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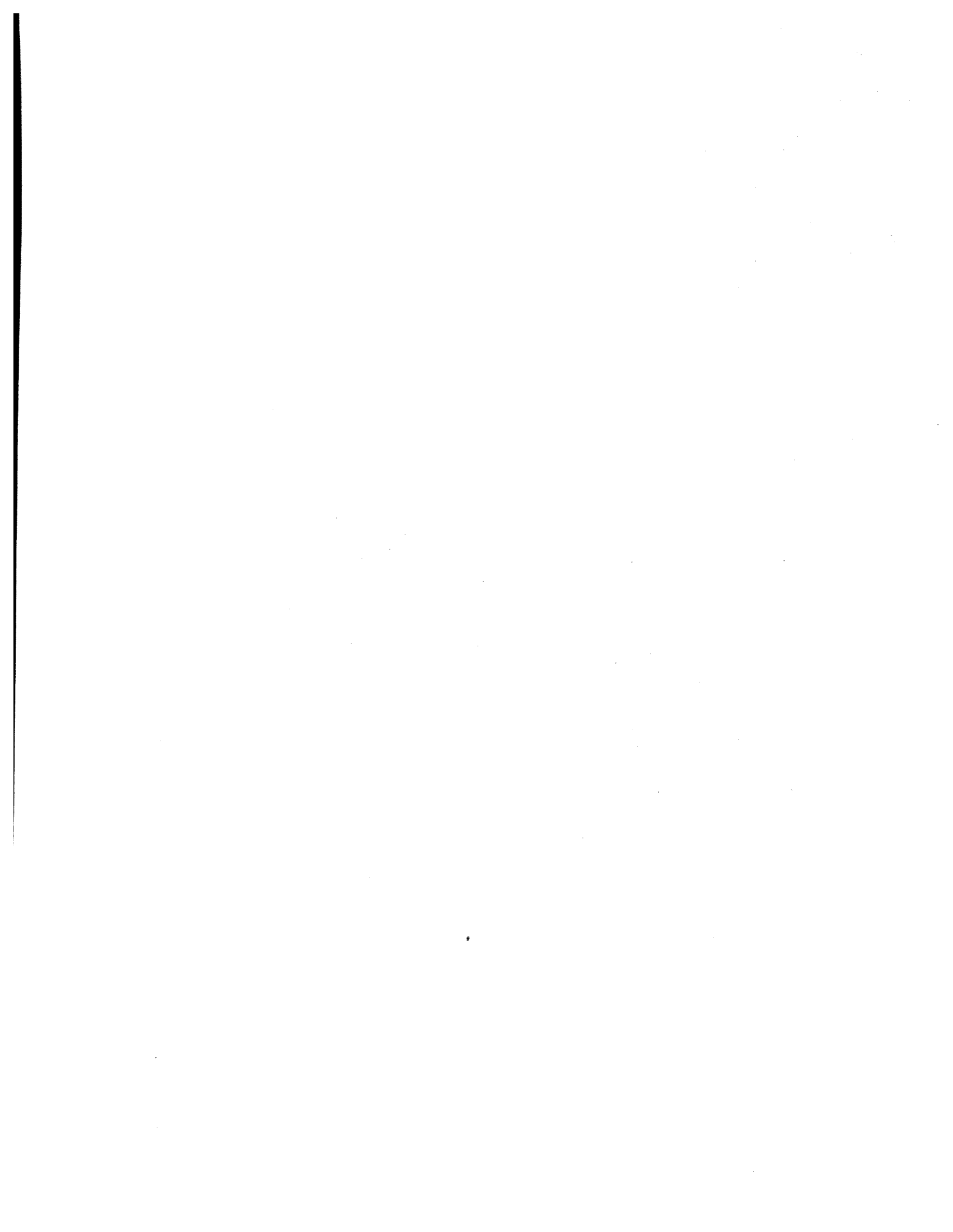
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# SEAMAP ENVIRONMENTAL AND BIOLOGICAL ATLAS OF THE GULF OF MEXICO, 1992

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## INTRODUCTION

The Southeast Area Monitoring and Assessment Program (SEAMAP) is a State/Federal/university program for the collection, management and dissemination of fishery-independent data (information collected without direct reliance on statistics reported by commercial or recreational fishermen) in United States waters of the Gulf of Mexico (Eldridge 1988). A major SEAMAP objective is to provide a large, standardized data base needed by management agencies, industry and scientists to wisely manage and develop fishery resources for the least possible cost. To accomplish this goal, survey data must be disseminated in a useful format to SEAMAP participants, cooperators and other interested organizations.

The SEAMAP Program began in March 1981 when the National Marine Fisheries Service (NMFS), Southeast Fisheries Science Center (SEFSC), presented a SEAMAP Strategic Plan (1981) to the Gulf States Marine Fisheries Commission (GSMFC). This strategic plan outlined the proposed program organization (goals, objectives, procedures, resource requirements, etc.); within the existing framework of the GSMFC, a SEAMAP Subcommittee was then formed. The Subcommittee consists of one representative from each state fishery management agency [Florida Department of Environmental Protection (FDEP); Alabama Department of Conservation and Natural Resources (ADCNR); Mississippi Department of Marine Resources (MDMR) represented by the Gulf Coast Research Laboratory (GCRL); Louisiana Department of Wildlife and Fisheries (LDWF) and Texas Parks and Wildlife Department (TPWD)], one from NMFS Southeast Fisheries Science Center and a non-voting member representing the Gulf of Mexico Fishery Management Council (GMFMC). The Subcommittee organized and successfully coordinated a number of surveys between 1982 through 1991 (Table 1). The data are published in atlases for the surveys in 1982 (Stuntz et al. 1985); 1983 (Thompson and Bane 1986a); 1984 (Thompson and Bane 1986b); 1985 (Thompson et al. 1988); 1986 (Sanders et al. 1990a); 1987 (Sanders et al. 1990b); 1988 (Sanders et al. 1991a); 1989 (Sanders et al. 1991b); 1990 (Sanders et al. 1992); and 1991 (Donaldson et al. 1993). Environmental assessment activities occurred with each of the surveys found in Table 1.

In April 1992, the SEAMAP Subcommittee identified and began to plan the year's SEAMAP survey activities for the Gulf of Mexico. In keeping with the program goal of establishing a coordinated long-term resource data base, it was decided to continue the same types of survey activities conducted in 1982 through 1991. Overall survey objectives in 1982 to 1991 were to assess the distribution and abundance of recreational and commercial ichthyoplankton and trawl-caught organisms and document environmental factors that might affect their distribution and abundance. The basis for plankton work was primarily assessment of selected finfish and invertebrate eggs and larvae across the northern Gulf of Mexico (Sherman et al. 1983). The basis for the trawl surveys which started with the Texas Closure (Nichols 1982, 1984; Nichols and Poffenberger 1987), was to establish a seasonal data base to assess the abundance and distribution of the shrimp and groundfish stocks across the northern Gulf of Mexico.

A major purpose of SEAMAP is to provide resource survey data to State and Federal management agencies and universities participating in SEAMAP activities. This eleventh in a series of SEAMAP environmental and biological atlases presents such data, in a summarized form, collected during the 1992 SEAMAP surveys. The area covered in the Gulf of Mexico for all SEAMAP survey activities during 1992 is shown in Figure 1.

## MATERIALS AND METHODS

Methodology for the 1992 SEAMAP surveys is similar to that of the 1982 through 1991 surveys. Sampling was conducted within the U.S. Exclusive Economic Zone (EEZ) and state territorial waters.

Vessels that participated in collecting plankton and environmental data during the Spring Plankton Survey included the NOAA Ship OREGON II (April 22-May 23) and the Florida vessel SUN COASTER (May 17-21). The Louisiana vessel PELICAN collected plankton samples off Louisiana during its seasonal trawl surveys (March 9-13).

Vessels that participated in the Spring Reef Fish Survey and concurrently sampled plankton and environmental data included the GCRL vessel TOMMY MUNRO (May 12-14) and the NOAA Ship CHAPMAN (May 21-June 29).

Vessels that participated in the Summer Shrimp/Groundfish Survey and concurrently sampled plankton and environmental data included the GCRL vessel TOMMY MUNRO (June 11-22); the NOAA Ship OREGON II (June 13-July 13); and the Louisiana vessel PELICAN (July 6-9). The Alabama vessel A.E. VERRILL (June 4-12) and the TPWD vessels ARANSAS BAY, MATAGORDA BAY, LAGUNA MADRE, GALVESTON BAY and SABINE (June 3-23) did not sample plankton in conjunction with the summer survey.

Vessels that participated in collecting plankton and environmental data during the Fall Plankton Survey included the NOAA Ships CHAPMAN (August 30-September 20) and OREGON II (September 24-27); the Alabama vessel A.E. VERRILL (September 22); the Louisiana vessel PELICAN (September 28-October 1); and the Florida vessel SUN COASTER (October 12-19).

Vessels that participated in the Fall Shrimp/Groundfish Survey and concurrently sampled plankton and environmental data included the NOAA Ship OREGON II (October 18-November 19) and the Louisiana vessel PELICAN (December 7-11). The Alabama vessel A.E. VERRILL (October 28); the GCRL vessel TOMMY MUNRO (November 15-17); and the TPWD vessels ARANSAS BAY, MATAGORDA BAY, LAGUNA MADRE, GALVESTON BAY and SABINE (November 2-23) did not sample plankton in conjunction with the fall survey.

## PLANKTON SURVEYS

Plankton samples were taken at stations arranged in a systematic grid across the Gulf of Mexico. Such a grid was chosen because of the large survey area. Stations were set at minimum intervals of 30 miles (1/2 degree). The exceptions were with LDWF vessels, which collected samples opportunistically at the end of a trawl station.

Sampling gear and procedures were similar to those recommended by Kramer et al. (1972), Smith and Richardson (1977) and Posgay and Marak (1980). Plankton sampling gear consisted of standard 61-cm bongos and a 2x1-m neuston net for the large vessels. The bongos were fitted with 0.333-mm mesh nets with either hard (PVC) or soft (0.333-mm mesh net) cod ends. A flowmeter was mounted off-center in the mouth of each net to record the volume of water filtered. A 50-lb weight was attached approximately 1 m below the bongo frame attachment. The neuston net consisted of a 2x1-m pipe frame fitted with a 0.948-mm mesh net on which the cod end was tied off.

At each designated plankton station, either an oblique bongo/surface neuston tow or a surface neuston tow was made. In deep water bongo stations (more than 95 m) a standard oblique tow was made to 200 m, or to 5 m off the bottom at depths less than 200 m, with a payout speed of 50 m/min, 1-minute settling time, and a retrieval speed of 20 m/min, at a vessel speed of 1.5 knots to maintain a 45° angle. Neuston tows were made at the surface with the net half-submerged for 10 minutes at a vessel speed of 1.5 knots. The Louisiana vessels made plankton tows with small, 20-cm bongo nets with 0.333-mm mesh and soft cod ends.

Samples were preserved initially in 10% buffered formalin. After a 48-hr period, the bongo and neuston samples were transferred to 95% ethyl alcohol for final preservation. The Pascagoula Laboratory curated and computerized the sample data. The right bongo sample and the neuston sample from each station were transshipped to the Polish Sorting and Identification Center (PSIC) in Szczecin, Poland, for sorting and identification. Plankton samples from Louisiana vessels were retained by LDWF for sorting and identification at their facilities. All ichthyoplankton components (eggs and larvae) were removed from each sample and the fish larvae identified to the lowest feasible taxon (families in most cases).

Sorted ichthyoplankton specimens from PSIC were returned to the SEAMAP Archiving Center (SAC), managed in conjunction with the FDEP, for long-term storage under museum-like conditions. Sorted ichthyoplankton samples from 1982 through 1992 are available for loan to researchers throughout the country. Plankton volumes were determined according to procedures in Smith and Richardson (1977).

The alternate bongo sample from each station was retained at GCRL as a backup for those samples transshipped to the PSIC, in case of loss or damage during transit. These backup unsorted plankton samples containing zooplankton and phytoplankton are stored at the SEAMAP Invertebrate Plankton Archiving Center (SIPAC), managed in conjunction with GCRL, for use by researchers.

## ENVIRONMENTAL SURVEYS

Standardized methodology was used although the actual parameters measured varied among vessels participating in each survey. The following parameters were recorded:

Vessel: Vessel code for each vessel.

Station: Station identifiers varied by state and vessel.

Cruise: Cruise numbers varied by state and vessels.

Date: Month/Day/Year.

Time: Local time and time zone, recorded at the start of sampling.

Latitude/longitude: Recorded to seconds.

Barometric pressure: Recorded in millibars.

Wave height: Estimated visually in meters.

Wind speed and direction: Recorded in knots with direction recorded in compass degrees from which the wind was blowing.

Air temperature: Recorded in Centigrade.

Cloud type: Types of clouds recorded in daylight stations.

Cloud cover: Estimated visually in percent cloud cover.

Secchi depth: Secchi depth in meters, estimated at each daylight station. Standard oceanographic 30-cm white discs were lowered until no longer visible, then raised until visible. If different depths were recorded, an average was used.

Water Color: Forel-Ule data was recorded.

The following parameters were measured at the surface, mid-depth and bottom; for bottom depths greater than 200 m, samples were taken at surface, 100 m and 200 m:

Water temperature: Temperatures were measured by a hand-held thermometer onboard ship, in situ electronic sensors, or in situ reversing thermometers. No attempt was made to intercalibrate the various instruments used on individual vessels although several vessels did sample together to calibrate other sampling gear. Some error can be expected.

Salinity: Salinity samples were collected by Niskin bottles and stored for laboratory analysis with a salinometer. Conductivity probes or refractometers were used on some vessels.

Chlorophyll: Chlorophyll samples were collected and frozen for later laboratory analysis. The general procedure for shipboard collection of chlorophyll was to collect more than 9 liters of water from the surface. This was kept stirred by bubbling air through it while filtration was being done. Three samples, to each of which a 1 ml, 1% (W/V), suspension of  $MgCO_3$  was added, of up to 3 liters of water from the 9 liter sample were filtered through GF/C filters. The three filters were placed individually in Petri dishes, wrapped in opaque material and frozen until analysis. Each of the three samples was analyzed separately in the laboratory. Values in the tables that follow, are the mean of the three samples.

Laboratory analyses for chlorophyll a and phaeophytin a (chlorophyll degradation product) were conducted by fluorometry and spectrophotometry. The general extraction procedures prior to measurement were similar. Samples analyzed by spectrophotometer included other chlorophyllous products but have not been included as data in this report. The methodology used is described in Strickland and Parsons (1972) and Jeffrey and Humphrey (1975). Some of the values have been deleted from the data base because of analytical errors.

Dissolved oxygen: Dissolved oxygen values were measured by electronic probes (depending on the vessel) or by the Winkler titration method. No attempts were made to intercalibrate the methods. When oxygen was measured in samples collected from a Niskin sampler, the oxygen bottles were allowed to overflow a minimum of 10 seconds to eliminate oxygen contamination. The tubing which delivered the water sample was inserted to the bottom of the bottle and withdrawn while the sample was still flowing. The oxygen bottles were sealed with a ground-glass stopper and analyzed onboard the vessels.

Turbidity: Turbidity values were measured by electronic probes (depending on the vessel).

## Satellite Images

Thermal data were collected by the Advanced Very High Resolution Radiometers (AVHRR) carried on the NOAA Polar Orbiter series of satellites. The data were provided by the National Hurricane Center.

## TRAWL SURVEYS

### Spring Louisiana Trawl Survey

The Louisiana Department of Wildlife and Fisheries conducted a seasonal day/night trawl survey and concurrently took environmental samples at each trawl station and plankton samples opportunistically. The trawl survey was conducted as part of an effort to provide comparative information on critical life states of major Gulf species, especially shrimp, and associated environmental parameters in Louisiana and adjacent EEZ waters. The LDWF sampled day and night stations with a 40-ft shrimp trawl to depths of 20 fm. A stratified random station selection design was maintained. All organisms captured were identified, counted, measured and weighed.

### Summer Shrimp/Groundfish Survey

The sampling strategy and a description of the statistical rationale for the sampling design as described by Nichols in the 1982 SEAMAP Atlas (Stuntz et al. 1985) has been modified. Since 1987, the strategy has been that day/night sampling sites were chosen randomly in areas stratified by depth and statistical area. These areas are shrimp statistical zones 10, 11 and 13 through 22 (Figure 2). Trawl stations for NMFS, Alabama, Mississippi and Louisiana vessels are made with a standard SEAMAP 40-ft net, and 20-ft net for Texas vessels. Depth strata consisted of 1 fm intervals from 5 to 20 fm, a 2 fm interval from 20 to 22 fm, a 3 fm interval from 22 to 25 fm, 5 fm intervals from 25 to 50 fm and a 10 fm interval from 50 to 60 fms. Additionally, the GCRL vessel TOMMY MUNRO sampled 1 fm intervals from 2 to 5 fm off Louisiana in July. Trawls were towed perpendicularly to the depth contours and covered the entire depth stratum on each station. Single tows were for a maximum of 60 minutes; for certain stations, a series of consecutive trawl tows was necessary to cover a given depth stratum, with a minimum individual tow across each stratum of 10 minutes and a maximum tow of 60 minutes. The Texas vessels towed 10 minutes parallel to the depth stratum. The Louisiana vessels did not cover a complete depth stratum on several stations because of the distance between depth stratum.

All Penaeus spp. shrimp were separated from the trawl catch at each station. Total count and weight by species were recorded for each station. A sample of up to 200 shrimp of each species from every trawl was sexed and measured to obtain length-frequency information. Estimated total numbers were derived from the total weights of those processed. Other species of fishes and invertebrates were identified, enumerated and weighed. Weights and individual measurements on selected species other than commercial shrimp were also recorded.



## **Fall Shrimp/Groundfish Survey**

The design of the fall survey was similar to the Summer Shrimp/Groundfish Survey. During the Fall survey trawl stations were made with the standard 40-ft and 20-ft SEAMAP net and covered NMFS shrimp statistical zones 11 and 13 through 22 (Figure 2). Catch rates on all the vessels sampling were treated in the same manner as the Summer Shrimp/Groundfish Survey with the exception to shrimp catches where only 20 shrimp of each species from every trawl were measured.

## **REEF FISH SURVEYS**

### **Spring Reef Fish Survey**

The primary purpose of this survey is to assess relative abundance and compute population estimates of reef fishes found on natural reef fish habitat in the Gulf of Mexico. The primary gear used to observe fishes and to record reef habitat is a Hi-8 video camera in an underwater housing mounted outside a single funnel, baited fish trap. The resultant video recordings (typically of one hour duration) are processed back at the laboratory where fishes are identified and counted independently by two tape readers. Final counts are entered into the SEAMAP reef fish database along with additional observations on habitat, and fish activity.

The hardbottom database from which sampling sites for this survey are chosen was developed in the following manner. Areas of natural reef habitat from Brownsville, Texas to the southern tip of Florida (at 81°00' W longitude and 24°02' N latitude) and between 9 and 110 m water depth were first inscribed on navigation charts, then divided into 10 by 10 nautical mile blocks (primary sample units). Each block was subdivided into 100-m<sup>2</sup>, secondary sample units that were numbered and initially classified as being "reef" or "nonreef", then entered into a database. Prior to the survey, blocks are selected from this database in the east and west Gulf with probability proportional to the number of "reef" sample units within a block. Within each selected block, 100 sample sites are randomly selected. During the survey each selected block is occupied for one 24-h period, where night hours are devoted to ship's echo sounder surveys of up to 100 sites and daytime hours to trap/video sampling. Each potential sample site surveyed at night is given a final determination as being either a reef site or not based on echo patterns, vertical relief and other characteristics. Up to 8 actual "reef" sites are then randomly selected for sampling during that day. Trap/video sampling began one hour after sunup and ends one hour before sunset. Trap soak time is one hour.

Associated environmental data collected at each site usually includes profiles of salinity, temperature, and surface chlorophyll; and may also include profiles of dissolved oxygen, light transmittance, and fluorescence. Additional environmental and meteorological observations taken on stations follow standard SEAMAP methodology. During the NMFS component of the reef fish survey fish abundance is also measured with a fisheries acoustic device and plankton collections are taken either prior to or at the end of trap/video sampling each day.

## **RESULTS**

### **PLANKTON SURVEYS**

Thirteen thousand and ninety-two (13,092) identified ichthyoplankton lots were received at the SAC in 1992. All of these samples have been accessioned into the SAC computer systems; both in dbase and SEAMAP Data Management System.

Plankton stations for the Spring Plankton Survey in conjunction with environmental stations are shown in Figure 3, the Summer Shrimp/Groundfish Survey stations are shown in Figure 4, the Fall Plankton Survey Stations in conjunction with environmental stations are shown in Figure 5, and the Fall Shrimp/Groundfish survey stations are shown in Figure 6.

## ENVIRONMENTAL SURVEYS

Environmental data was collected in conjunction with each plankton station for the Spring (Figure 3) and Fall (Figure 5) plankton surveys. Environmental data stations for the Summer Shrimp/Groundfish Survey are shown in Figure 7 and the Fall Shrimp/Groundfish Survey in Figure 8. Environmental sampling locations are summarized in Figures 7 and 8 by 10-minute squares. A complete listing of environmental stations and dates of sampling by vessel for all SEAMAP surveys is shown in Table 2. In Table 2 under statistical zone, the 99 codes are stations located outside the shrimp statistical zones. Additional environmental information (Secchi readings, Forel-Ule, cloud cover, etc.) may be obtained from the SEAMAP Information System by contacting the SEAMAP Data Manager.

Satellite-derived sea-surface temperatures are shown for the months of March (Figure 9), April (Figure 10), May (Figure 11), June (Figure 12), July (Figure 13), August (Figure 14), September (Figure 15), October (Figure 16), November (Figure 17) and December (Figure 18).

## TRAWL SURVEYS

### Spring Louisiana Trawl Survey

Louisiana Department of Wildlife and Fisheries conducted their seasonal day/night trawl survey in March 1992. Trawl station data can be found in Table 2 and the plankton/environmental stations are plotted in Figure 3. A species composition listing from the trawls is presented in Table 3, ranked in order of abundance within the categories of finfish, crustaceans and other invertebrates.

Tables 4a-6a present the biological data, from 40-ft nets, of the eight most abundant fish, six most abundant invertebrates and squids within NMFS statistical zones 13-15 by depth stratum. Tables 4b-6b list the total catch and environmental data from the 40-ft nets within NMFS statistical zones 13-15 depth stratum.

For all tables, the standard error of the mean (SEM) was calculated with the equation:

$$SEM = \frac{\alpha}{\sqrt{n}} \quad \text{where } \alpha = \text{population standard deviation} \\ n = \text{number of samples}$$

On all tables, NUM = number per hour; all weights shown are in kilograms per hour.

For all "b" tables, discrepancies between catch and environmental data may appear in the number of samples (n). These discrepancies may be due to different sampling depths for trawl and environmental stations, unsuccessful trawl stations and/or stations where only plankton data was collected.

### Summer Shrimp/Groundfish Survey

Shrimp and groundfish sampling was conducted during June and July from off Gulf Shores, Alabama to Brownsville, Texas and summarized by 10-minute squares in Figure 20. The Summer Shrimp/Groundfish Survey consisted primarily of biological trawl data and concomitant environmental and plankton data. A species composition listing from the 40-ft trawls is presented in Table 7, ranked in order of abundance, within the categories of finfish, crustaceans and other invertebrates. Species composition listing from 20-ft trawls is presented in Table 8.

Biological distributions of the ten most abundant finfish plus red snapper, three main penaeid shrimps, five most abundant non-Penaeus invertebrates and squid species, taken from Table 7 and 8 are displayed in plots of number/hour and lb/hour in Figures 22-61. Data for the biological plots were computed from the 40-ft and 20-ft trawl data, standardized to 40-ft trawls using relative headrope length. In the plots of lb/hour, a zero value indicates less than 0.5 lb/hr taken; only

stations where some of the species were taken are shown. During this time frame, the state of Florida did not participate in any SEAMAP survey activities.

Tables 9a-19a present the biological data, from the 40-ft nets, of the eight most abundant fish, six most abundant invertebrates and squid within NMFS statistical zones 10, 11 and 13 through 21, by depth stratum. Tables 9b-19b list the total catch and environmental data from the 40-ft nets within NMFS statistical zone listed above, by depth stratum.

Tables 20a-25a present the biological data from the 20-ft nets of the eight most abundant fish, six most abundant invertebrates and squid within NMFS statistical zones 17 through 22, by depth stratum. Tables 20b-25b present the total catch and environmental data from the 20-ft nets within the NMFS statistical zones listed above, by depth stratum.

Catch rates for the survey were computed with the same equations used to compute the Spring Louisiana Trawl Survey catch rates. And, as in the Spring Louisiana Trawl Survey, discrepancies in the "b" tables may have occurred.

## **Fall Shrimp/Groundfish Survey**

Shrimp and groundfish sampling was conducted during October through December from off Mobile Bay, Alabama to Brownsville, Texas and summarized by 10-minute squares in Figure 21. The Fall Shrimp/Groundfish Survey consisted of biological trawl data and concomitant environmental and plankton data. A species composition listing from the 40-ft trawls is presented in Table 26 and 20-ft trawls in Table 27. The species list for Tables 26 and 27 are ranked in order of abundance within the categories of finfish, crustaceans and other invertebrates.

Biological distributions of the ten most abundant finfish plus red snapper, three main penaeid shrimps, five most abundant non-Penaeus invertebrates and squid species, taken from Tables 26 and 27 are displayed in plots of number/hour and lb/hour in Figures 62 to 101. Data for the biological plots were computed from the 40-ft and 20-ft trawl data, standardized to 40-ft trawls using relative headrope length. In the plots of lb/hour, a zero value indicates less than 0.5 lb/hr taken; only stations where some of the species were taken are shown. During this time frame, the state of Florida did not participate in any SEAMAP survey activities.

Tables 28a-37a present the biological data, from the 40-ft nets, of the eight most abundant fish, six most abundant invertebrates and squid species within NMFS statistical zones 11 and 13 through 21, by depth stratum. Tables 28b-37b list the total catch and environmental data from the 40-ft nets within the NMFS statistical zone listed above, by depth stratum.

Tables 38a-43a present the biological data from the 20-ft nets of the eight most abundant finfish, six most abundant invertebrates and squid within each NMFS shrimp statistical zones 17 through 22, by depth stratum. Tables 38b-43b present the total catch and environmental data from the 20-ft nets within the NMFS statistical zones listed above, by depth stratum.

The catch data were calculated using the same equation that was used to compute catch rates for the Spring Louisiana Trawl Survey. And, as in the Spring Louisiana Trawl Survey, discrepancies in the "b" tables may have occurred.

## **REAL-TIME DATA MANAGEMENT**

The SEAMAP Subcommittee agreed it was imperative to the success of the SEAMAP Program to distribute data on a near real-time basis to the fishing industry and others interested in SEAMAP. To distribute near real-time data, NMFS utilized a cellular phone aboard the NOAA Ship OREGON II. This enabled personnel aboard the vessel to transmit daily catch rates and environmental data to the NMFS computer system located at the NMFS Mississippi Laboratories in Pascagoula.

Summarized data were distributed weekly to approximately 275 individuals during the Summer Shrimp/Groundfish Survey. The summarized data in the form of computer plots and data listings was sent to management agencies and industry members. These plots showed station locations, catches of brown, pink and white shrimp in lb/hr and count/lb and total finfish catch in lb/hr.

## REEF FISH SURVEYS

### Spring Reef Fish Survey

Primary data collection and sampling for reef fish assessment was conducted during May to July from the Texas Flower Garden Banks to the Florida Keys by NMFS personnel and during May in the area between the Mississippi River and Mobile Bay by state of Mississippi personnel. Station data for these observations can be found in Table 2 and station locations are plotted in Figure 19. Additionally, personnel of the state of Alabama made video recordings over both manmade and natural reef habitat in their state waters. (Please note that the Alabama reef fish effort is not shown in Table 2). Video tapes from all three sources were analyzed using standardized protocols.

## DISCUSSION

The quasisynoptic SEAMAP sampling program and the intended long-term nature of the sampling programs have been designed to provide the baseline data set needed for fishery management and conservation. In 1985, the SEAMAP long-term baseline data was disrupted by the loss of the Spring Gulf-wide plankton and Fall Mackerel Survey. In 1986, the SEAMAP Subcommittee renewed its commitment for the collection of baseline plankton data. These ichthyoplankton samples are and will be used by researchers studying taxonomy, age and growth, bioenergetics and other life history aspects, as well as spawning biomass and recruitment. Information on species' relative distributions within the Gulf of Mexico can be analyzed with respect to environmental data to assess population abundance as a function of environmental change. In the same way, satellite data can be related to species distribution and changing conditions in the Gulf of Mexico.

Similar analyses and investigations are being undertaken with Summer and Fall Shrimp/Groundfish Survey data. These data sets will be utilized in resource management decisions, and because of the program's ability to process data quickly, the capability exists to optimize some fisheries on a real-time basis. The long-term data set on all of the species collected, not just those of commercial and recreational importance, offers an opportunity to examine ecological relationships, with the eventual goal of developing management models that take into account the multi-species nature of most Gulf fisheries. The value of the SEAMAP program lies in its use for both immediate and long-range management. In addition, there are many studies and other uses for SEAMAP data that are not mentioned here.

Much use has already been made of SEAMAP data. For example, during the past SEAMAP surveys an area of very low dissolved bottom oxygen was found off Louisiana in the summers of 1982, 1985-1992. The presence of this phenomenon and some of the related conditions and biological effects were reported by Leming and Stuntz (1984), and during such occurrences, SEAMAP has distributed special environmental bulletins and news releases to management agencies and the shrimp industry. In addition, SEAMAP data were used by some coastal states to determine the status of shrimp stocks and their movements just as the shrimping seasons were to be opened.

Richards et al. 1984, Kelley et al. 1985 and Kelley et al. 1993 used SEAMAP ichthyoplankton data to identify larval abundance and distribution of key Gulf of Mexico species. SEAMAP ichthyoplankton data were also used to estimate spawning stock sizes of bluefin tuna in the Gulf of Mexico (McGowan and Richards 1986; Scott et al. 1990; Scott and Turner 1991). The results of this work were recognized by the International Commission for the Conservation of Atlantic Tunas as a reliable index of stock size. Continuation of the ichthyoplankton surveys each spring by SEAMAP will provide information on Gulf of Mexico tuna stocks.

The SEAMAP data collected during the Summer Shrimp/Groundfish Survey continues to be used extensively for fishery management purposes. In 1981, the Gulf of Mexico Fishery Management Council's plan for shrimp was implemented (Center for Wetland Resources 1980), with one management measure calling for the temporary closure to shrimping of the EEZ off Texas. This closure complements the traditional closure of the Texas territorial sea, normally May 15 through early July of each year. The GMFMC determined that this type of closure would still allow small brown shrimp to be protected from harvest but would allow the taking of larger brown shrimp by fishermen in deeper waters.

National Marine Fisheries Service was charged with evaluating the effects of the Texas Closure and submitted a report (Nance 1993) to the GMFMC in January 1993. This report contained the results and an overview of the effect of the 1992 Texas Closure. After review of these data and other information, the GMFMC voted to continue the Texas Closure in 1993.

## DATA REQUESTS

It is the policy of the SEAMAP Subcommittee that all verified non-confidential SEAMAP data, collected specimens and samples shall be available to all SEAMAP participants, other fishery researchers and management organizations approved by the Subcommittee. This atlas presents, to those individuals interested in the data or specimens, a chance to review the data in a summary form.

Data and specimen requests from SEAMAP participants, cooperators and others will normally be handled on a first-come, first-served and time-available basis. Because of personnel and funding limitations, however, certain priorities must be assigned to the data and specimen requests. These priorities are reviewed by the SEAMAP Subcommittee. For further information on SEAMAP data management, see the SEAMAP Management Plan: 1990-1995 (Atlantic States Marine Fisheries Commission 1990).

Data requests and inquiries, as well as requests for plankton samples, can be made by contacting the SEAMAP Coordinator, Gulf States Marine Fisheries Commission, P.O. Box 726, Ocean Springs, MS 39564; 601/875-5912.

Table 1. List of SEAMAP survey activities from 1982 to 1991.

