIZE	- 12
NO. HAULS	- 60	MIN. SIZE	- 43
CAT./HAUL	- 0.8	MAX. SIZE	- 492
JUNE	930602 - 930615		
NO. CGHT.	- 16	MEAN SIZE	- 240.6
NO. MEAS.	- 16	S.E. SIZE	- 24.9
NO. HAULS	- 60	MIN. SIZE	- 75
CAT./HAUL	- 0.3	MAX. SIZE	- 367
JULY	930701 - 930715		
NO. CGHT.	- 41	MEAN SIZE	- 267.2
NO. MEAS.	- 41	S.E. SIZE	- 14.2
NO. HAULS	- 60	MIN. SIZE	- 138
CAT./HAUL	- 0.7	MAX. SIZE	- 502
AUGUST	930803 - 930817		
NO. CGHT.	- 39	MEAN SIZE	- 289.9
NO. MEAS.	- 39	S.E. SIZE	- 14.5
NO. HAULS	- 60	MIN. SIZE	- 175
CAT./HAUL	- 0.7	MAX. SIZE	- 518
SEPTEMBER	930907 - 930920		
NO. CGHT.	- 65	MEAN SIZE	- 297.6
NO. MEAS.	- 65	S.E. SIZE	- 11.2
NO. HAULS	- 60	MIN. SIZE	- 179
CAT./HAUL	- 1.1	MAX. SIZE	- 581
OCTOBER	931004 - 931019		
NO. CGHT.	- 91	MEAN SIZE	- 289.4
NO. MEAS.	- 91	S.E. SIZE	- 6.3
NO. HAULS	- 60	MIN. SIZE	- 206
CAT./HAUL	- 1.5	MAX. SIZE	- 454
NOVEMBER	931102 - 931111		
NO. CGHT.	- 118	MEAN SIZE	- 288.2
NO. MEAS.	- 118	S.E. SIZE	- 5.4
NO. HAULS	- 60	MIN. SIZE	- 215
CAT./HAUL	- 2	MAX. SIZE	- 477
DECEMBER	931201 - 931213		
NO. CGHT.	- 33	MEAN SIZE	- 320.7
NO. MEAS.	- 33	S.E. SIZE	- 12.5
NO. HAULS	- 60	MIN. SIZE	- 186
CAT./HAUL	- 0.6	MAX. SIZE	- 442
JAN - DEC	930106 - 931213		
NO. CGHT.	- 553	MEAN SIZE	- 278.8
NO. MEAS.	- 553	S.E. SIZE	- 3.3
NO. HAULS	- 644	MIN. SIZE	- 43
CAT./HAUL	- 0.9	MAX. SIZE	- 581

Figure 73.

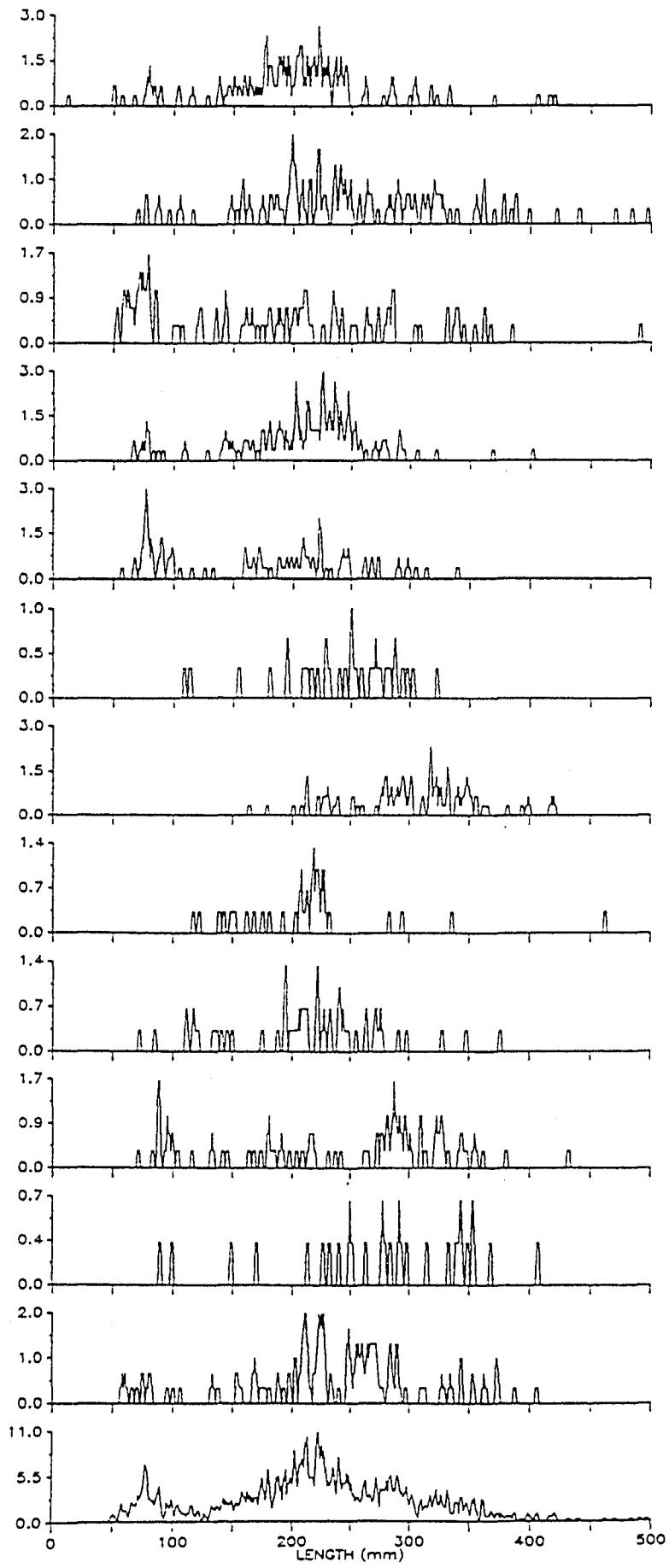
Weakfish



JANUARY	930106 - 930114			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 25	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
FEBRUARY	930203 - 930223			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 58	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
MARCH	930301 - 930311			
NO. CGHT.	- 0	MEAN SIZE	-	.
NO. MEAS.	- 0	S.E. SIZE	-	.
NO. HAULS	- 25	MIN. SIZE	-	.
CAT./HAUL	- 0	MAX. SIZE	-	.
APRIL	930405 - 930429			
NO. CGHT.	- 14	MEAN SIZE	- 155.2	
NO. MEAS.	- 14	S.E. SIZE	- 12	
NO. HAULS	- 56	MIN. SIZE	- 122	
CAT./HAUL	- 0.3	MAX. SIZE	- 257	
MAY	930506 - 930513			
NO. CGHT.	- 45	MEAN SIZE	- 162.6	
NO. MEAS.	- 45	S.E. SIZE	- 4.2	
NO. HAULS	- 60	MIN. SIZE	- 116	
CAT./HAUL	- 0.8	MAX. SIZE	- 248	
JUNE	930602 - 930615			
NO. CGHT.	- 154	MEAN SIZE	- 184.9	
NO. MEAS.	- 154	S.E. SIZE	- 2.5	
NO. HAULS	- 60	MIN. SIZE	- 132	
CAT./HAUL	- 2.6	MAX. SIZE	- 322	
JULY	930701 - 930715			
NO. CGHT.	- 172	MEAN SIZE	- 155	
NO. MEAS.	- 172	S.E. SIZE	- 5.9	
NO. HAULS	- 60	MIN. SIZE	- 21	
CAT./HAUL	- 2.9	MAX. SIZE	- 277	
AUGUST	930803 - 930817			
NO. CGHT.	- 1514	MEAN SIZE	- 109.9	
NO. MEAS.	- 661	S.E. SIZE	- 3.4	
NO. HAULS	- 60	MIN. SIZE	- 9	
CAT./HAUL	- 25.2	MAX. SIZE	- 276	
SEPTEMBER	930907 - 930920			
NO. CGHT.	- 7484	MEAN SIZE	- 87.9	
NO. MEAS.	- 2610	S.E. SIZE	- 0.9	
NO. HAULS	- 60	MIN. SIZE	- 24	
CAT./HAUL	- 124.7	MAX. SIZE	- 309	
OCTOBER	931004 - 931019			
NO. CGHT.	- 2372	MEAN SIZE	- 134.4	
NO. MEAS.	- 1429	S.E. SIZE	- 1.3	
NO. HAULS	- 60	MIN. SIZE	- 48	
CAT./HAUL	- 39.5	MAX. SIZE	- 354	
NOVEMBER	931102 - 931111			
NO. CGHT.	- 1127	MEAN SIZE	- 136.9	
NO. MEAS.	- 683	S.E. SIZE	- 1.1	
NO. HAULS	- 60	MIN. SIZE	- 72	
CAT./HAUL	- 18.8	MAX. SIZE	- 303	
DECEMBER	931201 - 931213			
NO. CGHT.	- 69	MEAN SIZE	- 129.4	
NO. MEAS.	- 69	S.E. SIZE	- 2	
NO. HAULS	- 60	MIN. SIZE	- 69	
CAT./HAUL	- 1.2	MAX. SIZE	- 168	
JAN - DEC	930106 - 931213			
NO. CGHT.	- 12951	MEAN SIZE	- 113.3	
NO. MEAS.	- 5837	S.E. SIZE	- 0.8	
NO. HAULS	- 644	MIN. SIZE	- 9	
CAT./HAUL	- 20.1	MAX. SIZE	- 354	

Figure 74.

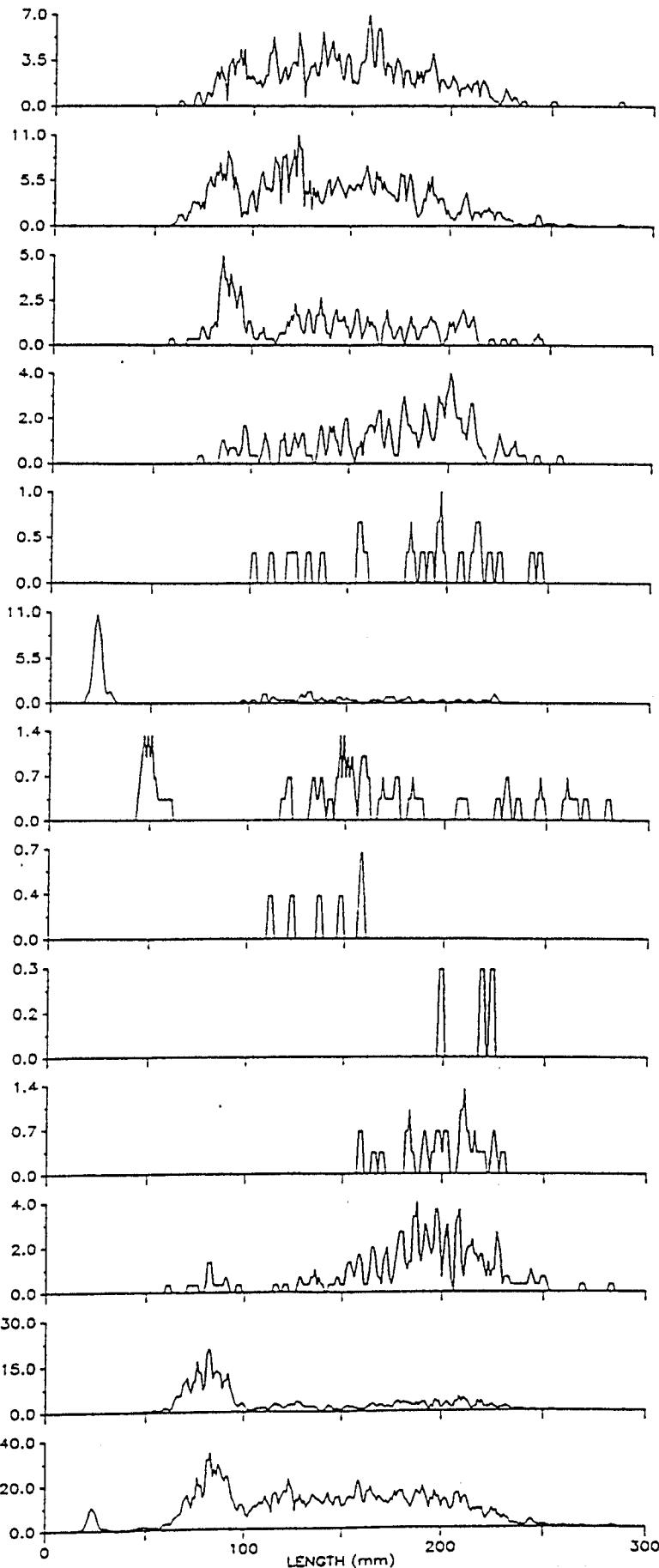
White Catfish



JANUARY	930106 - 930114	MEAN SIZE	- 199.6
NO. CGHT.	- 148	S.E. SIZE	- 5.5
NO. MEAS.	- 148	MIN. SIZE	- 48
NO. HAULS	- 25	MAX. SIZE	- 418
CAT./HAUL	- 5.9		
FEBRUARY	930203 - 930223	MEAN SIZE	- 252.5
NO. CGHT.	- 188	S.E. SIZE	- 8.5
NO. MEAS.	- 117	MIN. SIZE	- 68
NO. HAULS	- 58	MAX. SIZE	- 533
CAT./HAUL	- 3.2		
MARCH	930301 - 930311	MEAN SIZE	- 183.8
NO. CGHT.	- 242	S.E. SIZE	- 10
NO. MEAS.	- 99	MIN. SIZE	- 50
NO. HAULS	- 25	MAX. SIZE	- 489
CAT./HAUL	- 9.7		
APRIL	930405 - 930429	MEAN SIZE	- 204.8
NO. CGHT.	- 138	S.E. SIZE	- 4.9
NO. MEAS.	- 138	MIN. SIZE	- 64
NO. HAULS	- 56	MAX. SIZE	- 400
CAT./HAUL	- 2.5		
MAY	930506 - 930513	MEAN SIZE	- 169.3
NO. CGHT.	- 93	S.E. SIZE	- 7.8
NO. MEAS.	- 93	MIN. SIZE	- 55
NO. HAULS	- 60	MAX. SIZE	- 338
CAT./HAUL	- 1.6		
JUNE	930602 - 930615	MEAN SIZE	- 238.1
NO. CGHT.	- 32	S.E. SIZE	- 9
NO. MEAS.	- 32	MIN. SIZE	- 107
NO. HAULS	- 60	MAX. SIZE	- 321
CAT./HAUL	- 0.5		
JULY	930701 - 930715	MEAN SIZE	- 298
NO. CGHT.	- 90	S.E. SIZE	- 5.8
NO. MEAS.	- 90	MIN. SIZE	- 162
NO. HAULS	- 60	MAX. SIZE	- 419
CAT./HAUL	- 1.5		
AUGUST	930803 - 930817	MEAN SIZE	- 210
NO. CGHT.	- 125	S.E. SIZE	- 11.2
NO. MEAS.	- 33	MIN. SIZE	- 115
NO. HAULS	- 60	MAX. SIZE	- 460
CAT./HAUL	- 2.1		
SEPTEMBER	930907 - 930920	MEAN SIZE	- 209.9
NO. CGHT.	- 52	S.E. SIZE	- 9
NO. MEAS.	- 52	MIN. SIZE	- 70
NO. HAULS	- 60	MAX. SIZE	- 374
CAT./HAUL	- 0.9		
OCTOBER	931004 - 931019	MEAN SIZE	- 237.3
NO. CGHT.	- 82	S.E. SIZE	- 10
NO. MEAS.	- 82	MIN. SIZE	- 69
NO. HAULS	- 60	MAX. SIZE	- 430
CAT./HAUL	- 1.4		
NOVEMBER	931102 - 931111	MEAN SIZE	- 272.4
NO. CGHT.	- 27	S.E. SIZE	- 15.4
NO. MEAS.	- 27	MIN. SIZE	- 87
NO. HAULS	- 60	MAX. SIZE	- 405
CAT./HAUL	- 0.5		
DECEMBER	931201 - 931213	MEAN SIZE	- 230.8
NO. CGHT.	- 126	S.E. SIZE	- 6.8
NO. MEAS.	- 126	MIN. SIZE	- 55
NO. HAULS	- 60	MAX. SIZE	- 404
CAT./HAUL	- 2.1		
JAN - DEC	930106 - 931213	MEAN SIZE	- 221.3
NO. CGHT.	- 1343	S.E. SIZE	- 2.6
NO. MEAS.	- 1037	MIN. SIZE	- 48
NO. HAULS	- 644	MAX. SIZE	- 533
CAT./HAUL	- 2.1		

Figure 75.

White Perch



JANUARY 930106 - 930114
 NO. CGHT. - 529 MEAN SIZE - 143.7
 NO. MEAS. - 400 S.E. SIZE - 2
 NO. HAULS - 25 MIN. SIZE - 61
 CAT./HAUL - 21.2 MAX. SIZE - 282

FEBRUARY 930203 - 930223
 NO. CGHT. - 1882 MEAN SIZE - 136
 NO. MEAS. - 679 S.E. SIZE - 1.7
 NO. HAULS - 58 MIN. SIZE - 58
 CAT./HAUL - 32.4 MAX. SIZE - 282

MARCH 930301 - 930311
 NO. CGHT. - 177 MEAN SIZE - 134.8
 NO. MEAS. - 177 S.E. SIZE - 3.4
 NO. HAULS - 25 MIN. SIZE - 57
 CAT./HAUL - 7.1 MAX. SIZE - 243

APRIL 930405 - 930429
 NO. CGHT. - 172 MEAN SIZE - 168.2
 NO. MEAS. - 172 S.E. SIZE - 3
 NO. HAULS - 56 MIN. SIZE - 72
 CAT./HAUL - 3.1 MAX. SIZE - 253

MAY 930506 - 930513
 NO. CGHT. - 24 MEAN SIZE - 177.8
 NO. MEAS. - 24 S.E. SIZE - 8.6
 NO. HAULS - 60 MIN. SIZE - 100
 CAT./HAUL - 0.4 MAX. SIZE - 244

JUNE 930602 - 930615
 NO. CGHT. - 103 MEAN SIZE - 75.4
 NO. MEAS. - 103 S.E. SIZE - 6.7
 NO. HAULS - 60 MIN. SIZE - 16
 CAT./HAUL - 1.7 MAX. SIZE - 223

JULY 930701 - 930715
 NO. CGHT. - 55 MEAN SIZE - 150.4
 NO. MEAS. - 55 S.E. SIZE - 9.2
 NO. HAULS - 60 MIN. SIZE - 43
 CAT./HAUL - 0.9 MAX. SIZE - 278

AUGUST 930803 - 930817
 NO. CGHT. - 6 MEAN SIZE - 137.5
 NO. MEAS. - 6 S.E. SIZE - 7.8
 NO. HAULS - 60 MIN. SIZE - 110
 CAT./HAUL - 0.1 MAX. SIZE - 157

SEPTEMBER 930907 - 930920
 NO. CGHT. - 3 MEAN SIZE - 212
 NO. MEAS. - 3 S.E. SIZE - 7.6
 NO. HAULS - 60 MIN. SIZE - 197
 CAT./HAUL - 0.1 MAX. SIZE - 222

OCTOBER 931004 - 931019
 NO. CGHT. - 25 MEAN SIZE - 196.8
 NO. MEAS. - 25 S.E. SIZE - 4.1
 NO. HAULS - 60 MIN. SIZE - 157
 CAT./HAUL - 0.4 MAX. SIZE - 228

NOVEMBER 931102 - 931111
 NO. CGHT. - 348 MEAN SIZE - 183
 NO. MEAS. - 168 S.E. SIZE - 3.1
 NO. HAULS - 60 MIN. SIZE - 59
 CAT./HAUL - 5.8 MAX. SIZE - 281

DECEMBER 931201 - 931213
 NO. CGHT. - 722 MEAN SIZE - 116.6
 NO. MEAS. - 585 S.E. SIZE - 2.2
 NO. HAULS - 60 MIN. SIZE - 48
 CAT./HAUL - 12 MAX. SIZE - 252

JAN - DEC 930106 - 931213
 NO. CGHT. - 4046 MEAN SIZE - 136.9
 NO. MEAS. - 2397 S.E. SIZE - 1.1
 NO. HAULS - 644 MIN. SIZE - 16
 CAT./HAUL - 6.3 MAX. SIZE - 282

Table 1.

VIMS codes for selected parameters as used in the trawl survey database. These same codes appear in several of the included tables and figures.

Table 1.

TOWDIR 1: up or down stream

- 1: Upstream
- 2: Downstream
- 3: Slack

TOWDIR2: Tow Direction, relative to current

- | | |
|------------------|--------------------|
| 1: With | 4: Oblique with |
| 2: Against | 5: Oblique against |
| 3: Perpendicular | 6: Slack |

TIDE: Tidal stage

- | | |
|---------------------|-----------------------|
| 1: Early flood | 5: Early ebb |
| 2: Maximum flood | 6: Maximum ebb |
| 3: Late flood | 7: Late ebb |
| 4: Slack before ebb | 8: Slack before flood |

SEASTATE

- | | |
|-----------------------------|--------------------|
| 0: Calm-glassy 0m | 5: Rough 2.5-4m |
| 1: Calm-rippled 0-0.1m | 6: Very rough 4-6m |
| 2: Smooth-wavelets 0.1-0.5m | 7: High 6-9m |
| 3: Slight 0.5-1.25m | 8: Very high 9-14m |
| 4: Moderate 1.25-2.5m | 9: Phenomenal >14m |

WEATHER: Observed weather

- | | |
|--------------------------------------|-----------------------|
| 1: Clear-no cloud at any level | 5: Drizzle |
| 2: Partly cloudy-scattered or broken | 6: Rain |
| 3: Overcast | 7: Snow,rain or sleet |
| 4: Sand, dust storm, or blowing snow | 8: Showers |
| 5: Fog-thick, dust, or haze | 9: Thunderstorms |

Tables 2-13. Station data for the river trawl survey by month.

Explanation. To conserve space, some variables are presented as coded values. Code keys are presented in Table 1 (p. 117).

Table 2.

January

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930101	YK	15	19930106	3723.19	7639.30	3723.38	7639.53	495.97	7.9	1	2	1	3
930101	YK	20	19930106	3725.96	7642.52	3726.13	7642.76	481.78	6.7	1	2	1	3
930101	YK	25	19930106	3728.91	7645.03	3729.08	7645.26	470.39	8.5	1	2	1	3
930101	YK	30	19930106	3732.96	7649.60	3732.77	7649.67	367.77	5.8	1	2	1	3
930101	YK	35	19930106	3733.15	7651.79	3733.37	7651.68	440.57	6.1	1	2	1	3
930102	YK	2	19930107	3713.63	7626.93	3713.63	7627.19	394.90	11.6	2	2	1	3
930102	YK	5	19930107	3714.12	7629.15	3714.17	7629.43	435.25	13.7	1	2	1	3
930102	YK	10	19930107	3718.32	7635.13	3718.47	7635.24	324.30	8.8	1	2	1	3
930103	JA	1	19930111	3659.75	7619.55	3659.60	7619.82	495.41	5.8	1	1	2	2
930103	JA	5	19930111	3656.67	7623.15	3656.77	7623.41	436.22	6.1	1	1	2	2
930103	JA	13	19930111	3701.33	7630.53	3701.44	7630.66	283.78	12.5	1	1	1	2
930103	JA	17	19930111	3704.95	7636.45	3705.14	7636.60	419.36	5.5	1	1	1	2
930103	JA	24	19930111	3709.16	7638.42	3709.44	7638.43	519.06	8.5	1	1	1	2
930103	JA	27	19930111	3712.18	7638.90	3712.38	7639.17	552.74	11.6	1	1	1	3
930103	JA	35	19930111	3711.13	7645.73	3711.34	7646.00	565.33	9.8	1	1	1	3
930103	JA	40	19930111	3713.50	7650.60	3713.44	7650.96	557.98	3.7	1	1	1	3
930104	RA	2	19930114	3735.79	7621.07	3735.84	7621.30	361.41	18.3	1	2	1	5
930104	RA	10	19930114	3737.93	7628.42	3737.91	7628.71	442.02	19.2	1	2	1	5
930104	RA	15	19930114	3740.09	7633.09	3740.25	7633.12	299.96	14.6	1	2	1	5
930104	RA	20	19930114	3743.85	7634.96	3743.96	7635.10	294.55	12.2	1	2	1	5
930104	RA	25	19930114	3747.43	7640.67	3747.59	7640.76	326.48	7.9	1	2	3	6
930104	RA	30	19930114	3751.28	7645.34	3751.46	7645.49	403.92	5.2	1	2	3	6
930104	RA	35	19930114	3754.42	7648.21	3754.50	7648.33	234.94	4.9	1	2	3	6
930104	RA	40	19930114	3757.93	7651.78	3758.05	7651.76	224.43	3.4	1	2	2	6

Table 3.

February

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930201	YK	15	19930203	3722.75	7638.85	3722.54	7638.67	475.57	9.8	2	1	1	7
930201	YK	20	19930203	3726.18	7642.76	3726.30	7642.88	287.51	6.7	1	2	2	7
930201	YK	25	19930203	3728.68	7644.73	3728.86	7644.87	395.56	8.5	1	2	2	7
930201	YK	30	19930203	3732.89	7649.63	3732.73	7649.67	302.64	6.7	1	2	1	7
930201	YK	35	19930203	3732.99	7651.76	3733.18	7651.66	383.44	6.4	1	2	1	7
930201	YK	40	19930203	3733.08	7652.97	3733.00	7653.16	324.43	3.7	1	2	1	7
930202	YK	2	19930204	3713.63	7626.95	3713.63	7627.18	349.34	11.5	1	2	2	5
930202	YK	5	19930204	3714.11	7629.27	3714.17	7629.47	323.48	14.2	1	2	1	3
930202	YK	10	19930204	3718.49	7635.27	3718.31	7635.13	395.56	9.4	2	2	1	3
930203	JA	1	19930209	3659.72	7619.47	3656.93	7622.76	3656.85	7623.10	537.27	6.4	1	1
930203	JA	5	19930209	3656.93	7622.76	3656.85	7623.10	537.27	6.4	1	1	2	2
930203	JA	13	19930209	3701.32	7630.39	3701.50	7630.71	589.47	8.8	1	1	2	2
930203	JA	17	19930209	3704.95	7636.57	3705.23	7636.79	617.13	5.5	1	1	2	2
930203	JA	24	19930209	3709.13	7638.39	3709.40	7638.42	502.38	8.2	1	1	2	2
930203	JA	27	19930209	3712.39	7639.13	3712.63	7639.49	704.81	9.4	1	1	1	2
930203	JA	35	19930209	3711.15	7645.59	3711.42	7645.84	628.09	7.9	1	1	1	2
930203	JA	40	19930209	3713.74	7649.36	3713.79	7649.70	524.66	5.5	1	1	1	2
930204	RA	2	19930223	3735.85	7621.14	3735.90	7621.44	464.98	18.3	1	2	1	7
930204	RA	10	19930223	3737.94	7628.47	3737.91	7628.76	443.96	18.6	1	1	2	1
930204	RA	15	19930223	3740.19	7633.07	3740.43	7633.12	451.16	15.8	1	1	2	1
930204	RA	20	19930223	3743.89	7634.98	3744.09	7635.17	469.71	15.2	1	1	2	1
930204	RA	25	19930223	3747.47	7640.75	3747.55	7640.75	483.26	7.3	1	1	2	1
930204	RA	30	19930223	3751.35	7645.44	3751.58	7645.59	483.26	5.8	1	1	2	1
930204	RA	35	19930223	3754.47	7648.31	3754.64	7648.54	470.39	5.2	1	1	2	1
930204	RA	40	19930223	3757.97	7651.78	3758.20	7651.81	428.62	4.9	1	1	2	1

Table 4.

March

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930301	YK	10	19930301	3718.54	7635.24	3718.35	7635.13	389.70	8.2	2	2	0	6
930301	YK	15	19930301	3723.37	7639.45	3723.22	7639.32	340.94	8.2	1	2	1	5
930301	YK	20	19930301	3725.96	7642.49	3726.08	7642.63	307.67	6.4	1	2	0	0
930301	YK	25	19930301	3728.94	7645.03	3729.07	7645.22	375.91	8.5	1	2	0	0
930301	YK	30	19930301	3732.99	7649.58	3732.86	7649.63	252.58	5.5	1	2	0	0
930301	YK	35	19930301	3733.11	7651.76	3733.26	7651.69	297.59	6.1	1	2	0	0
930301	YK	40	19930301	3732.94	7653.33	3732.54	7653.13	4.0	1	2	1	7	7
930302	YK	2	19930302	3713.62	7626.93	3713.64	7627.19	396.64	11.3	1	2	1	7
930302	YK	5	19930302	3714.11	7629.07	3714.14	7629.31	368.74	13.1	1	2	1	3
930302	YK	10	19930302	3719.65	7639.57	3719.91	7619.91	421.81	4.6	1	1	3	3
930303	JA	1	19930308	3659.75	7619.65	3659.57	7619.91	421.81	4.6	1	1	3	3
930303	JA	5	19930308	3656.67	7623.17	3656.77	7623.44	450.01	6.1	1	1	3	3
930303	JA	13	19930308	3701.35	7630.48	3701.46	7630.74	444.40	11.0	1	1	3	3
930303	JA	17	19930308	3704.93	7636.94	3705.11	7636.82	380.09	7.6	1	1	4	4
930303	JA	24	19930308	3709.20	7638.42	3709.46	7638.40	482.74	8.2	1	1	3	3
930303	JA	27	19930308	3712.38	7639.18	3712.52	7639.23	270.31	8.8	1	1	3	3
930303	JA	35	19930308	3711.13	7645.68	3711.33	7645.85	451.68	9.1	1	1	4	3
930303	JA	40	19930308	3713.69	7650.26	3735.76	7621.30	431.69	17.7	1	6	2	6
930304	RA	2	19930311	3735.80	7621.02	3737.89	7628.69	413.84	19.2	1	2	2	6
930304	RA	10	19930311	3737.92	7628.42	3740.32	7633.05	414.67	14.0	1	2	2	6
930304	RA	15	19930311	3740.10	7633.10	3740.32	7635.15	389.87	11.0	1	2	2	6
930304	RA	20	19930311	3743.84	7634.97	3743.99	7640.92	469.87	7.6	1	2	2	6
930304	RA	25	19930311	3747.42	7640.68	3747.58	7645.62	344.33	5.5	1	2	2	6
930304	RA	30	19930311	3751.46	7645.41								

Table 5.

April

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930401	YK	15	19930405	3723.32	7639.48	3723.07	7639.30	537.91	9.1	2	1	3	3
930401	YK	20	19930405	3726.06	7642.58	3725.82	7642.40	522.03	6.4	2	1	3	5
930401	YK	25	19930405	3729.11	7643.32	3728.97	7645.06	472.49	7.6	2	1	3	5
930401	YK	30	19930405	3732.55	7649.76	3732.72	7649.71	324.04	7.6	2	1	3	5
930401	YK	35	19930405	3733.14	7651.75	3733.41	7651.61	543.62	5.8	1	1	3	5
930401	YK	40	19930405	3733.05	7653.10	3732.93	7653.41	520.71	4.0	1	1	3	3
930402	YK	2	19930407	3713.64	7627.04	3713.62	7627.38	517.74	12.2	1	1	3	3
930402	YK	5	19930407	3714.11	7629.15	3714.19	7629.49	537.27	13.7	1	1	3	3
930402	YK	10	19930407	3718.42	7635.25	3718.25	7635.12	371.78	9.4	2	1	3	3
930403	RA	2	19930408	3735.80	7620.98	3735.88	7621.27	464.74	18.6	1	2	2	1
930403	RA	10	19930408	3738.01	7628.37	3738.06	7628.66	450.11	16.2	1	2	2	6
930403	RA	15	19930408	3739.85	7632.91	3740.05	7633.09	460.53	13.4	1	2	2	7
930403	RA	20	19930408	3743.77	7634.59	3743.96	7634.86	540.49	15.2	1	1	1	7
930403	RA	25	19930408	3747.25	7640.44	3747.40	7640.67	446.42	9.4	1	2	2	1
930403	RA	30	19930408	3751.08	7645.16	3751.31	7645.34	506.34	6.4	1	2	2	7
930403	RA	35	19930408	3754.30	7648.03	3754.57	7648.31	656.64	5.8	1	6	1	7
930403	RA	40	19930408	3757.21	7651.69	3757.45	7651.71	445.76	4.3	1	1	1	8
930404	JA	1	19930420	3659.70	7619.46	3659.63	7619.72	415.66	9.4	1	1	0	1
930404	JA	5	19930420	3656.93	7622.73	3656.96	7623.01	428.90	6.1	1	1	3	3
930404	JA	13	19930420	3701.26	7630.44	3701.40	7630.65	411.14	8.8	1	1	3	3
930404	JA	17	19930420	3704.95	7636.61	3705.18	7636.74	469.71	6.7	1	1	3	3
930404	JA	24	19930420	3709.16	7638.35	3709.41	7638.33	464.25	11.3	1	1	2	3
930404	JA	27	19930420	3712.45	7639.23	3712.61	7639.48	481.75	8.8	1	1	1	3
930404	JA	35	19930420	3711.46	7645.90	3711.30	7645.68	446.72	7.9	2	2	2	3
930404	JA	40	19930420	3713.75	7649.34	3713.81	7649.64	469.02	5.5	1	1	2	3

Table 6.

May

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930501	RA	2	19930507	3735.83	7621.27	3735.88	7621.44	274.32	17.1	1	2	0	7
930501	RA	10	19930507	3737.89	7628.23	3737.94	7628.57	524.66	20.4	1	2	0	7
930501	RA	15	19930507	3739.95	7633.07	3740.17	7633.17	435.04	13.1	1	2	1	7
930501	RA	15	19930507	3740.21	7633.12	3740.04	7633.07	324.04	15.2	2	1	1	7
930501	RA	20	19930507	3743.83	7634.68	3744.04	7634.76	407.66	15.2	1	6	1	8
930501	RA	20	19930507	3743.97	7634.84	3743.78	7634.79	360.17	14.6	1	6	1	8
930501	RA	25	19930507	3747.28	7640.46	3747.44	7640.64	403.29	8.8	1	6	1	8
930501	RA	25	19930507	3747.53	7640.78	3747.40	7640.64	321.32	7.3	2	6	1	8
930501	RA	30	19930507	3751.17	7645.21	3751.37	7645.40	469.71	6.7	1	1	1	1
930501	RA	30	19930507	3751.42	7645.47	3754.34	7648.11	493.81	5.5	2	1	1	1
930501	RA	35	19930507	3754.50	7648.37	3754.50	7648.37	52	5.2	2	1	1	1
930502	JA	1	19930511	3659.70	7619.52	3659.55	7619.68	369.21	9.1	1	1	1	2
930502	JA	5	19930511	3656.68	7623.05	3656.73	7623.29	376.12	5.2	1	1	1	2
930502	JA	13	19930511	3701.24	7630.35	3701.33	7630.62	442.70	11.9	1	1	1	3
930502	JA	13	19930511	3701.40	7630.66	3701.28	7630.47	364.31	10.7	2	1	1	3
930502	JA	17	19930511	3704.96	7636.43	3705.12	7636.55	348.02	5.5	2	1	1	3
930502	JA	17	19930511	3705.15	7636.61	3704.98	7636.45	397.86	6.1	2	1	1	3
930502	JA	24	19930511	3709.39	7638.45	3709.59	7638.46	370.91	6.7	1	1	0	0
930502	JA	24	19930511	3709.66	7638.51	3709.45	7638.48	391.79	6.1	2	1	1	3
930502	JA	27	19930511	3712.44	7639.28	3712.60	7639.46	403.29	8.2	1	2	1	3
930502	JA	27	19930511	3712.66	7639.62	·	·	·	9.1	2	1	2	3
930503	YK	2	19930512	3713.60	7626.93	3714.12	7629.49	426.89	11.0	1	2	1	6
930503	YK	5	19930512	3714.10	7629.21	3718.57	7635.30	530.15	8.2	1	2	1	7
930503	YK	10	19930512	3718.33	7635.11	3718.28	7635.10	364.85	8.8	2	1	1	1
930503	YK	10	19930512	3718.44	7635.24	3718.28	7639.49	366.02	7.6	1	2	2	5
930504	YK	15	19930513	3723.19	7639.32	3723.33	7642.67	293.67	8.5	1	2	2	6
930504	YK	15	19930513	3723.30	7639.46	3723.06	7639.22	575.03	8.5	1	2	2	5
930504	YK	20	19930513	3725.95	7642.52	3726.05	7642.67	282.34	6.1	1	2	2	7
930504	YK	20	19930513	3726.14	7642.74	3725.91	7642.43	635.08	6.1	2	1	2	7
930504	YK	25	19930513	3728.95	7645.06	3729.04	7645.21	575.64	9.1	1	2	2	7
930504	YK	25	19930513	3729.11	7645.33	3728.91	7645.04	575.64	7.3	2	1	2	7
930504	YK	30	19930513	3732.97	7649.62	3732.81	7649.67	306.05	6.1	1	2	2	7
930504	YK	35	19930513	3733.02	7651.82	3733.14	7651.77	234.97	6.1	1	2	2	7

Table 7.

June

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930601	YK	2	19930602	3713.60	7627.32	3713.65	7627.07	390.85	11.0	1	1	1	5
930601	YK	5	19930602	3713.71	7628.61	3713.66	7628.38	361.41	14.0	2	1	1	5
930601	YK	10	19930602	3718.69	7635.42	3718.45	7635.38	448.85	8.5	2	1	2	7
930601	YK	10	19930602	3718.37	7635.26	3718.47	7635.32	206.50	8.5	1	2	0	3
930602	YK	15	19930603	3723.24	7639.39	3723.48	7639.59	538.57	8.2	1	1	0	3
930602	YK	15	19930603	3723.53	7639.67	3723.40	7639.55	302.07	8.8	2	1	2	3
930602	YK	20	19930603	3725.93	7642.35	3726.18	7642.54	545.78	6.1	1	1	0	3
930602	YK	20	19930603	3726.20	7642.67	3726.07	7642.57	284.78	7.3	2	2	0	3
930602	YK	25	19930603	3728.89	7645.01	3728.99	7645.16	293.67	7.6	2	6	0	4
930602	YK	25	19930603	3729.06	7645.24	3728.88	7645.01	483.00	7.3	2	6	0	3
930602	YK	30	19930603	3732.97	7649.61	3732.76	7649.69	407.66	7.3	1	1	0	3
930602	YK	35	19930603	3733.12	7651.74	3733.37	7651.59	516.24	6.7	1	1	0	3
930603	JA	1	19930608	3659.65	7619.61	3659.52	7619.89	488.76	8.2	1	2	2	7
930603	JA	5	19930608	3656.94	7622.74	3656.87	7623.03	459.17	5.8	1	6	2	8
930603	JA	13	19930608	3701.30	7630.40	3701.45	7630.69	520.83	8.2	1	1	1	1
930603	JA	13	19930608	3701.48	7630.74	3701.37	7630.52	391.41	8.2	2	2	2	1
930603	JA	17	19930608	3704.95	7636.62	3705.16	7636.76	443.44	6.1	1	6	2	2
930603	JA	17	19930608	3705.20	7636.76	3705.01	7636.65	389.70	6.1	2	6	2	8
930603	JA	24	19930608	3709.17	7638.35	3709.40	7638.35	426.19	10.7	1	6	2	8
930603	JA	24	19930608	3709.41	7638.35	3709.20	7638.35	389.13	8.8	1	6	1	8
930603	JA	27	19930608	3712.45	7639.23	3712.62	7639.45	459.22	8.5	1	6	1	8
930603	JA	27	19930608	3712.62	7639.49	3712.45	7639.31	417.10	8.5	1	2	4	7
930604	RA	2	19930614	3735.95	7621.39	3735.99	7621.62	357.11	16.5	1	2	2	7
930604	RA	10	19930614	3737.98	7627.94	3737.97	7628.20	395.34	19.2	1	2	2	7
930604	RA	15	19930614	3739.98	7632.99	3740.15	7633.14	388.76	14.3	1	2	2	6
930604	RA	15	19930614	3740.19	7633.06	3739.92	7633.05	500.54	15.8	2	1	2	7
930604	RA	20	19930614	3743.96	7634.87				14.6	1	2	2	7
930604	RA	20	19930614	3743.92	7634.88	3743.72	7634.73	435.03	14.6	2	1	2	7
930604	RA	25	19930614	3747.25	7640.41	3747.37	7640.64	414.10	9.1	2	1	2	6
930604	RA	25	19930614	3747.38	7640.61	3747.20	7640.40	461.50	8.2	2	1	2	6
930604	RA	30	19930614	3751.41	7645.50	3751.60	7645.65	419.36	6.1	1	2	2	6
930604	RA	30	19930614	3751.49	7645.56	3751.30	7645.40	427.80	6.1	2	1	2	6
930604	RA	35	19930614	3754.35	7648.06	3754.46	7648.27	378.53	5.2	1	6	2	8
930604	RA	35	19930614	3754.47	7648.34	3754.33	7648.11	435.13	4.9	6	1	2	8

Table 8.

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930701	RA	2	19930708	3735.79	7621.09	3733.83	7621.33	371.98	17.1	1	2	2	7
930701	RA	10	19930708	3737.93	7628.40	3737.91	7628.58	275.89	18.0	1	2	2	7
930701	RA	15	19930708	3740.12	7633.07	3740.34	7633.10	410.20	14.3	1	2	2	7
930701	RA	15	19930708	3740.30	7633.09	3740.06	7633.07	445.76	14.3	2	1	2	7
930701	RA	20	19930708	3743.86	7634.96	3744.05	7635.11	419.36	14.9	1	2	2	7
930701	RA	20	19930708	3744.02	7635.07	3743.81	7634.95	429.70	14.9	2	1	2	7
930701	RA	25	19930708	3747.45	7640.69	3747.59	7640.88	388.04	7.3	1	2	2	7
930701	RA	25	19930708	3747.55	7640.73	3747.37	7640.54	441.05	7.3	2	1	2	7
930701	RA	30	19930708	3751.40	7645.47	3751.61	7645.61	443.44	5.2	1	2	2	8
930701	RA	30	19930708	3751.58	7645.60	3751.41	7645.47	371.78	6.1	2	1	2	8
930701	RA	35	19930708	3754.44	7648.45	3754.60	7648.50	306.05	4.6	1	2	2	8
930701	RA	35	19930708	3754.59	7648.58	3754.46	7648.33	449.68	4.6	2	1	1	8
930702	YK	10	19930712	3718.73	7635.41	3718.60	7635.28	311.47	8.8	2	1	1	1
930702	YK	10	19930712	3718.58	7635.24	3718.77	7635.46	485.40	8.8	1	2	1	6
930702	YK	15	19930712	3723.14	7639.36	3723.25	7639.51	305.70	9.4	1	2	1	6
930702	YK	15	19930712	3723.28	7639.53	3723.07	7639.33	493.66	9.1	2	1	1	7
930702	YK	20	19930712	3725.80	7642.18	3725.93	7642.34	342.18	7.0	1	2	1	7
930702	YK	20	19930712	3725.88	7642.35	3725.70	7642.18	421.80	6.7	2	1	1	7
930702	YK	25	19930712	3728.82	7644.95	3729.04	7645.15	508.39	7.9	1	2	1	7
930702	YK	25	19930712	3729.08	7645.21	3728.98	7645.09	259.92	8.2	1	2	1	7
930702	YK	30	19930712	3732.82	7649.68	3732.70	7649.71	226.98	7.0	2	1	1	7
930702	YK	35	19930712	3732.95	7651.82	3733.15	7651.73	395.01	5.8	1	2	1	7
930703	YK	2	19930713	3713.62	7627.05				11.0	1	2	1	6
930703	YK	5	19930713	3714.06	7628.98	3714.03	7628.86	190.55	12.5	1	2	2	6
930704	JA	1	19930715	3659.69	7619.45	3659.58	7619.65	365.82	9.4	1	2	2	6
930704	JA	5	19930715	3656.93	7622.68	3656.89	7622.93	386.88	5.8	1	2	2	6
930704	JA	13	19930704	3701.32	7630.41	3701.42	7630.62	368.88	8.2	1	2	2	6
930704	JA	13	19930715	3701.45	7630.59	3701.30	7630.47	434.64	8.8	2	1	2	6
930704	JA	17	19930715	3704.94	7636.60	3705.13	7636.74	411.30	5.8	1	2	2	6
930704	JA	17	19930715	3705.20	7636.76				7.0	2	1	1	6
930704	JA	24	19930715	3709.09	7638.37	3709.30	7638.40	391.79	11.6	1	2	1	6
930704	JA	24	19930715	3709.31	7638.41	3709.04	7638.38	502.38	12.2	2	1	1	7
930704	JA	27	19930715	3712.45	7639.23	3712.60	7639.45	434.64	8.2	1	2	1	7
930704	JA	27	19930715	3712.61	7639.54	3712.44	7639.21	591.99	8.2	2	1	1	7

Table 9.

August

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930801	JA	1	19930803	3659.71	7619.39	3659.59	7619.83	420.99	6.7	1	1	4	2
930801	JA	5	19930803	3656.61	7623.22	3656.75	7623.43	411.14	5.5	1	1	4	2
930801	JA	13	19930803	3701.40	7630.71	3701.56	7630.92	435.47	11.3	1	1	3	2
930801	JA	13	19930803	3701.53	7630.99	3701.42	7630.88	263.55	12.2	2	2	3	3
930801	JA	17	19930803	3705.70	7636.51				6.4	1	1	3	3
930801	JA	17	19930803	3705.03	7636.38	3705.28	7636.54	523.12	6.7	2	2	3	3
930801	JA	24	19930803	3709.63	7638.46	3709.91	7638.52	526.78	6.1	1	1	2	3
930801	JA	24	19930803	3709.95	7638.53	3709.80	7638.51	279.61	5.8	2	1	1	2
930801	JA	27	19930803	3712.33	7639.13	3712.50	7639.38	493.37	8.2	1	1	3	3
930801	JA	27	19930803	3712.57	7639.45	3712.44	7639.30	331.56	8.2	1	1	3	3
930802	RA	2	19930811	3735.87	7621.12	3735.95	7621.33	351.72	16.2	1	1	2	6
930802	RA	10	19930811	3737.87	7628.18	3737.88	7628.43	380.17	20.1	1	1	2	6
930802	RA	15	19930811	3739.97	7632.97	3740.14	7633.08	356.57	13.4	1	1	2	6
930802	RA	15	19930811	3740.17	7633.09	3739.95	7633.03	417.72	14.6	2	1	1	6
930802	RA	20	19930811	3743.98	7634.94	3744.16	7635.07	387.60	15.5	1	1	2	6
930802	RA	25	19930811	3744.03	7635.05	3743.83	7634.91	427.27	16.2	2	1	1	6
930802	RA	25	19930811	3747.22	7640.35	3747.35	7640.56	399.70	8.8	1	1	2	6
930802	RA	30	19930811	3747.41	7640.67	3747.25	7640.46	435.47	7.6	2	1	1	7
930802	RA	30	19930811	3751.65	7645.13	3751.49	7645.35	446.72	6.1	1	1	2	7
930802	RA	35	19930811	3751.36	7645.45	3751.53	7645.56	356.57	6.1	1	1	2	6
930802	RA	35	19930811	3754.36	7648.09	3754.48	7648.28	364.31	4.9	2	1	1	6
930803	YK	15	19930816	3723.15	7639.25	3723.37	7639.49	546.87	7.0	1	1	0	2
930803	YK	15	19930816	3723.39	7639.50	3723.27	7639.36	307.67	7.0	2	2	2	6
930803	YK	20	19930816	3725.86	7642.33	3725.96	7642.43	239.59	6.7	1	1	2	6
930803	YK	20	19930816	3726.08	7642.55	3725.90	7642.34	461.50	6.7	2	1	2	6
930803	YK	25	19930816	3728.72	7644.87	3728.84	7644.99	287.51	7.3	1	1	2	5
930803	YK	25	19930816	3729.14	7645.34	3728.97	7645.11	470.39	7.6	2	1	1	5
930803	YK	30	19930816	3732.83	7649.67	3732.62	7649.74	403.39	6.4	1	1	1	3
930803	YK	35	19930816	3732.95	7651.82	3733.21	7651.70	515.10	6.4	1	1	1	3
930804	YK	2	19930817	3713.63	7626.80	3713.64	7627.16	547.10	13.7	1	1	2	3
930804	YK	5	19930817	3714.13	7629.20	3714.27	7629.47	485.26	13.1	1	1	2	3
930804	YK	10	19930817	3718.43	7635.26	3718.24	7635.11	419.36	9.1	2	1	2	3
930804	YK	10	19930817	3718.13	7635.00	3718.32	7635.12	396.45	8.8	1	1	1	3

Table 10.

September

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930901	YK	15	19930908	3722.97	7639.02	3723.11	7639.19	366.02	5.5	1	2	1	7
930901	YK	15	19930908	3723.13	7639.24	3722.95	7639.04	451.14	6.7	2	1	2	7
930901	YK	20	19930908	3725.88	7642.27	3726.00	7642.43	329.40	7.0	1	1	1	7
930901	YK	20	19930908	3725.96	7642.48	3725.81	7642.27	423.07	6.4	2	1	1	1
930901	YK	25	19930908	3728.88	7645.02	3729.10	7645.27	557.11	7.6	1	1	1	1
930901	YK	25	19930908	3729.16	7645.41	3729.09	7645.25	275.47	7.6	2	1	2	8
930901	YK	30	19930908	3732.97	7649.61	3732.77	7649.69	390.01	6.4	1	1	1	7
930902	YK	35	19930908	3732.87	7651.87	3733.04	7651.77	349.72	4.9	1	1	1	7
930902	YK	5	19930909	3713.70	7627.24	3713.65	7627.08	260.08	10.7	2	2	0	1
930902	YK	10	19930909	3713.77	7628.50	3713.74	7628.21	443.96	15.5	2	2	0	1
930902	YK	10	19930909	3718.52	7635.19	3718.64	7635.32	297.37	7.0	1	1	1	7
930903	RA	2	19930913	3735.96	7621.34	3736.03	7621.61	430.12	15.5	1	1	2	3
930903	RA	10	19930913	3737.92	7628.17	3737.93	7628.45	425.68	20.1	1	1	2	7
930903	RA	15	19930913	3739.97	7633.98	3740.17	7634.11	419.92	13.7	1	1	2	7
930903	RA	15	19930913	3740.22	7633.09	3740.08	7632.99	300.61	15.2	2	2	1	7
930903	RA	20	19930913	3743.74	7634.56	3743.93	7634.69	403.66	14.6	1	1	2	7
930903	RA	20	19930913	3743.88	7634.69	3743.68	7634.65	375.55	14.6	2	1	2	7
930903	RA	25	19930913	3747.22	7640.33	3747.36	7640.58	459.87	9.1	1	1	2	7
930903	RA	25	19930913	3747.58	7640.73	3747.44	7640.58	345.26	9.1	2	2	1	7
930903	RA	30	19930913	3751.39	7645.49	3751.56	7645.61	363.94	5.5	1	1	1	4
930903	RA	30	19930913	3751.62	7645.60	3751.44	7645.48	380.09	6.7	2	2	1	4
930903	RA	35	19930913	3754.45	7648.24	3754.60	7648.47	446.42	4.9	1	1	2	7
930903	RA	35	19930913	3754.60	7648.47	3754.46	7648.27	399.47	4.9	2	2	1	7
930904	JA	1	19930916	3659.71	7619.45	3659.56	7619.77	559.90	8.5	1	1	1	2
930904	JA	5	19930916	3656.92	7622.78	3656.84	7622.14	566.53	6.1	1	1	2	3
930904	JA	13	19930916	3701.33	7630.44	3701.50	7630.76	579.19	8.5	1	1	2	3
930904	JA	13	19930916	3701.55	7630.80	3701.45	7630.66	282.05	8.5	2	2	1	2
930904	JA	17	19930916	3704.94	7636.59	3705.17	7636.77	506.34	5.2	1	1	0	3
930904	JA	17	19930916	3705.25	7636.75	3705.11	7636.70	270.31	6.7	2	2	1	3
930904	JA	24	19930916	3709.12	7638.36	3709.44	7638.36	592.96	11.6	1	1	0	3
930904	JA	24	19930916	3709.38	7638.36	3709.27	7638.29	229.89	9.8	2	2	1	3
930904	JA	27	19930916	3712.44	7639.19	3712.62	7639.47	540.47	8.8	1	1	2	3
930904	JA	27	19930916	3712.59	7639.52	3712.46	7639.35	353.13	8.2	2	2	1	3

Table 11.
October

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
931001	JA	1	19931004	3659.47	7619.29	3659.39	7619.43	259.21	5.3	1	1	1	3
931001	JA	5	19931004	3656.45	7623.24	3656.50	7623.41	274.32	5.2	1	1	2	3
931001	JA	13	19931004	3701.24	7630.38	3701.34	7630.55	317.81	11.3	2	2	1	3
931001	JA	13	19931004	3701.31	7630.49	3701.23	7630.48	149.02	9.8	1	1	1	3
931001	JA	17	19931004	3704.93	7636.30	3705.14	7636.35	396.47	4.6	2	1	2	3
931001	JA	17	19931004	3705.20	7636.35	3705.11	7636.27	206.34	4.6	2	2	2	3
931001	JA	24	19931004	3709.16	7638.31	3709.32	7638.30	296.87	7.3	1	1	2	3
931001	JA	24	19931004	3709.44	7638.28				7.3	2	2	2	3
931001	JA	27	19931004	3712.16	7638.96	3712.25	7639.12	294.74	10.1	1	1	2	5
931001	JA	27	19931004	3712.25	7639.18	3712.20	7639.07	191.04	10.1	2	1	1	3
931002	YK	2	19931006	3713.40	7627.04	3713.38	7627.22	275.89	11.3	1	1	1	2
931002	YK	5	19931006	3713.44	7628.26	3713.47	7628.45	293.89	14.0	1	1	1	2
931003	YK	10	19931007	3718.50	7635.27	3718.68	7635.38	373.05	7.3	1	6	6	8
931003	YK	10	19931007	3718.55	7635.41	3718.39	7635.30	340.32	8.8	2	2	1	8
931003	YK	15	19931007	3723.11	7639.21	3723.25	7639.34	326.02	7.0	1	2	1	7
931003	YK	15	19931007	3723.24	7639.38	3723.02	7639.12	367.57	7.0	2	2	1	7
931003	YK	20	19931007	3725.99	7642.48	3726.14	7642.67	400.67	6.7	1	1	1	7
931003	YK	20	19931007	3726.21	7642.65	3726.03	7642.50	403.92	6.7	2	1	1	7
931003	YK	25	19931007	3729.13	7645.20	3729.28	7645.48	508.05	8.5	1	1	0	1
931003	YK	25	19931007	3729.24	7645.34	3729.09	7645.22	332.38	8.5	2	2	1	1
931003	YK	30	19931007	3732.41	7649.82	3732.56	7649.73	309.75	6.7	2	2	1	8
931003	YK	35	19931007	3732.82	7651.82	3733.05	7651.72	452.45	4.0	1	6	1	3
931004	RA	2	19931014	3735.81	7621.12	3735.89	7621.40	450.37	17.7	1	1	2	3
931004	RA	10	19931014	3737.94	7628.48	3737.93	7628.82	516.74	18.9	1	1	1	3
931004	RA	15	19931014	3740.12	7633.05	3740.37	7633.07	464.25	14.6	1	1	1	3
931004	RA	15	19931014	3740.54	7633.07	3740.34	7633.07	370.60	15.5	2	2	1	3
931004	RA	20	19931014	3743.90	7635.00	3744.12	7635.19	499.47	17.4	1	1	1	3
931004	RA	20	19931014	3744.24	7635.26	3744.11	7635.16	284.78	17.4	2	2	1	3
931004	RA	25	19931014	3747.58	7640.80	3747.75	7641.07	517.11	7.6	1	1	1	3
931004	RA	25	19931014	3747.70	7641.94	3747.59	7641.80	294.55	7.0	2	2	1	3
931004	RA	30	19931014	3751.36	7645.40	3751.61	7645.56	523.12	6.1	1	1	1	3
931004	RA	30	19931014	3751.69	7645.64	3751.55	7645.56	286.47	6.7	2	2	1	3
931004	RA	35	19931014	3754.41	7648.12	3754.57	7648.40	518.42	5.5	1	1	1	3
931004	RA	35	19931014	3754.60	7648.50	3754.48	7648.31	364.31	5.2	2	2	1	3

Table 12.

November

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
931101	YK	15	19931102	3723.45	7639.64	3723.26	7639.39	517.82	9.1	2	1	0	5
931101	YK	15	19931102	3723.21	7639.31	3723.33	7639.45	307.67	7.6	1	2	1	3
931101	YK	20	19931102	3726.02	7642.56	3726.21	7642.84	552.10	6.7	1	2	1	2
931101	YK	20	19931102	3726.22	7642.90	3726.12	7642.76	282.05	6.7	2	1	1	3
931101	YK	25	19931102	3728.96	7645.10	3729.16	7645.34	519.83	7.6	1	2	1	2
931101	YK	25	19931102	3729.12	7645.46	3729.06	7645.19	424.89	7.6	2	1	1	2
931101	YK	30	19931102	3732.97	7649.57	3732.78	7649.64	367.77	6.1	1	1	0	3
931101	YK	35	19931102	3733.15	7651.72	3733.42	7651.56	556.21	5.8	1	1	0	3
931102	YK	2	19931103	3713.68	7627.06	3713.72	7627.35	446.66	11.0	1	1	1	3
931102	YK	5	19931103	3714.17	7629.31	3714.29	7629.56	440.03	12.8	1	1	1	1
931102	YK	10	19931103	3718.44	7635.33	3718.31	7635.17	342.18	8.8	2	2	1	1
931102	YK	10	19931103	3718.30	7635.13	3718.51	7635.24	423.48	8.2	2	2	1	1
931103	RA	2	19931104	3735.88	7621.08	3735.96	7621.37	464.74	16.2	1	1	1	1
931103	RA	10	19931104	3737.98	7627.76	3738.00	7628.03	411.76	21.3	1	1	1	1
931103	RA	15	19931104	3739.87	7633.00	3740.07	7633.11	406.52	13.1	1	1	1	1
931103	RA	15	19931104	3740.21	7633.12	3740.04	7633.09	318.29	13.4	2	1	1	3
931103	RA	20	19931104	3743.71	7634.66	3743.96	7634.79	503.58	15.2	1	1	1	3
931103	RA	20	19931104	3743.00	7634.91	3743.08	7634.91	148.24	15.8	2	2	1	3
931103	RA	25	19931104	3747.31	7640.47	3747.50	7640.73	529.06	9.4	1	2	1	3
931103	RA	25	19931104	3747.55	7640.76	3747.45	7640.64	259.92	8.5	2	2	1	3
931103	RA	30	19931104	3751.20	7645.24	3751.37	7645.41	407.31	5.8	1	1	2	3
931103	RA	30	19931104	3751.51	7645.47	3751.38	7645.37	284.78	8.2	1	1	2	3
931103	RA	35	19931104	3754.64	7648.53	3754.81	7648.82	541.52	4.9	1	1	2	3
931103	RA	35	19931104	3754.83	7648.88	3754.76	7648.74	249.08	5.5	1	1	2	3
931104	JA	1	19931110	3659.76	7619.49	3659.65	7619.66	328.96	7.0	2	2	1	6
931104	JA	5	19931110	3656.71	7623.24	3656.82	7623.46	391.41	5.5	1	2	2	6
931104	JA	13	19931110	3701.37	7630.69	3701.45	7630.87	311.00	13.4	1	1	2	6
931104	JA	13	19931110	3701.39	7630.91	3701.45	7630.87	126.70	13.7	2	2	2	6
931104	JA	17	19931110	3704.97	7636.51	3705.20	7636.52	426.46	5.8	1	1	2	6
931104	JA	17	19931110	3705.13	7636.51	3704.92	7636.35	458.78	7.0	1	1	2	6
931104	JA	24	19931110	3709.14	7638.47	3709.28	7638.42	270.31	9.1	1	1	2	6
931104	JA	24	19931110	3709.29	7638.49	3709.28	7638.42	107.92	8.2	1	2	2	6
931104	JA	27	19931110	3712.35	7639.13	3712.50	7639.50	626.96	9.1	1	2	2	6
931104	JA	27	19931110	3712.48	7639.30	3712.50	7639.50	306.02	8.2	1	2	2	6

Table 13.

December

Cruise Number	River	River Mile	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
931201	YK	15	19931201	3723.23	7639.30	3723.45	7639.57	578.24	7.6	1	1	2	1
931201	YK	20	19931201	3725.91	7642.33	3726.23	7642.67	786.31	7.9	1	1	2	1
931201	YK	25	19931201	3729.06	7645.19	3728.89	7644.99	437.62	7.3	2	2	1	5
931201	YK	30	19931201	3732.35	7649.90	3732.52	7649.76	380.06	6.7	2	2	2	3
931201	YK	35	19931201	3733.44	7651.49	3733.23	7651.60	423.48	5.5	2	2	2	3
931201	YK	40	19931201	3733.03	7652.97	3732.96	7653.28	488.38	4.0	1	1	1	3
931202	YK	2	19931202	3713.59	7627.03	3713.69	7627.39	577.33	13.1	1	1	2	1
931202	YK	5	19931202	3714.15	7629.44	3714.26	7629.54	254.20	13.1	1	1	2	1
931202	YK	10	19931202	3718.51	7635.34	3718.36	7635.19	359.39	8.5	2	2	2	1
931203	JA	1	19931207	3659.70	7619.47	3659.62	7619.73	421.81	9.1	1	1	3	7
931203	JA	5	19931207	3656.96	7622.72	3656.86	7622.95	395.44	6.1	1	1	3	7
931203	JA	13	19931207	3701.40	7630.49	3701.51	7630.71	391.41	8.5	1	1	3	7
931203	JA	17	19931207	3704.98	7636.66	3705.14	7636.80	364.85	6.1	1	1	2	7
931203	JA	24	19931207	3709.15	7638.44	3709.37	7638.41	410.20	12.2	1	1	2	7
931203	JA	27	19931207	3712.51	7639.26	3712.65	7639.42	355.47	8.8	1	1	2	7
931203	JA	35	19931207	3711.26	7645.67	3711.37	7645.80	283.78	7.6	1	1	2	7
931203	JA	40	19931207	3713.78	7649.35	3713.84	7649.55	323.48	5.5	1	1	1	7
931204	RA	2	19931209	3735.74	7621.19	3735.80	7621.42	366.60	18.3	1	1	0	5
931204	RA	10	19931209	3737.94	7628.58	3737.87	7628.84	415.66	19.2	1	1	0	5
931204	RA	15	19931209	3740.16	7633.05	3740.41	7633.09	467.22	15.5	1	1	0	5
931204	RA	20	19931209	3743.88	7634.94	3744.04	7635.09	373.91	18.6	1	1	0	5
931204	RA	25	19931209	3747.44	7640.69	3747.55	7640.91	391.41	8.2	1	1	0	7
931204	RA	25	19931213	3747.23	7640.33	3747.39	7640.54	435.47	9.1	1	1	4	3
931204	RA	30	19931209	3751.40	7645.41	3751.55	7645.53	332.38	5.8	1	1	0	7
931204	RA	30	19931213	3751.14	7645.12	3751.37	7645.30	506.34	7.0	1	1	1	3
931204	RA	35	19931213	3754.25	7647.89	3754.44	7648.18	563.88	6.4	1	1	1	3
931204	RA	40	19931213	3757.82	7651.62	3758.09	7651.67	506.04	4.6	1	1	1	3

Tables 14-23. Station data for the Chesapeake Bay trawl survey by month.

Explanation: To conserve space, some variables are presented as coded values. Code keys are presented in Table 1 (p. 117).

Table 14.

February

Cruise Number	Station Number	Stratum Code	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930201	3	1	19930210	3706.79	7613.11	3706.92	7613.30	375.91	7.9	-1	-1	0	5
930201	4	1	19930210	3706.09	7612.23	3706.13	7612.46	357.11	9.1	-1	-1	0	5
930201	5	2	19930210	3707.38	7605.65	3707.45	7605.91	415.66	7.3	-1	-1	0	4
930201	8	2	19930210	3707.88	7604.63	3707.93	7604.90	420.43	8.5	-1	-1	0	4
930201	9	3	19930210	3657.71	7605.90	3657.66	7605.69	332.14	10.1	-2	-2	0	2
930201	10	3	19930210	3659.97	7613.02	3659.86	7612.80	391.41	11.0	-2	-2	1	2
930201	11	3	19930210	3705.92	7610.88	3705.64	7610.93	524.37	11.3	-1	-1	0	5
930201	12	3	19930210	3705.00	7559.74	3704.87	7559.77	245.16	14.0	-2	-2	0	3
930201	13	4	19930210	3656.91	7600.95				20.7	-2	-2	0	2
930201	15	4	19930210	3700.30	7602.39	3700.50	7602.63	519.83	15.8	-2	-2	0	3
930201	16	4	19930210	3702.18	7603.50	3702.10	7603.43	182.43	15.5	-2	-2	0	3
930201	21	6	19930210	3712.14	7601.88	3712.33	7602.00	396.45	6.1	-1	-1	0	6
930201	23	6	19930210	3716.61	7603.38	3716.79	7603.45	350.08	5.5	-1	-1	0	7
930201	29	8	19930210	3714.60	7604.72	3714.84	7604.85	486.58	16.2	-1	-1	0	7
930201	32	8	19930210	3720.05	7605.43	3720.23	7605.43	333.54	18.9	-1	-1	0	7
930201	33	9	19930210	3728.42	7612.14	3728.57	7612.17	281.66	8.8	-1	-1	0	7
930201	34	9	19930210	3734.33	7614.70	3734.34	7615.14	668.55	8.5	-1	-1	0	7
930201	41	11	19930210	3734.80	7616.42	3734.78	7616.66	366.40	10.4	-1	-1	0	7
930202	18	5	19930215	3721.62	7613.76	3721.75	7613.74	242.80	6.1	-1	-1	1	1
930202	20	5	19930215	3722.24	7612.17	3722.49	7612.10	475.29	4.0	-1	-1	1	1
930202	25	7	19930215	3715.77	7609.65	3715.59	7609.64	333.89	11.6	-2	-2	1	7
930202	26	7	19930215	3717.77	7610.46	3717.60	7610.39	332.47	11.6	-2	-2	1	7
930202	27	7	19930215	3717.39	7609.16	3717.20	7609.14	353.38	11.6	-1	-1	1	7
930202	28	7	19930215	3721.20	7610.80	3721.48	7610.85	524.37	9.8	-1	-1	1	7
930202	31	8	19930215	3724.21	7605.38	3723.99	7605.33	414.67	14.6	-1	-1	1	5
930202	38	10	19930215	3734.71	7600.79	3734.48	7600.80	426.46	9.1	-1	-1	1	5
930202	39	10	19930215	3738.98	7554.27	3738.79	7554.49	485.40	4.3	-1	-1	2	5
930202	42	11	19930215	3732.15	7600.22	3731.98	7600.39	407.31	11.3	-1	-1	1	5
930202	43	11	19930215	3733.33	7605.81	3733.11	7605.81	407.66	11.9	-1	-1	1	5
930202	44	11	19930215	3732.59	7607.03	3732.39	7606.93	400.52	11.9	-1	-1	1	5
930202	45	12	19930215	3726.08	7605.95	3725.87	7605.80	450.92	12.5	-2	-2	0	5
930202	46	12	19930215	3725.77	7605.00	3725.61	7604.83	393.15	14.6	-2	-2	0	0
930202	47	12	19930215	3725.59	7605.28	3725.76	7605.38	349.72	28.7	-2	-2	0	5

Table 15.

April

Cruise Number	Station Number	Stratum Code	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930401	37	10	19930412	3733.75	7558.41	3733.44	7558.46	579.43	7.0	-1	-2	2	6
930401	40	10	19930412	3738.63	7558.53	3738.51	7558.32	388.82	8.8	-1	-2	2	6
930401	43	11	19930412	3739.48	7600.55	3739.44	7600.30	386.88	13.1	-1	-2	1	6
930401	44	11	19930412	3735.49	7609.90	3735.45	7609.61	446.66	13.1	-1	-2	1	6
930402	19	5	19930419	3723.26	7611.57				4.9	-2	-1	1	6
930402	20	5	19930419	3722.43	7611.14	3722.26	7611.12	316.47	7.0	-2	-1	1	5
930402	22	6	19930419	3715.21	7603.64	3715.03	7603.74	366.49	5.2	-2	-1	1	5
930402	23	6	19930419	3716.01	7603.94				7.9	-2	-1	1	5
930402	29	8	19930419	3719.35	7610.72	3719.14	7610.81	412.44	11.9	-1	-1	3	5
930402	31	8	19930419	3719.96	7610.34	3719.77	7610.40	363.67	11.3	-1	-1	3	5
930402	32	8	19930419	3721.22	7603.30	3721.01	7603.38	407.66	13.7	-2	-2	1	5
930402	33	9	19930419	3726.53	7611.53	3726.37	7611.70	393.15	7.9	-2	-1	3	5
930402	34	9	19930419	3732.17	7615.91	3732.01	7615.81	333.12	6.7	-2	-1	3	5
930402	41	11	19930419	3727.61	7610.61	3727.43	7610.61	333.54	11.0	-2	-1	3	5
930402	42	11	19930419	3730.92	7607.98	3730.76	7607.96	298.03	12.2	-2	-1	3	5
930402	45	12	19930419	3725.43	7601.70	3725.23	7601.77	385.55	14.0	-2	-1	3	5
930402	46	12	19930419	3729.29	7603.40	3729.13	7603.44	302.64	16.8	-2	-1	3	5
930402	48	12	19930419	3729.68	7602.61	3729.53	7602.58	281.66	18.3	-2	-1	3	5
930403	3	1	19930429	3656.63	7606.95	3656.51	7606.67	479.90	7.3	-1	-2	1	7
930403	4	1	19930429	3701.50	7611.53	3701.68	7611.66	387.60	5.8	-1	-2	1	7
930403	6	2	19930429	3707.32	7605.68	3707.51	7605.72	357.27	7.6	-1	-2	1	7
930403	7	2	19930429	3708.85	7606.35	3709.04	7606.37	353.38	8.2	-1	-2	3	7
930403	9	3	19930429	3658.83	7601.11	3658.59	7600.79	658.79	11.0	-1	-2	3	7
930403	10	3	19930429	3704.60	7607.31	3704.77	7607.40	343.39	12.8	-1	-1	5	8
930403	12	3	19930429	3709.00	7613.15	3709.19	7613.05	383.44	11.3	-1	-1	3	8
930403	13	4	19930429	3656.47	7602.44	3656.50	7602.07	564.72	15.2	-2	-1	3	1
930403	15	4	19930429	3706.06	7607.62	3705.84	7607.67	414.67	14.3	-1	-2	1	1
930403	16	4	19930429	3705.53	7605.99	3705.24	7606.02	539.30	12.8	-2	-1	3	1
930403	25	7	19930429	3714.64	7614.64	3714.85	7614.70	399.66	10.1	-1	-1	2	1
930403	26	7	19930429	3713.14	7612.95	3713.38	7612.91	448.85	10.4	-1	-1	2	1
930403	28	7	19930429	3710.28	7615.19	3710.50	7615.15	412.16	10.1	-1	-1	3	2

Table 16.

May

Cruise Number	Station Number	Stratum Code	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930501	19	5	19930506	3717.84	7618.09	3717.34	7618.26	961.81	8.5	1	1	0	1
930501	24	6	19930506	3723.04	7600.41	3723.33	7600.32	554.48	4.9	1	1	0	1
930501	25	7	19930506	3716.45	7614.14					2	2	0	1
930501	26	7	19930506	3716.70	7609.66	3716.48	7609.67	407.94	11.6	2	2	0	1
930501	27	7	19930506	3717.45	7610.42	3717.29	7610.54	348.02	11.6	2	3	0	1
930501	28	7	19930506	3721.40	7608.38	3721.64	7608.41	447.05	11.9	1	1	0	1
930501	29	8	19930506	3719.63	7610.95	3719.89	7611.03	496.87	13.4	1	1	0	1
930501	30	8	19930506	3723.70	7602.38	3723.51	7602.40	353.38	13.7	2	2	0	1
930501	31	8	19930506	3721.34	7610.32	3721.63	7610.33	537.59	13.1	1	1	0	1
930501	34	9	19930506	3734.68	7617.60	3734.73	7617.79	303.09	5.5	1	2	0	1
930501	36	9	19930506	3738.75	7616.38	3738.50	7616.31	475.29	5.5	2	1	0	1
930501	37	10	19930506	3732.30	7559.06	3732.12	7559.17	373.05	6.1	2	2	0	1
930501	38	10	19930506	3734.55	7558.09	3734.75	7558.00	395.01	5.8	1	2	0	1
930501	39	10	19930506	3738.07	7556.14	3738.25	7556.01	387.60	6.1	1	1	0	1
930501	42	11	19930506	3734.75	7611.67	3734.52	7611.72	432.90	11.0	2	1	0	1
930501	43	11	19930506	3734.33	7601.34	3734.55	7601.27	421.30	12.2	1	2	0	1
930501	44	11	19930506	3739.57	7615.10	3739.78	7615.19	412.44	11.0	1	2	0	1
930501	45	12	19930506	3733.92	7603.34	3734.16	7603.33	444.98	14.0	1	2	0	1
930501	47	12	19930506	3736.41	7608.12	3736.08	7608.16	614.50	12.8	2	2	0	1
930501	48	12	19930506	3737.66	7602.64	3737.40	7602.66	482.74	20.1				
930502	1	1	19930510	3657.24	7610.89	3657.34	7611.11	382.09	6.4	1	2	3	2
930502	6	2	19930510	3708.68	7602.92	3708.48	7602.95	373.39	7.9	2	2	2	2
930502	7	2	19930510	3709.94	7601.64	3709.74	7601.57	385.55	7.9	2	2	1	2
930502	8	2	19930510	3708.42	7607.98	3708.21	7607.99	389.43	9.8				
930502	9	3	19930510	3659.55	7603.02	3659.69	7603.30	498.16	10.1	1	1	3	2
930502	10	3	19930510	3656.10	7559.87	3656.23	7600.10	424.34	11.9	1	1	3	3
930502	11	3	19930510	3657.99	7603.00	3658.15	7603.20	424.47	12.5	1	1	6	4
930502	12	3	19930510	3700.14	7612.29	3700.20	7612.60	483.79	10.4	1	1	6	6
930502	13	4	19930510	3659.83	7611.31	3659.92	7611.56	414.72	9.8				
930502	15	4	19930510	3658.14	7600.11	3658.35	7600.26	450.92	18.0				
930502	16	4	19930510	3707.09	7607.59	3706.90	7607.52	367.77	13.7	2	2		
930502	18	5	19930510	3713.64	7613.41	3713.43	7613.57	458.78	9.4	1	1	7	7
930502	20	5	19930510	3723.75	7612.91	3723.50	7612.95	467.22	4.6	2	2	1	7
930502	21	6	19930510	3710.71	7608.61	3710.48	7608.65	430.50	8.2	2	2	1	2
930502	22	6	19930510	3710.93	7608.88	3710.72	7608.91	391.79	8.8	2	2	1	7
930502	33	9	19930510	3728.41	7613.60	3728.13	7613.52	532.88	5.2	2	2	1	7
930502	41	11	19930510	3725.41	7609.13	3725.11	7609.13	555.90	11.0	2	2	1	7
930503	2	1	19930512	3701.56	7613.10	3701.74	7613.05	342.08	5.2	1	2	1	6
930503	4	1	19930512	3706.76	7615.30	3706.94	7615.39	360.47	4.0	1	2	1	6

Table 17.

June

Cruise Number	Station Number	Stratum Code	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930601	17	5	19930607	3712.96	7616.20	3712.86	7615.97	395.44	5.5	2	5	3	7
930601	19	5	19930607	3711.90	7618.06	3711.69	7618.06	389.13	5.5	2	2	3	8
930601	22	6	19930607	3710.35	7608.45	3710.17	7608.51	345.77	7.9				
930601	26	7	19930607	3711.36	7611.09	3711.26	7610.85	408.92	10.4	2	5	3	7
930602	1	1	19930609	3657.94	7608.87	3657.76	7608.65	472.13	7.6	2	1	1	7
930602	2	1	19930609	3700.60	7611.98	3700.45	7611.72	482.91	6.4	2	1	1	1
930602	3	1	19930609	3707.92	7615.58	3708.16	7615.62	448.85	5.5	1	1	1	2
930602	5	2	19930609	3703.85	7600.10	3704.00	7600.38	508.05	6.7	1	1	2	2
930602	7	2	19930609	3708.43	7600.09	3708.68	7600.00	483.00	3.7	1	1	1	1
930602	8	3	19930609	3707.60	7600.62	3707.83	7600.47	483.26	5.8	1	1	1	2
930602	9	3	19930609	3700.91	7604.39	3700.15	7613.92	506.67	9.8	2	6	1	8
930602	10	3	19930609	3700.19	7614.25	3700.15	7613.92	506.67	10.1	2	1	1	1
930602	11	3	19930609	3707.31	7612.33	3707.56	7612.42	483.00	10.1	1	1	2	2
930602	12	3	19930609	3708.08	7609.00	3708.28	7608.81	469.71	12.5	1	1	1	7
930602	13	4	19930609	3657.85	7602.03	3657.94	7602.31	456.81	13.7	1	2	2	2
930602	14	4	19930609	3656.45	7559.75	3656.45	7600.01	394.90	17.7	1	1	1	1
930602	16	4	19930609	3703.22	7604.55	3703.42	7604.83	564.10	15.8	1	1	2	2
930602	21	6	19930609	3712.27	7601.63	3712.52	7601.63	463.25	4.6	1	1	2	2
930602	23	6	19930609	3716.63	7603.43	3716.88	7603.49	472.13	7.6	1	1	2	1
930602	25	7	19930609	3710.10	7600.14	3710.39	7600.18	540.79	12.2	1	1	2	2
930602	27	7	19930609	3717.06	7611.92	3716.91	7611.98	292.51	12.2	2	2	2	7
930603	28	7	19930610	3718.93	7604.46	3719.04	7604.31	305.70	12.2	1	1	2	7
930603	30	8	19930610	3720.47	7605.98	3720.54	7606.24	415.66	16.2	1	1	2	7
930603	31	8	19930610	3723.21	7604.87	3723.36	7604.81	292.51	19.8	1	1	2	7
930603	32	8	19930610	3723.96	7604.61	3724.11	7604.59	279.61	18.6	1	1	2	1
930603	33	9	19930610	3730.91	7615.79	3731.13	7615.86	421.30	5.5	1	1	1	1
930603	34	9	19930610	3732.54	7616.25	3732.77	7616.25	426.19	6.7	1	1	1	8
930603	35	9	19930610	3734.54	7615.43	3734.74	7615.43	370.60	7.3	1	1	6	7
930603	37	10	19930610	3739.40	7554.01	3739.64	7553.83	522.03	4.9	1	1	2	2
930603	38	10	19930610	3737.12	7556.15	3737.30	7556.03	380.09	5.2	1	1	2	2
930603	39	10	19930610	3739.51	7556.80	3739.36	7557.03	446.42	6.1	1	1	2	2
930603	41	11	19930610	3730.43	7609.52	3730.23	7609.53	370.91	11.0	2	2	2	7
930603	42	11	19930610	3730.41	7606.01	3730.37	7606.24	357.11	11.3	1	2	2	2
930603	43	11	19930610	3734.31	7611.06	3734.15	7611.03	299.96	12.2	2	2	1	1
930603	44	11	19930610	3738.01	7606.37	3737.82	7606.36	352.40	11.9	1	2	2	7
930603	45	12	19930610	3725.23	7604.00	3725.39	7604.10	333.12	12.2	1	2	2	2
930603	46	12	19930610	3734.02	7603.26	3734.12	7603.47	368.88	13.4	1	2	2	7
930603	47	12	19930610	3736.80	7609.28	3736.98	7609.41	387.60	13.4	1	2	3	

Table 18.

July

Cruise Number	Station Number	Stratum Code	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930701	1	1	19930701	3655.64	7606.33	3655.64	7606.07	394.90	6.4	1	1	2	3
930701	2	1	19930701	3702.19	7611.76	3702.07	7611.52	426.99	5.8	2	1	2	5
930701	3	1	19930701	3702.79	7612.71	3702.61	7612.65	345.77	6.1	2	1	2	5
930701	5	2	19930701	3700.49	7600.23	3700.63	7600.09	335.43	4.9	2	1	2	7
930701	6	2	19930701	3705.92	7605.32	3706.06	7605.18	335.43	6.4	1	1	2	7
930701	8	2	19930701	3709.72	7606.93	3709.88	7606.85	320.41	8.8	1	2	2	2
930701	9	3	19930701	3659.45	7602.67	3659.45	7602.37	455.66	9.4	2	1	2	5
930701	10	3	19930701	3704.93	7608.74	3704.83	7608.57	317.81	10.1	2	2	2	4
930701	11	3	19930701	3703.72	7604.50	3703.75	7604.67	264.12	9.1	2	1	2	6
930701	12	3	19930701	3707.43	7610.62	3707.25	7610.55	350.08	10.7	2	2	2	3
930701	13	4	19930701	3659.41	7600.12	3659.22	7559.90	485.40	12.8	2	1	2	5
930701	15	4	19930701	3659.92	7602.23	3700.12	7602.10	419.92	14.0	2	1	2	5
930701	16	4	19930701	3702.85	7604.63	3703.02	7604.69	327.93	15.2	2	2	2	5
930701	17	5	19930701	3713.32	7621.30	3713.18	7621.13	366.02	4.6	2	2	2	7
930701	21	6	19930701	3714.17	7602.08	3714.39	7602.09	407.94	6.4	1	2	2	7
930701	22	6	19930701	3710.16	7602.80	3710.31	7602.70	316.74	8.5	1	1	2	7
930701	25	7	19930701	3711.36	7603.88	3711.52	7603.99	340.32	9.8	1	1	2	7
930702	20	5	19930701	3711.72	7603.79	3711.93	7603.81	390.31	10.1	1	1	2	7
930702	24	6	19930706	3723.66	7612.38	3723.84	7612.44	345.77	4.3	1	1	2	5
930702	27	7	19930706	3721.58	7601.15	3721.82	7601.05	469.94	7.6	1	1	6	8
930702	28	7	19930706	3717.08	7609.89	3717.25	7610.02	371.78	11.0	6	1	1	1
930702	29	8	19930706	3723.12	7601.60	3723.35	7601.59	426.46	11.3	1	1	3	5
930702	30	8	19930706	3723.12	7603.87	3723.36	7603.96	465.26	13.1	1	1	3	5
930702	32	8	19930706	3721.83	7603.14	3722.05	7603.09	414.67	13.7	1	1	3	8
930702	33	9	19930706	3721.79	7605.92	3722.02	7605.97	432.90	14.3	6	1	3	5
930702	35	9	19930706	3728.70	7612.85	3728.48	7612.89	412.16	8.5	2	1	3	3
930702	36	9	19930706	3734.69	7612.37	3734.37	7612.38	593.15	8.8	2	1	3	5
930702	37	10	19930706	3732.94	7612.38	3732.69	7612.33	469.43	9.1	2	1	3	5
930702	39	10	19930706	3730.37	7559.62	3730.64	7559.51	527.47	7.6	1	1	2	2
930702	40	10	19930706	3735.69	7601.56	3735.96	7601.46	522.86	8.8	1	1	3	2
930702	41	11	19930706	3737.08	7600.16	3737.30	7600.00	474.60	8.2	1	1	3	2
930702	42	11	19930706	3731.41	7609.62	3731.25	7609.55	314.97	11.0	2	1	2	5
930702	43	11	19930706	3733.96	7611.17	3733.76	7611.17	370.60	11.3	2	1	3	3
930702	44	11	19930706	3737.89	7612.35	3738.16	7612.47	532.48	11.0	1	1	3	3
930702	45	12	19930706	3737.71	7611.87	3737.53	7611.90	336.64	11.3	2	1	3	2
930702	47	12	19930706	3729.61	7602.37	3729.88	7602.45	514.85	17.0	1	1	3	1
930702	48	12	19930706	3725.81	7605.30	3726.11	7605.44	595.18	21.0	1	1	3	1
930703	19	5	19930706	3737.66	7608.63	3737.46	7608.63	370.60	13.4	2	1	3	2
			19930708	3719.66	7612.41	3719.42	7612.36	451.16	8.5	2	1	2	5

Table 19.

August

Cruise Number	Station Number	Stratum Code	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930801	2	1	19930805	3702.12	7613.99	3702.37	7613.96	465.49	4.6	1	2	1	7
930801	3	1	19930805	3704.49	7613.97	3704.72	7613.98	426.46	6.1	1	1	3	2
930801	4	1	19930805	3705.67	7612.63	3705.87	7612.74	406.52	7.3	1	1	3	5
930801	5	2	19930805	3702.10	7559.53	3702.05	7559.28	390.85	6.4	2	1	2	5
930801	7	2	19930805	3705.96	7604.84	3705.79	7604.85	315.38	8.2	2	1	2	3
930801	8	2	19930805	3708.44	7606.95	3708.65	7607.05	417.72	8.8	1	1	2	5
930801	9	3	19930805	3657.65	7605.19	3657.80	7605.40	423.07	11.3	1	1	2	7
930801	10	3	19930805	3656.63	7603.06	3656.65	7603.35	442.02	11.9	1	1	2	5
930801	11	3	19930805	3707.93	7610.65	3708.09	7610.88	458.19	11.0	1	1	1	2
930801	12	3	19930805	3707.57	7611.44	3707.80	7611.51	439.25	11.0	1	1	1	2
930801	13	4	19930805	3659.99	7600.92	3659.85	7600.72	399.47	12.8	2	1	1	5
930801	14	4	19930805	3703.25	7605.34	3703.16	7605.14	346.54	13.7	2	1	1	5
930801	15	4	19930805	3701.95	7603.53	3701.79	7603.45	320.41	17.1	2	1	1	5
930802	22	6	19930810	3710.04	7600.58	3710.32	7600.74	572.93	8.5	1	1	2	5
930802	17	5	19930810	3713.27	7615.53	3713.01	7615.57	485.60	5.2	1	1	2	3
930802	19	5	19930810	3710.61	7616.12	3710.36	7616.06	472.13	8.5	2	1	3	5
930802	23	6	19930810	3711.53	7608.18	3711.72	7608.10	372.45	8.8	1	1	2	6
930802	24	6	19930810	3718.74	7603.20	3718.94	7603.25	378.30	9.4	1	1	2	5
930802	25	7	19930810	3712.01	7611.41	3712.17	7611.26	373.91	10.1	1	1	2	7
930802	26	7	19930810	3715.24	7610.62	3715.38	7610.74	317.05	10.7	1	1	2	7
930802	27	7	19930810	3717.30	7608.62	3717.48	7608.55	350.08	11.3	1	1	2	7
930802	28	7	19930810	3719.28	7607.92	3719.47	7607.81	389.70	11.3	1	1	2	7
930802	29	8	19930810	3722.53	7605.35	3722.73	7605.43	390.01	16.8	1	1	2	7
930802	31	8	19930810	3724.67	7605.09	3724.86	7605.03	363.67	20.7	1	1	2	7
930802	32	8	19930810	3724.91	7605.12	3725.12	7605.10	390.31	23.5	1	1	2	8
930802	37	10	19930810	3726.93	7559.59	3727.16	7559.56	428.62	4.6	6	6	6	8
930802	38	10	19930810	3724.96	7600.98	3725.21	7600.93	469.43	7.0	6	6	6	8
930802	39	10	19930810	3739.33	7555.65	3739.57	7555.55	469.94	3.7	1	1	2	2
930802	45	12	19930810	3728.59	7604.35	3728.78	7604.18	436.60	14.9	1	1	1	1
930802	47	12	19930810	3732.93	7603.03	3733.13	7602.84	469.71	14.0	1	1	2	1
930802	48	12	19930810	3732.64	7601.66	3733.13	7602.84	469.71	14.0	1	1	2	1
930803	20	5	19930812	3716.63	7615.15	3716.40	7615.26	457.77	7.6	2	1	1	7
930803	33	9	19930812	3726.15	7613.36	3725.91	7613.41	451.16	5.5	2	1	1	7
930803	34	9	19930812	3726.89	7612.12	3726.62	7612.16	503.99	7.9	2	1	1	5
930803	36	9	19930812	3732.91	7612.62	3732.67	7612.60	445.76	9.1	2	1	1	7
930803	41	11	19930812	3729.64	7611.61	3729.39	7611.69	478.92	9.4	2	1	1	7
930803	42	11	19930812	3726.63	7607.18	3726.35	7607.15	520.84	11.6	2	1	1	5
930803	43	11	19930812	3730.15	7609.64	3729.90	7609.66</td						

Table 20.

September

Cruise Number	Station Number	Stratum Code	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
930901	1	1	19930907	3658.86	7613.01	3658.78	7613.98	581.20	0.1	2	1	1	7
930901	2	1	19930907	3659.60	7608.96	3659.48	7608.80	329.40	9.4	2	1	1	5
930901	3	1	19930907	3701.30	7609.97	3701.09	7610.12	450.92	6.4	2	1	1	7
930901	5	2	19930907	3708.81	7559.91	3709.02	7559.90	389.43	6.4	1	2	1	7
930901	6	2	19930907	3707.96	7603.74	3708.15	7603.52	485.40	7.6	1	2	1	7
930901	8	2	19930907	3706.73	7559.98	3707.87	7612.95	340.32	8.5	2	1	1	7
930901	9	3	19930907	3708.03	7612.84	3704.89	7609.18	385.55	9.4	2	1	0	5
930901	10	3	19930907	3705.09	7609.11	3709.03	7610.81	540.79	12.8	2	1	0	5
930901	11	3	19930907	3709.32	7610.85	3709.57	7609.83	447.05	10.4	2	1	0	5
930901	12	3	19930907	3709.81	7609.86	3656.44	7601.48	288.67	17.1	2	1	1	7
930901	13	4	19930907	3656.44	7601.66	3656.42	7601.76	503.04	17.7	2	1	1	7
930901	14	4	19930907	3656.49	7602.08	3706.06	7607.50	435.82	13.7	2	1	0	5
930901	16	4	19930907	3706.29	7607.44	3706.06	7607.50	435.82	13.7	2	1	0	5
930901	17	5	19930907	3713.13	7615.06	3713.10	7614.85	323.77	6.7	1	2	2	7
930901	18	5	19930907	3712.93	7613.78	3712.88	7613.53	390.85	9.8	1	2	3	7
930901	21	6	19930907	3713.44	7602.22	3713.67	7602.34	463.53	6.1	1	2	1	7
930901	23	6	19930907	3710.98	7606.87	3711.18	7607.01	427.27	9.8	1	2	1	7
930902	35	9	19930913	3736.40	7613.36	3736.66	7613.31	487.73	7.3	1	1	3	2
930902	36	9	19930913	3737.71	7614.40	3737.96	7614.48	478.92	9.1	1	1	3	2
930902	48	12	19930913	3737.80	7610.43	3738.07	7610.43	500.31	13.1	1	1	3	2
930903	19	5	19930920	3715.26	7617.03	3715.11	7617.25	434.64	7.6	1	6	1	7
930903	24	6	19930920	3724.69	7600.86	3724.56	7601.01	331.56	6.4	1	4	1	7
930903	25	7	19930920	3715.35	7612.04	3715.12	7612.24	523.37	11.9	2	4	4	7
930903	26	7	19930920	3715.67	7611.35	3715.47	7611.55	479.19	11.6	2	4	3	7
930903	27	7	19930920	3718.14	7607.72	3717.92	7607.86	459.79	11.6	2	1	3	7
930903	28	7	19930920	3724.10	7606.16	3723.90	7606.27	406.52	12.5	2	1	3	7
930903	30	8	19930920	3724.65	7606.14	3724.45	7606.24	400.52	12.8	2	1	2	7
930903	31	8	19930920	3724.88	7604.61	3724.68	7604.66	378.30	15.5	2	1	2	7
930903	32	8	19930920	3724.31	7605.13	3724.12	7605.23	383.44	18.0	2	1	2	7
930903	33	9	19930920	3726.96	7613.07	3726.80	7613.10	299.96	5.5	2	2	1	1
930903	37	10	19930920	3728.48	7601.24	3728.34	7601.35	308.57	8.8	2	1	1	2
930903	38	10	19930920	3736.64	7558.12	3736.85	7557.95	467.00	8.5	2	2	0	2
930903	40	10	19930920	3737.42	7600.09	3737.34	7600.33	393.51	8.5	2	2	1	2
930903	41	11	19930920	3725.98	7608.33	3725.81	7608.48	388.76	11.9	2	2	1	1
930903	42	11	19930920	3732.68	7609.12	3732.95	7609.11	500.54	11.6	2	1	1	1
930903	43	11	19930920	3731.13	7607.62	3730.96	7607.72	349.72	11.9	2	1	1	1
930903	44	11	19930920	3736.18	7606.37	3736.02	7606.50	356.21	12.5	2	2	1	2
930903	45	12	19930920	3734.70	7602.32	3734.96	7602.24	496.87	13.1	1	2	1	2
930903	46	12	19930920	3730.92	7603.45	3730.91	7603.72	410.51	14.6	2	2	1	1

Table 21.

October

Cruise Number	Station Number	Stratum Code	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Direct. Up or Down Stream	Tow Direct. Rel. to Current	Sea State	Tidal Stage
931001	4	1	19931004	3706.13	7614.05	3706.01	7614.08	220.98	0.4	2	2	3	1
931001	12	3	19931004	3708.22	7613.19	3708.11	7613.18	204.40	10.4	2	2	3	1
931001	14	4	19931004	3700.47	7614.44	3700.44	7614.55	176.08	11.0	2	2	3	1
931001	17	5	19931004	3711.43	7613.22	3711.36	7613.25	137.48	8.5	2	2	2	1
931002	1	1	19931003	3656.39	7605.07	3656.46	7605.32	401.26	8.5	1	1	3	3
931003	18	5	19931013	3717.93	7615.33	3717.87	7615.45	213.50	5.5	1	1	1	3
931003	20	5	19931013	3724.58	7611.38	3724.87	7611.25	572.50	6.1	1	1	1	3
931003	26	7	19931013	3724.97	7608.99	3725.26	7608.95	540.79	11.6	1	1	6	4
931003	28	7	19931013	3724.60	7608.81	3724.89	7608.76	542.71	11.6	1	1	1	3
931003	34	9	19931013	3726.11	7610.80	3726.42	7610.78	575.23	9.1	1	1	1	5
931003	38	10	19931013	3738.91	7556.37	3739.07	7556.38	296.87	5.8	1	1	1	5
931003	39	10	19931013	3735.93	7557.43	3736.14	7557.45	390.31	6.7	1	1	1	5
931003	41	11	19931013	3728.50	7611.26	3728.75	7611.28	464.25	10.4	1	1	1	5
931003	42	11	19931013	3730.12	7606.15	3730.32	7606.10	378.30	11.3	1	1	1	5
931003	43	11	19931013	3733.84	7601.07	3734.03	7601.07	352.07	12.8	1	1	1	3
931004	35	9	19931018	3733.09	7614.04	3732.91	7614.04	333.54	7.6	2	2	2	1
931004	36	9	19931018	3735.70	7612.06	3735.44	7611.95	509.93	7.9	2	2	2	1
931004	44	11	19931018	3735.83	7616.96	3735.77	7616.69	424.89	10.4	2	2	2	5
931005	2	1	19931019	3701.24	7607.67	3701.37	7607.86	375.91	5.8	1	2	2	2
931005	5	2	19931019	3704.43	7604.59	3704.23	7604.54	378.30	7.0	2	2	2	2
931005	7	2	19931019	3708.69	7559.64	3708.54	7559.49	359.39	7.3	2	2	2	2
931005	8	2	19931019	3709.13	7604.52	3709.00	7604.34	364.38	8.5	2	2	2	2
931005	9	3	19931019	3657.11	7603.24	3657.15	7603.52	431.69	12.2	2	2	2	3
931005	10	3	19931019	3703.86	7606.28	3703.78	7606.06	365.55	11.0	2	2	2	2
931005	11	3	19931019	3703.81	7606.77	3703.74	7606.56	344.33	11.9	2	2	2	2
931005	13	4	19931019	3659.84	7602.05	3659.75	7601.79	428.67	14.3	2	2	2	3
931005	15	4	19931019	3701.93	7603.92	3701.79	7603.63	511.19	16.8	2	2	2	3
931005	21	6	19931019	3713.57	7602.57	3713.42	7602.42	359.39	4.3	2	2	1	1
931005	22	6	19931019	3715.74	7603.13	3718.39	7602.44	281.66	3.4	2	2	1	1
931005	23	6	19931019	3718.54	7602.41	3712.50	7605.18	273.43	8.2	1	2	1	1
931005	25	7	19931019	3712.61	7605.30	3720.26	7602.12	342.08	12.2	1	2	1	1
931005	27	7	19931019	3720.44	7602.07	3720.26	7602.12	400.52	10.1	1	2	1	1
931005	30	8	19931019	3719.19	7606.49	3718.99	7606.59	225.57	30.8	2	2	1	1
931005	31	8	19931019	3715.89	7605.29	3715.80	7605.19	367.77	18.9	1	2	0	7
931005	32	8	19931019	3720.62	7605.02	3720.43	7605.09	429.97	7.0	2	1	1	7
931005	37	10	19931019	3727.59	7559.59	3727.37	7559.68	412.44	13.1	2	1	1	7
931005	45	12	19931019	3725.64	7603.34	3725.43	7603.43	502.38	14.9	2	1	0	7
931005	46	12	19931019	3727.31	7605.30	3727.04	7605.33	594.17	17.4	2	1	1	7
931005	47	12	19931019	3726.47	7605.95	3726.16	7606.05						

Table 22.

November

Cruise Number	Station Number	Stratum Code	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Up or Down Stream	Direct. Rel. to Current	Tow Direct.	Sea State	Tidal Stage
931101	35	9	19931104	3734.18	7617.47				8.3			2	3	2
931102	27	7	19931108	3717.85	7607.82	3717.77	7608.07	407.62	11.9	2	4	2	2	2
931102	28	7	19931108	3724.53	7608.72	3724.33	7608.73	370.91	11.9	2	2	2	2	2
931102	31	8	19931108	3716.54	7605.50	3716.43	7605.49	204.40	26.5	2	2	2	2	2
931102	32	8	19931108	3722.51	7602.16	3722.37	7602.31	345.26	13.1	2	2	2	2	2
931102	34	9	19931108	3734.11	7615.28	3733.97	7615.03	459.87	7.6	2	1	2	2	7
931102	36	9	19931108	3735.15	7612.93	3735.32	7612.85	337.63	4.6	1	2	2	2	1
931102	37	10	19931108	3728.25	7600.78	3728.16	7600.76	169.51	9.1	2	2	2	2	1
931102	38	10	19931108	3735.39	7557.69	3735.16	7557.79	452.45	5.8	2	2	2	2	1
931102	39	10	19931108	3736.11	7558.26	3735.87	7558.32	453.96	7.9	2	2	2	2	1
931102	41	11	19931108	3729.92	7606.51	3729.69	7606.54	428.62	11.3	2	2	2	2	1
931102	42	11	19931108	3734.88	7607.87	3735.01	7607.69	364.38	12.5	1	2	2	2	7
931102	43	11	19931108	3736.54	7612.44	3736.62	7612.66	365.55	11.0	1	1	2	2	7
931102	44	11	19931108	3738.68	7613.47	3738.82	7613.48	259.86	10.4	1	2	2	2	1
931102	45	12	19931108	3734.33	7603.53	3734.06	7603.66	537.86	13.1	2	2	2	2	1
931102	46	12	19931108	3735.72	7608.78	3735.88	7608.71	314.97	13.1	1	2	2	2	7
931102	48	12	19931108	3739.22	7602.24	3739.06	7602.12	348.02	18.6	1	2	2	2	7
931103	3	1	19931109	3703.34	7612.10	3703.06	7612.16	526.78	7.3	2	2	2	2	1
931103	18	5	19931109	3719.52	7614.99	3719.20	7615.15	640.83	4.9	1	1	1	3	7
931103	19	5	19931109	3715.99	7612.79	3715.76	7612.91	463.53	7.9	2	2	2	2	7
931103	20	5	19931109	3718.28	7613.02	3718.06	7613.12	435.04	9.1	2	2	2	2	8
931103	25	7	19931109	3710.51	7614.50	3710.45	7614.58	164.70	10.7	1	1	1	3	0
931103	26	7	19931109	3715.60	7621.14	3715.47	7620.92	411.93	11.6	2	2	2	2	4
931104	1	1	19931111	3659.21	7613.96	3659.12	7613.87	215.63	5.5	1	2	2	2	5
931104	2	1	19931111	3659.72	7604.41	3659.68	7604.59	283.26	8.2	1	1	1	1	5
931104	5	2	19931111	3701.96	7600.46	3702.11	7600.43	281.66	5.8	1	2	2	2	5
931104	6	2	19931111	3708.72	7559.45	3708.83	7559.56	263.55	7.0	1	2	2	2	7
931104	8	2	19931111	3709.27	7607.30	3709.43	7607.33	299.96	8.8	1	2	2	2	5
931104	9	3	19931111	3656.62	7603.82	3656.64	7603.54	426.89	9.1	1	2	2	2	5
931104	10	3	19931111	3657.27	7604.08	3657.25	7603.78	457.16	12.2	2	2	2	2	5
931104	11	3	19931111	3702.20	7606.20	3702.40	7606.23	373.39	9.1	1	2	2	2	7
931104	12	3	19931111	3708.76	7609.45	3708.90	7609.62	366.02	11.6	1	2	2	2	2
931104	13	4	19931111	3659.48	7601.04	3659.66	7601.13	360.47	14.3	2	2	2	2	2
931104	15	4	19931111	3703.89	7604.86	3704.00	7605.00	294.55	13.4	1	2	2	2	5
931104	16	4	19931111	3706.71	7602.12	3700.82	7602.25	283.78	11.9	1	2	2	2	5
931104	21	6	19931111	3713.73	7601.62	3713.96	7601.68	435.82	4.9	1	2	2	2	7
931104	22	6	19931111	3710.01	7604.09	3710.16	7604.00	309.75	8.2	1	2	2	2	1
931104	23	6	19931111	3710.01	7604.09	3710.16	7604.00	309.75	8.2	1	2	2	2	7
931104	29	8	19931111	3714.76	7606.24	3714.87	7606.42	341.01	14.6	1	1	1	1	7

Table 23.

December

Cruise Number	Station Number	Stratum Code	Station Date	Beginning Latitude	Beginning Longitude	Ending Latitude	Ending Longitude	Tow Dist. (m)	Depth (m)	Tow Up or Down Stream	Direct. Rel. to Current	Tow Direct.	Sea State	Tidal Stage
931201	11	3	19931202	3707.90	7611.80	3707.70	7611.74	381.64	11.0	2	2	3	3	3
931201	12	3	19931202	3708.68	7612.08	3708.50	7612.05	336.64	11.3	1	2	3	3	3
931201	17	5	19931202	3713.79	7616.65	3713.61	7616.72	350.08	5.5	1	2	4	3	3
931201	18	5	19931202	3711.49	7612.86				8.5	2	2	2	3	1
931201	25	7	19931202	3713.17	7621.49	3713.11	7621.27	352.16	12.2	2	2	2	3	3
931202	26	7	19931202	3714.02	7619.81	3713.84	7619.73	354.98	12.2	2	2	2	3	3
931202	27	7	19931206	3716.52	7610.77	3716.34	7610.73	339.03	12.2	2	2	2	3	7
931202	28	7	19931206	3724.54	7610.73	3724.74	7610.72	370.91	10.4	1	2	2	3	7
931202	32	8	19931206	3723.58	7604.82	3723.81	7604.75	439.25	18.3	1	2	2	3	2
931202	34	9	19931206	3734.35	7617.23	3734.25	7616.99	408.92	4.6	2	2	2	3	7
931202	35	9	19931206	3732.89	7615.82	3732.71	7615.79	336.64	7.6	2	2	2	3	3
931202	39	10	19931206	3739.32	7554.63	3739.54	7554.47	474.60	5.8	1	2	2	3	1
931202	40	10	19931206	3739.95	7556.03	3739.76	7556.11	372.45	6.7	2	2	2	3	1
931202	41	11	19931206	3713.89	7611.29	3731.71	7611.24	342.08	10.7	2	2	2	2	7
931202	42	11	19931206	3730.85	7606.53	3731.08	7606.54	426.46	11.6	1	2	2	2	7
931202	43	11	19931206	3737.71	7605.33	3737.54	7605.41	337.63	12.5	1	2	2	2	7
931202	44	11	19931206	3739.17	7605.78	3739.05	7605.85	246.47	6.4	2	2	2	2	7
931202	45	12	19931206	3727.78	7604.07	3727.98	7604.00	385.55	17.1	1	2	2	2	7
931202	46	12	19931206	3729.72	7602.92	3729.55	7602.98	327.93	18.3	2	2	2	2	7
931203	1	1	19931206	3732.18	7602.23	3732.43	7602.16	475.29	15.2	1	2	2	2	1
931203	2	1	19931208	3658.99	7617.77				4.3	2	2	2	1	5
931203	5	2	19931208	3659.42	7614.21	3659.12	7613.96	673.21	4.9	2	2	2	1	1
931203	7	2	19931208	3704.63	7604.72	3704.74	7604.55	328.96	6.4	2	2	2	1	7
931203	9	3	19931208	3709.15	7602.67	3709.31	7602.50	393.15	8.5	1	2	2	1	7
931203	10	3	19931208	3658.36	7604.10	3658.29	7603.78	503.04	9.1	2	2	2	1	7
931203	14	4	19931208	3704.90	7603.91	3705.03	7603.70	399.70	11.6	1	2	2	1	7
931203	15	4	19931208	3657.85	7601.38	3657.79	7601.11	424.89	14.0	2	2	2	1	7
931203	16	4	19931208	3657.61	7600.41	3657.57	7600.12	446.66	21.0	2	2	2	1	7
931203	20	6	19931208	3700.38	7614.96	3700.33	7615.05	165.14	15.5	1	2	2	1	5
931203	22	6	19931208	3709.99	7601.68	3710.15	7601.50	403.29	7.9	1	2	2	1	7
931203	24	6	19931208	3711.03	7605.98	3711.24	7606.07	412.44	9.8	1	2	2	1	1
931203	29	8	19931208	3714.43	7605.33	3714.59	7605.31	298.03	14.6	1	2	2	1	1
931203	30	8	19931208	3715.74	7606.30	3715.94	7606.36	381.64	16.2	1	2	2	1	1

Tables 24-35.

Atmospheric and hydrographic data for the river trawl survey by month.

Explanation:

- A. To conserve space, some variables are presented as coded values. Code keys are presented in Table 1 (p. 117).
- B. Due to measurement error (calibration differences and instrument drift) associated with the hydrographic equipment used to measure temperature, salinity, and dissolved oxygen, some calculated saturation values presented here are greater than 100%.

Table 24.

January

Cruise Number	River	River Mile	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom				
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	
930101	YK	15	5	5	40	2	1.0	7.70	12.0	9.35	84.7	7.10	15.7	8.95	81.9	
930101	YK	20	7.0	5	40	2	0.8	7.80	10.8	9.05	81.6	7.40	12.9	8.85	80.1	
930101	YK	25	.	5	40	2	0.6	7.90	8.8	9.65	86.1	7.90	10.4	9.15	82.5	
930101	YK	30	.	5	40	2	0.4	7.74	4.1	9.65	83.2	7.96	3.9	8.90	77.0	
930101	YK	35	.	5	40	1	0.4	7.60	1.4	8.85	74.7	7.60	1.8	9.45	79.9	
930101	YK	40	11.0	5	40	2	0.2	7.80	0.0	10.35	87.0	7.70	0.0	9.95	83.4	
930102	YK	2	7.5	5	5	90	2	2.6	7.90	16.2	11.90	111.4	7.12	19.7	10.36	97.4
930102	YK	5	8.0	5	5	90	2	3.0	7.75	16.2	12.27	114.4	7.24	18.8	11.09	103.9
930102	YK	10	9.5	5	5	90	2	1.4	7.74	15.5	11.34	105.3	7.41	18.3	10.74	100.7
930103	JA	1	6.5	5	40	4	0.6	6.73	18.0	11.38	104.8	6.68	18.1	11.25	103.6	
930103	JA	5	6.5	5	40	4	1.0	7.30	17.1	11.08	102.8	7.32	17.1	10.97	101.9	
930103	JA	13	6.0	5	40	2	1.1	7.13	8.4	12.52	109.3	7.25	14.8	11.02	100.6	
930103	JA	17	6.0	5	40	2	0.6	7.37	5.3	11.96	102.9	7.40	6.4	11.36	98.6	
930103	JA	24	6.0	5	40	2	0.5	7.63	1.5	11.89	100.5	7.58	3.0	11.68	99.5	
930103	JA	27	6.8	2	40	2	0.3	7.28	0.1	12.30	102.1	7.57	1.4	11.91	100.4	
930103	JA	35	6.8	5	40	2	0.2	6.81	0.0	12.46	102.2	6.80	0.0	12.39	101.6	
930103	JA	40	6.8	2	40	2	0.2	7.59	0.0	11.83	98.9	7.65	0.0	11.46	95.9	
930104	RA	2	8.0	8	320	0	2.8	6.00	13.1	11.60	101.6	5.90	14.3	11.20	98.7	
930104	RA	10	8.3	5	320	0	2.8	6.10	11.7	11.70	101.8	6.00	13.8	11.00	96.8	
930104	RA	15	9.5	5	320	0	2.1	6.00	10.8	11.70	101.0	6.30	13.5	10.60	93.8	
930104	RA	20	9.5	8	320	0	1.9	5.90	10.0	10.90	93.3	6.20	13.0	10.30	90.6	
930104	RA	25	9.5	8	320	0	0.9	5.70	7.0	10.80	90.2	6.10	10.5	10.00	86.3	
930104	RA	30	10.0	8	320	0	0.5	5.60	3.4	11.10	90.3	6.00	8.2	10.00	84.8	
930104	RA	35	10.0	8	320	0	0.2	5.60	1.2	11.40	91.4	5.50	1.4	11.30	90.5	
930104	RA	40	10.0	8	320	0	0.1	6.00	0.0	11.10	89.2	6.00	0.0	11.10	89.2	

Table 25.

February

Cruise Number	River	River Mile	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930201	YK	15	8.5	5	220	0	0.7	4.00	11.9	12.40	102.5	5.20	18.3	10.00	88.9
930201	YK	20	10.0	5	270	0	1.0	4.10	10.2	12.80	104.9	4.90	16.9	10.30	90.1
930201	YK	25	3.0	5	320	0	0.8	2.70	10.5	12.30	97.4	4.90	16.8	10.30	90.0
930201	YK	30	.	5	320	0	0.4	3.70	7.5	11.90	94.7	4.50	12.4	11.00	92.4
930201	YK	35	8.5	5	320	0	0.4	4.55	5.8	11.45	92.1	4.76	6.9	11.09	90.4
930202	YK	40	8.5	5	320	0	0.2	4.40	0.0	12.40	95.6	4.30	0.0	12.20	93.8
930202	YK	2	8.0	7	320	0	0.8	4.35	16.9	11.78	101.6	5.21	21.3	9.83	89.2
930202	YK	5	8.0	7	320	0	1.2	4.40	17.8	11.48	99.7	5.05	22.2	10.02	91.1
930202	YK	10	2.0	3	320	0	1.0	3.61	14.6	12.30	102.5	5.33	20.1	9.99	90.2
930203	JA	1	4.5	8	40	0	0.6	4.40	19.4	11.81	103.7	4.40	19.4	11.72	102.9
930203	JA	5	4.5	8	40	0	0.7	4.73	18.9	11.91	105.1	4.74	19.0	11.85	104.7
930203	JA	13	7.5	8	40	0	0.9	4.76	15.2	12.95	111.6	4.80	16.0	12.65	109.7
930203	JA	17	5.0	7	40	0	0.8	4.84	8.3	12.40	102.2	4.76	9.9	12.21	101.5
930203	JA	24	4.5	7	40	0	0.8	5.25	5.3	12.06	98.3	5.06	6.4	11.94	97.7
930203	JA	27	7.0	7	40	0	0.5	5.80	2.7	11.95	97.2	5.31	5.0	11.76	96.0
930203	JA	35	6.0	7	40	0	0.3	5.54	1.4	12.01	96.2	5.47	1.4	11.98	95.8
930203	JA	40	7.0	7	40	0	0.2	4.90	0.0	12.31	96.1	4.81	0.0	12.19	95.0
930204	RA	2	3.5	7	270	0	1.8	4.40	14.1	12.64	107.1	4.11	17.4	11.48	98.7
930204	RA	10	4.5	8	270	0	1.4	4.72	13.6	12.61	107.4	4.01	16.9	11.32	96.8
930204	RA	15	4.5	8	320	0	1.2	4.55	12.0	12.74	106.9	4.46	16.8	10.46	90.4
930204	RA	20	4.5	8	290	0	1.0	4.57	11.3	12.51	104.5	4.64	15.9	10.50	90.6
930204	RA	25	5.0	9	290	0	0.6	4.48	9.1	12.62	103.6	4.69	11.3	11.65	97.6
930204	RA	30	5.0	9	290	0	0.7	4.41	5.6	12.71	101.8	4.46	8.3	12.03	98.2
930204	RA	35	5.0	9	290	1	0.5	4.42	2.9	12.63	99.3	4.36	5.1	12.22	97.4
930204	RA	40	4.5	7	290	2	0.1	4.03	0.1	12.93	98.8	3.99	0.2	12.98	99.1

Table 26.

March

Cruise Number	River	River Mile	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930301	YK	10	7.0	0	0	0	1.2	4.50	13.2	12.42	104.9	4.44	19.4	11.64	102.3
930301	YK	15	8.0	0	0	0	1.0	4.90	11.9	13.70	115.9	4.51	18.5	11.21	98.1
930301	YK	20	2.0	5	270	0	1.0	3.43	10.6	13.60	109.8	4.31	17.5	12.12	104.9
930301	YK	25	7.0	0	0	1	0.8	3.76	7.8	12.37	98.8	4.29	16.5	11.33	97.3
930301	YK	30	7.0	0	0	1	1.0	3.95	4.0	12.09	94.6	4.34	8.4	11.62	94.6
930301	YK	35	9.0	0	0	1	0.2	3.73	0.1	12.49	94.7	3.72	0.1	11.91	90.3
930301	YK	40	9.0	0	0	1	0.3	3.96	0.0	12.67	96.6	3.92	0.1	12.39	94.4
930302	YK	2	6.0	1	200	0	1.8	3.74	16.7	11.26	95.5	4.04	18.6	11.31	97.9
930302	YK	5	6.0	1	200	0	1.8	3.84	15.6	11.64	98.2	3.87	21.7	10.40	91.5
930303	JA	1	13.0	10	270	0	0.8	6.62	14.6	11.76	105.6	5.59	14.7	11.72	105.3
930303	JA	5	14.0	10	270	0	0.8	6.97	11.9	12.44	110.7	6.61	14.1	11.96	107.1
930303	JA	13	13.0	12	270	0	0.5	7.19	2.0	11.83	99.2	7.19	4.2	11.25	95.7
930303	JA	17	12.5	12	270	1	0.1	7.61	0.2	11.69	9				

Table 27.