### SEAMAP SURVEY ACTIVITIES

YEAR	SPRING PLANKTON	SUMMER SHRIMP/GROUNDFISH	BUTTERFISH	FALL PLANKTON	FALL SHRIMP/GROUNDFISH	WINTER PLANKTON
1982	APRIL-MAY	JUNE-JULY	--	--	--	--
1983	APRIL-MAY	JUNE-JULY	--	--	--	DECEMBER
1984	APRIL-MAY	JUNE-JULY	--	AUGUST	--	DECEMBER
1985	--	JUNE-JULY	JULY-AUGUST	SEPTEMBER	SEPTEMBER-DECEMBER	--
1986	APRIL-MAY	JUNE-JULY	MAY-JUNE	SEPTEMBER	OCTOBER-DECEMBER	--
1987	APRIL-MAY	JUNE-JULY	--	SEPTEMBER	SEPTEMBER-DECEMBER	--
1988	MARCH-MAY	JUNE-JULY	--	SEPTEMBER-OCTOBER	OCTOBER-DECEMBER	--
1989	APRIL-MAY	JUNE-JULY	--	SEPTEMBER-OCTOBER	OCTOBER-DECEMBER	--
1990	APRIL-MAY	JUNE-JULY	--	SEPTEMBER-OCTOBER	OCTOBER-DECEMBER	--
1991	APRIL-MAY	JUNE-JULY	--	AUGUST-SEPTEMBER	SEPTEMBER-DECEMBER	--

Table 2. Selected environmental parameters measured during 1992 SEAMAP surveys in the Gulf of Mexico, by individual vessel and survey.

LUMCON PELICAN, SPRING LOUISIANA TRAWL SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN,PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
36846	3/ 9/92	1105	2900.0	9030.0	14	11	6	11	19.9	19.9	19.5	19.4	28.2	28.4	25.456	9.4	9.1	9.3	PN
36847	3/ 9/92	1445	2857.1	9007.1	14	22	12	22	19.9	19.8	20.1	27.3	33.0	35.7	42.633	11.9	6.6	3.6	ST
36848	3/ 9/92	1739	2902.2	8951.9	13	30	16	30	20.1	19.8	20.0	28.3	33.2	35.5	21.648	11.1	7.3	6.1	ST
36849	3/ 9/92	1855	2902.0	8952.0	13	29	15	29	20.8	19.7		28.3	32.9		20.198	8.6	7.8		ST
36850	3/ 9/92	2137	2857.4	9007.2	14	22	10	22	19.6	19.1	20.1	26.9	31.0	35.8	25.582	11.7	6.5	2.7	ST
36851	3/10/92	0053	2910.3	9000.7	14	12	6	12	19.5	19.5	19.3	25.8	25.8	31.8	30.842	10.4	10.4	4.5	ST
36852	3/10/92	0345	2909.2	8949.3	13	15	8	15	19.4	19.4	19.4	25.9	26.0	32.5	1.641	9.7	9.4	6.5	ST
36853	3/10/92	1526	2910.0	9000.8	14	13	6	13	19.7	19.7	19.6	27.7	28.4	33.9	33.017	9.0	9.4	4.0	ST
36854	3/10/92	1732	2909.4	8949.4	13	18	9	18	19.7	19.9	19.7	24.2	31.4	33.6	58.915	10.3	8.6	5.2	ST
36855	3/11/92	0343	2859.1	9054.5	14	9	5	9	19.1	19.1	19.2	25.8	25.8	25.8	12.884	5.9	5.8	6.0	ST
36856	3/11/92	0642	2859.2	9055.1	14	7	4	7	18.7	18.7	18.7	26.0	26.0	29.0	10.244	6.2	6.1	6.2	ST
36857	3/11/92	0820	2900.0	9100.0	15	6	4	6	18.8	18.8	18.8	25.4	25.4	25.4	13.128	6.3	6.4	6.3	PN
36858	3/11/92	1157	2900.0	9130.0	15	12	6	12	18.3	18.2	18.6	27.3	27.5	33.7	13.099	7.2	7.2	2.1	PN
36859	3/11/92	1430	2850.0	9121.5	15	16	7	16	18.3	18.4	18.8	27.6	27.9	33.9	19.503	7.5	6.9	3.2	ST
36860	3/11/92	1642	2846.0	9113.0	15	14	7	14	18.7	18.9	18.9	28.7	29.6	31.5	14.202	7.4	7.4	6.2	ST
36861	3/11/92	1837	2849.9	9121.7	15	16	7	16	18.4	18.5	18.9	27.9	28.0	33.0	11.335	7.2	7.5	6.4	ST
36862	3/11/92	2045	2845.8	9113.0	15	14	7	14	18.3	18.9	18.9	28.3	29.7	31.0	11.335	7.4	7.1	5.7	ST
36863	3/11/92	2228	2839.3	9117.8	15	25	13	25	18.2	18.4	19.4	29.9	30.0	35.2	7.660	7.7	7.2	2.9	ST
36864	3/11/92	2342	2836.5	9114.2	15	27	15	27	18.3	18.6	19.5	30.2	31.4	35.6	7.279	7.1	5.4	3.1	ST
36865	3/12/92	0049	2832.6	9113.6	15	34	17	34	18.6	19.2	19.8	30.9	33.3	36.0	10.320	6.7	6.0	4.3	ST
36866	3/12/92	0259	2836.3	9103.6	15	22	11	22	18.5	19.0	19.4	31.1	31.9	35.3	11.212	6.9	6.4	2.1	ST
36867	3/12/92	0655	2839.1	9117.4	15	24	12	24	17.9	18.2	19.5	30.2	30.4	35.5	10.083	6.9	7.0	3.2	ST
36868	3/12/92	0819	2836.7	9114.2	15	27	13	27	18.4	18.8	19.6	30.4	31.7	35.8	12.739	6.7	5.9	3.7	ST
36869	3/12/92	0927	2832.2	9113.8	15	35	17	35	18.3	19.0	19.8	31.9	32.9	36.0	11.493	7.2	7.1	4.2	ST
36870	3/12/92	1139	2836.4	9103.7	15	23	12	23	18.3	18.7	19.4	31.1	31.8	35.4	13.718	8.4	7.2	2.0	ST
36871	3/12/92	1303	2830.0	9100.0	15	35	17	35	18.7	19.4	19.7	32.4	33.8	35.9	10.228	7.2	6.3	3.1	PN
36872	3/12/92	1634	2830.0	9030.0	14	40	21	40	19.1	19.4	19.9	34.2	34.4	36.1	6.450	12.9	8.0	5.3	PN
36873	3/12/92	1840	2837.5	9019.0	14	36	18	36	19.0	19.6	19.8	34.5	35.1	36.1	6.393	7.1	6.9	4.2	ST
36874	3/13/92	0632	2837.5	9019.1	14	35	17	35	19.0	19.5	19.8	34.2	35.1	36.1	8.471	8.2	5.9	4.0	ST
36875	3/13/92	1043	2900.0	9000.0	14	26	12	26	18.0	19.1	20.8	28.1	30.4	35.8	79.240	9.6	8.0	4.3	PN



Table 2. Selected environmental parameters (continued)

OREGON II, SPRING PLANKTON SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
53731	4/22/92	0335	3000.0	8700.3	10	71	30	68	21.0	20.4	19.4	35.1	35.8	35.8	0.252	7.7			PN
53733	4/22/92	0830	2930.0	8629.9	9	207	100	200	22.0	19.3	14.7	35.7	36.5	35.9		7.1			PN
53735	4/22/92	1302	2900.5	8600.3	99	247	100	200	23.0	19.4	15.4	36.3	36.5	36.0	0.037	6.9		4.5	PN
53737	4/22/92	1849	2830.0	8529.9	8	198	100	192	21.8	19.4	15.0	35.7	36.4	36.0		6.3	6.1	4.3	PN
53739	4/22/92	2336	2800.0	8459.8	6	251	125	245	23.0	18.9	12.3	36.1	36.4	35.5		6.8	5.7	4.6	PN
53740	4/23/92	0410	2729.9	8500.0	99	400	100	195	22.3	18.9	14.8	35.7	36.4	36.0		6.8			PN
53742	4/23/92	0752	2659.8	8459.9	99	840	100	200	25.4	18.9	15.7	36.0	36.2	36.1	0.168	6.6		4.8	PN
53744	4/23/92	1207	2629.8	8459.8	99	3600	100	200	25.7	19.7	16.6	36.2	36.2	36.2	0.053	6.5			PN
53746	4/23/92	1518	2559.7	8500.0	99	3400	101	200	25.8	20.2	15.9	36.2	36.4	36.1		6.5	6.3	4.4	PN
53748	4/23/92	1942	2600.0	8429.9	99	219	100	200	24.8	19.6	13.8	36.2	36.4	35.8	0.056	6.8	5.6	4.3	PN
53750	4/23/92	2318	2600.0	8400.0	4	135	69	131	23.9	20.9	18.1	36.2	36.1	36.4	0.080	6.7	6.8	5.1	PN
53752	4/24/92	0305	2530.0	8359.9	3	138	68	133	24.2	20.5	17.8	36.2	36.3	36.4	0.056	6.6			PN
53754	4/24/92	0613	2500.0	8400.1	3	126	63	122	24.9	21.4	17.8	36.2	36.3	36.3	0.037	6.5	6.9	4.5	PN
53756	4/24/92	1014	2430.1	8400.1	99	1800	100	200	25.4	18.5	14.3	35.9	36.5	35.9		6.4			PN
53758	4/24/92	1346	2430.1	8430.1	99	3600	100	199	26.2	19.6	15.8	36.2	36.2	36.1	0.064	6.9	5.0	4.2	PN
53760	4/24/92	1833	2429.7	8459.9	99	3400	100	200	26.8	23.1	18.0	36.1	36.3	36.4	0.080	6.4			PN
53762	4/24/92	2215	2459.8	8459.8	99	3349	100	200	24.7	20.2	13.4	36.1	36.6	35.7	0.080	6.7	4.9	5.3	PN
53764	4/25/92	0248	2459.6	8530.1	99	3700	100	200	27.2	25.8	19.3	35.9	36.4	36.5	0.104	6.5			PN
53766	4/25/92	0608	2500.0	8600.1	99	3300	100	200	26.8	25.8	22.8	35.7	36.2	36.9	0.037		6.3	5.1	PN
53768	4/25/92	1107	2530.0	8600.0	99	3300	100	200	27.2	26.1	23.4	36.1	36.2	36.8	0.055	6.3	6.4	5.3	PN
53770	4/25/92	1429	2530.0	8628.1	99	3560	100	200	26.8	25.7	24.9	36.0	36.2	36.6	0.062	6.4			PN
53772	4/25/92	1852	2559.8	8600.0	99	3200	100	200	27.3	26.2	23.0	35.9	36.3	36.8	0.066	6.4	6.3	5.9	PN
53774	4/25/92	2312	2629.9	8559.7	99	3200	100	200	27.3	25.8	20.8	36.0	36.2	36.8	0.044	6.5			PN
53776	4/26/92	0252	2700.0	8600.0	99	3200	101	199	27.0	24.1	17.9	36.2	36.7	36.4	0.077	6.5			PN
53778	4/26/92	0831	2729.6	8600.0	99	3300	100	200	24.3	18.6	14.0	35.0	36.4	35.8	0.087	6.8	5.3	4.7	PN
53780	4/26/92	1211	2800.2	8600.1	99	1100	102	202	23.4	19.2	14.9	35.7	36.5	36.0	0.063	7.0	4.5	4.4	PN
53781	4/26/92	1626	2830.0	8600.0	99	337	100	200	22.8	20.3	16.1	36.3	36.4	36.1	0.045	7.0			PN
53782	4/26/92	2041	2900.0	8629.9	99	375	100	200	22.2	19.9	15.2	35.9	36.4	36.0	0.072	7.1			PN
53783	4/27/92	0200	2900.0	8700.0	99	683	100	200	21.6	18.4	14.7	35.3	36.4	35.9	0.092	6.6	4.3	4.1	PN
53784	4/27/92	0602	2830.0	8659.8	99	830	100	200	22.8	20.1	15.8	36.0	36.5	36.1	0.058	6.9			PN
53785	4/27/92	0919	2800.2	8700.0	99	2900	100	200	22.2	19.6	15.7	35.7	36.3	36.1	0.057	7.1	5.1	4.8	PN
53786	4/27/92	1340	2729.9	8700.0	99	3500	100	200	23.9	17.2	13.7	36.3	36.3	35.8	0.066	6.8			PN
53787	4/27/92	1751	2700.1	8700.1	99	3000	100	200	26.8	22.0	16.4	35.7	38.3	38.8	0.045	6.5	5.0	4.4	PN

Table 2. Selected environmental parameters (continued)

## OREGON II, SPRING PLANKTON SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN, PPM				GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX		
53788	4/27/92	2230	2630.3	8659.7	99	2600	101	200	26.8	26.1	21.1	36.1	36.3	36.8		6.7			PN	
53789	4/28/92	0025	2616.3	8659.8	99	3400	102	200	26.7	25.8	22.8	35.7	36.1	36.9		6.6	5.5	6.0	PN	
53790	4/28/92	0515	2600.4	8730.2	99	3100	101		26.8	26.1		36.1	36.3		6.5			PN		
53791	4/28/92	0835	2600.4	8759.9	99	3000	100	200	26.1	13.3	21.0	35.8	36.5	35.7	0.062	6.5	5.8	7.0	PN	
53792	4/28/92	1201	2630.1	8800.0	99	2700	100	200	25.9	17.9	15.0	36.2	36.3	36.0	0.075	6.6			PN	
53793	4/28/92	1506	2700.1	8759.8	99	3000	101	200	23.7	17.4	13.5	36.4	36.3	35.7	0.041	7.0	4.7	4.4	PN	
53794	4/28/92	1949	2659.9	8830.0	99	2600	100	200	24.1	17.1	11.4	35.8	36.3	35.4		7.2			PN	
53795	4/28/92	2235	2700.1	8859.9	99	2400	100	200	24.0	17.8	14.2	36.3	36.4	35.8		6.9	5.4	4.9	PN	
53796	4/29/92	0243	2629.8	8859.9	99	3200	100	200	23.9	17.2	13.5	36.2	36.3	35.7		6.7			PN	
53797	4/29/92	0545	2600.0	8900.0	99	3100	99	200	23.4	18.2	13.7	35.8	36.4	35.8		6.8	4.8	4.2	PN	
53798	4/29/92	0939	2559.3	8929.9	99	2900	100	200	22.8	18.6	14.2	35.7	36.5	35.8	0.027	7.1	5.0	4.9	PN	
53799	4/29/92	1245	2600.0	9000.0	99	3200	100	200	23.0	19.0	13.9	36.0	36.5	35.8		6.7	4.3	4.0	PN	
53800	4/29/92	1709	2630.0	9000.0	99	3000	100	200	23.7	17.6	13.7	35.9	36.4	35.8		6.8			PN	
53801	4/29/92	2041	2659.9	9000.1	99	2400	100	200	23.7	17.8	14.1	35.7	36.4	35.8		7.4	5.2	5.0	PN	
53802	4/30/92	0011	2659.9	9030.0	99	1700	100	200	23.1	19.0	14.8	36.3	36.5	35.9		6.8			PN	
53803	4/30/92	0307	2701.2	9100.1	99	1900	100	200	23.5	19.1	14.9	35.4	36.2	35.9		6.8	5.3	4.1	PN	
53804	4/30/92	0717	2629.9	9059.9	99	2100	101	201	23.4	19.6	15.0	35.3	36.3	36.0		6.9			PN	

Table 2. Selected environmental parameters (continued)

OREGON II, SPRING PLANKTON SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
53805	4/30/92	1035	2559.9	9059.7	99	3100	100	200	23.0	19.8	15.2	35.5	36.3	36.0		7.2	5.0	4.8	PN
53806	4/30/92	1437	2600.0	9130.1	99	2500	100	200	24.0	21.0	16.1	35.8	36.4	36.2	0.080	6.7			PN
53807	4/30/92	1749	2600.0	9200.0	99	2200	100	200	24.3	20.6	16.7	35.6	36.3	36.2	0.047	6.7	5.3	4.3	PN
53808	4/30/92	2241	2630.0	9200.0	99	1800	100	200	24.4	20.0	15.1	35.7	36.3	36.0		6.9			PN
53809	5/ 1/92	0240	2700.9	9200.1	99	1800	100	200	22.8	19.8	12.8	35.3	36.2	35.6		6.8	6.1	4.1	PN
53810	5/ 1/92	0619	2700.0	9230.1	99	1600	102	202	22.7	18.5	14.0	35.4	36.4	35.8	0.056	7.2			PN
53811	5/ 1/92	0955	2700.0	9300.0	99	1300	101	200	22.9	18.4	14.4	35.6	36.4	35.9		6.6	4.2	4.4	PN
53812	5/ 1/92	1429	2629.9	9259.9	99	2000	100	200	23.1	18.0	14.0	35.2	36.4	35.8		6.8			PN
53813	5/ 1/92	1758	2600.0	9300.0	99	2700	99	201	24.4	20.7	15.7	35.7	36.3	36.1		6.5	5.0	4.1	PN
53814	5/ 1/92	2143	2559.9	9330.0	99	3200	101	201	23.4	20.1	15.5	34.8	36.2	36.0		7.2			PN
53815	5/ 2/92	0038	2600.0	9400.0	99	3500	100	200	23.9	22.5	17.3	36.1	36.4	36.2		6.8	6.1	4.3	PN
53816	5/ 2/92	0503	2630.0	9359.8	99	1550	101	201	23.9	22.4	17.1	36.2	36.4	36.2	0.027	6.7			PN
53817	5/ 2/92	0827	2659.8	9400.0	99	1000	100	201	24.8	20.9	16.5	35.7	36.3	36.2		6.6	4.8	4.5	PN
53818	5/ 2/92	1334	2730.1	9330.0	99	545			22.6			34.6				6.7			PN
53819	5/ 2/92	1839	2800.4	9300.0	17	100	50	99				35.3	36.1	36.0		6.8	5.4	7.0	PN
53820	5/ 2/92	2143	2800.0	9230.0	16	107	54	104	23.0	20.7	19.3	35.6	36.2	36.3		6.8			PN
53821	5/ 3/92	0028	2800.0	9159.8	15	119	60	112	23.0	20.7	19.0	35.8	36.2	36.3		7.0	7.0	5.0	PN
53822	5/ 3/92	0346	2800.1	9129.9	15	160	80	160	22.8	20.1	16.5	35.7	36.2	36.2		6.9			PN
53823	5/ 3/92	0626	2800.2	9059.9	14	150	75	147	22.8			35.1	35.8	36.1		6.7	7.0	4.1	PN
53824	5/ 3/92	1022	2758.3	9029.9	99	435	101	195	23.4	18.7	14.1	36.3	36.5	35.8		6.4	5.2	5.2	PN
53825	5/ 3/92	1443	2800.0	9000.1	14	596	100	200	24.0	19.2	14.4	36.2	36.6	35.9		6.7	4.5	4.3	PN
53826	5/ 3/92	1931	2800.0	8929.9	99	1000	100	200	24.4	20.1	15.9	36.2	36.4	36.1		6.7			PN
53827	5/ 9/92	0306	3000.1	8700.0	9	74	38	71	21.0	20.4	15.9	33.4	35.9	36.1		7.2	6.9	4.7	PN
53828	5/ 9/92	0705	2930.3	8630.3	99	209	101	196	21.9	19.5	13.3	35.8	36.4	35.7	0.056	7.7			PN
53829	5/ 9/92	1450	2830.0	8600.0	99	241	103	199	23.0	20.2	15.7	36.3	36.4	36.1	0.037		5.9	4.8	PN
53830	5/ 9/92	1915	2759.8	8600.1	99	1000	101	200	23.4	18.8	14.3	36.2	36.5	35.9		7.4	5.0	4.6	PN
53831	5/ 9/92	2316	2730.0	8600.1	99	3100	101	202	24.4	17.3	13.2	36.3	36.3	35.7		7.1			PN
53832	5/10/92	0219	2700.0	8559.8	99	3200	101	201	26.3	25.6	18.0	35.6	36.4	36.4		6.8	6.2	5.3	PN
53833	5/10/92	0607	2629.8	8559.8	99	3100	101	201	26.3	26.0	23.2	36.1	36.2	36.8		6.8			PN
53834	5/10/92	0924	2559.9	8559.9	99	3200	100	200	26.1	25.6	24.6	35.9	36.2	36.7	0.027	5.9	6.7	5.9	PN
53835	5/10/92	1326	2530.1	8600.0	99	3200	100	200	26.2	25.9	24.7	36.2	36.2	36.6		6.5			PN
53836	5/10/92	1632	2500.0	8600.0	99	3300	100	200	26.4			36.2				6.5			PN
53837	5/10/92	2146	2530.1	8627.9	99	3100	100	200	26.2	25.8	24.6	36.1	36.2	36.6		7.2			PN

Table 2. Selected environmental parameters (continued)

## OREGON II, SPRING PLANKTON SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN,PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
53838	5/11/92	0314	2616.0	8659.9	99	3000	100	200	26.4	26.1	24.0	36.2	36.2	35.7		6.8	6.9	6.0	PN
53839	5/11/92	0536	2630.0	8659.8	99	3000	100	201	26.6	26.2	22.4	36.0	36.3	36.9	0.027	6.9			PN
53840	5/11/92	0859	2700.1	8659.2	99	2900	101	200	26.8	24.3	17.2	35.7	36.5	36.3		6.9	6.2	5.2	PN
53841	5/11/92	1327	2729.9	8700.1	99	3020	100	200	24.2	18.2	15.0	36.3	36.4	36.0		6.9			PN
53842	5/11/92	1724	2800.2	8700.7	99	2860	101	201	22.3	19.4	15.9	35.9	36.5	36.1		7.5	5.5	4.8	PN
53843	5/11/92	2144	2830.1	8659.6	99	854	101	203	23.0	19.9	15.7	36.1	36.4	36.1		7.3			PN
53844	5/12/92	0126	2900.0	8700.3	99	690	100	200	22.8	18.8	15.0	36.1	36.5	36.0		7.2	5.2	5.0	PN
53845	5/12/92	0938	2929.9	8759.8	99	47	24	46	22.4	22.9	21.3	31.5	36.0	36.2		8.6		6.8	PN
53846	5/12/92	1322	2900.0	8800.0	99	1402	100	201	23.9	19.4	14.3	35.4	36.5	35.9		6.5	5.9	4.1	PN
53847	5/12/92	1735	2830.0	8800.0	99	2300	101	200	23.0	20.5	16.8	36.2	36.3	36.3		7.2			PN
53848	5/12/92	2038	2759.9	8800.2	99	2400	100	200	23.3	20.6	16.8	36.4	36.3	36.3		6.7	6.0	4.8	PN
53849	5/13/92	0059	2730.1	8800.2	99	2655	100	200	24.6	17.4	14.2	36.3	36.4	35.9	0.027	6.4			PN
53850	5/13/92	0416	2700.1	8800.0	99	2730	100	200	24.3	17.4	13.6	36.5	36.3	35.8		6.4	4.6	4.5	PN
53851	5/13/92	0829	2631.0	8800.0	99	2960	101	203	25.2	16.4	13.1	36.4	36.2	35.7		6.3	5.2	4.9	PN
53852	5/13/92	1401	2600.2	8759.6	99	2900	100	200	27.3	21.4	16.6	36.2	36.2	36.2	0.037	6.5	4.4	4.1	PN
53853	5/13/92	2044	2600.3	8830.1	99	3290	101	201	24.5	19.2	14.7	36.2	36.6	35.9		6.2			PN
53854	5/14/92	0006	2559.9	8900.0	99	3100	101	201	25.5	18.9	14.5	36.2	36.4	35.9	0.032	6.9	4.5	4.4	PN

Table 2. Selected environmental parameters (continued)

## OREGON 11, SPRING PLANKTON SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
53855	5/14/92	0358	2630.1	8900.0	99	2900	101	206	24.8	17.3	13.1	36.4	36.4	35.7	0.040	6.5			PN
53856	5/14/92	0730	2700.0	8900.0	99	2300	100	200	25.1	17.3	12.6	36.0	36.0	36.0		6.3	4.7	4.4	PN
53857	5/14/92	1311	2730.0	8900.1	99	1800	103	201	23.9	19.4	15.2	36.2			0.268	6.6			PN
53858	5/14/92	1714	2800.5	8902.9	99	1300	100	200	24.4	20.4	17.5	36.3			0.032	6.5	5.2	4.6	PN
53859	5/14/92	2205	2830.4	8859.5	99	820	103	225	23.8	19.9	15.2	36.7	36.7	36.3	0.037	6.7	5.1	5.0	PN
53860	5/15/92	0252	2830.1	8929.8	13	425	92	188	23.3	20.1	14.9	36.2	36.3	36.1	0.027	6.3	4.7	4.0	PN
53861	5/15/92	0628	2830.0	9000.0	14	93	46	92	23.8	20.1	16.0	34.0	36.0	36.0		6.8	5.9	4.0	PN
53862	5/17/92	1056	2800.0	8959.8	99	640	100	200	20.3	19.4	15.1	37.3	37.4	37.0		6.5	4.6	4.4	PN
53863	5/17/92	1449	2730.1	9000.0	99	1200	111	222	24.4	19.6	15.1	37.3	37.5	37.0		6.2	4.7	4.2	PN
53864	5/17/92	1814	2659.9	8959.9	99	2500	107	220	25.5	18.9	14.7	36.3	37.5	36.9		6.3	4.4	4.2	PN
53865	5/17/92	2154	2629.6	8959.6	99	3000	100	200	25.1	18.1	14.2	37.3	37.4	36.8		6.1	4.5	4.1	PN
53866	5/18/92	0112	2600.1	9000.0	99	3100	114	229	25.5	17.9	13.4	36.4	37.4	36.7	0.027	6.3	4.3	4.1	PN
53867	5/18/92	0417	2559.9	9030.0	99	3300	102	207	24.9	19.2	13.3	37.4	37.5	36.7		6.4	4.2	3.8	PN
53868	5/18/92	0657	2559.9	9100.0	99	3100	106	200	24.7	19.3	14.9	36.7	37.4	37.0		6.4	4.5	4.0	PN
53869	5/18/92	1100	2629.9	9059.9	99	820	100	200	24.9	20.1	15.1	36.5	37.5	37.0		6.4	4.7	4.1	PN
53870	5/18/92	1446	2700.0	9100.2	99	1600	108	216	25.3	19.3	14.7	35.2	37.4	36.9		4.8	4.3	4.1	PN
53871	5/18/92	1818	2730.0	9059.9	99	1100	104	201	24.7	19.6	15.3	37.1	37.4	37.0	0.037	6.4	4.4	4.3	PN
53872	5/18/92	2125	2800.4	9059.6	14	142	70	139	24.8	20.5	15.9	36.6	37.3	37.1	0.084	6.5		4.2	PN
53873	5/19/92	0041	2800.0	9130.0	99	158	78	156	24.9	20.2	16.2	36.3	37.3	37.2	0.037	6.5	6.3	4.0	PN
53874	5/19/92	0326	2800.0	9200.0	16	118	57	115	24.7	20.7	18.1	36.3	37.2	37.3		6.6	6.9	4.5	PN
53875	5/19/92	0703	2730.1	9200.1	99	750	100	203	24.8	18.5	14.2	35.5	37.4	36.8		6.5	4.1	3.8	PN
53876	5/19/92	1021	2700.5	9159.9	99	2000	103	207	24.9	18.8	13.0	36.2	37.4	36.7		6.3	4.3	4.0	PN
53877	5/19/92	1404	2630.0	9159.9	99	1670	108	210	25.5	18.3	14.5	34.4	37.4	36.9		6.4	4.3	3.9	PN
53878	5/19/92	1710	2600.1	9200.1	99	2200	100	208	25.0	20.9	16.2	36.8	37.3	37.2	0.032	6.4	5.6	4.1	PN
53879	5/19/92	2039	2559.8	9229.9	99	2400	102	204	25.2	20.0	15.7	37.1	37.3	37.1	0.037	6.6	5.4	4.2	PN
53880	5/19/92	2334	2600.1	9259.9	99	2218	100	208	25.4	19.4	15.0	35.3	37.5	37.0		6.2	4.2	4.1	PN
53881	5/20/92	0310	2629.9	9259.9	99	1837	100	207	25.1	19.5	15.4	34.3	37.0	37.3	0.037	6.7	5.3	4.1	PN
53882	5/20/92	0635	2700.0	9259.9	99	1300	100	205	24.8	19.1	14.3	34.9	37.4	36.9	0.094	6.6	4.3	3.8	PN
53883	5/20/92	1137	2730.0	9300.2	99	710	103	204	24.9	18.9	14.3	36.3	37.4	36.8		6.5	4.2	3.9	PN
53884	5/20/92	1450	2800.0	9300.7	99	105	52	104	25.2	20.3	18.4	33.7	36.9	37.3		6.5	6.8	4.3	PN
53885	5/20/92	1743	2759.8	9329.9	99	95	45	91	25.5	22.0	18.8	34.0	37.2	37.3	0.027	6.4	6.2	4.4	PN
53886	5/20/92	2042	2800.2	9400.1	18	78	35	70	25.1	20.8	19.0	33.2	36.6	37.1		6.7	6.4	5.5	PN
53887	5/21/92	0027	2730.1	9359.9	99	900	104	215	25.1	18.5	14.4	33.5	37.5	36.9		6.6	3.9	4.0	PN

Table 2. Selected environmental parameters (continued)

## OREGON II, SPRING PLANKTON SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN,PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
53888	5/21/92	0347	2700.0	9359.9	99	1000	103	217	25.6	20.7	16.0	33.5	37.5	36.9		6.5	5.7	4.0	PN
53889	5/21/92	0739	2629.3	9359.9	99	1700	108	208	25.2	22.5	20.8	36.8	37.3	37.4	0.027	6.6	6.1	4.2	PN
53890	5/21/92	1227	2559.9	9400.1	99	3460	103	208	25.6	22.8	17.8	36.7	37.4	37.4	0.131	6.5	6.1	4.0	PN
53891	5/21/92	1541	2559.9	9430.0	99	2900	101	203	25.5	22.8	19.0	37.0	37.5	37.5		6.4	4.1	6.6	PN
53892	5/21/92	1824	2559.9	9459.9	99	2400	100	209	25.5	22.7	18.6	37.1	37.4	37.5		6.2	6.4	4.0	PN
53893	5/21/92	2151	2630.1	9459.9	99	1800	108	209	26.6	22.3	17.5	37.1	37.4	37.3		6.5	6.4	4.6	PN
53894	5/22/92	0102	2700.0	9500.1	99	1500	100	201	25.5	22.4	17.1	36.9	37.4	37.3		6.3	6.2	3.9	PN
53895	5/22/92	0452	2730.1	9459.9	99	855	102	208	24.8	19.3	13.6	32.9	37.2	36.7	0.019	6.7	4.4	3.8	PN
53896	5/22/92	0805	2759.1	9459.3	99	78	37	74	24.8	22.1	19.2	30.7	37.3	37.2		6.6	6.1	5.4	PN
53897	5/22/92	1132	2759.9	9530.1	20	51	24	49	25.2	23.4	19.4	31.4	35.6	36.8	0.027	6.5	6.3	5.3	PN
53898	5/22/92	1406	2759.8	9600.0	20	42	20	41	25.5	21.5	19.2	31.8	34.4	36.3	0.131	6.5	5.9	4.5	PN
53899	5/22/92	1755	2730.0	9559.9	20	210	101	203	26.0	21.0	15.2	36.8	37.3	37.0	0.027	6.4	5.6	3.9	PN
53900	5/22/92	2102	2700.7	9600.3	99	880	103	207	26.1	22.3	15.6	36.8	37.4	37.0		6.4	6.2	3.9	PN
53901	5/23/92	0046	2630.1	9600.1	99	1100	100	202	26.2	22.6	15.9	36.9	37.4	37.1	0.037	6.2	6.3	3.9	PN
53902	5/23/92	0359	2602.3	9600.0	99	1000	100	203	26.2	22.3	16.5	37.2	37.4	37.2		6.4	6.3	4.2	PN

Table 2. Selected environmental parameters (continued)