April

Cruise Number	River	River Mile	Air Temp. (°C)	Wind Speed (m/sec)	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930401	YK	15	9.0	8	40	5	0.4	10.73	6.4	10.35	97.1	10.06	10.5	7.75	73.5
930401	YK	20	9.0	8	40	5	0.4	10.90	5.9	10.20	95.8	10.65	8.1	8.00	75.8
930401	YK	25	9.0	8	40	5	0.4	11.20	4.6	10.50	98.5	11.02	6.7	8.10	76.7
930401	YK	30	9.0	8	40	2	0.3	12.25	0.7	8.50	79.7	11.94	2.4	7.80	73.4
930401	YK	35	9.0	8	40	2	0.2	12.96	0.0	8.60	81.5	13.06	0.0	4.50	42.8
930401	YK	40	9.0	8	40	2	0.4	13.03	0.0	8.60	81.7	13.29	0.0	8.43	80.5
930402	YK	2	9.0	8	360	1	1.0	9.67	12.8	12.80	122.1	9.42	13.0	8.79	83.5
930402	YK	5	9.0	8	360	1	0.8	9.12	12.1	9.34	87.6	9.23	13.0	8.42	79.6
930402	YK	10	9.0	8	360	0	0.3	9.45	9.5	8.62	80.1	9.46	11.0	8.21	77.1
930403	RA	2	10.0	3	320	0	1.2	8.85	9.6	11.31	103.7	7.81	11.9	9.91	90.0
930403	RA	10	16.0	3	320	0	1.1	9.15	8.8	11.28	103.6	7.89	11.7	9.52	86.5
930403	RA	15	17.0	3	320	0	1.1	9.11	7.8	10.78	98.3	8.35	10.2	9.38	85.3
930403	RA	20	16.0	6	320	0	0.7	9.17	7.9	11.06	101.1	8.00	10.8	8.29	75.1
930403	RA	25	16.0	6	320	0	0.4	9.80	4.7	10.44	94.9	9.18	6.2	9.78	88.4
930403	RA	30	17.0	6	320	0	0.3	10.80	1.7	9.54	87.0	10.08	2.7	9.03	81.5
930403	RA	35	17.0	6	320	0	0.2	11.16	0.2	9.70	88.4	10.92	0.3	9.40	85.2
930403	RA	40	17.0	2	320	0	0.2	11.83	0.0	9.57	88.5	11.37	0.0	9.14	83.6
930404	JA	1	17.0	8	180	0	1.0	13.18	12.3	9.60	98.8	11.67	16.8	8.85	90.6
930404	JA	5	17.0	8	180	0	1.0	13.81	8.8	9.64	98.4	13.16	11.9	9.35	95.9
930404	JA	13	17.0	8	220	1	0.8	15.08	3.8	9.27	94.3	12.18	12.5	7.40	74.6
930404	JA	17	20.0	10	220	0	0.3	15.67	1.1	9.28	94.0	13.57	7.8	7.81	78.8
930404	JA	24	20.0	8	220	1	0.6	15.93	0.1	9.63	97.5	15.88	0.1	9.00	91.0
930404	JA	27	20.0	8	220	1	0.4	16.12	0.1	9.69	98.5	16.07	0.0	9.36	95.0
930404	JA	35	21.0	8	220	1	0.6	16.57	0.1	8.92	91.5	16.36	0.0	8.86	90.4
930404	JA	40	20.0	8	220	1	0.5	16.65	0.1	9.80	100.7	16.57	0.1	8.80	90.3

Table 28.

May

Cruise Number	River	River Mile	Air Temp. (°C)	Wind Speed (m/sec)	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930501	RA	2	21.0	3	270	0	1.5	17.97	8.1	11.42	126.6	15.92	9.2	10.13	108.4
930501	RA	10	22.0	6	270	0	1.3	18.23	7.4	10.66	118.3	15.59	9.0	8.11	86.1
930501	RA	15	23.0	6	270	0	1.3	18.99	5.8	11.20	124.9	15.93	8.5	6.45	68.7
930501	RA	20	24.0	12	270	0	0.4	19.24	5.6	10.95	122.6	16.18	7.5	5.71	60.8
930501	RA	25	24.0	12	270	0	0.3	20.16	3.0	8.23	92.4	19.36	4.5	7.14	79.6
930501	RA	30	26.0	7	270	0	0.2	20.95	0.3	8.59	96.4	20.52	0.6	7.78	86.8
930501	RA	35	27.0	5	270	0	0.1	21.40	0.0	9.47	107.1	20.94	0.0	9.21	103.2
930502	JA	1	26.0	5	220	0	0.9	19.08	12.8	9.81	114.3	16.79	16.3	8.76	99.6
930502	JA	5	26.0	5	220	0	0.6	19.64	9.9	9.38	108.6	18.77	11.6	8.50	97.7
930502	JA	13	28.0	5	220	0	0.3	21.07	4.2	10.59	121.9	19.18	10.4	10.55	121.4
930502	JA	17	31.0	5	220	0	0.2	21.76	1.0			20.92	2.4		
930502	JA	24	31.0	0	220	0	0.2	23.37	0.0	9.62	112.9	21.90	0.0	8.62	98.4
930502	JA	27	32.0	2	220	0	0	22.88	0.0	9.40	109.3	22.23	0.0	8.98	103.2
930503	YK	2	27.0	0	0	4	4	21.07	10.2	8.90	106.1	17.00	13.9	5.92	66.6
930503	YK	5	27.0	1	270	0	0.4	20.20	10.8	7.30	85.9	16.28	14.5	5.54	61.7
930503	YK	10	30.0	2	250	4	0.5	21.20	8.7	9.06	107.3	19.07	11.6	4.80	55.5
930504	YK	15	30.0	8	290	2	0.3	21.89	4.8	6.57	77.1	20.04	9.8	4.50	52.5
930504	YK	20	24.0	5	290	2	0.3	21.94	3.9	6.07	70.9	20.81	7.8	3.95	46.2
930504	YK	25	27.0	2	290	1	0.3	22.18	2.8	5.04	58.8	21.46	5.5	4.19	49.0
930504	YK	30	27.0	2	290	1	0.2	22.69	0.0	6.09	70.6	22.68	0.0	5.88	68.1
930504	YK	35	27.0	0	2	2	0.4	22.76	0.0	6.97	80.9	22.74	0.0	6.82	79.1

Table 29.

June

Cruise Number	River	River Mile	Air Temp. (°C)	Wind Speed (m/sec)	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930601	YK	2	22.2	5	70	0	1.0	20.10	14.9	8.36	103.0	17.90	17.8	4.00	46.9
930601	YK	10	23.3	6	130	0	0.4	21.37	11.9	7.13	86.4	20.14	13.8	5.70	68.2
930602	YK	15	19.6	0	0	2	0.3	21.22	6.8	8.70	102.0	21.22	10.1	5.89	70.4
930602	YK	20	23.1	0	0	2	0.2	21.40	8.8	6.37	75.8	21.43	9.3	5.90	70.5
930602	YK	25	25.1	0	0	2	0.2	22.45	6.7	8.54	102.4	21.60	8.6	5.90	70.4
930602	YK	30	23.4	3	220	2	0.1	22.11	3.2	5.80	67.7	22.02	4.2	5.81	68.1
930602	YK	35	23.5	2	220	2	0.1	22.46	0.7	5.76	66.7	22.52	0.8	5.71	66.3
930603	JA	1	21.0	4	200	1	1.2	20.80	15.7	8.18	100.2	20.15	16.9	8.00	97.5
930603	JA	5	22.0	2	200	1	1.4	21.30	14.3	8.60	105.5	20.70	15.8	8.20	100.3
930603	JA	13	27.0	4	220	1	0.7	22.56	8.8	7.86	95.6	21.67	11.8	7.27	88.5
930603	JA	17	29.0	2	200	1	0.8	24.08	3.2	7.58	91.8	22.93	5.3	6.98	83.8
930603	JA	24	31.0	4	180	0	0.5	24.93	0.7	7.82	94.9	23.80	1.4	7.00	83.5
930603	JA	27	34.0	8	40	1	0.4	24.40	0.0	7.39	88.4	24.09	0.1	6.99	83.2
930604	RA	2	22.0	8	40	2	1.5	23.30	10.1	8.50	105.6	21.40	11.6	3.40	41.1
930604	RA	10	22.0	5	40	2	1.3	23.70	9.5	8.60	107.3	21.00	11.4	2.70	32.4
930604	RA	15	24.0	8	40	2	1.8	23.99	8.7	9.40	117.3	21.10	10.9	1.95	23.4
930604	RA	20	24.0	5	40	2	1.7	23.80	8.3	8.80	109.2	21.10	10.8	2.00	23.9
930604	RA	25	24.0	10	40	2									

Table 30.

Cruise Number	River	River Mile	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930701	RA	2	30.2	4	270	4	1.8	28.11	11.8	0.81	93.1	24.87	15.2	1.29	17.0
930701	RA	10	31.2	2	270	4	1.5	28.28	10.6	7.51	102.3	25.43	13.2	0.35	4.6
930701	RA	15	31.3	5	340	4	1.4	28.45	10.0	7.37	100.3	25.40	12.0	0.18	2.3
930701	RA	20	31.1	4	320	4	1.0	28.59	9.3	7.20	97.9	25.83	11.3	0.46	6.0
930701	RA	25	34.2	3	220	4	0.7	29.46	7.2	6.14	83.7	28.57	8.4	4.53	61.2
930701	RA	30	37.0	4	320	4	0.6	30.21	4.7	6.51	88.7	29.19	6.2	4.64	62.6
930701	RA	35	38.0	2	320	4	0.6	30.93	2.2	7.08	96.3	30.17	3.0	6.17	83.2
930702	YK	10	38.8	4	180	0	1.0	30.28	15.2	7.59	109.7	25.82	18.4	1.35	18.4
930702	YK	15	33.0	2	270	4	0.9	30.00	12.0	7.85	110.9	27.19	17.0	1.64	22.7
930702	YK	20	34.1	3	290	4	0.5	30.69	10.6	7.11	100.9	28.42	14.7	1.47	20.5
930702	YK	25	38.8	4	310	4	0.6	31.41	9.6	7.82	111.7	29.49	13.0	2.24	31.6
930702	YK	30	37.0	2	270	4	0.4	31.39	4.8	7.00	97.4	30.97	5.3	5.80	80.3
930702	YK	35	37.7	2	250	4	0.8	31.20	1.5	7.05	96.0	30.69	1.6	6.25	84.4
930703	YK	2	30.5	9	90	2	1.4	30.00	17.0	6.00	87.1	26.00	21.0	4.00	55.5
930703	YK	5	29.4	7	320	1	1.1	29.00	15.0	6.40	90.4	25.00	22.0	4.00	54.9
930704	JA	1	28.8	4	220	4	1.1	27.46	18.4	6.16	86.4	18.36	25.1	5.76	71.2
930704	JA	5	30.3	1	220	4	1.0	27.49	17.2	6.28	87.5	26.47	18.5	5.55	76.6
930704	JA	13	29.2	5	220	1	1.0	28.94	13.2	6.08	85.0	25.31	19.3	3.77	51.2
930704	JA	17	30.9	2	320	1	1.4	29.83	10.0	6.47	90.2	28.28	14.0	3.88	53.8
930704	JA	24	31.6	6	350	4	1.0	30.62	5.9	7.22	99.7	30.14	9.5	3.96	55.3
930704	JA	27	32.1	4	90	2	0.8	31.15	4.5	7.50	103.7	30.60	8.0	4.78	66.8

Table 31.

Cruise Number	River	River Mile	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930801	JA	1	27.0	4	200	2	1.4	25.81	20.4	8.41	115.9	24.83	21.6	8.05	109.8
930801	JA	5	28.0	6	220	1	1.4	26.23	19.6	8.32	115.0	25.70	20.4	7.65	105.2
930801	JA	13	29.0	6	220	1	1.4	27.24	15.5	8.10	111.3	27.23	16.2	7.57	104.4
930801	JA	17	29.0	5	250	1	1.1	27.78	10.7	8.40	113.5	27.76	11.1	7.90	106.9
930801	JA	24	32.1	3	220	1	0.8	28.50	7.3	9.58	128.6	28.30	8.6	7.92	106.7
930801	JA	27	26.4	3	220	1	1.0	28.93	6.5	9.80	131.9	28.55	6.9	8.44	113.1
930802	RA	2	24.6	1	290	1	2.0	26.58	15.1	8.93	121.1	26.21	15.3	4.24	57.2
930802	RA	10	20.7	1	140	1	1.8	26.61	14.3	9.20	124.2	26.42	15.2	0.77	10.4
930802	RA	15	20.7	1	110	1	1.7	26.62	13.8	8.67	116.8	26.40	14.9	0.88	11.9
930802	RA	20	20.7	1	110	0	1.3	26.87	12.8	8.87	118.8	26.42	14.5	1.34	18.1
930802	RA	25	20.7	1	110	1	1.2	27.27	11.0	10.95	145.8	26.34	12.3	0.85	11.3
930802	RA	30	20.0	2	110	1	0.6	27.63	7.7	11.28	148.5	26.55	9.7	6.37	86.4
930802	RA	35	21.7	1	110	1	0.8	27.20	6.0	12.29	161.3	26.51	7.9	6.83	88.8
930803	YK	15	27.7	0	0	0	0.6	28.56	15.9	7.77	107.0	26.65	18.2	5.52	76.3
930803	YK	20	26.1	5	140	0	0.4	28.56	14.9	7.84	109.9	27.29	16.2	5.87	81.1
930803	YK	25	25.4	4	140	0	0.5	29.59	13.5	9.20	130.2	27.60	15.2	6.49	89.6
930803	YK	30	-	3	140	0	0.4	28.34	10.0	6.17	83.8	27.85	12.2	5.23	71.3
930803	YK	35	0	0	0	0	0.5	28.17	8.5	6.16	82.8	28.08	9.0	5.50	74.0
930804	YK	2	26.0	8	220	1	2.1	26.95	18.9	8.55	119.2	22.75	23.3	3.25	43.1
930804	YK	5	26.0	8	250	1	2.0	26.78	18.9	8.63	120.0	26.17	19.9	6.86	94.9
930804	YK	10	25.0	5	220	1	1.0	26.64	19.4	7.20	100.1	26.36	19.6	6.54	90.6

Table 32.

Cruise Number	River	River Mile	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930901	YK	15	23.8	2	270	2	0.6	27.00	17.3	6.06	83.8	27.37	19.0	3.82	53.7
930901	YK	20	27.6	4	40	2	0.5	27.22	15.6	6.28	86.3	27.68	16.7	5.09	71.0
930901	YK	25	-	1	90	2	0.6	27.94	13.9	7.65	105.5	27.56	15.6	4.79	66.2
930901	YK	30	-	1	40	2	0.6	27.80	9.8	6.60	88.7	27.76	10.1	4.95	66.6
930901	YK	35	-	1	40	2	0.5	27.85	5.8	7.02	92.4	27.87	6.1	5.88	77.5
930902	YK	2	27.8	5	140	0	1.0	27.85	21.1	7.10	101.8	26.40	22.2	3.80	53.5
930902	YK	5	28.0	5	140	0	1.1	26.70	21.0	6.28	88.2	25.90	22.4	3.20	44.7
930902	YK	10	23.0	3	250	0	2.2	26.50	18.8	7.37	101.9	26.80	20.9	4.55	64.0
930903	RA	2	25.0	3	250	0	2.0	25.00	17.0	7.02	93.6	25.41	17.8	5.92	79.8
930903	RA	10	25.0	3	180	0	1.8	24.92	16.3	6.74	89.4	26.31	18.1	1.54	21.1
930903	RA	15	25.0	4	180	0	1.2	24.93	15.5	8.46	111.7	25.16	16.3	5.69	75.8
930903	RA	20	26.0	5	220	0	0.9	24.74	14.7	6.78	88.8	24.82	15.4	5.16	67.9
930903	RA	25	28.5	2	250	0	0.6	25.25	12.2	8.06	105.0	24.49	13.2	6.25	80.8
930903	RA	30	28.0	8	250	0	0.6	24.59	10.5	7.78	99.2	24.08	11.0	6.77	85.8
930904	JA	1	27.0	2	200	1	0.7	24.64	23.0	7.48	102.5	24.63	22.7	7.32	100.1
930904	JA	5	27.0	2	200	1	0.6	24.72	22.5	7.12	97.4	24.70	22.6	7.52	102.9
930904	JA	13	27.1	1	270	1	1.1	25.16	18.3	7.40	99.7	25.13	19.0	7.31	98.8
930904	JA	17	27.0	1	270	1	0.7	25.35	14.0	7.27	95.9	25.21	15.3	7.38	97.8
930904	JA	24	27.3	1	270	2	0.6	26.19	10.5	7.59	99.6	25.61	10.9	7.09	92.3
930904	JA	27	27.0	2	270	5	0.4	26.07	8.4	7.61	98.5	26.01	8.6	7.34	95.0

Table 33.

October

Cruise Number	River	River Mile	Air			Wind			Surface			Bottom			
			Temp. (°C)	Wind Speed m/sec	Direct. (deg)	Obs. Weather	Secchi (m)	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
931001	JA	1	22.0	5	360	0	0.9	20.30	25.0	7.40	95.2	20.10	25.9	7.00	89.9
931001	JA	5	23.0	5	20	0	0.8	20.80	25.3	6.60	85.5	20.80	25.4	6.30	81.7
931001	JA	13	25.0	5	20	0	0.9	20.51	20.8	7.90	99.2	20.30	21.9	6.90	86.8
931001	JA	17	25.0	4	340	0	0.9	20.10	16.6	7.70	93.6	19.90	16.5	7.40	89.5
931001	JA	24	26.0	5	340	0	0.7	20.50	12.7	7.80	93.4	20.30	13.2	7.20	86.1
931001	JA	27	27.0	6	340	0	0.6	20.66	11.0	8.00	95.1	20.20	11.5	7.30	86.3
931002	YK	2	24.0	8	40	1	1.2	20.33	24.6	7.45	95.3	20.34	24.6	7.11	91.0
931002	YK	5	22.0	5	40	1	1.1	20.36	24.4	7.18	91.8	20.53	25.1	5.96	76.8
931003	YK	10	17.0	0	0	1	—	19.36	21.3	8.38	103.2	20.11	23.0	7.35	92.8
931003	YK	15	20.0	4	360	1	0.7	19.45	19.5	8.64	105.5	19.93	21.0	7.85	97.6
931003	YK	20	20.0	4	360	1	0.5	19.80	17.6	8.64	105.0	19.59	18.6	7.30	88.9
931003	YK	25	30.0	2	320	2	0.8	20.49	17.5	9.35	115.1	19.46	18.2	7.49	90.8
931003	YK	30	30.0	4	360	1	0.4	20.22	11.1	7.71	90.9	19.99	12.4	6.91	81.7
931003	YK	35	30.0	2	320	1	0.4	20.32	6.4	—	—	20.21	7.1	—	—
931004	RA	2	16.0	8	140	2	1.9	17.96	20.4	7.90	94.2	17.63	20.8	7.81	92.8
931004	RA	10	18.0	2	140	2	1.7	18.01	19.7	7.86	93.4	18.30	20.6	7.07	85.0
931004	RA	15	17.0	2	140	2	1.5	18.14	19.4	7.56	89.9	18.17	19.6	7.12	84.9
931004	RA	20	20.0	2	140	2	1.3	17.66	18.8	7.93	93.1	17.87	19.4	7.20	85.2
931004	RA	25	20.0	5	140	2	0.7	17.23	17.3	—	—	17.22	17.4	—	—
931004	RA	30	20.0	5	140	2	0.5	16.84	14.6	8.02	90.3	16.70	15.1	7.45	83.9
931004	RA	35	20.0	5	140	2	0.3	16.65	12.9	7.85	87.2	16.57	12.8	7.76	86.0

Table 34.

November

Cruise Number	River	River Mile	Air			Wind			Surface			Bottom			
			Temp. (°C)	Wind Speed m/sec	Direct. (deg)	Obs. Weather	Secchi (m)	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
931101	YK	15	10.0	4	40	—	0.7	13.30	16.5	9.20	98.4	14.20	17.7	8.30	90.2
931101	YK	20	—	10	320	1	0.2	13.27	15.2	8.67	91.0	13.31	15.2	8.51	89.4
931101	YK	25	—	10	320	1	0.3	12.78	14.2	8.76	90.4	13.14	14.2	8.32	86.5
931101	YK	30	10.0	0	0	1	0.2	14.30	9.9	7.40	76.8	14.30	10.6	7.20	75.1
931101	YK	35	14.0	1	40	1	0.3	14.30	6.2	8.10	82.2	14.40	6.2	7.90	80.3
931102	YK	2	10.5	5	220	2	1.4	15.23	20.2	8.00	90.2	14.94	20.9	7.84	88.3
931102	YK	5	—	3	220	2	1.5	14.79	20.4	8.21	91.9	14.85	20.1	7.79	87.1
931102	YK	10	10.0	9	220	2	1.2	13.52	18.0	8.90	95.6	14.23	18.7	8.30	90.8
931103	RA	2	14.0	2	270	0	2.9	14.00	17.3	9.70	104.8	14.36	18.5	8.80	96.5
931103	RA	10	15.0	2	270	0	2.0	13.90	16.6	8.50	91.2	14.90	18.3	7.20	79.7
931103	RA	15	18.0	2	220	0	1.8	13.20	15.8	9.20	96.8	15.30	17.9	6.80	75.7
931103	RA	20	18.0	8	220	0	1.4	13.20	15.6	9.01	94.7	13.89	15.9	8.21	87.7
931103	RA	25	—	8	220	1	1.0	12.37	14.0	8.56	87.4	12.51	14.4	7.63	78.4
931103	RA	30	—	10	220	1	0.6	11.52	10.6	9.30	91.3	12.04	12.9	8.60	86.6
931103	RA	35	—	10	220	1	0.7	11.94	8.9	10.20	100.0	11.30	8.7	9.11	87.9
931104	JA	1	3.0	10	40	2	1.1	12.10	21.5	9.90	105.4	12.34	21.6	8.10	86.7
931104	JA	5	3.0	8	40	2	1.3	12.58	20.9	8.30	88.9	12.67	21.0	8.27	88.8
931104	JA	13	5.0	8	40	2	1.5	12.10	18.7	9.60	100.4	12.54	20.0	8.23	87.6
931104	JA	17	10.9	8	40	2	1.9	11.89	15.8	8.30	84.9	12.10	17.0	8.40	86.9
931104	JA	24	12.0	8	40	2	1.0	12.14	11.6	8.70	87.1	12.11	13.1	8.44	85.2
931104	JA	27	12.0	8	40	2	0.8	12.52	9.6	8.65	86.2	12.42	11.3	8.67	87.2

Table 35.

December

Cruise Number	River	River Mile	Air			Wind			Surface			Bottom				
			Temp. (°C)	Wind Speed m/sec	Direct. (deg)	Obs. Weather	Secchi (m)	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	
931201	YK	15	9.0	8	320	2	0.4	11.30	15.9	9.90	100.0	12.17	18.0	9.46	98.7	
931201	YK	20	9.0	8	320	2	0.7	11.13	15.6	10.00	100.4	11.53	17.0	9.41	96.2	
931201	YK	25	13.0	9	320	1	0.5	10.94	13.6	10.00	98.7	11.18	15.2	9.57	96.0	
931201	YK	30	13.0	8	320	1	0.4	11.20	9.4	10.25	99.1	11.00	10.5	9.52	92.3	
931201	YK	35	13.0	5	320	1	0.3	11.46	5.2	10.50	99.4	11.53	5.1	11.53	109.3	
931201	YK	40	13.0	5	320	1	0.4	11.22	2.2	10.60	98.0	11.20	2.0	10.35	95.5	
931202	YK	2	11.0	5	320	1	2.3	11.82	21.1	9.90	104.3	11.86	22.4	9.68	103.1	
931202	YK	5	10.0	5	320	1	2.2	11.75	21.5	9.52	100.6	11.91	21.5	9.44	100.1	
931202	YK	10	8.0	5	320	1	1.2	11.04	18.2	9.82	100.0	11.55	19.6	9.60	99.8	
931203	JA	1	11.0	10	40	1	2.5	11.09	20.2	10.39	107.3	11.33	21.7	10.02	105.0	
931203	JA	5	12.0	10	40	1	3.0	11.13	17.6	10.25	104.2	11.33	19.5	10.03	103.7	
931203	JA	13	14.0	10	40	1	2.5	10.86	12.7	10.75	105.3	11.46	18.5	10.02	103.2	
931203	JA	17	15.0	8	40	1	1.0	11.25	6.3	10.68	101.4	11.32	10.1	10.20	99.3	
931203	JA	24	13.0	5	40	1	0.4	11.66	2.8	10.69	100.2	11.46	5.6	10.19	96.8	
931203	JA	27	13.0	5	40	1	0.4	11.33	1.5	10.62	98.0	11.35	1.8	10.48	96.9	
931203	JA	35	14.0	5	40	1	0.1	10.71	0.3	9.75	88.0	10.74	0.3	9.68	87.4	
931203	JA	40	14.0	5	40	1	0.2	10.35	0.6	9.91	88.9	10.51	0.7	9.92	89.3	
931204	RA	2	8.0	0	0	4	—	9.94	16.6	10.86	106.8	10.63	19.8	10.59	108.0	
931204	RA	10	—	0	0	4	—	9.77	15.5	10.94	106.5	10.82	19.4	9.75	99.6	
931204	RA	15	—	0	0	4	—	2.6	8.99	13.4	11.57	109.1	10.90	19.1	9.51	97.2
931204	RA	20	10.0	0	0	4	—	2.6	9.28	11.7	11.86	111.4	10.84	18.1	9.73	98.6
931204	RA	25	11.5</td													

Tables 36-45. Atmospheric and hydrographic data for the Chesapeake Bay trawl survey by month.

- Explanation:
- A. To conserve space, some variables are presented as coded values. Code keys are presented in Table 1 (p. 117).
 - B. Due to measurement error (calibration differences and instrument drift) associated with the hydrographic equipment used to measure temperature, salinity, and dissolved oxygen, some calculated saturation values presented here are greater than 100%.

Table 36.

February

Cruise Number	Station Number	Stratum Code	Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930201	3	1	15.5	0	0	0	1.4	4.92	19.1	12.33	111.2	4.47	19.6	11.57	102.8
930201	4	1	14.0	0	0	0	1.4	5.53	19.2	12.45	112.3	4.51	19.8	12.00	106.0
930201	5	2	14.5	0	0	0	2.0	4.99	25.2	11.87	110.0	4.70	25.7	11.50	106.1
930201	8	2	11.0	0	0	0	2.2	4.93	24.8	11.55	106.6	4.66	26.5	11.23	104.1
930201	9	3	5.0	0	0	0	1.2	4.66	21.0	11.63	103.9	4.86	24.8	10.96	100.9
930201	10	3	4.5	0	0	0	1.1	4.68	19.2	11.95	105.5	4.68	20.1	11.61	103.2
930201	11	3	12.0	0	0	0	1.7	4.92	19.2	12.42	110.3	4.59	22.2	11.35	102.0
930201	12	3	11.0	0	0	0	1.4	4.50	29.7	11.20	105.7	4.36	30.0	10.37	97.7
930201	13	4	7.0	0	0	0	1.3	4.71	22.3	11.55	104.2	5.06	28.8	10.56	100.4
930201	15	4	8.0	0	0	0	1.7	4.65	25.3	11.39	104.7	4.74	28.2	10.88	102.2
930201	16	4	8.0	0	0	1	2.1	4.84	24.7	11.40	104.9	4.70	27.3	10.98	102.4
930201	21	6	7.5	0	0	0	2.1	5.45	24.2	12.02	111.8	4.95	25.7	11.74	109.0
930201	23	6	12.0	0	0	0	1.5	5.02	23.0	12.14	110.9	4.87	23.4	11.81	107.8
930201	29	8	9.0	0	0	0	1.5	4.89	21.7	12.31	111.1	4.73	24.9	11.17	102.6
930201	32	8	10.0	0	0	0	2.0	4.62	19.3	12.77	112.7	4.55	27.2	11.01	102.3
930201	33	9	8.5	0	0	0	1.9	5.07	15.3	13.03	113.2	4.29	20.1	11.75	103.4
930201	34	9	9.0	0	0	0	1.8	4.66	14.4	12.81	109.5	4.29	14.7	12.51	106.2
930202	41	11	7.5	0	0	0	1.6	4.29	14.2	12.69	107.3	4.16	17.1	11.74	100.9
930202	18	5	5.0	8	180	0	1.5	5.20	14.0	8.90	76.9	5.00	15.0	8.80	76.2
930202	20	5	5.0	8	180	1	1.4	5.00	14.0	8.90	76.5	5.00	14.0	8.90	76.5
930202	25	7	5.0	8	180	1	2.2	4.80	14.0	8.80	75.3	5.20	21.0	8.40	76.1
930202	26	7	5.0	8	180	0	1.6	4.80	14.0	8.80	75.3	4.80	23.0	8.38	76.1
930202	27	7	5.0	8	180	0	1.9	4.80	15.0	8.80	75.8	4.80	22.0	8.50	76.7
930202	31	8	6.8	2	180	0	2.0	5.00	14.0	8.58	73.8	5.20	22.0	8.15	74.3
930202	38	10	4.8	2	180	0	1.7	5.90	14.0	8.40	73.9	5.30	22.0	8.10	74.0
930202	39	10	4.8	2	40	0	1.2	4.50	18.0	8.40	73.3	5.00	14.0	8.25	70.9
930202	42	11	5.0	2	40	0	1.0	4.50	14.0	9.80	83.2				
930202	43	11	5.0	2	40	0	1.1	4.50	19.0	8.30	72.9	4.80	24.0	8.10	74.1
930202	44	11	5.0	2	40	0	1.8	5.00	18.0	8.42	74.4	5.00	24.0	7.95	73.1
930202	45	12	5.0	2	40	0	1.9	4.95	16.0	8.41	73.2	5.00	20.0	8.35	74.7
930202	46	12	6.8	2	40	0	1.5	5.80	13.0	8.40	73.2	5.20	23.0	8.05	73.9
930202	47	12	6.8	2	40	0	1.7	5.90	13.0	8.70	76.0	5.20	22.0	8.10	73.8
							1.7	5.90	13.0	8.70	76.0	5.40	26.0	7.70	72.4

Table 37.

April

Cruise Number	Station Number	Stratum Code	Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930401	37	10	11.0	5	360	1	1.3	10.09	15.1	11.10	108.5	9.90	16.0	10.19	99.8
930401	40	10	10.5	5	360	1	1.8	9.89	15.1	10.55	102.7	9.84	16.1	10.27	100.5
930401	43	11	10.5	5	360	1	1.2	9.29	15.0	10.16	97.5	8.78	16.7	9.63	92.3
930402	19	5	20.0	5	180	1	1.4	8.74	12.4	10.88	101.3	8.30	18.3	9.40	90.0
930402	20	5	20.0	5	180	1	1.0	11.96	12.4	11.97	120.0	11.67	12.5	12.05	120.1
930402	22	6	19.5	8	180	0	1.3	12.74	12.2	11.86	120.8	10.90	13.8	10.52	103.9
930402	23	6	19.5	8	180	0	0.8	12.65	13.6	12.00	123.0	11.48	15.4	10.97	110.9
930402	29	8	19.0	5	180	0	1.0	13.20	12.0	11.83	121.5	11.19	16.2	10.40	105.0
930402	31	8	20.0	8	180	0	1.8	13.04	11.8	10.43	106.6	10.18	16.3	9.51	94.2
930402	32	8	19.5	8	180	0	1.1	12.75	11.7	10.70	108.6	10.26	16.7	9.60	95.2
930402	33	9	16.0	10	180	0	1.3	12.80	11.9	12.15	123.7	10.00	17.6	9.35	92.7
930402	34	9	17.0	8	220	0	1.0	12.34	10.0	11.49	114.4	10.41	15.0	10.12	99.6
930402	41	11	15.5	8	220	0	1.0	12.16	10.9	11.16	111.3	9.85	16.5	9.20	90.3
930402	42	11	15.5	8	220	0	1.8	11.29	10.8	11.30	110.5	9.64	16.5	9.30	90.8
930402	45	12	19.5	10	180	0	1.8	12.90	12.6	11.93	122.2	10.05	16.6	9.78	96.5
930402	46	12	15.0	8	220	0	1.2	12.16	12.0	11.39	114.4	9.40	17.9	9.95	77.9
930403	3	1	14.0	5	40	0	2.4	12.00	12.2	11.46	114.8	9.50	17.3	9.22	90.2
930403	4	1	14.0	5	40	0	1.2	11.68	17.9	9.17	94.6	9.99	25.0	9.15	95.1
930403	6	2	14.0	5	40	0	2.7	12.71	14.8	9.65	99.8	11.48	19.0	7.63	78.9
930403	7	2	16.5	5	40	0	3.0	12.15	16.9	9.39	97.2	10.93	21.3	9.27	96.1
930403	9	3	14.0	5	40	0	2.8	12.20	16.0	9.33	96.2	11.08	20.8	9.06	93.9
930403	10	3	15.0	5	40	0	3.0	10.51	21.9	9.67	99.7	9.35	26.4	9.29	96.0
930403	12	3	18.5	5	40	0	2.3	11.85	17.9	9.58	99.2	9.63	26.0	9.30	96.5
930403	13	4	10.0	5	40	0	1.9	13.07	14.5	9.80	102.0	11.93	17.4	8.62	89.1
930403	15	4	14.5	5	40	0	1.9	11.45	18.2	9.30	95.6	9.10	26.3	8.90	91.4
930403	16	4	14.0	5	40	0	3.5	12.05	17.8	9.25	96.1	9.70	24.1	9.17	94.1
930403	25	7	21.0	5	40	0	3.2	11.93	17.7	9.24	95.7	9.74	25.9	9.32	96.9
930403	26	7	19.5	5	40	0	2.3	13.53	12.8	11.12	115.6	12.35	14.3	9.48	97.0
930403	28	7	19.5	5	40	0	2.8	13.02	14.4	10.15	105.4	12.00	16.3	8.40	86.4
							2.3	13.37	14.2	9.92	103.7	9.73	16.1	7.46	72.8

Table 38.

May

Cruise Number	Station Number	Stratum Code	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930501	19	5	21.5	3	220	4	2.0	15.00	11.4	11.62	123.6	13.43	13.3	7.93	83.6
930501	24	6	28.0	3	220	4	1.7	15.65	12.4	12.04	130.6	14.16	16.2	8.74	94.1
930501	25	7	20.0	3	220	4	2.1	15.12	11.5	11.09	118.3	13.51	15.3	8.05	85.0
930501	26	7	23.0	3	220	4	1.8	15.42	10.7	12.60	134.6	12.60	18.1	6.64	69.9
930501	27	7	21.0	3	220	4	1.8	15.12	11.1	12.18	129.6	12.71	18.0	6.91	72.9
930501	28	7	20.0	3	220	4	2.5	16.75	10.2	11.75	128.6	12.75	16.8	7.13	74.7
930501	29	8	27.0	3	220	4	2.1	15.68	10.3	12.00	128.6	12.65	17.3	6.72	70.5
930501	30	8	25.0	3	220	4	2.0	15.40	12.9	11.65	126.1	12.55	19.3	6.52	69.1
930501	31	8	20.0	3	220	4	1.8	16.55	9.9	12.10	131.7	12.55	17.8	6.64	69.7
930501	34	9	21.0	3	320	4	1.3	19.24	8.9	12.81	146.3	16.40	9.2	11.05	119.4
930501	36	9	24.0	3	320	4	1.7	18.85	8.8	12.66	143.4	14.50	9.4	11.32	117.7
930501	37	10	26.0	3	220	4	3.4	18.16	10.5	11.65	131.5	14.55	13.9	9.10	97.4
930501	38	10	25.0	3	320	4	2.3	17.10	9.7	12.44	136.8	15.10	14.3	7.40	80.3
930501	39	10	25.0	3	320	4	2.3	16.85	11.3	11.36	125.5	15.90	11.9	11.05	120.1
930501	42	11	23.0	3	320	4	1.6	17.85	9.0	13.50	150.0	11.60	18.5	4.42	45.7
930501	43	11	27.0	3	220	4	2.6	16.35	8.8	13.15	141.6	11.80	19.2	4.95	51.6
930501	44	11	26.0	3	320	4	2.2	18.60	8.5	13.00	146.2	12.80	11.0	7.33	74.2
930501	45	12	25.0	3	220	4	2.6	17.20	8.6	13.51	147.8	11.74	19.6	5.05	52.7
930501	47	12	24.0	3	320	4	2.9	17.30	8.8	13.10	143.8	11.48	19.7	4.58	47.6
930501	48	12	25.0	3	320	4	2.8	19.02	9.4	12.07	137.6	11.68	19.7	3.94	41.1
930502	1	1	23.0	6	140	0	1.6	19.60	12.8	12.40	145.9	16.80	15.6	9.30	105.3
930502	6	2	23.0	3	180	0	1.3	17.04	15.1	11.16	126.6	15.50	19.4	9.79	110.5
930502	7	2	22.0	2	180	0	0.8	16.00	17.0	11.06	124.3	15.35	19.5	8.87	99.9
930502	8	2	25.0	2	140	0	2.1	17.79	13.0	10.77	122.5	13.66	22.3	9.40	104.0
930502	9	3	21.0	6	140	0	1.8	18.10	12.9	11.50	131.5	12.90	23.1	9.00	98.4
930502	10	3	21.0	5	110	0	1.5	18.20	13.8	12.60	145.1	10.40	27.2	8.70	92.5
930502	11	3	22.0	12	90	0	1.6	17.60	13.9	12.20	138.9	10.90	26.9	10.10	108.4
930502	12	3	24.0	6	90	0	0.9	18.50	12.5	12.30	141.4	13.50	22.0	8.60	94.6
930502	13	4	24.0	6	90	0	2.3	18.00	12.3	12.20	138.7	15.10	17.9	9.30	103.1
930502	15	4	22.0	6	110	0	1.7	17.70	14.4	12.00	137.4	10.60	27.0	9.00	96.0
930502	16	4	24.0	5	140	0	2.0	18.10	14.6	11.20	129.4	13.60	22.9	9.00	99.8
930502	18	5	23.0	4	180	0	1.1	17.37	12.4	10.80	121.3	14.60	17.5	7.16	78.4
930502	20	5	23.0	4	180	0	1.0	17.23	10.8	10.26	113.8	16.87	10.8	10.18	112.1
930502	21	6	22.0	3	140	0	2.0	17.67	12.2	11.09	125.2	14.79	19.4	9.34	103.9
930502	22	6	22.0	3	140	0	2.0	17.67	12.2	11.09	125.2	14.79	19.4	9.34	103.9
930502	33	9	21.5	5	180	0	1.0	18.32	9.5	10.78	121.3	16.61	10.1	10.05	109.6
930503	41	11	23.0	7	180	0	2.0	17.28	9.2	11.03	121.3	14.32	17.3	6.68	72.6
930503	42	1	26.0	2	250	4	1.6	19.11	13.4	12.15	142.1	17.22	14.1	10.44	118.1
930503	4	1	27.0	1	250	4	1.3	19.32	12.4	11.25	131.4	17.87	13.1	9.87	112.5

Table 39.

June

Cruise Number	Station Number	Stratum Code	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930601	17	5	21.0	2	220	0	1.5	20.36	14.5	9.45	114.0	20.00	14.8	8.61	103.3
930601	19	5	23.0	4	220	0	1.2	20.44	14.8	9.06	109.7	20.34	14.9	8.60	103.9
930601	22	6	23.0	6	220	0	2.5								
930602	26	7	23.0	5	220	0	2.0	20.03	15.1	9.31	112.0	17.05	22.3	7.85	93.0
930602	1	1	25.6	2	220	1	1.6	21.44	16.8	9.82	122.5	17.16	22.5	6.49	77.2
930602	2	1	25.3	2	220	1	1.5	21.78	15.9	9.96	124.4	18.66	19.9	7.60	91.6
930602	3	1	31.0	8	220	1	1.3	23.38	15.0	10.78	138.0	20.55	16.0	8.07	98.6
930602	5	2	28.2	2	220	1	2.3	20.56	21.5	9.60	121.1	18.94	23.7	8.91	110.5
930602	7	2	33.0	5	220	1	1.7	23.69	17.8	9.89	129.4	20.05	22.8	8.32	104.8
930602	8	2	34.0	5	220	1	2.0	21.62	22.3	10.00	129.3	20.22	24.9	8.84	113.1
930602	9	3	25.9	2	220	1	1.7	21.55	16.4	10.53	131.4	15.63	25.6	8.77	103.1
930602	10	3	25.8	2	220	1	1.2	21.46	16.3	8.67	107.9	17.83	21.7	7.52	90.2
930602	11	3	31.0	8	220	1	1.8	22.85	14.6	10.43	131.9	16.81	23.3	6.72	79.7
930602	12	3	32.0	8	220	1	1.6	23.01	15.2	9.96	126.8	15.96	25.6	7.68	90.9
930602	13	4	28.0	2	220	1	1.9	21.97	15.8	9.99	125.2	13.51	27.6	8.41	95.8
930602	14	4	27.1	2	220	1	1.9	21.80	16.1	10.23	128.0	13.99	25.3	8.63	97.9
930602	16	4	25.9	2	220	1	1.6	22.38	15.5	10.70	134.9	14.23	27.1	9.00	103.8
930602	21	6	31.0	8	220	1	2.0	23.71	17.7	9.78	127.9	22.76	18.8	10.02	129.6
930602	23	6	31.0	8	220	1	1.6	23.80	17.7	9.78	128.1	19.83	20.2	7.90	97.6
930602	25	7	33.0	8	220	1	1.9	22.96	17.5	10.09	130.0	20.33	20.9	8.73	109.3
930603	27	7	30.0	8	220	1	1.5	24.41	12.6	10.16	130.7	18.32	20.1	6.52	78.2
930603	28	7	27.0	4	220	4	2.2	23.57	12.3	10.31	130.4	18.87	21.4	6.89	84.1
930603	30	8	30.0	4	220	4	1.7	23.69	11.6	9.85	124.3	18.60	21.7	6.28	76.4
930603	31	8	29.0	5	220	4	2.2	23.75	11.9	10.27	130.0	18.69	21.3	6.35	77.2
930603	32	8	29.0	4	220	4	2.1	23.53	11.4	9.89	124.3	18.67	21.3	6.32	76.8
930603	33	9	33.0	.	4	4	1.9	25.46	10.2	10.40	134.5	21.94	21.9	8.10	99.2
930603	34	9	34.0	.	4	4	1.8	25.79	10.3	9.98	129.9	21.75	21.9	3.18	38.8
930603	35	9	34.0	.	0	4	1.8	25.67	9.8	10.25	132.7	22.86	11.4	9.84	122.2
930603	37	10	33.0	2	220	4	1.0	25.27	12.8	10.01	130.9	22.87	13.9	8.65	109.0
930603															

Table 40.

July

Cruise Number	Station Number	Stratum Code	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930701	1	1	26.4	5	90	2	1.7	25.32	18.9	7.69	104.2	15.95	26.8	6.69	79.7
930701	2	1	26.8	5	90	2	1.6	25.39	17.6	7.29	98.2	24.20	19.3	6.36	84.7
930701	3	1	29.0	5	90	4	1.7	25.26	17.8	7.21	97.0	25.07	18.1	6.69	89.8
930701	5	2	25.4	5	90	2	2.8	21.00	27.0	.	.	22.00	30.0	.	.
930701	6	2	28.2	5	90	2	2.3	27.00	20.0	.	.	24.00	25.0	.	.
930701	8	2	28.5	5	90	2	1.8	27.00	16.0	.	.	23.00	24.0	.	.
930701	9	3	26.5	5	90	2	2.5	24.90	19.6	7.36	99.4	14.35	28.2	7.60	88.4
930701	10	3	25.4	5	90	2	2.0	25.32	18.2	7.95	107.3	19.55	24.4	6.03	75.9
930701	11	3	27.9	5	90	2	2.1	26.00	20.0	.	.	24.00	25.0	.	.
930701	12	3	26.0	5	110	2	1.8	25.43	17.2	7.94	106.8	18.88	25.3	5.56	69.5
930701	13	4	27.3	5	90	2	2.4	23.58	23.1	7.48	100.6	13.69	28.1	7.49	85.9
930701	15	4	26.6	5	90	2	2.3	21.18	22.0	7.35	94.1	14.57	28.0	7.50	87.5
930701	16	4	26.0	5	90	2	2.6	26.00	20.0	.	.	22.00	30.0	.	.
930701	17	5	25.0	5	90	2	.	25.98	16.3	7.25	97.9	25.97	16.6	6.67	90.2
930701	21	6	28.3	5	90	2	1.6	26.00	20.0	5.30	73.1	25.00	23.0	5.30	73.1
930701	22	6	28.1	5	90	2	1.9	28.00	20.0	.	.	24.00	25.0	.	.
930701	25	7	28.3	5	90	2	1.8	27.00	18.0	.	.	23.00	24.0	.	.
930702	20	5	30.6	7	180	0	1.6	27.00	20.0	.	.	24.50	24.0	.	.
930702	24	6	30.3	3	140	0	1.7	28.01	15.2	6.85	95.3	26.13	16.6	7.01	95.1
930702	27	7	28.3	3	220	0	1.7	27.49	14.2	8.15	111.7	23.79	21.6	5.11	68.4
930702	28	7	31.5	3	160	0	2.0	27.80	13.3	8.17	112.0	22.34	23.8	5.17	68.3
930702	29	8	30.8	3	250	0	2.0	27.32	13.2	7.93	107.8	23.07	22.6	4.75	63.2
930702	30	8	29.8	3	140	0	1.8	27.64	12.6	8.48	115.5	22.38	23.8	4.76	62.9
930702	32	8	30.5	2	200	0	2.1	27.09	13.0	8.30	112.2	22.77	23.2	4.85	64.4
930702	33	9	30.5	5	270	0	1.6	27.27	13.1	7.84	106.4	22.35	24.0	4.89	64.7
930702	35	9	30.8	4	250	0	1.7	28.30	13.3	9.47	131.4	24.18	17.9	2.72	35.9
930702	36	9	31.5	4	220	0	1.7	28.65	12.7	8.83	122.4	25.10	15.2	3.14	41.5
930702	37	10	30.6	2	140	0	1.7	28.86	12.6	9.28	129.1	24.93	15.1	2.58	34.0
930702	40	10	32.2	3	90	0	1.8	28.07	11.9	8.40	114.8	23.86	19.6	3.80	50.4
930702	41	11	31.6	4	200	0	1.6	29.05	12.6	8.60	122.7	23.33	20.7	3.44	45.5
930702	42	11	30.3	4	180	0	1.7	28.66	12.5	9.42	130.5	22.76	19.0	3.67	48.4
930702	43	11	31.2	3	180	0	1.6	28.64	12.1	8.90	123.0	23.28	18.8	2.06	26.9
930702	44	11	31.2	3	180	0	1.6	28.26	12.0	8.90	122.1	24.12	14.8	1.58	20.5
930702	45	12	29.8	2	200	0	1.0	28.75	12.3	9.07	125.7	23.12	18.7	1.30	16.9
930702	47	12	31.8	4	220	0	2.0	27.91	12.0	8.43	115.0	22.64	23.0	3.96	52.4
930702	48	12	30.6	3	180	0	1.9	28.40	12.5	8.43	116.3	22.35	23.3	4.50	59.3
930703	19	5	32.8	3	180	4	1.4	28.26	11.5	9.46	129.4	23.08	20.2	2.43	31.9
930703	19	5	32.8	3	180	0	1.4	29.79	15.0	8.59	123.0	24.70	18.6	4.04	54.1

Table 41.

August

Cruise Number	Station Number	Stratum Code	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930801	2	1	22.1	1	40	0	1.7	26.29	21.1	9.02	125.9	25.26	21.7	8.13	111.8
930801	3	1	22.5	4	40	2	1.8	25.62	20.7	7.98	109.8	25.21	21.2	7.67	105.1
930801	5	2	26.0	1	40	4	3.5	25.66	20.8	8.19	112.9	24.60	22.4	7.27	99.2
930801	7	2	27.0	1	40	0	4.8	18.47	28.8	11.24	142.4	18.25	28.0	11.31	142.7
930801	8	2	26.1	1	40	0	3.5	23.94	23.5	9.38	127.3	23.86	23.1	9.32	126.3
930801	9	3	.	1	40	0	2.5	25.89	20.4	9.78	135.0	19.79	26.5	8.56	109.6
930801	10	3	.	2	40	1	3.5	25.67	21.8	9.71	134.6	14.88	29.1	10.74	127.2
930801	11	3	26.0	1	40	1	3.5	24.62	22.6	9.56	130.7	14.53	29.3	10.43	122.6
930801	12	3	24.7	2	40	1	3.5	25.74	20.7	8.87	122.3	22.39	25.3	6.25	83.4
930801	13	4	26.0	1	40	0	4.6	18.83	20.7	8.58	118.3	23.00	24.2	6.25	83.8
930801	14	4	26.0	1	40	0	3.5	22.95	24.5	9.55	128.1	17.22	28.1	11.32	142.3
930801	15	4	.	1	40	0	4.6	22.19	26.1	11.02	147.2	16.45	28.1	10.11	124.6
930802	23	6	27.0	1	40	0	2.3	26.16	21.8	9.98	139.5	25.91	22.4	9.48	132.4
930802	17	5	23.9	3	90	1	2.4	25.50	19.4	9.65	131.5	25.54	19.8	8.98	122.8
930802	19	5	25.2	3	90	1	2.0	25.57	20.0	9.55	130.8	25.00	20.8	3.95	53.8
930802	23	6	24.8	3	90	1	2.7	24.84	21.2	12.35	168.1	20.77	25.2	9.33	120.8
930802	24	6	28.0	4	90	1	1.7	24.40	21.8	12.70	172.1	23.70	23.3	8.20	110.7
930802	25	7	24.5	4	90	1	3.2	25.39	19.3	8.68	118.0	20.80	26.0	7.68	99.9
930802	26	7	27.6	3	90	1	2.2	25.76	17.9	8.68	117.9	22.54	24.0	5.65	75.0
930802	27	7	27.3	2	90	1	1.7	25.91	17.5	9.20	125.0	22.86	24.0	6.76	90.3
930802	28	7	28.3	3	90	1	2.5	25.93	17.1	8.47	114.8	22.64	24.0	7.13	94.3
930802	29	8	27.8	3	90	1	2.1	26.05	20.4	13.17	182.3	23.15	24.0	7.58	101.8
930802	31	8	27.5	2	90	1	2.6	26.47	19.1	11.57	160.1	22.95	24.3	6.99	93.7
930802	32	8	27.5	2	90	1	2.6	26.47	19.1	11.57	160.1	22.95	24.3	6.99	93.7
930802	37	10	27.8	3	90	1	1.7	26.40	19.6	12.14	168.3	25.75	20.7	7.83	108.0
930802	38	10	28.0	3	90	1	1.4	26.25	20.4	12.39	172.1	24.86	21.7	6.15	84.0
930802	39	10	26.5	4	90	1	1.9	26.97	17.2	11.14	153.9	26.30	17.4	9.88	135.0
930802	45	12	28.3	3	90	1	2.4	26.35	15.2	11.17	150.9	23.91	23.4	6.31	85.6
930802	47	12	26.8	3	90	1	2.4	27.22	16.4	10.90	150.5	24.62	21.9	5.23	71.2
930802	48	12	27.5	3	90	1	1.8	27.40	18.5	10.82	151.7	25.75	21.5	7.21	99.9
930803	20	5	19.9	6	360	0	1.3	26.60	29.1	9.50	139.4	23.20	37.0	2.80	40.5
930803	33	9	21												

Table 42.

September

Cruise Number	Station Number	Stratum Code	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
930901	1	1	19.0	0	0	-	0.8	26.30	33.8	8.10	121.4	25.40	35.5	6.60	98.4
930901	2	1	20.0	0	0	-	1.8	26.20	35.1	8.70	131.2	22.50	-	6.00	-
930901	3	1	28.0	2	320	-	1.5	25.90	-	8.40	-	24.70	-	6.90	-
930901	5	2	21.0	0	0	-	1.8	25.20	-	9.10	-	25.10	-	9.05	-
930901	6	2	23.0	9	320	-	1.6	26.19	-	8.93	-	26.14	-	8.80	-
930901	8	2	22.0	2	320	-	1.8	25.20	-	8.50	-	25.20	-	8.60	-
930901	9	3	26.9	2	320	-	1.7	26.00	-	8.60	-	24.90	-	5.90	-
930901	10	3	19.0	2	320	-	1.3	25.90	-	8.20	-	23.90	-	6.20	-
930901	11	3	25.1	0	0	-	1.9	25.70	-	8.40	-	24.30	-	6.70	-
930901	12	3	23.9	0	0	-	1.8	28.70	-	8.70	-	24.50	-	6.70	-
930901	13	4	18.0	0	0	-	0.9	25.70	-	8.90	-	21.60	-	6.30	-
930901	14	4	18.0	0	0	-	1.0	25.30	-	8.70	-	21.70	-	6.20	-
930901	16	4	18.0	9	320	-	1.9	25.80	-	8.40	-	23.50	-	6.70	-
930901	17	5	15.0	2	320	-	-	26.70	-	9.00	-	26.80	-	9.10	-
930901	18	5	20.0	7	320	-	-	26.70	-	9.60	-	25.70	-	4.80	-
930901	21	6	20.0	4	320	-	1.8	25.60	-	8.70	-	26.50	-	8.20	-
930901	23	9	26.0	5	70	0	1.3	25.20	19.3	5.90	80.0	25.40	19.7	4.90	66.8
930902	36	9	26.9	5	360	0	1.3	25.00	18.8	6.50	87.5	25.70	20.2	3.10	42.6
930902	48	12	25.9	4	40	0	1.5	25.10	19.1	6.80	91.9	25.60	21.1	3.60	49.6
930903	19	5	23.0	6	40	0	1.0	23.78	22.4	6.93	93.2	23.96	22.5	6.76	91.3
930903	24	6	22.5	2	40	0	1.2	24.03	23.6	7.29	99.2	23.86	24.9	6.25	85.4
930903	25	7	22.5	5	40	0	1.0	23.85	22.8	6.59	89.0	23.91	22.8	6.54	88.4
930903	26	7	23.0	4	40	0	1.2	23.84	22.4	6.45	86.9	24.00	22.6	6.31	85.3
930903	27	7	23.0	3	40	0	1.6	23.73	22.6	7.13	95.9	23.64	25.4	6.00	81.9
930903	28	7	23.0	3	40	0	1.4	23.97	21.6	6.84	91.9	23.76	26.0	5.77	79.2
930903	30	8	23.0	2	40	0	1.6	24.06	21.0	7.03	94.3	23.75	26.1	5.81	79.8
930903	31	8	.	2	40	0	1.6	24.06	22.2	6.89	93.0	23.76	25.9	5.67	77.8
930903	32	8	.	3	70	0	1.5	24.05	21.5	7.23	97.2	23.81	25.9	5.86	80.5
930903	33	9	.	3	40	0	0.6	24.05	19.8	6.85	91.2	24.09	19.7	6.77	90.2
930903	37	10	.	3	70	0	1.0	24.45	23.5	7.16	98.1	24.06	24.2	6.43	87.8
930903	38	10	23.0	0	0	1	1.0	24.81	21.1	8.15	110.8	24.39	22.4	5.73	77.9
930903	40	10	23.0	1	90	1	1.3	24.66	20.5	8.57	115.8	24.23	21.3	6.19	83.4
930903	41	11	23.0	3	70	0	1.4	24.43	19.5	6.93	92.8	24.22	23.5	5.47	74.6
930903	42	11	23.0	0	0	1	1.3	24.62	18.9	7.44	99.6	24.52	21.8	5.46	74.2
930903	43	11	23.5	2	70	0	1.3	24.89	19.4	7.48	100.9	24.15	23.2	5.56	75.6
930903	44	11	22.5	4	140	1	0.9	24.30	21.4	6.46	87.2	24.24	21.5	6.20	83.7
930903	45	12	23.0	2	140	1	1.6	24.31	21.5	8.37	113.1	24.26	24.1	5.27	72.2
930903	46	12	23.5	2	70	0	1.0	24.40	21.9	8.56	116.1	24.10	24.6	5.19	71.1

Table 43.

October

Cruise Number	Station Number	Stratum Code	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
931001	4	1	20.0	6	340	0	.	21.00	22.0	.	.	.	.	.	.
931001	12	3	18.0	8	20	0	.	20.00	28.0	.	.	.	.	.	.
931001	14	4	24.0	5	20	0	.	20.50	22.3	14.70	186.1	20.60	22.2	14.60	185.1
931001	17	5	17.0	7	360	0	1.1	20.40	27.0	7.60	98.8	21.00	23.0	7.20	88.4
931002	1	21.0	6	6	290	0	1.0	17.80	25.2	7.40	90.6	17.90	25.5	7.20	132.6
931003	18	5	14.0	3	90	0	0.5	17.50	23.0	10.40	124.9	17.70	23.0	11.00	.
931003	20	5	16.0	4	340	0	0.7	18.20	22.5	.	.	18.60	25.7	.	.
931003	26	7	18.0	4	320	0	1.1	18.00	22.2	.	.	18.60	25.4	10.40	129.4
931003	28	7	17.0	2	320	0	1.2	17.80	22.7	.	.	17.80	23.0	.	.
931003	34	9	.	5	340	0	0.8	17.20	22.4	.	.	17.40	22.7	.	.
931003	38	10	.	5	340	0	1.2	17.60	23.1	.	.	18.10	24.7	.	.
931003	39	10	.	4	340	0	1.3	18.20	21.8	.	.	18.10	22.0	.	.
931003	41	11	24.0	4	340	0	1.1	17.90	23.8	.	.	18.60	26.6	.	.
931003	42	11	23.0	4	340	0	1.5	18.60	26.1	.	.	18.70	26.3	.	.
931004	43	11	16.0	3	250	0	1.6	17.00	17.0	.	.	18.00	18.5	.	.
931004	35	9	18.3	4	340	0	1.8	18.00	17.0	.	.	18.00	17.5	.	.
931004	36	9	18.3	4	340	0	1.8	18.00	17.0	.	.	17.50	18.0	.	.
931005	44	11	19.5	5	140	2	1.2	19.00	22.0	.	.	18.50	23.0	.	.
931005	2	1	19.5	5	140	2	1.2	19.00	24.0	.	.	19.00	26.0	.	.
931005	5	2	19.5	5	140	2	1.7	19.00	24.0	.	.	19.00	26.0	.	.
931005	7	2	19.0	3	180	1	1.7	18.50	25.0	.	.	19.00	28.0	.	.
931005	8	2	18.5	3	180	1	1.7	18.50	27.0	.	.	19.00	25.0	.	.
931005	9	3	.	5	140	2	1.3	18.50	25.0	.	.	18.00	28.0	.	.
931005	10	3	19.0	3	140	2	1.2	19.00	23.0	.	.	18.00	25.0	.	.
931005	11	3	19.0	3	140	2	1.6	18.50	25.0	.	.	18.50	23.0	.	.
931005	13	4	.	5	140	2	2.0	18.50	29.0	.	.	18.50	24.0	.	.
931005	15	4	.	5	180	2	2.0	18.50	28.0	.	.	18.00	30.0	.	.
931005	21	6	20.0	4	180	1	1.8	19.00	23.0	.	.	19.00	25.0	.	.
931005	22	6	.	1	180	1	1.5	19.00	25.0	.	.	19.00	25.0	.	.
931005	23	6	.	2	140	0	1.3	19.00	24.0	.	.	19.00	25.0	.	.
931005	25	7	19.5	4	180	1	1.6	18.50	25.0	.	.	19.00	25.0	.	.
931005	27	7	19.5	3	140	1	2.1	19.00	24.0	.	.	19.00	25.0	.	.
931005	30	8	20.0	2	140	1	1.6	20.00	20.0	.	.	19.00	26.0	.	.
931005	31	8	18.0	5	180	1	2.0	20.00	25.0	.	.	19.00	30.0	.	.
931005	32	8	19.0	0	0	0	2.0	19.00	21.0	.	.	19.00	26.0	.	.
931005	37	10	18.7	1	140	1	1.4	18.50	22.0	.	.	19.00	22.0	.	.
931005	45	12	20.7	0	0	1	2.0	18.00	21.0	.	.	19.00	22.0	.	.
931005	46	12	17.7	1	140	0	1.9	17.50	17.5	.	.	18.50	22.0	.	.
931005	47	12	19.2	1											

Table 44.

November

Cruise Number	Station Number	Stratum Code	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom				
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	
931101	35	9	-	8	140	-	1.9	13.40	17.3	9.14	98.7	14.59	20.2	7.75	85.2	
931102	27	7	-	-	-	-	-	1.5	13.25	19.8	8.50	91.7	13.60	21.5	8.13	89.2
931102	28	7	15.0	5	220	1	1.8	13.37	19.3	8.25	90.3	13.58	21.0	7.27	80.4	
931102	31	8	12.0	5	220	1	2.0	13.38	21.6	8.39	91.6	13.46	22.5	7.68	84.3	
931102	32	8	-	5	220	1	2.9	13.29	21.4	8.39	91.6	13.46	21.7	7.68	84.3	
931102	34	9	14.0	5	220	1	3.5	12.50	18.4	9.09	95.7	13.15	19.1	8.76	94.0	
931102	36	9	12.0	5	220	2	3.0	12.78	18.5	9.04	95.8	12.78	18.5	8.98	95.2	
931102	37	10	-	5	220	1	2.7	13.15	20.4	8.38	90.6	13.07	20.5	8.20	88.6	
931102	38	10	15.0	5	220	1	1.2	11.98	18.7	9.30	97.0	12.42	19.1	8.67	91.5	
931102	39	10	15.0	5	220	1	1.5	12.42	18.9	9.10	96.0	12.50	19.0	8.66	91.5	
931102	41	11	16.0	5	220	1	2.8	13.44	19.9	9.49	102.9	13.52	20.6	8.30	90.6	
931102	42	11	-	5	220	2	3.2	12.92	19.5	9.17	98.1	13.51	20.3	8.43	91.8	
931102	43	11	-	2	220	1	2.8	13.30	18.7	9.23	99.1	13.70	20.0	8.39	91.6	
931102	44	11	-	2	220	1	3.3	13.21	18.0	9.10	97.1	13.48	18.3	8.47	91.0	
931102	45	12	16.0	5	220	1	2.2	13.50	20.3	8.70	94.7	13.45	20.3	8.29	90.2	
931102	46	12	-	5	220	2	2.8	13.03	19.2	9.14	97.8	13.54	20.4	8.44	92.0	
931102	48	12	-	5	220	1	2.8	12.92	19.7	9.40	100.7	13.28	20.2	8.45	91.5	
931103	3	1	12.0	7	40	2	1.5	13.10	21.8	12.20	132.9	13.10	21.8	12.00	130.7	
931103	18	5	11.0	6	40	2	2.4	12.50	20.2	14.50	154.4	12.50	20.2	13.80	147.0	
931103	19	5	11.0	4	40	2	1.9	13.10	21.0	14.00	151.8	13.10	21.1	12.20	132.3	
931103	20	5	11.0	5	40	2	2.3	13.10	20.5	14.50	156.7	13.10	20.5	13.70	148.1	
931103	25	7	-	4	40	2	2.1	13.00	21.1	13.20	142.9	13.30	21.5	12.20	133.2	
931103	26	7	10.0	4	40	1	2.1	12.70	20.8	14.30	153.5	12.90	21.0	12.70	137.1	
931104	1	1	10.0	5	320	0	1.3	12.09	21.9	8.49	90.6	12.14	21.8	8.45	90.2	
931104	2	1	10.0	5	320	0	1.4	13.24	24.3	7.77	86.2	13.44	26.2	8.08	91.1	
931104	5	2	14.0	5	320	0	1.5	12.90	27.4	8.46	95.1	12.88	28.0	8.38	94.5	
931104	6	2	19.0	5	320	0	1.4	13.00	28.0	-	-	12.50	30.0	-	-	
931104	8	2	16.0	5	320	0	2.1	14.00	25.0	-	-	13.75	26.0	-	-	
931104	9	3	13.0	5	320	0	1.4	13.20	25.6	8.14	91.0	13.82	27.5	7.93	90.9	
931104	10	3	13.0	5	320	0	1.1	13.20	25.6	8.40	93.9	13.81	28.0	8.03	92.3	
931104	11	3	14.0	5	320	0	1.5	12.94	22.1	-	-	13.30	25.9	-	-	
931104	12	3	18.0	5	320	0	2.0	14.00	22.0	-	-	13.50	26.0	-	-	
931104	13	4	13.0	5	320	0	1.5	13.50	27.6	8.28	94.3	13.24	27.8	8.23	93.4	
931104	15	4	14.5	5	320	0	1.7	12.96	22.7	-	-	12.99	25.1	-	-	
931104	16	4	14.0	5	320	0	1.9	13.72	27.1	8.31	94.8	13.24	27.7	8.20	93.0	
931104	21	6	16.2	5	320	0	2.3	13.00	22.0	-	-	12.50	26.0	-	-	
931104	22	6	15.0	5	320	0	2.3	14.00	23.0	-	-	13.50	26.0	-	-	
931104	23	6	15.0	5	320	0	2.3	14.00	23.0	-	-	13.50	26.0	-	-	
931104	29	8	15.5	5	320	0	2.7	13.50	22.0	-	-	13.00	24.0	-	-	

Table 45.

December

Cruise Number	Station Number	Stratum Code	Air Temp. (°C)	Wind Speed m/sec	Wind Direct. (deg)	Obs. Weather	Secchi (m)	Surface				Bottom			
								Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.	Temp. (°C)	Salin. (ppt)	DO (mg/L)	% Satur.
931201	11	3	13.0	3	40	1	2.4	11.55	22.9	9.80	104.0	11.48	23.1	9.69	102.8
931201	12	3	13.0	8	40	1	2.0	11.58	22.8	9.77	103.7	11.53	23.0	9.64	102.3
931201	17	5	13.0	8	40	1	1.8	11.33	22.6	10.33	108.9	11.32	22.6	10.41	109.7
931201	18	5	13.0	8	40	1	2.0	11.48	22.8	9.93	105.2	11.46	22.8	9.70	102.7
931201	25	7	13.0	8	40	1	2.2	11.12	21.7	10.10	105.4	11.05	21.9	10.04	104.7
931201	26	7	13.0	8	40	1	2.1	11.29	22.0	10.00	104.9	11.18	22.1	9.75	102.1
931202	27	7	9.0	0	0	3	.	11.10	22.1	10.12	105.8	11.20	23.3	9.77	103.2
931202	28	7	12.0	2	40	0	.	10.82	19.7	10.07	103.1	11.15	21.1	9.63	100.2
931202	32	8	9.5	5	90	0	.	11.28	21.8	9.73	101.9	11.40	26.5	9.11	98.6
931202	34	9	9.0	8	140	0	3.0	10.92	19.5	11.69	119.7	10.92	19.1	11.45	117.0
931202	35	9	9.0	8	140	0	3.0	10.82	18.3	11.40	115.6	10.94	18.6	10.71	109.1
931202	39	10	13.0	2	360	0	1.4	10.64	20.5	11.33	116.1	10.56	20.7	10.84	111.0
931202	40	10	13.0	2	360	0	1.9	10.87	20.2	11.53	118.5	10.86	21.4	10.60	109.8
931202	41	11	9.0	8	140	0	2.8	11.18	19.4	11.45	117.9	11.23	19.9	10.45	108.1
931202	42	11	14.0	2	360	0	2.7	11.25	20.6	11.12	115.5	11.33	21.3	10.42	108.9
931202	43	11	12.0	2	360	0	1.7	11.27	20.8	11.71	121.9	11.35	21.4	10.25	107.3
931202	44	11	12.0	2	360	0	2.3	11.26	21.5	11.40	119.2	11.40	20.7	10.23	106.7
931202	45	12	10.0	2	40	0	1.5	11.33	21.2	10.38	108.5	11.40	21.9	9.89	104.0
931202	46	12	12.0	2	360	0	1.8	11.35	22.0	10.49	110.2	11.38	21.3	9.96	106.2
931202	48	12	12.0	2	360	0	2.0	11.58	21.3	10.80	113.5	11.45	21.5	10.12	106.2
931203	1	1	8.0	3	220	1	2.5	10.84	21.1	10.26	106.0	10.95	21.4	10.13	105.1
931203	2	1	10.0	3	220	1	2.2	10.89	21.8	10.30	107.0	10.99	21.6	10.25	106.6
931203	5	2	14.0	3	220	1	1.4	11.15	24.8	9.77	104.0	11.07	25.0	9.66	102.8
931203	7	2	14.0	3	220	1	1.6	11.12	24.3	9.74	103.3	11.00	24.3	9.62	101.8
931203	9	3	11.0	3	220	1	1.5	11.13	26.2	9.75	104.7	11.33	25.8	9.50	102.2
931203	10	3	14.5	3	220	1	1.2	11.17	23.8	9.72	102.9	11.09	26.3	9.65	103.6
931203	14	4	12.0	3	220	1	1.9	11.02	25.5	9.86	105.2	11.56	27.9	9.31	102.0
931203	15	4	12.0	3	220	1	1.8	10.95	24.9	10.13	107.5	11.69	28.7	9.20	101.6
931203	16	4	9.5	3	220	1	2.5	10.69	19.7	10.45	106.6	11.20	23.6	9.78	103.5
931203	22	6	13.0	3	220	1									

Table 46. Species composition, number caught, catch per trawl, and length statistics for all months, all areas, Chesapeake bay and river trawl surveys combined.

- Notes:
- A. The "Number of Species" notation at the top of the table includes each of the three categories of blue crabs (male, juvenile female, adult female) as a different "species".
 - B. Catch per trawl for fish species is based on the figure 'Number of Fish Trawls Made' while catch per trawl for blue crabs is based on the sum of 'Number of Fish Trawls Made' and 'Number of Additional Crab Trawls Made'.

Table 46.

Month - All - Pooled
 River - All - Pooled
 No. of Fish Trawls Made - 644
 No. of Add'l Crab Trawls Made - 91
 No. of Species - 98

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	612,419	81.8	81.8	950.96	51	0.1	14	94	1.0
hogchoker	41,614	5.6	87.4	64.62	87	0.3	11	193	15.1
Atlantic croaker	28,554	3.8	91.2	44.34	111	0.6	11	305	1.2
spot	14,754	2.0	93.2	22.91	133	0.3	10	240	29.0
weakfish	12,951	1.7	94.9	20.11	113	0.8	9	354	6.4
blue crab, male	4,231	0.6	95.4	5.76	59	0.6	6	201	
white perch	4,046	0.5	96.0	6.28	137	1.1	16	282	313.9
blue crab, juvenile female	3,650	0.5	96.5	4.97	45	0.4	2	146	.
spotted hake	3,635	0.5	97.0	5.64	137	0.8	36	326	.
scup	2,234	0.3	97.3	3.47	103	0.6	32	185	
squid	2,039	0.3	97.5	3.17	38	0.6	6	136	8.9
blackcheek tonguefish	1,982	0.3	97.8	3.08	126	0.9	40	196	.
smallmouth flounder	1,512	0.2	98.0	2.35	78	0.5	28	162	
white catfish	1,343	0.2	98.2	2.09	221	2.6	48	533	74.0
Atlantic thread herring	1,257	0.2	98.3	1.95	56	1.2	30	185	1.6
blue crab, adult female	1,204	0.2	98.5	1.64	143	0.4	100	187	.
Atlantic menhaden	1,052	0.1	98.6	1.63	101	1.0	31	250	
kingfish	841	0.1	98.8	1.31	93	1.3	25	316	12.3
Atlantic herring	786	0.1	98.9	1.22	83	3.9	38	331	.
northern sea robin	740	0.1	99.0	1.15	92	1.3	26	196	0.1
butterfish	687	0.1	99.1	1.07	101	1.3	16	179	.
Atlantic silverside	583	0.1	99.1	0.91	89	0.6	56	122	
striped bass	568	0.1	99.2	0.88	117	2.7	32	630	1085.0
summer flounder	553	0.1	99.3	0.86	279	3.3	43	581	465.0
channel catfish	524	0.1	99.4	0.81	286	2.4	134	516	.
silver perch	521	0.1	99.4	0.81	132	1.5	42	212	23.9
gizzard shad	425	0.1	99.5	0.66	156	2.8	62	339	.
oyster toadfish	359	0.0	99.5	0.56	188	4.2	32	367	.
American eel	336	0.0	99.6	0.52	239	3.5	82	618	.
blue catfish	284	0.0	99.6	0.44	219	3.0	82	365	126.0
blueback herring	279	0.0	99.6	0.43	82	1.6	61	300	.
striped anchovy	272	0.0	99.7	0.42	88	0.9	44	122	.
inshore lizardfish	233	0.0	99.7	0.36	174	3.3	17	327	.
red hake	183	0.0	99.7	0.28	152	3.3	56	248	.
northern pipefish	180	0.0	99.8	0.28	135	2.7	37	264	.
silver hake	168	0.0	99.8	0.26	137	2.4	40	222	60.0
harvestfish	166	0.0	99.8	0.26	61	2.4	12	178	.
black seabass	151	0.0	99.8	0.23	115	4.0	47	280	.
alewife	150	0.0	99.8	0.23	101	2.8	60	278	430.0
southern kingfish	147	0.0	99.9	0.23	121	3.6	33	280	.
naked goby	122	0.0	99.9	0.19	40	0.9	21	71	.
windowpane	119	0.0	99.9	0.18	189	0.6	30	295	.
clearnose skate	114	0.0	99.9	0.18	383	6.4	141	483	.
Atlantic spadefish	74	0.0	99.9	0.11	89	3.2	28	255	.
northern puffer	73	0.0	99.9	0.11	112	5.4	41	223	.
lined seahorse	60	0.0	99.9	0.09	83	3.3	26	134	.
skilletfish	44	0.0	99.9	0.07	43	1.8	16	70	.
striped searobin	42	0.0	100.0	0.07	155	11.7	34	301	.
brown shrimp	37	0.0	100.0	0.06	122	4.1	86	183	40.6
fringed flounder	33	0.0	100.0	0.05	120	2.9	94	159	.
feather blenny	28	0.0	100.0	0.04	64	3.0	32	98	.
conger eel	27	0.0	100.0	0.04	338	13.4	241	493	.
northern kingfish	20	0.0	100.0	0.03	62	16.0	20	267	.
bluefish	18	0.0	100.0	0.03	183	9.7	135	291	181.0
tautog	15	0.0	100.0	0.02	272	27.3	136	497	320.0
green goby	13	0.0	100.0	0.02	38	2.0	27	45	.
spiny dogfish	13	0.0	100.0	0.02	772	23.7	616	918	.
American shad	12	0.0	100.0	0.02	124	6.4	94	165	.
pigfish	11	0.0	100.0	0.02	175	3.8	159	193	124.0
northern stargazer	10	0.0	100.0	0.02	44	8.2	13	107	.
spotted seatrout	9	0.0	100.0	0.01	166	7.9	128	211	.
red drum	8	0.0	100.0	0.01	90	16.4	26	169	14.9
longnose gar	8	0.0	100.0	0.01	696	47.6	384	820	1400.0
spiny butterfly ray	6	0.0	100.0	0.01	516	28.0	430	640	.
lookdown	6	0.0	100.0	0.01	72	10.1	50	105	5.2
white shrimp	6	0.0	100.0	0.01	109	7.0	75	121	.
inland silverside	5	0.0	100.0	0.01	56	1.5	53	62	.
Atlantic cutlassfish	5	0.0	100.0	0.01	453	74.6	202	624	77.1
sea lamprey	4	0.0	100.0	0.01	166	4.5	155	177	.
brown bullhead	4	0.0	100.0	0.01	235	11.6	211	261	221.0
seaboard goby	4	0.0	100.0	0.01	37	0.8	35	38	.
smooth dogfish	4	0.0	100.0	0.01	608	62.9	427	705	.
bluntnose stingray	4	0.0	100.0	0.01	215	4.4	206	225	340.3
banded drum	4	0.0	100.0	0.01	161	11.3	131	186	27.3
striped cusk-eel	4	0.0	100.0	0.01	142	31.1	54	187	.
common carp	2	0.0	100.0	0.00	545	5.0	540	550	.
blue runner	2	0.0	100.0	0.00	145	10.5	134	155	.
rough scad	2	0.0	100.0	0.00	68	15.0	53	83	1.0
northern sennet	2	0.0	100.0	0.00	66	1.0	65	67	1.1
threadfin shad	2	0.0	100.0	0.00	76	4.5	71	80	.
dwarf goatfish	2	0.0	100.0	0.00	53	4.0	49	57	.
Spanish mackerel	1	0.0	100.0	0.00	164	.	164	164	.
Florida pompano	1	0.0	100.0	0.00	214	.	214	214	245.0
bluespotted cornetfish	1	0.0	100.0	0.00	380	.	380	380	15.5
spottail shiner	1	0.0	100.0	0.00	83	.	83	83	.
bluegill	1	0.0	100.0	0.00	185	.	185	185	112.0
rough silverside	1	0.0	100.0	0.00	84	.	84	84	.
sandbar shark	1	0.0	100.0	0.00	545	.	545	545	.
southern stingray	1	0.0	100.0	0.00	173	.	173	173	.

Table 46 continued.

Month - All - Pooled

River - All - Pooled

No. of Fish Trawls Made - 644

No. of Add'l Crab Trawls Made - 91

No. of Species - 98

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
roughtail stingray	1	0.0	100.0	0.00	417	.	417	417	.
Atlantic stingray	1	0.0	100.0	0.00	495	.	495	495	.
spotfin butterflyfish	1	0.0	100.0	0.00	63	.	63	63	.
northern sand lance	1	0.0	100.0	0.00	162	.	162	162	.
orange filefish	1	0.0	100.0	0.00	39	.	39	39	.
striped burrfish	1	0.0	100.0	0.00	181	.	181	181	.
chain pipefish	1	0.0	100.0	0.00	267	.	267	267	.
mottled mojarra	1	0.0	100.0	0.00	108	.	108	108	.
seaweed blenny	1	0.0	100.0	0.00	58	.	58	58	26.0
All Species Combined			748.608						

Tables 47-50.

Species composition, number caught, catch per trawl ,and length statistics for all months, by river, for the river trawl survey.

Notes:

A. The "Number of Species" notation at the top of each table includes each of the three categories of blue crabs (male, juvenile female, adult female) as a different" species".

Table 47.

Month - All - Pooled

River - James

No. of Fish Trawls Made - 82

No. of Add'l Crab Trawls Made - 28

No. of Species - 64

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	67,000	67.2	67.2	825.12	54	0.3	14	94	1.0
hogchoker	18,498	18.4	85.5	225.59	75	0.5	14	176	9.8
Atlantic croaker	5,264	5.2	90.8	64.20	116	1.4	13	305	1.4
weakfish	2,391	2.4	93.1	29.16	98	1.9	21	303	8.4
spot	2,129	2.1	95.2	25.96	129	0.7	22	226	46.1
blue crab, juvenile female	796	0.8	96.0	7.24	48	0.9	7	146	.
white perch	767	0.8	96.8	9.35	115	2.2	16	249	.
blue crab, male	739	0.7	97.5	6.72	66	1.5	8	182	.
white catfish	337	0.3	97.9	4.11	199	3.3	56	533	410.0
spotted hake	239	0.2	98.1	2.91	131	1.8	68	222	.
American eel	224	0.2	98.3	2.73	239	3.6	118	529	.
blue crab, adult female	210	0.2	98.5	1.91	146	0.9	100	178	.
Atlantic silverside	168	0.2	98.7	2.05	92	1.1	68	122	.
blue catfish	166	0.2	98.9	2.02	223	4.7	82	365	.
gizzard shad	164	0.2	99.0	2.00	191	5.4	80	339	.
blackcheek tonguefish	149	0.1	99.2	1.82	103	2.7	48	168	.
channel catfish	121	0.1	99.3	1.48	282	3.8	164	516	.
blueback herring	104	0.1	99.4	1.27	70	0.6	64	85	.
summer flounder	86	0.1	99.5	1.05	243	6.8	153	476	204.2
squid	79	0.1	99.6	0.96	34	1.0	15	75	.
oyster toadfish	62	0.1	99.6	0.76	163	10.6	32	367	.
striped bass	45	0.0	99.7	0.55	194	15.6	38	630	383.3
naked goby	35	0.0	99.7	0.43	39	1.5	26	71	.
butterfish	31	0.0	99.7	0.38	97	9.0	16	177	.
scup	28	0.0	99.8	0.34	135	4.2	82	184	.
silver perch	27	0.0	99.8	0.33	128	9.3	56	194	.
smallmouth flounder	26	0.0	99.8	0.32	77	3.6	40	99	.
kingfish	17	0.0	99.8	0.21	93	6.1	40	124	.
Atlantic herring	16	0.0	99.9	0.20	299	4.6	239	320	.
Atlantic menhaden	16	0.0	99.9	0.20	109	9.2	75	195	.
northern pipefish	12	0.0	99.9	0.15	147	12.7	58	250	.
southern kingfish	10	0.0	99.9	0.12	80	3.2	64	100	.
inshore lizardfish	10	0.0	99.9	0.12	183	15.9	139	308	.
harvestfish	9	0.0	99.9	0.11	81	6.9	38	109	.
Atlantic thread herring	9	0.0	99.9	0.11	96	4.9	69	112	.
skilletfish	9	0.0	99.9	0.11	48	5.1	16	62	.
black seabass	8	0.0	99.9	0.10	114	15.4	60	183	.
Atlantic spadefish	8	0.0	99.9	0.10	87	4.9	68	110	.
northern searobin	6	0.0	99.9	0.07	130	12.2	74	155	.
alewife	5	0.0	100.0	0.06	106	7.4	94	134	.
pigfish	5	0.0	100.0	0.06	172	5.2	159	189	.
inland silverside	5	0.0	100.0	0.06	56	1.5	53	62	.
feather blenny	4	0.0	100.0	0.05	71	9.9	45	93	.
American shad	3	0.0	100.0	0.04	116	8.4	99	126	.
green goby	3	0.0	100.0	0.04	37	3.7	32	44	.
red drum	2	0.0	100.0	0.02	64	37.5	26	101	.
northern puffer	2	0.0	100.0	0.02	158	65.0	93	223	.
common carp	2	0.0	100.0	0.02	545	5.0	540	550	.
tautog	2	0.0	100.0	0.02	289	42.5	246	331	.
windowpane	2	0.0	100.0	0.02	198	21.5	176	219	.
sea lamprey	2	0.0	100.0	0.02	172	5.5	166	177	.
lined seahorse	2	0.0	100.0	0.02	58	10.0	48	68	.
clearnose skate	2	0.0	100.0	0.02	445	38.0	407	483	.
bluefish	1	0.0	100.0	0.01	160	.	160	160	.
spotted seatrout	1	0.0	100.0	0.01	148	.	148	148	.
striped searobin	1	0.0	100.0	0.01	34	.	34	34	.
brown bullhead	1	0.0	100.0	0.01	248	.	248	248	.
southern stingray	1	0.0	100.0	0.01	173	.	173	173	.
conger eel	1	0.0	100.0	0.01	385	.	385	385	.
lookdown	1	0.0	100.0	0.01	51	.	51	51	.
northern stargazer	1	0.0	100.0	0.01	28	.	28	28	.
fringed flounder	1	0.0	100.0	0.01	95	.	95	95	.
threadfin shad	1	0.0	100.0	0.01	80	.	80	80	.
white shrimp	1	0.0	100.0	0.01	75	.	75	75	.
All Species Combined			100.727						221.0

Table 48.

Month - All - Pooled
 River - Rappahannock
 No. of Fish Trawls Made - 91
 No. of Add'l Crab Trawls Made - 35
 No. of Species - 46

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	60,365	67.6	67.6	663.35	51	0.3	22	91	1.1
hogchoker	8,361	9.4	77.0	91.88	86	0.6	21	169	17.6
Atlantic croaker	8,159	9.1	86.1	89.66	63	1.0	13	270	1.1
spot	3,421	3.8	90.0	37.59	117	0.6	10	178	11.1
white perch	2,034	2.3	92.2	22.35	128	1.2	57	282	.
blue crab, male	1,571	1.8	94.0	12.47	62	0.9	10	201	.
weakfish	1,348	1.5	95.5	14.81	97	2.4	25	354	.
blue crab, juvenile female	1,180	1.3	96.8	9.37	45	0.8	2	135	.
channel catfish	399	0.4	97.3	4.38	291	2.8	175	461	.
striped bass	346	0.4	97.7	3.80	111	2.5	32	552	2025.0
white catfish	312	0.3	98.0	3.43	250	3.5	77	495	310.0
Atlantic menhaden	268	0.3	98.3	2.95	93	1.0	61	150	.
gizzard shad	243	0.3	98.6	2.67	130	1.4	62	243	.
kingfish	204	0.2	98.8	2.24	86	1.9	31	148	.
spotted hake	199	0.2	99.0	2.19	118	1.9	54	194	.
alewife	126	0.1	99.2	1.38	94	2.6	60	278	430.0
blue catfish	118	0.1	99.3	1.30	214	3.8	125	343	126.0
Atlantic silverside	112	0.1	99.4	1.23	91	1.1	62	114	.
American eel	78	0.1	99.5	0.86	250	8.7	151	618	.
blue crab, adult female	76	0.1	99.6	0.60	148	1.7	104	175	.
naked goby	53	0.1	99.7	0.58	44	1.2	27	60	.
blackcheek tonguefish	53	0.1	99.7	0.58	95	5.4	40	154	.
blueback herring	49	0.1	99.8	0.54	81	1.4	61	117	.
oyster toadfish	38	0.0	99.8	0.42	180	12.9	41	337	.
summer flounder	25	0.0	99.9	0.27	270	9.5	173	398	.
skilletfish	23	0.0	99.9	0.25	40	1.7	25	56	.
butterfish	22	0.0	99.9	0.24	135	3.2	114	179	.
harvestfish	22	0.0	99.9	0.24	42	3.2	26	73	.
silver perch	15	0.0	99.9	0.16	105	3.5	82	124	.
northern pipefish	12	0.0	100.0	0.13	118	5.7	94	166	.
green goby	6	0.0	100.0	0.07	38	2.7	27	44	.
Atlantic thread herring	5	0.0	100.0	0.05	85	12.0	39	104	.
inshore lizardfish	5	0.0	100.0	0.05	192	12.6	167	235	.
Atlantic herring	3	0.0	100.0	0.03	292	10.7	273	310	.
brown bullhead	3	0.0	100.0	0.03	231	15.3	211	261	.
striped anchovy	2	0.0	100.0	0.02	74	27.0	47	101	.
feather blenny	2	0.0	100.0	0.02	41	8.5	32	49	.
bluefish	1	0.0	100.0	0.01	155	.	155	155	.
American shad	1	0.0	100.0	0.01	115	.	115	115	.
Atlantic spadefish	1	0.0	100.0	0.01	48	.	48	48	.
northern searobin	1	0.0	100.0	0.01	47	.	47	47	.
bluegill	1	0.0	100.0	0.01	185	.	185	185	112.0
rough silverside	1	0.0	100.0	0.01	84	.	84	84	.
conger eel	1	0.0	100.0	0.01	253	.	253	253	.
spotted butterflyfish	1	0.0	100.0	0.01	63	.	63	63	.
Atlantic cutlassfish	1	0.0	100.0	0.01	378	.	378	378	30.5

All Species Combined

89,267

Table 49.

Month - All - Pooled

River - York

No. of Fish Trawls Made - 101

No. of Add'l Crab Trawls Made - 28

No. of Species - 53

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	107,763	74.9	74.9	1060.96	52	0.2	15	94	1.0
hogchoker	12,147	8.4	83.3	120.27	84	0.6	11	193	20.4
Atlantic croaker	10,352	7.2	90.5	102.50	105	1.1	13	286	1.3
weakfish	5,019	3.5	94.0	49.69	106	1.6	14	337	5.2
blue crab, male	1,721	1.2	95.2	13.34	50	0.8	6	193	.
blue crab, juvenile female	1,502	1.0	96.3	11.64	41	0.6	6	130	.
white perch	1,245	0.9	97.1	12.33	183	1.6	63	282	313.9
spot	1,033	0.7	97.9	10.23	140	1.0	38	226	60.0
white catfish	694	0.5	98.3	6.87	214	4.6	48	489	17.9
Atlantic menhaden	633	0.4	98.8	6.27	103	1.4	66	250	.
blackcheek tonguefish	263	0.2	99.0	2.60	97	1.9	43	157	.
silver perch	247	0.2	99.1	2.45	137	2.4	42	212	23.9
oyster toadfish	208	0.1	99.3	2.06	206	4.9	47	360	.
spotted hake	206	0.1	99.4	2.04	129	2.2	56	212	.
kingfish	198	0.1	99.6	1.96	93	2.4	30	152	12.3
striped bass	176	0.1	99.7	1.74	107	5.0	32	518	2250.0
Atlantic thread herring	71	0.0	99.7	0.70	55	1.2	46	123	.
summer flounder	57	0.0	99.8	0.56	224	9.0	43	387	.
blueback herring	55	0.0	99.8	0.54	93	5.7	72	300	.
blue crab, adult female	40	0.0	99.8	0.31	146	2.2	115	187	.
American eel	34	0.0	99.9	0.34	218	14.3	82	419	.
squid	24	0.0	99.9	0.24	45	2.9	26	62	.
Atlantic silverside	21	0.0	99.9	0.21	84	3.0	65	120	.
naked goby	19	0.0	99.9	0.19	36	2.4	21	55	.
harvestfish	18	0.0	99.9	0.18	47	4.6	13	75	.
gizzard shad	16	0.0	99.9	0.16	204	23.5	85	336	.
northern pipefish	16	0.0	99.9	0.16	123	6.6	61	180	.
Atlantic spadefish	12	0.0	99.9	0.12	85	4.6	42	102	.
northern Kingfish	11	0.0	100.0	0.11	33	2.6	20	51	.
longnose gar	8	0.0	100.0	0.08	696	47.6	384	820	1400.0
alewife	7	0.0	100.0	0.07	141	20.2	108	260	.
butterfish	4	0.0	100.0	0.04	97	22.9	44	153	.
Atlantic herring	4	0.0	100.0	0.04	232	62.1	47	306	.
channel catfish	4	0.0	100.0	0.04	162	18.3	134	211	.
white shrimp	4	0.0	100.0	0.04	117	2.6	109	121	.
brown shrimp	4	0.0	100.0	0.04	142	22.8	86	183	40.6
northern searobin	3	0.0	100.0	0.03	54	4.8	44	59	.
skilletfish	3	0.0	100.0	0.03	50	10.1	38	70	.
inshore lizardfish	3	0.0	100.0	0.03	196	24.5	167	245	.
northern stargazer	3	0.0	100.0	0.03	53	1.8	50	56	.
red drum	2	0.0	100.0	0.02	157	12.0	145	169	34.6
sea lamprey	2	0.0	100.0	0.02	160	4.5	155	164	.
striped anchovy	2	0.0	100.0	0.02	86	0.5	85	86	.
seaboard goby	2	0.0	100.0	0.02	36	0.5	35	36	.
conger eel	2	0.0	100.0	0.02	401	92.0	309	493	.
American shad	1	0.0	100.0	0.01	108	—	108	—	.
southern kingfish	1	0.0	100.0	0.01	33	—	33	33	.
spotted seatrout	1	0.0	100.0	0.01	150	—	150	150	.
spottail shiner	1	0.0	100.0	0.01	83	—	83	83	.
feather blenny	1	0.0	100.0	0.01	87	—	87	87	.
lockdown	1	0.0	100.0	0.01	60	—	60	60	.
Atlantic cutlassfish	1	0.0	100.0	0.01	506	—	506	506	5.2
threadfin shad	1	0.0	100.0	0.01	71	—	71	71	.

All Species Combined

143,866

Table 50.

Month - All - Pooled
 River - All - Pooled
 No. of Fish Trawls Made - 274
 No. of Add'l Crab Trawls Made - 91
 No. of Species - 74

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	235,788	70.6	70.6	860.54	52	0.2	14	94	1.0
hogchoker	39,006	11.7	82.3	142.36	82	0.3	11	193	14.1
Atlantic croaker	23,775	7.1	89.4	86.77	96	0.7	13	305	1.2
weakfish	8,758	2.6	92.1	31.96	102	1.1	14	354	6.4
spot	6,583	2.0	94.0	24.03	128	0.5	10	226	36.0
white perch	4,046	1.2	95.2	14.77	137	1.1	16	282	313.9
blue crab, male	4,031	1.2	96.4	11.04	58	0.6	6	201	.
blue crab, juvenile female	3,478	1.0	97.5	9.53	44	0.4	2	146	.
white catfish	1,343	0.4	97.9	4.90	221	2.6	48	533	74.0
Atlantic menhaden	917	0.3	98.2	3.35	99	0.9	61	250	.
spotted hake	644	0.2	98.4	2.35	127	1.2	54	222	.
striped bass	567	0.2	98.5	2.07	116	2.7	32	630	1085.0
channel catfish	524	0.2	98.7	1.91	286	2.4	134	516	.
blackcheek tonguefish	465	0.1	98.8	1.70	99	1.5	40	168	.
gizzard shad	423	0.1	98.9	1.54	156	2.8	62	339	.
kingfish	419	0.1	99.1	1.53	89	1.5	30	152	12.3
American eel	336	0.1	99.2	1.23	239	3.5	82	618	.
blue crab, adult female	326	0.1	99.3	0.89	147	0.7	100	187	.
oyster toadfish	308	0.1	99.4	1.12	194	4.4	32	367	.
Atlantic silverside	301	0.1	99.5	1.10	91	0.8	62	122	.
silver perch	289	0.1	99.5	1.05	134	2.3	42	212	23.9
blue catfish	284	0.1	99.6	1.04	219	3.0	82	365	126.0
blueback herring	208	0.1	99.7	0.76	81	2.2	61	300	.
summer flounder	168	0.1	99.7	0.61	240	5.0	43	476	204.2
alewife	138	0.0	99.8	0.50	97	2.7	60	278	430.0
naked goby	107	0.0	99.8	0.39	41	0.9	21	71	.
squid	103	0.0	99.8	0.38	36	1.1	15	75	.
Atlantic thread herring	85	0.0	99.9	0.31	61	2.0	39	123	.
butterfish	57	0.0	99.9	0.21	112	5.8	16	179	.
harvestfish	49	0.0	99.9	0.18	51	3.2	13	109	.
northern pipefish	40	0.0	99.9	0.15	129	5.2	58	250	.
skilletfish	35	0.0	99.9	0.13	43	1.9	16	70	.
scup	28	0.0	99.9	0.10	135	4.2	82	184	.
smallmouth flounder	26	0.0	99.9	0.09	77	3.6	40	99	.
Atlantic herring	23	0.0	99.9	0.08	287	11.5	47	320	.
Atlantic spadefish	21	0.0	100.0	0.08	84	3.6	42	110	.
inshore lizardfish	18	0.0	100.0	0.07	188	9.9	139	308	.
northern kingfish	11	0.0	100.0	0.04	33	2.6	20	51	.
southern kingfish	11	0.0	100.0	0.04	76	5.2	33	100	.
northern searobin	10	0.0	100.0	0.04	99	14.5	44	155	.
green goby	9	0.0	100.0	0.03	37	2.0	27	44	.
black seabass	8	0.0	100.0	0.03	114	15.4	60	183	.
longnose gar	8	0.0	100.0	0.03	696	47.6	384	820	1400.0
feather blenny	7	0.0	100.0	0.03	65	8.7	32	93	.
American shad	5	0.0	100.0	0.02	114	4.8	99	126	.
pigfish	5	0.0	100.0	0.02	172	5.2	159	189	.
inland silverside	5	0.0	100.0	0.02	56	1.5	53	62	.
white shrimp	5	0.0	100.0	0.02	108	8.5	75	121	.
red drum	4	0.0	100.0	0.01	110	31.4	26	169	34.6
sea lamprey	4	0.0	100.0	0.01	166	4.5	155	177	.
striped anchovy	4	0.0	100.0	0.01	80	11.5	47	101	221.0
brown bullhead	4	0.0	100.0	0.01	235	11.6	211	261	.
conger eel	4	0.0	100.0	0.01	360	51.9	253	493	.
northern stargazer	4	0.0	100.0	0.01	47	6.3	28	56	.
brown shrimp	4	0.0	100.0	0.01	142	22.8	86	183	40.6
bluefish	2	0.0	100.0	0.01	158	2.5	155	160	.
northern puffer	2	0.0	100.0	0.01	158	65.0	93	223	.
common carp	2	0.0	100.0	0.01	545	5.0	540	550	.
tautog	2	0.0	100.0	0.01	289	42.5	246	331	.
spotted seatrout	2	0.0	100.0	0.01	149	1.0	148	150	.
windowpane	2	0.0	100.0	0.01	198	21.5	176	219	.
lined seahorse	2	0.0	100.0	0.01	58	10.0	48	68	.
seaboard goby	2	0.0	100.0	0.01	36	0.5	35	36	.
clearnose skate	2	0.0	100.0	0.01	445	38.0	407	483	.
lookdown	2	0.0	100.0	0.01	56	4.5	51	60	5.2
Atlantic cutlassfish	2	0.0	100.0	0.01	442	64.0	378	506	30.5
threadfin shad	2	0.0	100.0	0.01	76	4.5	71	80	.
striped searobin	1	0.0	100.0	0.00	34	-	34	34	.
spottail shiner	1	0.0	100.0	0.00	83	-	83	83	.
bluegill	1	0.0	100.0	0.00	185	-	185	185	112.0
rough silverside	1	0.0	100.0	0.00	84	-	84	84	.
southern stingray	1	0.0	100.0	0.00	173	-	173	173	.
spotfin butterflyfish	1	0.0	100.0	0.00	63	-	63	63	.
fringed flounder	1	0.0	100.0	0.00	95	-	95	95	.

All Species Combined

333,860

- Tables 51-54. Species composition, number caught, catch per trawl ,and length statistics for all months, by segment, for the Chesapeake Bay trawl survey.
- Notes:
- A. The "Number of Species" notation at the top of each table includes each of the three categories of blue crabs (male, juvenile female, adult female) as a different" species".
 - B. Table pooled for all segments, all months appears in Table 54, page 154.
 - C. Catch per trawl for fish species is based on the figure 'Number of Fish Trawls Made' while catch per trawl for blue crabs is based on the sum of 'Number of Fish Trawls Made' and 'Number of Additional Crab Trawls Made'.

Table 51.

Month - All - Pooled
 Segment - Ches. Bay - Bottom
 No. of Trawls Made - 123
 No. of Species - 68

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	83,211	85.9	85.9	0.7631	53	0.2	30	94	0.8
spot	1,800	1.9	87.7	14.63	136	0.7	13	240	.
Atlantic croaker	1,611	1.7	89.4	13.10	149	1.5	25	259	.
squid	1,526	1.6	91.0	12.41	41	0.9	9	136	240
spotted hake	1,493	1.5	92.5	12.14	145	1.5	36	326	8.9
smallmouth flounder	1,082	1.1	93.6	8.80	79	0.7	28	136	.
weakfish	1,006	1.0	94.6	8.18	138	2.1	27	326	.
blackcheek tonguefish	829	0.9	95.5	6.74	140	1.3	40	309	.
Atlantic thread herring	785	0.8	96.3	6.38	53	2.0	30	196	.
scup	539	0.6	96.9	4.38	102	1.2	39	185	.
butterfish	405	0.4	97.3	3.29	97	1.8	25	178	1.6
blue crab, adult female	366	0.4	97.7	2.98	144	0.9	107	176	.
northern searobin	350	0.4	98.0	2.85	92	1.8	26	183	.
hogchoker	326	0.3	98.4	2.65	126	1.5	66	196	.
silver hake	165	0.2	98.5	1.34	138	2.4	71	189	37.2
summer flounder	151	0.2	98.7	1.23	295	5.7	171	222	60.0
kingfish	142	0.1	98.8	1.15	96	2.8	27	255	1550.0
striped anchovy	127	0.1	99.0	1.03	89	1.3	62	122	.
red hake	121	0.1	99.1	0.98	158	4.3	56	248	.
clearnose skate	97	0.1	99.2	0.79	376	7.2	141	477	.
Atlantic herring	84	0.1	99.3	0.68	102	9.6	141	243	.
silver perch	82	0.1	99.4	0.67	127	2.6	47	331	.
windowpane	73	0.1	99.4	0.59	188	8.6	30	180	.
southern kingfish	64	0.1	99.5	0.52	133	4.5	53	292	.
Atlantic menhaden	62	0.1	99.6	0.50	111	5.6	62	239	.
black seabass	60	0.1	99.6	0.49	113	7.0	48	280	.
northern pipefish	59	0.1	99.7	0.48	141	4.9	78	244	.
inshore lizardfish	42	0.0	99.7	0.34	191	6.6	107	308	.
Atlantic silverside	27	0.0	99.8	0.22	91	2.8	64	118	.
northern puffer	26	0.0	99.8	0.21	136	8.9	52	200	.
striped searobin	26	0.0	99.8	0.21	167	14.9	57	301	.
lined seahorse	20	0.0	99.8	0.16	81	5.6	35	123	.
oyster toadfish	18	0.0	99.9	0.15	207	17.8	47	324	.
Atlantic spadefish	14	0.0	99.9	0.11	92	3.3	70	109	.
fringed flounder	11	0.0	99.9	0.09	119	6.4	94	159	.
blue crab, male	11	0.0	99.9	0.09	83	14.1	18	161	.
blue crab, juvenile female	11	0.0	99.9	0.09	60	8.1	33	110	.
spiny dogfish	10	0.0	99.9	0.08	788	23.8	660	918	.
brown shrimp	9	0.0	99.9	0.07	134	6.9	105	172	181.0
bluefish	8	0.0	99.9	0.07	183	15.1	135	275	.
naked goby	7	0.0	99.9	0.06	35	2.9	26	45	.
harvestfish	5	0.0	99.9	0.04	86	3.6	76	95	.
feather blenny	5	0.0	100.0	0.04	62	6.7	44	85	.
spotted seatrout	4	0.0	100.0	0.03	179	11.1	161	211	.
conger eel	4	0.0	100.0	0.03	369	42.3	267	473	.
alewife	3	0.0	100.0	0.03	125	4.8	118	134	.
American shad	3	0.0	100.0	0.02	116	1.2	114	118	.
green goby	3	0.0	100.0	0.02	100	1.2	38	42	340.3
skilletfish	3	0.0	100.0	0.02	40	3.9	206	219	.
bluntnose stingray	3	0.0	100.0	0.02	211	47.7	495	640	.
spiny butterfly ray	3	0.0	100.0	0.02	545	7.9	161	186	25.0
banded drum	3	0.0	100.0	0.02	170	7.0	50	64	.
lockdown	3	0.0	100.0	0.02	57	15.0	53	83	1.0
rough scad	2	0.0	100.0	0.02	68	1.0	65	67	1.1
northern sennet	2	0.0	100.0	0.02	66	7.1	71	71	.
blueback herring	2	0.0	100.0	0.01	71	142	142	142	.
gizzard shad	1	0.0	100.0	0.01	142	192	192	192	.
pigfish	1	0.0	100.0	0.01	214	214	380	380	245.0
Florida pompano	1	0.0	100.0	0.01	380	380	380	380	15.5
bluespotted cornetfish	1	0.0	100.0	0.01	545	545	545	545	.
seaboard goby	1	0.0	100.0	0.01	619	619	619	619	.
sandbar shark	1	0.0	100.0	0.01	495	495	495	495	.
smooth dogfish	1	0.0	100.0	0.01	556	556	556	556	112.0
Atlantic stingray	1	0.0	100.0	0.01	108	108	108	108	26.0
Atlantic cutlassfish	1	0.0	100.0	0.01	57	57	57	57	.
mottled mojarra	1	0.0	100.0	0.01	110	110	110	110	.
dwarf goatfish	1	0.0	100.0	0.01	110	110	110	110	.
white shrimp	1	0.0	100.0	0.01	110	110	110	110	.
All Species Combined		96,914							

Table 52.

Month - All - Pooled
 Segment - Ches. Bay - Lower
 No. of Trawls Made - 123
 No. of Species - 68

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	143,700	91.2	91.2	1168.29	50	0.2	15	94	1.2
spot	3,209	2.0	93.3	26.09	136	0.6	16	209	21.2
hogchoker	1,661	1.1	94.3	13.50	110	0.8	67	182	38.6
Atlantic croaker	1,653	1.0	95.4	13.44	148	1.8	11	259	.
weakfish	1,359	0.9	96.2	11.05	129	1.7	9	322	.
spotted hake	1,090	0.7	96.9	8.86	143	1.3	46	270	.
scup	795	0.5	97.4	6.46	105	0.9	32	172	.
Atlantic herring	644	0.4	97.8	5.24	56	1.8	38	302	.
blackcheek tonguefish	408	0.3	98.1	3.32	134	1.5	53	180	.
smallmouth flounder	360	0.2	98.3	2.93	78	1.0	41	130	.
Atlantic thread herring	319	0.2	98.5	2.59	66	4.3	39	129	1.7
squid	312	0.2	98.7	2.54	36	1.1	9	115	.
blue crab, adult female	282	0.2	98.9	2.29	144	0.9	104	179	.
northern searobin	239	0.2	99.0	1.94	94	2.3	29	195	0.1
Atlantic silverside	184	0.1	99.2	1.50	87	1.4	56	112	.
butterfish	158	0.1	99.3	1.28	102	2.6	31	170	.
silver perch	127	0.1	99.3	1.03	130	2.1	79	206	.
summer flounder	122	0.1	99.4	0.99	304	7.4	92	516	825.0
kingfish	116	0.1	99.5	0.94	113	4.3	47	301	.
inshore lizardfish	84	0.1	99.5	0.68	161	5.3	52	298	.
striped anchovy	81	0.1	99.6	0.66	92	1.2	66	112	.
black seabass	55	0.0	99.6	0.45	118	5.6	51	230	.
northern pipefish	53	0.0	99.7	0.43	137	4.6	69	264	.
blueback herring	51	0.0	99.7	0.41	82	1.3	61	125	.
red hake	48	0.0	99.7	0.39	142	4.2	78	212	.
blue crab, juvenile female	48	0.0	99.8	0.39	57	4.0	21	129	.
blue crab, male	39	0.0	99.8	0.32	85	7.5	20	172	.
Atlantic menhaden	37	0.0	99.8	0.30	110	5.9	38	203	.
windowpane	32	0.0	99.8	0.26	193	12.1	48	295	.
northern puffer	31	0.0	99.9	0.25	95	6.2	41	178	.
harvestfish	30	0.0	99.9	0.24	82	8.3	12	178	.
lined seahorse	28	0.0	99.9	0.23	88	4.6	42	134	.
fringed flounder	19	0.0	99.9	0.15	123	3.2	97	149	.
Atlantic spadefish	18	0.0	99.9	0.15	93	10.3	28	255	.
brown shrimp	14	0.0	99.9	0.11	119	5.1	94	150	.
southern kingfish	13	0.0	99.9	0.11	159	18.2	98	280	.
oyster toadfish	13	0.0	99.9	0.11	116	23.6	42	301	.
clearnose skate	13	0.0	99.9	0.11	414	8.1	360	469	.
conger eel	10	0.0	100.0	0.08	347	21.6	241	443	.
feather blenny	8	0.0	100.0	0.07	68	4.9	52	98	.
bluefish	7	0.0	100.0	0.06	175	7.9	151	196	.
tautog	6	0.0	100.0	0.05	291	37.5	208	466	320.0
striped searobin	6	0.0	100.0	0.05	148	36.3	60	238	.
alewife	4	0.0	100.0	0.03	126	6.9	111	140	.
American shad	4	0.0	100.0	0.03	141	16.2	94	165	.
northern kingfish	4	0.0	100.0	0.03	32	2.9	27	40	.
silver hake	3	0.0	100.0	0.02	98	29.9	40	140	.
spotted seatrout	3	0.0	100.0	0.02	159	16.5	128	185	.
naked goby	3	0.0	100.0	0.02	39	6.7	30	52	.
smooth dogfish	3	0.0	100.0	0.02	604	88.8	427	705	.
northern stargazer	3	0.0	100.0	0.02	61	23.1	33	107	.
striped cusk-eel	3	0.0	100.0	0.02	171	15.3	140	187	.
pigfish	2	0.0	100.0	0.02	187	6.5	180	193	124.0
skilletfish	2	0.0	100.0	0.02	35	14.0	21	49	.
spiny dogfish	2	0.0	100.0	0.02	729	112.5	616	841	.
spiny butterfly ray	2	0.0	100.0	0.02	516	2.0	514	518	.
blue runner	2	0.0	100.0	0.02	145	10.5	134	155	.
striped bass	2	0.0	100.0	0.01	341	341	341	341	.
red drum	1	0.0	100.0	0.01	68	.	68	68	.
gizzard shad	1	0.0	100.0	0.01	130	.	130	130	.
scabboard goby	1	0.0	100.0	0.01	38	.	38	38	.
roughtail stingray	1	0.0	100.0	0.01	417	.	417	417	.
banded drum	1	0.0	100.0	0.01	131	.	131	131	34.0
northern sand lance	1	0.0	100.0	0.01	162	.	162	162	.
orange filefish	1	0.0	100.0	0.01	39	.	39	39	.
striped burrfish	1	0.0	100.0	0.01	181	.	181	181	.
seaweed blenny	1	0.0	100.0	0.01	58	.	58	58	.
dwarf goatfish	1	0.0	100.0	0.01	49	.	49	49	.

All Species Combined

157,533

Table 53.

Month - All - Pooled
 Segment - Ches. Bay - Upper
 No. of Trawls Made - 124
 No. of Species - 59

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	149,720	93.4	93.4	1207.42	50	0.2	15	93	1.0
spot	3,162	2.0	95.4	25.50	135	0.5	17	226	
weakfish	1,828	1.1	96.5	14.74	111	1.7	12	329	
Atlantic croaker	1,515	0.9	97.5	12.22	140	2.0	11	288	
scup	872	0.5	98.0	7.03	98	1.2	56	185	
hogchoker	621	0.4	98.4	5.01	109	0.8	73	163	
spotted hake	408	0.3	98.6	3.29	117	1.6	38	216	
blackcheek tonguefish	280	0.2	98.8	2.26	132	1.6	45	174	
blue crab, adult female	230	0.1	99.0	1.85	137	0.8	109	179	
kingfish	164	0.1	99.1	1.32	84	3.6	25	316	
blue crab, male	150	0.1	99.2	1.21	83	3.5	15	171	
northern searobin	141	0.1	99.2	1.14	91	2.8	40	187	
blue crab, juvenile female	113	0.1	99.3	0.91	53	2.4	9	123	
summer flounder	112	0.1	99.4	0.90	286	7.3	175	581	
squid	98	0.1	99.4	0.79	27	1.2	6	58	225.0
inshore lizardfish	89	0.1	99.5	0.72	176	5.6	17	327	
harvestfish	82	0.1	99.6	0.66	57	2.9	12	150	
Atlantic silverside	71	0.0	99.6	0.57	85	1.6	56	114	
Atlantic thread herring	68	0.0	99.6	0.55	49	1.3	39	126	
butterfish	67	0.0	99.7	0.54	109	3.2	48	165	
striped anchovy	60	0.0	99.7	0.48	82	2.0	44	109	
southern kingfish	59	0.0	99.8	0.48	106	4.8	61	268	
smallmouth flounder	44	0.0	99.8	0.35	74	2.9	42	126	
Atlantic menhaden	36	0.0	99.8	0.29	116	7.7	31	219	
Atlantic herring	35	0.0	99.8	0.28	83	11.4	40	327	
black seabass	28	0.0	99.8	0.23	116	9.7	47	211	
northern pipefish	28	0.0	99.9	0.23	128	7.4	37	222	
silver perch	23	0.0	99.9	0.19	123	6.7	82	196	
Atlantic spadefish	21	0.0	99.9	0.17	88	6.0	52	157	
oyster toadfish	20	0.0	99.9	0.16	120	14.8	35	297	
blueback herring	19	0.0	99.9	0.15	97	3.3	65	116	
red hake	14	0.0	99.9	0.11	134	6.1	86	179	
northern puffer	14	0.0	99.9	0.11	99	12.2	45	175	
windowpane	12	0.0	99.9	0.10	178	21.8	35	253	
lined seahorse	10	0.0	99.9	0.08	76	10.1	26	117	
brown shrimp	10	0.0	100.0	0.08	108	5.6	91	141	
striped searobin	9	0.0	100.0	0.07	141	20.5	58	231	
conger eel	9	0.0	100.0	0.07	305	13.8	248	388	
feather blenny	8	0.0	100.0	0.06	60	4.1	48	83	
tautog	7	0.0	100.0	0.06	251	50.1	136	497	
alewife	5	0.0	100.0	0.04	165	19.5	129	237	
northern kingfish	5	0.0	100.0	0.04	148	48.2	42	267	
naked goby	5	0.0	100.0	0.04	36	2.2	29	42	
skillet fish	4	0.0	100.0	0.03	53	6.7	35	64	
red drum	3	0.0	100.0	0.02	71	2.1	67	74	1.9
pigfish	3	0.0	100.0	0.02	165	3.5	160	172	
northern stargazer	3	0.0	100.0	0.02	23	5.3	13	31	
clearnose skate	2	0.0	100.0	0.02	454	16.5	437	470	
lockdown	2	0.0	100.0	0.02	103	2.0	101	105	
Atlantic cutlassfish	2	0.0	100.0	0.02	413	211.0	202	624	
fringed flounder	2	0.0	100.0	0.02	118	7.5	110	125	
bluefish	1	0.0	100.0	0.01	291	.	291	291	
Spanish mackerel	1	0.0	100.0	0.01	164	.	164	164	
green goby	1	0.0	100.0	0.01	45	.	45	45	
spiny dogfish	1	0.0	100.0	0.01	702	.	702	702	
bluntnose stingray	1	0.0	100.0	0.01	225	.	225	225	
spiny butterfly ray	1	0.0	100.0	0.01	430	.	430	430	
striped cusk-eel	1	0.0	100.0	0.01	54	.	54	54	
chain pipefish	1	0.0	100.0	0.01	267	.	267	267	

All Species Combined

160.301

Table 54.