SUN COASTER, SPRING PLANKTON SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00001	5/17/92	2236	2600.0	8400.0	4	136	65	130	24.1	21.2	19.1	36.6	36.5	36.5	0.044	5.4	5.9	4.2	PN
00002	5/18/92	0250	2530.2	8359.5	3	139	66	132	23.2	20.8	18.0	36.8	36.5	37.7	0.023	4.6	4.2	2.4	PN
00003	5/18/92	0657	2500.0	8400.0	3	129	61	122	23.3	20.2	17.9	36.5	36.3	36.4	0.040	4.5	4.3	2.3	PN
00004	5/18/92	1053	2429.3	8402.4	99	2000	100	200	24.2	19.9	17.2	36.5	36.5	36.5	0.045	4.9	4.3	3.6	PN
00005	5/18/92	1434	2429.4	8431.6	99	3600	100	200	25.8	19.6	15.3	37.0	36.7	37.0	0.041				PN
00006	5/18/92	1803	2430.0	8500.0	99	2000	100	200	25.2	22.5	18.1	36.5	36.4	36.6	0.043	5.6	5.4	4.2	PN
00007	5/18/92	2345	2458.4	8531.5	99	3600	100	200	25.4	25.0	23.1	36.6	36.9	37.0	0.023	5.5	5.5	4.5	PN
00008	5/19/92	0441	2500.0	8500.0	99	3600	100	200	25.6	24.2	24.2	36.5	36.7	37.4	0.021	5.5	4.9	5.7	PN
00009	5/19/92	0953	2500.0	8430.0	99	1800	100	200				36.5	36.7	37.4	0.046				PN
00010	5/19/92	1454	2530.0	8430.0	99	500	100	200				36.5	36.8	37.2	0.034				PN
00011	5/19/92	1930	2600.0	8430.0	99	398	58	116				36.6	36.7	37.5	0.040				PN
00012	5/19/92	2311	2558.3	8500.0	99	3000	100	200				36.5	36.7	37.1	0.023				PN
00013	5/20/92	0430	2630.0	8500.0	99	2000	100	200							0.052				PN
00014	5/20/92	0920	2630.0	8430.0	99	362	52	104				37.0	36.7	36.6	0.035				PN
00015	5/20/92	1317	2700.0	8430.0	5	177	86	172				35.8	36.6	36.4	0.054				PN
00016	5/20/92	1705	2659.2	8459.4	99	1000	100	200				36.4	36.4	37.1	0.036				PN
00017	5/20/92	2140	2730.0	8500.0	5	366	100	200				36.6	36.8	37.1	0.048				PN
00018	5/21/92	0159	2759.2	8501.3	6	254	100	200				35.6	37.1	36.3	0.053				PN
00019	5/21/92	0630	2830.0	8500.0	6	104	49	98				36.2	37.0	36.1	0.058				PN
00020	5/21/92	0945	2829.5	8531.3	8	200	97	194				36.3	36.9	36.1	0.043				PN
00021	5/21/92	1750	2900.0	8600.0	99	230	100	200				36.1	37.2	36.0	0.037				PN

Table 2. Selected environmental parameters (continued)

## TOMMY MUNRO, SPRING REEF FISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX		
17001	5/12/92	0730	2927.4	8734.8	99	71	35	70	22.8	22.0	20.4	35.0	36.2	36.0	0.096	6.2	6.3	5.7	TV	
17002	5/12/92	0950	2927.4	8734.9	99	69	34	68	23.2	22.4	19.4	34.9	36.3	36.3	0.147	7.0	6.7	5.4	TV	
17003	5/12/92	1139	2927.4	8735.1	99	71	35	70	23.0	22.8	21.6	35.0	36.2	35.9	0.140	7.4	7.2	6.7	TV	
17004	5/12/92	1320	2927.3	8734.7	99	73	36	72	23.8	22.7	19.4	34.9	36.2	36.2	0.206	7.4	7.7	5.9	TV	
17005	5/12/92	1512	2927.8	8730.8	99	67	33	66	23.5	22.9	20.5	35.1	36.2	36.3	0.224	7.4	7.7	6.0	TV	
17006	5/12/92	1650	2927.9	8730.3	99	73	36	72	23.6	22.7	19.3	35.1	36.2	36.3	0.280	7.4	7.5	5.9	TV	
17007	5/13/92	0710	2925.3	8745.0	99	73	36	72	22.9	22.5	19.0	33.1	36.3	36.2	0.336	7.9	7.5	6.0	TV	
17008	5/13/92	0916	2925.4	8745.0	99	73	36	72	22.9	22.7	19.3	33.3	36.3	36.2	0.160	6.9	6.5	5.0	TV	
17009	5/13/92	1131	2927.1	8740.2	99	77	38	76	23.1	22.7	17.7	34.3	36.2	36.2		6.8	6.6	4.9	TV	
17010	5/13/92	1310	2927.2	8740.6	99	75	37	74	23.4	22.3	17.9	34.4	36.2	36.1	0.080	6.8	6.4	4.8	TV	
17011	5/13/92	1445	2927.0	8741.5	99	75	37	74	23.4	22.5	18.5	34.4	35.9	36.3	0.224	6.7	6.3	4.9	TV	
17012	5/13/92	1637	2927.3	8740.0	99	79	39	78	23.4	21.9	19.7	34.7	36.2	35.9	0.187	6.7	6.3	5.6	TV	
17013	5/14/92	0722	2944.4	8807.6	11	33	16	32	22.7	22.9	21.9	33.6	35.2	36.1	0.254	6.7	6.9	6.4	TV	
17014	5/14/92	0858	2945.8	8807.5	11	33	16	32	22.8	22.8	22.7	33.1	35.3	36.2	0.369	6.6	6.7	6.4	TV	
17015	5/14/92	1050	2941.7	8803.5	11	38	18	37	22.9	23.0	21.4	33.7	35.2	36.2	0.267	6.7	7.0	5.9	TV	
17016	5/14/92	1303	2941.6	8800.9	11	37	18	36	22.9	23.1	21.4	33.7	35.4	36.2	0.214	6.7	6.8	6.0	TV	



Table 2. Selected environmental parameters (continued)

CHAPMAN, SPRING REEF FISH SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
00001	5/21/92	0815	2750.8	9150.1	99	96	47	95	25.3	21.3	19.4	35.6	36.3	36.3	0.093	6.5	6.7	5.8	TV
00002	5/21/92	1159	2751.5	9149.9	99	162	81	161	25.6	20.7	17.0	34.5	36.3	36.1	0.045	6.4	6.3	4.3	TV
00003	5/21/92	1335	2751.6	9149.2	99	102	51	101	25.7	21.7	19.8	34.5	36.2	36.3	0.045	6.5	7.0	5.2	TV
00004	5/21/92	1503	2751.4	9149.4	99	102	51	102	25.7	21.2	18.6	34.5	36.2	36.3	0.053	6.4	6.6	4.5	TV
00005	5/21/92	1729	2751.1	9148.9	99	107	53	106	25.7	21.5	19.0	34.5	36.2	36.4	0.057	6.6	6.8	7.3	TV
00006	5/22/92	0712	2757.7	9222.3	99	64	32	63	24.7	25.7	20.9	34.3	35.9	36.2	0.068	6.6	6.7	6.5	TV
00007	5/22/92	0849	2757.8	9222.5	99	84	38	83	24.7	22.5	20.4	34.3	35.9	36.3	0.054	6.5	6.6	5.8	TV
00008	5/22/92	1051	2757.3	9223.7	99	102	51	101	24.9	21.2	20.2	34.5	36.1	36.3	0.055	6.6	6.3	5.9	TV
00009	5/22/92	1224	2757.4	9222.2	99	128	64	128	24.9	21.1	18.4	34.4	36.2	36.3		6.5	6.7	4.5	TV
00010	5/22/92	1356	2758.3	9222.3	99	98	49	98	25.1	21.8	20.6	34.4	36.3	36.0		6.5	6.5	5.7	TV
00011	5/22/92	1524	2758.3	9222.1	99	120	60	120	25.2	20.8	18.6	34.4	36.1	36.3		6.5	6.5	4.5	TV
00012	5/23/92	0718	2751.1	9303.9	99	72	36	72	25.1	23.3	21.0	33.4	35.9	36.2	0.098	6.7	6.4	5.8	TV
00013	5/23/92	0858	2751.1	9304.2	99	78	39	77	25.2	23.6	20.7	33.5	35.9	36.2	0.080	6.6	6.6	5.7	TV
00014	5/23/92	1038	2751.3	9304.6	99	97	46	96	25.5	23.0	21.1	33.5	36.1	36.3	0.055	6.6	6.5	5.3	TV
00015	5/23/92	1222	2751.3	9304.2	99	80	40	80	25.7	23.6	20.8	33.5			0.068	6.7	6.6	5.7	TV
00016	5/23/92	1412	2751.2	9304.5	99	94	47	94	25.8	23.7	21.3	33.5	36.1	36.3	0.056	6.7	7.1	5.2	TV
00017	5/23/92	1546	2750.9	9304.0	99	67	33	66	25.8	23.3	21.6	33.4	35.9	36.2	0.053	6.7	6.7	6.3	TV
00018	5/23/92	1730	2750.8	9303.7	99	62	31	61	25.6	23.5	21.0	33.3	35.6	36.2	0.056	0.4	5.3	5.8	TV
00019	5/24/92	0535	2751.0	9416.2	99	103	51	102	25.3	21.2	19.7	35.8	35.9	36.4	0.056	6.2	5.9	4.3	TV
00020	5/24/92	0821	2751.6	9414.8	99	76	38	75	25.7	23.7	20.0	35.8	36.1	36.1	0.094	6.2	6.3	5.5	TV
00021	5/24/92	0951	2751.6	9415.1	99	89	44	88	26.2	23.7	21.0	35.8	36.1	36.2	0.131	6.1	6.2	5.2	TV
00022	5/24/92	1125	2751.5	9415.0	99	86	43	85	26.0	24.2	19.7	35.6	36.1	36.1	0.069	6.1	6.0	5.1	TV
00023	5/24/92	1248	2751.7	9414.9	99	96	48	96	27.5	21.5	19.6	35.8	36.0	36.3	0.280	6.0	6.0	4.4	TV
00024	5/24/92	1411	2751.7	9414.8	99	96	48	96	28.1	21.4	19.4	35.8	36.0	36.3	0.040	6.1	5.7	4.5	TV
00025	5/24/92	1541	2751.7	9415.6	99	118	59	118	25.9	21.5	19.5	35.7	36.2	36.2	0.062	6.2	6.9	4.7	TV
00026	5/26/92	0826	2802.7	9431.4	18	53	25	53	25.1	22.9	19.6	34.0	36.1	37.1	0.118	6.6	6.1	5.9	TV
00027	5/26/92	1625	2757.0	9337.3	99	85	42	85	25.9	22.3	19.4	33.9	37.0	37.2	0.098	6.3	6.2	5.7	TV
00028	5/26/92	1810	2758.3	9336.7	99	78	36	72	26.5	22.9	19.8	34.2	36.9	37.2	0.075	6.2	6.4	5.7	TV
00029	5/27/92	0740	2753.6	9336.5	99	90	44	86	25.8	23.0	19.2	34.4	37.4	37.2	0.237	6.5	6.6	5.7	TV
00030	5/27/92	0919	2755.2	9336.3	99	36	18	34	25.9	25.3	23.3	34.3	35.4	37.3	0.193	6.9	7.1	6.2	TV
00031	5/27/92	1049	2755.6	9335.8	99	49	22	49	25.9	25.5	21.4	34.4	35.7	37.2	0.193	6.4	7.7	5.7	TV
00032	5/27/92	1219	2754.8	9335.9	99	20	10	19	26.1	25.6	25.3	34.3	34.4	35.6	0.324	6.1	6.5	6.4	TV
00033	5/27/92	1350	2754.8	9336.1	99	30	14	27	26.0	25.6	25.3	34.3	34.5	36.2	0.096	6.9	6.4	6.9	TV

Table 2. Selected environmental parameters (continued)

CHAPMAN, SPRING REEF FISH SURVEY																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00034	5/27/92	1528	2754.3	9336.3	99	23	10	18	26.2	25.8	25.4	34.3	34.3	36.0	0.045	6.6	6.7	6.7	TV
00035	5/27/92	1716	2757.4	9335.6	99	85	44	84	26.6	21.7	19.3	34.3	37.1	37.2	0.098	6.1	5.8	5.4	TV
00036	5/28/92	0723	2755.4	9324.7	99	82	40	80	26.0	21.9	19.5	32.2	37.1	37.2	0.072	6.8	6.5	6.0	TV
00037	5/28/92	0904	2755.5	9325.1	99	87	42	85	26.0	22.3	19.4	32.2	37.0	37.2	0.071	6.4	7.1	6.3	TV
00038	5/28/92	1106	2754.8	9326.0	99	86	43	85	26.1	22.2	19.4	32.3	37.1	37.2	0.061	7.6	7.9	6.9	TV
00039	5/28/92	1304	2754.6	9326.2	99	92	37	76	26.4	22.4	19.7	33.8	36.7	37.2	0.068	6.7	6.7	6.0	TV
00040	5/28/92	1430	2754.3	9326.6	99	78	39	78	26.8	22.0	19.5	34.3	36.8	37.2	0.081	6.7	6.6	5.9	TV
00041	5/28/92	1630	2755.2	9327.2	99	80	39	79	26.9	22.5	19.8	34.5	37.0	37.2	0.087	6.6	6.5	5.4	TV
00042	5/28/92	1809	2753.5	9327.6	99	88	39	81	26.5	22.6	19.5	34.3	36.8	37.2	0.055	6.6	6.6	5.7	TV
00043	5/29/92	0659	2750.2	9304.4	99	80	40	80	25.6	22.5	19.6	35.4	37.1	37.2	0.081	7.5	7.4	6.8	TV
00044	5/29/92	0834	2749.6	9303.8	99	85	43	85	26.1	22.2	19.7	32.5	37.1	37.3	0.075	7.2	7.3	6.3	TV
00045	5/29/92	1003	2749.4	9303.7	99	56	28	56	26.1	22.7	21.1	34.2	36.6	37.2	0.089	7.2	7.1	6.8	TV
00046	5/29/92	1223	2749.2	9304.4	99	85	43	83	26.2	22.3	19.6	32.1	37.2	37.3	0.089	8.2	6.8	6.2	TV
00047	5/29/92	1353	2749.1	9304.2	99	88	43	84	26.3	22.0	19.7	31.8	37.2	37.3	0.112	6.7	6.6	6.2	TV
00048	5/30/92	0719	2801.5	9227.6	16	87	41	87	25.5	21.5	19.2	34.1	36.5	37.3	0.089	7.1	7.5	5.4	TV
00049	5/30/92	0917	2802.6	9227.2	16	66	33	66	25.5	22.6	19.6	34.2	36.4	37.2	0.102	7.3	8.1	7.1	TV
00050	5/30/92	1118	2804.0	9226.6	16	86	43	86	25.6	22.1	19.3	34.2	36.8	37.3	0.054	7.1	7.4	5.8	TV

Table 2. Selected environmental parameters (continued)

CHAPMAN, SPRING REEF FISH SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00051	5/30/92	1240	2804.1	9226.8	16	85	38	78	25.7	22.6	19.6	34.1	36.8	37.3	0.070	6.8	7.0	6.1	TV
00052	5/30/92	1410	2802.6	9227.1	16	70	31	63	25.8	22.6	19.9	34.1	36.2	37.2	0.072	6.9	6.7	7.0	TV
00053	5/30/92	1533	2802.6	9227.3	16	70	31	63	25.7	22.6	20.3	34.2	36.6	37.2	0.094	6.9	7.1	7.2	TV
00054	5/30/92	1715	2803.5	9227.7	16	66	31	65	25.7	22.7	19.8	34.1	36.2	37.2	0.087	6.9	7.1	6.9	TV
00055	5/31/92	0706	2821.0	9228.2	16	58	28	57	25.6	22.7	20.6	34.1	36.8	37.2	0.075	6.4	7.2	6.9	TV
00056	5/31/92	0830	2821.3	9227.9	16	58	29	58	25.7	22.6	20.6	34.0	36.8	37.2	0.050	7.8	7.5	7.4	TV
00057	5/31/92	1011	2821.3	9227.3	16	60	30	60	25.7	22.5	20.6	34.0	36.9	37.2	0.066	7.4	7.6	7.3	TV
00058	5/31/92	1151	2821.0	9227.8	16	63	29	60	25.7	22.4	20.7	34.1	36.8	37.2	0.118	6.9	6.9	6.5	TV
00059	5/31/92	1307	2821.0	9228.1	16	60	28	55	25.8	22.5	20.7	34.1	36.8	37.2	0.125	6.6	6.9	6.7	TV
00060	5/31/92	1425	2821.2	9227.7	16	60	28	57	25.9	22.5	20.7	34.1	36.9	37.2	0.106	6.8	7.1	6.8	TV
00061	5/31/92	1547	2821.3	9227.6	16	60	27	57	24.9	22.6	20.6	34.1	36.8	37.2	0.094	6.8	7.1	6.8	TV
00062	6/ 1/92	0713	2757.5	9201.0	99	114	57	114	25.5	20.3	18.4	35.2	37.2	37.3	0.081	7.3	7.2	5.1	TV
00063	6/ 1/92	0859	2757.4	9200.9	99	103	49	103	25.5	20.9	19.3	35.2	37.2	37.3	0.077	7.1	7.9	5.8	TV
00064	6/ 1/92	1047	2757.8	9200.6	99	99	46	94	25.6	21.4	19.1	35.1	37.2	37.3	0.064	7.4	7.7	5.7	TV
00065	6/ 1/92	1213	2758.0	9200.4	99	97	47	97	25.6	21.5	19.1	35.1	37.2	37.3	0.078	6.8	7.4	5.6	TV
00066	6/ 1/92	1337	2758.0	9200.6	99	93	46	92	25.7	21.4	19.2	35.0	32.2	37.3	0.064	7.3	7.6	6.1	TV
00067	6/ 1/92	1502	2757.9	9200.9	99	92	47	91	25.9	21.2	19.2	35.0	37.2	37.3	0.062	6.8	7.0	5.6	TV
00068	6/ 1/92	1650	2757.0	9202.5	99	60	28	58	26.2	23.1	20.7	34.5	36.9	37.3	0.072	7.1	7.2	7.5	TV
00069	6/ 2/92	1352	2852.3	8925.2	13	35	17	35	26.4	24.3	21.2	29.2	36.3	37.2	3.071				TV
00070	6/ 3/92	1421	2852.2	8924.9	13	33	16	33	26.1	24.7	21.5	30.0	35.2	37.2	0.579				TV
00071	6/ 6/92	0705	2955.5	8711.3	10	56	28	56	25.4	22.9	21.3	35.2	36.9	37.2	0.104	6.4	7.3	7.0	TV
00072	6/ 6/92	0853	2954.8	8712.7	10	57	28	57	25.6	23.5	20.9	35.3	36.8	37.2	0.078	8.8	7.6	8.5	TV
00073	6/ 6/92	1048	2951.8	8715.0	10	68	34	68	25.5	22.5	20.5	35.1	37.0	37.3	0.109	8.0	8.5	6.7	TV
00074	6/ 6/92	1229	2951.6	8715.4	10	68	34	68	25.6	22.5	20.5	35.1	37.0	37.3	0.124	7.4	7.2	7.5	TV
00075	6/ 6/92	1357	2951.5	8716.2	10	65	33	65	25.9	22.7	20.7	35.1	37.1	37.2	0.134	7.8	7.6	6.1	TV
00076	6/ 6/92	1538	2953.5	8713.6	10	71	36	71	26.9	22.8	20.7	35.1	37.2	37.2	0.062	7.1	8.0	8.0	TV
00077	6/ 7/92	1237	2912.3	8532.2	8	69	35	69	26.7	21.9	20.3	36.3	37.0	37.1	0.062	7.5	7.4	7.4	TV
00078	6/ 7/92	1408	2913.0	8535.5	8	77	38	77	26.6	21.0	20.2	36.2	37.0	37.1	0.057	8.1	7.9	6.8	TV
00079	6/ 7/92	1535	2913.8	8536.0	8	70	35	70	26.6	20.9	20.3	36.2	37.0	37.1	0.095	7.7	6.7	7.5	TV
00080	6/ 7/92	1740	2914.0	8538.1	8	63	32	63	26.6	22.4	20.3	36.2	37.0	37.1	0.077	7.8	6.9	5.9	TV
00081	6/ 8/92	0728	2854.0	8513.7	8	56	28	56	26.3	22.7	20.2	36.4	36.9	37.1	0.089	6.3	7.8	6.1	TV
00082	6/ 8/92	0915	2852.2	8511.7	8	68	34	68	26.4	22.1	20.2	36.3	37.0	37.1	0.055	6.6	8.2	7.0	TV
00083	6/ 8/92	1058	2852.2	8511.7	8	68	34	68	26.5	22.1	20.2	36.4	37.0	37.1	0.069	7.9	7.9	6.5	TV

Table 2. Selected environmental parameters (continued)

CHAPMAN, SPRING REEF FISH SURVEY																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN,PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00084	6/ 8/92	1224	2852.1	8511.5	8	71	35	71	26.6	22.1	20.2	36.4	37.0	37.1	0.077	7.6	7.6	6.2	TV
00085	6/ 8/92	1359	2852.4	8510.6	8	67	33	67	26.8	22.2	20.2	36.4	37.0	37.1	0.062	6.4	7.2	6.1	TV
00086	6/ 9/92	0707	2837.8	8420.4	6	27	14	27	26.5	24.6	22.2	36.7	36.7	36.8	0.089	7.9	6.4	6.6	TV
00087	6/ 9/92	0845	2836.0	8422.5	6	35	17	35	26.6	23.8	21.9	36.7	36.8	36.9	0.080	6.4	6.7	6.5	TV
00088	6/ 9/92	1025	2837.9	8422.0	6	28	14	28	26.7	24.0	22.0	36.6	36.7	36.9	0.071	6.8	7.0	6.9	TV
00089	6/ 9/92	1157	2837.9	8427.6	6	30	15	30	27.1	24.3	22.1	35.7	35.8	35.9	0.080	7.4	6.6	7.8	TV
00090	6/ 9/92	1318	2838.3	8423.5	6				27.3			35.7			0.080	7.6			TV
00091	6/ 9/92	1457	2837.9	8423.8	6				27.4			5.7			0.056	6.4			TV
00092	6/ 9/92	1630	2838.8	8423.2	6				27.0			35.7			0.055	6.8			TV
00093	6/ 9/92	1748	2839.2	8423.5	6				26.6			35.7			0.100	7.2			TV
00094	6/10/92	0655	2833.3	8414.7	6	31	15	31	26.8	24.0	21.9	36.7	36.7	36.9	0.056	7.0	7.4	7.3	TV
00095	6/10/92	0839	2833.1	8414.7	6	33	16	33	26.8	24.4	21.5	36.7	36.7	36.9	0.056	6.4	7.7	7.6	TV
00096	6/10/92	1031	2832.3	8413.1	6	36	19	36	26.9	24.0	21.3	36.7	36.7	36.9	0.066	6.9	7.0	6.8	TV
00097	6/10/92	1207	2831.8	8414.7	6							36.0			0.048	7.7			TV
00098	6/10/92	1328	2832.4	8416.5	6	26	12	26	27.4	24.5	22.5	36.7	36.7	36.8	0.053	7.6	8.3	8.5	TV
00099	6/10/92	1456	2834.0	8416.2	6							36.0			0.053	8.5			TV
00100	6/10/92	1634	2835.8	8415.4	6				27.4			35.7			0.094	7.2			TV

Table 2. Selected environmental parameters (continued)

CHAPMAN, SPRING REEF FISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00101	6/10/92	1821	2831.1	8411.2	6				27.3			35.8			0.107	9.8			TV
00102	6/11/92	0709	2823.9	8411.9	6	36	18	36	27.0	24.9	22.1	35.8	35.9	35.9	0.107	6.1	8.4	8.1	TV
00103	6/11/92	0850	2822.2	8411.6	6	35	16	35	26.9	24.3	21.4	36.7	36.8	36.9	0.089	6.5	8.0	8.3	TV
00104	6/11/92	1018	2821.7	8411.9	6	36	17	36	27.1	23.9	21.4	36.7	36.8	36.9	0.142	6.5	8.3	8.3	TV
00105	6/11/92	1150	2820.3	8410.5	6	33	16	33	27.3	24.6	21.5	36.7	36.9	36.9	0.089	6.4	7.0	6.5	TV
00106	6/11/92	1325	2823.1	8412.6	6	33	16	33	27.7	24.9	21.6	36.7	36.8	36.9	0.062	6.6	7.3	7.0	TV
00107	6/11/92	1450	2824.4	8413.1	6	36	17	36	28.0	24.6	21.6	36.5	36.9	36.9	0.057	8.4	7.2	7.0	TV
00108	6/11/92	1628	2825.9	8417.8	6	29	15	29	27.6	24.9	22.3	36.7	36.8	36.9	0.063	8.2	9.4	8.3	TV
00109	6/11/92	1804	2825.7	8418.7	6	34	18	34	28.1	24.3	22.1	36.7	36.7	36.9	0.053	6.5	8.7	8.6	TV
00110	6/12/92	0706	2815.2	8444.9	6	71	34	71	27.3	22.2	19.8	36.4	36.9	37.2	0.110	6.4	6.7	6.0	TV
00111	6/12/92	0859	2817.5	8446.3	6	68	34	68	27.3	22.0	19.9	36.4	36.9	37.2	0.085	6.5	6.9	6.0	TV
00112	6/12/92	1028	2817.4	8446.5	6	75	38	75	27.3	21.6	19.8	36.4	36.9	37.2	0.063	6.0	7.0	5.9	TV
00113	6/12/92	1202	2818.3	8447.3	6	74	35	74	27.3	21.6	19.8	36.4	36.9	37.2	0.072	7.3	7.2	6.1	TV
00114	6/12/92	1335	2819.5	8448.4	6	66	33	66	27.5	22.3	20.0	36.4	36.9	37.2	0.071	6.8	8.5	6.7	TV
00116	6/21/92	0740	2501.7	8159.5	3	20	10	19	29.3	29.0	28.9	36.5	36.4	36.6	0.168	6.2	6.4	6.4	TV
00117	6/21/92	0915	2501.8	8158.7	3	20	10	19	29.3	29.2	29.0	36.5	36.5	36.5	0.174	6.2	6.2	6.2	TV
00118	6/21/92	1057	2501.3	8154.9	3	18	9	17	29.7	29.5	29.2	36.4	36.3	36.5	0.296	8.0	8.0	7.8	TV
00119	6/21/92	1247	2500.8	8154.4	3	18	9	17	30.0	29.6	29.1	36.4	36.3	36.5	0.248	6.1	6.1	6.3	TV
00120	6/21/92	1431	2500.2	8154.9	3	20	10	19	30.9	29.6	29.5	36.4	36.4	36.6	0.374	6.0	6.4	6.4	TV
00121	6/21/92	1630	2501.9	8157.9	3	20	10	19	30.5	29.5	29.0	36.5	36.4	36.6	0.231	6.5	6.4	6.8	TV
00122	6/21/92	1825	2502.8	8156.3	3	20	10	19	30.5	29.5	29.1	36.5	36.4	36.5	0.350	6.3	6.3	6.3	TV
00123	6/22/92	0726	2437.8	8304.8	2	12	6	11	29.1			36.7	36.6	36.7	0.071	6.8	6.8	7.1	TV
00124	6/23/92	0750	2438.8	8301.9	2	18	9	17	28.5	28.4	26.6	36.7	36.6	36.6	0.118	6.6	6.7	6.9	TV
00125	6/23/92	0934	2439.2	8301.9	2	16	8	15	28.7	28.7	25.8	37.6	37.6	37.6	0.085	6.3	6.5	7.0	TV
00126	6/23/92	1125	2439.1	8302.3	2	16	8	15	28.8	27.3	26.5	35.4	37.6	37.6	0.116	7.3	6.6	7.3	TV
00127	6/23/92	1327	2439.5	8302.8	2	18	9	17	28.7	28.0	26.4	37.6	37.6	37.6	0.099	6.5	6.6	7.2	TV
00128	6/23/92	1538	2440.0	8302.9	2	20	10	19	28.4	28.5	26.3	37.6	37.6	37.6	0.134	7.2	7.8	7.5	TV
00129	6/23/92	1828	2437.4	8303.9	2	14	7	13	28.2	28.2	27.8	37.6	37.6	37.6	0.126	7.0	7.3	7.3	TV
00130	6/24/92	0729	2445.0	8346.6	2	72	36	71	28.8	25.8	22.9	36.8	37.1	37.3	0.106	6.5	7.0	7.0	TV
00131	6/24/92	0936	2443.7	8345.3	2	71	35	70	28.8	27.8	23.3	36.8	37.2	37.3	0.078	6.3	6.4	6.6	TV
00132	6/24/92	1136	2443.1	8345.3	2	77	38	76	28.9	27.8	23.4	36.8	37.2	37.3	0.092	6.5	6.9	6.9	TV
00133	6/24/92	1357	2443.0	8344.3	2	71	35	70	29.5	29.0	27.0	35.9	36.1	36.4	0.081	6.5	6.7	6.5	TV
00134	6/24/92	1556	2442.0	8343.2	2	68	34	67	29.5	28.5	26.1	35.8	36.1	36.4	0.075	6.3	6.5	6.6	TV

Table 2. Selected environmental parameters (continued)

## CHAPMAN, SPRING REEF FISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00135	6/24/92	1802	2441.3	8343.6	2	80	40	79	29.5	26.6	26.0	36.2	36.0	36.2	0.069	6.1	6.5	6.7	TV
00136	6/27/92	0737	2748.9	8409.3	5	42	21	41	28.9	24.7	21.5	35.5	36.0	36.1	0.112	6.8	7.6	6.9	TV
00138	6/27/92	1629	2745.7	8410.2	5	45	22	44	28.5	25.3	21.5	35.6	35.9	36.1	0.101	8.3	9.2	8.5	TV
00139	6/27/92	1824	2747.7	8409.6	5	49	24	48	29.1	25.9	24.6	35.7	35.9	36.1	0.110	7.6	7.0	6.2	TV
00140	6/28/92	0652	2818.9	8406.8	6	32	16	31	28.1	27.5	22.8	35.6	35.7	35.9	0.159	6.7	6.6	6.4	TV
00141	6/28/92	0843	2817.5	8407.8	6	40	20	39	28.4	23.4	22.7	35.7	35.9	35.9	0.098	6.5	7.0	6.9	TV
00142	6/28/92	1039	2817.2	8406.1	6	37	18	36	28.5	24.8	22.7	35.7	35.8	35.9	0.243	8.7	7.5	6.9	TV
00143	6/28/92	1244	2814.4	8403.1	6	35	17	34	28.8	27.0	25.8	35.7	35.7	36.0	0.150	7.1	7.1	7.2	TV
00144	6/28/92	1425	2814.3	8403.1	6	35	17	34	29.7	27.6	22.6	35.8	35.7	35.9	0.100	6.9	7.1	7.3	TV
00145	6/28/92	1619	2813.7	8403.4	6	35	17	34	28.7	27.6	22.8	35.7	35.7	35.9	0.094	6.5	6.7	6.8	TV
00146	6/28/92	1757	2812.9	8403.5	6	35	17	34	27.8	25.3	22.2	35.7	35.9	36.0	0.112	7.7	8.4	8.2	TV
00147	6/29/92	0655	2827.0	8409.0	6	32	16	31	27.9	27.6	22.3	35.5	35.6	35.9	0.133	7.0	7.0	6.9	TV
00148	6/29/92	1039	2823.6	8405.8	6	34	17	33	27.8	27.5	22.3	35.4	35.5	35.9	0.162	6.4	6.9	6.8	TV
00149	6/29/92	1304	2823.3	8408.2	6	37	18	36	27.7	25.0	22.0	35.4	35.7	35.9	0.248	6.5	6.8	6.5	TV
00150	6/29/92	1451	2822.1	8408.8	6	34	17	33	27.7	23.5	22.5	35.5	35.8	35.9	0.181	6.2	6.6	6.3	TV
00151	6/29/92	1718	2822.0	8409.9	6	34	17	33	27.5	27.2	22.5	35.3	35.5	35.9	0.193	6.7	6.9	6.7	TV

Table 2. Selected environmental parameters (continued)