Month - All - Pooled
 Segment - All - Pooled
 No. of Trawls Made - 370
 No. of Species - 82

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	376,031	90.8	90.8	1017.92	51	0.1	15	94	1.0
spot	8,171	2.0	92.8	22.08	136	0.3	13	240	21.2
Atlantic croaker	4,779	1.2	93.9	12.92	145	1.1	11	288	.
weakfish	4,193	1.0	94.9	11.33	122	1.1	9	329	.
spotted hake	2,991	0.7	95.7	8.08	140	0.9	36	326	.
hogchoker	2,608	0.6	96.3	7.05	113	0.6	66	189	38.5
scup	2,206	0.5	96.8	5.96	102	0.6	32	185	.
squid	1,936	0.5	97.3	5.23	38	0.6	6	136	8.9
blackcheek tonguefish	1,517	0.4	97.7	4.10	136	0.9	40	196	.
smallmouth flounder	1,486	0.4	98.0	4.02	78	0.5	28	162	.
Atlantic thread herring	1,172	0.3	98.3	3.17	54	1.4	30	185	1.6
blue crab, adult female	878	0.2	98.5	2.37	142	0.5	104	183	.
Atlantic herring	763	0.2	98.7	2.06	70	3.0	38	331	.
northern searobin	730	0.2	98.9	1.97	92	1.3	26	196	0.1
butterfish	630	0.2	99.0	1.70	100	1.4	25	176	.
kingfish	422	0.1	99.1	1.14	96	2.1	25	316	.
summer flounder	385	0.1	99.2	1.04	296	3.9	92	581	856.3
Atlantic silverside	282	0.1	99.3	0.76	87	1.0	56	118	.
striped anchovy	268	0.1	99.3	0.72	88	0.9	44	122	.
silver perch	232	0.1	99.4	0.63	128	1.6	55	206	.
inshore lizardfish	215	0.1	99.5	0.58	173	3.4	17	327	.
blue crab, male	200	0.0	99.5	0.54	84	3.1	15	172	.
red hake	183	0.0	99.5	0.49	152	3.2	56	248	.
blue crab, juvenile female	172	0.0	99.6	0.46	55	2.0	9	129	.
silver hake	168	0.0	99.6	0.45	137	2.4	40	222	.
black seabass	143	0.0	99.7	0.39	115	4.1	47	280	60.0
northern pipefish	140	0.0	99.7	0.38	137	3.1	37	264	.
southern kingfish	136	0.0	99.7	0.37	124	3.7	53	280	.
Atlantic menhaden	135	0.0	99.8	0.36	112	3.6	31	239	.
harvestfish	117	0.0	99.8	0.32	65	3.1	12	178	.
windowpane	117	0.0	99.8	0.32	188	6.7	30	295	.
clearnose skate	112	0.0	99.8	0.30	382	6.5	141	477	.
blueback herring	71	0.0	99.9	0.19	86	1.5	61	125	.
northern puffer	71	0.0	99.9	0.19	111	5.3	41	200	.
lined seahorse	58	0.0	99.9	0.16	83	3.4	26	134	.
Atlantic spadefish	53	0.0	99.9	0.14	91	4.2	28	255	.
oyster toadfish	51	0.0	99.9	0.14	150	11.9	35	324	.
striped searobin	41	0.0	99.9	0.11	158	11.6	57	301	.
brown shrimp	33	0.0	99.9	0.09	120	3.7	91	172	.
fringed flounder	32	0.0	99.9	0.09	121	2.9	94	159	.
conger eel	23	0.0	100.0	0.06	335	13.4	241	473	.
feather blenny	21	0.0	100.0	0.06	64	2.9	44	98	.
bluefish	16	0.0	100.0	0.04	186	10.7	135	291	181.0
naked goby	15	0.0	100.0	0.04	36	1.9	26	52	.
tautog	13	0.0	100.0	0.04	270	31.3	136	497	320.0
spiny dogfish	13	0.0	100.0	0.04	772	23.7	616	918	.
alewife	12	0.0	100.0	0.03	142	9.8	111	237	.
northern kingfish	9	0.0	100.0	0.02	96	32.6	27	267	.
skilletfish	9	0.0	100.0	0.02	45	4.5	21	64	.
American shad	7	0.0	100.0	0.02	130	10.0	94	165	.
spotted seatrout	7	0.0	100.0	0.02	170	9.5	128	211	.
pigfish	6	0.0	100.0	0.02	177	5.7	160	193	124.0
spiny butterfly ray	6	0.0	100.0	0.02	516	28.0	430	640	.
northern stargazer	6	0.0	100.0	0.02	42	13.6	13	107	.
red drum	4	0.0	100.0	0.01	70	1.7	67	74	1.9
green goby	4	0.0	100.0	0.01	45	4.5	45	45	.
smooth dogfish	4	0.0	100.0	0.01	608	62.9	427	705	.
bluntnose stingray	4	0.0	100.0	0.01	215	4.4	206	225	340.3
lookdown	4	0.0	100.0	0.01	80	13.6	50	105	.
banding drum	4	0.0	100.0	0.01	161	11.3	131	186	27.3
striped cusk-eel	4	0.0	100.0	0.01	142	31.1	54	187	.
Atlantic cutlassfish	3	0.0	100.0	0.01	461	130.8	202	624	92.7
gizzard shad	2	0.0	100.0	0.01	136	6.0	130	142	.
seaboard goby	2	0.0	100.0	0.01	38	0.0	38	38	.
blue runner	2	0.0	100.0	0.01	145	10.5	134	155	.
rough scad	2	0.0	100.0	0.01	68	15.0	53	83	1.0
northern sennet	2	0.0	100.0	0.01	66	1.0	65	67	1.1
dwarf goatfish	2	0.0	100.0	0.01	53	4.0	49	57	.
striped bass	2	0.0	100.0	0.00	341	.	341	341	.
Spanish mackerel	1	0.0	100.0	0.00	164	.	164	164	.
Florida pompano	1	0.0	100.0	0.00	214	.	214	214	245.0
bluespotted cornetfish	1	0.0	100.0	0.00	380	.	380	380	15.5
sandbar shark	1	0.0	100.0	0.00	545	.	545	545	.
roughtail stingray	1	0.0	100.0	0.00	417	.	417	417	.
Atlantic stingray	1	0.0	100.0	0.00	495	.	495	495	.
northern sand lance	1	0.0	100.0	0.00	162	.	162	162	.
orange filefish	1	0.0	100.0	0.00	39	.	39	39	.
striped burrfish	1	0.0	100.0	0.00	181	.	181	181	.
chain pipefish	1	0.0	100.0	0.00	267	.	267	267	.
mottled mojarra	1	0.0	100.0	0.00	108	.	108	108	26.0
seaweed blenny	1	0.0	100.0	0.00	58	.	58	58	.
white shrimp	1	0.0	100.0	0.00	110	.	110	110	.

All Species Combined

414,748

Tables 55-102. Species composition, number caught, catch per trawl, and length statistics by month and river for the river trawl survey.

Notes: A. The "Number of Species" notation at the top of each table includes each of the three categories of blue crabs (male, juvenile female, adult female) as a different "species".

B. Tables pooled for all rivers, for each month appear as follows:

January	Table 58	Page 157
February	Table 62	Page 159
March	Table 66	Page 161
April	Table 70	Page 163
May	Table 74	Page 165
June	Table 78	Page 167
July	Table 82	Page 169
August	Table 86	Page 171
September	Table 90	Page 173
October	Table 94	Page 175
November	Table 98	Page 177
December	Table 102	Page 179

C. Catch per trawl for fish species is based on the figure 'Number of Fish Trawls Made' while catch per trawl for blue crabs is based on the sum of 'Number of Fish Trawls Made' and 'Number of Additional Crab Trawls Made'.

Table 55.

Month - January

River - James

No. of Fish Trawls Made - 8

No. of Add'l Crab Trawls Made - 0

No. of Species - 21

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
hogchoker	2,174	55.8	55.8	271.75	64	1.2	14	118	5.9
Atlantic croaker	1,123	28.8	84.6	140.38	46	0.9	18	101	.
bay anchovy	259	6.6	91.2	32.38	59	1.2	39	89	.
white perch	74	1.9	93.1	9.25	156	4.7	61	249	.
white catfish	70	1.8	94.9	8.75	191	4.2	78	258	.
blue catfish	35	0.9	95.8	4.38	244	6.4	191	333	.
blue crab, juvenile female	35	0.9	96.7	4.38	35	3.0	18	114	.
Atlantic silverside	32	0.8	97.5	4.00	94	2.4	71	122	.
gizzard shad	29	0.7	98.3	3.63	155	9.9	80	274	.
blue crab, male	21	0.5	98.8	2.63	47	6.9	16	135	.
naked goby	15	0.4	99.2	1.88	38	2.5	30	71	.
channel catfish	10	0.3	99.5	1.25	269	7.0	242	309	.
striped bass	8	0.2	99.7	1.00	201	26.6	122	292	.
smallmouth flounder	3	0.1	99.7	0.38	59	2.3	55	63	.
Atlantic herring	2	0.1	99.8	0.25	309	4.5	304	313	.
Atlantic thread herring	2	0.1	99.8	0.25	72	2.5	69	74	.
American eel	2	0.1	99.9	0.25	175	10.5	164	185	.
summer flounder	1	0.0	99.9	0.13	196	.	196	196	.
Atlantic menhaden	1	0.0	99.9	0.13	103	.	103	103	.
feather blenny	1	0.0	100.0	0.13	45	.	45	45	.
skilletfish	1	0.0	100.0	0.13	52	.	52	52	.
All Species Combined		3.898							

Table 56.

Month - January

River - Rappahannock

No. of Fish Trawls Made - 8

No. of Add'l Crab Trawls Made - 0

No. of Species - 20

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	7,406	67.3	67.3	925.75	43	0.3	24	77	0.5
Atlantic croaker	1,857	16.9	84.4	232.13	36	0.5	13	97	0.4
hogchoker	1,065	9.7	94.1	133.13	80	2.7	37	168	7.3
white perch	323	2.9	97.1	40.38	123	2.5	78	282	.
Atlantic silverside	106	1.0	98.0	13.25	91	1.2	62	114	.
channel catfish	40	0.4	98.4	5.00	290	7.5	185	398	.
blue crab, male	39	0.4	98.8	4.88	65	5.8	22	144	.
blue crab, juvenile female	27	0.2	99.0	3.38	52	5.5	25	110	.
striped bass	26	0.2	99.2	3.25	107	3.5	76	155	.
blueback herring	24	0.2	99.5	3.00	85	2.1	62	117	.
gizzard shad	22	0.2	99.7	2.75	128	2.6	103	144	.
white catfish	10	0.1	99.8	1.25	207	12.2	157	282	.
skilletfish	9	0.1	99.8	1.13	40	1.6	34	46	.
Atlantic menhaden	6	0.1	99.9	0.75	84	3.1	73	90	.
alewife	4	0.0	99.9	0.50	117	10.1	99	139	.
naked goby	4	0.0	100.0	0.50	33	3.9	28	45	.
American shad	4	0.0	100.0	0.13	115	.	115	115	.
spotted hake	1	0.0	100.0	0.13	82	.	82	82	.
feather blenny	1	0.0	100.0	0.13	49	.	49	49	.
blue crab, adult female	1	0.0	100.0	0.13	133	.	133	133	.
All Species Combined		10.972							

Table 57.

Month - January

River - York

No. of Fish Trawls Made - 9

No. of Add'l Crab Trawls Made - 0

No. of Species - 23

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	2,095	39.9	39.9	232.78	45	0.6	21	81	0.4
hogchoker	2,034	38.7	78.6	226.00	72	1.3	14	156	4.4
Atlantic croaker	654	12.5	91.1	72.67	37	0.7	14	87	.
white perch	132	2.5	93.6	14.67	167	2.7	70	234	.
blue crab, male	105	2.0	95.6	11.67	38	2.2	13	125	.
blue crab, juvenile female	84	1.6	97.2	9.33	34	1.9	11	121	.
white catfish	68	1.3	98.5	7.56	207	11.1	48	418	.
striped bass	21	0.4	98.9	2.33	131	5.4	86	195	.
American eel	9	0.2	99.1	1.00	204	30.9	104	419	.
summer flounder	7	0.1	99.2	0.78	207	6.1	178	220	.
northern pipefish	7	0.1	99.4	0.78	121	11.1	95	180	.
naked goby	7	0.1	99.5	0.78	34	3.3	24	48	.
Atlantic silverside	7	0.1	99.6	0.78	86	6.0	65	115	.
blackcheek tonguefish	7	0.1	99.8	0.78	90	9.7	67	129	.
oyster toadfish	3	0.0	99.8	0.33	126	10.2	107	142	.
Atlantic thread herring	2	0.0	99.8	0.22	77	3.5	73	80	.
skilletfish	2	0.0	99.9	0.22	54	16.0	38	70	.
butterfish	1	0.0	99.9	0.11	44	.	44	44	.
alewife	1	0.0	99.9	0.11	113	.	113	113	.
blueback herring	1	0.0	99.9	0.11	91	.	91	91	.
spot	1	0.0	100.0	0.11	137	.	137	137	.
spotted hake	1	0.0	100.0	0.11	138	.	138	138	.
northern stargazer	1	0.0	100.0	0.11	56	.	56	56	.
All Species Combined		5,250							

Table 58.

Month - January

River - All - Pooled

No. of Fish Trawls Made - 25

No. of Add'l Crab Trawls Made - 0

No. of Species - 32

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	9,760	48.5	48.5	390.40	46	0.4	21	89	0.5
hogchoker	2,273	26.2	74.7	210.92	70	0.9	14	168	5.8
Atlantic croaker	3,634	18.1	92.8	145.36	39	0.4	13	101	0.4
white perch	529	2.6	95.4	21.16	144	2.0	61	282	.
blue crab, male	165	0.8	96.2	6.60	45	2.3	13	144	.
white catfish	148	0.7	97.0	5.92	200	5.5	48	418	.
blue crab, juvenile, female	146	0.7	97.7	5.84	38	1.7	11	121	.
Atlantic silverside	145	0.7	98.4	5.80	92	1.0	62	122	.
striped bass	55	0.3	98.7	2.20	130	6.2	76	292	.
gizzard shad	51	0.3	98.9	2.04	144	6.0	80	274	.
channel catfish	50	0.2	99.2	2.00	286	6.2	185	398	.
blue catfish	35	0.2	99.4	1.40	244	6.4	191	333	.
naked goby	26	0.1	99.5	1.04	36	1.8	24	71	.
blueback herring	25	0.1	99.6	1.00	85	2.0	62	117	.
skilletfish	12	0.1	99.7	0.48	43	2.9	34	70	.
American eel	11	0.1	99.7	0.44	198	25.3	104	419	.
summer flounder	8	0.0	99.8	0.32	206	5.4	178	220	.
Atlantic menhaden	7	0.0	99.8	0.28	86	3.8	73	103	.
northern pipefish	7	0.0	99.8	0.28	121	11.1	95	180	.
blackcheek tonguefish	7	0.0	99.9	0.28	90	9.7	67	129	.
alewife	5	0.0	99.9	0.20	116	7.8	99	139	.
Atlantic thread herring	4	0.0	99.9	0.16	74	2.3	69	80	.
oyster toadfish	3	0.0	99.9	0.12	126	10.2	107	142	.
smallmouth flounder	3	0.0	99.9	0.12	59	2.3	55	63	.
Atlantic herring	2	0.0	100.0	0.08	309	4.5	304	313	.
spotted hake	2	0.0	100.0	0.08	110	28.0	82	138	.
feather blenny	2	0.0	100.0	0.08	47	2.0	45	49	.
butterfish	1	0.0	100.0	0.04	44	.	44	44	.
American shad	1	0.0	100.0	0.04	115	.	115	115	.
spot	1	0.0	100.0	0.04	137	.	137	137	.
northern stargazer	1	0.0	100.0	0.04	56	.	56	56	.
blue crab, adult female	1	0.0	100.0	0.04	133	.	133	133	.
All Species Combined		20,120							

Table 59.

Month - February
 River - James
 No. of Fish Trawls Made - 8
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 23

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	25,831	94.7	94.7	3228.88	49	0.5	31	82	1.0
hogchoker	769	2.8	97.6	96.13	65	1.5	20	136	9.3
white perch	296	1.1	98.6	37.00	132	3.0	58	232	
Atlantic croaker	176	0.6	99.3	22.00	40	1.6	13	150	1.8
gizzard shad	83	0.3	99.6	10.38	157	4.6	85	278	
white catfish	32	0.1	99.7	4.00	205	16.3	75	533	410.0
channel catfish	22	0.1	99.8	2.75	301	6.6	238	380	
blackcheek tonguefish	9	0.0	99.8	1.13	83	8.3	53	137	
blue crab, male	8	0.0	99.8	1.00	59	18.7	8	139	
Atlantic menhaden	7	0.0	99.9	0.88	88	4.9	75	114	
striped bass	6	0.0	99.9	0.75	116	6.3	96	143	
Atlantic herring	5	0.0	99.9	0.63	303	5.3	287	320	
spotted hake	5	0.0	99.9	0.63	83	4.7	68	97	
blue crab, juvenile female	4	0.0	99.9	0.50	69	21.1	27	119	
American shad	3	0.0	100.0	0.38	116	8.4	99	126	
green goby	2	0.0	100.0	0.25	33	1.0	32	34	
naked goby	2	0.0	100.0	0.25	27	1.0	26	28	
Atlantic silverside	2	0.0	100.0	0.25	85	13.5	71	71	
blueback herring	1	0.0	100.0	0.13	78	.	78	78	
red drum	1	0.0	100.0	0.13	101	.	101	101	
northern pipefish	1	0.0	100.0	0.13	58	.	58	58	
smallmouth flounder	1	0.0	100.0	0.13	42	.	42	42	
blue crab, adult female	1	0.0	100.0	0.13	124	.	124	124	
All Species Combined	27,267								

Table 60.

Month - February
 River - Rappahannock
 No. of Fish Trawls Made - 8
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 24

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	19,984	85.6	85.6	2498.00	42	0.4	22	76	0.7
Atlantic croaker	1,580	6.8	92.4	197.50	34	0.8	16	57	0.8
white perch	747	3.2	95.6	93.38	120	1.7	66	224	
striped bass	256	1.1	96.6	32.00	102	1.6	64	277	
hogchoker	213	0.9	97.6	26.63	71	2.2	24	122	
Atlantic menhaden	181	0.8	98.3	22.63	89	1.1	61	138	6.1
gizzard shad	152	0.7	99.0	19.00	135	1.3	104	243	
channel catfish	121	0.5	99.5	15.13	312	6.6	248		
white catfish	49	0.2	99.7	6.13	303	9.4	196	461	
blueback herring	18	0.1	99.8	2.25	78	1.7	61	495	
blue crab, juvenile female	14	0.1	99.9	1.75	31	3.0	13	56	
Atlantic silverside	6	0.0	99.9	0.75	85	3.5	75	99	
blue crab, male	6	0.0	99.9	0.75	35	9.1	14	75	
skilletfish	5	0.0	99.9	0.63	44	4.8	34	56	
spotted hake	4	0.0	99.9	0.50	82	4.0	75	93	
northern pipefish	4	0.0	100.0	0.50	121	5.2	112	130	
brown bullhead	3	0.0	100.0	0.38	231	15.3	211	261	
Atlantic herring	1	0.0	100.0	0.13	310	.	310	310	
bluegill	1	0.0	100.0	0.13	185	.	185	185	
naked goby	1	0.0	100.0	0.13	27	.	27	27	
feather blenny	1	0.0	100.0	0.13	32	.	32	32	
blackcheek tonguefish	1	0.0	100.0	0.13	132	.	132	132	
oyster toadfish	1	0.0	100.0	0.13	114	.	114	114	
blue catfish	1	0.0	100.0	0.13	225	.	225	225	
All Species Combined	23,350								112.0

Table 61.

Month - February
 River - York
 No. of Fish Trawls Made - 9
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 21

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	48,175	94.1	94.1	5352.78	44	0.4	19	86	0.6
Atlantic croaker	1,162	2.3	96.4	129.11	40	0.7	22	78	0.9
white perch	839	1.6	98.1	93.22	183	3.2	63	282	.
hogchoker	691	1.4	99.4	76.78	69	1.9	28	162	.
white catfish	107	0.2	99.6	11.89	226	14.9	68	438	.
Atlantic menhaden	68	0.1	99.7	7.56	97	3.0	66	243	.
striped bass	51	0.1	99.8	5.67	150	8.8	73	518	2250.0
blue crab, juvenile female	31	0.1	99.9	3.44	27	2.1	9	54	.
gizzard shad	11	0.0	99.9	1.22	184	25.6	85	328	.
blue crab, male	7	0.0	99.9	0.78	32	5.7	10	56	.
blackcheek tonguefish	6	0.0	100.0	0.67	79	12.6	55	126	.
summer flounder	4	0.0	100.0	0.44	157	37.3	45	198	.
naked goby	4	0.0	100.0	0.44	24	1.5	21	27	.
Atlantic silverside	4	0.0	100.0	0.44	76	3.3	70	85	.
alewife	3	0.0	100.0	0.33	174	43.1	126	260	.
northern pipefish	2	0.0	100.0	0.22	138	4.0	134	142	.
oyster toadfish	2	0.0	100.0	0.22	235	65.5	169	300	.
blueback herring	1	0.0	100.0	0.11	107	.	107	107	.
Atlantic herring	1	0.0	100.0	0.11	273	.	273	273	.
sea lamprey	1	0.0	100.0	0.11	155	.	155	155	.
threadfin shad	1	0.0	100.0	0.11	71	.	71	71	.
All Species Combined		51,171							

Table 62.

Month - February
 River - All - Pooled
 No. of Fish Trawls Made - 25
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 33

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	93,990	92.3	92.3	3759.60	45	0.3	19	86	0.8
Atlantic croaker	2,918	2.9	95.2	116.72	38	0.6	13	150	0.9
white perch	1,882	1.8	97.1	75.28	136	1.7	58	282	.
hogchoker	1,673	1.6	98.7	66.92	68	1.1	20	162	8.7
striped bass	313	0.3	99.0	12.52	110	2.2	64	518	2250.0
Atlantic menhaden	256	0.3	99.3	10.24	91	1.1	61	243	.
gizzard shad	246	0.2	99.5	9.84	145	2.2	85	328	.
white catfish	188	0.2	99.7	7.52	253	8.5	68	533	410.0
channel catfish	143	0.1	99.8	5.72	308	5.0	238	461	.
blue crab, juvenile female	49	0.0	99.9	1.96	32	2.7	9	119	.
blue crab, male	21	0.0	99.9	0.84	43	8.0	8	139	.
blueback herring	20	0.0	99.9	0.80	79	2.1	61	107	.
blackcheek tonguefish	16	0.0	99.9	0.64	84	7.1	53	137	.
Atlantic silverside	12	0.0	99.9	0.48	82	2.9	70	99	.
spotted hake	9	0.0	99.9	0.36	82	3.0	68	97	.
Atlantic herring	7	0.0	100.0	0.28	300	5.9	273	320	.
northern pipefish	7	0.0	100.0	0.28	117	10.7	58	142	.
naked goby	7	0.0	100.0	0.28	25	1.0	21	28	.
skillettish	5	0.0	100.0	0.20	44	4.8	34	56	.
summer flounder	4	0.0	100.0	0.16	157	37.3	45	198	.
alewife	3	0.0	100.0	0.12	174	43.1	126	260	.
American shad	3	0.0	100.0	0.12	231	15.3	211	261	.
brown bullhead	3	0.0	100.0	0.12	194	55.2	114	300	.
oyster toadfish	3	0.0	100.0	0.08	33	1.0	32	34	.
green goby	2	0.0	100.0	0.04	101	.	101	101	.
red drum	1	0.0	100.0	0.04	155	.	155	155	.
sea lamprey	1	0.0	100.0	0.04	185	.	185	185	.
bluegill	1	0.0	100.0	0.04	32	.	32	32	112.0
feather blenny	1	0.0	100.0	0.04	42	.	42	42	.
smallmouth flounder	1	0.0	100.0	0.04	71	.	71	71	.
threadfin shad	1	0.0	100.0	0.04	225	.	225	225	.
blue catfish	1	0.0	100.0	0.04	124	.	124	124	.
All Species Combined		101,788							

Table 63.

Month - March
 River - James
 No. of Fish Trawls Made - 8
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 23

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	25,792	88.3	88.3	3224.00	56	0.7	40	83	1.0
hogchoker	2,413	8.3	96.6	301.63	74	1.4	27	113	9.1
Atlantic croaker	603	2.1	98.7	75.38	61	1.6	28	90	1.4
blue crab, juvenile female	96	0.3	99.0	12.00	39	2.1	21	124	
blue crab, male	89	0.3	99.3	11.13	55	4.2	14	176	
spotted hake	35	0.1	99.4	4.38	104	2.6	73	144	
white perch	34	0.1	99.5	4.25	140	6.1	82	207	
white catfish	27	0.1	99.6	3.38	171	10.4	56	277	
channel catfish	21	0.1	99.7	2.63	260	7.7	164	331	
blackcheek tonguefish	17	0.1	99.8	2.13	74	2.3	61	92	
American eel	13	0.0	99.8	1.63	258	17.7	136	351	
naked goby	13	0.0	99.8	1.63	41	1.8	30	50	
blue catfish	9	0.0	99.9	1.13	210	15.4	129	257	
Atlantic herring	8	0.0	99.9	1.00	302	3.1	287	314	
Atlantic menhaden	7	0.0	99.9	0.88	120	14.0	82	195	
skilletfish	6	0.0	100.0	0.75	55	2.4	45	62	
gizzard shad	4	0.0	100.0	0.50	160	14.3	134	198	
striped bass	3	0.0	100.0	0.38	299	165.3	132	630	
sea lamprey	2	0.0	100.0	0.25	172	5.5	166	177	
blue crab, adult female	2	0.0	100.0	0.25	157	10.5	146	167	
summer flounder	1	0.0	100.0	0.13	365	.	365	365	
green goby	1	0.0	100.0	0.13	44	.	44	44	
oyster toadfish	1	0.0	100.0	0.13	45	.	45	45	
All Species Combined	29,197								

Table 64.

Month - March
 River - Rappahannock
 No. of Fish Trawls Made - 8
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 26

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	8,304	89.4	89.4	1038.00	44	0.4	28	68	0.7
Atlantic croaker	338	3.6	93.1	42.25	36	0.9	13	65	0.8
hogchoker	278	3.0	96.0	34.75	77	1.7	21	146	
Atlantic menhaden	80	0.9	96.9	10.00	101	1.8	77	145	
white perch	64	0.7	97.6	8.00	99	4.0	57	209	
blue crab, male	49	0.5	98.1	6.13	51	5.4	14	161	
blue crab, juvenile female	39	0.4	98.5	4.88	31	3.7	11	93	
gizzard shad	33	0.4	98.9	4.13	134	1.5	115	149	
spotted hake	29	0.3	99.2	3.63	85	2.5	54	106	
white catfish	16	0.2	99.4	2.00	238	10.2	159	306	
striped bass	8	0.1	99.5	1.00	124	12.2	90	190	
channel catfish	8	0.1	99.6	1.00	275	10.9	245	322	
blue catfish	7	0.1	99.6	0.88	215	15.9	154	276	
green goby	5	0.1	99.7	0.63	37	3.0	27	44	
skilletfish	5	0.1	99.7	0.63	34	3.5	25	46	
northern pipefish	4	0.0	99.8	0.50	131	13.1	105	166	
alewife	3	0.0	99.8	0.38	182	47.9	129	278	430.0
blueback herring	3	0.0	99.8	0.38	77	3.3	71	82	
blackcheek tonguefish	3	0.0	99.9	0.38	83	33.0	45	149	
summer flounder	2	0.0	99.9	0.25	189	15.5	173	204	
Atlantic herring	2	0.0	99.9	0.25	284	10.5	273	294	
oyster toadfish	2	0.0	99.9	0.25	44	2.5	41	46	
blue crab, adult female	2	0.0	100.0	0.25	127	10.5	116	137	
American eel	1	0.0	100.0	0.13	234	.	234	234	
naked goby	1	0.0	100.0	0.13	39	.	39	39	
conger eel	1	0.0	100.0	0.13	253	.	253	253	
All Species Combined	9,287								

Table 65.

Month - March
 River - York
 No. of Fish Trawls Made - 9
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 25

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	20,222	86.7	86.7	2246.89	55	0.5	33	93	1.3
Atlantic croaker	2,152	9.2	95.9	239.11	41	0.8	19	67	0.7
Atlantic menhaden	485	2.1	98.0	53.89	99	1.4	71	208	.
white catfish	199	0.9	98.8	22.11	175	16.2	50	489	.
hogchoker	94	0.4	99.2	10.44	75	2.6	31	142	.
white perch	79	0.3	99.6	8.78	161	4.4	73	243	.
blueback herring	51	0.2	99.8	5.67	85	2.2	72	179	.
spotted hake	11	0.0	99.8	1.22	104	4.5	76	126	.
Atlantic silverside	9	0.0	99.9	1.00	88	4.8	70	120	.
striped bass	8	0.0	99.9	0.89	115	12.6	76	172	.
northern pipefish	4	0.0	99.9	0.44	116	18.8	61	141	.
blue crab, male	3	0.0	99.9	0.33	39	1.5	36	41	.
Atlantic herring	2	0.0	99.9	0.22	304	2.0	302	306	.
gizzard shad	2	0.0	99.9	0.22	133	5.5	127	138	.
blackcheek tonguefish	2	0.0	100.0	0.22	100	51.5	48	151	.
blue crab, juvenile female	2	0.0	100.0	0.22	32	13.5	18	45	.
alewife	1	0.0	100.0	0.11	126	.	126	126	.
American shad	1	0.0	100.0	0.11	108	.	108	108	.
spot	1	0.0	100.0	0.11	122	.	122	122	.
American eel	1	0.0	100.0	0.11	117	.	117	117	.
sea lamprey	1	0.0	100.0	0.11	164	.	164	164	.
longnose gar	1	0.0	100.0	0.11	384	.	384	384	.
spottail shiner	1	0.0	100.0	0.11	83	.	83	83	.
feather blenny	1	0.0	100.0	0.11	87	.	87	87	.
skilletfish	1	0.0	100.0	0.11	42	.	42	42	.
All Species Combined	23,334								

Table 66.

Month - March
 River - All - Pooled
 No. of Fish Trawls Made - 25
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 33

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	54,318	87.9	87.9	2172.72	52	0.4	28	93	1.1
Atlantic croaker	3,093	5.0	92.9	123.72	43	0.8	13	90	0.9
hogchoker	2,785	4.5	97.4	111.40	75	1.0	21	146	9.1
Atlantic menhaden	572	0.9	98.3	22.88	100	1.2	71	208	.
white catfish	242	0.4	98.7	9.68	184	10.0	50	489	.
white perch	177	0.3	99.0	7.08	135	3.4	57	243	.
blue crab, male	141	0.2	99.2	5.64	54	3.2	14	176	.
blue crab, juvenile female	137	0.2	99.4	5.48	36	1.8	11	124	.
spotted hake	75	0.1	99.6	3.00	97	2.0	54	144	.
blueback herring	54	0.1	99.6	2.16	84	2.1	71	179	.
gizzard shad	39	0.1	99.7	1.56	137	2.2	115	198	.
channel catfish	29	0.0	99.7	1.16	264	6.3	164	331	.
blackcheek tonguefish	22	0.0	99.8	0.88	78	5.6	45	151	.
striped bass	19	0.0	99.8	0.76	148	27.7	76	630	.
blue catfish	16	0.0	99.8	0.64	212	10.7	129	276	.
American eel	15	0.0	99.9	0.60	247	17.9	117	351	.
naked goby	14	0.0	99.9	0.56	40	1.7	30	50	.
Atlantic herring	12	0.0	99.9	0.48	300	3.2	273	314	.
skilletfish	12	0.0	99.9	0.48	45	3.5	25	62	.
Atlantic silverside	9	0.0	99.9	0.36	88	4.8	70	120	.
northern pipefish	8	0.0	100.0	0.32	124	11.0	61	166	.
green goby	6	0.0	100.0	0.24	38	2.7	27	44	.
alewife	4	0.0	100.0	0.16	168	36.7	126	278	430.0
blue crab, adult female	4	0.0	100.0	0.16	142	10.6	116	167	.
summer flounder	3	0.0	100.0	0.12	247	59.5	173	365	.
sea lamprey	3	0.0	100.0	0.12	169	4.0	164	177	.
oyster toadfish	3	0.0	100.0	0.12	44	1.5	41	46	.
American shad	1	0.0	100.0	0.04	108	.	108	108	.
spot	1	0.0	100.0	0.04	122	.	122	122	.
longnose gar	1	0.0	100.0	0.04	384	.	384	384	.
spottail shiner	1	0.0	100.0	0.04	83	.	83	83	.
feather blenny	1	0.0	100.0	0.04	87	.	87	87	.
conger eel	1	0.0	100.0	0.04	253	.	253	253	.
All Species Combined	61,818								

Table 67.

Month - April
 River - James
 No. of Fish Trawls Made - 8
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 27

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	5,363	50.4	50.4	670.63	55	0.7	38	84	0.7
hogchoker	4,345	40.8	91.2	543.13	78	1.3	23	120	8.9
spotted hake	131	1.2	92.5	16.38	128	1.9	79	222	.
blue crab, juvenile female	131	1.2	93.7	16.38	41	1.6	8	130	.
Atlantic croaker	113	1.1	94.8	14.13	161	6.8	34	289	.
blue crab, male	103	1.0	95.7	12.88	49	2.8	14	140	.
spot	94	0.9	96.6	11.75	145	1.7	96	192	.
blue catfish	94	0.9	97.5	11.75	220	7.6	103	365	.
channel catfish	55	0.5	98.0	6.88	273	3.0	231	318	.
blackcheek tonguefish	39	0.4	98.4	4.88	93	4.7	52	156	.
summer flounder	37	0.3	98.7	4.63	227	7.4	159	334	.
white catfish	32	0.3	99.0	4.00	205	7.7	106	289	.
gizzard shad	28	0.3	99.3	3.50	273	6.0	210	330	.
white perch	24	0.2	99.5	3.00	162	8.3	83	242	.
American eel	20	0.2	99.7	2.50	233	10.8	134	304	.
blue crab, adult female	12	0.1	99.8	1.50	153	3.8	132	178	.
oyster toadfish	4	0.0	99.8	0.50	79	12.7	48	108	.
striped bass	3	0.0	99.9	0.38	154	3.8	148	161	.
naked goby	3	0.0	99.9	0.38	44	5.0	35	52	.
black seabass	2	0.0	99.9	0.25	64	4.0	60	68	.
northern pipefish	2	0.0	99.9	0.25	157	4.0	153	161	.
weakfish	1	0.0	100.0	0.13	156	.	156	156	.
Atlantic menhaden	1	0.0	100.0	0.13	192	.	192	192	.
brown bullhead	1	0.0	100.0	0.13	248	.	248	248	.
lined seahorse	1	0.0	100.0	0.13	48	.	48	48	.
feather blenny	1	0.0	100.0	0.13	74	.	74	74	.
smallmouth flounder	1	0.0	100.0	0.13	56	.	56	56	.
All Species Combined	10,643								221.0

Table 68.

Month - April
 River - Rappahannock
 No. of Fish Trawls Made - 8
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 19

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
hogchoker	1,307	44.3	44.3	188.38	77	1.3	23	136	8.9
Atlantic croaker	676	19.9	64.2	84.50	37	0.6	19	69	0.9
bay anchovy	456	13.4	77.6	57.00	46	0.7	35	83	.
blue crab, juvenile female	144	4.2	81.9	18.00	33	1.9	10	131	.
blue crab, male	143	4.2	86.1	17.88	43	2.7	10	134	.
white perch	135	4.0	90.1	16.88	167	3.3	83	235	.
white catfish	88	2.6	92.6	11.00	219	4.3	89	367	.
channel catfish	83	2.4	95.1	10.38	266	3.4	217	340	.
blue catfish	79	2.3	97.4	9.88	224	4.1	140	343	.
spotted hake	37	1.1	98.5	4.63	98	2.4	66	124	.
gizzard shad	22	0.6	99.1	2.75	83	1.7	62	94	.
American eel	10	0.3	99.4	1.25	233	14.6	176	292	.
northern pipefish	4	0.1	99.6	0.50	102	3.3	94	108	.
naked goby	4	0.1	99.7	0.50	42	7.4	28	56	.
blackcheek tonguefish	4	0.1	99.8	0.50	88	23.0	40	128	.
skilletfish	4	0.1	99.9	0.50	45	4.5	34	55	.
striped bass	1	0.0	99.9	0.13	339	.	339	339	.
green goby	1	0.0	100.0	0.13	43	.	43	43	.
oyster toadfish	1	0.0	100.0	0.13	95	.	95	95	.
All Species Combined	3,399								

Table 69.

Month - April
 River - York
 No. of Fish Trawls Made - 9
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 21

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	2,576	60.0	60.0	286.22	51	0.5	34	90	0.7
hogchoker	496	11.5	71.5	55.11	84	1.3	34	193	
Atlantic croaker	488	11.4	82.9	54.22	35	1.2	16	72	0.8
blue crab, male	264	6.1	89.0	29.33	40	1.9	12	170	
blue crab, juvenile female	201	4.7	93.7	22.33	36	1.9	12	124	
spotted hake	104	2.4	96.1	11.56	106	2.0	56	193	
Atlantic menhaden	73	1.7	97.8	8.11	118	3.7	81	250	
blackcheek tonguefish	29	0.7	98.5	3.22	78	5.2	44	155	
white catfish	18	0.4	98.9	2.00	137	23.1	64	400	
white perch	13	0.3	99.2	1.44	191	12.2	72	253	
oyster toadfish	8	0.2	99.4	0.89	170	35.0	47	282	
summer flounder	7	0.2	99.6	0.78	190	3.8	174	199	
American eel	6	0.1	99.7	0.67	282	33.0	152	381	
blueback herring	2	0.0	99.8	0.22	295	5.5	289	300	
striped bass	2	0.0	99.8	0.22	133	4.5	128	137	
northern pipefish	2	0.0	99.9	0.22	133	10.0	123	143	
seaboard goby	2	0.0	99.9	0.22	36	0.5	35	36	
Atlantic herring	1	0.0	99.9	0.11	47	.	47	47	
longnose gar	1	0.0	100.0	0.11	698	.	698	698	
naked goby	1	0.0	100.0	0.11	50	.	50	50	
blue crab, adult female	1	0.0	100.0	0.11	134	.	134	134	
All Species Combined		4.295							

Table 70.

Month - April
 River - All - Pooled
 No. of Fish Trawls Made - 25
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 33

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	8,397	45.8	45.8	335.88	51	0.4	34	90	0.7
hogchoker	6,348	34.6	80.4	253.92	81	0.8	23	193	8.9
Atlantic croaker	1,277	7.0	87.4	51.08	72	3.5	16	289	0.8
blue crab, male	510	2.8	90.2	20.40	43	1.4	10	170	
blue crab, juvenile female	476	2.6	92.8	19.04	37	1.0	8	131	
spotted hake	272	1.5	94.2	10.88	116	1.4	56	222	
blue catfish	173	0.9	95.2	6.92	223	3.9	103	365	
white perch	172	0.9	96.1	6.88	168	3.0	72	253	
white catfish	138	0.8	96.9	5.52	205	4.9	64	400	
channel catfish	138	0.8	97.6	5.52	269	2.3	217	340	
spot	94	0.5	98.1	3.76	145	1.7	96	192	
Atlantic menhaden	74	0.4	98.5	2.96	119	3.8	81	250	
blackcheek tonguefish	72	0.4	98.9	2.88	87	3.6	40	156	
gizzard shad	50	0.3	99.2	2.00	189	13.9	62	330	
summer flounder	44	0.2	99.4	1.76	221	6.6	159	334	
American eel	36	0.2	99.6	1.44	241	9.2	134	381	
oyster toadfish	13	0.1	99.7	0.52	136	24.6	47	282	
blue crab, adult female	13	0.1	99.8	0.52	152	3.8	132	178	
northern pipefish	8	0.0	99.8	0.32	123	9.2	94	161	
naked goby	8	0.0	99.9	0.32	44	3.9	28	56	
striped bass	6	0.0	99.9	0.24	178	32.6	128	339	
skilletfish	4	0.0	99.9	0.16	45	4.5	34	55	
black seabass	2	0.0	99.9	0.08	64	4.0	60	68	
blueback herring	2	0.0	100.0	0.08	295	5.5	289	300	
seaboard goby	2	0.0	100.0	0.04	36	0.5	35	36	
weakfish	1	0.0	100.0	0.04	156	.	156	156	
Atlantic herring	1	0.0	100.0	0.04	47	.	47	47	
longnose gar	1	0.0	100.0	0.04	698	.	698	698	
brown bullhead	1	0.0	100.0	0.04	248	.	248	248	
lined seahorse	1	0.0	100.0	0.04	48	.	48	48	
green goby	1	0.0	100.0	0.04	43	.	43	43	
feather blenny	1	0.0	100.0	0.04	74	.	74	74	
smallmouth flounder	1	0.0	100.0	0.04	56	.	56	56	
All Species Combined		18.337							221.0

Table 71.

Month - May
 River - James
 No. of Fish Trawls Made - 6
 No. of Add'l Crab Trawls Made - 4
 No. of Species - 22

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
hogchoker	1,569	60.2	60.2	261.50	80	2.0	28	137	10.9
Atlantic croaker	522	20.0	80.2	87.00	125	4.0	22	264	.
bay anchovy	130	5.0	85.2	21.67	50	1.0	38	78	.
American eel	81	3.1	88.3	13.50	211	5.0	118	314	.
blue crab, male	66	2.5	90.8	6.60	59	4.2	21	146	.
spotted hake	57	2.2	93.0	9.50	154	2.6	79	212	.
blue crab, juvenile female	53	2.0	95.0	5.30	51	3.5	13	114	.
blackcheek tonguefish	41	1.6	96.6	6.83	132	4.5	51	168	.
spot	23	0.9	97.5	3.83	130	12.0	22	183	.
weakfish	18	0.7	98.2	3.00	152	3.6	116	180	.
oyster toadfish	18	0.7	98.8	3.00	188	14.3	76	299	.
summer flounder	9	0.3	99.2	1.50	213	6.9	187	253	.
blue crab, adult female	8	0.3	99.5	0.80	135	4.2	116	150	.
gizzard shad	4	0.2	99.7	0.67	304	13.9	280	336	.
white catfish	2	0.1	99.7	0.33	216	22.5	193	238	.
black seabass	1	0.0	99.8	0.17	99	.	99	99	.
Atlantic herring	1	0.0	99.8	0.17	239	.	239	239	.
striped bass	1	0.0	99.8	0.17	159	.	159	159	.
white perch	1	0.0	99.9	0.17	154	.	154	154	.
naked goby	1	0.0	99.9	0.17	48	.	48	48	.
silver perch	1	0.0	100.0	0.17	162	.	162	162	.
blue catfish	1	0.0	100.0	0.17	175	.	175	175	.
All Species Combined	2,608								

Table 72.

Month - May
 River - Rappahannock
 No. of Fish Trawls Made - 7
 No. of Add'l Crab Trawls Made - 5
 No. of Species - 16

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
hogchoker	986	39.3	39.3	140.86	93	1.3	37	162	.
Atlantic croaker	482	19.3	58.7	68.86	51	4.2	21	259	.
blue crab, male	354	14.2	72.9	29.50	53	1.5	12	161	.
blue crab, juvenile female	214	8.6	81.5	17.83	48	1.6	15	110	.
bay anchovy	168	6.7	88.2	24.00	50	0.5	38	68	.
spotted hake	128	5.1	93.3	18.29	133	1.7	80	194	.
American eel	44	1.8	95.1	6.29	256	13.9	151	618	.
white catfish	39	1.6	96.6	5.57	214	7.0	124	312	.
naked goby	27	1.1	97.7	3.86	46	1.4	34	60	.
white perch	18	0.7	98.4	2.57	171	10.4	100	244	.
blackcheek tonguefish	12	0.5	98.9	1.71	78	9.0	52	154	.
oyster toadfish	7	0.3	99.2	1.00	186	32.6	128	324	.
blue crab, adult female	7	0.3	99.5	0.58	155	3.5	141	163	.
channel catfish	6	0.2	99.7	0.86	290	15.0	248	327	.
blue catfish	6	0.2	100.0	0.86	225	12.7	181	252	.
northern searobin	1	0.0	100.0	0.14	47	.	47	47	.
All Species Combined	2,499								

Table 73.

Month - May
 River - York
 No. of Fish Trawls Made - 8
 No. of Add'l Crab Trawls Made - 4
 No. of Species - 16

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
hogchoker	1,931	57.0	57.0	241.38	90	1.7	37	166	21.9
Atlantic croaker	879	25.9	82.9	109.88	138	2.9	28	270	.
blue crab, male	200	5.9	88.8	16.67	50	1.9	18	139	.
blue crab, juvenile female	136	4.0	92.9	11.33	50	1.8	19	120	.
spotted hake	79	2.3	95.2	9.88	157	1.8	103	212	.
white catfish	52	1.5	96.7	6.50	134	10.8	55	338	.
blackcheek tonguefish	37	1.1	97.8	4.63	123	4.3	62	154	.
oyster toadfish	33	1.0	98.8	4.13	199	13.1	86	329	.
bay anchovy	26	0.8	99.6	3.25	49	0.8	37	55	.
white perch	5	0.1	99.7	0.63	206	10.9	179	240	.
summer flounder	2	0.1	99.8	0.25	154	111.0	43	265	.
weakfish	2	0.1	99.8	0.25	156	19.0	137	175	.
American eel	2	0.1	99.9	0.25	195	37.0	158	232	.
northern scrobin	2	0.1	99.9	0.25	52	7.5	44	59	.
striped bass	1	0.0	100.0	0.13	153	.	153	153	.
Atlantic menhaden	1	0.0	100.0	0.13	126	.	126	126	.
All Species Combined	3,388								

Table 74.

Month - May
 River - All - Pooled
 No. of Fish Trawls Made - 21
 No. of Add'l Crab Trawls Made - 13
 No. of Species - 25

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
hogchoker	4,486	52.8	52.8	213.62	89	1.0	28	166	17.1
Atlantic croaker	1,883	22.2	75.0	89.67	125	2.3	21	270	.
blue crab, male	620	7.3	82.3	18.24	53	1.1	12	161	.
blue crab, juvenile female	403	4.7	87.0	11.85	49	1.1	13	120	.
bay anchovy	324	3.8	90.8	15.43	50	0.4	37	78	.
spotted hake	264	3.1	93.9	12.57	145	1.3	79	212	.
American eel	127	1.5	95.4	6.05	227	6.1	118	618	.
white catfish	93	1.1	96.5	4.43	169	7.8	55	338	.
blackcheek tonguefish	90	1.1	97.6	4.29	121	3.5	51	168	.
oyster toadfish	58	0.7	98.3	2.76	194	9.4	76	329	.
naked goby	28	0.3	98.6	1.33	46	1.3	34	60	.
white perch	24	0.3	98.9	1.14	178	8.6	100	244	.
spot	23	0.3	99.2	1.10	130	12.0	22	183	.
weakfish	20	0.2	99.4	0.95	152	3.6	116	180	.
blue crab, adult female	15	0.2	99.6	0.44	145	3.8	116	163	.
summer flounder	11	0.1	99.7	0.52	202	17.5	43	265	.
blue catfish	7	0.1	99.8	0.33	217	12.8	175	252	.
channel catfish	6	0.1	99.8	0.29	290	15.0	248	327	.
gizzard shad	4	0.0	99.9	0.19	304	13.9	280	336	.
northern scrobin	3	0.0	99.9	0.14	50	4.6	44	59	.
striped bass	2	0.0	100.0	0.10	156	3.0	153	159	.
black seabass	1	0.0	100.0	0.05	99	.	99	99	.
Atlantic herring	1	0.0	100.0	0.05	239	.	239	239	.
Atlantic menhaden	1	0.0	100.0	0.05	126	.	126	126	.
silver perch	1	0.0	100.0	0.05	162	.	162	162	.
All-Species Combined	8,495								

Table 75.

Month - June
 River - James
 No. of Fish Trawls Made - 6
 No. of Add'l Crab Trawls Made - 4
 No. of Species - 22

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
Atlantic croaker	1,078	52.3	52.3	179.67	149	3.3	60	305	.
bay anchovy	280	13.6	65.9	46.67	63	1.0	46	85	.
hogchoker	261	12.7	78.5	43.50	72	2.1	30	152	.
blue crab, juvenile female	94	4.6	83.1	9.40	65	2.4	14	134	.
blue crab, male	93	4.5	87.6	9.30	79	4.0	23	182	.
white perch	67	3.2	90.8	11.17	40	6.7	16	222	.
American eel	54	2.6	93.5	9.00	266	6.2	168	345	.
weakfish	43	2.1	95.5	7.17	165	3.0	132	215	.
spot	31	1.5	97.0	5.17	156	7.1	33	195	.
blue crab, adult female	12	0.6	97.6	1.20	147	5.7	100	171	.
spotted hake	9	0.4	98.1	1.50	184	4.8	164	212	.
white catfish	8	0.4	98.4	1.33	237	10.2	194	281	.
oyster toadfish	7	0.3	98.8	1.17	148	29.5	55	264	.
striped bass	6	0.3	99.1	1.00	322	14.2	300	390	.
gizzard shad	4	0.2	99.3	0.67	300	9.9	280	323	.
channel catfish	3	0.1	99.4	0.50	302	17.7	280	337	.
blackcheek tonguefish	3	0.1	99.6	0.50	76	2.2	72	79	.
silver perch	3	0.1	99.7	0.50	163	9.7	145	178	.
summer flounder	2	0.1	99.8	0.33	243	31.5	211	274	.
common carp	2	0.1	99.9	0.33	545	5.0	540	550	.
butterfish	1	0.0	100.0	0.17	45	.	45	45	.
feather blenny	1	0.0	100.0	0.17	73	.	73	73	.
All Species Combined	2,062								

Table 76.

Month - June
 River - Rappahannock
 No. of Fish Trawls Made - 7
 No. of Add'l Crab Trawls Made - 5
 No. of Species - 13

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	1,627	65.7	65.7	232.43	69	0.8	47	88	3.5
Atlantic croaker	498	20.1	85.9	71.14	153	4.8	83	263	.
hogchoker	109	4.4	90.3	15.57	92	2.2	32	169	.
blue crab, male	82	3.3	93.6	6.83	71	2.9	24	154	.
blue crab, juvenile female	58	2.3	95.9	4.83	62	2.3	26	108	.
white perch	34	1.4	97.3	4.86	136	4.4	95	196	.
spot	17	0.7	98.0	2.43	68	13.1	21	178	.
blue catfish	16	0.6	98.6	2.29	185	10.3	128	263	.
channel catfish	13	0.5	99.2	1.86	297	7.3	262	342	.
white catfish	12	0.5	99.6	1.71	238	21.2	107	321	.
blue crab, adult female	7	0.3	99.9	0.58	139	4.1	120	152	.
striped bass	1	0.0	100.0	0.14	184	.	184	184	.
striped anchovy	1	0.0	100.0	0.14	101	.	101	101	.
All Species Combined	2,475								

Table 77.

Month - June
 River - York
 No. of Fish Trawls Made - 8
 No. of Add'l Crab Trawls Made - 4
 No. of Species - 19

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
Atlantic croaker	1,222	55.2	55.2	174.57	142	2.8	46	284	2.0
hogchoker	598	27.0	82.2	85.43	85	2.2	29	157	61.6
blue crab, male	145	6.5	88.7	12.08	79	2.8	20	156	.
blue crab, juvenile female	115	5.2	93.9	9.58	64	1.9	17	121	.
spot	27	1.2	95.1	3.86	131	9.5	38	201	.
weakfish	26	1.2	96.3	3.71	170	4.3	133	229	.
bay anchovy	14	0.6	96.9	2.00	64	3.3	38	85	.
white catfish	12	0.5	97.5	1.71	239	10.9	179	296	.
blue crab, adult female	12	0.5	98.0	1.00	149	3.4	136	172	.
spotted hake	11	0.5	98.5	1.57	168	5.2	135	196	.
American eel	8	0.4	98.9	1.14	205	25.5	122	285	.
blackcheek tonguefish	7	0.3	99.2	1.00	123	7.9	97	146	.
oyster toadfish	6	0.3	99.5	0.86	163	24.2	98	257	.
summer flounder	3	0.1	99.6	0.43	81	3.5	75	87	.
Atlantic menhaden	3	0.1	99.7	0.43	165	20.4	125	191	.
white perch	2	0.1	99.8	0.29	220	3.0	217	223	.
naked goby	2	0.1	99.9	0.29	49	6.0	43	55	.
striped bass	1	0.0	100.0	0.14	136	.	136	136	.
conger eel	1	0.0	100.0	0.14	309	.	309	309	.
All Species Combined	2,215								

Table 78 .

Month - June
 River - All - Pooled
 No. of Fish Trawls Made - 21
 No. of Add'l Crab Trawls Made - 13
 No. of Species - 27

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
Atlantic croaker	2,798	41.4	41.4	139.90	146	2.0	46	305	2.6
bay anchovy	1,921	28.5	69.9	96.05	66	0.6	38	88	3.5
hogchoker	968	14.3	84.2	48.40	83	1.3	29	169	61.6
blue crab, male	320	4.7	89.0	9.41	77	1.9	20	182	.
blue crab, juvenile female	267	4.0	92.9	7.85	64	1.3	14	134	.
white perch	103	1.5	94.4	5.15	75	6.7	16	223	.
spot	75	1.1	95.6	3.75	127	6.6	21	201	.
weakfish	69	1.0	96.6	3.45	167	12.4	132	229	.
American eel	62	0.9	97.5	3.10	258	6.7	122	345	.
white catfish	32	0.5	98.0	1.60	238	9.0	107	321	.
blue crab, adult female	31	0.5	98.4	0.91	146	2.7	100	172	.
spotted hake	20	0.3	98.7	1.00	175	3.9	135	212	.
channel catfish	16	0.2	99.0	0.80	298	6.5	262	342	.
blue catfish	16	0.2	99.2	0.80	185	10.3	128	263	.
oyster toadfish	13	0.2	99.4	0.65	155	18.7	55	264	.
blackcheek tonguefish	10	0.1	99.5	0.50	109	9.0	72	146	.
striped bass	8	0.1	99.7	0.40	282	28.9	136	390	.
summer flounder	5	0.1	99.7	0.25	146	40.8	75	274	.
gizzard shad	4	0.1	99.8	0.20	300	9.9	280	323	.
Atlantic menhaden	3	0.0	99.8	0.15	165	20.4	125	191	.
silver perch	3	0.0	99.9	0.15	163	9.7	145	178	.
common carp	2	0.0	99.9	0.10	545	5.0	540	550	.
naked goby	2	0.0	99.9	0.10	49	6.0	43	55	.
butterfish	1	0.0	100.0	0.05	45	.	45	45	.
striped anchovy	1	0.0	100.0	0.05	101	.	101	101	.
feather blenny	1	0.0	100.0	0.05	73	.	73	73	.
conger eel	1	0.0	100.0	0.05	309	.	309	309	.
All Species Combined	6,752								

Table 79.

Month - July
 River - James
 No. of Fish Trawls Made - 6
 No. of Add'l Crab Trawls Made - 4
 No. of Species - 22

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
Atlantic croaker	882	35.6	35.0	147.00	130	1.7	77	284	.
bay anchovy	852	34.3	69.9	142.00	69	0.7	48	94	.
hogchoker	238	9.6	79.5	39.67	79	2.0	41	142	.
spot	187	7.5	87.0	31.17	109	1.2	68	181	.
blue crab, male	101	4.1	91.1	10.10	91	3.3	37	175	.
blue crab, juvenile female	73	2.9	94.0	7.30	69	2.2	28	123	.
weakfish	71	2.9	96.9	11.83	89	9.4	21	243	.
summer flounder	19	0.8	97.7	3.17	257	20.3	153	476	204.2
white perch	15	0.6	98.3	2.50	77	15.7	43	228	.
oyster toadfish	10	0.4	98.7	1.67	144	9.9	106	185	.
American eel	7	0.3	99.0	1.17	251	8.6	212	279	.
striped bass	4	0.2	99.1	0.67	230	67.1	38	332	383.3
northern pipefish	4	0.2	99.3	0.67	171	26.3	141	250	.
blackcheek tonguefish	4	0.2	99.4	0.67	115	4.4	103	124	.
silver perch	4	0.2	99.6	0.67	159	5.5	145	172	.
blue crab, adult female	3	0.1	99.7	0.30	128	0.3	128	129	.
black seabass	2	0.1	99.8	0.33	125	13.5	111	138	.
butterfish	1	0.0	99.8	0.17	122	.	122	122	.
white catfish	1	0.0	99.9	0.17	258	.	258	258	.
gizzard shad	1	0.0	99.9	0.17	339	.	339	339	.
feather blenny	1	0.0	100.0	0.17	93	.	93	93	.
clearnose skate	1	0.0	100.0	0.17	483	.	483	483	.
All Species Combined	2,481								

Table 80.

Month - July
 River - Rappahannock
 No. of Fish Trawls Made - 7
 No. of Add'l Crab Trawls Made - 5
 No. of Species - 15

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	669	34.2	34.2	95.37	76	0.7	53	91	3.8
spot	421	21.5	55.7	60.14	98	2.3	10	150	11.1
Atlantic croaker	293	15.0	70.6	41.86	138	2.7	91	265	22.4
hogchoker	208	10.6	81.3	29.71	86	2.4	40	140	.
blue crab, male	181	9.2	90.5	15.08	79	1.7	23	152	8.8
blue crab, juvenile female	126	6.4	96.9	10.50	71	1.8	32	133	.
white perch	29	1.5	98.4	4.14	152	3.8	116	205	.
weakfish	6	0.3	98.7	0.86	211	5.7	185	228	.
white catfish	6	0.3	99.0	0.86	281	30.5	211	398	.
channel catfish	5	0.3	99.3	0.71	293	28.8	228	397	.
striped bass	4	0.2	99.5	0.57	169	127.6	32	552	2025.0
American eel	4	0.2	99.7	0.57	258	22.9	219	315	.
blue catfish	3	0.2	99.8	0.43	153	3.7	146	157	.
blue crab, adult female	2	0.1	99.9	0.17	145	0.5	144	145	.
striped anchovy	1	0.1	100.0	0.14	47	.	47	47	.
All Species Combined	1,958								

Table 81.

Month - July

River - York

No. of Fish Trawls Made - 8

No. of Add'l Crab Trawls Made - 4

No. of Species - 16

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
Atlantic croaker	1,348	63.8	63.8	168.50	125	1.8	30	274	45.2
bay anchovy	247	11.7	75.5	30.88	63	0.9	45	94	.
hogchoker	178	8.4	83.9	22.25	68	2.6	29	151	.
white catfish	83	3.9	87.9	10.38	300	5.9	162	419	17.9
blue crab, male	78	3.7	91.6	6.50	85	3.2	30	153	.
striped bass	61	2.9	94.5	7.63	47	0.7	32	60	.
blue crab, juvenile female	52	2.5	96.9	4.33	69	2.8	30	117	.
spot	23	1.1	98.0	2.88	117	4.7	58	139	.
white perch	11	0.5	98.5	1.38	246	6.3	208	278	313.9
oyster toadfish	10	0.5	99.0	1.25	131	11.9	95	224	.
weakfish	7	0.3	99.3	0.88	221	15.0	179	270	.
blackcheek tonguefish	6	0.3	99.6	0.75	108	2.2	98	113	.
American eel	3	0.1	99.8	0.38	146	32.3	82	183	.
longnose gar	2	0.1	99.9	0.25	738	38.5	699	776	1400.0
blue crab, adult female	2	0.1	100.0	0.17	119	3.5	115	122	.
gizzard shad	1	0.0	100.0	0.13	323	.	323	323	.
All Species Combined		2,112							

Table 82.

Month - July

River - All - Pooled

No. of Fish Trawls Made - 21

No. of Add'l Crab Trawls Made - 13

No. of Species - 26

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
Atlantic croaker	2,523	38.5	38.5	120.14	128	1.2	30	284	31.8
bay anchovy	1,768	27.0	65.5	84.19	69	0.5	45	94	3.8
spot	631	9.6	75.1	30.05	106	1.1	10	181	11.1
hogchoker	624	9.5	84.7	29.71	76	1.4	29	151	8.8
blue crab, male	360	5.5	90.2	10.59	84	1.5	23	175	.
blue crab, juvenile female	251	3.8	94.0	7.38	70	1.2	28	133	.
white catfish	90	1.4	95.4	4.29	298	5.8	162	419	17.9
weakfish	84	1.3	96.6	4.00	109	9.5	21	270	.
striped bass	69	1.1	97.7	3.29	65	9.5	32	552	793.8
white perch	55	0.8	98.5	2.62	150	9.2	43	278	313.9
oyster toadfish	20	0.3	98.8	0.95	137	7.7	95	224	.
summer flounder	19	0.3	99.1	0.90	257	20.3	153	476	204.2
American eel	14	0.2	99.3	0.67	230	15.3	82	315	.
blackcheek tonguefish	10	0.2	99.5	0.48	111	2.3	98	124	.
blue crab, adult female	7	0.1	99.6	0.21	130	4.1	115	145	.
channel catfish	5	0.1	99.7	0.24	293	28.8	228	397	.
northern pipefish	4	0.1	99.7	0.19	171	26.3	141	250	.
silver perch	4	0.1	99.8	0.19	159	5.5	145	172	.
blue catfish	3	0.0	99.8	0.14	153	3.7	146	157	.
black seabass	2	0.0	99.9	0.10	125	13.5	111	138	.
gizzard shad	2	0.0	99.9	0.10	331	8.0	323	339	.
longnose gar	2	0.0	99.9	0.10	738	38.5	699	776	1400.0
butterfish	1	0.0	100.0	0.05	122	.	122	122	.
striped anchovy	1	0.0	100.0	0.05	47	.	47	47	.
feather blenny	1	0.0	100.0	0.05	93	.	93	93	.
clearnose skate	1	0.0	100.0	0.05	483	.	483	483	.
All Species Combined		6,551							

Table 83.

Month - August

River - James

No. of Fish Trawls Made - 6

No. of Add'l Crab Trawls Made - 4

No. of Species - 26

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	511	29.0	29.0	85.17	45	1.4	14	74	0.3
spot	365	21.1	50.7	60.83	119	1.8	88	196	.
hogchoker	315	18.2	68.9	52.50	83	2.4	40	162	.
Atlantic croaker	279	16.1	85.0	46.50	139	1.8	100	265	.
white catfish	117	6.8	91.8	19.50	193	8.1	115	281	.
weakfish	38	2.2	94.0	6.33	87	9.2	36	220	.
blue crab, male	26	1.5	95.5	2.60	82	6.6	37	156	.
blue crab, juvenile female	14	0.8	96.3	1.40	76	7.5	30	109	.
butterfish	9	0.5	96.8	1.50	33	3.3	16	51	.
blue crab, adult female	8	0.5	97.3	0.80	142	4.2	124	159	.
blackcheek tonguefish	7	0.4	97.7	1.17	109	2.7	103	124	.
summer flounder	6	0.3	98.0	1.00	258	38.2	178	412	.
scup	5	0.3	98.3	0.83	95	5.4	82	111	.
northern searobin	5	0.3	98.6	0.83	141	6.1	121	155	.
inland silverside	5	0.3	98.9	0.83	56	1.5	53	62	.
inshore lizardfish	5	0.3	99.2	0.83	157	5.0	139	167	.
American eel	3	0.2	99.4	0.50	300	7.7	285	309	.
northern pipefish	2	0.1	99.5	0.33	157	15.0	142	172	.
oyster toadfish	2	0.1	99.6	0.33	96	15.5	80	111	.
black seabass	1	0.1	99.7	0.17	183	.	183	183	.
pigfish	1	0.1	99.7	0.17	169	.	169	169	.
windowpane	1	0.1	99.8	0.17	176	.	176	176	.
southern stingray	1	0.1	99.8	0.17	173	.	173	173	.
conger eel	1	0.1	99.9	0.17	385	.	385	385	.
lookdown	1	0.1	99.9	0.17	51	.	51	51	.
northern stargazer	1	0.1	100.0	0.17	28	.	28	28	.
All Species Combined			1,729						

Table 84.

Month - August

River - Rappahannock

No. of Fish Trawls Made - 7

No. of Add'l Crab Trawls Made - 5

No. of Species - 16

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	2,110	65.9	65.9	301.43	61	1.1	35	84	2.3
spot	598	18.7	84.6	85.43	109	1.0	75	169	.
hogchoker	340	10.6	95.2	48.57	87	2.1	51	131	11.7
blue crab, juvenile female	63	2.0	97.2	5.25	35	5.1	5	125	.
blue crab, male	31	1.0	98.1	2.58	98	5.5	27	151	.
Atlantic croaker	12	0.4	98.5	1.71	172	12.6	142	270	247.5
blue crab, adult female	12	0.4	98.9	1.00	158	2.4	144	170	.
weakfish	7	0.2	99.1	1.00	59	9.5	25	97	.
striped bass	7	0.2	99.3	1.00	65	1.8	60	73	.
white perch	6	0.2	99.5	0.86	138	7.8	110	157	.
American eel	6	0.2	99.7	0.86	287	24.2	185	357	.
white catfish	5	0.2	99.8	0.71	276	48.7	201	460	310.0
blue catfish	2	0.1	99.9	0.29	210	32.5	177	242	126.0
summer flounder	1	0.0	99.9	0.14	224	.	224	224	.
oyster toadfish	1	0.0	100.0	0.14	132	.	132	132	.
Atlantic cutlassfish	1	0.0	100.0	0.14	378	.	378	378	30.5
All Species Combined			3,202						

Table 85.

Month - August
 River - York
 No. of Fish Trawls Made - 8
 No. of Add'l Crab Trawls Made - 4
 No. of Species - 19

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
hogchoker	1,241	31.6	31.6	155.13	84	1.4	33	154	40.0
weakfish	1,166	29.7	61.3	145.75	77	4.3	14	276	1.8
bay anchovy	658	16.8	78.1	82.25	50	1.1	15	84	2.5
Atlantic croaker	520	13.2	91.3	65.00	148	1.6	97	257	.
blue crab, male	111	2.8	94.2	9.25	70	3.8	6	157	.
spot	100	2.5	96.7	12.50	163	3.2	116	226	.
blue crab, juvenile female	56	1.4	98.1	4.67	53	4.0	6	110	.
blue crab, adult female	15	0.4	98.5	1.25	151	3.6	124	187	.
silver perch	14	0.4	98.9	1.75	180	3.7	161	205	.
northern kingfish	11	0.3	99.2	1.38	33	2.6	20	51	.
blackcheek tonguefish	9	0.2	99.4	1.13	118	2.3	110	130	.
oyster toadfish	8	0.2	99.6	1.00	217	29.3	111	300	.
harvestfish	4	0.1	99.7	0.50	22	3.8	13	28	.
striped bass	4	0.1	99.8	0.50	73	5.0	64	87	.
white catfish	3	0.1	99.9	0.38	242	49.2	166	334	.
Atlantic menhaden	2	0.1	99.9	0.25	164	5.5	158	169	.
longnose gar	1	0.0	99.9	0.13	740	.	740	740	.
striped anchovy	1	0.0	100.0	0.13	86	.	86	86	.
Atlantic cutlassfish	1	0.0	100.0	0.13	506	.	506	506	.
All Species Combined		3.925							

Table 86.

Month - August
 River - All - Pooled
 No. of Fish Trawls Made - 21
 No. of Add'l Crab Trawls Made - 13
 No. of Species - 36

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	3,279	37.0	37.0	150.14	52	0.8	14	84	2.1
hogchoker	1,896	21.4	58.4	90.29	84	1.1	33	162	34.5
weakfish	1,211	13.7	72.1	57.67	78	3.9	14	276	1.8
spot	1,063	12.0	84.1	50.62	124	1.5	75	226	.
Atlantic croaker	811	9.2	93.3	38.62	145	1.3	97	270	247.5
blue crab, male	168	1.9	95.2	4.94	77	3.0	6	157	.
blue crab, juvenile female	133	1.5	96.7	3.91	47	3.2	5	125	.
white catfish	125	1.4	98.1	5.95	210	11.2	115	460	310.0
blue crab, adult female	35	0.4	98.5	1.03	151	2.2	124	187	.
blackcheek tonguefish	16	0.2	98.7	0.76	114	2.0	103	130	.
silver perch	14	0.2	98.8	0.67	180	3.7	161	205	.
striped bass	11	0.1	98.9	0.52	68	2.3	60	87	.
northern kingfish	11	0.1	99.1	0.52	33	2.6	20	51	.
oyster toadfish	11	0.1	99.2	0.52	187	26.2	80	300	.
butterfish	9	0.1	99.3	0.43	33	3.3	16	51	.
American eel	9	0.1	99.4	0.43	291	15.9	185	357	.
summer flounder	7	0.1	99.5	0.33	253	32.6	178	412	.
white perch	6	0.1	99.5	0.29	138	7.8	110	157	.
scup	5	0.1	99.6	0.24	95	5.4	82	111	.
northern sea robin	5	0.1	99.6	0.24	141	6.1	121	155	.
inland silverside	5	0.1	99.7	0.24	56	1.5	53	62	.
inshore lizardfish	5	0.1	99.8	0.24	157	5.0	139	167	.
harvestfish	4	0.0	99.8	0.19	22	3.8	13	28	.
Atlantic menhaden	2	0.0	99.8	0.10	164	5.5	158	169	.
northern pipefish	2	0.0	99.9	0.10	157	15.0	142	172	.
Atlantic cutlassfish	2	0.0	99.9	0.10	442	64.0	378	506	30.5
blue catfish	2	0.0	99.9	0.10	210	32.5	177	242	126.0
black seabass	1	0.0	99.9	0.05	183	.	183	183	.
pigfish	1	0.0	99.9	0.05	169	.	169	169	.
windowpane	1	0.0	99.9	0.05	176	.	176	176	.
longnose gar	1	0.0	99.9	0.05	740	.	740	740	.
striped anchovy	1	0.0	100.0	0.05	86	.	86	86	.
southern stingray	1	0.0	100.0	0.05	173	.	173	173	.
conger eel	1	0.0	100.0	0.05	385	.	385	385	.
lookdown	1	0.0	100.0	0.05	51	.	51	51	.
northern stargazer	1	0.0	100.0	0.05	28	.	28	28	.
All Species Combined		8,856							

Table 87.

Month - September

River - James

No. of Fish Trawls Made - 6

No. of Add'l Crab Trawls Made - 4

No. of Species - 28

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
weakfish	1,994	41.9	41.9	332.33	89	2.0	39	303	8.4
bay anchovy	1,050	22.0	63.9	175.00	37	0.7	21	68	.
hogchoker	884	18.6	82.5	147.33	92	1.5	60	172	.
spot	426	8.9	91.4	71.00	140	1.7	101	226	.
Atlantic croaker	241	5.1	96.5	40.17	176	1.4	145	269	.
blue crab, male	28	0.6	97.1	2.80	76	8.6	26	152	.
blue crab, juvenile female	27	0.6	97.6	2.70	48	4.3	25	113	.
American eel	24	0.5	98.2	4.00	253	7.2	183	307	.
white catfish	17	0.4	98.5	2.83	219	5.4	193	273	.
scup	16	0.3	98.8	2.67	143	3.5	126	184	.
southern kingfish	10	0.2	99.1	1.67	80	3.2	64	100	.
oyster toadfish	7	0.1	99.2	1.17	130	18.5	50	214	.
blue crab, adult female	7	0.1	99.3	0.70	144	7.1	120	169	.
blackcheek tonguefish	4	0.1	99.4	0.67	130	2.4	125	136	.
summer flounder	3	0.1	99.5	0.50	283	15.5	254	307	.
harvestfish	3	0.1	99.6	0.50	58	9.8	38	68	.
squid	3	0.1	99.6	0.50	63	6.2	56	75	.
silver perch	3	0.1	99.7	0.50	144	43.9	56	190	.
black seabass	2	0.0	99.7	0.33	126	34.0	92	160	.
pigfish	2	0.0	99.8	0.33	183	6.0	177	189	.
Atlantic spadefish	2	0.0	99.8	0.33	89	21.0	68	110	.
skilletfish	2	0.0	99.9	0.33	23	7.0	16	30	.
smallmouth flounder	2	0.0	99.9	0.33	81	5.0	76	86	.
red drum	1	0.0	99.9	0.17	26	.	26	26	.
northern puffer	1	0.0	99.9	0.17	223	.	223	223	.
gizzard shad	1	0.0	100.0	0.17	246	.	246	246	.
windowpane	1	0.0	100.0	0.17	219	.	219	219	.
naked goby	1	0.0	100.0	0.17	28	.	28	28	.
All Species Combined		4,762							

Table 88.

Month - September

River - Rappahannock

No. of Fish Trawls Made - 7

No. of Add'l Crab Trawls Made - 5

No. of Species - 20

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	4,008	55.2	55.2	572.57	51	0.9	25	82	0.6
spot	1,301	17.9	73.1	185.86	123	0.5	92	175	.
weakfish	939	12.9	86.0	134.14	75	2.3	29	267	.
hogchoker	524	7.2	93.2	74.86	97	1.4	60	153	.
Atlantic croaker	148	2.0	95.3	21.14	82	5.6	19	212	.
kingfish	127	1.7	97.0	18.14	73	1.8	31	122	.
blue crab, male	83	1.1	98.1	6.92	71	5.0	12	155	.
blue crab, juvenile female	73	1.0	99.1	6.08	43	3.8	10	111	.
harvestfish	19	0.3	99.4	2.71	38	2.8	26	64	.
American eel	10	0.1	99.5	1.43	233	11.3	190	289	.
oyster toadfish	10	0.1	99.7	1.43	152	9.0	115	216	.
blue crab, adult female	6	0.1	99.8	0.50	148	5.8	131	166	.
inshore lizardfish	5	0.1	99.8	0.71	192	12.6	167	235	.
summer flounder	4	0.1	99.9	0.57	263	27.4	226	344	.
blackcheek tonguefish	3	0.0	99.9	0.43	143	1.5	141	146	.
bluefish	1	0.0	99.9	0.14	155	.	155	155	.
Atlantic thread herring	1	0.0	100.0	0.14	39	.	39	39	.
white catfish	1	0.0	100.0	0.14	374	.	374	374	.
Atlantic spadefish	1	0.0	100.0	0.14	48	.	48	48	.
naked goby	1	0.0	100.0	0.14	30	.	30	30	.
All Species Combined		7,265							

Table 89.

Month - September

River - York

No. of Fish Trawls Made - 8

No. of Add'l Crab Trawls Made - 4

No. of Species - 28

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	11,824	75.0	75.0	1478.00	52	0.8	19	83	1.0
weakfish	2,606	16.5	91.5	325.75	94	3.0	30	308	3.2
hogchoker	608	3.9	95.4	76.00	92	2.4	11	179	25.9
spot	158	1.0	96.4	19.75	141	2.5	87	217	.
kingfish	119	0.8	97.1	14.88	66	2.1	30	98	.
Atlantic croaker	80	0.5	97.6	10.00	122	7.3	19	286	.
Atlantic thread herring	68	0.4	98.1	8.50	54	0.5	46	66	.
blue crab, male	67	0.4	98.5	5.58	63	5.8	8	155	.
silver perch	58	0.4	98.9	7.25	168	3.8	42	203	.
blue crab, juvenile female	43	0.3	99.1	3.58	57	5.4	13	128	.
oyster toadfish	36	0.2	99.4	4.50	209	10.4	104	326	.
white catfish	34	0.2	99.6	4.25	200	12.4	70	346	.
blackcheek tonguefish	17	0.1	99.7	2.13	124	1.5	116	135	.
summer flounder	12	0.1	99.8	1.50	244	18.5	190	387	.
harvestfish	12	0.1	99.8	1.50	51	4.0	31	73	.
striped bass	6	0.0	99.9	0.75	77	3.9	60	89	.
blue crab, adult female	5	0.0	99.9	0.42	142	4.2	129	155	.
white perch	3	0.0	99.9	0.38	212	7.6	197	222	.
inshore lizardfish	2	0.0	99.9	0.25	172	5.0	167	177	.
brown shrimp	2	0.0	99.9	0.25	179	4.0	175	183	.
butterfish	1	0.0	100.0	0.13	83	.	83	83	40.6
squid	1	0.0	100.0	0.13	45	.	45	45	.
Atlantic menhaden	1	0.0	100.0	0.13	120	.	120	120	.
southern kingfish	1	0.0	100.0	0.13	33	.	33	33	.
American eel	1	0.0	100.0	0.13	158	.	158	158	.
Atlantic spadefish	1	0.0	100.0	0.13	42	.	42	42	.
longnose gar	1	0.0	100.0	0.13	820	.	820	820	.
striped anchovy	1	0.0	100.0	0.13	85	.	85	85	.
All Species Combined			15,768						

Table 90.

Month - September

River - All - Pooled

No. of Fish Trawls Made - 21

No. of Add'l Crab Trawls Made - 13

No. of Species - 39

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	16,882	60.7	60.7	803.90	49	0.5	19	83	0.9
weakfish	5,539	19.9	80.7	263.76	87	1.4	29	308	5.5
hogchoker	2,016	7.3	87.9	96.00	93	1.0	11	179	25.9
spot	1,885	6.8	94.7	89.76	131	0.8	87	226	.
Atlantic croaker	469	1.7	96.4	22.33	130	3.4	19	286	.
kingfish	246	0.9	97.3	11.71	71	1.5	30	122	.
blue crab, male	178	0.6	97.9	5.24	69	3.5	8	155	.
blue crab, juvenile female	143	0.5	98.4	4.21	48	2.7	10	128	.
Atlantic thread herring	69	0.2	98.7	3.29	54	0.6	39	66	.
silver perch	61	0.2	98.9	2.90	167	4.1	42	203	.
oyster toadfish	53	0.2	99.1	2.52	188	8.7	50	326	.
white catfish	52	0.2	99.3	2.48	210	9.0	70	374	.
American eel	35	0.1	99.4	1.67	244	6.5	158	307	.
harvestfish	34	0.1	99.5	1.62	45	2.5	26	73	.
blackcheek tonguefish	24	0.1	99.6	1.14	128	1.7	116	146	.
summer flounder	19	0.1	99.7	0.90	254	13.2	190	387	.
blue crab, adult female	18	0.1	99.7	0.53	145	3.4	120	169	.
scup	16	0.1	99.8	0.76	143	3.5	126	184	.
southern kingfish	11	0.0	99.8	0.52	76	5.2	33	100	.
inshore lizardfish	7	0.0	99.9	0.33	186	9.5	167	235	.
striped bass	6	0.0	99.9	0.29	77	3.9	60	89	.
squid	4	0.0	99.9	0.19	58	6.2	45	75	.
Atlantic spadefish	4	0.0	99.9	0.19	67	15.4	42	110	.
white perch	3	0.0	99.9	0.14	212	7.6	197	222	.
black seabass	2	0.0	99.9	0.10	126	34.0	92	160	.
pigfish	2	0.0	99.9	0.10	183	6.0	177	189	.
naked goby	2	0.0	99.9	0.10	29	1.0	28	30	.
skilletfish	2	0.0	100.0	0.10	23	7.0	16	30	.
smallmouth flounder	2	0.0	100.0	0.10	81	5.0	76	86	.
brown shrimp	2	0.0	100.0	0.10	179	4.0	175	183	.
butterfish	1	0.0	100.0	0.05	83	.	83	83	.
bluefish	1	0.0	100.0	0.05	155	.	155	155	.
red drum	1	0.0	100.0	0.05	26	.	26	26	.
Atlantic menhaden	1	0.0	100.0	0.05	120	.	120	120	.
northern puffer	1	0.0	100.0	0.05	223	.	223	223	.
gizzard shad	1	0.0	100.0	0.05	246	.	246	246	.
windowpane	1	0.0	100.0	0.05	219	.	219	219	.
longnose gar	1	0.0	100.0	0.05	820	.	820	820	.
striped anchovy	1	0.0	100.0	0.05	85	.	85	85	.
All Species Combined			27,795						

Table 91.

Month - October
 River - James
 No. of Fish Trawls Made - 6
 No. of Add'l Crab Trawls Made - 4
 No. of Species - 29

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	2,269	45.8	45.8	378.17	51	1.1	27	81	
hogchoker	1,796	36.3	82.1	299.33	88	1.6	32	123	
spot	196	4.0	86.0	32.67	131	1.2	101	212	
weakfish	194	3.9	90.0	32.33	99	4.7	48	271	
blue crab, juvenile female	114	2.3	92.3	11.40	48	2.1	17	146	
blue crab, adult female	105	2.1	94.4	10.50	150	1.0	127	177	
Atlantic croaker	101	2.0	96.4	16.83	167	2.9	14	250	
squid	36	0.7	97.2	6.00	31	1.3	15	47	
blue crab, male	30	0.6	97.8	3.00	67	6.9	21	156	
kingfish	16	0.3	98.1	2.67	91	6.2	40	123	
butterfish	14	0.3	98.4	2.33	139	7.3	85	177	
white perch	10	0.2	98.6	1.67	212	4.2	183	228	
blackcheek tonguefish	10	0.2	98.8	1.67	126	2.8	116	142	
oyster toadfish	8	0.2	98.9	1.33	160	38.1	32	337	
smallmouth flounder	8	0.2	99.1	1.33	72	7.2	40	93	
scup	7	0.1	99.2	1.17	143	2.2	134	151	
summer flounder	6	0.1	99.4	1.00	274	18.2	215	320	
harvestfish	6	0.1	99.5	1.00	93	3.6	85	109	
Atlantic spadefish	6	0.1	99.6	1.00	86	3.8	74	99	
inshore lizardfish	5	0.1	99.7	0.83	209	27.8	153	308	
silver perch	5	0.1	99.8	0.83	173	9.6	138	194	
white catfish	2	0.0	99.8	0.33	240	49.5	190	289	
pigfish	2	0.0	99.9	0.33	162	3.0	159	165	
bluefish	1	0.0	99.9	0.17	160	.	160	160	
northern puffer	1	0.0	99.9	0.17	93	.	93	93	
American eel	1	0.0	99.9	0.17	275	.	275	275	
striped searobin	1	0.0	100.0	0.17	34	.	34	34	
clearnose skate	1	0.0	100.0	0.17	407	.	407	407	
fringed flounder	1	0.0	100.0	0.17	95	.	95	95	
All Species Combined		4.952							

Table 92.

Month - October
 River - Rappahannock
 No. of Fish Trawls Made - 7
 No. of Add'l Crab Trawls Made - 5
 No. of Species - 20

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
hogchoker	1,070	40.8	40.8	132.86	105	3.0	27	155	64.7
bay anchovy	627	23.9	64.7	89.57	53	1.2	26	79	
blue crab, male	270	10.3	75.0	22.50	52	2.4	10	201	
weakfish	227	8.7	83.7	32.43	135	7.0	64	354	
blue crab, juvenile female	195	7.4	91.1	16.25	38	1.3	2	135	
kingfish	52	2.0	93.1	7.43	103	3.1	59	146	
spot	48	1.8	95.0	6.86	139	1.7	113	177	
Atlantic croaker	47	1.8	96.8	6.71	35	2.5	14	90	
white catfish	25	1.0	97.7	3.57	302	5.2	271	360	
blue crab, adult female	18	0.7	98.4	1.50	147	4.2	104	175	
white perch	12	0.5	98.9	1.71	185	4.5	157	208	
blackcheek tonguefish	11	0.4	99.3	1.57	102	12.4	53	151	
oyster toadfish	8	0.3	99.6	1.14	247	29.8	111	337	
American eel	3	0.1	99.7	0.43	203	49.7	151	302	
summer flounder	2	0.1	99.8	0.29	262	0.5	261	262	
harvestfish	2	0.1	99.8	0.29	64	0.5	63	64	
Atlantic menhaden	1	0.0	99.9	0.14	150	.	150	150	
channel catfish	1	0.0	99.9	0.14	411	.	411	411	
naked goby	1	0.0	100.0	0.14	48	.	48	48	
rough silverside	1	0.0	100.0	0.14	84	.	84	84	
All Species Combined		2.621							

Table 93.

Month - October

River - York

No. of Fish Trawls Made - 8

No. of Add'l Crab Trawls Made - 4

No. of Species - 26

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	11,509	76.6	76.6	1438.63	36	0.8	27	81	1.2
hogchoker	1,434	9.5	86.2	179.25	92	2.4	30	162	26.5
weakfish	680	4.5	90.7	85.00	117	2.2	59	337	.
Atlantic croaker	327	2.2	92.9	40.88	120	3.8	24	264	.
blue crab, juvenile female	309	2.1	95.0	25.75	32	0.8	15	122	.
blue crab, male	256	1.7	96.7	21.33	41	1.8	15	193	.
spot	244	1.6	98.3	30.50	153	1.3	124	225	.
silver perch	56	0.4	98.7	7.00	144	5.9	67	212	.
white catfish	55	0.4	99.0	6.88	208	12.8	69	430	.
oyster toadfish	46	0.3	99.3	5.75	219	9.8	106	360	.
kingfish	23	0.2	99.5	2.88	98	4.1	62	134	.
blackcheek tonguefish	21	0.1	99.6	2.63	128	4.1	58	153	.
summer flounder	12	0.1	99.7	1.50	260	8.3	232	330	.
Atlantic spadefish	11	0.1	99.8	1.38	89	2.5	77	102	.
squid	8	0.1	99.8	1.00	49	4.3	28	62	.
striped bass	8	0.1	99.9	1.00	86	1.1	83	91	.
white perch	3	0.0	99.9	0.38	193	18.3	157	215	.
blue crab, adult female	3	0.0	99.9	0.25	136	6.1	128	148	.
harvestfish	2	0.0	99.9	0.25	72	3.0	69	75	.
American eel	2	0.0	100.0	0.25	288	37.5	250	325	.
longnose gar	2	0.0	100.0	0.25	725	45.0	680	770	.
butterfish	1	0.0	100.0	0.13	153	.	153	153	.
naked goby	1	0.0	100.0	0.13	35	.	35	35	.
inshore lizardfish	1	0.0	100.0	0.13	245	.	245	245	.
conger eel	1	0.0	100.0	0.13	493	.	493	493	.
northern stargazer	1	0.0	100.0	0.13	52	.	52	52	.
All Species Combined			15.016						

Table 94.

Month - October

River - All - Pooled

No. of Fish Trawls Made - 21

No. of Add'l Crab Trawls Made - 13

No. of Species - 37

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	14,405	63.8	63.8	685.95	54	0.6	26	81	1.2
hogchoker	4,300	19.0	82.8	204.76	94	1.5	27	162	30.1
weakfish	1,101	4.9	87.7	52.43	117	2.0	48	354	.
blue crab, juvenile female	618	2.7	90.4	18.18	37	0.7	2	146	.
blue crab, male	556	2.5	92.9	16.35	48	1.5	10	201	.
spot	488	2.2	95.0	23.24	142	0.9	101	225	.
Atlantic croaker	475	2.1	97.1	22.62	122	3.2	14	264	.
blue crab, adult female	126	0.6	97.7	3.71	149	1.0	104	177	.
kingfish	91	0.4	98.1	4.33	100	2.3	40	146	.
white catfish	82	0.4	98.5	3.90	237	10.0	69	430	.
oyster toadfish	62	0.3	98.7	2.95	215	9.8	32	360	.
silver perch	61	0.3	99.0	2.90	146	5.5	67	212	.
squid	44	0.2	99.2	2.10	34	1.7	15	62	.
blackcheek tonguefish	42	0.2	99.4	2.00	121	4.2	53	153	.
white perch	25	0.1	99.5	1.19	197	4.1	157	228	.
summer flounder	20	0.1	99.6	0.95	264	7.2	215	330	.
Atlantic spadefish	17	0.1	99.7	0.81	88	2.1	74	102	.
butterfish	15	0.1	99.7	0.71	140	6.9	85	177	.
harvestfish	10	0.0	99.8	0.48	83	4.6	63	109	.
striped bass	8	0.0	99.8	0.38	86	1.1	83	91	.
smallmouth flounder	8	0.0	99.8	0.38	72	2.2	40	93	.
scup	7	0.0	99.9	0.33	143	2.2	134	151	.
American eel	6	0.0	99.9	0.29	243	30.3	151	325	.
inshore lizardfish	6	0.0	99.9	0.29	215	23.5	153	308	.
pigfish	2	0.0	99.9	0.10	162	3.0	159	165	.
longnose gar	2	0.0	99.9	0.10	725	45.0	680	770	.
naked goby	2	0.0	100.0	0.10	42	6.5	35	48	.
bluefish	1	0.0	100.0	0.05	160	.	160	160	.
Atlantic menhaden	1	0.0	100.0	0.05	150	.	150	150	.
channel catfish	1	0.0	100.0	0.05	411	.	411	411	.
northern puffer	1	0.0	100.0	0.05	93	.	93	93	.
striped scad	1	0.0	100.0	0.05	34	.	34	34	.
rough silverside	1	0.0	100.0	0.05	84	.	84	84	.
clearnose skate	1	0.0	100.0	0.05	407	.	407	407	.
conger eel	1	0.0	100.0	0.05	493	.	493	493	.
northern stargazer	1	0.0	100.0	0.05	52	.	52	52	.
fringed flounder	1	0.0	100.0	0.05	95	.	95	95	.
All Species Combined			22,589						

Table 95.

Month - November
 River - James
 No. of Fish Trawls Made - 6
 No. of Add'l Crab Trawls Made - 4
 No. of Species - 25

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	2,396	64.8	64.8	399.33	30	0.9	31	80	1.5
spot	779	21.1	85.8	129.83	130	1.0	104	172	46.1
blue crab, male	97	2.6	88.5	9.70	65	4.7	8	170	.
blue crab, juvenile female	94	2.5	91.0	9.40	34	2.9	7	128	.
hogchoker	88	2.4	93.4	14.67	75	2.7	58	176	.
blue crab, adult female	48	1.3	94.7	4.80	143	1.9	116	172	.
Atlantic croaker	46	1.2	95.9	7.67	57	3.5	27	116	.
squid	40	1.1	97.0	6.67	34	1.0	25	58	.
weakfish	31	0.8	97.8	5.17	118	3.0	85	146	.
white perch	17	0.5	98.3	2.83	152	12.9	59	217	.
silver perch	11	0.3	98.6	1.83	79	3.0	58	96	.
smallmouth flounder	10	0.3	98.9	1.67	90	2.8	76	99	.
Atlantic thread herring	7	0.2	99.1	1.17	102	2.4	96	112	.
butterfish	6	0.2	99.2	1.00	99	2.6	87	104	.
alewife	5	0.1	99.4	0.83	106	7.4	94	134	.
oyster toadfish	5	0.1	99.5	0.83	301	50.4	101	367	.
striped bass	4	0.1	99.6	0.67	129	14.3	101	166	.
channel catfish	3	0.1	99.7	0.50	320	1.7	317	322	.
blackcheek tonguefish	3	0.1	99.8	0.50	78	11.1	60	98	.
summer flounder	2	0.1	99.8	0.33	306	53.0	253	359	.
gizzard shad	2	0.1	99.9	0.33	158	5.5	152	163	.
tautog	2	0.1	99.9	0.33	289	42.5	246	331	.
kingfish	1	0.0	99.9	0.17	124	.	124	124	.
northern sea robin	1	0.0	100.0	0.17	74	.	74	74	.
lined seahorse	1	0.0	100.0	0.17	68	.	68	68	.
All Species Combined		3.699							

Table 96.

Month - November
 River - Rappahannock
 No. of Fish Trawls Made - 7
 No. of Add'l Crab Trawls Made - 5
 No. of Species - 23

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	10,464	78.4	78.4	1494.86	59	0.8	30	82	2.1
spot	1,032	7.7	86.2	147.43	124	0.8	101	169	.
Atlantic croaker	785	5.9	92.1	112.14	73	1.3	19	163	.
white perch	262	2.0	94.0	37.43	176	4.7	70	248	.
blue crab, male	193	1.4	95.5	16.08	84	2.8	13	172	.
weakfish	169	1.3	96.7	24.14	124	3.3	72	278	.
blue crab, juvenile female	130	1.0	97.7	10.83	48	1.9	20	118	.
hogchoker	108	0.8	98.5	15.43	98	1.9	48	143	.
alewife	68	0.5	99.0	9.71	73	1.1	60	107	.
kingfish	25	0.2	99.2	3.57	117	3.9	70	148	.
blue crab, adult female	20	0.1	99.4	1.67	147	3.2	113	168	.
striped bass	19	0.1	99.5	2.71	167	12.3	115	277	.
silver perch	15	0.1	99.6	2.14	105	3.5	82	124	.
summer flounder	14	0.1	99.7	2.00	283	11.3	224	398	.
blackcheek tonguefish	12	0.1	99.8	1.71	112	11.6	55	152	.
oyster toadfish	8	0.1	99.9	1.14	202	23.8	140	287	.
butterfish	5	0.0	99.9	0.71	137	4.3	125	149	.
white catfish	5	0.0	100.0	0.71	324	24.0	275	405	.
channel catfish	2	0.0	100.0	0.29	302	10.0	292	312	.
harvestfish	1	0.0	100.0	0.14	73	.	73	73	.
gizzard shad	1	0.0	100.0	0.14	139	.	139	139	.
naked goby	1	0.0	100.0	0.14	164	.	63	63	.
spotsin butterflyfish	1	0.0	100.0	0.14	63	.	63	63	.
All Species Combined		13,340							

Table 97.

Month - November

River - York

No. of Fish Trawls Made - 8

No. of Add'l Crab Trawls Made - 4

No. of Species - 27

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	3,423	48.6	48.6	427.88	38	0.9	30	85	1.3
hogchoker	943	13.4	61.9	117.88	108	1.8	28	168	26.3
Atlantic croaker	787	11.2	73.1	98.58	83	3.3	13	206	
weakfish	524	7.4	80.5	65.50	129	1.7	85	303	20.6
blue crab, juvenile female	419	5.9	86.5	34.92	37	0.7	16	130	
blue crab, male	413	5.9	92.3	34.42	40	1.1	13	170	
spot	130	1.8	94.2	16.25	138	1.4	117	170	60.0
silver perch	100	1.4	95.6	12.50	117	1.7	80	191	23.9
blackcheek tonguefish	71	1.0	96.6	8.88	89	3.9	43	157	
white perch	69	1.0	97.6	8.63	199	3.1	130	281	
kingfish	56	0.8	98.4	7.00	113	2.4	49	152	12.3
oyster toadfish	48	0.7	99.1	6.00	233	8.4	103	340	
white catfish	22	0.3	99.4	2.75	261	17.4	87	366	
squid	15	0.2	99.6	1.88	41	4.3	26	58	
summer flounder	10	0.1	99.7	1.25	275	12.6	226	346	
channel catfish	4	0.1	99.8	0.50	162	18.3	134	211	
striped bass	2	0.0	99.8	0.25	216	59.0	157	275	
red drum	2	0.0	99.8	0.25	157	12.0	145	169	34.6
brown shrimp	2	0.0	99.9	0.25	105	19.0	86	124	
blue crab, adult female	2	0.0	99.9	0.17	151	2.5	148	153	
American eel	1	0.0	99.9	0.13	316	.	316	316	
northern searobin	1	0.0	99.9	0.13	58	.	58	58	
northern pipefish	1	0.0	99.9	0.13	121	.	121	121	
Atlantic silverside	1	0.0	100.0	0.13	72	.	72	72	
lockdown	1	0.0	100.0	0.13	60	.	60	60	
northern stargazer	1	0.0	100.0	0.13	50	.	50	50	
white shrimp	1	0.0	100.0	0.13	118	.	118	118	
All Species Combined		7.049							

Table 98.

Month - November

River - All - Pooled

No. of Fish Trawls Made - 21

No. of Add'l Crab Trawls Made - 13

No. of Species - 37

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	16,283	67.6	67.6	775.38	38	0.5	30	85	1.9
spot	1,941	8.1	75.7	92.43	129	0.6	101	172	47.4
Atlantic croaker	1,618	6.7	82.4	77.05	76	1.6	13	206	
hogchoker	1,139	4.7	87.1	54.24	101	1.4	28	176	26.3
weakfish	724	3.0	90.1	34.48	127	1.5	72	303	20.6
blue crab, male	703	2.9	93.0	20.68	56	1.4	8	172	
blue crab, juvenile female	643	2.7	95.7	18.91	39	0.8	7	130	
white perch	348	1.4	97.1	16.57	183	3.1	59	281	
silver perch	126	0.5	97.7	6.00	113	1.7	58	191	23.9
blackcheek tonguefish	86	0.4	98.0	4.10	91	3.7	43	157	
kingfish	82	0.3	98.4	3.90	115	2.0	49	152	12.3
alewife	73	0.3	98.7	3.48	75	1.5	60	134	
blue crab, adult female	70	0.3	99.0	2.06	144	1.6	113	172	
oyster toadfish	61	0.3	99.2	2.90	234	8.6	101	367	
squid	55	0.2	99.4	2.62	35	1.1	25	58	
white catfish	27	0.1	99.5	1.29	272	15.4	87	405	
summer flounder	26	0.1	99.7	1.24	282	8.3	224	398	
striped bass	25	0.1	99.8	1.19	165	10.9	101	277	
butterfish	11	0.0	99.8	0.52	116	6.4	87	149	
smallmouth flounder	10	0.0	99.8	0.48	90	2.8	76	99	
channel catfish	9	0.0	99.9	0.43	246	27.8	134	322	
Atlantic thread herring	7	0.0	99.9	0.33	102	2.4	96	112	
gizzard shad	3	0.0	99.9	0.14	151	6.9	139	163	
red drum	2	0.0	99.9	0.10	157	12.0	145	169	34.6
tautog	2	0.0	99.9	0.10	289	42.5	246	331	
northern searobin	2	0.0	100.0	0.10	66	8.0	58	74	
brown shrimp	2	0.0	100.0	0.10	105	19.0	86	124	
harvestfish	1	0.0	100.0	0.05	73	.	73	73	
American eel	1	0.0	100.0	0.05	316	.	316	316	
lined seahorse	1	0.0	100.0	0.05	68	.	68	68	
northern pipefish	1	0.0	100.0	0.05	121	.	121	121	
naked goby	1	0.0	100.0	0.05	164	.	164	164	
Atlantic silverside	1	0.0	100.0	0.05	72	.	72	72	
lockdown	1	0.0	100.0	0.05	60	.	60	60	
spotfin butterflyfish	1	0.0	100.0	0.05	63	.	63	63	
northern stargazer	1	0.0	100.0	0.05	50	.	50	50	
white shrimp	1	0.0	100.0	0.05	118	.	118	118	
All Species Combined		24.088							

Table 99.

Month - December
 River - James
 No. of Fish Trawls Made - 8
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 24

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
hogchoker	3,646	49.1	49.1	455.75	63	2.1	18	113	8.3
bay anchovy	2,925	39.4	88.5	365.63	44	0.7	26	71	1.4
white perch	229	3.1	91.5	28.63	91	2.7	48	224	.
Atlantic silverside	134	1.8	93.3	16.75	91	1.1	68	116	.
blueback herring	103	1.4	94.7	12.88	69	0.6	64	85	.
Atlantic croaker	100	1.3	96.1	12.50	49	1.7	13	93	.
blue crab, male	77	1.0	97.1	9.63	56	4.7	13	169	.
blue crab, juvenile female	61	0.8	97.9	7.63	40	3.6	10	123	.
white catfish	29	0.4	98.3	3.63	206	8.1	104	283	.
spot	28	0.4	98.7	3.50	117	1.7	91	133	.
blue catfish	27	0.4	99.1	3.38	208	11.4	82	296	.
American eel	19	0.3	99.3	2.38	245	19.1	166	529	.
blackcheek tonguefish	12	0.2	99.5	1.50	69	4.3	48	104	.
striped bass	10	0.1	99.6	1.25	153	3.6	135	173	.
gizzard shad	8	0.1	99.7	1.00	273	24.3	120	337	.
channel catfish	7	0.1	99.8	0.88	356	39.9	203	516	.
blue crab, adult female	4	0.1	99.9	0.50	132	4.1	125	142	.
northern pipefish	3	0.0	99.9	0.38	132	13.0	110	155	.
spotted hake	2	0.0	99.9	0.25	72	1.5	70	73	.
weakfish	1	0.0	99.9	0.13	134	.	134	134	.
spotted seatrout	1	0.0	100.0	0.13	148	.	148	148	.
smallmouth flounder	1	0.0	100.0	0.13	70	.	70	70	.
threadfin shad	1	0.0	100.0	0.13	80	.	80	80	.
white shrimp	1	0.0	100.0	0.13	75	.	75	75	.
All Species Combined		7,429							

Table 100.

Month - December
 River - Rappahannock
 No. of Fish Trawls Made - 10
 No. of Add'l Crab Trawls Made - 0
 No. of Species - 20

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	4,542	51.0	51.0	454.20	46	0.7	29	91	0.7
hogchoker	1,953	21.9	73.0	195.30	80	2.0	30	152	14.8
Atlantic croaker	1,443	16.2	89.2	144.30	50	1.0	21	245	.
white perch	404	4.5	93.7	40.40	109	2.4	64	236	.
blue crab, male	140	1.6	95.3	14.00	54	3.3	13	175	.
channel catfish	120	1.3	96.7	12.00	298	6.3	175	455	.
blue crab, juvenile female	97	1.1	97.8	9.70	41	2.0	15	109	.
white catfish	56	0.6	98.4	5.60	255	6.4	77	372	.
alewife	51	0.6	99.0	5.10	116	1.6	82	140	.
striped bass	24	0.3	99.2	2.40	154	13.7	67	312	.
butterfish	17	0.2	99.4	1.70	134	4.0	114	179	.
gizzard shad	13	0.1	99.6	1.30	143	5.6	93	164	.
naked goby	13	0.1	99.7	1.30	47	1.9	32	58	.
blackcheek tonguefish	7	0.1	99.8	0.70	68	2.6	55	75	.
blueback herring	4	0.0	99.8	0.40	70	3.0	64	78	.
spot	4	0.0	99.9	0.40	124	8.9	110	149	.
Atlantic thread herring	4	0.0	99.9	0.40	97	4.2	88	104	.
blue catfish	4	0.0	100.0	0.40	158	12.5	125	185	.
summer flounder	2	0.0	100.0	0.20	300	24.5	275	324	.
blue crab, adult female	1	0.0	100.0	0.10	144	.	144	144	.
All Species Combined		8,899							

Table 101.

Month - December

River - York

No. of Fish Trawls Made - 9

No. of Add'l Crab Trawls Made - 0

No. of Species - 21

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	6,994	67.0	67.0	777.11	61	0.9	25	94	2.4
hogchoker	1,899	18.4	86.0	211.00	87	1.5	30	141	9.1
Atlantic croaker	733	7.1	93.1	81.44	62	1.5	20	133	.
spot	348	3.4	96.5	38.67	116	0.7	92	143	.
white perch	89	0.9	97.3	9.89	199	2.6	98	252	.
blue crab, male	70	0.7	98.0	7.78	41	3.0	14	171	.
blue crab, juvenile female	54	0.5	98.5	6.00	36	1.7	19	68	.
blackcheek tonguefish	51	0.5	99.0	5.67	75	1.3	52	95	.
white catfish	41	0.4	99.4	4.56	215	17.4	55	404	.
silver perch	19	0.2	99.6	2.11	90	2.0	68	103	.
striped bass	11	0.1	99.7	1.22	203	25.0	73	362	.
weakfish	8	0.1	99.8	0.89	128	4.0	116	142	.
oyster toadfish	8	0.1	99.9	0.89	171	32.0	56	313	.
naked goby	4	0.0	99.9	0.44	44	1.5	41	48	.
white shrimp	3	0.0	99.9	0.33	116	3.6	109	121	.
alewife	2	0.0	99.9	0.22	112	4.0	108	116	.
gizzard shad	2	0.0	100.0	0.22	329	7.5	321	336	.
butterfish	1	0.0	100.0	0.11	109	.	109	109	.
Atlantic thread herring	1	0.0	100.0	0.11	123	.	123	123	.
spotted seatrout	1	0.0	100.0	0.11	150	.	150	150	.
American eel	1	0.0	100.0	0.11	254	.	254	254	.
All Species Combined			10,340						

Table 102.

Month - December

River - All - Pooled

No. of Fish Trawls Made - 27

No. of Add'l Crab Trawls Made - 0

No. of Species - 31

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	14,461	34.2	34.2	535.39	51	0.6	25	94	1.8
hogchoker	7,498	28.1	82.3	277.70	78	1.2	18	152	10.1
Atlantic croaker	2,276	8.5	90.9	84.30	55	0.8	13	245	.
white perch	722	2.7	93.6	26.74	117	2.2	48	252	.
spot	380	1.4	95.0	14.07	117	0.6	91	149	.
blue crab, male	287	1.1	96.1	10.63	51	2.2	13	175	.
blue crab, juvenile female	212	0.8	96.9	7.85	39	1.5	10	123	.
Atlantic silverside	134	0.5	97.4	4.96	91	1.1	68	116	.
channel catfish	127	0.5	97.9	4.70	305	7.2	175	516	.
white catfish	126	0.5	98.3	4.67	231	6.8	55	404	.
blueback herring	107	0.4	98.7	3.96	69	0.5	64	85	.
blackcheek tonguefish	70	0.3	99.0	2.39	73	1.3	48	104	.
alewife	53	0.2	99.2	1.96	116	1.5	82	140	.
striped bass	45	0.2	99.4	1.67	166	9.9	67	362	.
blue catfish	31	0.1	99.5	1.15	202	10.5	82	296	.
gizzard shad	23	0.1	99.6	0.85	204	17.5	93	337	.
American eel	20	0.1	99.6	0.74	246	18.1	166	529	.
silver perch	19	0.1	99.7	0.70	90	2.0	68	103	.
butterfish	18	0.1	99.8	0.67	133	4.0	109	179	.
naked goby	17	0.1	99.8	0.63	46	1.5	32	58	.
weakfish	9	0.0	99.9	0.33	128	3.6	116	142	.
oyster toadfish	8	0.0	99.9	0.30	171	32.0	56	313	.
Atlantic thread herring	5	0.0	99.9	0.19	102	6.2	88	123	.
blue crab, adult female	5	0.0	99.9	0.19	134	4.0	125	144	.
white shrimp	4	0.0	100.0	0.15	106	10.6	75	121	.
northern pipefish	3	0.0	100.0	0.11	132	13.0	110	155	.
summer flounder	2	0.0	100.0	0.07	300	24.5	275	324	.
spotted seatrout	2	0.0	100.0	0.07	149	1.0	148	150	.
spotted hake	2	0.0	100.0	0.07	72	1.5	70	73	.
smallmouth flounder	1	0.0	100.0	0.04	70	.	70	70	.
threadfin shad	1	0.0	100.0	0.04	80	.	80	80	.
All Species Combined			26,668						

Tables 103-142. Species composition, number caught, catch per trawl, and length statistics by month and segment for the Chesapeake bay trawl survey.

Notes:

- A. The "Number of Species" notation at the top of each table includes each of the three categories of blue crabs (male, juvenile female, adult female) as a different "species".
- B. Tables pooled for all segments, for each month appear as follows:

February	Table 106	Page 182
April	Table 110	Page 184
May	Table 114	Page 186
June	Table 118	Page 188
July	Table 122	Page 190
August	Table 126	Page 192
September	Table 130	Page 195
October	Table 134	Page 199
November	Table 138	Page 201
December	Table 142	Page 203

- C. Catch per trawl for fish species is based on the figure 'Number of Fish Trawls Made' while catch per trawl for blue crabs is based on the sum of 'Number of Fish Trawls Made' and 'Number of Additional Crab Trawls Made'.

Table 103

Month - February
 River - Ches. Bay - Bottom
 No. of Fish Trawls Made - 11
 No. of Species - 21

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	7,196	92.2	92.2	654.18	59	0.6	30	94	1.3
spotted hake	124	1.6	93.8	11.27	89	1.4	46	169	.
smallmouth flounder	111	1.4	95.2	10.09	70	1.9	36	141	.
blackcheek tonguefish	84	1.1	96.2	7.64	98	4.5	40	180	.
Atlantic croaker	58	0.7	97.0	5.27	56	1.7	30	101	.
Atlantic menhaden	56	0.7	97.7	5.09	102	3.9	72	204	.
red hake	43	0.6	98.3	3.91	118	4.4	61	184	.
silver hake	29	0.4	98.6	2.64	102	3.3	71	158	.
northern pipefish	27	0.3	99.0	2.45	120	4.4	78	162	.
Atlantic silverside	26	0.3	99.3	2.36	92	2.7	64	118	.
Atlantic herring	13	0.2	99.5	1.18	298	4.3	274	331	.
windowpane	12	0.2	99.6	1.09	170	34.6	38	292	.
hogchoker	10	0.1	99.8	0.91	129	4.1	111	151	.
summer flounder	5	0.1	99.8	0.45	211	12.2	171	238	.
alewife	3	0.0	99.9	0.27	125	4.8	118	134	.
American shad	3	0.0	99.9	0.27	116	1.2	114	118	.
spiny dogfish	3	0.0	99.9	0.27	819	54.5	730	918	.
skilletfish	2	0.0	100.0	0.18	40	1.5	38	41	.
blueback herring	1	0.0	100.0	0.09	71	.	71	71	.
naked goby	1	0.0	100.0	0.09	35	.	35	35	.
oyster toadfish	1	0.0	100.0	0.09	47	.	47	47	.
All Species Combined			7,808						

Table 104.

Month - February
 River - Ches. Bay - Lower
 No. of Fish Trawls Made - 11
 No. of Species - 18

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	49,138	99.7	99.7	4467.09	55	0.5	34	83	0.8
blueback herring	45	0.1	99.7	4.09	82	0.9	66	97	.
Atlantic menhaden	36	0.1	99.8	3.27	109	6.0	38	203	.
Atlantic silverside	27	0.1	99.9	2.45	76	2.7	56	105	.
northern pipefish	11	0.0	99.9	1.00	128	6.1	96	156	.
Atlantic croaker	10	0.0	99.9	0.91	66	4.4	52	94	.
red hake	10	0.0	99.9	0.91	129	10.3	78	171	.
blackcheek tonguefish	10	0.0	100.0	0.91	85	10.9	53	147	.
spotted hake	6	0.0	100.0	0.55	98	12.3	72	157	.
hogchoker	4	0.0	100.0	0.36	119	11.3	97	142	.
Atlantic herring	3	0.0	100.0	0.27	299	2.4	294	302	.
alewife	2	0.0	100.0	0.18	123	12.0	111	135	.
blue crab, adult female	2	0.0	100.0	0.18	153	9.0	144	162	.
American shad	1	0.0	100.0	0.09	94	.	94	94	.
windowpane	1	0.0	100.0	0.09	48	.	48	48	.
skilletfish	1	0.0	100.0	0.09	21	.	21	21	.
northern sand lance	1	0.0	100.0	0.09	162	.	162	162	.
smallmouth flounder	1	0.0	100.0	0.09	97	.	97	97	.
All Species Combined			49,309						

Table 105

Month - February

River - Ches. Bay - Upper

No. of Fish Trawls Made - 11

No. of Species - 22

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	48,461	99.5	99.5	4405.53	49	0.4	30	90	0.6
Atlantic silverside	71	0.1	99.7	6.45	85	1.6	56	114	.
hogchoker	29	0.1	99.7	2.64	106	2.6	87	162	.
Atlantic croaker	24	0.0	99.8	2.18	33	3.9	18	105	.
Atlantic menhaden	22	0.0	99.8	2.00	108	11.3	31	206	.
blackcheek tonguefish	11	0.0	99.9	1.00	105	12.3	58	164	.
blueback herring	8	0.0	99.9	0.73	83	3.9	63	102	.
northern pipefish	8	0.0	99.9	0.73	124	8.6	86	158	.
smallmouth flounder	7	0.0	99.9	0.64	62	3.5	50	78	.
tautog	6	0.0	99.9	0.55	263	57.5	136	497	.
spotted hake	6	0.0	99.9	0.55	94	2.3	86	101	.
oyster toadfish	5	0.0	99.9	0.45	45	4.0	35	55	.
summer flounder	4	0.0	100.0	0.36	242	33.7	177	310	.
red hake	4	0.0	100.0	0.36	124	19.8	86	179	.
feather blenny	4	0.0	100.0	0.36	55	2.1	49	59	.
alewife	3	0.0	100.0	0.27	174	31.5	137	237	.
Atlantic herring	3	0.0	100.0	0.27	296	17.4	267	327	.
windowpane	3	0.0	100.0	0.27	235	0.0	235	235	.
naked goby	2	0.0	100.0	0.18	34	4.5	29	38	.
green goby	1	0.0	100.0	0.09	45	.	45	45	.
conger eel	1	0.0	100.0	0.09	312	.	312	312	.
blue crab, adult female	1	0.0	100.0	0.09	151	.	151	151	.
All Species Combined		48,684							

Table 106

Month - February

River - All - Pooled

No. of Fish Trawls Made - 33

No. of Species - 27

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	104,793	99.0	99.0	3175.61	54	0.3	30	94	0.8
spotted hake	136	0.1	99.2	4.12	90	1.4	46	169	.
Atlantic silverside	124	0.1	99.3	3.76	85	1.3	56	118	.
smallmouth flounder	119	0.1	99.4	3.61	70	1.8	36	141	.
Atlantic menhaden	114	0.1	99.5	3.45	105	3.4	31	206	.
blackcheek tonguefish	105	0.1	99.6	3.18	98	4.0	40	180	.
Atlantic croaker	92	0.1	99.7	2.79	51	1.9	18	105	.
red hake	57	0.1	99.8	1.73	121	4.0	61	184	.
blueback herring	54	0.1	99.8	1.64	82	0.9	65	102	.
northern pipefish	46	0.0	99.8	1.39	122	3.3	78	162	.
hogchoker	43	0.0	99.9	1.30	112	2.7	87	162	.
silver hake	29	0.0	99.9	0.88	102	3.3	71	158	.
Atlantic herring	19	0.0	99.9	0.58	298	3.7	267	331	.
windowpane	16	0.0	100.0	0.48	175	27.8	38	292	.
summer flounder	9	0.0	100.0	0.27	225	16.2	171	310	.
alewife	8	0.0	100.0	0.24	143	14.1	111	237	.
tautog	6	0.0	100.0	0.18	263	57.5	136	497	.
oyster toadfish	6	0.0	100.0	0.18	45	3.3	35	55	.
American shad	4	0.0	100.0	0.12	111	5.6	94	118	.
feather blenny	4	0.0	100.0	0.12	55	2.1	49	59	.
naked goby	3	0.0	100.0	0.09	34	2.6	29	38	.
skilletfish	3	0.0	100.0	0.09	33	6.2	21	41	.
spiny dogfish	3	0.0	100.0	0.09	819	54.5	730	918	.
blue crab, adult female	3	0.0	100.0	0.09	152	5.2	144	162	.
green goby	1	0.0	100.0	0.03	45	.	45	45	.
conger eel	1	0.0	100.0	0.03	312	.	312	312	.
northern sand lance	1	0.0	100.0	0.03	162	.	162	162	.
All Species Combined		105,801							

Table 107

Month - April
 River - Ches. Bay - Bottom
 No. of Fish Trawls Made - 10
 No. of Species - 25

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	700	60.6	60.6	70.00	55	0.7	42	80	.
spotted hake	204	17.6	78.2	20.40	121	2.8	36	238	.
smallmouth flounder	97	8.4	86.6	9.70	62	1.3	41	101	.
northern searobin	36	3.1	89.7	3.60	59	3.4	37	111	.
silver hake	26	2.2	92.0	2.60	151	6.7	95	222	.
blackcheek tonguefish	22	1.9	93.9	2.20	136	4.7	72	175	.
red hake	17	1.5	95.3	1.70	153	9.4	98	218	.
weakfish	13	1.1	96.5	1.30	155	12.9	122	257	.
clearnose skate	9	0.8	97.3	0.90	397	8.5	363	446	.
summer flounder	6	0.5	97.8	0.60	123	37.1	220	476	1550.0
spot	4	0.3	98.1	0.40	27	0.9	25	28	.
windowpane	4	0.3	98.4	0.40	160	49.7	58	247	.
black seabass	3	0.3	98.7	0.30	73	2.6	68	77	.
Atlantic croaker	3	0.3	99.0	0.30	200	17.9	168	230	.
silver perch	2	0.2	99.1	0.20	142	1.5	140	143	.
scup	1	0.1	99.2	0.10	115	.	115	115	.
squid	1	0.1	99.3	0.10	124	.	124	124	.
Atlantic menhaden	1	0.1	99.4	0.10	215	.	215	215	.
northern puffer	1	0.1	99.5	0.10	196	.	196	196	.
lined seahorse	1	0.1	99.6	0.10	88	.	88	88	.
feather blenny	1	0.1	99.7	0.10	64	.	64	64	.
hogchoker	1	0.1	99.7	0.10	99	.	99	99	.
oyster toadfish	1	0.1	99.8	0.10	148	.	148	148	.
conger eel	1	0.1	99.9	0.10	357	.	357	357	.
blue crab, adult female	1	0.1	100.0	0.10	119	.	119	119	.