STA#	DATE		POSITION		STAT	DEPTH	SAMPLE			TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED			GEAR
							DEPTHS		OXYGEN, PPM											
							MM/DD/YY	TIME	LAT	LONG	ZONE	(M)	MID	MAX	SUR	MID	MAX	SUR	MID	
31001	6/ 3/92	0756	2750.7	9701.1	20	11	6	11	24.4	24.6	24.6		25.5	2.441	7.7	6.7	6.8	ST		
31002	6/ 3/92	0836	2753.6	9659.5	20	10	5	10	24.2	24.5	24.5		28.4	2.219	6.2	5.6	5.4	ST		
31003	6/ 3/92	0938	2755.7	9653.2	20	14	7	14	24.6	24.8	24.8		30.1	2.032	6.9	6.1	6.0	ST		
31004	6/ 3/92	0955	2756.5	9652.5	20	15	7	15	24.7	24.8	24.7		30.2	2.227	6.7	6.1	5.8	ST		
31005	6/ 3/92	1032	2756.8	9649.3	20	17	8	17	25.0	24.8	24.6		30.3	1.086	6.6	6.2	5.6	ST		
31006	6/ 3/92	1128	2752.4	9649.4	20	21	10	21	25.2	24.8	24.6		33.9	0.757	6.4	6.3	3.9	ST		
31007	6/ 3/92	1203	2753.8	9652.3	20	18	9	18	25.4	24.8	24.7		30.3	1.495	6.8	6.2	5.6	ST		
31008	6/ 3/92	1252	2750.5	9654.4	20	19	9	19	25.4	24.7	24.2		32.2	1.682	6.9	5.4	3.6	ST		
31009	6/18/92	0812	2746.9	9704.9	20	9	5	9	25.6	24.7	24.2	32.1	34.3	34.5	3.044	6.9	7.0	6.8	ST	
31010	6/18/92	1255	2739.4	9708.4	20	13	7	13	25.2	24.8	20.6	35.4	35.6	36.0	0.445	6.6	6.7	5.4	ST	
31011	6/18/92	1335	2739.6	9705.6	20	16	8	16	25.8	24.0	20.5	35.4	35.4	36.0		6.5	6.8	6.8	ST	
31012	6/18/92	1414	2744.6	9703.6	20	14	7	14	27.3	24.7	24.5	35.4	35.5	36.0	2.118	6.8	7.1	7.4	ST	
31013	6/18/92	1448	2744.4	9701.7	20	17	8	17	25.8	24.5	24.4	35.5	35.6	36.0	1.718	7.0	7.0	7.2	ST	
31014	6/18/92	1523	2744.7	9658.7	20	20	10	20	26.5	24.4	24.0	32.5	34.4	34.7	1.442	6.8	7.0	7.2	ST	
31015	6/18/92	1558	2744.5	9657.8	20	20	10	20	27.9	25.5	24.8	31.7	34.2	34.6	1.682	8.0	8.2	7.9	ST	
31016	6/18/92	1636	2749.4	9700.5	20	13	7	13	28.0	27.0	25.1	33.3	34.1	33.4		6.6	6.8	6.9	ST	

Table 2. Selected environmental parameters (continued)

## MATAGORDA BAY, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
32001	6/ 3/92	0951	2825.5	9615.5	19	11	6	11	24.3	24.5	24.3	19.0	25.0	25.0	3.775				ST
32002	6/ 3/92	1110	2825.5	9602.6	19	18	9	18	24.2	24.3	22.5	25.0	28.0	28.0	2.269				ST
32003	6/ 3/92	1212	2822.5	9608.6	19	19	9	19	24.9	23.8	21.4	22.0	28.0	33.0	2.478				ST
32004	6/ 3/92	1303	2819.5	9612.5	19	20	10	20	25.6	24.1	20.6	20.0	28.0	32.0	4.112				ST
32005	6/ 3/92	1357	2822.5	9617.5	19	13	7	13	25.3	23.9	22.3	19.0	28.0	28.0	3.898				ST
32006	6/ 3/92	1448	2820.5	9620.5	19	13	6	13	24.9	23.8	23.7	20.0	25.0	30.0	3.476				ST
32007	6/ 3/92	1516	2821.5	9620.5	19	11	5	11	25.6	23.9	23.8	25.0	25.0	25.0	2.654				ST
32008	6/ 3/92	1551	2823.5	9620.5	19	7	4	7	25.2	23.8	23.5	19.0	25.0	25.0	2.504				ST
32009	6/22/92	1013	2816.6	9618.6	19	20	10	20	27.5	21.5	21.5	33.3	35.8	36.0	0.748	6.1	6.1	5.9	ST
32010	6/22/92	1052	2813.5	9619.3	19	22	11	22	28.4	22.2	21.9	33.5	35.8	36.4	0.112	6.1	6.1	6.3	ST
32011	6/22/92	1125	2812.4	9619.6	19	23	12	23	28.4	22.0	21.9	33.8	36.0	36.5	0.160	6.2	6.4	6.6	ST
32012	6/22/92	1153	2811.5	9620.4	19	23	12	23	28.5	22.6	21.8	33.2	35.5	35.8	0.342	6.3	6.3	6.6	ST
32013	6/22/92	1247	2812.5	9626.6	19	19	9	19	29.0	25.6	21.7	33.4	35.8	35.9		6.0	6.4	6.2	ST
32014	6/22/92	1317	2813.5	9627.3	19	16	7	16	29.1	27.3	21.6	33.5	35.8	36.1	0.336	6.0	6.2	5.9	ST
32015	6/22/92	1358	2814.5	9622.6	19	20	10	20	29.8	26.4	21.7	34.7	35.7	36.1	0.598	6.0	6.5	6.0	ST
32016	6/22/92	1436	2817.6	9622.4	19	16	8	16	28.9	26.2	21.2	34.7	35.8	35.9	0.523	6.0	6.5	5.9	ST



Table 2. Selected environmental parameters (continued)

LAGUNA MADRE, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
33001	6/ 8/92	0918	2604.3	9708.6	21	10	5	10	25.7	26.6	23.7	33.3	34.6	35.3	0.756	6.4	6.4	5.3	ST
33002	6/ 8/92	1018	2601.7	9704.6	21	20	10	20	26.9	26.4	22.4	34.5	35.2	36.4	0.230	6.4	6.3	5.7	ST
33003	6/ 8/92	1110	2558.5	9702.6	22	23	12	23	26.7	26.5	22.6	33.6	34.7	36.5	0.200	6.6	6.4	6.3	ST
33004	6/ 8/92	1210	2602.6	9700.5	21	25	13	25	27.0	25.7	21.8	34.4	36.0	36.5	0.240	6.4	6.5	5.4	ST
33005	6/ 8/92	1248	2602.7	9659.4	21	27	13	27	27.0	25.0	21.8	34.6	36.0	36.5	0.214	6.6	6.5	6.0	ST
33006	6/ 8/92	1343	2606.8	9701.6	21	23	12	23	27.1	26.5	24.0	34.4	35.3	36.4	0.339	6.5	6.6	6.7	ST
33007	6/ 8/92	1438	2609.7	9704.5	21	18	9	18	27.2	26.4	22.0	34.1	34.8	36.0	0.165	6.6	6.6	5.9	ST
33008	6/ 8/92	1525	2612.8	9706.6	21	17	8	17	27.2	26.8	22.9	33.9	34.6	36.0	0.411	6.8	6.6	6.4	ST
33009	6/23/92	0918	2612.3	9705.4	21	18	9	18	26.5	23.2	22.7	34.0	34.9	36.4	0.483	6.3	7.0	7.0	ST
33010	6/23/92	1006	2613.7	9701.4	21	24	12	24	27.2	23.5	22.7	34.1	34.6	36.2	0.160	6.4	7.4	6.7	ST
33011	6/23/92	1038	2614.4	9701.3	21	25	12	25	27.3	24.2	22.7	36.4	36.2	36.4	0.165	6.9	7.7	7.2	ST
33012	6/23/92	1151	2615.5	9705.5	21	18	9	18	26.8	23.5	22.8	35.1	36.4	36.5	0.395	6.7	7.4	7.2	ST
33013	6/23/92	1242	2619.3	9703.5	21	19	9	19	27.4	23.8	22.0	35.6	36.4	36.4	0.168	6.7	7.8	7.5	ST
33014	6/23/92	1341	2620.0	9709.6	21	16	8	16	25.3	23.0	22.7	35.4	36.3	36.4	0.168	7.3	7.2	7.0	ST
33015	6/23/92	1412	2621.5	9710.3	21	15	7	15	24.9	23.0	22.7	35.4	36.2	36.4	0.260	7.2	7.1	6.8	ST
33016	6/23/92	1448	2619.7	9711.5	21	10	5	10	24.9	22.9	22.9	36.5	36.6	36.5	0.294	7.1	7.1	7.1	ST

Table 2. Selected environmental parameters (continued)

## GALVESTON BAY, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
34001	6/ 4/92	1039	2909.7	9443.1	18	16	8	16	25.4	25.1	23.4	26.4	27.1	32.1		10.4	9.9	1.9	ST
34002	6/ 4/92	1126	2909.2	9447.1	18	15	8	15	25.5	25.3	23.2	26.3	27.4	31.4		10.2	10.2	2.0	ST
34003	6/ 4/92	1202	2907.9	9447.4	18	15	8	15	25.5	23.3	23.3	25.7	28.1	31.9		10.2	3.3	2.1	ST
34004	6/ 4/92	1233	2908.4	9449.2	18	15	7	15	25.5	23.6	23.4	26.1	26.8	31.8		10.4	4.1	2.1	ST
34005	6/ 4/92	1303	2909.5	9449.1	18	14	7	14	25.7	24.5	23.4	26.1	26.9	31.4		10.0	9.6	2.0	ST
34006	6/ 4/92	1340	2909.6	9449.2	18	15	7	15	25.7	25.1	23.4	26.3	27.3	31.1		10.2	9.8	1.8	ST
34007	6/ 4/92	1419	2911.7	9447.3	18	13	7	13	25.9	24.9	23.7	26.0	27.1	31.9		10.2	7.0	1.5	ST
34008	6/ 4/92	1511	2913.5	9445.2	18	11	5	11	26.0	24.5	23.9	26.8	29.4	31.7		9.9	3.0	2.1	ST
34010	6/23/92	1022	2922.6	9437.8	18	10	5	10	27.1	26.9	26.3	31.5	32.0	32.7	0.320	5.3	5.1	4.3	ST
34011	6/23/92	1059	2923.1	9436.0	18	7	4	7	27.5	26.8	26.2	31.7	32.2	32.5		5.5	5.1	4.0	ST
34012	6/23/92	1157	2928.4	9432.5	18	5	3	5	27.9	27.8	27.6	31.6	32.0	32.8	1.047	5.5	5.6	5.5	ST
34013	6/23/92	1227	2929.4	9431.7	18	6	3	6	28.0	27.8	27.6	31.5	31.8	32.3	0.972	5.6	5.5	5.5	ST
34014	6/23/92	1323	2922.3	9427.3	18	12	6	12	28.7	23.9	23.3	31.4	32.0	33.7	0.224	4.1	2.5	1.2	ST
34015	6/23/92	1442	2916.0	9437.6	18	12	6	12	28.1	25.2	23.0	31.3	31.8	34.4	0.449	5.6	4.9	1.5	ST
34016	6/23/92	1519	2914.1	9437.8	18	12	6	12	28.1	24.9	22.9	30.9	31.6	34.5	0.224	5.6	4.7	2.1	ST

Table 2. Selected environmental parameters (continued)

SABINE, SUMMER SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN,PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
40001	6/ 9/92	0704	2941.5	9348.2	17	3	2	3	24.9	24.9	25.1	24.7	24.7	24.9	6.542	6.3	6.3	6.2	ST
40002	6/ 9/92	0750	2943.3	9342.5	17	4	2	4	25.6	25.6	25.5	25.2	25.2	25.3	4.673	5.4	5.2	4.8	ST
40003	6/ 9/92	0902	2938.7	9334.4	17	10	5	10	25.7	24.6	24.1	22.8	27.3	30.9	1.287	9.4	14.0	13.5	ST
40004	6/ 9/92	1038	2936.4	9342.1	17	10	5	10	26.4	24.7	22.7	22.2	27.5	30.8	2.430	7.5	6.1	12.6	ST
40005	6/ 9/92	1112	2936.5	9344.2	17	10	5	10	26.2	25.0	23.2	18.6	29.7	29.9	1.175	7.8	9.8	11.6	ST
40006	6/ 9/92	1146	2935.3	9344.3	17	11	6	11	26.2	25.1	23.0	17.4	29.8	30.4	1.898	8.0	10.1	10.3	ST
40007	6/ 9/92	1222	2936.5	9345.3	17	10	5	10	26.8	23.0	23.1	19.6	29.7	30.8	2.654	8.1	10.7	10.1	ST
40008	6/ 9/92	1311	2934.5	9349.4	17	10	5	10	27.1	25.2	22.7	18.3	30.1	30.1	1.570	7.8	6.6	10.6	ST
40009	6/21/92	1242	2932.5	9357.3	17	10	5	10	27.1	25.8	23.6	30.4	30.4	31.1	0.320	6.9	8.8	13.9	ST
40010	6/21/92	1334	2934.5	9353.5	18	8	4	8	27.0	25.5	24.5	31.1	31.1	31.1	0.561	5.7	6.4	11.1	ST
40011	6/21/92	1416	2935.7	9355.4	17	6	3	6	27.0	25.3	25.2	31.3	31.2	31.3	0.972	5.8	5.4	4.7	ST
40012	6/21/92	1500	2935.7	9359.5	17	6	3	6	27.0	25.2	23.5	31.5	31.5	31.6	0.459	6.8	6.4	10.5	ST
40013	6/21/92	1549	2939.7	9403.3	17	2	1	2	27.4	26.8	25.5	31.2	31.5	31.6	4.187	7.9	5.4	6.3	ST
40014	6/21/92	1701	2940.5	9359.5	17	1	1	1	27.8	27.6	28.2	31.1	31.1	31.3	8.373	8.9	8.1	4.1	ST
40015	6/21/92	1742	2939.5	9356.5	17	2	1	2	27.0	25.9	25.3	31.1	31.1	31.2	2.766	9.9	5.5	8.8	ST
40016	6/21/92	1807	2940.5	9354.5	17	2	1	2	28.1	28.4	28.5	30.7	30.7	30.8	2.729	6.9	6.5	5.5	ST

Table 2. Selected environmental parameters (continued)

## A.E. VERRILL, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
23001	6/ 4/92	1148	3009.3	8800.0	10	13	7	13	26.0	25.4	23.4	30.6	34.5	35.8		6.6	7.9	5.1	ST
23002	6/ 4/92	1519	2958.9	8808.0	11	27	14	27	25.6	24.5	21.2	23.7	35.5	36.1		6.5	5.0	5.5	ST
23003	6/ 4/92	1702	2956.2	8810.0	11	31	16	31	25.8	23.5	20.7	28.9	35.8	36.2		5.7	6.4	4.3	ST
23004	6/ 4/92	1943	2958.2	8811.5	11	31	16	31	25.7	23.2	20.8	32.2	36.1	36.2		6.6	6.4	4.5	ST
23005	6/ 4/92	2035	2959.9	8811.1	11	26	13	26	25.7	23.8	21.1	31.4	35.7	36.1		5.9	4.9	5.0	ST
23006	6/ 8/92	1445	3012.2	8819.1	11	7	4	7	26.9	26.9	26.6	22.0	31.2	31.5		4.6	6.3	7.0	ST
23007	6/ 8/92	1553	3011.7	8818.0	11	11	6	11	26.9	26.9	23.9	23.9	31.2	35.2		5.8	7.9	5.4	ST
23008	6/ 8/92	1950	3002.2	8817.0	11	21	11	21	26.4	25.7	22.2	30.7	32.9	36.0		6.1	5.9	5.1	ST
23009	6/ 8/92	2043	3002.8	8814.3	11	21	11	21	26.6	25.2	22.2	30.6	35.0	36.0		6.0	5.8	5.2	ST
23010	6/ 8/92	2250	3007.8	8802.9	11	17	9	17	26.5	25.8	23.2	31.2	33.4	35.7		5.9	6.0	4.7	ST
23011	6/12/92	1434	3001.4	8816.1	11	21	11	21	28.6	24.4	21.4	27.8	34.7	36.1		5.9	5.8	4.5	ST
23012	6/12/92	2000	3012.8	8806.5	11	5	3	5	28.2	28.4	27.7	25.4	25.6	31.1		6.3	6.3	6.3	ST

Table 2. Selected environmental parameters (continued)

TOMMY MUNRO, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
17001	6/11/92	2005	3010.8	8836.8	11	13	6	12	26.7	26.1	23.0	27.8	32.5	35.5	1.028	6.6	5.6	4.4	ST
17003	6/12/92	0014	3011.6	8829.2	11	11	5	10	25.6	23.9	23.2	31.5	35.0	35.5	1.402	4.5	4.8	4.4	ST
17004	6/12/92	0309	3005.6	8831.6	11	17	8	16	26.7	26.0	21.9	27.0	32.8	35.9	0.430	5.8	5.8	6.1	ST
17005	6/12/92	0515	3001.1	8821.5	11	26	13	25	26.5	24.0	21.5	26.7	32.9	35.8	0.449	5.9	6.0	4.8	ST
17006	6/12/92	0750	3002.3	8825.6	11	22	11	21	25.8	25.9	22.0	17.3	33.1	35.8	0.505	6.0	6.1	5.6	ST
17011	6/12/92	1513	3000.0	8830.0	11	26	13	25	28.5	23.5	21.6				0.617	6.0	5.2	4.2	PN
17012	6/12/92	1839	2935.9	8832.0	11	38	18	37	26.8	23.2	21.6	32.1	36.0	36.3	1.327	6.8	5.8	4.6	ST
17013	6/12/92	2128	2936.9	8832.5	11	34	17	33	26.1	23.3	21.6	33.2	36.0	36.4	0.729	6.7	6.0	4.9	ST
17014	6/12/92	2334	2937.1	8834.8	11	24	12	23	25.4	24.0	21.9	32.3	35.8	36.4	0.692	7.1	5.9	4.8	ST
17015	6/13/92	0209	2943.3	8844.9	11	14	7	13	26.9	24.6	22.5	33.5	35.5	36.4	0.411	6.4	5.0	4.6	ST
17016	6/13/92	0630	2934.0	8832.7	11	41	21	40	26.3	23.4	21.5	34.3	35.4	36.3	0.860	6.2	5.6	4.6	ST
17017	6/13/92	0854	2934.3	8837.3	11	24	12	23	26.5	24.2	22.0	33.8	35.7	36.2	0.673	6.2	5.9	4.3	ST
17018	6/13/92	1043	2933.9	8836.2	11	28	14	27	26.6	24.2	22.1	33.2	35.6	36.1	0.336	6.0	5.9	4.4	ST
17019	6/13/92	1233	2930.0	8840.2	11	26	13	25	26.4	23.8	23.2	33.1	35.6	36.4	2.467	6.4	5.2	5.8	ST
17020	6/13/92	1453	2929.9	8843.3	11	20	10	19	26.1	23.3	22.5	33.1	35.3	36.1	1.065	6.2	5.6	5.0	ST
17021	6/13/92	1545	2927.2	8842.9	11	32	16	31	25.9	22.8	21.6	33.0	35.6	36.3	4.822	6.8	6.0	6.0	ST
17022	6/13/92	1800	2916.6	8854.9	11	39	13	38	26.8	21.0	20.6	33.1	35.7	36.2	30.577	9.6	5.2	4.8	ST
17023	6/13/92	2103	2914.9	8855.3	11	31	15	30	25.2	21.5	20.5	33.2	35.9	36.2	11.719	7.1	4.2	4.3	ST
17024	6/13/92	2238	2915.1	8854.7	11	36	18	35	25.2	21.4	20.3	33.1	35.5	36.4	11.139	7.2	5.2	4.8	ST
17025	6/14/92	0051	2917.6	8854.6	11	36	18	35	25.6	21.8	20.6	25.5	36.2	36.3	23.897	7.2	4.8	4.4	ST
17026	6/14/92	0247	2915.1	8850.4	11	60	30	59	24.8	22.5	19.7	27.4	35.9	36.5	10.990	6.4	5.3	5.4	ST
17028	6/14/92	0558	2922.3	8846.6	11	50	24	48	26.4	21.4	20.5	28.5	35.6	36.2	7.588	7.0	5.4	6.8	ST
17029	6/14/92	0928	2930.0	8830.0	11	51	25	50	26.1	23.2	21.1	27.7	35.7	36.3	9.220	7.3	6.0	4.5	PN
17030	6/22/92	1734	2955.7	8844.1	11	14	7	13	28.0	27.0	24.0	28.2	36.2	36.3	1.028	6.4	5.8	5.3	ST
17031	6/22/92	1934	2951.2	8844.9	11	11	5	10	28.0	25.0	24.5	17.3	35.9	36.2	0.729	5.7	6.0	5.4	ST
17032	6/22/92	2141	2951.1	8845.6	11	11	5	10	28.9	26.8	23.6	28.2	35.9	36.3	1.084	5.6	5.4	5.0	ST
17033	7/10/92	2024	2915.0	8939.5	13	8	4	7	30.8	30.6	29.5	8.6	26.4	29.4	17.830	11.7	6.1	5.4	ST
17034	7/11/92	0318	2903.8	9034.6	14	6	3	5	29.9	29.9	28.8	23.8	27.8	29.7	2.189	6.7	6.6	6.1	ST
17035	7/11/92	0533	2903.2	9046.2	14	4	2	3	30.0	30.2	29.8	21.9	27.3	29.3	6.088	6.6	6.1	6.1	ST
17036	7/11/92	1411	2904.8	9033.2	14	4	2	3	31.4	31.1	30.8	25.5	28.1	29.4	2.990	7.0	6.2	6.1	ST
17037	7/11/92	1625	2901.7	9047.0	14	6	3	5	32.2	30.6	29.6	21.8	27.5	29.2	6.835	7.1	5.7	4.8	ST
17038	7/12/92	0619	2904.1	9142.1	15	7	3	6	29.5	29.5	29.5	29.4	29.6	30.2	1.103	5.6	5.5	5.3	ST
17039	7/12/92	1040	2911.3	9216.4	16	7	3	6	30.0	30.0	30.0	29.6	29.8	29.6	1.682	6.3	6.0	6.0	ST

Table 2. Selected environmental parameters (continued)

## TOMMY MUNRO, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN,PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
17040	7/12/92	2001	2944.9	9308.2	17	6	3	5	31.3	30.6	30.6	29.4	29.6	30.0	1.626	6.0	5.8	5.8	ST
17041	7/12/92	2225	2944.4	9315.2	17	7	3	6	30.4	30.4	29.9	29.4	29.8	29.9	2.037	6.0	5.6	5.4	ST
17042	7/13/92	0059	2947.0	9316.6	17	4	2	3	30.3	30.3	30.3	24.6	24.5	24.6	2.019	6.0	5.8	5.8	ST
17043	7/13/92	0942	2942.9	9346.1	17	7	3	6	29.5	29.5	29.5	31.5	31.2	31.5	4.135	6.2	6.1	5.8	ST
17044	7/13/92	1257	2941.6	9325.7	17	8	4	7	30.2	30.2	30.2	30.6	30.8	31.3	2.211	6.4	5.7	5.0	ST

Table 2. Selected environmental parameters (continued)

OREGON II, SUMMER SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54009	6/13/92	1601	2959.8	8800.5	11	24	12	24	27.0	24.7	21.7	28.8	34.9	36.2	0.540	6.4	6.3	5.3	PN
54020	6/14/92	0452	2929.9	8800.0	11	44	22	44	27.4	23.3	20.9	30.8	36.4	36.3		4.9	5.1	4.9	PN
54021	6/14/92	0622	2929.6	8800.1	11	44	22	44	27.4	23.4	20.9	30.7	36.9	36.3		5.7	5.8	5.3	ST
54022	6/14/92	0847	2925.0	8809.2	11	53	27	53	27.0	23.3	21.0	31.3	36.2	36.2		7.1	6.8	5.1	ST
54023	6/14/92	1104	2919.6	8819.5	11	62	31	62	27.2	23.8	20.8	30.1	36.2	36.3		6.9	6.7	5.2	ST
54024	6/14/92	1248	2915.4	8822.9	11	86	43	86	28.2	22.6	19.5	26.5	36.2	36.4		6.7	6.5	4.8	ST
54025	6/14/92	1606	2909.5	8850.9	11	64	32	64	29.4	20.7	19.5	25.5	36.3	36.4	20.590	4.5	6.5	5.0	ST
54026	6/14/92	1755	2905.9	8848.6	11	97	48	97	28.9	20.4	18.3	25.4	36.3	36.5	27.225	6.6	6.5	4.8	ST
54027	6/14/92	2034	2906.3	8857.6	11	24	12	23	27.5	21.7	20.8	25.6	36.2	36.2	18.815	7.4	6.0	5.5	ST
54028	6/14/92	2155	2904.3	8855.0	11	67	33	66	28.1	20.7	19.3	25.6	36.2	36.5	23.882	7.2	6.5	4.6	ST
54029	6/15/92	0019	2910.6	8836.1	11	78	39	78	28.0	22.9	20.2	30.2	36.3	36.4	23.902	5.9	6.9	4.3	ST
54030	6/15/92	0210	2918.3	8831.1	11	64	32	64	27.7	22.3	20.2	29.3	36.1	36.4	20.455	5.7	6.3	3.8	ST
54031	6/15/92	0450	2915.4	8816.0	11	90	46	90	27.5	22.5	19.5	29.2	36.3	36.4	9.766	6.2	7.3	4.5	ST
54032	6/15/92	1048	2859.9	8900.0	13	71	36	71	25.6	20.7	19.8	25.0	36.2	36.4	21.909	6.3	6.6	5.1	PN
54033	6/19/92	1042	2627.3	9622.6	21	122	59	120	28.1	23.4	18.7	35.9	36.4	36.4	3.039	6.0	7.1	4.0	ST/PN
54034	6/19/92	1333	2613.5	9623.1	21	85	44	85	28.7	25.6	19.7	35.7	36.2	36.4	2.679	5.9	6.8	4.8	ST
54035	6/19/92	1530	2606.4	9628.2	21	66	34	66	28.9	26.1	21.9	35.9	36.0	36.3	2.928	5.9	6.7	6.3	ST
54037	6/19/92	1843	2600.2	9624.1	21	100	52	100	29.2	23.9	21.2	35.9	36.3	36.4	2.529	5.8	6.8	5.6	ST/PN
54038	6/19/92	2117	2606.1	9622.8	21	92	46	92	28.9	24.8	21.1	35.8	36.2	36.4	4.914	5.8	6.5	5.5	ST
54039	6/20/92	0002	2624.1	9628.5	21	75	38	74	28.2	25.9	19.4	35.9	36.1	36.4	4.596	5.9	6.5	4.1	ST
54040	6/20/92	0302	2613.4	9649.6	21	41	21	41	27.1	24.0	22.6	36.1	36.2	36.3	3.015	6.2	7.1	6.4	ST
54042	6/20/92	0530	2617.0	9702.2	21	24	12	24	26.7	25.2	22.7	35.8	36.3	36.3	3.838	6.1	6.1	6.0	ST
54043	6/20/92	1039	2612.5	9709.0	21	16	8	16	23.7	23.0	23.0	36.3	36.3	36.3	2.811	6.0	6.0	5.9	ST
54044	6/20/92	1256	2632.0	9702.0	21	33	17	33	26.7	23.5	21.8	36.0	36.3	36.4		6.1	6.6	5.1	ST
54045	6/20/92	1349	2630.2	9700.1	21	34	17	33	27.8	24.0	21.7	35.7	36.4	36.4	3.622	6.1	6.6	5.3	PN
54046	6/20/92	1745	2559.9	9659.8	22	27	13	27	27.3	23.0	22.8	36.3	36.3	36.3	3.925	6.1	6.2	6.3	PN
54047	6/20/92	2045	2602.9	9708.2	21	14	7	14	26.3	23.7	23.1	34.0	36.3	36.3	5.901	6.1	6.0	5.5	ST
54048	6/20/92	2143	2600.3	9707.7	21	11	6	11	24.3	24.2	23.1	36.2	36.2	36.3	5.685	6.2	6.2	5.6	ST
54049	6/21/92	0047	2629.0	9659.6	21	35	17	35	27.0	23.9	21.4	35.9	36.2	36.6	3.427	6.2	6.7	5.7	ST
54050	6/21/92	0313	2642.6	9717.0	21	16	8	16	24.3	23.1	22.1	36.2	36.2	36.3	0.730	5.8	5.4	5.5	ST

Table 2. Selected environmental parameters (continued)

## OREGON II, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54051	6/21/92	0514	2647.9	9719.5	21	16	7	16	23.6	22.1	21.9	36.3	36.3	36.3	0.268	5.8	6.1	5.1	ST
54052	6/21/92	0653	2648.1	9719.9	21	11	5	11	23.6	22.1	22.1	36.3	36.3	36.3	0.623	6.9	5.9	6.1	ST
54053	6/21/92	0834	2656.1	9717.8	21	18	9	18	24.3	22.0	21.8	36.2	36.4	36.3	0.165	6.2	6.1	5.9	ST
54054	6/21/92	1138	2704.6	9702.7	20	36	18	36	27.7	23.9	21.5	36.1	36.4	36.4	0.084	5.9	6.4	6.5	ST/PN
54055	6/21/92	1358	2717.3	9653.0	20	46	23	46	28.3	25.3	21.7	36.1	36.1	36.3	0.073	5.9	6.7	6.3	ST
54057	6/21/92	1655	2711.4	9646.6	20	65	33	64	28.4	24.0	21.0	36.0	36.5	36.3	3.539	5.8	6.9	5.4	ST
54059	6/21/92	2048	2700.5	9653.1	20	55	27	54	28.2	23.8	21.1	36.0	36.5	36.4	0.088	5.8	6.7	5.6	ST
54060	6/21/92	2328	2651.3	9642.1	21	84	42	84	28.2	23.3	20.1	36.0	36.3	36.4	0.042	5.9	6.5	4.4	ST
54061	6/22/92	0135	2646.0	9656.2	21	46	24	46	28.9	24.2	21.0	35.9	36.2	36.4		5.8	6.7	5.2	ST
54062	6/22/92	0300	2650.4	9704.2	21	33	16	32	27.4	22.9	21.3	36.1	36.3	36.3	0.066	6.0	6.1	5.8	ST
54063	6/22/92	0441	2650.3	9709.9	21	30	15	30	25.9	22.4	21.6	36.1	36.4	36.3	0.080	6.2	5.9	5.6	ST
54064	6/22/92	0813	2714.7	9708.5	20	27	14	27	26.9	22.7	21.8	36.2	36.3	36.3	0.111	6.2	6.2	6.0	ST
54065	6/22/92	0959	2718.6	9659.8	20	35	17	35	27.8	25.0	21.8	36.1	36.3	36.3	0.085	5.9	6.5	6.4	ST
54066	6/22/92	1118	2724.2	9658.4	20	33	17	33	28.1	26.7	21.8	36.1	36.2	36.3	0.067	5.9	6.1	6.3	ST
54067	6/22/92	1323	2730.0	9702.8	20	27	13	27	26.6	24.4	22.1	36.0	36.2	36.3	0.107	6.1	6.4	6.3	ST/PN
54068	6/22/92	1454	2727.6	9710.2	20	20	10	20	27.2	22.7	22.4	35.6	36.5	36.3	0.135	6.0	6.3	6.1	ST
54069	6/22/92	1555	2724.8	9716.5	20	13	6	13	25.1	22.3	21.8	36.1	35.8	35.9	0.214	6.1	5.8	6.2	ST
54070	6/22/92	1657	2723.6	9717.1	20	13	6	13	26.6	25.6	21.9	36.2	36.5	35.9	0.243	6.0	6.0	5.9	ST
54071	6/22/92	2100	2715.1	9636.9	20	82	41	82	29.7	24.8	20.7	35.9	36.3	36.3	0.042	5.9	6.7	4.9	ST
54072	6/22/92	2352	2720.1	9647.8	20	56	28	56	28.6	25.1	21.3	36.0	36.2	36.4	0.056	5.9	6.6	5.6	ST
54073	6/23/92	0205	2718.6	9701.5	20	34	17	34	27.9	24.2	21.8	36.1	36.3	36.3	0.037	5.9	6.1	6.4	ST



Table 2. Selected environmental parameters (continued)

OREGON II, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
54074	6/23/92	0404	2708.5	9706.0	20	31	15	31	26.9	23.6	21.7	36.1	36.4	36.3		6.1	6.6	6.4	ST
54075	6/23/92	0549	2718.7	9712.7	20	21	11	21	26.1	24.5	22.4	36.1	36.4	36.3	0.140	6.1	6.1	6.1	ST
54076	6/23/92	0936	2738.5	9703.3	20	19	9	19	26.5	24.1	21.4	36.0	35.7	36.1	0.486	6.3	6.2	6.1	ST
54077	6/23/92	1119	2738.2	9652.7	20	29	14	29	26.2	25.1	22.4	36.1	36.2	36.3	0.129	6.4	6.4	6.3	ST
54078	6/23/92	1311	2746.8	9646.8	20	27	13	27	29.1	24.2	22.7	33.8	36.3	36.4	1.041	6.1	6.4	6.4	ST
54079	6/23/92	1443	2751.0	9649.5	20	22	11	22	30.2	23.0	21.2	33.9	35.6	36.1	1.063	5.7	6.1	5.6	ST
54080	6/23/92	2100	2729.2	9709.3	20	19	10	18	27.8	25.6	22.2	35.7	36.1	36.2		6.0	6.1	6.0	ST
54081	6/23/92	2243	2735.6	9659.5	20	25	12	25	27.6	23.4	22.5	35.5	36.4	36.4	0.970	6.0	6.6	6.3	ST
54082	6/24/92	0035	2744.5	9700.6	20	18	8	18	28.3	27.9	21.3	34.7	34.6	36.0		6.1	5.1	4.7	ST
54083	6/24/92	0222	2754.1	9651.6	20	19	9	19	29.7	26.4	21.6	34.0	35.4	36.0	1.121	5.9	6.3	5.5	ST
54084	6/24/92	0444	2807.5	9631.3	19	20	10	20	28.7	27.7	22.0	34.0	34.6	35.9		5.9	6.2	6.2	ST
54085	6/24/92	0641	2811.3	9632.1	19	14	7	14	28.9	28.3	24.8	34.2	34.5	35.2	0.094	5.8	5.9	6.0	ST
54086	6/24/92	0855	2805.5	9624.8	19	26	13	25	28.6	27.2	21.8	33.8	35.9	36.2		5.8	6.2	6.1	ST/PN
54087	6/24/92	1056	2755.4	9621.0	20	39	19	39	27.7	26.2	21.8	36.2	36.1	36.4	0.086	6.0	6.4	6.2	ST
54088	6/24/92	1311	2804.4	9611.0	19	33	17	33	29.1	24.1	21.4	34.6	36.5	36.3	0.168	5.9	6.8	6.4	ST
54089	6/24/92	1406	2802.6	9602.9	19	41	21	41	28.3	25.2	20.8	36.1	36.1	36.3	0.072	6.1	6.3	5.0	ST/PN
54090	6/24/92	1751	2826.9	9603.4	19	16	9	16	30.1	28.8	21.7	32.3	34.6	34.9	0.118	5.8	6.1	4.7	ST
54091	6/24/92	1941	2821.6	9612.4	19	18	9	18	30.1	24.0	21.1	30.3	34.8	35.5		6.0	6.1	4.4	ST
54092	6/24/92	2125	2821.4	9617.2	19	16	8	16	28.7	24.6	21.3	30.0	34.4	35.3	1.844	6.1	5.8	5.1	ST
54093	6/24/92	2251	2819.1	9622.5	19	14	7	14	29.0	28.9	21.7	33.8	33.8	35.3	0.188	6.0	5.9	5.1	ST
54094	6/25/92	0019	2810.5	9627.1	19	20	10	20	29.2	28.1	22.0	34.2	34.6	35.7	0.056	5.8	6.1	5.9	ST
54095	6/25/92	0256	2805.3	9602.2	19	36	18	36	28.0	25.7	21.4	36.0	36.3	36.3	0.066	6.1	6.4	5.9	ST
54096	6/25/92	0547	2815.2	9558.0	19	24	13	24	29.3	23.9	21.0	32.0	34.5	35.8	0.075	6.0	6.0	5.3	ST
54097	6/25/92	0638	2814.0	9553.4	19	29	15	29	28.4	27.1	21.6	35.6	36.1	36.2	0.070	6.1	6.2	6.2	ST
54098	6/25/92	0814	2813.4	9554.2	19	30	15	30	28.3	26.7	21.6	36.1	36.2	36.3	0.080	6.0	6.3	6.1	ST
54099	6/25/92	0910	2811.6	9551.9	19	32	16	32	27.8	26.3	21.5	36.0	36.2	36.3	0.067	6.1	6.6	6.3	ST
54100	6/25/92	1055	2804.9	9552.9	19	40	20	40	28.0	25.3	21.6	35.8	36.2	36.3	0.094	6.1	6.6	6.1	ST
54101	6/25/92	1427	2800.2	9530.0	19	56	27	56	29.7	28.1	20.5	33.7	35.9	36.2	0.094	6.1	6.2	5.0	ST/PN
54104	6/25/92	2045	2758.9	9532.7	20	54	27	54	29.2	26.2	20.7	34.4	36.0	36.2	0.056	6.0	6.8	5.1	ST
54107	6/26/92	0112	2818.6	9539.5	19	29	16	29	29.1	27.5	21.6	31.7	36.1	36.2	0.054	6.0	6.1	6.2	ST

Table 2. Selected environmental parameters (continued)

OREGON II, SUMMER SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54108	6/26/92	0317	2838.5	9541.3	19	14	8	14	28.6	27.0	23.3	32.6	33.9	34.8	0.313	6.3	6.3	5.3	ST
54109	6/26/92	0509	2843.2	9537.7	19	11	5	11	28.4	28.4	24.1	32.6	32.7	34.2	0.293	6.2	6.0	5.4	ST
54110	6/26/92	0736	2844.0	9531.3	19	12	7	12	28.2	27.1	24.2	32.6	32.9	34.1	0.199	6.1	6.0	4.7	ST/PN
54111	6/26/92	1006	2832.2	9532.0	19	23	12	23	29.0	27.6	21.2	31.7	36.7	35.3	0.466	6.1	6.3	5.2	ST/PN
54112	6/26/92	1212	2818.3	9527.0	19	31	15	31	29.4	28.8	21.7	34.4	35.5	36.1	0.132	5.7	6.1	6.9	ST
54113	6/26/92	1443	2830.1	9500.1	19	33	16	33	30.0	26.8	20.6	30.8	32.5	35.6	0.080	5.8	6.4	5.1	PN
54114	6/26/92	1650	2843.2	9508.9	19	22	12	22	29.5	29.0	22.1	33.6	34.6	35.3	0.150	5.9	6.1	6.5	ST
54115	6/26/92	2042	2852.3	9519.0	19	8	4	8	27.8	25.8	22.9	32.9	33.7	34.3	0.748	6.1	5.8	5.2	ST
54116	6/26/92	2214	2837.4	9516.7	19	25	13	25	29.6	28.9	20.5	33.5	35.6	35.2	0.100	5.8	5.8	5.4	ST
54117	6/26/92	2352	2831.5	9515.7	19	29	15	29	29.2	27.2	20.2	33.3	35.9	35.3	0.069	6.0	6.1	5.9	ST
54118	6/27/92	0114	2819.4	9513.6	19	36	18	36	29.4	27.7	20.5	34.4	36.0	35.8	0.080	5.9	6.2	6.0	ST
54119	6/27/92	0306	2812.1	9521.6	19	40	20	40	28.5	28.4	20.3	31.9	35.5	35.7	0.244	6.1	6.0	5.5	ST
54120	6/27/92	0504	2818.9	9529.6	19	32	16	32	29.2	28.3	21.8	33.6	35.8	36.0	0.102	6.0	5.9	6.2	ST
54121	6/27/92	0958	2757.4	9500.0	19	90	45	90	29.6	23.4	19.0	31.4	36.3	36.3	0.085	5.8	7.0	4.4	ST/PN
54122	6/27/92	1244	2759.0	9445.0	18	81	40	81	29.8	24.7	19.2	31.4	36.3	36.3	0.102	5.9	6.9	4.5	ST
54123	6/27/92	1531	2800.8	9430.2	18	71	35	71	29.9	25.0	19.7	31.6	36.1	36.1	0.128	5.9	6.9	5.4	ST/PN
54124	6/27/92	1728	2759.5	9414.9	18	88	44	88	30.2	22.6	19.1	31.1	36.4	36.5	0.114	5.9	6.6	4.4	ST
54125	6/27/92	2050	2803.2	9422.3	18	60	30	60	30.3	24.4	19.3	30.7	36.2	36.0	0.083	6.2	6.9	4.9	ST
54126	6/27/92	2320	2806.5	9441.3	18	54	27	54	30.2	24.0	19.6	30.6	36.4	36.0	0.104	6.1	6.9	4.7	ST
54127	6/28/92	0046	2758.6	9440.1	18	84	42	84	29.9	23.9	19.4	31.3	36.2	36.4	0.094	6.0	7.1	4.6	ST

Table 2. Selected environmental parameters (continued)

## OREGON II, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
54128	6/28/92	0236	2756.6	9438.0	18	90	45	90	29.7	23.9	18.9	32.6	36.2	36.4	0.077	6.1	7.1	4.2	ST
54129	6/28/92	0542	2757.9	9454.3	18	91	46	91	29.7	23.3	18.8	31.1	36.3	36.4	0.132	5.9	6.9	4.2	ST
54132	6/28/92	1401	2803.7	9410.3	18	64	32	64	30.2	23.4	19.5	31.0	36.1	36.0	0.080	5.8	6.7	5.4	ST
54133	6/28/92	2007	2854.5	9422.9	18	21	10	21	30.0	29.5	23.3	30.1	30.6	34.4	0.089	6.2	6.2	4.8	ST
54134	6/28/92	2318	2839.6	9406.2	18	31	16	30	30.2	28.1	22.4	29.1	31.5	35.4	0.119	6.0	6.2	4.7	ST
54135	6/29/92	0048	2836.2	9358.5	17	35	17	35	29.8	28.6	21.6	29.1	31.0	35.8	0.094	6.3	6.2	4.7	ST
54136	6/29/92	0248	2856.3	9400.9	18	20	9	19	29.4	29.5	24.4	29.9	30.7	33.4	0.201	6.2	5.9	4.1	ST/PN
54137	6/29/92	0511	2912.1	9351.0	17	16	7	16	29.0	29.0	24.1	30.4	30.5	33.9	0.330	6.2	6.1	2.4	ST
54138	6/29/92	0858	2924.6	9328.8	17	13	7	13	29.3	29.3	25.5	29.1	29.2	32.1	0.228	6.1	6.0	1.3	ST/PN
54139	6/29/92	1256	2940.1	9339.2	17	11	5	10	29.0	29.0	28.8	29.6	29.6	30.5	3.480	6.1	5.9	4.1	ST
54140	6/29/92	1718	2916.5	9409.1	18	14	7	14	28.8	28.9	24.6	31.5	31.5	33.6	0.455	6.2	6.0	4.6	ST
54141	7/ 1/92	1903	2931.9	9415.1	18	10	5	10	27.4	23.4	23.1	33.4	34.3	34.3	0.561	5.8	4.3	1.1	ST
54142	7/ 2/92	1635	2858.7	9358.7	17	20	10	20	29.4	28.4	24.9	30.6	31.9	33.6	0.187	6.5	6.4	5.1	PN
54144	7/ 2/92	1949	2901.5	9352.5	17	20	10	19	28.8	28.7	23.7	32.2	32.5	34.1	0.145	6.0	5.8	3.3	ST
54145	7/ 2/92	2149	2856.7	9342.4	17	23	11	23	29.0	29.3	23.1	31.3	32.0	34.8	0.142	5.7	5.7	2.7	ST
54146	7/ 3/92	0002	2858.2	9328.6	17	21	10	21	29.4	29.3	24.5	31.1	31.5	34.1	0.398	5.9	5.8	3.0	PN
54147	7/ 3/92	0205	2848.6	9331.6	17	26	13	26	29.5	29.3	22.8	30.8	31.0	35.1	1.501	6.0	5.9	3.0	ST
54148	7/ 3/92	0450	2855.1	9312.5	17	24	12	24	29.1	28.1	22.8	31.5	32.1	35.2	0.212	6.6	6.1	2.0	ST
54149	7/ 3/92	0648	2847.4	9303.9	17	29	17	29	29.1	27.9	22.8	30.6	31.2	35.7	0.237	6.2	5.8	4.2	ST
54150	7/ 3/92	1132	2841.7	9346.0	17	26	13	26	29.5	29.4	23.5	30.8	30.9	34.5	0.174	5.8	5.8	4.6	ST
54151	7/ 3/92	1307	2840.0	9351.1	17	27	13	27	29.7	29.5	23.3	30.4	30.6	34.7	0.636	5.9	5.9	4.5	ST
54152	7/ 3/92	1447	2832.2	9349.9	17	39	19	39	29.3	29.0	21.2	30.3	31.0	35.8	2.436	6.0	5.7	5.4	ST
54154	7/ 3/92	1813	2829.4	9358.9	17	41	21	41	29.8	26.0	21.2	31.6	32.6	35.9	0.168	5.9	6.1	4.7	PN
54155	7/ 3/92	2043	2828.0	9351.9	17	46	23	46	29.2	22.9	20.6	30.5	34.9	36.0	0.174	6.0	5.5	5.8	ST
54157	7/ 4/92	0022	2814.7	9348.9	17	64	32	64	29.4	21.7	19.8	31.5	35.6	36.2	0.117	6.2	6.7	5.7	ST
54160	7/ 4/92	0541	2756.5	9357.5	17	96	50	95	29.3	20.9	19.0	34.8	36.0	36.3	0.150	6.1	7.2	4.8	ST/PN
54161	7/ 4/92	1000	2800.0	9329.7	17	94	47	93	29.5	21.7	19.1	31.4	36.2	36.3	0.140	6.1	7.0	4.6	PN
54162	7/ 4/92	1257	2804.1	9315.2	17	90	45	90	29.6	22.5	19.3	31.9	36.3	36.2	0.122	5.8	6.6	4.9	ST
54164	7/ 4/92	1618	2804.9	9307.1	17	93	47	93	30.1	21.6	19.3	31.9	35.9	36.2	0.212	5.7	7.4	5.5	ST
54165	7/ 4/92	1730	2810.3	9305.4	17	73	37	72	30.2	22.7	19.8	30.3	36.2	36.2	0.159	6.0	6.7	5.8	ST

Table 2. Selected environmental parameters (continued)

## OREGON II, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX		
54166	7/ 4/92	1913	2813.7	9301.6	17	65	33	65	29.6	22.4	20.1	30.0	36.0	36.2	0.318	6.5	6.8	6.2	ST	
54167	7/ 4/92	2204	2809.9	9308.4	17	75	37	75	29.6	21.8	19.7	30.2	36.2	36.2	0.168	5.9	6.6	5.7	ST	
54169	7/ 5/92	0059	2759.3	9306.6	17	112	56	112	29.7	20.8	18.6	31.0	36.1	36.2	0.131	6.5	6.9	4.4	ST	
54170	7/ 5/92	0518	2836.2	9300.7	17	35	18	34	29.2	27.4	21.8	30.4	35.3	36.0	0.168	5.9	6.3	5.7	ST	
54171	7/ 5/92	0824	2834.4	9240.2	16	38	19	38	29.2	23.9	21.9	29.0	34.5	36.0	0.449	6.4	6.5	4.6	ST	
54174	7/ 5/92	1247	2838.0	9230.6	16	35	17	35	29.6	25.2	22.2	29.1	33.8	35.9	0.978	5.8	6.5	5.6	ST	
54175	7/ 5/92	1441	2832.6	9228.5	16	45	22	45	30.1	27.6	21.1	30.3	33.7	36.1	1.165	6.1	6.3	5.8	ST/PN	
54177	7/ 5/92	2042	2816.4	9230.4	16	65	32	65	30.1	23.8	20.4	30.2	35.6	36.2	0.305	6.0	6.7	6.1	ST	
54180	7/ 6/92	0226	2831.9	9250.0	16	45	22	45	29.8	25.4	21.3	30.3	34.8	36.2	0.206	6.2	6.5	5.4	ST	
54181	7/ 6/92	0422	2843.4	9252.1	16	33	18	32	29.3	27.5	22.2	30.6	31.6	35.8	0.162	6.0	5.2	4.5	ST	
54182	7/ 6/92	0736	2904.8	9300.3	17	24	13	24	29.4	29.0	22.9	31.4	31.9	35.1	0.187	5.7	5.7	2.2	ST/PN	
54183	7/ 6/92	0903	2908.0	9301.6	17	18	9	18	29.1	29.2	22.9	32.0	32.1	35.2	0.318	6.1	5.8	1.4	ST	
54184	7/ 6/92	1043	2913.5	9313.4	17	18	9	18	29.1	29.0	23.5	31.2	31.3	34.5	0.205	6.1	5.9	0.9	ST	
54185	7/ 6/92	1350	2929.8	9300.1	17	12	6	12	29.7	29.7	29.2	30.6	30.6	31.1	0.329	5.7	5.9	6.1	PN	
54186	7/ 6/92	1604	2924.5	9242.1	16	13	6	13	29.8	29.5	25.6	29.9	30.2	33.6	0.343	6.0	6.2	1.9	ST	
54187	7/ 6/92	1836	2927.9	9230.0	16	9	5	9	30.9	29.3	27.2	28.0	29.8	32.0	6.342	6.2	6.0	1.9	PN	
54188	7/ 6/92	2042	2920.8	9231.9	16	12	6	12	29.8	29.6	28.5	29.6	29.8	30.7	0.953	6.2	6.0	6.1	ST	
54189	7/ 6/92	2313	2911.1	9240.7	16	20	10	20	29.9	29.5	23.5	29.7	30.1	35.1	0.196	6.2	5.9	0.6	ST	
54190	7/ 7/92	0121	2900.9	9230.7	16	24	12	24	29.9	28.9	23.1	29.2	30.5	35.5	0.361	6.3	5.8	1.8	PN	
54191	7/ 7/92	0337	2850.6	9241.2	16	28	14	28	29.4	28.7	23.3	30.7	31.9	35.3	0.187	6.1	5.7	2.9	ST	

Table 2. Selected environmental parameters (continued)

STA#	DATE		POSITION		STAT	DEPTH	SAMPLE		TEMPERATURE, C°			SALINITY, PPT			CL,	DISSOLVED			GEAR	
							DEPTHS								MG/M <sup>3</sup>	OXYGEN, PPM				
							(M)	MID MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	SUR	MID		MAX
54192	7/	7/92	0628	2847.1	9217.7	16	35	18	35	29.7	23.6	22.3	29.1	34.8	35.9	0.212	6.2	5.7	5.3	ST
54193	7/	7/92	0814	2846.8	9207.4	16	33	16	32	29.6	26.4	22.3	28.9	32.8	35.9	0.249	6.3	6.0	4.6	ST
54194	7/	7/92	1019	2857.2	9214.6	16	25	12	25	29.8	29.2	23.1	29.5	30.3	35.7	0.224	6.0	6.1	3.4	ST
54195	7/	7/92	1222	2900.4	9159.8	15	18	9	18	30.0	29.3	23.2	30.1	30.2	35.6	0.617	5.6	5.9	1.2	PN
54196	7/	7/92	1349	2907.2	9154.9	15	9	5	9	30.8	30.7	28.6	27.3	27.9	30.9	0.741	5.8	5.9	5.0	ST
54197	7/	7/92	1631	2909.3	9217.4	16	10	6	10	30.5	30.3	24.4	29.4	30.0	34.4	1.495	5.8	5.9	0.4	ST
54198	7/	7/92	2037	2909.3	9208.9	16	10	5	9	31.2	30.2	24.1	28.6	28.7	35.1	1.234	6.1	6.2	1.2	ST
54199	7/	7/92	2227	2908.9	9218.3	16	12	6	12	30.8	30.0	23.6	28.8	30.0	35.0	0.891	6.5	6.5	0.2	ST
54200	7/	8/92	0003	2906.7	9217.5	16	18	9	18	30.9	29.4	23.2	30.3	30.5	35.4	0.561	6.5	5.7	1.0	ST
54201	7/	8/92	0115	2904.6	9213.8	16	17	8	17	30.5	29.7	23.1	30.1	30.3	35.4	0.467	6.5	6.5	1.1	ST
54202	7/	8/92	0251	2853.9	9211.3	16	26	13	26	30.4	27.0	23.0	29.4	31.8	35.7	0.430	6.2	5.8	4.4	ST
54203	7/	8/92	0458	2844.6	9158.3	15	33	17	33	29.9	26.2	22.1	29.1	33.2	35.9	0.187	6.1	6.1	4.9	ST
54204	7/	8/92	0545	2841.7	9159.5	15	35	18	35	30.0	24.7	22.0	29.2	34.1	36.0	0.223	6.2	6.1	5.4	ST
54205	7/	8/92	0710	2844.7	9159.2	15	33	16	32	29.9	26.8	22.0	29.1	32.6	36.0	0.193	6.1	6.0	4.9	ST
54206	7/	8/92	0826	2838.3	9158.9	15	40	18	40	30.4	24.6	22.2	29.6	34.8	35.9	0.142	5.9	6.8	6.3	ST
54207	7/	8/92	1116	2844.7	9146.2	15	32	16	32	30.4	26.5	22.7	29.5	32.5	35.8	0.249	5.9	5.9	5.5	ST
54208	7/	8/92	1316	2848.8	9133.2	15	21	10	21	30.2	29.6	23.1	30.0	30.0	35.6	0.511	5.9	6.0	3.0	ST
54209	7/	8/92	1434	2853.7	9134.3	15	17	8	17	30.5	29.7	23.4	29.9	30.2	35.5	0.430	5.7	5.9	2.3	ST
54210	7/	8/92	1552	2859.8	9130.1	15	9	4	9	31.1	30.5	24.7	23.2	26.7	34.7	2.243	5.5	4.9	0.5	PN
54211	7/	8/92	1732	2854.3	9142.5	15	18	10	18	31.2	29.6	23.2	30.1	30.2	35.6	0.716	5.7	6.0	2.6	ST
54212	7/	8/92	2043	2906.7	9151.3	15	10	5	9	30.9	29.6	26.7	27.5	30.4	33.1	0.729	6.4	6.4	3.6	ST
54213	7/	8/92	2201	2903.1	9153.4	15	15	8	15	30.8	27.7	23.4	30.1	31.7	35.4	0.854	6.4	3.1	0.5	ST
54214	7/	9/92	0003	2852.9	9143.2	15	21	10	21	30.4	29.4	23.0	29.9	30.2	35.6		6.3	5.6	2.7	ST
54215	7/	9/92	0152	2845.2	9140.6	15	26	13	26	30.3	27.8	23.0	29.5	31.2	35.7	0.224	6.2	5.6	4.6	ST
54216	7/	9/92	0435	2830.1	9159.9	15	50	26	50	30.0	23.4	21.0	30.0	35.5	36.1	0.212	6.1	6.6	6.2	PN
54217	7/	9/92	0622	2827.5	9205.4	16	54	25	54	29.9	25.3	21.0	30.7	34.7	36.1	0.137	6.1	6.4	6.4	ST
54220	7/	9/92	1345	2831.0	9132.5	15	44	22	44	30.7	24.2	21.2	29.4	35.0	36.2	0.268	5.7	6.8	6.3	ST/PN
54222	7/	9/92	1733	2810.8	9137.8	15	80	40	80	30.0	22.4	19.7	33.4	35.7	36.3	0.087	5.8	7.2	5.3	ST
54223	7/	9/92	2043	2815.4	9142.3	15	72	36	72	30.7	22.4	19.8	30.7	35.8	36.2	0.118	6.0	6.8	5.4	ST
54225	7/	10/92	0120	2816.5	9114.2	15	72	36	72	30.1	23.1	19.9	31.2	35.8	36.3	0.099	6.1	6.8	5.3	ST

Table 2. Selected environmental parameters (continued)

## OREGON II, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54226	7/10/92	0339	2812.8	9103.2	15	80	40	80	30.5	22.9	19.7	31.9	35.9	36.3	0.203	5.7	6.8	5.2	ST
54227	7/10/92	0516	2820.6	9100.2	15	51	25	51	30.1	24.2	20.9	31.4	35.8	36.2	0.134	6.0	6.8	5.0	ST
54228	7/10/92	0907	2820.9	9119.1	15	65	33	65	30.2	23.5	20.4	31.2	35.8	36.3	0.137	5.9	6.7	5.7	ST
54229	7/10/92	1150	2835.1	9107.9	15	26	14	26	30.3	29.1	22.0	29.8	30.3	36.0	0.243	5.7	5.8	1.4	ST
54230	7/10/92	1301	2838.1	9113.1	15	23	11	23	30.6	29.2	24.2	29.7	30.1	22.3	0.218	5.9	6.1	2.2	ST
54231	7/10/92	1407	2840.9	9108.6	15	16	8	16	29.9	29.7	24.5	29.8	29.9	34.6	0.318	6.0	6.1	0.9	ST
54232	7/10/92	1520	2843.8	9100.0	15	14	7	14	31.3	28.2	23.8	22.3	30.5	35.4	4.336	5.9	2.8	0.1	PN
54233	7/10/92	1656	2849.3	9053.9	14	14	7	14	32.3	28.1	25.7	27.8	30.7	34.1	2.729	5.7	4.3	0.0	ST
54234	7/10/92	2034	2852.1	9044.5	14	13	7	13	30.6	28.0	24.2	24.1	30.7	35.4	3.224	6.4	4.2	0.0	ST
54235	7/10/92	2334	2839.5	9107.4	15	18	9	18	30.4	29.4	23.5	29.9	30.3	35.3	0.293	6.4	6.0	0.2	ST
54236	7/11/92	0139	2829.4	9056.0	14	34	17	34	30.5	25.0	21.4	29.2	34.0	36.1	0.374	6.3	5.8	2.7	ST
54237	7/11/92	0310	2825.7	9048.8	14	40	20	40	30.3	24.0	21.2	29.6	35.0	36.2	0.223	6.3	6.2	3.9	ST
54238	7/11/92	0513	2831.0	9047.1	14	31	16	31	30.5	26.4	21.7	29.4	32.3	36.0		5.9	4.5	2.5	ST
54239	7/11/92	0732	2813.9	9044.3	14	72	37	72	30.2	23.2	19.8	31.8	35.7	36.3	0.125	6.0	6.8	5.4	ST
54240	7/11/92	1113	2829.4	9055.1	14	35	18	35	30.4	25.3	21.4	29.5	33.5	36.1	0.218	5.8	2.9	2.5	ST/PN
54241	7/11/92	1241	2829.1	9048.0	14	34	17	34	30.4	27.7	21.6	29.3	30.9	36.0	3.775	5.9	5.5	3.1	ST
54242	7/11/92	1500	2827.8	9033.4	14	40	20	40	30.7	25.0	21.2	29.5	33.9	36.1	0.598	5.8	5.4	5.0	ST/PN
54243	7/11/92	1849	2814.6	9008.7	14	111	55	111	31.3	21.4	16.9	31.2	36.1	36.2	0.255	5.8	7.1	4.0	ST
54245	7/11/92	2207	2828.7	9021.6	14	46	23	46	30.4	24.8	20.9	29.6	34.2	36.2	0.224	6.2	4.7	5.1	ST
54246	7/12/92	0044	2836.3	9033.3	14	24	12	24	30.6	29.6	22.1	29.6	30.1	35.9	0.243	6.2	6.2	1.7	ST

Table 2. Selected environmental parameters (continued)

OREGON II, SUMMER SHRIMP/GROUNDFISH SURVEY																				
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS			TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX		
54247	7/12/92	0134	2838.0	9030.5	14	22	11	22	30.9	29.5	22.7	29.6	30.0	35.8	1.776	6.2	6.2	2.3	ST	
54248	7/12/92	0314	2837.3	9020.0	14	32	16	32	31.4	25.8	21.6	25.6	33.0	36.0	4.155	6.5	4.9	0.9	ST	
54249	7/12/92	0518	2839.9	9003.0	14	72	36	69	30.5	21.1	19.5	29.8	36.2	36.3	0.268	5.9	3.3	4.0	ST	
54250	7/12/92	0638	2830.4	9000.1	14	93	46	93	30.6	21.6	17.4	30.5	36.1	36.3	0.168	6.0	6.0	4.1	PN	
54251	7/12/92	0820	2840.5	9005.0	14	89	44	89	30.3	20.7	17.6	23.7	36.2	36.4	1.015	6.3	4.8	4.1	ST	
54252	7/12/92	1022	2844.9	9013.7	14	32	16	32	31.4	25.5	21.2	27.7	33.5	36.2	0.511	5.9	4.1	3.0	ST	
54253	7/12/92	1242	2856.4	9005.3	14	25	12	25	31.2	27.8	22.3	25.5	31.4	36.0	1.219	5.9	6.0	0.1	ST	
54254	7/12/92	1511	2859.7	9029.3	14	10	5	10	31.3	29.2	27.1	24.5	29.7	31.8	3.224	5.7	5.3	3.6	PN	
54255	7/12/92	1845	2908.9	9003.2	14	10	5	10	31.7	30.5	27.6	28.9	29.0	31.1	0.941	5.8	6.0	1.1	ST	
54256	7/12/92	2034	2912.8	8948.8	13	13	7	13	31.9	30.0	26.5	25.1	29.8	32.2	1.090	6.2	5.7	0.4	ST	
54257	7/12/92	2302	2901.1	8953.0	13	27	14	27	30.7	27.7	21.6	28.7	31.3	36.1	0.617	6.4	5.6	0.8	ST	
54258	7/13/92	0011	2900.5	9000.1	14	24	12	24	31.3	28.6	22.5	25.5	30.5	36.0	0.592	6.4	6.2	0.0	PN	
54259	7/13/92	0130	2902.6	9005.5	14	15	7	15	30.8	30.3	26.4	26.6	29.0	32.4	1.114	6.7	6.6	0.1	ST	
54260	7/13/92	0338	2848.7	9004.5	14	36	18	36	31.2	23.7	21.1	23.8	35.6	36.2	1.545	6.5	3.1	2.8	ST	
54261	7/13/92	0712	2859.4	8930.2	13	16	8	16	30.3	29.8	25.2	28.5	29.2	33.9	1.037	6.0	5.4	0.1	PN	
54262	7/13/92	1038	2830.9	8929.5	13	404	100	200	30.3	18.4	14.1	32.1	36.4	35.8	0.263	6.2	4.3	4.0	PN	

Table 2. Selected environmental parameters (continued)