All Species Combined

1.156

Table 108

Month - April
 River - Ches. Bay - Lower
 No. of Fish Trawls Made - 10
 No. of Species - 24

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	655	55.2	55.2	65.50	57	0.8	37	94	1.2
spotted hake	333	28.1	83.3	33.30	118	1.2	46	192	.
Atlantic croaker	56	4.7	88.0	5.60	211	4.1	32	247	.
northern searobin	20	1.7	89.7	2.00	62	4.6	34	121	.
blackcheek tonguefish	19	1.6	91.3	1.90	121	6.5	68	157	.
spot	15	1.3	92.6	1.50	164	3.1	147	195	.
summer flounder	12	1.0	93.6	1.20	255	15.3	205	379	.
hogchoker	11	0.9	94.5	1.10	102	3.2	85	120	.
red hake	10	0.8	95.4	1.00	128	7.0	103	167	.
Atlantic herring	10	0.8	96.2	1.00	56	5.4	39	77	.
blue crab, adult female	8	0.7	96.9	0.80	140	3.3	127	150	.
smallmouth flounder	7	0.6	97.5	0.70	54	2.3	44	64	.
black seabass	6	0.5	98.0	0.60	71	7.0	51	95	.
windowpane	5	0.4	98.4	0.50	181	44.9	76	295	.
lined seahorse	3	0.3	98.7	0.30	77	13.5	56	102	.
northern pipefish	3	0.3	98.9	0.30	159	20.6	131	199	.
blue crab, juvenile female	3	0.3	99.2	0.30	39	16.7	22	72	.
silver hake	2	0.2	99.3	0.20	90	50.0	40	140	.
American shad	2	0.2	99.5	0.20	162	3.0	159	165	.
blue crab, male	2	0.2	99.7	0.20	135	6.5	128	141	.
striped bass	1	0.1	99.7	0.10	341	.	341	341	.
seaboard goby	1	0.1	99.8	0.10	38	.	38	38	.
feather blenny	1	0.1	99.9	0.10	73	.	73	73	.
oyster toadfish	1	0.1	100.0	0.10	146	.	146	146	.

All Species Combined

1.186

Table 109.

Month - April
 River - Ches. Bay - Upper
 No. of Fish Trawls Made - 11
 No. of Species - 22

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	2,461	85.7	85.7	223.73	56	0.9	35	93	1.3
spotted hake	229	8.0	93.6	20.82	101	1.4	38	180	
Atlantic croaker	49	1.7	95.3	4.45	210	7.7	40	288	
northern sciaenid	22	0.8	96.1	2.00	56	1.5	44	68	
blackcheek tonguefish	20	0.7	96.8	1.82	103	8.4	45	153	
blue crab, male	15	0.5	97.3	1.36	51	8.7	15	124	
summer flounder	14	0.5	97.8	1.27	275	22.6	211	497	
blue crab, juvenile female	13	0.5	98.3	1.18	44	6.8	15	94	225.0
Atlantic menhaden	9	0.3	98.6	0.82	124	6.9	102	172	
northern pipefish	7	0.2	98.8	0.64	143	17.1	91	222	
hogchoker	7	0.2	99.1	0.64	104	3.8	96	124	
spot	6	0.2	99.3	0.55	168	5.0	150	181	
smallmouth flounder	5	0.2	99.4	0.45	61	5.3	42	70	
red hake	3	0.1	99.5	0.27	138	12.5	120	162	
Atlantic herring	3	0.1	99.7	0.27	42	1.2	40	44	
skilletfish	3	0.1	99.8	0.27	49	7.8	35	62	
oyster toadfish	2	0.1	99.8	0.18	229	68.5	160	297	
black seabass	1	0.0	99.9	0.09	47		47	47	
alewife	1	0.0	99.9	0.09	172		172	172	
windowpane	1	0.0	99.9	0.09	85		85	85	
striped cusk-eel	1	0.0	100.0	0.09	54		54	54	
blue crab, adult female	1	0.0	100.0	0.09	109		109	109	
All Species Combined		2,873							

Table 110.

Month - April
 River - All - Pooled
 No. of Fish Trawls Made - 31
 No. of Species - 35

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	3,816	73.2	73.2	123.10	56	0.5	35	94	1.3
spotted hake	766	14.7	87.9	24.71	113	1.0	36	238	
smallmouth flounder	109	2.1	90.0	3.52	61	1.2	41	101	
Atlantic croaker	108	2.1	92.0	3.48	210	4.1	32	288	
northern sciaenid	78	1.5	93.5	2.52	59	2.0	34	121	
blackcheek tonguefish	61	1.2	94.7	1.97	121	4.2	45	175	
summer flounder	32	0.6	95.3	1.03	276	13.6	205	497	
red hake	30	0.6	95.9	0.97	143	6.2	98	218	
silver hake	28	0.5	96.4	0.90	147	7.4	40	222	
spot	25	0.5	96.9	0.81	143	10.6	25	195	
hogchoker	19	0.4	97.3	0.61	103	2.2	85	124	
blue crab, male	17	0.3	97.6	0.55	60	10.2	15	141	
blue crab, juvenile female	16	0.3	97.9	0.52	43	6.1	15	94	
weakfish	13	0.2	98.1	0.42	155	12.9	122	257	
Atlantic herring	13	0.2	98.4	0.42	53	4.4	39	77	
black seabass	10	0.2	98.6	0.32	69	4.8	47	95	
Atlantic menhaden	10	0.2	98.8	0.32	133	11.0	102	215	
windowpane	10	0.2	99.0	0.32	163	29.4	58	295	
northern pipefish	10	0.2	99.2	0.32	148	13.1	91	222	
blue crab, adult female	10	0.2	99.3	0.32	135	4.4	109	150	
clearnose skate	9	0.2	99.5	0.29	397	8.5	363	446	
lined seahorse	4	0.1	99.6	0.13	80	9.9	56	102	
oyster toadfish	4	0.1	99.7	0.13	188	36.5	146	297	
skilletfish	3	0.1	99.7	0.10	49	7.8	35	62	
American shad	2	0.0	99.8	0.06	162	3.0	159	165	
feather blenny	2	0.0	99.8	0.06	69	4.5	64	73	
silver perch	2	0.0	99.8	0.06	142	1.5	140	143	
scup	1	0.0	99.9	0.03	115		115	115	
squid	1	0.0	99.9	0.03	124		124	124	
alewife	1	0.0	99.9	0.03	172		172	172	
striped bass	1	0.0	99.9	0.03	341		341	341	
northern puffer	1	0.0	99.9	0.03	196		196	196	
seaboard goby	1	0.0	100.0	0.03	38		38	38	
conger eel	1	0.0	100.0	0.03	357		357	357	
striped cusk-eel	1	0.0	100.0	0.03	54		54	54	
All Species Combined		5,215							

Table 111.

Month - May
 River - Ches. Bay - Bottom
 No. of Fish Trawls Made - 13
 No. of Species - 27

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	4,388	78.0	78.0	337.54	55	0.4	38	89	1.4
spotted hake	651	11.6	89.6	50.08	143	1.5	44	259	.
silver hake	86	1.5	91.1	6.62	143	2.7	98	217	.
smallmouth flounder	73	1.3	92.4	5.62	66	1.7	38	115	.
blackcheek tonguefish	65	1.2	93.6	5.00	146	2.1	108	182	.
butterfish	62	1.1	94.7	4.77	110	1.0	93	136	.
red hake	54	1.0	95.6	4.15	196	4.1	115	248	.
Atlantic herring	43	0.8	96.4	3.31	63	5.2	47	279	.
spot	30	0.5	96.9	2.31	62	11.3	13	196	.
northern searobin	29	0.5	97.4	2.23	72	5.0	30	119	.
clearnose skate	26	0.5	97.9	2.00	328	15.8	201	472	.
summer flounder	25	0.4	98.3	1.92	332	15.4	213	492	.
hogchoker	21	0.4	98.7	1.62	132	4.3	97	172	.
scup	12	0.2	98.9	0.92	100	2.8	87	125	.
striped searobin	12	0.2	99.1	0.92	229	12.2	186	301	.
Atlantic croaker	10	0.2	99.3	0.77	222	4.4	200	246	.
weakfish	8	0.1	99.5	0.62	174	14.2	128	232	.
windowpane	7	0.1	99.6	0.54	221	21.7	99	276	.
black seabass	6	0.1	99.7	0.46	78	3.4	68	92	.
blue crab, adult female	5	0.1	99.8	0.38	154	3.9	145	164	.
Atlantic menhaden	4	0.1	99.9	0.31	224	10.4	194	239	.
southern kingfish	2	0.0	99.9	0.15	205	34.0	171	239	.
silver perch	2	0.0	99.9	0.15	144	28.0	116	172	.
seaboard goby	1	0.0	99.9	0.08	38	.	38	38	.
feather blenny	1	0.0	100.0	0.08	44	.	44	44	.
blue crab, male	1	0.0	100.0	0.08	42	.	42	42	.
blue crab, juvenile female	1	0.0	100.0	0.08	37	.	37	37	.
All Species Combined		5,625							

Table 112.

Month - May
 River - Ches. Bay - Lower
 No. of Fish Trawls Made - 13
 No. of Species - 28

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	4,790	77.4	77.4	368.46	58	0.5	33	93	1.4
Atlantic herring	626	10.1	87.5	48.15	53	0.5	38	76	.
spotted hake	441	7.1	94.7	33.92	131	1.5	49	209	.
hogchoker	58	0.9	95.6	4.46	106	2.1	82	161	.
smallmouth flounder	48	0.8	96.4	3.69	60	1.5	45	97	.
northern searobin	37	0.6	97.0	2.85	69	3.8	38	146	.
blackcheek tonguefish	32	0.5	97.5	2.46	127	6.0	60	172	.
red hake	27	0.4	97.9	2.08	152	5.1	114	212	.
blue crab, adult female	25	0.4	98.3	1.92	143	2.7	121	166	.
spot	18	0.3	98.6	1.38	137	15.1	16	185	.
blue crab, juvenile female	17	0.3	98.9	1.31	37	3.0	21	63	.
Atlantic croaker	16	0.3	99.1	1.23	208	12.0	59	259	.
summer flounder	13	0.2	99.4	1.00	264	15.9	179	373	.
blue crab, male	8	0.1	99.5	0.62	49	12.7	26	135	.
black seabass	6	0.1	99.6	0.46	86	9.7	70	133	.
butterfish	5	0.1	99.7	0.38	113	5.8	100	129	.
windowpane	3	0.0	99.7	0.23	148	50.2	83	247	.
northern pipefish	3	0.0	99.8	0.23	182	22.7	151	226	.
conger eel	3	0.0	99.8	0.23	323	16.5	301	355	.
striped searobin	2	0.0	99.8	0.15	229	9.5	219	238	.
lined seahorse	2	0.0	99.9	0.15	60	4.0	56	64	.
oyster toadfish	2	0.0	99.9	0.15	95	39.0	56	134	.
scup	1	0.0	99.9	0.08	108	.	108	108	.
silver hake	1	0.0	99.9	0.08	113	.	113	113	.
weakfish	1	0.0	100.0	0.08	121	.	121	121	.
American shad	1	0.0	100.0	0.08	146	.	146	146	.
feather blenny	1	0.0	100.0	0.08	73	.	73	73	.
fringed flounder	1	0.0	100.0	0.08	97	.	97	97	.
All Species Combined		6,188							

Table 113.

Month - May
 River - Ches. Bay - Upper
 No. of Fish Trawls Made - 13
 No. of Species - 24

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	1,053	85.6	85.6	127.15	63	0.7	41	91	.
spotted hake	130	6.7	92.4	10.00	130	2.4	47	182	.
blackcheek tonguefish	23	1.2	93.6	1.77	132	5.5	62	166	.
Atlantic croaker	20	1.0	94.6	1.54	213	6.8	110	243	.
weakfish	16	0.8	95.4	1.23	173	7.1	133	248	.
blueback herring	11	0.6	96.0	0.85	107	1.3	100	116	.
Atlantic herring	9	0.5	96.5	0.69	58	2.4	51	74	.
northern scad	9	0.5	96.9	0.69	75	8.8	47	133	.
blue crab, male	9	0.5	97.4	0.69	67	14.0	32	142	.
red hake	7	0.4	97.8	0.54	138	3.4	126	152	.
hogchoker	7	0.4	98.1	0.54	105	4.9	93	125	.
oyster toadfish	7	0.4	98.5	0.54	145	18.6	96	246	.
blue crab, juvenile female	6	0.3	98.8	0.46	68	14.3	32	113	.
conger eel	5	0.3	99.1	0.38	300	14.5	248	331	.
black seabass	4	0.2	99.3	0.31	82	14.9	48	115	.
spot	4	0.2	99.5	0.31	106	43.1	17	194	.
Atlantic menhaden	2	0.1	99.6	0.15	174	45.0	129	219	.
silver perch	2	0.1	99.7	0.15	189	7.0	182	196	.
summer flounder	1	0.1	99.7	0.08	250	.	250	250	.
alewife	1	0.1	99.8	0.08	129	.	129	129	.
northern pipefish	1	0.1	99.8	0.08	113	.	113	113	.
feather blenny	1	0.1	99.9	0.08	57	.	57	57	.
skilletfish	1	0.1	99.9	0.08	64	.	64	64	.
blue crab, adult female	1	0.1	100.0	0.08	157	.	157	157	.
All Species Combined			1.930						

Table 114.

Month - May
 River - All - Pooled
 No. of Fish Trawls Made - 39
 No. of Species - 36

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	10,831	78.8	78.8	277.72	57	0.3	33	93	1.4
spotted hake	1,222	8.9	87.7	31.33	136	1.0	44	259	.
Atlantic herring	678	4.9	92.6	17.38	55	0.9	38	279	.
smallmouth flounder	121	0.9	93.5	3.10	64	1.2	38	115	.
blackcheek tonguefish	120	0.9	94.4	3.08	138	2.3	60	182	.
red hake	88	0.6	95.0	2.26	178	3.9	114	248	.
silver hake	87	0.6	95.7	2.23	143	2.7	98	217	.
hogchoker	86	0.6	96.3	2.21	112	2.2	82	172	.
northern scad	75	0.5	96.8	1.92	71	2.9	30	146	.
butterfish	67	0.5	97.3	1.72	110	1.0	93	136	.
spot	52	0.4	97.7	1.33	91	10.1	13	196	.
Atlantic croaker	46	0.3	98.0	1.18	213	5.2	59	259	.
summer flounder	39	0.3	98.3	1.00	307	12.3	179	492	.
blue crab, adult female	31	0.2	98.5	0.79	145	2.4	121	166	.
clearnose skate	26	0.2	98.7	0.67	328	15.8	201	472	.
weakfish	25	0.2	98.9	0.64	171	6.6	121	248	.
blue crab, juvenile female	24	0.2	99.1	0.62	45	4.8	21	113	.
blue crab, male	18	0.1	99.2	0.46	58	9.0	26	142	.
black seabass	16	0.1	99.3	0.41	82	5.0	48	133	.
striped scad	14	0.1	99.4	0.36	229	10.4	186	301	.
scup	13	0.1	99.5	0.33	100	2.7	87	125	.
blueback herring	11	0.1	99.6	0.28	107	1.3	100	116	.
windowpane	10	0.1	99.7	0.26	199	22.6	83	276	.
oyster toadfish	9	0.1	99.8	0.23	134	17.2	56	246	.
conger eel	8	0.1	99.8	0.21	309	11.0	248	355	.
Atlantic menhaden	6	0.0	99.9	0.15	207	16.9	129	239	.
northern pipefish	4	0.0	99.9	0.10	165	23.5	113	226	.
silver perch	4	0.0	99.9	0.10	167	17.5	116	196	.
feather blenny	3	0.0	99.9	0.08	58	8.4	44	73	.
southern kingfish	3	0.0	99.9	0.05	205	34.0	171	239	.
lined seahorse	2	0.0	99.9	0.05	60	4.0	56	64	.
alewife	1	0.0	100.0	0.03	129	.	129	129	.
American shad	1	0.0	100.0	0.03	146	.	146	146	.
seaboard goby	1	0.0	100.0	0.03	38	.	38	38	.
skilletfish	1	0.0	100.0	0.03	64	.	64	64	.
fringed flounder	1	0.0	100.0	0.03	97	.	97	97	.
All Species Combined			13,743						

Table 115.

Month - June
 River - Ches. Bay - Bottom
 No. of Fish Trawls Made - 13
 No. of Species - 30

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	5,692	90.2	90.2	437.85	60	0.4	44	84	2.0
spotted hake	196	3.1	93.4	15.08	151	5.2	62	243	.
Atlantic croaker	102	1.6	95.0	7.85	198	4.1	88	248	.
butterfish	67	1.1	96.0	5.15	78	5.3	29	152	.
spot	44	0.7	96.7	3.38	164	4.0	80	194	.
northern scarobin	44	0.7	97.4	3.38	81	3.8	38	159	.
scup	37	0.6	98.0	2.85	98	1.9	70	119	.
Atlantic herring	27	0.4	98.4	2.08	70	0.5	63	76	.
weakfish	22	0.3	98.8	1.69	203	7.5	136	266	.
silver hake	17	0.3	99.1	1.31	155	5.9	107	196	.
smallmouth flounder	11	0.2	99.2	0.85	76	3.4	56	91	.
hogchoker	9	0.1	99.4	0.69	105	7.3	66	144	.
clearnose skate	8	0.1	99.5	0.62	387	33.3	235	477	.
blackcheek tonguefish	7	0.1	99.6	0.54	150	6.4	128	178	.
striped anchovy	5	0.1	99.7	0.38	104	2.7	97	112	.
silver perch	3	0.0	99.7	0.23	158	9.0	144	175	.
black seabass	2	0.0	99.8	0.15	130	70.0	60	200	.
blue crab, adult female	2	0.0	99.8	0.15	147	2.5	144	149	.
summer flounder	1	0.0	99.8	0.08	287	.	287	287	.
harvestfish	1	0.0	99.8	0.08	92	.	92	92	.
red hake	1	0.0	99.9	0.08	161	.	161	161	.
Atlantic menhaden	1	0.0	99.9	0.08	62	.	62	62	.
northern puffer	1	0.0	99.9	0.08	160	.	160	160	.
windowpane	1	0.0	99.9	0.08	238	.	238	238	.
lined seahorse	1	0.0	99.9	0.08	93	.	93	93	.
sandbar shark	1	0.0	99.9	0.08	545	.	545	545	.
Atlantic stingray	1	0.0	100.0	0.08	495	.	495	495	.
rough scad	1	0.0	100.0	0.08	83	.	83	83	.
dwarf goatfish	1	0.0	100.0	0.08	57	.	57	57	.
blue crab, juvenile female	1	0.0	100.0	0.08	48	.	48	48	.
All Species Combined		6.307							

Table 116.

Month - June
 River - Ches. Bay - Lower
 No. of Fish Trawls Made - 13
 No. of Species - 32

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	9,975	94.4	94.4	767.31	38	0.3	44	91	1.3
spotted hake	271	2.6	97.0	20.85	188	1.5	96	249	.
weakfish	50	0.5	97.4	3.85	199	4.2	147	322	.
smallmouth flounder	47	0.4	97.9	3.62	72	1.4	52	93	.
northern scarobin	41	0.4	98.3	3.15	78	3.8	37	140	0.1
hogchoker	25	0.2	98.5	1.92	115	3.7	82	147	.
blackcheek tonguefish	23	0.2	98.7	1.77	148	2.9	115	176	.
scup	19	0.2	98.9	1.46	107	4.1	79	129	.
Atlantic croaker	17	0.2	99.1	1.31	145	11.2	94	222	.
squid	12	0.1	99.2	0.92	45	4.8	23	81	.
butterfish	10	0.1	99.3	0.77	79	10.3	38	132	.
spot	10	0.1	99.4	0.77	83	6.1	48	101	.
lined seahorse	8	0.1	99.4	0.62	80	3.5	66	98	.
kingfish	7	0.1	99.5	0.54	236	16.6	174	282	.
northern pipefish	7	0.1	99.6	0.54	175	16.5	141	264	.
harvestfish	5	0.0	99.6	0.38	163	5.8	147	178	.
blueback herring	5	0.0	99.7	0.38	78	11.8	61	125	.
Atlantic herring	5	0.0	99.7	0.38	67	1.1	65	70	.
silver perch	5	0.0	99.8	0.38	169	10.9	139	204	.
blue crab, adult female	5	0.0	99.8	0.38	139	4.3	131	147	.
summer flounder	4	0.0	99.8	0.31	266	60.4	92	367	.
tautog	3	0.0	99.9	0.23	264	28.3	208	298	.
windowpane	3	0.0	99.9	0.23	177	37.9	137	253	.
feather blenny	2	0.0	99.9	0.15	65	1.5	63	66	.
black seabass	1	0.0	99.9	0.08	133	.	133	133	.
southern kingfish	1	0.0	99.9	0.08	280	.	280	280	.
striped anchovy	1	0.0	100.0	0.08	106	.	106	106	.
naked goby	1	0.0	100.0	0.08	52	.	52	52	.
rougetail stingray	1	0.0	100.0	0.08	417	.	417	417	.
seaweed blenny	1	0.0	100.0	0.08	58	.	58	58	.
dwarf goatfish	1	0.0	100.0	0.08	49	.	49	49	.
blue crab, male	1	0.0	100.0	0.08	84	.	84	84	.
All Species Combined		10.567							

Table 117.

Month - June
 River - Ches. Bay - Upper
 No. of Fish Trawls Made - 13
 No. of Species - 24

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	7,352	97.3	97.3	565.54	57	0.4	40	88	1.0
northern scarobin	56	0.7	98.0	4.31	84	2.6	40	135	.
spotted hake	41	0.5	98.6	3.15	170	4.5	59	216	.
Atlantic herring	16	0.2	98.8	1.23	65	1.1	56	70	.
hogchoker	16	0.2	99.0	1.23	108	3.9	88	153	.
weakfish	13	0.2	99.2	1.00	194	6.8	166	258	.
black seabass	9	0.1	99.3	0.69	82	6.8	56	108	.
Atlantic croaker	9	0.1	99.4	0.69	225	2.6	211	235	.
smallmouth flounder	8	0.1	99.5	0.62	76	2.9	65	91	.
scup	6	0.1	99.6	0.46	106	6.6	82	121	.
summer flounder	6	0.1	99.7	0.46	295	11.8	259	335	.
spot	6	0.1	99.7	0.46	117	14.4	76	182	.
blackcheek tonguefish	5	0.1	99.8	0.38	136	12.9	88	163	.
blue crab, juvenile female	3	0.0	99.8	0.23	64	17.6	32	93	.
windowpane	2	0.0	99.9	0.15	106	1.0	105	107	.
northern pipefish	2	0.0	99.9	0.15	166	29.5	136	195	.
harvestfish	1	0.0	99.9	0.08	61	.	61	61	.
squid	1	0.0	99.9	0.08	47	.	47	47	.
northern puffer	1	0.0	99.9	0.08	175	.	175	175	.
tautog	1	0.0	99.9	0.08	179	.	179	179	.
lined seahorse	1	0.0	100.0	0.08	80	.	80	80	.
Atlantic cutlassfish	1	0.0	100.0	0.08	202	.	202	202	4.0
blue crab, male	1	0.0	100.0	0.08	56	.	56	56	.
blue crab, adult female	1	0.0	100.0	0.08	144	.	144	144	.
All Species Combined			7.558						

Table 118.

Month - June
 River - All - Pooled
 No. of Fish Trawls Made - 39
 No. of Species - 42

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	23,019	94.2	94.2	590.23	58	0.3	40	91	1.4
spotted hake	508	2.1	96.3	13.03	178	1.8	59	249	.
northern scarobin	141	0.6	96.9	3.62	81	1.9	37	159	0.1
Atlantic croaker	128	0.5	97.4	3.28	188	4.8	88	248	.
weakfish	85	0.3	97.7	2.18	199	3.3	136	322	.
butterfish	77	0.3	98.1	1.97	78	4.7	29	152	.
smallmouth flounder	66	0.3	98.3	1.69	73	1.2	52	93	.
scup	62	0.3	98.6	1.59	101	1.8	70	129	.
spot	60	0.2	98.8	1.54	146	5.3	48	194	.
hogchoker	50	0.2	99.0	1.28	111	2.6	66	153	.
Atlantic herring	48	0.2	99.2	1.23	68	0.6	56	76	.
blackcheek tonguefish	35	0.1	99.4	0.90	147	2.9	88	178	.
silver hake	17	0.1	99.4	0.44	155	5.9	107	196	.
squid	13	0.1	99.5	0.33	45	4.4	23	81	.
black seabass	12	0.0	99.5	0.31	94	11.9	56	200	.
summer flounder	11	0.0	99.6	0.28	284	21.3	92	367	.
lined seahorse	10	0.0	99.6	0.26	81	3.0	66	98	.
northern pipefish	9	0.0	99.7	0.23	173	13.6	136	264	.
clearnose skate	8	0.0	99.7	0.21	387	33.3	235	477	.
silver perch	8	0.0	99.7	0.21	165	7.4	139	204	.
blue crab, adult female	8	0.0	99.8	0.21	142	2.8	131	149	.
harvestfish	7	0.0	99.8	0.18	138	16.7	61	178	.
kingfish	7	0.0	99.8	0.18	236	16.6	174	282	.
windowpane	6	0.0	99.8	0.15	164	26.7	105	253	.
striped anchovy	6	0.0	99.9	0.15	104	2.2	97	112	.
blueback herring	5	0.0	99.9	0.13	78	11.8	61	125	.
tautog	4	0.0	99.9	0.10	243	29.3	179	298	.
blue crab, juvenile female	4	0.0	99.9	0.10	60	13.1	32	93	.
northern puffer	2	0.0	99.9	0.05	168	7.5	160	175	.
feather blenny	2	0.0	99.9	0.05	65	1.5	63	66	.
dwarf goatfish	2	0.0	100.0	0.05	53	4.0	49	57	.
blue crab, male	2	0.0	100.0	0.05	70	14.0	56	84	.
red hake	1	0.0	100.0	0.03	161	.	161	161	.
Atlantic menhaden	1	0.0	100.0	0.03	62	.	62	62	.
southern kingfish	1	0.0	100.0	0.03	280	.	280	280	.
naked goby	1	0.0	100.0	0.03	52	.	52	52	.
sandbar shark	1	0.0	100.0	0.03	545	.	545	545	.
roughtail stingray	1	0.0	100.0	0.03	417	.	417	417	.
Atlantic stingray	1	0.0	100.0	0.03	495	.	495	495	.
rough scad	1	0.0	100.0	0.03	83	.	83	83	.
Atlantic cutlassfish	1	0.0	100.0	0.03	202	.	202	202	.
seaweed blenny	1	0.0	100.0	0.03	58	.	58	58	.
All Species Combined			24.432						4.0

Table 119.

Month - July
 River - Ches. Bay - Bottom
 No. of Fish Trawls Made - 13
 No. of Species - 27

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	893	42.8	42.8	68.09	59	0.3	48	75	1.7
smallmouth flounder	285	13.7	56.5	21.92	87	1.0	65	127	
squid	252	12.1	68.6	19.38	47	1.6	12	136	
spotted hake	219	10.5	79.1	16.85	172	2.5	72	253	
scup	159	7.6	86.7	12.23	78	1.0	39	134	
northern searobin	147	7.1	93.8	11.31	101	1.9	44	168	
butterfish	23	1.1	94.9	1.77	57	4.3	42	142	
blackcheek tonguefish	17	0.8	95.7	1.31	150	3.1	118	170	
black seabass	14	0.7	96.4	1.08	106	4.9	58	124	
clearnose skate	14	0.7	97.0	1.08	377	11.5	292	467	
weakfish	11	0.5	97.6	0.85	201	5.9	175	237	
hogchoker	8	0.4	97.9	0.62	111	9.3	77	159	
summer flounder	7	0.3	98.3	0.54	258	5.5	229	275	
windowpane	5	0.2	98.5	0.38	80	25.3	30	146	
striped anchovy	5	0.2	98.8	0.38	102	2.2	96	107	
northern pipefish	5	0.2	99.0	0.38	182	16.2	123	210	
silver perch	3	0.1	99.1	0.23	162	9.1	148	179	
blue crab, adult female	3	0.1	99.3	0.23	133	2.4	128	136	
silver hake	2	0.1	99.4	0.15	173	27.0	146	200	60.0
Atlantic thread herring	2	0.1	99.5	0.15	180	5.0	175	185	91.0
southern kingfish	2	0.1	99.6	0.15	199	14.5	184	213	
spiny butterfly ray	2	0.1	99.7	0.15	497	2.0	495	499	
conger eel	2	0.1	99.8	0.15	323	56.0	267	379	
northern sennet	2	0.1	99.9	0.15	66	1.0	65	67	
spot	1	0.0	99.9	0.08	88	.	88	88	
lined seahorse	1	0.0	100.0	0.08	94	.	94	94	
rough scad	1	0.0	100.0	0.08	53	.	53	53	1.0
All Species Combined			2,085						

Table 120.

Month - July.
 River - Ches. Bay - Lower
 No. of Fish Trawls Made - 13
 No. of Species - 26

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	7,740	92.3	92.3	595.38	57	0.3	42	81	8.0
scup	277	3.3	95.6	21.31	87	0.9	32	140	
Atlantic croaker	70	0.8	96.4	5.38	185	4.7	98	241	
northern searobin	54	0.6	97.0	4.15	102	2.6	62	146	
spot	53	0.6	97.7	4.08	103	2.7	60	143	
squid	26	0.3	98.0	2.00	52	4.4	29	115	
hogchoker	26	0.3	98.3	2.00	110	4.7	78	182	
silver perch	20	0.2	98.5	1.54	156	4.7	128	206	
blackcheek tonguefish	19	0.2	98.7	1.46	139	4.9	88	180	
weakfish	14	0.2	98.9	1.08	196	5.9	157	258	
spotted hake	14	0.2	99.1	1.08	193	5.7	157	220	
summer flounder	12	0.1	99.2	0.92	255	30.4	138	502	
smallmouth flounder	12	0.1	99.4	0.92	94	3.5	75	113	
blue crab, adult female	12	0.1	99.5	0.92	149	4.5	118	175	
black seabass	10	0.1	99.6	0.77	114	4.3	89	127	
butterfish	9	0.1	99.7	0.69	131	10.3	72	166	
blue crab, juvenile female	9	0.1	99.8	0.69	74	5.5	46	90	
lined seahorse	4	0.0	99.9	0.31	109	6.8	90	120	
inshore lizardfish	2	0.0	99.9	0.15	53	1.0	52	54	
tautog	1	0.0	99.9	0.08	249	.	249	249	
southern kingfish	1	0.0	99.9	0.08	243	.	243	243	
windowpane	1	0.0	100.0	0.08	144	.	144	144	
Atlantic spadefish	1	0.0	100.0	0.08	255	.	255	255	
smooth dogfish	1	0.0	100.0	0.08	680	.	680	680	
spiny butterfly ray	1	0.0	100.0	0.08	514	.	514	514	
orange filefish	1	0.0	100.0	0.08	39	.	39	39	
All Species Combined			8,390						320.0

Table 121.

Month - July
 River - Ches. Bay - Upper
 No. of Fish Trawls Made - 13
 No. of Species - 22

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	7,350	85.1	85.1	365.38	57	0.3	39	78	1.0
scup	666	7.7	92.8	51.23	79	0.8	56	130	.
Atlantic croaker	219	2.5	95.3	16.85	181	2.5	118	248	.
spot	126	1.5	96.8	9.69	121	2.6	80	194	.
hogchoker	123	1.4	98.2	9.46	98	1.5	73	121	.
weakfish	63	0.7	98.9	4.85	199	3.3	157	277	.
blue crab, male	25	0.3	99.2	1.92	78	5.4	34	132	.
blue crab, juvenile female	21	0.2	99.5	1.62	59	4.3	32	101	.
northern sciaenob	16	0.2	99.7	1.23	91	5.1	56	129	.
blue crab, adult female	7	0.1	99.7	0.54	139	6.3	121	166	.
blackcheek tonguefish	5	0.1	99.8	0.38	116	6.2	98	134	.
summer flounder	3	0.0	99.8	0.23	398	44.3	352	487	.
butterfish	3	0.0	99.9	0.23	97	22.8	57	136	.
black seabass	2	0.0	99.9	0.15	123	2.5	120	125	.
Atlantic spadefish	2	0.0	99.9	0.15	157	0.0	157	157	.
northern puffer	1	0.0	99.9	0.08	118	.	118	118	.
striped anchovy	1	0.0	99.9	0.08	98	.	98	98	.
lined seahorse	1	0.0	100.0	0.08	91	.	91	91	.
northern pipefish	1	0.0	100.0	0.08	164	.	164	164	.
conger eel	1	0.0	100.0	0.08	286	.	286	286	.
silver perch	1	0.0	100.0	0.08	181	.	181	181	.
smallmouth flounder	1	0.0	100.0	0.08	96	.	96	96	.
All Species Combined	8,638								

Table 122.

Month - July
 River - All - Pooled
 No. of Fish Trawls Made - 39
 No. of Species - 36

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	15,983	83.6	83.6	409.82	57	0.2	39	81	4.9
scup	1,102	5.8	89.4	28.26	82	0.6	32	140	.
smallmouth flounder	298	1.6	90.9	7.64	88	0.9	65	127	.
Atlantic croaker	289	1.5	92.5	7.41	182	2.2	98	248	.
squid	278	1.5	93.9	7.13	47	1.5	12	136	.
spotted hake	233	1.2	95.1	5.97	173	2.4	72	253	.
northern sciaenob	217	1.1	96.3	5.56	100	1.5	44	168	.
spot	180	0.9	97.2	4.62	116	2.1	60	194	.
hogchoker	157	0.8	98.0	4.03	103	1.9	73	182	.
weakfish	88	0.5	98.5	2.26	199	2.6	157	277	.
blackcheek tonguefish	41	0.2	98.7	1.05	141	3.1	88	180	.
butterfish	35	0.2	98.9	0.90	79	6.9	42	166	.
blue crab, juvenile female	30	0.2	99.0	0.77	64	3.6	32	101	.
black seabass	26	0.1	99.2	0.67	110	3.2	58	127	.
blue crab, male	25	0.1	99.3	0.64	78	5.4	34	132	.
silver perch	24	0.1	99.4	0.62	158	4.2	128	206	.
summer flounder	22	0.1	99.6	0.56	276	20.1	138	502	.
blue crab, adult female	22	0.1	99.7	0.56	143	3.3	118	175	.
clearnose skate	14	0.1	99.7	0.36	377	11.5	292	467	.
windowpane	6	0.0	99.8	0.15	91	23.2	30	146	.
striped anchovy	6	0.0	99.8	0.15	102	1.9	96	107	.
lined seahorse	6	0.0	99.8	0.15	103	5.5	90	120	.
northern pipefish	6	0.0	99.9	0.15	179	13.6	123	210	.
southern kingfish	33	0.0	99.9	0.08	213	17.0	184	243	.
Atlantic spadefish	33	0.0	99.9	0.08	190	32.7	157	255	.
spiny butterfly ray	33	0.0	99.9	0.08	503	5.8	495	514	.
conger eel	33	0.0	99.9	0.08	311	34.6	267	379	.
silver hake	32	0.0	99.9	0.05	173	27.0	146	200	60.0
Atlantic thread herring	22	0.0	100.0	0.05	180	5.0	175	185	91.0
inshore lizardfish	2	0.0	100.0	0.05	53	1.0	52	54	.
northern sennet	2	0.0	100.0	0.05	66	1.0	65	67	1.1
northern puffer	1	0.0	100.0	0.03	118	.	118	118	.
tautog	1	0.0	100.0	0.03	249	.	249	249	320.0
smooth dogfish	1	0.0	100.0	0.03	680	.	680	680	.
rough scad	1	0.0	100.0	0.03	53	.	53	53	1.0
orange filefish	1	0.0	100.0	0.03	39	.	39	39	.
All Species Combined	19,113								

Table 123.

Month - August
 River - Ches. Bay - Bottom
 No. of Fish Trawls Made - 13
 No. of Species - 28

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
Atlantic croaker	426	38.3	38.3	32.77	167	2.8	88	252	.
spot	225	20.2	58.5	17.31	134	1.0	111	161	.
scup	171	15.4	73.9	13.15	101	2.1	39	164	.
butterfish	73	6.6	80.4	5.62	106	4.8	34	176	.
squid	45	4.0	84.5	3.46	43	3.6	19	121	.
weakfish	37	3.3	87.8	2.85	222	2.8	188	254	.
smallmouth flounder	34	3.1	90.8	2.62	94	3.3	28	115	.
northern scrobin	24	2.2	93.0	1.85	118	5.9	66	170	.
blue crab, adult female	13	1.2	94.2	1.00	135	4.5	111	165	.
blackcheck tonguefish	12	1.1	95.2	0.92	150	3.0	137	170	.
hogchoker	8	0.7	96.0	0.62	125	6.8	106	162	.
striped anchovy	7	0.6	96.6	0.54	102	9.7	62	122	.
summer flounder	6	0.5	97.1	0.46	264	29.0	190	383	.
northern pipefish	4	0.4	97.5	0.31	140	14.9	113	178	.
windowpane	3	0.3	97.8	0.23	120	37.0	46	163	.
spotted hake	3	0.3	98.0	0.23	180	25.5	141	228	.
clearnose skate	3	0.3	98.3	0.23	414	4.3	407	422	.
inshore lizardfish	3	0.3	98.6	0.23	162	13.1	141	186	.
banded drum	3	0.3	98.8	0.23	170	7.9	161	186	25.0
blue crab, juvenile female	3	0.3	99.1	0.23	75	5.9	64	84	.
black seabass	2	0.2	99.3	0.15	136	10.0	126	146	.
lined seahorse	2	0.2	99.5	0.15	113	2.0	111	115	.
Atlantic herring	1	0.1	99.6	0.08	95	.	95	95	.
Atlantic thread herring	1	0.1	99.6	0.08	160	.	160	160	.
bay anchovy	1	0.1	99.7	0.08	66	.	66	66	.
naked goby	1	0.1	99.8	0.08	27	.	27	27	.
Atlantic silverside	1	0.1	99.9	0.08	64	.	64	64	.
blue crab, male	1	0.1	100.0	0.08	107	.	107	107	.
All Species Combined		1.113							

Table 124.

Month - August
 River - Ches. Bay - Lower
 No. of Fish Trawls Made - 13
 No. of Species - 32

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
spot	1,017	36.2	36.2	78.23	137	1.0	105	209	.
Atlantic croaker	885	31.5	67.7	68.08	167	1.3	123	248	.
scup	236	8.4	76.1	18.15	109	0.7	83	143	.
bay anchovy	137	4.9	80.9	10.54	51	1.0	33	68	.
hogchoker	133	4.7	85.7	10.23	108	1.4	80	158	.
butterfish	58	2.1	87.7	4.46	91	5.5	31	170	.
northern scrobin	55	2.0	89.7	4.23	119	3.5	75	192	.
weakfish	54	1.9	91.6	4.15	181	9.8	9	261	.
blackcheek tonguefish	54	1.9	93.5	4.15	128	2.1	101	158	.
blue crab, adult female	33	1.2	94.7	2.54	141	2.8	104	170	.
squid	26	0.9	95.6	2.00	28	3.2	9	76	.
smallmouth flounder	20	0.7	96.3	1.54	98	1.9	79	108	.
black seabass	17	0.6	96.9	1.31	133	7.3	56	179	.
summer flounder	15	0.5	97.5	1.15	327	19.3	188	424	.
inshore lizardfish	13	0.5	97.9	1.00	164	10.0	93	215	.
northern puffer	11	0.4	98.3	0.85	79	3.3	60	99	.
windowpane	10	0.4	98.7	0.77	195	15.1	144	254	.
striped anchovy	7	0.2	98.9	0.54	78	3.1	67	87	.
blue crab, male	6	0.2	99.1	0.46	96	14.7	52	142	.
northern kingfish	4	0.1	99.3	0.31	32	2.9	27	40	.
harvestfish	3	0.1	99.4	0.23	21	4.9	12	29	.
blue crab, juvenile female	3	0.1	99.5	0.23	81	8.7	64	91	.
lined seahorse	2	0.1	99.6	0.15	78	35.5	42	113	.
smooth dogfish	2	0.1	99.6	0.15	566	139.0	427	705	.
clearnose skate	2	0.1	99.7	0.15	395	3.0	392	398	.
brown shrimp	2	0.1	99.8	0.15	139	5.5	133	144	.
Atlantic menhaden	1	0.0	99.8	0.08	135	.	135	135	.
spotted hake	1	0.0	99.9	0.08	211	.	211	211	.
striped scrobin	1	0.0	99.9	0.08	230	.	230	230	.
spiny butterfly ray	1	0.0	99.9	0.08	518	.	518	518	.
striped cusk-eel	1	0.0	100.0	0.08	187	.	187	187	.
striped burrfish	1	0.0	100.0	0.08	181	.	181	181	.
All Species Combined		2,811							

Table 125.

Month - August
 River - Ches. Bay - Upper
 No. of Fish Trawls Made - 13
 No. of Species - 26

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	13,052	87.5	87.5	1004.00	52	0.4	15	76	3.6
spot	892	6.0	93.5	68.62	128	0.6	92	226	.
Atlantic croaker	370	2.5	96.0	28.46	174	1.3	135	260	.
weakfish	212	1.4	97.4	16.31	126	6.4	12	246	.
scup	101	0.7	98.1	7.77	104	1.2	66	140	.
hogchoker	58	0.4	98.5	4.46	106	2.0	76	151	.
butterfish	39	0.3	98.7	3.00	108	4.7	48	165	.
striped anchovy	37	0.2	99.0	2.85	71	1.3	44	90	.
squid	32	0.2	99.2	2.46	21	2.0	6	52	.
northern scad	28	0.2	99.4	2.15	129	3.6	67	165	.
inshore lizardfish	14	0.1	99.5	1.08	131	16.4	17	205	.
blackcheek tonguefish	12	0.1	99.6	0.92	125	5.7	98	160	.
summer flounder	11	0.1	99.6	0.85	277	34.0	175	518	.
blue crab, male	11	0.1	99.7	0.85	120	7.1	68	157	.
harvestfish	9	0.1	99.8	0.69	46	19.1	12	150	.
blue crab, juvenile female	7	0.0	99.8	0.54	82	8.0	64	123	.
black seabass	6	0.0	99.9	0.46	137	8.5	116	171	.
northern kingfish	5	0.0	99.9	0.38	148	48.2	42	267	.
blue crab, adult female	4	0.0	99.9	0.31	141	5.3	128	150	.
Atlantic menhaden	3	0.0	99.9	0.23	111	4.4	103	118	.
striped scad	2	0.0	100.0	0.15	161	15.0	146	176	.
oyster toadfish	2	0.0	100.0	0.15	113	10.0	103	123	.
lined seahorse	1	0.0	100.0	0.08	26	.	26	26	.
spiny butterfly ray	1	0.0	100.0	0.08	430	.	430	430	.
conger eel	1	0.0	100.0	0.08	388	.	388	388	.
lookdown	1	0.0	100.0	0.08	101	.	101	101	.
All Species Combined	14,911								

Table 126.

Month - August
 River - All - Pooled
 No. of Fish Trawls Made - 39
 No. of Species - 41

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	13,190	70.0	70.0	338.21	52	0.4	15	76	3.6
spot	2,134	11.3	81.4	54.72	132	0.5	92	226	.
Atlantic croaker	1,681	8.9	90.3	43.10	169	0.9	88	260	.
scup	508	2.7	93.0	13.03	105	0.9	39	164	.
weakfish	303	1.6	94.6	7.77	148	5.2	9	261	.
hogchoker	199	1.1	95.6	5.10	108	1.2	76	162	.
butterfish	170	0.9	96.5	4.36	101	3.0	31	176	.
northern scad	107	0.6	97.1	2.74	121	2.4	66	192	.
squid	103	0.5	97.7	2.64	32	2.1	6	121	.
blackcheek tonguefish	78	0.4	98.1	2.00	131	2.0	98	170	.
smallmouth flounder	54	0.3	98.4	1.38	95	2.2	28	115	.
striped anchovy	51	0.3	98.6	1.31	77	2.2	44	122	.
blue crab, adult female	50	0.3	98.9	1.28	139	2.2	104	170	.
summer flounder	32	0.2	99.1	0.82	298	16.0	175	518	.
inshore lizardfish	30	0.2	99.3	0.77	149	9.2	17	215	.
black seabass	25	0.1	99.4	0.64	134	5.3	56	179	.
blue crab, male	18	0.1	99.5	0.46	111	6.9	52	157	.
windowpane	13	0.1	99.5	0.33	177	16.4	46	254	.
blue crab, juvenile female	13	0.1	99.6	0.33	80	4.7	64	123	.
harvestfish	12	0.1	99.7	0.31	40	14.5	12	150	.
northern puffer	11	0.1	99.7	0.28	79	3.3	60	99	.
northern kingfish	9	0.0	99.8	0.23	96	32.6	27	267	.
lined seahorse	5	0.0	99.8	0.13	81	19.5	26	115	.
clearnose skate	5	0.0	99.8	0.13	407	5.4	392	422	.
Atlantic menhaden	4	0.0	99.8	0.10	117	6.7	103	135	.
spotted hake	4	0.0	99.9	0.10	188	19.6	141	228	.
northern pipefish	4	0.0	99.9	0.10	140	14.9	113	178	.
striped scad	4	0.0	99.9	0.08	184	24.6	146	230	.
banded drum	3	0.0	99.9	0.08	170	7.9	161	186	25.0
oyster toadfish	2	0.0	99.9	0.05	113	10.0	103	123	.
smooth dogfish	2	0.0	99.9	0.05	566	139.0	427	705	.
spiny butterfly ray	2	0.0	99.9	0.05	474	44.0	430	518	.
brown shrimp	2	0.0	99.9	0.05	.	.	.	.	.
Atlantic herring	2	0.0	100.0	0.05	139	5.5	133	144	.
Atlantic thread herring	1	0.0	100.0	0.03	95	.	95	95	.
naked goby	1	0.0	100.0	0.03	160	.	160	160	.
Atlantic silverside	1	0.0	100.0	0.03	27	.	27	27	.
conger eel	1	0.0	100.0	0.03	64	.	64	64	.
lookdown	1	0.0	100.0	0.03	388	.	388	388	.
striped cusk-eel	1	0.0	100.0	0.03	101	.	101	101	.
striped burrfish	1	0.0	100.0	0.03	187	.	187	187	.
All Species Combined	18,835				181	.	181	181	.

Table 127.

Month - September
 River - Ches. Bay - Bottom
 No. of Fish Trawls Made - 13
 No. of Species - 32

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	39,802	93.7	93.7	3061.69	47	0.3	30	78	0.6
Atlantic thread herring	776	1.8	95.5	59.69	49	1.4	30	179	1.1
spot	433	1.0	96.6	33.31	141	0.7	109	209	.
Atlantic croaker	378	0.9	97.4	29.08	161	0.9	100	243	.
squid	229	0.5	98.0	17.62	30	1.1	14	83	.
weakfish	142	0.3	98.3	10.92	81	4.9	27	309	.
scup	140	0.3	98.6	10.77	128	1.0	83	169	.
blackcheek tonguefish	102	0.2	98.9	7.85	150	1.5	104	174	.
striped anchovy	82	0.2	99.1	6.31	81	1.1	64	110	.
butterfish	70	0.2	99.2	5.38	83	4.6	25	169	.
hogchoker	68	0.2	99.4	5.23	120	2.2	84	168	.
smallmouth flounder	60	0.1	99.5	4.62	79	2.6	48	116	.
blue crab, adult female	35	0.1	99.6	2.69	138	2.1	117	165	.
northern searobin	34	0.1	99.7	2.62	139	3.1	87	169	.
kingfish	29	0.1	99.8	2.23	62	5.3	27	145	.
spotted hake	27	0.1	99.8	2.08	181	4.5	141	243	.
summer flounder	14	0.0	99.9	1.08	298	22.2	194	411	.
inshore lizardfish	14	0.0	99.9	1.08	181	2.4	107	217	.
brown shrimp	6	0.0	99.9	0.46	143	7.0	120	172	.
windowpane	5	0.0	99.9	0.38	135	20.8	93	191	.
lined seahorse	5	0.0	99.9	0.38	77	14.7	35	111	.
clearnose skate	5	0.0	100.0	0.38	411	15.0	386	462	.
black seabass	4	0.0	100.0	0.31	120	16.6	73	151	.
northern pipefish	4	0.0	100.0	0.31	187	34.8	91	244	.
bluntnose stingray	3	0.0	100.0	0.23	211	3.9	206	219	340.3
northern puffer	2	0.0	100.0	0.15	101	2.5	98	103	.
blue crab, male	2	0.0	100.0	0.15	103	0.0	103	103	.
southern kingfish	1	0.0	100.0	0.08	243	.	243	243	.
Florida pompano	1	0.0	100.0	0.08	214	.	214	214	245.0
naked goby	1	0.0	100.0	0.08	31	.	31	31	.
oyster toadfish	1	0.0	100.0	0.08	146	.	146	146	.
Atlantic cutlassfish	1	0.0	100.0	0.08	556	.	556	556	112.0
All Species Combined	42,476								

Table 128.

Month - September
 River - Ches. Bay - Lower
 No. of Fish Trawls Made - 13
 No. of Species - 34

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	13,396	83.2	83.2	1030.46	41	0.4	15	75	0.9
spot	694	4.3	87.5	53.38	141	0.7	107	208	.
weakfish	619	3.8	91.4	47.62	99	2.1	38	260	.
Atlantic thread herring	306	1.9	93.3	23.54	49	0.7	39	56	1.7
Atlantic croaker	279	1.7	95.0	21.46	177	1.1	129	245	.
scup	245	1.5	96.6	18.85	130	0.8	98	172	.
striped anchovy	72	0.4	97.0	5.54	93	1.3	66	112	.
squid	70	0.4	97.4	5.38	35	2.1	13	103	.
hogchoker	70	0.4	97.9	5.38	107	2.1	67	157	.
blue crab, adult female	56	0.3	98.2	4.31	140	1.7	112	167	.
butterfish	55	0.3	98.6	4.23	111	2.3	88	164	.
blackcheek tonguefish	46	0.3	98.8	3.54	143	1.9	121	173	.
smallmouth flounder	39	0.2	99.1	3.00	74	2.7	41	117	.
inshore lizardfish	33	0.2	99.3	2.54	155	7.9	64	220	.
kingfish	28	0.2	99.5	2.15	89	4.2	47	160	.
harvestfish	20	0.1	99.6	1.54	69	5.4	14	96	.
northern puffer	13	0.1	99.7	1.00	95	8.8	41	140	.
northern searobin	13	0.1	99.8	1.00	159	5.0	116	178	.
summer flounder	9	0.1	99.8	0.69	378	30.0	203	516	825.0
blue crab, juvenile female	7	0.0	99.9	0.54	71	10.2	31	101	.
Atlantic spadefish	3	0.0	99.9	0.23	59	15.3	28	75	.
brown shrimp	3	0.0	99.9	0.23	144	3.0	140	150	.
blue crab, male	3	0.0	99.9	0.23	129	3.2	123	133	.
black seabass	2	0.0	99.9	0.15	176	35.5	140	211	.
oyster toadfish	2	0.0	99.9	0.15	88	46.0	42	134	.
conger eel	2	0.0	99.9	0.15	412	31.5	380	443	.
fringed flounder	2	0.0	100.0	0.15	120	6.0	114	126	.
southern kingfish	1	0.0	100.0	0.08	221	.	221	221	.
windowpane	1	0.0	100.0	0.08	181	.	181	181	.
lined seahorse	1	0.0	100.0	0.08	107	.	107	107	.
northern pipefish	1	0.0	100.0	0.08	180	.	180	180	.
feather blenny	1	0.0	100.0	0.08	98	.	98	98	.
clearnose skate	1	0.0	100.0	0.08	469	.	469	469	.
silver perch	1	0.0	100.0	0.08	147	.	147	147	.
All Species Combined	16,094								

Table 129.

Month - September
 River - Ches. Bay - Upper
 No. of Fish Trawls Made - 13
 No. of Species - 35

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	9,300	75.6	75.6	715.38	37	0.4	19	69	0.5
weakfish	1,184	9.6	85.2	91.08	83	1.5	24	269	.
spot	503	4.1	89.3	38.69	147	1.0	111	226	.
Atlantic croaker	335	2.7	92.0	25.77	195	1.7	21	255	.
hogchoker	239	1.9	94.0	18.38	110	1.6	76	163	.
blue crab, adult female	134	1.1	95.1	10.31	136	0.9	112	166	.
kingfish	116	0.9	96.0	8.92	72	4.3	25	316	.
blackcheek tonguesfish	102	0.8	96.8	7.85	135	1.7	90	173	.
scup	75	0.6	97.4	5.77	124	1.0	98	140	.
Atlantic thread herring	67	0.5	98.0	5.15	48	0.6	39	58	.
harvestfish	58	0.5	98.4	4.46	51	1.9	20	87	.
blue crab, male	33	0.3	98.7	2.54	106	6.4	17	150	.
summer flounder	23	0.2	98.9	1.77	301	20.4	179	581	.
inshore lizardfish	23	0.2	99.1	1.77	168	10.0	101	239	.
striped anchovy	20	0.2	99.3	1.54	99	1.8	77	109	.
squid	18	0.1	99.4	1.38	38	2.6	13	58	.
butterfish	16	0.1	99.5	1.23	104	3.6	68	132	.
blue crab, juvenile female	14	0.1	99.6	1.08	54	8.8	9	105	.
northern puffer	8	0.1	99.7	0.62	73	9.7	45	137	.
Atlantic spadefish	6	0.0	99.8	0.46	79	9.5	52	119	.
smallmouth flounder	4	0.0	99.8	0.31	82	11.3	69	116	.
northern searobin	3	0.0	99.8	0.23	165	13.3	141	187	.
striped searobin	3	0.0	99.8	0.23	161	52.6	58	231	.
lined seahorse	3	0.0	99.9	0.23	69	19.0	48	107	.
brown shrimp	3	0.0	99.9	0.23	109	16.0	91	141	.
black seabass	2	0.0	99.9	0.15	124	65.5	58	189	.
pigfish	2	0.0	99.9	0.15	162	2.0	160	164	.
windowpane	2	0.0	99.9	0.15	210	43.5	166	253	.
northern stargazer	2	0.0	100.0	0.15	19	6.0	13	25	.
bluefish	1	0.0	100.0	0.08	291	.	291	291	.
Spanish mackerel	1	0.0	100.0	0.08	164	.	164	164	.
northern pipefish	1	0.0	100.0	0.08	84	.	84	84	.
oyster toadfish	1	0.0	100.0	0.08	127	.	127	127	.
bluntnose stingray	1	0.0	100.0	0.08	225	.	225	225	.
lockdown	1	0.0	100.0	0.08	105	.	105	105	.
All Species Combined	12,304								

Table 130.