## LUMCON PELICAN, SUMMER SHRIMP/GROUNDFISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
36876	7/ 6/92	1247	2900.0	9030.0	14	10	4	10	29.6	28.8	24.8	28.1	28.6	34.1	7.424	8.0	5.2	1.0	PN
36877	7/ 6/92	1516	2902.3	9014.2	14	10	4	10	30.5	29.3	25.5	28.2	29.1	33.6	7.708	7.7	6.5	1.3	ST
36878	7/ 6/92	1642	2904.9	9011.8	14	6	3	6	29.0	28.1	26.7	29.6	30.3	31.8	14.768	3.9	3.1	0.7	ST
36879	7/ 6/92	1743	2901.0	9011.7	14	13	7	13	30.2	28.2	23.4	28.1	29.8	35.5	4.080	7.6	4.7	0.6	ST
36880	7/ 6/92	1923	2856.4	9011.1	14	16	8	16	30.5	28.9	22.9	28.2	29.2	35.8	2.788	7.8	5.7	0.6	ST
36881	7/ 6/92	2114	2904.9	9011.8	14	7	4	7	30.0	27.6	25.9	28.3	30.8	33.0	22.392	5.6	2.1	0.3	ST
36882	7/ 6/92	2226	2902.3	9014.2	14	10	5	10	29.7	28.4	24.1	28.0	29.6	34.9	8.038	6.0	4.2	0.2	ST
36883	7/ 6/92	2330	2901.0	9011.7	14	13	6	13	29.9	29.7	23.4	27.9	28.6	35.4	4.525	7.2	6.5	0.3	ST
36884	7/ 7/92	0054	2858.1	9010.9	14	17	9	17	30.4	28.0	22.9	28.0	30.0	35.8	2.050	6.8	4.0	0.6	ST
36885	7/ 7/92	0646	2900.0	8930.0	13	14	7	14	30.2	30.1	24.6	23.9	26.4	34.5	5.920	8.1	4.3	1.8	PN
36886	7/ 7/92	1047	2900.0	9000.0	14	27	14	27	30.1	25.6	22.0	28.7	33.7	36.7	1.710	6.6	4.1	1.7	PN
36887	7/ 7/92	1604	2837.4	9024.7	14	31	14	31	30.1	28.4	21.6	29.6	30.1	36.1	0.400	5.6	5.3	2.2	ST
36888	7/ 7/92	1731	2830.0	9030.0	14	40	20	40	30.0	24.6	21.3	29.4	35.0	36.1	0.326	5.4	5.6	3.9	PN
36889	7/ 7/92	1904	2830.5	9035.8	14	34	14	34	31.4	28.8	21.7	20.1	30.5	36.1	0.718	6.5	4.3	4.6	ST
36890	7/ 7/92	2032	2834.5	9034.4	14	28	14	28	31.9	24.2	21.9	23.5	34.3	36.0	0.893	6.2	3.8	2.9	ST
36891	7/ 7/92	2237	2835.8	9023.8	14	32	17	32	30.4	25.5	21.5	29.5	33.1	36.1	0.531	5.5	4.0	2.1	ST
36892	7/ 8/92	0105	2832.8	9036.2	14	33	16	33	30.1	25.3	21.7	26.2	33.5	36.0	0.682	6.4	3.5	4.1	ST
36893	7/ 8/92	0243	2837.4	9033.0	14	26	13	26	29.7	27.9	22.1	28.3	30.7	35.9	0.492	5.6	4.0	2.4	ST
36894	7/ 8/92	0401	2837.9	9033.7	14	24	12	24	29.8	25.4	22.2	26.0	33.0	35.9	0.240	5.8	4.1	2.4	ST
36895	7/ 8/92	0714	2837.2	9032.9	14	26	14	26	30.1	28.8	22.0	27.1	30.3	35.9	0.591	5.6	5.1	1.9	ST
36896	7/ 8/92	0841	2837.8	9033.7	14	24	15	24	29.9	28.1	22.3	23.8	30.7	35.9	0.864	6.0	5.4	2.6	ST
36897	7/ 8/92	1019	2835.9	9035.1	14	28	14	28	29.9	26.1	21.9	26.7	32.6	35.9	0.709	5.4	3.8	2.4	ST
36898	7/ 8/92	1350	2830.0	9100.0	15	36	16	36	30.3	27.3	21.4	29.5	31.9	36.1	0.363	5.4	4.8	3.4	PN
36899	7/ 8/92	1617	2844.1	9105.1	15	11	5	11	31.7	30.4	24.3	13.4	28.4	34.9	7.601	7.5	4.8	0.2	ST
36900	7/ 8/92	1740	2840.1	9107.8	15	15	7	15	33.6	29.5	23.4	15.9	29.6	35.3	2.423	6.9	5.2	0.6	ST
36901	7/ 8/92	1937	2841.4	9120.5	15	21	11	21	30.4	29.6	23.3	29.4	30.0	35.5	0.448	5.2	5.2	2.6	ST
36902	7/ 8/92	2050	2841.6	9120.6	15	21	11	21	30.4	29.6	23.5	29.4	30.0	35.5	0.448	5.2	5.2	2.6	ST
36903	7/ 8/92	2312	2843.9	9104.9	15	11	5	11	32.3	29.1	24.6	9.1	28.9	34.6	4.439	7.9	3.4	0.2	ST
36904	7/ 9/92	0042	2839.8	9107.7	15	17	8	17	31.4	29.1	23.4	24.2	30.0	35.3	1.211	6.2	5.2	0.4	ST
36905	7/ 9/92	0658	2900.0	9130.0	15	10	4	10	31.2	30.8	24.0	21.1	26.8	35.2	1.947	5.9	3.4	0.1	PN
36906	7/ 9/92	1047	2900.0	9100.0	15	6	2	6	30.9	29.2	26.8	13.3	26.7	31.8	4.909	8.1	2.0	0.4	PN



Table 2. Selected environmental parameters (continued)

CHAPMAN, FALL PLANKTON SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00001	8/30/92	1744	2605.5	9629.9	99	60	30	57	28.8	23.1	21.0	35.9	36.4	36.4	0.030	4.6	5.3	4.5	PN
00002	8/30/92	2156	2605.0	9659.8	21	26	12	24	28.9	28.9	28.6	36.3	36.3	36.2	0.087	4.9	5.0	5.3	PN
00003	8/31/92	0121	2630.1	9659.8	21	33	16	33	28.9	28.9	26.6	36.3	36.3	36.4	0.112	4.8	4.8	4.7	PN
00004	8/31/92	0512	2630.2	9629.5	99	86	43	84	28.6	22.5	19.9	36.1	38.5	36.4	0.055	4.3	5.6	4.4	PN
00005	8/31/92	0938	2659.9	9639.7	21	86	42	84	28.0	23.0	20.4	36.3	36.4	36.4	0.077	5.4	5.2	4.7	PN
00006	8/31/92	1316	2659.8	9711.9	21	22	11	22	29.4	29.3	28.6	35.7	35.8	36.3	0.872	4.5	4.2	3.7	PN
00007	8/31/92	1709	2729.7	9700.3	20	24	12	23	29.6	29.3	29.1	34.2	34.1	36.2	0.324	5.7	5.4	5.5	PN
00008	8/31/92	2021	2730.0	9630.1	20	71	35	70	28.7	23.8	21.1	36.2	36.8	36.5	0.047	5.3		5.9	PN
00009	8/31/92	2358	2735.1	9559.5	20	145	72	141	29.3	21.9	18.8	36.4	36.3	36.7	0.040	4.9	8.1	4.7	PN
00010	9/ 1/92	0328	2800.0	9600.9	19	44	22	43	28.6	28.6	22.5	36.2	36.2	37.3	0.119	5.4	5.1	5.9	PN
00011	9/ 1/92	0718	2759.7	9629.5	20	23	12	21	29.1	29.2	29.0	35.1	35.2	36.0	0.336	5.7	5.1	5.1	PN
00012	9/ 1/92	1010	2820.0	9620.0	19	11	6	11	29.0	29.0	29.1	32.3	32.2	32.3	0.530		5.1	5.4	PN
00013	9/ 1/92	1252	2830.3	9600.2	19	11	5	11	28.9	28.8	28.7	32.1	32.1	33.1	0.368	5.7	5.1	4.8	PN
00014	9/ 1/92	1612	2830.5	9532.2	19	22	12	22	29.1	28.8	28.2	33.7	34.3	35.7	0.256	5.9	5.8	4.9	PN
00015	9/ 1/92	1950	2759.8	9529.9	19	53	26	51	28.9	27.5	22.1	36.0	36.9	37.0	0.098	5.5	5.2	4.8	PN
00016	9/ 1/92	2203	2744.9	9530.0	20	104	52	101	28.3	21.8	19.6	36.1	36.8	36.3	0.064	4.9	5.1	4.1	PN
00017	9/ 2/92	0151	2759.4	9459.9	99	82	42	82	29.2	23.7	20.5	35.4	38.1	36.4	0.063	9.0	8.9	8.1	PN
00018	9/ 2/92	0532	2830.1	9459.9	18	33	16	31	28.6	28.6	23.9	35.7	35.6	37.2	0.118	6.0	5.9	5.8	PN
00019	9/ 2/92	0859	2900.0	9500.0	19	12	5	10	28.4	28.4	28.8	31.1	31.1	32.7	0.386	5.5	5.5	5.1	PN
00020	9/ 2/92	1257	2923.2	9430.7	18	11	6	10	28.3	28.0	28.0	35.2	35.2	35.8	0.779	5.3	5.0	4.9	PN
00021	9/ 2/92	1554	2900.0	9430.0	18	18	8	18	28.9	28.6	28.8	31.5	33.8	35.4	0.237	5.8	5.5	5.3	PN
00022	9/ 2/92	1953	2830.1	9429.8	18	33	16	32	28.9	28.9	22.9	35.8	35.9	36.9	0.137	5.1	5.1	4.3	PN
00023	9/ 2/92	2351	2759.9	9430.2	99	69	34	69	29.0	23.9	20.7	35.5	36.3	36.2	0.075	4.0	4.7	5.0	PN
00024	9/ 3/92	0337	2759.9	9359.9	99	82	43	81	29.0	22.0	20.0	34.6	36.3	36.3	0.066	5.2	6.4	5.1	PN
00025	9/ 3/92	0703	2800.0	9330.0	17	91	46	90	28.8	23.5	19.5	35.8	36.3	36.3	0.131	6.3	6.1	5.0	PN
00026	9/ 3/92	1015	2800.0	9259.9	16	103	51	102	28.9	22.8	18.9	34.6	36.4	36.4	0.056	5.5	5.0	4.0	PN
00027	9/ 3/92	1341	2759.5	9229.6	99	105	52	103	29.0	21.7	19.1	34.7	36.1	36.3	0.078	5.3	6.2	3.8	PN
00028	9/ 3/92	1646	2759.7	9159.7	99	121	60	120	28.3	20.6	18.1	32.8	36.2	36.3	0.368	5.8	5.1	5.0	PN
00029	9/ 3/92	1958	2759.9	9130.0	99	175	87	174	28.3	19.0	16.6	30.3	36.3	36.2	0.393	5.9	4.3	4.1	PN

Table 2. Selected environmental parameters (continued)

CHAPMAN, FALL PLANKTON SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00030	9/ 3/92	2346	2759.4	9101.4	99	158	76	157	28.2	20.4	16.8	31.5	36.2	36.2	0.168	4.7	3.4	2.6	PN
00031	9/ 4/92	0332	2806.5	9029.5	14	133	65	133	27.5	21.3	17.3	34.9	36.3	36.3	0.081	5.9	5.6	4.4	PN
00032	9/ 4/92	0711	2819.9	8959.3	99	104	54	104	27.7	25.5	17.5	35.4	36.0	36.3	0.075	5.6	5.2	4.3	PN
00033	9/ 9/92	2233	2830.1	9129.9	15	42	21	42	29.0	27.3	21.4	33.6	34.5	36.0	0.111	5.3	5.9	3.8	PN
00034	9/10/92	0225	2829.6	9159.5	15	46	23	46	28.9	28.6	21.5	33.8	34.9	36.1	0.061		5.4	3.6	PN
00035	9/10/92	0551	2829.2	9230.0	16	50	26	50	28.9	27.3	21.4	34.6	36.0	36.1	0.048	5.0	5.7	5.3	PN
00036	9/10/92	0935	2829.7	9259.6	17	44	22	43	29.1	29.0	22.2	35.2	35.4	36.0	0.082	6.3	6.3	5.2	PN
00037	9/10/92	1304	2829.9	9329.1	17	42	23	42	29.2	28.8	22.0	35.6	35.9	36.1	0.071	4.5	5.8	4.9	PN
00038	9/10/92	1626	2830.0	9359.9	17	40	21	39	29.3	28.9	22.0	35.6	35.9	36.1	0.055	4.3	4.5	4.0	PN
00039	9/10/92	1950	2900.1	9359.9	17	16	8	16	29.1	28.9	28.7	34.7	35.0	35.4	0.098	5.9	5.6	5.5	PN
00040	9/10/92	2347	2930.5	9358.9	17	11	6	11	29.4	29.2	29.1	25.8	27.2	31.6	3.937	5.8	5.6	5.0	PN
00041	9/11/92	0336	2928.0	9330.0	17	11	5	10	29.0	29.1	29.2	29.4	30.1	31.2	0.343	6.2	5.7	5.6	PN
00042	9/11/92	0721	2900.0	9330.1	17	21	12	21	29.1	29.1	28.9	33.4	33.6	35.2	0.118	5.7	5.8	4.7	PN
00043	9/11/92	1037	2900.0	9259.9	17	20	10	20	29.1	28.7	26.5	32.4	33.6	35.9	0.150	5.8	5.6	5.0	PN
00044	9/11/92	1419	2930.1	9259.8	16	10	6	10	29.4	29.0	29.0	27.9	28.5	29.9	1.377	5.7	5.7	5.6	PN
00045	9/11/92	1753	2928.0	9229.8	16	11	6	10	29.5	29.0	28.9	24.9	27.1	31.8	2.330	5.4	5.5	4.5	PN
00046	9/11/92	2148	2901.6	9229.8	16	21	11	21	29.3	29.0	25.2	32.8	34.6	35.7	0.162	5.8	5.6	5.4	PN
00047	9/12/92	0118	2900.8	9159.8	15	18	9	18	29.1	28.4	24.6	30.0	31.4	35.6	0.374	5.5	5.6	1.6	PN
00048	9/12/92	0436	2856.0	9130.0	15	12	7	11	29.0	28.9	26.4	30.7	30.7	33.4	0.343	5.8	6.3	5.6	PN
00049	9/12/92	0831	2847.6	9102.3	15	11	5	11	28.6	28.6	28.5	31.0	31.4	32.0	0.262	6.0	5.7	5.9	PN
00050	9/12/92	1121	2830.3	9059.6	15	31	15	30	28.9	25.8	21.7	32.8	34.5	35.9	0.330	5.7	5.2	2.8	PN

Table 2. Selected environmental parameters (continued)

CHAPMAN, FALL PLANKTON SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00051	9/12/92	1442	2830.0	9029.6	14	37	19	36	29.1	24.9	22.1	30.3	34.5	36.0	0.303	6.1	5.6	3.8	PN
00052	9/12/92	1803	2858.0	9030.0	14	14	7	13	29.8	29.3	25.7	28.9	29.6	33.2	0.316	5.9	6.4	2.6	PN
00053	9/12/92	2131	2901.7	9000.1	14	21	10	21	29.8	28.1	23.8	20.9	34.0	35.3	5.271		5.8	4.4	PN
00054	9/13/92	0144	2830.8	8958.6	13	200	101	192	28.5	18.0	16.3	33.4	36.3	36.2	0.124	5.9	4.5	4.4	PN
00055	9/13/92	0517	2835.7	8928.7	13	173	88	172	28.6	19.8	16.6	34.9	36.5	35.0	0.053	4.3	5.6	4.9	PN
00056	9/13/92	0950	2900.6	8929.1	13	13	7	13	30.1	26.8	25.6	18.9	33.2	34.7	24.110	7.1	6.3	5.6	PN
00057	9/13/92	1512	2901.0	8859.8	11	62	33	59	29.3	21.7	20.5	30.9	36.1	36.3	0.953	5.5	5.2	5.0	PN
00058	9/13/92	1640	2906.3	8858.5	11	20	9	19	30.1	27.7	23.2	27.0	32.9	35.7	4.074	6.4	5.9	5.7	PN
00075	9/16/92	2130	3014.0	8729.9	10	11	5	11	27.9	27.9	27.9	31.5	31.6	31.7	2.203	4.8	5.9	5.8	PN
00076	9/17/92	0107	3019.7	8659.6	9	20	9	19	28.0	28.0	28.0	31.8	31.9	31.9	0.822	6.3	6.2	6.0	PN
00077	9/17/92	0433	3020.1	8629.0	9	25	13	24	28.0	28.1	24.0	32.8	32.9	35.6	0.268	5.0	6.0	2.2	PN
00078	9/17/92	0743	3000.0	8629.7	9	54	27	54	28.1	27.8	20.1	34.8	34.8	36.3	0.287	6.2	6.3	5.5	PN
00079	9/17/92	1142	2930.0	8629.8	9	203	102	187	28.3	19.3	17.3	33.6	36.6	36.3	0.187	5.8	5.0	4.7	PN
00080	9/17/92	1551	2948.0	8700.0	10	190	90	180	28.4	19.5	16.7	34.1	36.4	36.2	0.206	6.2	6.0	5.7	PN
00081	9/17/92	1815	2959.5	8658.2	9	73	36	73	28.2	24.5	19.7	34.4	35.7	36.4	0.206	5.8	5.9	4.9	PN
00083	9/17/92	2312	2959.4	8729.2	10	27	12	27	27.2	27.5	23.6	34.3	34.7	26.5	1.015	6.4	6.4	5.8	PN
00086	9/18/92	0450	2930.8	8728.6	10	65	31	64	28.0	24.6	20.7	34.3	35.8	36.3	0.122	6.5	6.4	6.2	PN
00092	9/18/92	1331	3000.2	8800.0	11	21	10	20	27.5	27.6	27.5	33.1	33.4	33.7	1.489	5.3	6.1	6.1	PN
00096	9/18/92	1929	2929.9	8759.9	99	42	21	41	28.4	27.9	21.9	34.7	34.7	36.2	0.193	6.1	6.1	5.5	PN
00097	9/18/92	2146	2913.6	8759.3	99	198	100	198	28.4	19.4	16.3	34.3	36.4	36.2	0.299	5.8	5.0	5.1	PN
00112	9/19/92	2050	2912.9	8830.1	11	36	18	35	28.2	28.8	28.6	33.2	34.4	35.0	0.436	5.5	5.4	5.5	PN
00113	9/19/92	2316	2930.1	8829.9	11	49	24	49	27.9	26.6	22.2	32.4	34.1	34.5	0.424	6.0	6.1	5.9	PN
00118	9/20/92	0522	3000.7	8829.6	11	20	10	19	27.4	27.8	27.8	30.6	32.9	33.1	1.794	6.0	5.8	5.8	PN

Table 2. Selected environmental parameters (continued)

## A.E. VERRILL, FALL PLANKTON SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
23001	9/22/92	1016	3010.2	8803.1	11	16	8	16	28.9	27.8	28.5	30.7	30.9		7.2	5.8	6.6	PN	
23002	9/22/92	1109	3008.0	8803.9	11	17	9	17	28.9	28.3	28.4	30.0	31.3		7.2	6.8	6.0	PN	
23003	9/22/92	1225	3010.6	8807.5	11	12	6	12	28.9	28.9	28.4	30.6	30.7		7.0	7.4	5.4	PN	
23004	9/22/92	1251	3008.3	8807.4	11	16	8	16	28.3	28.3	28.5	30.3	31.4		6.8	6.6	6.2	PN	
23005	9/22/92	1321	3008.6	8801.2	11	18	9	18	28.9	28.3	29.1	31.9	32.1		6.0	5.4	5.2	PN	
23006	9/22/92	1351	3010.6	8801.2	11	12	7	12	28.9	28.3	25.7		31.0		7.0		5.0	PN	
23007	9/22/92	1525	3015.5	8800.5	11	6	4	6	28.9	28.9	19.2		23.2		7.0		6.4	PN	
23008	9/22/92	1555	3016.4	8802.3	11	14	7	14	28.9	28.9	19.6	23.5	25.2		7.6	6.2	6.2	PN	
23009	9/22/92	1633	3017.4	8806.1	11	4		4	28.9	28.3	17.6		22.3		9.0		6.6	PN	

Table 2. Selected environmental parameters (continued)

OREGON II, FALL PLANKTON SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN,PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54263	9/24/92	0055	3000.0	8600.1	9	31	17	31	28.1	28.2	21.3	32.4	34.8	36.2	0.586	6.7	6.5	5.1	PN
54264	9/24/92	0407	2948.0	8530.5	8	21	12	21	28.6	27.7	22.4	31.7	32.9	36.2	0.318	6.6	6.3	4.2	PN
54265	9/24/92	0622	2929.9	8530.2	8	13	7	12	28.4	28.5	28.6	32.1	32.3	33.2	0.187	5.7	5.9	5.7	PN
54266	9/24/92	0932	2930.1	8600.1	9	52	30	52	28.3	22.3	20.7	33.0	36.4	36.7	0.168	6.5		4.8	PN
54267	9/24/92	1156	2912.1	8600.1	99	194	88	194	28.6	21.1	17.8	33.2	36.8	36.4	0.178	6.3	4.8	4.3	PN
54268	9/24/92	1545	2900.3	8530.4	8	72	36	72	28.8	25.0	21.8	35.8	36.5	36.7	0.081	5.9	5.7	5.0	PN
54269	9/24/92	1822	2840.1	8530.4	99	180	84	179	28.8	21.0	16.3	35.8	36.7	36.2	0.100	5.7	4.7	4.5	PN
54270	9/24/92	2214	2830.1	8459.9	6	103	53	103	28.7	24.8	22.3	36.0	36.6	36.7	0.082	6.0	5.6	5.2	PN
54271	9/25/92	0205	2800.1	8459.9	6	252	99	202	29.0	21.1	16.3	36.0	36.6	36.2	0.084	6.4	4.9	4.6	PN
54272	9/25/92	0544	2800.3	8430.2	6	76	37	76	28.6	26.5	22.1	35.8	36.4	36.7	0.075	5.6	6.1	5.8	PN
54273	9/25/92	0905	2800.2	8359.7	6	48	25	43	28.2	24.1	20.2	34.8	36.3	36.5	0.210	6.2	6.1	6.2	PN
54274	9/25/92	1208	2759.9	8330.2	5	29	15	29	28.7	28.7	20.4	34.0	34.0	36.3	0.280	6.4			PN
54275	9/25/92	1515	2800.0	8300.0	6	13	7	13	29.6	29.2	29.0	34.9	35.0	35.1	0.673	6.2	6.1	5.7	PN
54276	9/25/92	1829	2830.1	8302.7	6	11	6	11	29.1	29.1	29.1	35.0	35.0	35.0	0.754	5.6	5.4	5.9	PN
54277	9/25/92	2115	2830.1	8330.1	6	23	10	21	28.9	28.9	23.9	34.7	34.7	36.0	0.262	5.5	5.3	4.5	PN
54278	9/26/92	0027	2829.0	8400.0	6	36	19	36	28.3	22.0	19.0	33.5	36.6	36.4	0.159	6.4	6.7	6.4	PN
54279	9/26/92	0315	2829.9	8430.0	6	51	27	51	28.2	25.2	20.3	33.5	36.4	36.4	0.175	6.4	6.3	5.2	PN
54280	9/26/92	0721	2900.1	8500.0	8	40	20	39	28.2	28.2	21.8	35.8	35.8	36.5	0.104	5.4	5.4	5.5	PN
54281	9/26/92	1032	2900.1	8429.8	7	34	19	33	27.9	27.5	19.7	33.5	33.7	36.4	0.296	6.3	6.2	5.0	PN
54282	9/26/92	1326	2900.0	8400.1	6	30	16	29	28.1	28.5	20.7	33.6	34.4	36.2	0.264	6.5	6.5	5.8	PN
54283	9/26/92	1620	2900.1	8330.0	7	17	9	17	29.0	28.8	28.8	34.8	34.9	34.9	0.835	5.2	5.3	5.3	PN
54284	9/26/92	1802	2859.9	8318.8	6	11	6	11	28.8	28.8	28.8	34.7	34.7	34.7	1.018	6.3	6.3	6.3	PN
54285	9/26/92	2156	2930.1	8335.8	7	13	6	11	28.0	28.0	27.9	33.5	33.5	33.5	1.246	6.3	6.2	6.2	PN
54286	9/27/92	0024	2930.1	8400.0	7	21	11	21	27.8	27.9	26.6	33.5	33.6	35.1	0.290	6.5	6.4	5.0	PN
54287	9/27/92	0223	2946.4	8400.0	7	11	5	11	27.5	27.5	27.5	32.8	32.8	32.8	0.978	6.3	6.3	6.3	PN
54288	9/27/92	0536	2930.2	8430.0	7	23	12	22	27.6	27.7	26.5	33.2	33.3	34.0	0.305	5.5	5.6	5.0	PN
54289	9/27/92	0812	2930.0	8457.1	7	12	5	12	27.1	27.2	27.2	34.4	32.7	32.8	0.791	6.1	6.2	6.1	PN

Table 2. Selected environmental parameters (continued)

LUMCON PELICAN, FALL PLANKTON SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
36906	9/28/92	1113	2900.0	9030.0	14	11	5	11	26.7	26.8	27.1	27.6	27.7	29.5	2.001	9.0	9.0	8.8	PN
36907	9/28/92	1243	2859.3	9034.0	14	11	5	11	26.8	26.8	27.0	27.7	27.7	28.7	1.604	6.4	8.9	8.8	ST
36908	9/28/92	1436	2853.0	9041.8	14	13	6	13	27.1	27.1	27.2	30.5	30.6	31.3	1.252	8.8	8.7	8.7	ST
36909	9/28/92	1651	2854.3	9034.3	14	12	6	12	27.2	27.2	27.2	30.6	30.6	30.7	1.882	8.3	8.6	8.1	ST
36910	9/28/92	1854	2853.1	9025.8	14	17	9	17	27.2	27.2	27.4	30.3	30.5	31.5	2.425	6.5	8.8	8.7	ST
36911	9/28/92	2124	2854.3	9034.1	14	13	7	13	27.1	27.2	27.2	30.2	30.2	30.3	1.495	9.7	8.8	8.9	ST
36912	9/28/92	2302	2853.3	9041.6	14	12	6	12	27.1	27.1	27.1	31.0	31.0	31.0	2.116	8.9	8.9	9.0	ST
36913	9/29/92	0140	2859.2	9033.8	14	11	5	11	26.7	26.7	26.8	29.8	29.8	29.8	1.441	9.2	9.1	9.1	ST
36914	9/29/92	0625	2856.2	9009.8	14	21	11	21	26.7	26.8	27.2	28.9	29.0	30.3	2.577	7.0	8.3	3.2	ST
36915	9/29/92	0823	2856.3	9009.3	14	21	11	21	26.7	26.8	27.2	28.9	29.0	30.3	2.577	7.0	8.3	3.2	ST
36916	9/29/92	1052	2854.5	9024.8	14	17	9	17	26.8	26.8	26.8	29.6	29.7	29.7	2.109	7.6	9.1	9.1	ST
36917	9/29/92	1501	2900.0	9000.0	14	24	12	24	26.9	26.9	27.3	29.2	29.3	30.3	1.052	8.1	8.9	8.8	PN
36918	9/29/92	1704	2907.8	8951.2	13	20	11	12	26.9	26.9	27.2	28.8	28.8	30.5	3.145	8.1	9.0	8.9	ST
36919	9/29/92	1753	2903.1	8949.4	13	29	15	29	26.6	26.9	26.1	28.1	28.5	34.6	2.049	9.0	9.1	8.2	ST
36921	9/29/92	2104	2903.5	8942.2	13	29	14	29	26.5	26.7	27.0	27.9	28.3	33.9	1.052	6.3	9.1	8.8	ST
36922	9/29/92	2319	2907.9	8951.2	13	19	11	19	26.6	26.7	27.1	28.5	28.6	29.7	3.632	9.0	9.1	9.0	ST
36923	9/30/92	0436	2858.6	8932.7	13	36	17	36	26.3	27.3	27.3	28.7	31.1	33.5	1.252	8.2	8.7	8.7	ST
36924	9/30/92	0732	2858.6	8932.6	13	33	17	33	26.4	27.3	27.4	29.4	31.2	33.1	1.401	8.0	8.8	8.7	ST
36925	9/30/92	0844	2900.0	8930.0	13	15	8	15	25.2	26.2	27.4	25.3	29.3	32.3	1.581	7.4	9.2	8.7	PN
36926	9/30/92	1050	2903.6	8942.1	13	31	15	31	26.4	26.4	27.1	28.6	28.7	33.6	2.033	7.9	9.2	8.9	ST
36927	9/30/92	1824	2857.6	9048.8	14	9	5	9	25.6	25.6	25.6	28.9	28.9	28.9	2.343	9.4	9.5	9.7	ST
36929	10/ 1/92	0725	2900.0	9130.0	15	11	5	11	24.7	24.7	24.7	28.0	28.0	28.0	1.244	6.4	0.1	0.2	PN
36930	10/ 1/92	1137	2900.0	9100.0	15	8	4	8	24.7	24.8	24.8	28.9	28.8	28.8	3.404	9.8	9.9	9.9	PN

Table 2. Selected environmental parameters (continued)

SUNCOASTER, FALL PLANKTON SURVEY																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN,PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00022	10/12/92	1350	2729.4	8259.6	5	17		17						1.513					
00023	10/12/92	2045	2729.4	8330.2	5	42	20	36	25.9	26.4	21.9	34.9	36.0	36.5	0.194				PN
00024	10/13/92	0233	2730.0	8400.0	5	61	19	40	26.5	26.5	25.7	36.0	36.0	36.3	0.067				PN
00025	10/13/92	0915	2729.4	8437.6	99	176	50	152	26.9	25.4	18.3	36.0	36.5	36.5	0.064				PN
00026	10/17/92	0612	2700.0	8300.0	5	35	18	31	26.3	26.3	20.9	35.1	35.1	36.2	0.599				PN
00027	10/17/92	0917	2659.5	8325.0	4	50	21	46	26.2	26.3	19.9	35.0	35.1	36.3	0.302				PN
00028	10/17/92	1428	2659.4	8400.1	4	84	30	72	27.4	26.8	23.1	36.0	36.1	36.5	0.066				PN
00029	10/17/92	1904	2659.4	8430.0	99	171	51	151	27.0	26.3	17.0	36.0	36.1	36.3	0.067				PN
00030	10/18/92	0321	2630.0	8437.1	99	217	70	151	27.5	22.9	17.7	35.7	36.7	36.4	0.078				PN
00031	10/18/92	0810	2629.4	8359.5	4	125	51	101	27.7	25.7	21.5	35.9	36.1	36.6	0.118				PN
00032	10/18/92	1212	2629.4	8332.5	4	57	20	51	26.5	26.5	23.8	34.8	36.0	36.5	0.276				PN
00033	10/18/92	1706	2629.3	8259.6	4	41	19	33	27.5	27.2	20.9	35.5	35.5	36.4	0.236				PN
00034	10/18/92	2212	2630.0	8230.0	4	22	5	12	26.8	26.8	26.8	35.2	35.2	35.2	0.699				PN
00035	10/19/92	0558	2600.0	8200.0	4	14		14							0.634				PN

Table 2. Selected environmental parameters (continued)

OREGON 11, FALL SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54352	10/18/92	1205	2627.0	9622.3	21	109	54	109	27.1	27.1	20.0	36.2	36.2	36.4	0.083	6.4	6.4	4.7	ST
54353	10/18/92	1632	2617.8	9703.2	21	19	9	18	26.2	26.2	26.8	32.5	32.7	34.2	0.150	6.9	6.8	6.4	ST
54354	10/18/92	1818	2608.9	9709.3	21	12	6	11	26.7	26.7	26.7	33.8	33.9	33.9	1.265	6.6	6.6	6.4	ST
54355	10/18/92	1941	2559.4	9659.8	22	27	12	26	26.1	26.3	26.0	32.3	33.1	26.8	0.206	6.8		6.3	PN
54356	10/18/92	2145	2604.9	9657.0	21	32	16	29	26.0	26.4	27.1	32.4	33.1	35.0	0.125	6.6	6.5	5.3	ST
54357	10/18/92	2313	2610.1	9654.1	21	37	18	36	25.9	26.5	27.3	32.2	33.2	35.6	0.137	6.7	6.6	4.7	ST
54358	10/19/92	0316	2630.1	9630.2	21	84	42	84	26.9	27.2	22.4	35.8	36.3	36.2	0.047	6.5	6.5	5.6	PN
54359	10/19/92	445	2630.2	9630.9	21	86	44	84	26.9	27.1	21.4	35.9	36.2	36.3	0.037	6.6	6.5	5.5	ST
54360	10/19/92	906	2629.4	9703.9	21	33	16	32	25.7	25.6	26.9	32.2	32.3	34.5	0.157	7.0	7.0	5.3	ST/PN
54361	10/19/92	1210	2647.9	9644.5	21	73	36	72	26.6	27.1	23.0	35.2	35.8	36.3	0.098	6.5	6.4	5.8	ST
54362	10/19/92	1528	2651.4	9702.4	21	40	20	38	25.7	26.3	26.4	31.8	34.5	34.7	0.249	6.8	6.2	5.7	ST
54363	10/19/92	1646	2650.9	9708.2	21	31	16	30	25.7	25.4	26.3	31.8	31.9	34.1	0.178	6.4	6.4	6.3	ST
54364	10/19/92	1828	2654.8	9720.9	21	13	5	10	25.7	26.7	25.6	32.3	32.3	32.4	0.496	6.8	6.7	6.8	ST
54365	10/19/92	2010	2650.0	9714.2	21	24	12	23	25.8	25.8	25.7	32.4	32.4	32.7	0.343	6.8	6.8	6.7	ST
54366	10/19/92	2215	2638.1	9715.8	21	17	8	16	26.0	26.0	25.9	33.2	33.2	33.4	0.797	7.0	7.0	7.1	ST
54367	10/19/92	2309	2636.4	9714.8	21	17	9	16	26.0	26.0	26.0	33.3	33.3	33.3	1.396	7.1	7.1	7.1	ST
54368	10/20/92	21	2635.2	9712.5	21	18	9	17	26.0	26.0	26.1	33.3	33.3	33.4	0.885	8.5	8.4	8.4	ST
54369	10/20/92	214	2640.8	9702.9	21	35	17	35	25.5	25.5	26.8	31.8	31.8	34.4	0.318	8.5	8.4	5.8	ST
54370	10/20/92	554	2659.5	9629.5	21	131	65	130	26.9	24.5	18.2	36.1	36.4	36.4	0.070	6.8	6.6	6.3	PN
54371	10/20/92	1013	2721.2	9652.1	20	47	22	46	25.1	25.8	26.3	33.5	34.6	34.7	0.573	6.7	6.5	5.7	ST
54372	10/20/92	1402	2703.2	9717.8	20	19	9	19	25.4	25.3	25.3	32.2	32.2	32.3	0.486	9.3	8.9		ST
54373	10/20/92	1457	2659.8	9721.1	20	14	7	14	25.6	25.5	25.4	32.3	32.3	32.3	0.511	7.1	7.1	7.0	ST
54374	10/20/92	1709	2659.9	9700.0	20	44	22	42	25.3	26.0	26.0	32.0	34.4	34.6	0.648	6.7	6.6	6.6	PN
54375	10/20/92	1911	2658.0	9657.9	21	40	21	40	25.3	25.8	26.2	32.1	34.0	34.9	0.598	6.6	6.6		ST
54376	10/20/92	2115	2701.0	9704.8	20	35	18	35	25.4	25.2	25.9	32.1	32.7	34.4	0.679	7.1	6.9	5.9	ST
54377	10/20/92	2222	2700.2	9708.6	20	31	16	30	25.4	25.4	25.9	32.2	32.3	34.0	0.629	7.0	7.0	5.6	ST
54378	10/20/92	2331	2701.3	9712.5	20	27	13	26	25.4	25.4	25.3	32.3	32.3	32.4	0.523	6.9	6.8	6.2	ST
54379	10/21/92	52	2704.9	9717.5	20	20	10	20	25.3	25.3	25.2	32.2	32.2	32.3	0.573	6.7	6.6	6.4	ST
54380	10/21/92	0246	2714.0	9714.7	20	21	10	20	24.9	25.0	25.2	31.5	31.6	33.0	0.729	6.8	6.7	6.5	ST
54381	10/21/92	458	2726.5	9716.6	20	11	5	10	24.9	24.9	24.9	31.2	31.2	31.2	1.129	7.1	7.0	6.9	ST



Table 2. Selected environmental parameters (continued)

OREGON II, FALL SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54382	10/21/92	649	2728.2	9659.9	20	30	15	29	24.6	25.1	25.3	31.2	33.6	33.8	0.573	6.7	6.9	6.8	ST
54383	10/21/92	944	2729.5	9703.8	20	28	13	27	24.5	25.3	25.2	31.2	33.5	33.9	0.766	7.1	6.9	6.9	ST/PN
54384	10/21/92	1136	2731.6	9708.4	20	20	9	20	24.8	24.6	24.7	31.5	31.5	31.5	0.717	7.3	7.4	7.3	ST
54385	10/21/92	1210	2731.8	9712.1	20	14	7	14	25.1	25.0	24.9	30.7	30.7	31.7	0.866	7.3	7.3	6.8	ST
54386	10/21/92	1421	2736.0	9703.2	20	22	11	22	25.0	24.9	22.1	32.5	32.8	33.0	0.270	7.0	6.9	6.8	ST
54387	10/21/92	1540	2733.1	9655.3	20	30	15	30	25.0	25.0	25.6	32.0	33.5	34.6	0.542	7.2	6.8	6.2	ST
54389	10/21/92	1844	2724.6	9639.3	20	64	31	64	25.9	25.9	26.4	35.2	35.5	36.0	0.305	6.6	6.7	6.7	ST
54390	10/21/92	2057	2715.0	9649.1	20	56	27	54	25.1	26.3	27.1	32.8	35.5	36.2	0.287	7.1	6.8	6.5	ST
54391	10/21/92	2325	2720.1	9642.3	20	64	31	62	26.1	26.4	26.7	35.3	35.7	35.9	0.492	6.9	6.7	6.3	ST
54392	10/22/92	134	2719.0	9631.5	20	90	45	90	25.7	26.7	20.7	35.0	36.1	36.3	0.174	7.1	6.4	5.3	ST
54394	10/22/92	606	2735.0	9617.5	20	94	44	90	26.0	26.3	20.8	35.7	36.0	36.3	0.156	7.7	7.6	6.5	ST
54395	10/22/92	902	2729.8	9629.8	20	75	34	74	26.1	26.0	25.8	35.7	35.8	36.0	0.143	7.7	6.4	5.9	PN
54396	10/22/92	1104	2724.2	9639.7	20	66	31	62	25.7	26.2	26.3	35.1	35.8	35.9	0.162	6.6	6.5	6.2	ST
54397	10/22/92	1312	2721.1	9633.5	20	82	40	80	25.7	26.8	22.5	35.1	36.1	36.3	0.280	6.4	6.3	4.7	ST
54399	10/22/92	1911	2738.8	9633.0	20	58	23	55	26.0	26.1	26.1	35.9	36.0	36.0	1.333	6.7	6.7	6.6	ST
54400	10/22/92	2149	2734.3	9642.5	20	45	21	43	25.8	25.8	25.9	35.7	35.7	35.8	2.037	6.6	6.6	6.6	ST
54402	10/23/92	0258	2748.0	9702.0	20	14	7	14	24.5	24.5	24.5	30.7	30.7	30.7		7.1	7.1	7.1	ST
54403	10/23/92	0501	2752.1	9652.2	20	20	10	17	24.1	24.2	24.2	31.0	31.1	31.1	1.329	7.1	7.0	7.0	ST
54404	10/23/92	0737	2747.5	9651.6	20	23	11	20	24.1	24.3	24.4	31.2	32.2	32.5	1.604	7.0	7.0	6.9	ST
54405	10/23/92	1023	2750.0	9636.3	20	33	15	30	24.9	24.9	25.1	34.6	34.6	35.0	0.623	6.7	6.6	6.5	ST

Table 2. Selected environmental parameters (continued)

## OREGON II, FALL SHRIMP/GROUNDFISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54406	10/23/92	1152	2749.8	9633.6	20	36	18	34	25.1	25.0	25.1	34.9	34.9	35.0	0.611	6.7	6.5	6.6	ST
54407	10/23/92	1442	2759.3	9636.8	20	24	12	24	24.6	24.5	24.7	32.6	33.3	34.0	1.443	6.9	6.8	6.6	ST/PN
54408	10/23/92	1748	2804.5	9615.5	19	31	15	26	25.2	26.2	25.1	35.4	35.4	35.3	0.623	6.7	6.8	6.8	ST
54409	10/23/92	1941	2801.6	9624.3	19	30	15	27	24.8	25.2	25.1	34.6	35.2	35.3	1.106	6.9	6.8	6.8	ST
54410	10/23/92	2309	2820.9	9620.3	19	12	5	11	23.8	23.8	23.7	29.5	29.4	29.7	1.682	7.1	7.0	6.9	ST
54411	10/24/92	245	2805.4	9550.5	19	40	20	40	25.5	25.5	25.5	35.5	35.5	35.5	0.319	7.0	7.0	7.0	ST
54413	10/24/92	0656	2809.2	9537.5	19	41	21	39	25.6	25.7	25.6	35.7	35.7	35.7	0.270	7.1	7.0	7.0	ST
54414	10/24/92	918	2812.9	9544.5	19	34	17	33	25.3	25.3	25.3	35.3	35.3	35.3	0.424	6.9	6.8	6.8	ST
54415	10/24/92	1053	2805.8	9547.3	19	40	20	40	25.4	25.4	25.6	35.5	35.5	35.7	0.361	7.1	6.7	6.6	ST
54416	10/24/92	1348	2754.8	9557.0	20	56	27	55	25.9	25.7	25.9	35.9	35.9	36.0	0.199	7.0	6.9	6.7	ST/PN
54418	10/24/92	1828	2821.6	9617.2	19	17	8	17	24.3	23.7	24.2	29.3	31.5	33.0	1.209	7.9	7.5	6.9	ST
54419	10/24/92	2138	2829.2	9552.3	19	18	9	18	23.9	24.0	24.3	31.9	33.1	34.3	0.486	7.3	7.2	7.1	ST
54420	10/24/92	2312	2829.3	9546.6	19	21	11	21	24.0	24.0	24.4	32.9	33.5	34.4	0.735	7.3	7.2	7.0	ST
54421	10/25/92	140	2835.3	9526.3	19	24	12	24	24.5	24.5	24.4	34.3	34.4	34.4	0.335	7.1	7.0	6.9	ST
54422	10/25/92	240	2844.9	9523.7	19	17	8	17	23.3	23.4	23.9	28.9	30.5	32.9	1.363	7.5	7.2	6.6	ST
54423	10/25/92	343	2847.3	9525.9	19	10	5	10	23.0	23.0	23.2	27.1	27.7	28.9	2.280	7.4	7.3	6.6	ST
54424	10/25/92	633	2838.1	9550.0	19	9	5	9	23.2	23.3	23.4	28.1	28.7	29.8	1.962	7.2	7.1	6.9	ST
54425	10/25/92	702	2836.9	9549.1	19	12	6	12	23.2	23.4	23.6	27.9	28.9	31.7	1.744	7.4	7.1	7.2	ST
54426	10/25/92	941	2827.4	9558.0	19	17	8	17	23.2	24.0	24.2	28.5	33.0	34.0	1.506	7.6	7.3	7.0	ST/PN
54427	10/25/92	1206	2820.4	9548.0	19	26	12	26	24.6	24.6	24.7	34.6	34.8	34.9	0.611	7.4	7.3	7.2	ST
54428	10/25/92	1448	2813.4	9526.4	19	40	20	40	25.5	25.4	25.7	35.3	35.4	35.7	0.260	7.2	7.0	6.9	ST
54429	10/25/92	1648	2817.8	9523.7	19	38	19	37	25.7	25.4	25.5	35.4	35.5	35.6	0.206	7.2	7.0	6.9	ST
54430	10/25/92	1920	2828.1	9508.0	19	37	19	35	25.2	25.0	25.5	35.1	35.1	35.5	0.339	7.2	7.2		ST
54431	10/25/92	2104	2829.8	9459.8	18	34	17	34	25.2	25.2	25.2	35.2	35.2	35.2	0.218	7.0	6.8	6.7	PN
54432	10/25/92	2332	2838.2	9451.3	18	30	15	30	25.3	25.3	25.3	35.3	35.3	35.3	0.206	6.9	6.6	6.4	ST
54433	10/26/92	0149	2839.5	9503.8	19	28	14	28	25.0	25.0	25.0	35.2	35.2	35.2	0.355	7.1	6.7	6.6	ST
54434	10/26/92	0309	2844.7	9503.4	19	21	10	21	26.6	24.8	24.8	30.8	35.0	35.1	0.386	7.6	6.6	6.5	ST
54435	10/26/92	0737	2830.2	9540.5	19	21	10	20	23.3	24.6	24.5	29.2	34.6	34.7	0.511	7.1	6.6	6.3	ST
54436	10/26/92	0914	2830.3	9530.1	19	25	12	25	24.4	24.8	24.9	33.6	35.0	35.1	0.380	7.4	6.8	6.4	PN
54437	10/26/92	1107	2833.8	9520.1	19	27	13	26	24.3	24.7	24.8	33.4	34.9	35.0	0.249	7.3	7.2	6.8	ST

Table 2. Selected environmental parameters (continued)

OREGON II, FALL SHRIMP/GROUNDFISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54438	10/26/92	1400	2848.1	9521.8	19	14	7	14	23.6	23.5	24.1	29.3	30.9	33.7	0.935	8.4	7.4	6.2	ST
54439	10/26/92	1556	2850.1	9512.5	19	20	10	20	24.3	24.5	24.7	27.9	34.1	34.8	0.405	8.2	7.1	6.4	ST
54441	10/26/92	2009	2858.8	9504.6	19	16	8	16	24.0	23.9	24.4	28.3	31.7	34.2	0.575	8.2	7.2	6.2	ST
54442	10/26/92	2134	2900.1	9459.7	18	17	8	16	23.9	23.8	24.5	28.0	31.5	34.2	0.636	8.4	7.4	6.4	PN
54443	10/26/92	2332	2909.7	9453.9	18	12	6	12	23.9	24.0	24.2	28.8	33.3	34.0	1.402	8.1	6.6	6.1	ST
54444	10/28/92	1726	2851.7	9429.9	18	23	11	23	24.8	24.8	24.8	33.1	34.6	34.8	0.181	7.1	7.0	7.0	ST/PN
54445	10/28/92	2005	2840.5	9419.4	18	32	16	32	25.2	25.0	25.3	34.8	34.8	35.2	0.133	6.9	7.0	6.9	ST
54446	10/28/92	2230	2834.9	9423.0	18	35	17	35	25.3	25.4	25.5	35.0	35.4	35.7	0.199	7.0	6.9	6.9	ST/PN
54447	10/29/92	115	2818.5	9432.3	18	46	23	45	25.5	25.6	25.7	35.7	35.7	35.9	0.087	6.9	6.8	6.7	ST
54450	10/29/92	644	2805.9	9447.0	18	54	27	54	26.0	26.1	26.3	36.0	36.0	36.2	0.095	6.7	6.7	6.6	ST
54451	10/29/92	749	2801.8	9445.1	18	75	37	75	26.0	26.3	22.8	36.1	36.2	36.2	0.085	6.8	6.8	6.4	ST
54452	10/29/92	1040	2759.6	9500.2	19	80	40	80	26.2	26.2	22.2	36.1	36.2	36.3	0.126	6.8	6.9	6.4	PN
54453	10/29/92	1335	2800.2	9430.1	18	70	36	70	26.1	26.1	24.4	36.0	36.1	36.3	0.095	6.9	6.8	6.8	PN
54454	10/29/92	1522	2759.3	9426.0	18	78	39	78	25.8	25.7	22.6	35.9	35.9	36.2	0.461	6.8	6.7	6.3	ST
54455	10/29/92	1741	2806.5	9442.0	18	57	28	57	25.8	25.6	25.6	35.8	35.8	35.9	0.219	6.5	6.5	6.3	ST
54456	10/29/92	2116	2801.8	9418.4	18	74	37	74	25.7	25.7	22.8	35.8	35.9	36.2	0.085	6.7	6.5	5.8	ST
54457	10/29/92	2347	2805.8	9409.9	18	66	33	66	25.6	25.7	23.8	35.6	35.8	36.2	0.100	6.7	6.6	6.0	ST
54460	10/30/92	0330	2755.1	9407.1	18	93	46	93	25.6	25.9	21.5	35.7	36.1	36.3	0.094	6.7	6.6	6.4	ST
54461	10/30/92	0501	2752.8	9400.5	18	142	72	142	25.5	22.8	18.6	35.6	36.3	36.4	0.181	6.7	6.8	5.7	ST
54462	10/30/92	0742	2800.0	9400.0	18	83	41	82	26.4	26.3	21.9	36.2	36.2	36.3	0.151	6.6	6.6	6.2	PN

Table 2. Selected environmental parameters (continued)

OREGON II, FALL SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54463	10/30/92	1017	2755.1	9410.1	18	92	46	92	25.6	26.3	21.3	35.7	36.2	36.3	0.300	6.7	6.5	6.1	ST
54464	10/30/92	1255	2757.5	9407.1	18	82	41	82	25.7	26.2	21.6	35.6	36.2	36.3	0.104	6.6	6.6	6.6	ST
54465	10/30/92	1722	2759.8	9330.0	18	97	48	96	25.5	25.4	20.7	35.4	36.2	36.3	0.085	6.5	6.5	6.1	PN
54467	10/30/92	2127	2806.2	9315.2	17	80	40	80	25.6	25.8	22.0	35.8	36.2	36.1	0.078	6.8	6.6	6.0	ST
54468	10/30/92	2356	2800.7	9259.9	16	106	53	106	25.6	25.8	20.2	35.7	36.2	36.3	0.091	6.8	6.6	6.0	PN
54469	10/31/92	0330	2830.1	9259.9	16	46	23	46	25.2	25.3	25.7	35.2	34.2	36.0	0.150	6.7	6.7	6.5	PN
54470	10/31/92	634	2814.8	9259.6	16	62	31	62	25.4	26.1	24.0	35.6	36.3	36.2	0.133	6.6	6.7	6.4	ST
54471	10/31/92	1007	2832.1	9310.9	17	41	20	41	24.9	25.3	25.6	34.0	35.2	36.0	0.199	6.8	6.6	6.4	ST
54473	10/31/92	1327	2827.8	9323.0	17	46	23	46	25.4	25.3	24.8	35.2	35.2	36.1	0.299	6.7	6.5	6.2	ST
54475	10/31/92	1703	2838.3	9324.8	17	34	17	34	25.5	25.9	26.3	34.2	34.8	35.2	0.231	6.8	6.6	6.5	ST
54476	10/31/92	1902	2830.5	9329.9	17	43	21	43	25.8	26.2	26.5	34.4	34.8	35.1	0.168	6.8	6.7	6.5	PN
54477	10/31/92	2142	2835.5	9344.0	17	35	17	35	26.5	26.0	26.2	33.2	33.9	35.1	0.112	6.9	6.8	6.5	ST
54478	11/ 1/92	0146	2821.5	9355.3	17	54	27	52	26.7	26.6	25.9	34.7	34.8	35.4	1.371	6.8	6.7	6.6	ST
54480	11/ 1/92	822	2841.0	9405.8	18	30	15	30	25.9	25.8	25.9	34.4	34.4	34.5	0.523	6.7	6.6	6.5	ST
54481	11/ 1/92	1619	2913.7	9356.2	17	16	8	15	24.7	24.7	25.0	30.8	31.0	32.4		7.2	7.1	6.9	ST
54482	11/ 1/92	2014	2911.1	9342.1	17	20	10	19	25.0	24.9	25.2	32.5	32.6	32.5	1.021	7.1	7.1	7.0	ST
54483	11/ 1/92	2345	2849.6	9324.3	17	26	13	26	25.1	25.9	26.5	33.8	33.9	33.7	0.393	7.2	7.1	7.1	ST
54485	11/ 2/92	0823	2840.9	9405.8	18	30	15	30	25.6	26.3	25.9	34.5	34.0	34.3	1.663	6.8	6.8	6.8	ST
54486	11/ 2/92	1217	2843.4	9339.3	17	23	11	23	25.9	25.7	25.7	33.7	33.8	33.7	0.330	6.9	6.9	6.9	ST
54487	11/ 2/92	1347	2849.7	9333.1	17	23	12	23	26.1	26.1	25.9	33.0	32.9	33.6		7.2	7.1	7.0	ST
54488	11/ 2/92	1507	2847.1	9327.3	17	27	13	27	25.7	25.6	26.0	33.8	33.7	34.4	0.318	7.0	7.0	6.8	ST
54489	11/ 2/92	1659	2840.6	9316.1	17	32	16	32	25.5	25.4	26.4	33.3	34.0	34.7	0.458	6.6	6.5	6.8	ST
54490	11/ 2/92	1954	2853.3	9302.1	17	26	13	26	25.1	25.0	25.6	33.1	33.2	34.3	0.604	7.1	7.1	6.7	ST
54491	11/ 2/92	2139	2847.2	9258.0	16	29	15	29	25.1	25.2	26.5	33.8	33.8	34.3	0.854	7.1	7.1	6.9	ST
54492	11/ 2/92	2359	2839.2	9254.3	16	35	17	35	25.7	25.5	26.9	34.6	34.7	34.6	0.324	7.0	7.1	7.0	ST
54494	11/ 3/92	256	2846.3	9247.0	16	31	16	30	25.3	25.2	25.8	33.5	33.7	34.7	0.617	6.9	6.9	6.8	ST
54496	11/ 3/92	600	2834.3	9244.1	16	43	21	43	25.3	25.5	26.1	34.8	34.7	35.8	0.262	6.9	6.8	6.5	ST
54497	11/ 3/92	0950	2810.4	9234.9	16	72	36	72	26.5	26.6	23.0	35.1	35.5	35.6	0.126	6.7	6.6	5.8	ST
54498	11/ 3/92	1232	2807.4	9222.0	16	82	41	81	26.6	26.8	22.6	35.3	35.2	35.6	0.804	6.6	6.6	5.6	ST
54499	11/ 3/92	1430	2805.6	9215.7	16	93	46	91	26.5	26.5	20.4	35.3	35.7	35.9	0.162	6.8	6.6	5.7	ST

Table 2. Selected environmental parameters (continued)

OREGON 11, FALL SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54500	11/ 3/92	1735	2803.5	9157.3	15	93	47	92	26.3	26.2	20.4	35.0	35.5	35.8	0.083	6.6	6.5	5.5	ST
54501	11/ 3/92	2120	2805.1	9221.4	16	92	46	92	26.3	26.2	21.6	35.4	35.4	35.5	0.047	6.9	6.8	6.2	ST
54502	11/ 4/92	0010	2810.2	9229.5	16	74	37	74	26.7	26.3	23.2	35.2	35.7	35.6	0.089	6.8	6.7	6.1	ST
54505	11/ 4/92	946	2812.0	9211.1	16	76	38	76	26.2	25.9	23.3	35.5	35.7	35.7	0.218	7.0	7.0	6.3	ST
54506	11/ 4/92	1558	2835.5	9224.6	16	40	20	40	25.4	25.3	26.4	35.0	35.0	35.6	0.262	7.4	7.4	7.3	ST
54508	11/ 4/92	2006	2832.2	9223.0	16	50	25	50	25.1	25.6	25.1	34.6	34.5	35.5		7.2	7.2		ST
54509	11/ 4/92	2351	2853.9	9211.4	16	28	14	28	24.2	24.1	24.8	33.0	33.3	34.1	0.816	10.3	10.3	10.4	ST
54510	11/ 5/92	223	2856.5	9206.4	16	25	12	24	23.5	24.1	25.0	32.4	33.1	33.8	1.402	11.0	11.0	10.6	ST
54511	11/ 5/92	341	2902.0	9206.4	16	19	9	18	23.2	23.3	25.3	31.0	31.0	34.1	1.121	12.8	11.6	10.0	ST
54512	11/ 5/92	907	2926.7	9231.0	16	12	6	12	22.7	22.6	22.5	29.7	29.7	29.8	3.271	10.2	10.4	10.4	ST
54514	11/ 5/92	1121	2930.1	9231.9	16	9	5	9	22.6	22.0	22.0	28.1	28.6	28.6	2.891	10.0	9.8	9.6	ST
54515	11/ 5/92	1430	2930.4	9249.9	16	13	7	12	23.2	22.6	22.4	29.0	29.5	29.6	1.620	10.2	9.8	10.0	ST
54516	11/ 5/92	1757	2929.4	9234.9	16	11	5	10	22.7	22.6	22.1	28.8	28.9	29.6	1.249	7.8	7.8	7.7	ST
54518	11/ 5/92	2056	2918.1	9237.7	16	16	8	16	22.9	23.1	24.3	31.5	31.4	30.6	1.019	7.2	7.2	7.2	ST
54519	11/ 5/92	2324	2920.4	9253.8	16	17	8	17	23.0	23.2	23.1	31.5	31.4	32.3	0.826	7.7	7.5	7.4	ST
54523	11/ 6/92	529	2933.6	9305.4	17	12	6	12	21.6	21.3	21.5	29.4	29.6	29.5	1.145	7.6	7.6	7.5	ST
54524	11/ 6/92	734	2925.7	9308.2	17	15	8	14	22.2	22.1	22.3	31.2	31.3	31.1	3.589	7.4	7.3	7.2	ST
54526	11/ 6/92	1050	2914.3	9307.1	17	18	9	18	22.9	22.9	24.4	32.8	32.8	31.7	0.658	7.5	7.4	7.3	ST
54529	11/ 6/92	1410	2906.3	9306.1	17	22	12	21	23.1	23.4	23.3	32.9	32.7	32.8	2.143	7.3	7.1	7.0	ST
54530	11/ 6/92	1556	2900.0	9300.0	17	25	12	24	23.2	23.3	24.0	33.0	32.9	32.6	0.841	7.2	7.1	6.9	PN

Table 2. Selected environmental parameters (continued)

OREGON II, FALL SHRIMP/GROUNDFISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54531	11/ 6/92	2145	2912.2	9222.0	16	10	5	10	20.2	20.2	21.4	28.7	28.8	29.6	4.455	7.7	7.2	7.5	ST
54532	11/ 6/92	2351	2900.1	9230.1	16	26	13	26	22.5	22.9	24.7	32.5	32.4	33.2	0.735	7.2	7.1	6.7	PN
54533	11/ 7/92	0356	2829.8	9230.0	16	51	25	50	24.8	24.6	24.7	36.0	35.1	35.5	0.685	7.0	7.0	4.7	PN
54534	11/ 7/92	632	2841.5	9232.5	16	35	17	34	24.6	24.6	24.4	34.7	34.8	35.0	0.442	7.3	7.2	7.2	ST
54536	11/ 7/92	924	2850.4	9242.8	16	28	14	28	24.1	24.0	23.7	34.5	34.6	34.8	0.716	7.2	7.1	7.1	ST
54537	11/ 7/92	1421	2854.3	9211.2	16	28	13	27	23.2	23.0	22.9	33.1	33.3	33.4	0.897	7.3	7.2	7.3	ST
54538	11/ 7/92	1706	2858.3	9148.5	15	18	9	18	21.5	21.2	23.9	29.7	29.9	32.5	2.215	7.8	7.8	6.5	ST
54539	11/ 7/92	1920	2900.0	9200.1	16	20	10	20	21.8	21.8	24.6	31.1	31.8	33.2	1.735	7.6	7.5	6.0	PN
54540	11/ 7/92	2325	2830.0	9200.0	16	50	25	50	24.4	24.5	25.0	34.6	34.6	35.2	0.374	7.0	7.0	4.9	PN
54541	11/ 8/92	0316	2841.5	9141.5	15	32	16	31	23.5	23.2	23.3	33.3	33.8	33.9		7.2	7.0	6.9	ST
54542	11/ 8/92	745	2815.8	9134.0	15	74	37	73	24.3	24.3	23.5	34.4	34.5	35.7	1.209	7.0	7.1	5.3	ST
54544	11/ 8/92	1301	2828.4	9119.1	15	46	23	44	23.7	23.7	23.7	34.4	34.4	34.5	5.931	7.1	7.0	7.0	ST
54545	11/ 8/92	1411	2832.0	9116.4	15	37	18	36	23.8	23.3	23.4	33.7	34.1	34.0	1.114	7.0	6.9	6.8	ST
54546	11/ 8/92	1649	2841.4	9115.9	15	21	10	20	21.9	22.0	21.9	32.6	32.5	32.6	5.887	7.2	7.2	7.1	ST
54547	11/ 8/92	1835	2840.0	9112.2	15	21	10	20	22.1	22.4	22.1	32.2	32.0	32.3	1.234	7.1	7.1	7.1	ST
54548	11/ 8/92	2044	2835.4	9104.1	15	24	12	24	22.5	22.4	23.6	33.0	33.1	32.2	0.986	7.4	7.3	7.3	ST
54549	11/ 8/92	2303	2826.6	9112.1	15	45	27	45	24.2	23.9	25.3	34.5	34.8	34.7	1.271	7.0	6.9	6.0	ST
54550	11/ 9/92	217	2830.3	9129.9	15	47	24	47	24.3	24.1	24.9	34.8	35.0	35.6	7.081	6.9	6.8	4.4	PN
54551	11/ 9/92	512	2845.3	9120.8	15	20	10	20	21.7	21.8	21.7	33.4	32.3	32.4	1.589	7.1	7.2	7.1	ST
54552	11/ 9/92	631	2846.4	9116.2	15	14	7	14	21.6	21.7	22.5	32.5	32.4	31.8	1.724	7.1	7.0	7.2	ST
54553	11/ 9/92	924	2836.1	9106.1	15	24	12	24	22.2	22.5	23.3	33.3	33.1	32.8	1.059	6.9	7.0	6.9	ST
54554	11/ 9/92	1054	2830.8	9109.1	15	36	18	36	23.9	23.4	24.2	33.7	34.1	34.7	0.670	6.8	6.7	5.7	ST
54555	11/ 9/92	1313	2833.5	9057.1	14	28	14	27	23.3	23.1	23.3	33.7	33.8	33.6	0.723	7.0	7.0	7.1	ST
54556	11/ 9/92	1530	2829.5	9046.3	14	35	17	34	23.7	23.6	23.6	34.1	34.1	34.2	1.059	6.9	6.9	6.8	ST
54557	11/ 9/92	1724	2829.9	9054.8	14	36	18	35	24.0	23.6	24.5	34.2	34.4	33.7	0.831	6.8	6.7	6.7	ST/PN
54558	11/ 9/92	2018	2847.1	9059.7	15	14	7	14	22.2	22.1	22.5	32.4	32.6	32.3	1.713	7.0	6.9	6.9	ST
54559	11/ 9/92	2343	2837.3	9047.1	14	18	9	18	23.7	23.3	23.5	33.2	33.4	33.3	3.977	7.2	7.1	7.1	ST
54560	11/10/92	232	2837.0	9032.2	14	25	13	24	23.1	23.2	22.9	33.2	33.2	33.4	5.348	6.9	6.9	7.0	ST
54561	11/10/92	354	2832.4	9030.5	14	33	16	31	23.8	23.1	23.1	32.9	33.5	33.7	1.034	7.0	7.0	6.8	ST
54562	11/10/92	433	2829.7	9029.9	14	40	20	40	23.3	23.2	26.0	33.4	33.4	34.0	0.629	6.8	6.9	4.9	ST/PN

Table 2. Selected environmental parameters (continued)

OREGON II, FALL SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN,PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54563	11/10/92	926	2834.0	9000.9	14	77	38	77	23.8	24.1	23.2	33.0	34.2	35.5	4.750	6.9	6.6	4.7	ST
54565	11/10/92	1351	2821.5	9014.3	14	65	32	63	23.9	25.1	22.4	34.2	34.9	35.9	0.791	6.9	6.7		ST
54566	11/10/92	1659	2813.6	9037.5	14	80	40	79	23.8	24.0	22.5	34.3	34.2	35.3	0.343	6.8	6.8	4.9	ST
54567	11/10/92	1836	2808.0	9038.1	14	114	57	113	24.2	25.0	20.9	34.4	35.6	36.0	2.803	6.5	4.6	4.5	ST
54568	11/10/92	2207	2815.7	9024.0	14	72	36	72	24.0	24.1	23.1	34.1	34.2	35.3	6.971	6.8	6.8	4.7	ST
54569	11/10/92	2333	2814.5	9020.8	14	90	45	88	23.9	24.5	21.9	33.8	35.0	36.1	2.308	7.0	6.5	4.6	ST
54571	11/16/92	0528	2859.5	8934.9	13	36	18	36	20.9	22.3	23.6	28.3	33.2	34.8	1.833	8.0	6.7	6.4	ST
54572	11/16/92	642	2858.8	8933.1	13	35	17	34	20.7	23.0	23.8	29.0	33.5	34.7	0.644	7.5	6.5	6.3	ST
54573	11/16/92	843	2910.4	8947.3	13	16	8	16	21.1	21.0	22.8	31.6	31.7	32.4	0.787	7.3	7.2	6.2	ST
54574	11/16/92	948	2913.3	8952.1	13	9	4	9	20.7	21.2	21.7	31.1	30.8	31.1	1.573	6.9	6.8	6.1	ST
54575	11/16/92	1222	2858.6	8957.0	13	29	14	28	20.7	21.0	23.2	30.7	31.0	33.2	1.252	7.6	7.5	6.3	ST
54576	11/16/92	1338	2856.2	8959.0	13	30	15	29	20.9	21.6	23.3	30.9	31.5	33.3	1.782	7.8	7.4	6.5	ST
54577	11/16/92	1528	2840.9	9005.5	14	84	42	84	23.1		23.9	34.5	35.6	35.8	1.065	6.9	6.6	5.2	ST
54578	11/16/92	1721	2841.1	9002.0	14	52	26	52	22.8	23.3	23.9	35.5	34.9	35.4	0.897	6.9	6.8	6.4	ST
54579	11/16/92	1818	2847.7	9001.0	13	37	18	36	22.2	22.1	23.3	33.7	33.8	34.9	1.776	7.7	7.3	6.8	ST
54580	11/16/92	2108	2844.6	9012.0	14	32	16	32	21.6	22.5	24.9	32.6	33.8	34.8	5.821	7.4	6.6	6.1	ST
54581	11/16/92	2323	2851.8	9007.6	14	28	14	28	22.2	21.9	23.5	33.3	33.6	33.7	3.078	7.4	7.3	7.2	ST
54582	11/17/92	111	2858.9	9017.9	14	14	7	12	21.0	21.4	21.1	31.6	31.4	31.7	1.090	7.2	7.3	7.3	ST
54583	11/17/92	311	2900.6	9026.4	14	9	4	8	20.0	20.1	20.3	30.6	30.6	30.5	6.978	7.0	7.0	7.0	ST
54584	11/17/92	454	2859.2	9018.2	14	13	7	12	20.9	21.3	21.7	31.7	31.4	31.2	2.617	7.5	7.4	7.3	ST