Month - September
 River - All - Pooled
 No. of Fish Trawls Made - 39
 No. of Species - 45

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	62,498	88.2	88.2	1602.31	42	0.3	15	78	0.7
weakfish	1,945	2.7	90.9	49.87	89	1.2	24	309	.
spot	1,630	2.3	93.2	41.79	143	0.5	107	226	.
Atlantic thread herring	1,149	1.6	94.8	29.46	49	0.8	30	179	1.4
Atlantic croaker	992	1.4	96.2	25.44	178	0.9	21	255	.
scup	460	0.6	96.9	11.79	128	0.5	83	172	.
hogchoker	377	0.5	97.4	9.67	112	1.1	67	168	.
squid	317	0.4	97.9	8.13	33	1.0	13	103	.
blackcheek tonguefish	250	0.4	98.2	6.41	142	1.1	90	174	.
blue crab, adult female	225	0.3	98.5	5.77	137	0.8	112	167	.
striped anchovy	174	0.2	98.8	4.46	88	0.9	64	112	.
kingfish	173	0.2	99.0	4.44	73	3.1	25	316	.
butterfish	141	0.2	99.2	3.62	96	2.7	25	169	.
smallmouth flounder	103	0.1	99.4	2.64	77	1.9	41	117	.
harvestfish	78	0.1	99.5	2.00	56	2.2	14	96	.
inshore lizardfish	70	0.1	99.6	1.79	164	5.3	64	239	.
northern scrobin	50	0.1	99.7	1.28	146	2.9	87	187	.
summer flounder	46	0.1	99.7	1.18	315	14.1	179	581	825.0
blue crab, male	38	0.1	99.8	0.97	108	5.6	17	150	.
spotted hake	27	0.0	99.8	0.69	181	4.5	141	243	.
northern puffer	23	0.0	99.8	0.59	88	6.3	41	140	.
blue crab, juvenile female	21	0.0	99.9	0.54	60	6.9	9	105	.
brown shrimp	12	0.0	99.9	0.31	135	6.6	91	172	.
Atlantic spadefish	9	0.0	99.9	0.23	72	8.3	28	119	.
lined seahorse	9	0.0	99.9	0.23	78	10.2	35	111	.
black seabass	8	0.0	99.9	0.21	135	18.4	58	211	.
windowpane	8	0.0	99.9	0.21	159	19.4	93	253	.
northern pipefish	6	0.0	100.0	0.15	169	27.8	84	244	.
clearnose skate	6	0.0	100.0	0.15	420	15.7	386	469	.
oyster toadfish	4	0.0	100.0	0.10	112	23.7	42	146	.
bluntnose stingray	4	0.0	100.0	0.10	215	4.4	206	225	340.3
striped scrobin	3	0.0	100.0	0.08	161	52.6	58	231	.
southern kingfish	2	0.0	100.0	0.05	232	11.0	221	243	.
pigfish	2	0.0	100.0	0.05	162	2.0	160	164	.
conger eel	2	0.0	100.0	0.05	412	31.5	380	443	.
northern stargazer	2	0.0	100.0	0.05	19	6.0	13	25	.
fringed flounder	2	0.0	100.0	0.05	120	6.0	114	126	.
bluefish	1	0.0	100.0	0.03	291	.	291	291	.
Spanish mackerel	1	0.0	100.0	0.03	164	.	164	164	.
Florida pompano	1	0.0	100.0	0.03	214	.	214	214	245.0
naked goby	1	0.0	100.0	0.03	31	.	31	31	.
feather blenny	1	0.0	100.0	0.03	98	.	98	98	.
lookdown	1	0.0	100.0	0.03	105	.	105	105	.
silver perch	1	0.0	100.0	0.03	147	.	147	147	.
Atlantic cutlassfish	1	0.0	100.0	0.03	556	.	556	556	112.0
All Species Combined			70,874						

Table 131.

Month - October
 River - Ches. Bay - Bottom
 No. of Fish Trawls Made - 13
 No. of Species - 40

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	5,778	66.7	66.7	444.46	50	0.5	30	79	1.9
squid	687	7.9	74.6	52.85	32	1.2	9	77	8.9
weakfish	536	6.2	80.8	41.23	138	3.0	62	256	
spot	385	4.4	85.3	29.62	148	1.0	102	240	
Atlantic croaker	376	4.3	89.6	28.92	178	1.2	25	259	
smallmouth flounder	202	2.3	91.9	15.54	81	1.4	39	162	
blackcheek tonguefish	153	1.8	93.7	11.77	153	2.0	83	186	
butterfish	99	1.1	94.8	7.62	115	1.6	70	156	
kingfish	93	1.1	95.9	7.15	102	3.0	45	255	
hogchoker	78	0.9	96.8	6.00	137	3.1	90	189	
blue crab, adult female	39	0.5	97.3	3.00	138	2.3	107	169	
silver perch	30	0.3	97.6	2.31	124	5.2	55	180	
striped anchovy	28	0.3	97.9	2.15	102	1.8	79	113	
northern puffer	21	0.2	98.2	1.62	136	10.4	52	200	
summer flounder	20	0.2	98.4	1.54	330	17.8	206	454	
scup	19	0.2	98.6	1.46	137	4.2	93	178	
northern scrobin	16	0.2	98.8	1.23	64	13.0	26	196	
inshore lizardfish	16	0.2	99.0	1.23	207	12.7	128	308	
Atlantic spadefish	12	0.1	99.1	0.92	94	3.6	70	109	
clearnose skate	12	0.1	99.3	0.92	386	26.0	141	465	
black seabass	9	0.1	99.4	0.69	140	24.3	51	230	
fringed flounder	9	0.1	99.5	0.69	114	6.9	94	159	
spotted hake	8	0.1	99.6	0.62	237	8.8	207	279	
blue crab, male	5	0.1	99.6	0.38	71	22.7	18	123	
lined seahorse	4	0.0	99.7	0.31	174	14.2	59	123	
northern pipefish	4	0.0	99.7	0.31	175	10.4	143	187	
oyster toadfish	4	0.0	99.8	0.31	34.1	122	267		
green goby	3	0.0	99.8	0.23					
bluefish	2	0.0	99.8	0.15	235	40.0	195	275	
windowpane	2	0.0	99.8	0.15	194	8.0	186	202	
striped scrobin	2	0.0	99.9	0.15	141	33.5	107	174	
naked goby	2	0.0	99.9	0.15	30	4.0	26	34	
blue crab, juvenile female	2	0.0	99.9	0.15	40	7.0	33	47	
harvestfish	1	0.0	99.9	0.08	95		95	95	
pigfish	1	0.0	99.9	0.08	192		192	192	
bluespotted cornetfish	1	0.0	100.0	0.08	380		380	380	
spiny butterfly ray	1	0.0	100.0	0.08	640		640	640	15.5
lookdown	1	0.0	100.0	0.08	64		64	64	
mottled mojarra	1	0.0	100.0	0.08	108		108	108	
white shrimp	1	0.0	100.0	0.08	110		110	110	26.0
All Species Combined		8,663							

Table 132.

Month - October
 River - Ches. Bay - Lower
 No. of Fish Trawls Made - 13
 No. of Species - 40

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	1,300	34.6	34.6	100.00	48	0.6	31	80	
hogchoker	1,085	28.9	63.5	83.46	116	1.4	83	170	35.5
weakfish	433	11.5	75.1	33.31	151	2.3	73	279	
spot	222	5.9	81.0	17.08	150	1.2	122	197	
Atlantic croaker	146	3.9	84.9	11.23	120	7.3	11	241	
blackcheek tonguefish	116	3.1	88.0	8.92	149	1.7	74	172	
squid	78	2.1	90.0	6.00	27	2.0	11	64	
kingfish	54	1.4	91.5	4.15	106	5.6	48	301	
silver perch	53	1.4	92.9	4.08	130	1.7	90	151	
smallmouth flounder	39	1.0	93.9	3.00	80	3.1	42	122	
blue crab, adult female	38	1.0	94.9	2.92	151	2.3	116	179	
inshore lizardfish	31	0.8	95.8	2.38	170	8.2	113	298	
northern pipefish	22	0.6	96.4	1.69	126	3.7	99	165	
summer flounder	19	0.5	96.9	1.46	312	15.1	232	448	
butterfish	18	0.5	97.3	1.38	106	2.2	90	124	
scup	16	0.4	97.8	1.23	133	2.6	122	164	
Atlantic spadefish	14	0.4	98.1	1.08	89	2.2	79	107	
fringed flounder	10	0.3	98.4	0.77	123	4.3	100	137	
northern puffer	7	0.2	98.6	0.54	121	18.9	55	178	
oyster toadfish	6	0.2	98.7	0.46	89	34.4	49	260	
southern kingfish	5	0.1	98.9	0.38	131	29.2	98	248	
windowpane	5	0.1	99.0	0.38	264	6.6	245	279	
northern searobin	5	0.1	99.1	0.38	69	31.6	29	195	
blue crab, male	5	0.1	99.3	0.38	83	26.9	20	159	
black seabass	4	0.1	99.4	0.31	130	36.3	62	225	
lined seahorse	4	0.1	99.5	0.31	109	9.1	86	128	
conger eel	3	0.1	99.6	0.23	361	60.5	241	432	
pigfish	2	0.1	99.6	0.15	187	6.5	180	193	124.0
northern stargazer	2	0.1	99.7	0.15	76	31.5	44	107	
blue crab, juvenile female	2	0.1	99.7	0.15	49	26.5	22	75	
harvestfish	1	0.0	99.8	0.08	104	.	104	104	
striped anchovy	1	0.0	99.8	0.08	85	.	85	85	
naked goby	1	0.0	99.8	0.08	35	.	35	35	
feather blenny	1	0.0	99.8	0.08	60	.	60	60	
skilletfish	1	0.0	99.9	0.08	49	.	49	49	
clearnose skate	1	0.0	99.9	0.08	440	.	440	440	
blue runner	1	0.0	99.9	0.08	134	.	134	134	
banded drum	1	0.0	99.9	0.08	131	.	131	131	
striped cusk-eel	1	0.0	100.0	0.08	185	.	185	185	34.0
brown shrimp	1	0.0	100.0	0.08	113	.	113	113	
All Species Combined		3.754							

Table 133.

Month - October
 River - Ches. Bay - Upper
 No. of Fish Trawls Made - 13
 No. of Species - 39

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	29,923	93.6	93.6	2301.77	43	0.4	26	79	0.6
spot	966	3.0	96.6	74.31	147	0.7	110	202	.
weakfish	302	0.9	97.6	23.23	152	3.0	76	329	.
Atlantic croaker	167	0.5	98.1	12.85	70	5.3	11	251	.
hogchoker	134	0.4	98.5	10.31	113	1.3	80	155	.
blackcheek tonguefish	94	0.3	98.8	7.23	143	2.1	69	174	.
southern kingfish	51	0.2	99.0	3.92	111	5.1	72	268	.
inshore lizardfish	47	0.1	99.1	3.62	196	6.3	118	327	.
squid	46	0.1	99.3	3.54	25	1.3	12	49	.
blue crab, adult female	36	0.1	99.4	2.77	145	2.1	122	179	.
summer flounder	32	0.1	99.5	2.46	266	6.1	226	364	.
kingfish	28	0.1	99.6	2.15	109	5.9	63	212	.
scup	24	0.1	99.6	1.85	137	3.6	92	185	.
blue crab, male	23	0.1	99.7	1.77	79	10.0	37	171	.
blue crab, juvenile female	20	0.1	99.8	1.54	45	1.4	33	58	.
harvestfish	14	0.0	99.8	1.08	89	1.1	82	97	.
Atlantic spadefish	11	0.0	99.8	0.85	79	2.3	68	93	.
butterfish	8	0.0	99.9	0.62	125	4.8	107	144	.
silver perch	7	0.0	99.9	0.54	136	5.4	110	152	.
northern puffer	4	0.0	99.9	0.31	127	24.2	73	168	.
black seabass	3	0.0	99.9	0.23	209	1.2	207	211	.
striped searobin	3	0.0	99.9	0.23	135	28.5	78	166	.
lined seahorse	3	0.0	99.9	0.23	80	21.7	42	117	.
windowpane	2	0.0	99.9	0.15	229	22.5	206	251	.
northern searobin	2	0.0	99.9	0.15	173	5.5	167	178	.
striped anchovy	2	0.0	99.9	0.15	105	0.5	104	105	.
oyster toadfish	2	0.0	100.0	0.15	135	14.0	121	149	.
fringed flounder	2	0.0	100.0	0.15	118	7.5	110	125	.
smallmouth flounder	2	0.0	100.0	0.15	57	2.0	55	59	.
Atlantic thread herring	1	0.0	100.0	0.08	126	.	126	126	.
pigfish	1	0.0	100.0	0.08	172	.	172	172	.
northern pipefish	1	0.0	100.0	0.08	150	.	150	150	.
feather blenny	1	0.0	100.0	0.08	83	.	83	83	.
clearnose skate	1	0.0	100.0	0.08	470	.	470	470	.
conger eel	1	0.0	100.0	0.08	259	.	259	259	.
Atlantic cutlassfish	1	0.0	100.0	0.08	624	.	624	624	162.0
northern stargazer	1	0.0	100.0	0.08	31	.	31	31	.
chain pipefish	1	0.0	100.0	0.08	267	.	267	267	.
brown shrimp	1	0.0	100.0	0.08	99	.	99	99	.
All Species Combined		31.968							

Table 134.

Month - October
 River - All - Pooled
 No. of Fish Trawls Made - 39
 No. of Species - 52

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	37,001	83.4	83.4	948.74	46	0.3	26	30	0.7
spot	1,573	3.5	86.9	40.33	148	0.5	102	240	
hogchoker	1,297	2.9	89.8	33.26	119	1.1	80	189	35.5
weakfish	1,271	2.9	92.7	32.59	148	1.6	62	329	
squid	811	1.8	94.5	20.79	29	0.9	9	77	8.9
Atlantic croaker	689	1.6	96.1	17.67	132	3.1	11	259	
blackcheek tonguefish	363	0.8	96.9	9.31	148	1.1	69	186	
smallmouth flounder	243	0.5	97.4	6.23	81	1.3	39	162	
kingfish	175	0.4	97.8	4.49	105	2.5	45	301	
butterfish	125	0.3	98.1	3.21	115	1.4	70	156	
blue crab, adult female	113	0.3	98.4	2.90	144	1.4	107	179	
inshore lizardfish	94	0.2	98.6	2.41	189	4.9	113	327	
silver perch	90	0.2	98.8	2.31	128	2.0	55	180	
summer flounder	71	0.2	98.9	1.82	296	7.7	206	454	
scup	59	0.1	99.1	1.51	136	2.1	92	185	
southern kingfish	56	0.1	99.2	1.44	113	5.3	72	268	
Atlantic spadefish	37	0.1	99.3	0.95	87	1.8	68	109	
blue crab, male	33	0.1	99.4	0.85	79	8.5	18	171	
northern puffer	32	0.1	99.4	0.82	131	8.3	52	200	
striped anchovy	31	0.1	99.5	0.79	102	1.7	79	113	
northern pipefish	27	0.1	99.6	0.69	134	4.7	99	187	
blue crab, juvenile female	24	0.1	99.6	0.62	45	2.1	22	75	
northern scrobin	23	0.1	99.7	0.59	75	12.7	26	196	
fringed flounder	21	0.0	99.7	0.54	119	3.7	94	159	
black seabass	16	0.0	99.8	0.41	150	17.3	51	230	
harvestfish	16	0.0	99.8	0.41	90	1.4	82	104	
clearnose skate	14	0.0	99.8	0.36	396	23.2	141	470	
oyster toadfish	12	0.0	99.8	0.31	125	22.7	49	267	
lined seahorse	11	0.0	99.9	0.28	93	8.4	42	128	
windowpane	9	0.0	99.9	0.23	240	11.4	186	279	
spotted hake	8	0.0	99.9	0.21	237	8.8	207	279	
striped scrobin	5	0.0	99.9	0.13	137	18.9	78	174	
pigfish	4	0.0	99.9	0.10	184	5.0	172	193	124.0
conger eel	4	0.0	99.9	0.10	336	49.8	241	432	
green goby	3	0.0	99.9	0.08					
naked goby	3	0.0	100.0	0.08	32	2.8	26	35	
northern stargazer	3	0.0	100.0	0.08	61	23.5	31	107	
bluefish	2	0.0	100.0	0.05	235	40.0	195	275	181.0
feather blenny	2	0.0	100.0	0.05	72	11.5	60	83	
brown shrimp	2	0.0	100.0	0.05	106	7.0	99	113	
Atlantic thread herring	1	0.0	100.0	0.03	126		126		
bluespotted cornetfish	1	0.0	100.0	0.03	380		380	380	15.5
skilletfish	1	0.0	100.0	0.03	49		49	49	
spiny butterfly ray	1	0.0	100.0	0.03	640		640	640	
blue runner	1	0.0	100.0	0.03	134		134	134	
lockdown	1	0.0	100.0	0.03	64		64	64	
banded drum	1	0.0	100.0	0.03	131		131	131	34.0
Atlantic cutlassfish	1	0.0	100.0	0.03	624		624	624	162.0
striped cusk-eel	1	0.0	100.0	0.03	185		185	185	
chain pipefish	1	0.0	100.0	0.03	267		267	267	
mottled mojarra	1	0.0	100.0	0.03	108		108	108	26.0
white shrimp	1	0.0	100.0	0.03	110		110	110	
All Species Combined			44,385						

Table 135.

Month - November
 River - Ches. Bay - Bottom
 No. of Fish Trawls Made - 13
 No. of Species - 37

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	1,980	54.1	54.1	152.31	52	0.5	38	79	.
squid	312	8.5	62.6	24.00	52	1.3	23	94	.
blackcheek tonguefish	280	7.6	70.2	21.54	155	1.6	60	196	.
blue crab, adult female	205	5.6	75.8	15.77	147	1.4	111	181	.
weakfish	179	4.9	80.7	13.77	154	1.7	110	289	.
spot	171	4.7	85.4	13.15	144	1.2	111	186	.
smallmouth flounder	171	4.7	90.1	13.15	87	1.7	42	142	.
southern kingfish	59	1.6	91.7	4.54	127	3.7	53	175	.
summer flounder	54	1.5	93.1	4.15	284	7.4	215	477	.
silver perch	41	1.1	94.3	3.15	123	2.7	85	158	.
spotted hake	34	0.9	95.2	2.62	228	9.5	42	296	.
hogchoker	25	0.7	95.9	1.92	134	3.1	104	163	.
windowpane	23	0.6	96.5	1.77	219	5.5	166	264	.
black seabass	20	0.5	97.1	1.54	117	15.6	48	280	.
northern searobin	15	0.4	97.5	1.15	59	5.1	38	116	.
clearnose skate	13	0.4	97.8	1.00	398	11.6	320	469	.
butterfish	11	0.3	98.1	0.85	105	6.6	48	124	.
kingfish	10	0.3	98.4	0.77	129	8.0	80	164	.
inshore lizardfish	9	0.2	98.6	0.69	189	15.4	141	295	.
striped searobin	7	0.2	98.8	0.34	100	9.4	82	141	.
northern pipefish	7	0.2	99.0	0.54	147	8.5	118	179	.
bluefish	6	0.2	99.2	0.46	166	8.8	135	202	.
lined seahorse	6	0.2	99.3	0.46	64	5.2	48	86	.
Atlantic croaker	3	0.1	99.4	0.23	135	29.7	76	172	.
harvestfish	3	0.1	99.5	0.23	80	2.6	76	85	.
blue crab, juvenile female	3	0.1	99.6	0.23	60	25.2	33	110	.
Atlantic spadefish	2	0.1	99.6	0.15	83	5.5	77	88	.
feather blenny	2	0.1	99.7	0.15	60	4.5	55	64	.
fringed flounder	2	0.1	99.8	0.15	139	1.5	137	140	.
blue crab, male	2	0.1	99.8	0.15	101	60.0	41	161	.
northern puffer	1	0.0	99.8	0.08	143	.	143	143	.
naked goby	1	0.0	99.9	0.08	45	.	45	45	.
smooth dogfish	1	0.0	99.9	0.08	619	.	619	619	.
spiny dogfish	1	0.0	99.9	0.08	660	.	660	660	.
conger eel	1	0.0	99.9	0.08	473	.	473	473	.
lookdown	1	0.0	100.0	0.08	50	.	50	50	.
brown shrimp	1	0.0	100.0	0.08	105	.	105	105	.
All Species Combined			3,662						

Table 136.

Month - November
 River - Ches. Bay - Lower
 No. of Fish Trawls Made - 13
 No. of Species - 37

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	25,177	91.7	91.7	1936.69	47	0.3	32	76	0.9
spot	1,142	4.2	95.9	87.85	124	1.1	93	179	21.2
hogchoker	227	0.8	96.7	17.46	104	2.0	82	134	52.2
weakfish	186	0.7	97.4	14.31	147	3.1	95	275	.
Atlantic silverside	150	0.5	97.9	11.54	92	1.3	70	112	.
squid	100	0.4	98.3	7.69	36	1.4	20	80	.
smallmouth flounder	96	0.3	98.6	7.38	88	1.8	53	130	.
blue crab, adult female	82	0.3	98.9	6.31	146	1.8	110	179	.
blackcheek tonguefish	61	0.2	99.2	4.69	132	5.5	60	164	.
silver perch	48	0.2	99.3	3.69	115	3.0	79	202	.
Atlantic croaker	37	0.1	99.5	2.85	69	6.4	13	238	.
kingfish	24	0.1	99.5	1.85	122	4.3	70	157	.
summer flounder	22	0.1	99.6	1.69	301	15.6	224	465	.
Atlantic thread herring	13	0.0	99.7	1.00	109	2.6	94	129	.
northern searobin	11	0.0	99.7	0.85	60	4.7	42	100	.
blue crab, male	11	0.0	99.8	0.85	90	15.0	27	172	.
black seabass	9	0.0	99.8	0.69	125	18.1	76	230	.
bluefish	7	0.0	99.8	0.69	175	7.9	151	196	.
southern kingfish	5	0.0	99.8	0.54	134	9.6	101	154	.
clearnose skate	5	0.0	99.8	0.38	424	9.9	404	449	.
inshore lizardfish	5	0.0	99.9	0.38	172	31.6	79	259	.
fringed flounder	5	0.0	99.9	0.38	132	5.2	121	149	.
blue crab, juvenile female	5	0.0	99.9	0.38	62	16.4	32	112	.
spotted hake	5	0.0	99.9	0.38	197	47.6	58	270	.
brown shrimp	4	0.0	99.9	0.31	104	4.0	94	113	.
butterfish	4	0.0	99.9	0.31	111	5.5	104	122	.
windowpane	3	0.0	100.0	0.23	219	21.3	191	261	.
lined seahorse	3	0.0	100.0	0.15	101	33.0	68	134	.
oyster toadfish	2	0.0	100.0	0.15	231	70.5	160	301	.
scup	2	0.0	100.0	0.08	107	.	107	107	.
harvestfish	1	0.0	100.0	0.08	80	.	80	80	.
spotted seatrout	1	0.0	100.0	0.08	185	.	185	185	.
striped searobin	1	0.0	100.0	0.08	79	.	79	79	.
northern pipefish	1	0.0	100.0	0.08	130	.	130	130	.
naked goby	1	0.0	100.0	0.08	30	.	30	30	.
feather blenny	1	0.0	100.0	0.08	52	.	52	52	.
blue runner	1	0.0	100.0	0.08	155	.	155	155	.
All Species Combined			27,454						

Table 137.

Month - November
 River - Ches. Bay - Upper
 No. of Fish Trawls Made - 13
 No. of Species - 26

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	27,457	96.6	96.6	2112.08	43	0.3	26	75	0.8
spot	593	2.1	98.6	45.62	123	0.7	92	167	.
Atlantic croaker	162	0.6	99.2	12.46	49	1.5	17	134	.
blue crab, adult female	40	0.1	99.4	3.08	135	2.0	109	163	.
weakfish	38	0.1	99.5	2.92	126	3.3	79	168	.
blue crab, male	24	0.1	99.6	1.85	91	10.3	17	170	.
kingfish	20	0.1	99.6	1.54	120	4.6	64	161	.
summer flounder	16	0.1	99.7	1.23	297	17.8	238	456	.
smallmouth flounder	16	0.1	99.8	1.23	82	6.1	51	126	.
blue crab, juvenile female	16	0.1	99.8	1.23	50	7.5	18	115	.
silver perch	13	0.0	99.9	1.00	101	3.4	82	124	.
hogchoker	8	0.0	99.9	0.62	103	2.1	93	111	.
northern searobin	5	0.0	99.9	0.38	56	0.5	55	58	.
inshore lizardfish	5	0.0	99.9	0.38	151	15.5	119	200	.
northern pipefish	4	0.0	99.9	0.31	109	24.5	37	141	.
red drum	3	0.0	100.0	0.23	71	2.1	67	74	1.9
blackcheek tonguefish	3	0.0	100.0	0.23	133	5.9	121	140	.
Atlantic spadefish	2	0.0	100.0	0.15	98	17.5	80	115	.
feather blenny	2	0.0	100.0	0.15	59	11.0	48	70	.
butterfish	1	0.0	100.0	0.08	130	.	130	130	.
squid	1	0.0	100.0	0.08	44	.	44	44	.
windowpane	1	0.0	100.0	0.08	217	.	217	217	.
striped searobin	1	0.0	100.0	0.08	63	.	63	63	.
lined seahorse	1	0.0	100.0	0.08	111	.	111	111	.
oyster toadfish	1	0.0	100.0	0.08	86	.	86	86	.
brown shrimp	1	0.0	100.0	0.08	93	.	93	93	.
All Species Combined			28.434						

Table 138.

Month - November
 River - All - Pooled
 No. of Fish Trawls Made - 39
 No. of Species - 44

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	54,614	91.7	91.7	1400.36	46	0.2	26	79	0.8
spot	1,906	3.2	94.9	48.87	129	0.6	92	186	21.2
squid	413	0.7	95.6	10.59	45	1.1	20	94	.
weakfish	403	0.7	96.3	10.33	148	1.5	79	289	.
blackcheek tonguefish	344	0.6	96.9	8.82	150	1.8	60	196	.
blue crab, adult female	327	0.5	97.4	8.38	145	1.0	109	181	.
smallmouth flounder	283	0.5	97.9	7.26	87	1.2	42	142	.
hogchoker	260	0.4	98.3	6.67	116	2.5	82	163	52.2
Atlantic croaker	202	0.3	98.7	5.18	54	2.0	13	238	.
Atlantic silverside	150	0.3	98.9	3.85	92	1.3	70	112	.
silver perch	102	0.2	99.1	2.62	116	1.9	79	202	.
summer flounder	92	0.2	99.2	2.36	290	6.5	215	477	.
southern kingfish	64	0.1	99.3	1.64	127	3.5	53	175	.
kingfish	54	0.1	99.4	1.38	122	2.9	64	164	.
spotted hake	38	0.1	99.5	0.97	224	9.7	42	296	.
blue crab, male	37	0.1	99.6	0.95	91	8.3	17	172	.
northern searobin	31	0.1	99.6	0.79	59	2.9	38	116	.
black seabass	29	0.0	99.7	0.74	119	12.0	48	280	.
windowpane	27	0.0	99.7	0.69	219	5.1	166	264	.
blue crab, juvenile female	24	0.0	99.7	0.62	54	6.5	18	115	.
inshore lizardfish	19	0.0	99.8	0.49	175	11.7	79	295	.
clearnose skate	18	0.0	99.8	0.46	405	9.1	320	469	.
butterfish	15	0.0	99.8	0.38	108	5.2	48	130	.
bluefish	13	0.0	99.9	0.33	171	5.8	135	202	.
Atlantic thread herring	13	0.0	99.9	0.31	109	2.6	94	129	.
northern pipefish	12	0.0	99.9	0.23	133	10.3	37	179	.
striped searobin	9	0.0	99.9	0.23	94	8.5	63	141	.
lined seahorse	9	0.0	99.9	0.23	77	9.4	48	134	.
fringed flounder	7	0.0	99.9	0.18	134	3.8	121	149	.
brown shrimp	6	0.0	100.0	0.15	103	3.2	93	113	.
feather blenny	5	0.0	100.0	0.13	58	4.0	48	70	.
harvestfish	4	0.0	100.0	0.10	80	1.8	76	85	.
Atlantic spadefish	4	0.0	100.0	0.10	90	8.7	77	115	1.9
red drum	3	0.0	100.0	0.08	71	2.1	67	74	.
oyster toadfish	3	0.0	100.0	0.08	182	63.1	86	301	.
naked goby	2	0.0	100.0	0.05	38	7.5	30	45	.
scup	1	0.0	100.0	0.03	107	.	107	107	.
northern puffer	1	0.0	100.0	0.03	143	.	143	143	.
spotted seatrout	1	0.0	100.0	0.03	185	.	185	185	.
smooth dogfish	1	0.0	100.0	0.03	619	.	619	619	.
spiny dogfish	1	0.0	100.0	0.03	660	.	660	660	.
conger eel	1	0.0	100.0	0.03	473	.	473	473	.
blue runner	1	0.0	100.0	0.03	155	.	155	155	.
lookdown	1	0.0	100.0	0.03	50	.	50	50	.
All Species Combined			59,550						

Table 139.

Month - December
 River - Ches. Bay - Bottom
 No. of Fish Trawls Made - 11
 No. of Species - 29

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	16,781	93.1	93.1	1525.35	41	0.5	30	83	0.6
spot	507	2.8	95.9	46.09	119	0.8	95	166	.
Atlantic croaker	255	1.4	97.4	23.18	87	1.5	25	168	.
hogchoker	98	0.5	97.9	8.91	115	5.8	92	146	37.2
blackcheek tonguefish	87	0.5	98.4	7.91	130	3.8	57	178	.
blue crab, adult female	63	0.3	98.7	5.73	147	1.7	113	183	.
weakfish	58	0.3	99.1	5.27	129	2.2	69	168	.
smallmouth flounder	38	0.2	99.3	3.45	85	3.4	55	131	.
spotted hake	27	0.1	99.4	2.45	141	18.9	45	326	.
summer flounder	13	0.1	99.5	1.18	274	16.5	186	382	.
windowpane	11	0.1	99.6	1.00	219	4.4	201	245	.
oyster toadfish	11	0.1	99.6	1.00	244	16.8	146	324	.
kingfish	10	0.1	99.7	0.91	105	6.2	69	134	.
northern pipefish	8	0.0	99.7	0.73	145	12.8	96	214	.
clearnose skate	7	0.0	99.8	0.64	419	17.9	332	470	.
red hake	6	0.0	99.8	0.55	114	11.9	56	135	.
Atlantic thread herring	6	0.0	99.8	0.55	90	2.6	86	103	.
spiny dogfish	6	0.0	99.9	0.55	793	21.4	750	890	.
silver hake	5	0.0	99.9	0.45	114	2.5	110	124	.
northern searobin	5	0.0	99.9	0.45	68	5.7	56	89	.
striped searobin	5	0.0	99.9	0.45	121	39.0	57	265	.
spotted seatrout	4	0.0	100.0	0.36	179	11.1	161	211	.
brown shrimp	2	0.0	100.0	0.18	121	10.5	110	131	.
gizzard shad	1	0.0	100.0	0.09	142	.	142	142	.
naked goby	1	0.0	100.0	0.09	45	.	45	45	.
feather blenny	1	0.0	100.0	0.09	85	.	85	85	.
skilletfish	1	0.0	100.0	0.09	42	.	42	42	.
silver perch	1	0.0	100.0	0.09	98	.	98	98	.
blue crab, juvenile female	1	0.0	100.0	0.09	90	.	90	90	.
All Species Combined		18,019							

Table 140.

Month - December
 River - Ches. Bay - Lower
 No. of Fish Trawls Made - 11
 No. of Species - 33

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	31,392	98.8	98.8	2853.82	41	0.4	27	78	0.7
Atlantic croaker	137	0.4	99.2	12.45	50	2.0	18	114	.
smallmouth flounder	51	0.2	99.4	4.64	74	2.3	41	114	.
spot	38	0.1	99.5	3.45	116	1.7	98	142	.
blackcheek tonguefish	28	0.1	99.6	2.55	102	7.9	53	171	.
hogchoker	22	0.1	99.6	2.00	115	3.5	94	170	.
blue crab, adult female	21	0.1	99.7	1.91	142	3.0	117	175	.
spotted hake	20	0.1	99.8	1.82	91	15.7	51	268	.
summer flounder	16	0.1	99.8	1.45	352	16.4	189	442	.
Atlantic silverside	7	0.0	99.8	0.64	95	3.3	77	103	.
northern pipefish	5	0.0	99.9	0.45	105	10.5	69	126	.
clearnose skate	4	0.0	99.9	0.36	393	11.6	360	413	.
brown shrimp	4	0.0	99.9	0.36	108	4.8	97	118	.
kingfish	3	0.0	99.9	0.27	95	9.7	76	107	.
northern searobin	3	0.0	99.9	0.27	58	5.8	48	68	.
blue crab, male	3	0.0	99.9	0.27	64	29.1	29	122	.
weakfish	2	0.0	99.9	0.18	140	21.5	118	161	.
alewife	2	0.0	99.9	0.18	129	11.0	118	140	.
tautog	2	0.0	99.9	0.18	352	114.0	238	466	.
spotted seatrout	2	0.0	99.9	0.18	146	18.0	128	164	.
striped searobin	2	0.0	99.9	0.18	62	1.5	60	63	.
lined seahorse	2	0.0	100.0	0.18	71	14.0	57	85	.
spiny dogfish	2	0.0	100.0	0.18	729	112.5	616	841	.
conger eel	2	0.0	100.0	0.18	299	23.0	276	322	.
blue crab, juvenile female	2	0.0	100.0	0.18	91	38.5	52	129	.
red hake	1	0.0	100.0	0.09	113	.	113	113	.
blueback herring	1	0.0	100.0	0.09	81	.	81	81	.
red drum	1	0.0	100.0	0.09	68	.	68	68	.
gizzard shad	1	0.0	100.0	0.09	130	.	130	130	.
feather blenny	1	0.0	100.0	0.09	61	.	61	61	.
northern stargazer	1	0.0	100.0	0.09	33	.	33	33	.
striped cusk-eel	1	0.0	100.0	0.09	140	.	140	140	.
fringed flounder	1	0.0	100.0	0.09	116	.	116	116	.
All Species Combined		31,780							

Table 141.

Month - December
 River - Ches. Bay - Upper
 No. of Fish Trawls Made - 11
 No. of Species - 19

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	2,711	90.3	90.3	246.45	54	0.7	31	82	.
Atlantic croaker	160	5.3	95.7	14.55	47	1.7	16	101	.
spot	66	2.2	97.9	6.00	126	1.8	100	164	.
blue crab, juvenile female	13	0.4	98.3	1.18	43	6.3	23	113	.
blue crab, male	9	0.3	98.6	0.82	36	2.3	26	46	.
southern kingfish	8	0.3	98.9	0.73	74	3.6	61	89	.
blackcheek tonguefish	5	0.2	99.0	0.45	85	16.0	63	148	.
brown shrimp	5	0.2	99.2	0.45	111	6.7	95	135	.
blue crab, adult female	5	0.2	99.4	0.45	142	4.0	130	155	.
Atlantic herring	4	0.1	99.5	0.36	85	3.8	74	91	.
northern pipefish	3	0.1	99.6	0.27	106	27.8	68	160	.
naked goby	3	0.1	99.7	0.27	37	2.4	34	42	.
summer flounder	2	0.1	99.8	0.18	391	33.0	358	424	.
spotted hake	2	0.1	99.8	0.18	60	6.0	54	66	.
black seabass	1	0.0	99.9	0.09	190	.	190	190	.
windowpane	1	0.0	99.9	0.09	35	.	35	35	.
spiny dogfish	1	0.0	99.9	0.09	702	.	702	702	.
clearnose skate	1	0.0	100.0	0.09	437	.	437	437	.
smallmouth flounder	1	0.0	100.0	0.09	66	.	66	66	.
All Species Combined		3.001							

Table 142.

Month - December
 River - All - Pooled
 No. of Fish Trawls Made - 33
 No. of Species - 43

Species	Number of Fish	Percent Within River	Cumulative Percent	Catch Per Trawl	Average Length (mm)	Standard Error (length)	Minimum Length (mm)	Maximum Length (mm)	Average Weight (g)
bay anchovy	50,884	96.4	96.4	1541.94	46	0.3	27	83	0.6
spot	611	1.2	97.5	18.52	120	0.7	95	166	.
Atlantic croaker	552	1.0	98.6	16.73	65	1.3	16	168	.
hogchoker	120	0.2	98.8	3.64	115	3.0	92	170	37.2
blackcheek tonguefish	120	0.2	99.0	3.64	122	3.6	53	178	.
smallmouth flounder	90	0.2	99.2	2.73	79	2.0	41	131	.
blue crab, adult female	89	0.2	99.4	2.70	145	1.4	113	183	.
weakfish	60	0.1	99.5	1.82	130	2.2	69	168	.
spotted hake	49	0.1	99.6	1.48	117	12.7	45	326	.
summer flounder	31	0.1	99.6	0.94	322	13.3	186	442	.
northern pipefish	16	0.0	99.7	0.48	125	9.7	68	214	.
blue crab, juvenile female	16	0.0	99.7	0.48	52	7.8	23	129	.
kingfish	13	0.0	99.7	0.39	102	5.2	69	134	.
windowpane	12	0.0	99.7	0.36	204	15.9	35	245	.
clearnose skate	12	0.0	99.8	0.36	412	11.5	332	470	.
blue crab, male	12	0.0	99.8	0.36	43	7.4	26	122	.
oyster toadfish	11	0.0	99.8	0.33	244	16.8	146	324	.
brown shrimp	11	0.0	99.8	0.33	112	3.8	95	135	.
spiny dogfish	9	0.0	99.8	0.27	769	26.4	616	890	.
southern kingfish	8	0.0	99.9	0.24	74	3.6	61	89	.
northern searobin	8	0.0	99.9	0.24	64	4.3	48	89	.
red hake	7	0.0	99.9	0.21	114	10.1	56	135	.
striped searobin	7	0.0	99.9	0.21	104	29.1	57	265	.
Atlantic silverside	7	0.0	99.9	0.21	95	3.3	77	103	.
Atlantic thread herring	6	0.0	99.9	0.18	90	2.6	86	103	.
spotted seatrout	6	0.0	99.9	0.18	168	10.9	128	211	.
silver hake	5	0.0	99.9	0.15	114	2.5	110	124	.
Atlantic herring	4	0.0	100.0	0.12	85	3.8	74	91	.
naked goby	4	0.0	100.0	0.12	39	2.6	34	45	.
alewife	2	0.0	100.0	0.06	129	11.0	118	140	.
gizzard shad	2	0.0	100.0	0.06	136	6.0	130	142	.
tautog	2	0.0	100.0	0.06	352	114.0	238	466	.
lined seahorse	2	0.0	100.0	0.06	71	14.0	57	85	.
feather blenny	2	0.0	100.0	0.06	73	12.0	61	85	.
conger eel	2	0.0	100.0	0.06	299	23.0	276	322	.
black seabass	1	0.0	100.0	0.03	190	.	190	190	.
blueback herring	1	0.0	100.0	0.03	81	.	81	81	.
red drum	1	0.0	100.0	0.03	68	.	68	68	.
skilletfish	1	0.0	100.0	0.03	42	.	42	42	.
silver perch	1	0.0	100.0	0.03	98	.	98	98	.
northern stargazer	1	0.0	100.0	0.03	33	.	33	33	.
striped cusk-eel	1	0.0	100.0	0.03	140	.	140	140	.
fringed flounder	1	0.0	100.0	0.03	116	.	116	116	.
All Species Combined		52.800							

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APPENDIX A

Sample Data Sheet

FILE: STADATA.SHT
6-18-92

STATION DATA

(Tow #) Station#	River	RiverHile	Lat_beg	Long_beg	SetDepth feet	meters	Tide	Towdir1	Towdir2	Time_beg	Time_end
[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]

Stratum	Compass	Gear	Lat_end	Long_end	Eng_rpm	Secchi	Tow Duration	Tow Distance	Remarks
[]	[]	[]	[]	[]	[]	[]	[]	[]	[]

HYDRO DATA

WaterDepth	PCodeTemp	TempDegC	ParCodeDO	D.O.	ParCodeSal	Salinity
Surface:	[]	[]	[]	[]	[]	[]
Bottom :	[]	[]	[]	[]	[]	[]
Other :	[]	[]	[]	[]	[]	[]

ATHOS DATA

ParCodeTemp	AirTempC	ParCodeWind	WindSpeed	WindDir	ParWeather	Weather	ParCodeSea	SeaState
[]	[]	[]	[]	[]	[]	[]	[]	[]

CRUISE DATA

Cruise Number	Cruise Date Begin			Time Begin		
[]	1	9	[]	[]	[]	[]
Vessel	Cruise Date End			Time End		
[]	1	9	[]	[]	[]	[]

COMMENTS

--

* Station Data Record *
* VIHS Trawl Survey *

Cruise: _____

StaDate: _____ / _____ / _____
(LOCAL TIME)

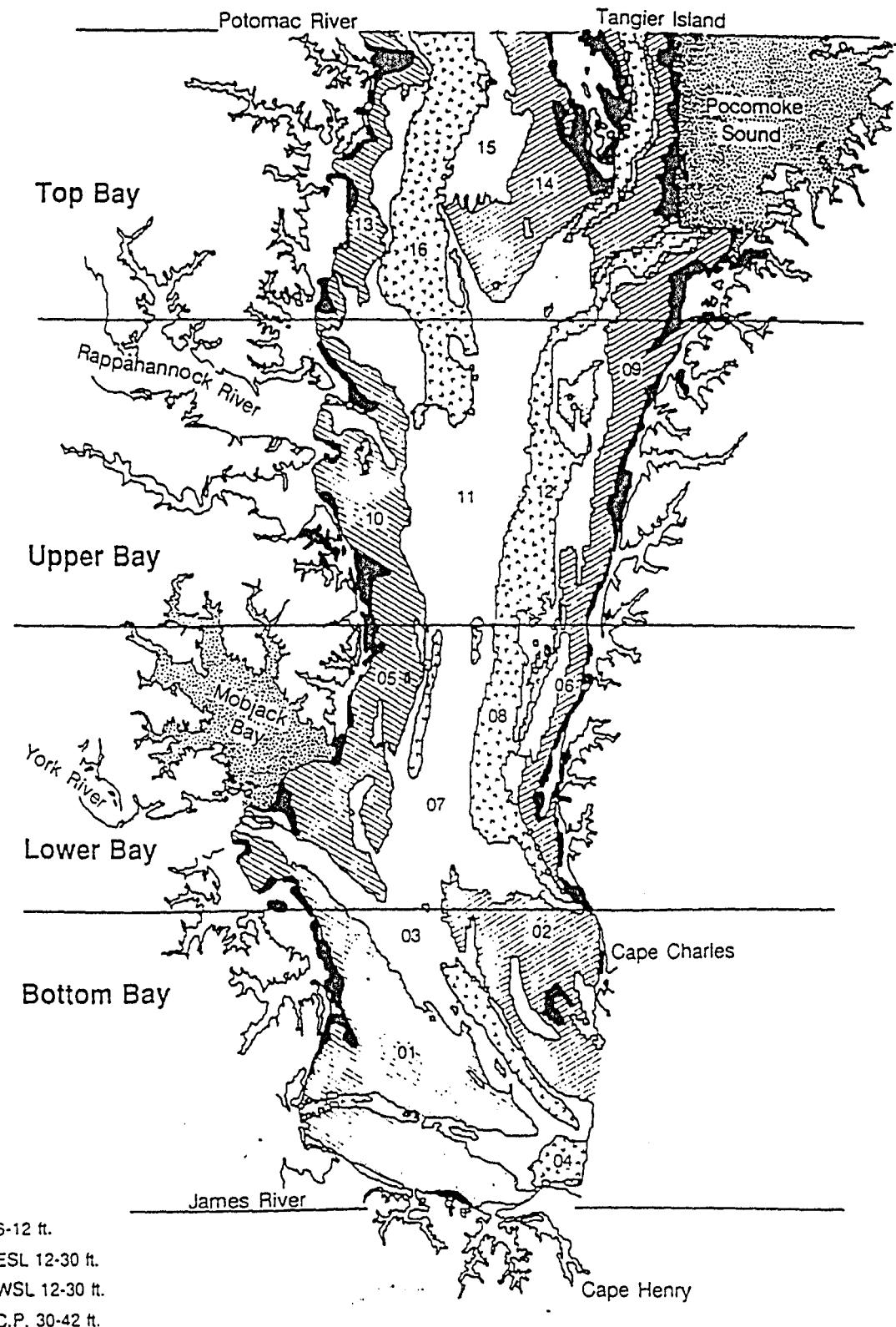
C R E W									
Chief Sci.	[]	[]	[]	[]	[]	[]	[]	[]	[]
Captain	[]	[]	[]	[]	[]	[]	[]	[]	[]
Transcrib.	[]	[]	[]	[]	[]	[]	[]	[]	[]
	[]	[]	[]	[]	[]	[]	[]	[]	[]
	[]	[]	[]	[]	[]	[]	[]	[]	[]
	[]	[]	[]	[]	[]	[]	[]	[]	[]

CODES

TOWDIR1: UP OR DOWNSTREAM									
1:	UP	6:	Slack						
2:	DOWN								
TOWDIR2: RELATIVE TO CURRENT									
1:	With	4:	Oblique With						
2:	Against	5:	Oblique Against						
3:	Perpendicular	6:	Slack						
TIDE: TIDAL STAGE									
1:	Early flood	5:	Early ebb						
2:	Max flood	6:	Max ebb						
3:	Late flood	7:	Late ebb						
4:	Slack before flood	8:	Slack before ebb						
SEASTATE: SEASTATE									
0:	Calm-glossy 0m	5:	Rough 2.5-4m						
1:	Calm-rippled 0-.1m	6:	Very rough 4-6m						
2:	Smooth-wavelets 0.1-0.5m	7:	High 6-9m						
3:	Slight 0.5-1.25m	8:	Very High 9-14m						
4:	Moderate 1.25-2.5m	9:	Phenomenal >14m						
WEATHER: OBSERVED WEATHER									
0:	Clear	5:	Drizzle						
1:	Partly cloudy	6:	Rain						
2:	Overcast	7:	Snow, snow/rain						
3:	Blowing snow	8:	Showers						
4:	Fog, dust, haze	9:	Thunderstorms						

APPENDIX B

Chesapeake Bay Trawl Survey Strata , 1989 to present



APPENDIX C

Common and Scientific Names of Species Caught During 1993

Species Names - Common Name Order		Species Names - Latin Name Order	
Common Name	Latin Name	Latin Name	Common Name
American eel	<i>Anguilla rostrata</i>	<i>Alosa aestivalis</i>	blueback herring
American shad	<i>Alosa sapidissima</i>	<i>Alosa pseudoharengus</i>	alewife
Atlantic croaker	<i>Micropogonias undulatus</i>	<i>Alosa sapidissima</i>	American shad
Atlantic cutlassfish	<i>Trichiurus lepturus</i>	<i>Aluterus schoepfi</i>	orange filefish
Atlantic herring	<i>Clupea harengus</i>	<i>Ammodytes dubius</i>	northern sand lance
Atlantic menhaden	<i>Brevoortia tyrannus</i>	<i>Anchoa hepsetus</i>	striped anchovy
Atlantic silverside	<i>Menidia menidia</i>	<i>Anchoa mitchilli</i>	bay anchovy
Atlantic spadefish	<i>Chaetodipterus faber</i>	<i>Anguilla rostrata</i>	American eel
Atlantic stingray	<i>Dasyatis sabina</i>	<i>Astroscopus guttatus</i>	northern stargazer
Atlantic thread herring	<i>Opisthonema oglinum</i>	<i>Bairdiella chrysoura</i>	silver perch
Florida pompano	<i>Trachinotus carolinus</i>	<i>Brevoortia tyrannus</i>	Atlantic menhaden
Spanish mackerel	<i>Scomberomorus maculatus</i>	<i>Callinectes sapidus</i>	blue crab
alewife	<i>Alosa pseudoharengus</i>	<i>Caranx cryos</i>	blue runner
banded drum	<i>Larimus fasciatus</i>	<i>Carcharhinus plumbeus</i>	sandbar shark
bay anchovy	<i>Anchoa mitchilli</i>	<i>Centropristes striata</i>	black seabass
black seabass	<i>Centropristes striata</i>	<i>Chaetodipterus faber</i>	Atlantic spadefish
blackcheek tonguefish	<i>Syphurus plagiusa</i>	<i>Chaetodon ocellatus</i>	spotsin butterflyfish
blue catfish	<i>Ictalurus furcatus</i>	<i>Chilomycterus schoepfi</i>	striped burrfish
blue runner	<i>Caranx cryos</i>	<i>Clupea harengus</i>	Atlantic herring
blueback herring	<i>Alosa aestivalis</i>	<i>Conger oceanicus</i>	conger eel
blue crab	<i>Callinectes sapidus</i>	<i>Cynoscion nebulosus</i>	spotted seatrout
bluefish	<i>Pomatomus saltatrix</i>	<i>Cynoscion regalis</i>	weakfish
bluegill	<i>Lepomis macrochirus</i>	<i>Cyprinus carpio</i>	common carp
bluespotted cornetfish	<i>Fistularia tabacaria</i>	<i>Dasyatis americana</i>	southern stingray
bluntnose stingray	<i>Dasyatis sayi</i>	<i>Dasyatis centroura</i>	roughtail stingray
brown bullhead	<i>Ictalurus nebulosus</i>	<i>Dasyatis sabina</i>	Atlantic stingray
brown shrimp	<i>Penaeus aztecus</i>	<i>Dasyatis sayi</i>	bluntnose stingray
butterfish	<i>Peprilus triacanthus</i>	<i>Dorosoma cepedianum</i>	gizzard shad
chain pipefish	<i>Syngnathus louisianae</i>	<i>Dorosoma petenense</i>	threadfin shad
channel catfish	<i>Ictalurus punctatus</i>	<i>Etorops crossotus</i>	fringed flounder
clearnose skate	<i>Raja eglanteria</i>	<i>Etorops microstomus</i>	smallmouth flounder
common carp	<i>Cyprinus carpio</i>	<i>Eucinostomus lefroyi</i>	mottled mojarra
conger eel	<i>Conger oceanicus</i>	<i>Family Loliginidae</i>	squid
dwarf goatfish	<i>Upeneus parvus</i>	<i>Fistularia tabacaria</i>	bluespotted cornetfish
feather blenny	<i>Hypsoblennius hentzi</i>	<i>Gobiesox strumosus</i>	skilletfish
fringed flounder	<i>Etorops crossotus</i>	<i>Gobiosoma boscii</i>	naked goby
gizzard shad	<i>Dorosoma cepedianum</i>	<i>Gobiosoma ginsburgi</i>	seaboard goby
green goby	<i>Microgobius thalassinus</i>	<i>Gymnura altavela</i>	spiny butterfly ray
harvestfish	<i>Peprilus alepidotus</i>	<i>Hippocampus erectus</i>	lined seahorse
hogchoker	<i>Trinectes maculatus</i>	<i>Hypsoblennius hentzi</i>	feather blenny
inland silverside	<i>Menidia beryllina</i>	<i>Ictalurus catus</i>	white catfish
inshore lizardfish	<i>Synodus foetens</i>	<i>Ictalurus furcatus</i>	blue catfish
kingfish	<i>Menticirrhus spp.</i>	<i>Ictalurus nebulosus</i>	brown bullhead
lined seahorse	<i>Hippocampus erectus</i>	<i>Ictalurus punctatus</i>	channel catfish
longnose gar	<i>Lepisosteus osseus</i>	<i>Larimus fasciatus</i>	banded drum

Species Names - Common Name Order		Species Names - Latin Name Order	
Common Name	Latin Name	Latin Name	Common Name
lookdown	<i>Selene vomer</i>	<i>Leiostomus xanthurus</i>	spot
mottled mojarra	<i>Eucinostomus lefroyi</i>	<i>Lepisosteus osseus</i>	longnose gar
naked goby	<i>Gobiosoma boscii</i>	<i>Lepomis macrochirus</i>	bluegill
northern kingfish	<i>Menticirrhus saxatilis</i>	<i>Membras martinica</i>	rough silverside
northern pipefish	<i>Syngnathus fuscus</i>	<i>Menidia beryllina</i>	inland silverside
northern puffer	<i>Sphoeroides maculatus</i>	<i>Menidia menidia</i>	Atlantic silverside
northern sand lance	<i>Ammodytes dubius</i>	<i>Menticirrhus americanus</i>	southern kingfish
northern searobin	<i>Prionotus carolinus</i>	<i>Menticirrhus saxatilis</i>	northern kingfish
northern sennet	<i>Sphyraena borealis</i>	<i>Menticirrhus spp.</i>	kingfish
northern stargazer	<i>Astroscopus gunatus</i>	<i>Merluccius bilinearis</i>	silver hake
orange filefish	<i>Aluterus schoepfii</i>	<i>Microgobius thalassinus</i>	green goby
oyster toadfish	<i>Opsanus tau</i>	<i>Micropogonias undulatus</i>	Atlantic croaker
pigfish	<i>Orthopristis chrysoptera</i>	<i>Morone americana</i>	white perch
red drum	<i>Sciaenops ocellatus</i>	<i>Morone saxatilis</i>	striped bass
red hake	<i>Urophycis chuss</i>	<i>Mustelus canis</i>	smooth dogfish
rough scad	<i>Trachurus lathami</i>	<i>Notropis hudsonius</i>	spottail shiner
rough silverside	<i>Membras martinica</i>	<i>Ophidion marginatum</i>	striped cusk-eel
roughtail stingray	<i>Dasyatis centroura</i>	<i>Opisthonema oglinum</i>	Atlantic thread herring
sandbar shark	<i>Carcharhinus plumbeus</i>	<i>Opsanus tau</i>	oyster toadfish
scup	<i>Stenotomus chrysops</i>	<i>Orthopristis chrysoptera</i>	pigfish
sea lamprey	<i>Petromyzon marinus</i>	<i>Parablennius marmoreus</i>	seaweed blenny
seaboard goby	<i>Gobiosoma ginsburgi</i>	<i>Paralichthys dentatus</i>	summer flounder
seaweed blenny	<i>Parablennius marmoreus</i>	<i>Penaeus aztecus</i>	brown shrimp
silver hake	<i>Merluccius bilinearis</i>	<i>Penaeus setiferus</i>	white shrimp
silver perch	<i>Bairdiella chrysoura</i>	<i>Peprilus alepidotus</i>	harvestfish
skilletfish	<i>Gobiesox strumosus</i>	<i>Peprilus triacanthus</i>	butterfish
smallmouth flounder	<i>Eiropus microstomus</i>	<i>Petromyzon marinus</i>	sea lamprey
smooth dogfish	<i>Mustelus canis</i>	<i>Pomatomus saltatrix</i>	bluesfish
southern kingfish	<i>Menticirrhus americanus</i>	<i>Prionotus carolinus</i>	northern searobin
southerna stingray	<i>Dasyatis americana</i>	<i>Prionotus evolans</i>	striped searobin
spiny butterfly ray	<i>Gymnura altavela</i>	<i>Raja eglanteria</i>	clearnose skate
spiny dogfish	<i>Squalus acanthias</i>	<i>Sciaenops ocellatus</i>	red drum
spot	<i>Leiostomus xanthurus</i>	<i>Scomberomorus maculatus</i>	Spanish mackerel
spotfin butterflyfish	<i>Chætodon ocellatus</i>	<i>Scophthalmus aquosus</i>	windowpane
spottail shiner	<i>Notropis hudsonius</i>	<i>Selene vomer</i>	lookdown
spotted hake	<i>Urophycis regia</i>	<i>Sphoeroides maculatus</i>	northern puffer
spotted seatrout	<i>Cynoscion nebulosus</i>	<i>Sphyraena borealis</i>	northern sennet
squid	<i>Family Loliginidae</i>	<i>Squalus acanthias</i>	spiny dogfish
striped anchovy	<i>Anchoa hepsetus</i>	<i>Stenotomus chrysops</i>	scup
striped bass	<i>Morone saxatilis</i>	<i>Syphurus plagiusa</i>	blackcheek tonguefish
striped burrfish	<i>Chilomycterus schoepfii</i>	<i>Syngnathus fuscus</i>	northern pipefish
striped cusk-eel	<i>Ophidion marginatum</i>	<i>Syngnathus louisianae</i>	chain pipefish
striped searobin	<i>Prionotus evolans</i>	<i>Synodus foetens</i>	inshore lizardfish
summer flounder	<i>Paralichthys dentatus</i>	<i>Tautoga onitis</i>	tautog
tautog	<i>Tautoga onitis</i>	<i>Trachinotus carolinus</i>	Florida pompano

Species Names - Common Name Order		Species Names - Latin Name Order	
Common Name	Latin Name	Latin Name	Common Name
threadfin shad	<i>Dorosoma petenense</i>	<i>Trachurus lathami</i>	rough scad
weakfish	<i>Cynoscion regalis</i>	<i>Trichiurus lepturus</i>	Atlantic cutlassfish
white catfish	<i>Ictalurus catus</i>	<i>Trinectes maculatus</i>	hogchoker
white perch	<i>Morone americana</i>	<i>Upeneus parvus</i>	dwarf goatfish
white shrimp	<i>Penaeus setiferus</i>	<i>Urophycis chuss</i>	red hake
windowpane	<i>Scophthalmus aquosus</i>	<i>Urophycis regia</i>	spotted hake