Table 2. Selected environmental parameters (continued)

OREGON 11, FALL SHRIMP/GROUNDFISH SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
54585	11/17/92	634	2900.7	9023.9	14	10	5	10	20.2	20.6	20.3	31.0	30.8	31.1	0.924	7.3	7.3	7.3	ST
54586	11/17/92	747	2855.8	9024.3	14	16	8	16	21.1	21.1	21.2	32.2	32.2	32.3	4.099	7.3	7.3	7.2	ST
54587	11/17/92	1004	2841.2	9018.6	14	25	12	25	21.8	21.9	22.4	32.8	33.0	33.7	1.050	7.2	7.1	6.9	ST
54588	11/17/92	1211	2839.9	9005.0	14	68	34	68	23.1	24.0	24.6	34.2	34.8	35.4	5.946	7.1	7.0	6.5	ST
54589	11/17/92	2005	2902.5	8854.6	11	88	44	86	21.9	23.2	21.2	33.5	35.3	36.1	5.651	7.1	6.8	4.7	ST
54590	11/17/92	2158	2908.7	8853.1	11	60	30	60	19.1	22.4	21.9	31.3	34.8	35.0	2.168	7.6	7.0	6.7	ST
54591	11/17/92	2326	2911.9	8851.5	11	66	33	64	22.1	22.3	21.5	34.4	34.7	36.0	3.339	6.8	6.8	4.7	ST
54592	11/18/92	343	2934.7	8828.6	11	46	23	45	23.3	23.0	23.3	35.1	35.3	35.1	3.835	7.2	7.1	7.0	ST
54593	11/18/92	629	2926.9	8840.5	11	37	18	36	22.8	22.6	22.5	34.9	35.1	35.1	2.261	7.2	7.1	7.0	ST
54594	11/18/92	827	2918.1	8851.2	11	45	22	45	20.8	21.2	22.3	34.2	34.3	34.7	6.255	7.6	7.6	7.4	ST
54595	11/18/92	946	2913.0	8852.4	11	53	26	53	20.3	22.8	21.7	33.0	34.7	34.5	6.871	7.8	7.3	7.4	ST
54597	11/18/92	1135	2909.9	8852.4	11	51	25	50	18.9	19.6	21.1	31.6	33.4	34.7	2.754	7.4	7.2	7.1	ST
54598	11/18/92	1333	2903.7	8854.6	11	76	38	75	20.1	22.6	21.7	31.6	34.6	35.9	2.243	7.7	7.1	5.2	ST
54599	11/18/92	1453	2900.8	8856.6	11	83	42	82	19.8	23.7	22.0	31.8	35.4	35.9	4.585	7.2	7.0	4.7	ST
54600	11/18/92	1635	2905.9	8852.8	11	93	47	91	21.9	22.3	21.1	34.3	34.8	36.1	3.059	7.0	6.8	4.7	ST
54603	11/19/92	55	2921.7	8800.0	11	98	49	98				36.0	35.9	36.6	3.944	7.0	6.9	5.3	ST
54604	11/19/92	234	2926.3	8803.6	11	56	28	56				35.9	35.9	35.9	1.333	7.1	6.9	7.0	ST
54605	11/19/92	0537	2950.8	8800.7	11	32						35.2			0.542	7.6			ST



Table 2. Selected environmental parameters (continued)

A.E. VERRILL, FALL SHRIMP/GROUNDFISH SURVEY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN,PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
23001	10/28/92	1037	3010.2	8802.5	11	5	3	5	22.9	23.2	23.4	27.6	33.2	34.6		6.9	6.7	6.3	ST
23002	10/28/92	1142	3008.2	8808.2	11	15	8	15	23.2	23.0	23.6	32.4	33.7	34.8		7.1	7.0	6.2	ST
23003	10/28/92	1326	3014.7	8811.0	11	5	3	5	23.7	23.7	23.0	29.6	29.6	32.2		7.3	7.3	7.1	ST
23004	10/28/92	1502	3012.2	8821.0	11	7	4	7	23.4	23.4	23.4	32.5	34.2	34.7		7.0	7.0	5.9	ST
23005	10/28/92	1715	3013.6	8816.9	11	5	3	5	23.7	23.7	23.7	33.3	33.4	33.6		7.0	7.0	6.9	ST
23006	10/28/92	1820	3011.6	8811.1	11	13	7	13	23.2	23.2	23.5	33.2	33.2	34.7		7.0	7.1	6.4	ST
23007	10/28/92	2024	3007.7	8807.1	11	16	8	16	23.2	23.0	23.6	31.9	33.3	34.7		6.9	6.9	6.0	ST
23008	10/28/92	2221	3009.2	8804.0	11	10	5	10	23.1	23.1	23.2	31.9	32.2	34.5		7.0	7.0	6.0	ST

Table 2. Selected environmental parameters (continued)

ARANSAS BAY, FALL SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
31001	11/ 2/92	0811	2744.5	9706.5	20	6	3	6	24.5	25.0	24.5	34.6	34.6	34.5		8.0	8.3	7.0	ST
31002	11/ 2/92	0842	2742.6	9707.5	20	9	5	9	24.5	24.5	24.6	34.6	34.6	34.6		7.2	7.0	7.5	ST
31003	11/ 2/92	0921	2739.4	9706.5	20	15	7	15	24.8	24.9	25.0	34.7	34.8	35.1		7.3	7.2	7.3	ST
31004	11/ 2/92	0952	2737.6	9706.5	20	16	8	16	24.8	25.0	24.6	35.0	35.0	35.1		7.1	7.2	7.7	ST
31005	11/ 2/92	1027	2738.6	9703.5	20	19	11	19	24.9	25.0	25.1	35.0	35.0	35.1		7.2	6.9	6.6	ST
31006	11/ 2/92	1111	2737.6	9700.5	20	23	11	23	24.9	25.1	25.3	34.3	34.4	35.4		8.5	7.8	9.9	ST
31007	11/ 2/92	1151	2740.4	9659.4	20	22	11	22	25.0	24.8	24.9	34.2	34.9	35.3		6.1	9.2	8.6	ST
31008	11/ 2/92	1226	2741.6	9700.4	20	20	10	20	25.1	25.3	25.3	34.6	35.0	34.7		6.4	5.8	6.0	ST
31009	11/16/92	0817	2754.6	9659.5	20	5	3	5	18.9	18.9	18.9	30.3	30.2	30.4		6.9	8.2	6.8	ST
31010	11/16/92	0853	2753.4	9656.5	20	13	7	13	19.3	19.3	19.3	30.6	30.5	30.8		9.5	10.5	11.8	ST
31011	11/16/92	0934	2756.5	9657.5	20	7	4	7	18.9	18.8	18.7	30.4	30.4	30.3		6.5	6.4	8.4	ST
31012	11/16/92	1017	2759.5	9653.6	20	11	6	11	19.0	18.9	19.0	29.9	29.9	30.1		6.3	8.3	7.9	ST
31013	11/16/92	1102	2754.6	9652.6	20	17	9	17	19.8	19.8	19.3	31.1	31.1	31.3		6.2	6.6	11.8	ST
31014	11/16/92	1142	2751.3	9653.6	20	18	9	18	19.8	19.4	19.9	31.4	31.9	31.8		8.3	9.6	10.1	ST
31015	11/16/92	1251	2745.5	9658.5	20	19	10	19	19.9	19.9	19.6	31.5	31.0	31.7		7.9	8.0	7.9	ST
31016	11/16/92	1337	2745.4	9702.5	20	13	7	13	19.0	18.8	19.2	30.3	30.8	30.8		7.8	8.2	8.3	ST

Table 2. Selected environmental parameters (continued)

MATAGORDA BAY, FALL SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
32001	11/12/92	1025	2831.2	9609.0	19	5	3	5	20.2	20.1	20.2	29.4	29.4	29.5		7.1	7.1	7.1	ST
32002	11/12/92	1048	2830.1	9609.0	19	8	4	8	20.0	20.0	20.0	29.5	29.7	29.5		7.1	7.2	7.1	ST
32003	11/12/92	1110	2829.2	9609.0	19	11	6	11	19.9	19.9	19.9	29.8	29.9	29.9		7.2	7.1	7.1	ST
32004	11/12/92	1136	2827.1	9611.0	19	13	6	13	19.8	19.8	19.7	29.9	30.1	30.0		7.0	7.0	7.1	ST
32005	11/12/92	1157	2826.1	9613.0	19	12	6	12	19.9	19.9	19.9	30.3	30.2	30.5		6.9	7.0	7.0	ST
32006	11/12/92	1218	2826.1	9615.0	19	10	5	10	18.8	20.0	20.0	30.0	29.9	29.9		6.8	7.2	7.2	ST
32007	11/12/92	1237	2825.1	9616.0	19	11	6	11	20.1	20.1	20.1	29.9	29.9	30.0		7.3	7.1	7.1	ST
32008	11/12/92	1258	2825.1	9618.0	19	9	4	9	20.3	20.3	20.3	29.7	29.9	29.8		7.0	7.1	7.1	ST
32009	11/16/92	1038	2817.4	9619.8	19	18	9	18	19.2	19.4	19.7	29.9	30.2	30.9		7.7	7.6	7.5	ST
32010	11/16/92	1117	2817.6	9622.4	19	16	8	16	19.3	19.1	19.1	29.9	29.9	29.9		7.8	7.6	7.7	ST
32011	11/16/92	1216	2812.4	9624.7	19	20	10	20	20.2	20.0	20.0	31.2	31.2	31.5		7.3	7.4	7.4	ST
32012	11/16/92	1251	2812.5	9626.5	19	19	9	19	19.7	19.6	19.8	30.3	30.6	31.0		7.9	7.6	7.5	ST
32013	11/16/92	1347	2817.5	9623.7	19	15	7	15	19.4	19.1	19.0	29.8	29.7	29.9		8.2	8.1	8.1	ST
32014	11/16/92	1422	2818.5	9623.5	19	12	6	12	18.9	18.7	18.6	29.4	29.4	29.5		7.9	7.8	7.8	ST
32015	11/16/92	1456	2820.3	9622.7	19	9	4	9	18.7	18.7	18.7	29.4	29.4	29.4		7.9	7.9	8.1	ST
32016	11/16/92	1535	2822.6	9621.6	19	6	3	6	18.8	18.8	18.7	29.4	29.4	29.4		8.1	8.1	8.5	ST

Table 2. Selected environmental parameters (continued)

LAGUNA MADRE, FALL SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
33001	11/15/92	0901	2558.0	9705.6	22	18	9	18	22.2	22.2	22.1	34.7	34.6	34.7		8.0	7.7	7.6	ST
33002	11/15/92	0944	2558.4	9704.4	22	21	10	21	22.1	22.1	22.0	34.7	34.7	34.7		8.8	8.8	9.5	ST
33003	11/15/92	1055	2601.2	9700.6	21	25	12	25	22.3	22.3	22.2	34.7	34.7	34.8		8.4	8.5	9.3	ST
33004	11/15/92	1156	2604.6	9702.4	21	23	12	23	22.5	22.5	22.5	34.7	34.7	34.7		7.6	8.0	8.4	ST
33005	11/15/92	1251	2605.2	9705.4	21	18	9	18	22.1	22.1	21.7	34.6	34.6	34.8		7.4	7.9	8.8	ST
33006	11/15/92	1344	2607.4	9706.2	21	17	8	17	21.6	21.6	21.6	34.6	34.7	34.8		6.6	7.6	7.7	ST
33007	11/15/92	1426	2606.3	9707.4	21	16	8	16	21.4	21.5	21.5	34.7	34.8	34.8		7.4	8.0	8.6	ST
33008	11/15/92	1502	2608.6	9708.5	21	12	6	12	21.5	21.6	21.6	34.6	34.7	34.7		7.0	7.0	8.4	ST
33009	11/23/92	1050	2609.5	9700.5	21	25	12	25	20.6	20.0	20.1	32.9	32.5	32.8		6.3	7.0	7.4	ST
33010	11/23/92	1137	2612.7	9702.4	21	22	11	22	21.5	19.9	19.9	32.5	32.4	32.5		6.9	7.9	8.2	ST
33011	11/23/92	1212	2614.3	9701.6	21	24	12	24	21.6	19.8	19.9	32.3	32.4	32.5		6.2	6.8	7.3	ST
33012	11/23/92	1247	2615.7	9703.5	21	19	9	19	21.2	19.8	19.9	32.3	32.2	32.3		7.0	7.6	7.9	ST
33013	11/23/92	1430	2619.3	9710.4	21	15	7	15	22.3	19.9	19.9	32.4	32.4	32.4		6.7	7.9	8.1	ST
33014	11/23/92	1516	2614.6	9710.5	21	9	4	9	21.8	20.1	20.1	32.9	32.9	33.0		6.9	7.6	7.9	ST
33015	11/23/92	1600	2609.7	9709.5	21	11	5	11	22.1	20.1	20.1	33.2	33.1	33.2		6.2	7.5	8.1	ST
33016	11/23/92	1624	2608.8	9709.5	21	9	4	9	21.3	20.0	20.1	33.1	33.2	33.2		6.6	8.4	9.4	ST

Table 2. Selected environmental parameters (continued)

GALVESTON BAY, FALL SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
34001	11/ 2/92	1057	2917.6	9440.3	18	9	5	9	23.6	23.8	24.0	30.1	30.5	30.8	4.2	3.9	3.8	ST	
34002	11/ 2/92	1147	2914.0	9444.3	18	12	6	12	23.8	23.8	23.8	29.6	29.7	31.0	5.2	5.0	5.2	ST	
34003	11/ 2/92	1220	2912.6	9445.5	18	13	7	13	23.9	23.8	23.9	29.8	29.9	31.1	5.1	5.0	4.6	ST	
34004	11/ 2/92	1251	2910.8	9444.7	18	15	7	15	23.7	23.7	23.7	29.8	32.2	29.7	5.4	5.5	5.2	ST	
34005	11/ 2/92	1318	2910.6	9443.7	18	15	7	15	23.7	23.7	23.7	29.8	29.8	32.9	5.4	5.3	5.1	ST	
34006	11/ 2/92	1410	2911.0	9450.4	18	10	5	10	23.8	23.8	23.8	30.9	30.8	31.6	5.2	5.1	5.1	ST	
34007	11/ 2/92	1434	2911.6	9451.0	18	10	5	10	23.8	23.7	23.8	30.9	30.9	32.1	5.1	5.2	5.1	ST	
34008	11/ 2/92	1509	2913.3	9447.6	18	10	5	10	23.8	23.8	23.8	30.0	30.1	31.1	5.5	5.3	5.2	ST	
34009	11/17/92	1038	2923.3	9442.2	18	5	2	5	17.6	17.6	17.5	27.3	27.4	27.4	5.9	5.4	6.3	ST	
34010	11/17/92	1059	2924.1	9441.0	18	6	3	6	17.9	17.7	17.7	28.0	28.1	27.4	7.4	7.4	7.4	ST	
34011	11/17/92	1135	2924.5	9438.7	18	7	4	7	17.9	17.8	17.6	28.2	28.3	28.3	7.6	7.6	7.5	ST	
34012	11/17/92	1159	2925.0	9437.0	18	8	4	8	17.9	17.9	17.8	28.5	28.4	28.4	8.0	8.0	7.3	ST	
34013	11/17/92	1244	2925.9	9433.3	18	9	5	9	17.8	17.8	17.8	28.6	28.5	28.6	7.5	7.6	7.5	ST	
34014	11/17/92	1318	2922.8	9436.2	18	9	5	9	18.0	17.8	17.9	28.4	28.5	29.1	7.5	7.8	6.3	ST	
34015	11/17/92	1358	2917.5	9437.5	18	13	6	13	18.6	18.4	18.3	29.6	30.0	30.1	5.6	5.5	5.3	ST	
34016	11/17/92	1445	2915.4	9440.6	18	12	6	12	18.4	18.3	18.4	29.0	29.1	29.2	6.4	6.0	5.4	ST	

Table 2. Selected environmental parameters (continued)

SABINE, FALL SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup> SUR	DISSOLVED OXYGEN,PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
40001	11/12/92	0824	2939.5	9347.5	17	6	3	6	17.9	17.6	17.1	27.2	27.2	27.1		7.5	7.6	12.7	ST
40002	11/12/92	0907	2941.4	9344.5	17	6	3	6	17.3	17.3	17.2	26.9	26.8	26.8		8.2	7.9	13.4	ST
40003	11/12/92	0949	2941.4	9341.4	17	6	3	6	17.2	17.2	17.2	27.5	27.5	27.4		8.4	8.2	7.8	ST
40004	11/12/92	1033	2941.4	9337.6	17	7	4	7	16.9	17.0	17.0	27.1	27.1	27.2		9.4	8.6	8.3	ST
40005	11/12/92	1106	2941.3	9335.8	17	7	4	7	16.5	16.4	15.8	25.9	25.9	25.9		8.1	8.2	9.0	ST
40006	11/12/92	1153	2942.5	9335.6	17	6	3	6	16.6	16.5	16.5	25.8	25.8	25.8		8.0	8.0	8.0	ST
40007	11/12/92	1250	2943.5	9340.4	17	3	2	3	17.4	17.3	17.3	26.1	26.1	26.1		7.6	7.7	7.7	ST
40008	11/12/92	1325	2943.4	9343.5	17	2	1	2	17.9	17.9	17.8	25.7	25.7	25.7		7.6	7.7	7.6	ST
40009	11/16/92	0755	2938.5	9353.6	17	4	2	4	15.9	16.1	16.3	26.6	26.9	27.3		9.2	9.1	9.0	ST
40010	11/16/92	0826	2939.6	9353.5	17	2	1	2	15.8	15.8	16.1	26.6	26.6	26.6		10.8	10.8	8.9	ST
40011	11/16/92	0942	2939.5	9400.5	18	3	2	3	16.4	16.0	16.1	25.2	25.3	26.9		8.5	9.0	8.7	ST
40012	11/16/92	1023	2937.4	9403.7	18	6	3	6	16.5	16.5	16.4	26.7	26.8	27.4		8.8	9.2	9.0	ST
40013	11/16/92	1111	2934.5	9359.5	17	8	4	8	16.7	16.7	15.7	26.5	27.0	26.7		9.1	8.9	8.0	ST
40014	11/16/92	1211	2931.6	9354.6	17	11	6	11	17.1	17.0	16.2	27.6	27.7	29.4		8.3	8.7	7.0	ST
40015	11/16/92	1300	2933.4	9351.8	17	10	5	10	17.1	16.5	15.9	27.1	27.3	29.1		9.8	9.8	8.9	ST
40016	11/16/92	1347	2932.6	9348.6	17	12	6	12	17.0	16.3	16.8	27.1	27.2	29.4		11.5	11.9	9.8	ST

Table 2. Selected environmental parameters (continued)

## TOMMY MUNRO, FALL SHRIMP/GROUNDFISH SURVEY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE,C°			SALINITY,PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN,PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX		
17001	11/15/92	0711	2917.3	8855.2	11	37	18	36	21.8	21.7	21.7	35.3	35.3	35.3	0.598	6.6	6.5	6.4	ST	
17002	11/15/92	0901	2918.6	8854.2	11	34	16	33	21.9	21.9	21.8	35.3	35.3	35.3	0.486	6.6	6.5	6.6	ST	
17003	11/15/92	1020	2919.4	8852.0	11	42	20	41	22.1	22.0	22.0	35.4	35.4	35.4	0.486	6.4	6.4	6.4	ST	
17004	11/15/92	1209	2922.1	8854.3	11	21	10	20	21.3	21.5	21.6	35.3	35.3	35.3	0.972	6.1	6.2	6.1	ST	
17005	11/15/92	1415	2925.8	8847.6	11	23	12	22	21.5	21.5	21.7	35.3	35.3	35.3	0.822	6.4	6.5	6.4	ST	
17006	11/15/92	1532	2925.9	8846.4	11	26	13	25	21.7	21.7	21.7	35.3	35.3	35.3	1.757	6.4	6.4	6.4	ST	
17007	11/15/92	1646	2927.5	8843.2	11	28	14	27	21.2	21.6	21.7	35.3	35.3	35.3	0.785	6.6	6.5	6.3	ST	
17008	11/15/92	1806	2929.9	8845.2	11	18	8	17	21.5	21.5	21.5	35.3	35.3	35.3	1.084	6.4	6.4	6.4	ST	
17009	11/15/92	2015	2922.2	8852.1	11	25	12	24	22.0	21.9	21.8	35.3	35.3	35.3	0.673	6.6	6.4	6.4	ST	
17010	11/15/92	2156	2916.2	8854.8	11	43	21	42	19.4	20.4	21.3	33.8	34.6	35.2	1.327	6.8	6.5	6.4	ST	
17011	11/16/92	0136	2933.2	8834.6	11	37	18	36	21.7	21.5	21.4	35.5	35.5	35.4	0.729	6.6	6.6	6.7	ST	
17012	11/16/92	0345	2935.0	8835.7	11	25	12	24	21.3	21.1	21.1	35.3	35.3	35.3	0.766	6.3	6.4	6.4	ST	
17013	11/17/92	0934	3008.3	8858.9	11	7	3	6	16.5	16.4	16.3	30.5	29.6	30.6	4.622	7.9	7.6	7.6	ST	
17014	11/17/92	1453	3012.2	8836.4	11	11	5	10	17.2	17.3	17.6	29.6	29.8	30.3	3.215	7.4	7.4	7.3	ST	
17015	11/17/92	1926	3012.4	8829.7	11	7	3	6	17.0	17.3	17.6	28.2	28.9	29.3	5.046	7.8	7.4	7.4	ST	

Table 2. Selected environmental parameters (continued)

LUMCON PELICAN, FALL SHRIMP/GROUNDFISH SURVEY																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C°			SALINITY, PPT			CL, MG/M <sup>3</sup>	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
36931	12/ 7/92	1330	2900.0	9100.0	15	6	4	6	17.2	17.2	17.1	30.3	30.3	30.4	7.150	3.7	8.7	8.8	PN
36932	12/ 7/92	1951	2841.2	9108.2	15	15	7	15	18.3	18.3	18.0	31.2	31.2	31.3	4.502	3.1	8.5	7.9	ST
36933	12/ 7/92	2116	2837.8	9114.7	15	24	12	24	18.0	19.1	20.0	0.0	33.0	34.0	3.714	5.9	7.4	7.1	ST
36934	12/ 7/92	2236	2836.6	9117.4	15	31	16	31	18.3	20.2	20.7	0.1	34.3	34.6	4.458	5.5	6.6	6.7	ST
36935	12/ 8/92	0022	2835.1	9127.9	15	35	17	35	20.5	20.9	21.0	0.0	34.9	35.0	1.007	9.9	6.8	6.5	ST
36936	12/ 8/92	0331	2834.4	9108.0	15	27	14	27	18.8	19.1	20.5	31.7	32.8	34.4	2.488	8.2	7.2	6.5	ST
36937	12/ 8/92	0757	2840.8	9108.2	15	16	8	16	18.0	18.0	18.5	30.5	30.5	31.6	4.248	9.8	7.8	7.2	ST
36938	12/ 8/92	0941	2837.5	9114.5	15	25	12	25	17.9	17.9	20.3	31.3	31.4	34.3	4.935	8.6	7.8	6.5	ST
36939	12/ 8/92	1051	2836.4	9117.2	15	29	14	29	17.9	19.2	20.2	0.0	33.1	34.3	5.186	6.4	7.4	6.5	ST
36940	12/ 8/92	1232	2835.5	9127.5	15	35	16	35	19.6	20.8	21.0	0.0	34.8	34.9	2.498	2.7	6.5	6.5	ST
36941	12/ 8/92	1538	2834.8	9108.4	15	29	14	29	18.8	19.3	20.6	31.7	33.0	34.5	2.814	9.7	7.4	5.9	ST
36942	12/ 8/92	1708	0.0	0.0	15	34	16	34	20.0	20.2	21.0	0.0	34.3	34.9	2.244	2.9	7.1	6.2	PN
36943	12/ 8/92	2015	2831.5	9037.8	14	33	17	33	20.0	21.2	21.2	35.2	35.3	35.3	0.629	4.1	6.5	6.2	ST
36944	12/ 8/92	2242	2837.1	9023.1	14	31	15	31	20.8	20.8	21.3	0.0	32.8	35.1	1.491	2.9	6.8	5.9	ST
36945	12/ 9/92	0207	2900.1	9016.6	14	13	7	13	16.4	16.5	17.0	24.4	24.4	26.6	2.463	9.8	9.3	8.2	ST
36946	12/ 9/92	0331	2855.0	9015.6	14	19	9	19	17.4	17.8	19.8	26.8	27.6	31.9	1.024	9.4	8.3	5.8	ST
36947	12/ 9/92	0744	2831.2	9037.9	14	32	16	32	21.1	21.1	21.1	35.2	35.3	35.2	0.700	7.7	6.8	6.9	ST
36948	12/ 9/92	0927	2830.0	9030.0	14	39	18	39	21.4	21.4	21.4	0.0	35.5	35.5	1.018	6.5	7.0	7.1	PN
36949	12/ 9/92	1100	2837.0	9023.1	14	31	15	31	21.0	21.0	21.1	35.0	35.0	35.1		7.6	7.1	6.8	ST
36950	12/ 9/92	1435	2900.5	9016.5	14	13	6	13	16.7	16.7	16.7	24.5	24.5	25.4	3.259	4.2	7.8	7.5	ST
36951	12/ 9/92	1609	2855.2	9015.4	14	20	10	20	17.6	17.6	21.8	26.9	26.9	34.4	1.576	7.9	7.6	4.5	ST
36952	12/ 9/92	2053	2910.8	8954.3	13	15	7	15	16.2	16.2	20.6	22.0	22.2	32.9	1.986	8.6	7.6	3.2	ST
36953	12/ 9/92	2256	2914.9	8947.1	13	11	5	11	16.1	16.1	17.5	24.1	24.1	28.7	6.066	9.5	8.2	5.2	ST
36954	12/10/92	0158	2859.6	8934.0	13	27	13	27	16.1	18.8	23.2	21.5	28.7	35.8	1.509	8.2	7.0	4.2	ST
36955	12/10/92	0728	2900.0	8930.0	13	16	7	16	15.7	15.9	22.6	22.0	22.3	35.2	9.429	8.9	7.7	4.5	PN
36956	12/10/92	0830	2859.6	8933.9	13	23	11	23	15.8	20.9	23.3	22.5	32.8	35.8	5.843	8.3	5.4	4.4	ST
36957	12/10/92	1118	2915.0	8947.1	13	10	5	10	15.6	16.7	20.3	24.3	25.7	32.4	12.611	8.3	6.6	3.5	ST
36958	12/10/92	1154	2910.8	8954.0	13	14	7	14	16.4	18.3	20.3	22.2	28.8	32.6	6.413	0.4	7.0	3.2	ST
36959	12/10/92	1457	2900.0	9000.0	14	25	12	25	17.0	19.6	22.5	23.8	31.2	34.9	1.650	8.6	6.4	3.8	PN
36960	12/11/92	0709	2900.0	9130.0	15	11	6	11	14.6	16.1	17.4	24.0	29.8	31.9	2.581	8.1	7.6	6.6	PN
36961	12/11/92	1406	2900.0	9030.0	14	10	5	10	17.1	17.1	18.8	27.2	27.4	30.4	2.613	8.9	8.8	7.0	PN



Table 3. 1992 Spring Louisiana Trawl Survey species composition list, 24 trawl stations, for those vessels that used a 40-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lbs) are indicated on the table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Finfishes</u>					
<i>Micropogonias undulatus</i>	Atlantic croaker	2132	15.3	15	62.5
<i>Prionotus longispinosus</i>	bigeye searobin	927	7.8	22	91.7
<i>Etropus crossotus</i>	fringed flounder	844	11.3	24	100.0
<i>Cynoscion arenarius</i>	sand seatrout	807	40.5	23	95.8
<i>Syacium gunteri</i>	shoal flounder	619	9.3	19	79.2
<i>Peprilus burti</i>	gulf butterfish	448	15.9	14	58.3
<i>Sphoeroides parvus</i>	least puffer	282	1.9	12	50.0
<i>Trachurus lathami</i>	rough scad	237	0.5	2	8.3
<i>Arius felis</i>	hardhead catfish	196	48.9	10	41.7
<i>Trichiurus lepturus</i>	Atlantic cutlassfish	192	5.2	12	50.0
<i>Citharichthys spilopterus</i>	bay whiff	190	2.6	14	58.3
<i>Cynoscion nothus</i>	silver seatrout	146	6.7	6	25.0
<i>Menticirrhus americanus</i>	southern kingfish	144	16.2	16	66.7
<i>Synodus foetens</i>	inshore lizardfish	138	7.0	11	45.8
<i>Prionotus tribulus</i>	bighead searobin	122	1.2	11	45.8
<i>Symphurus plagiusa</i>	blackcheek tonguefish	113	1.9	20	83.3
<i>Urophycis floridana</i>	southern hake	98	5.1	16	66.7
<i>Diplectrum bivittatum</i>	dwarf sand perch	74	1.5	4	16.7
<i>Leiostomus xanthurus</i>	spot	62	3.6	8	33.3
<i>Anchoa mitchilli</i>	bay anchovy	61	0.3	5	20.8
<i>Prionotus rubio</i>	blackwing searobin	61	0.5	6	25.0
<i>Centropristis philadelphica</i>	rock sea bass	57	1.8	8	33.3
<i>Brevoortia patronus</i>	gulf menhaden	42	2.2	4	16.7
<i>Larimus fasciatus</i>	banded drum	31	0.4	7	29.2
<i>Anchoa hepsetus</i>	striped anchovy	30	0.7	5	20.8
<i>Bairdiella chrysoura</i>	silver perch	28	1.1	3	12.5
<i>Chaetodipterus faber</i>	Atlantic spadefish	27	0.3	9	37.5
<i>Lepophidium brevibarbe</i>	blackedge cusk-eel	25	1.6	6	25.0
<i>Bollmannia communis</i>	ragged goby	21	0.0	4	16.7
<i>Anchoviella per fasciata</i>	flat anchovy	20	0.5	1	4.2
<i>Monacanthus hispidus</i>	planehead filefish	14	0.2	5	20.8
<i>Trinectes maculatus</i>	hogchoker	13	0.1	5	20.8
<i>Halieutichthys aculeatus</i>	pancake batfish	13	0.1	5	20.8
<i>Paralichthys lethostigma</i>	southern flounder	12	4.9	6	25.0
<i>Selene setapinnis</i>	Atlantic moonfish	12	0.3	4	16.7
<i>Cyclopsetta chittendeni</i>	Mexican flounder	9	0.5	2	8.3

Table 3. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Porichthys plectrodon</i>	Atlantic midshipman	9	0.2	6	25.0
<i>Ogcocephalus declivirostris</i>	slantbrow batfish	8	0.0	2	8.3
<i>Stellifer lanceolatus</i>	star drum	8	0.2	4	16.7
<i>Opisthonema oglinum</i>	Atlantic thread herring	8	0.9	2	8.3
<i>Archosargus probatocephalus</i>	sheepshead	7	9.7	3	12.5
<i>Balistes capriscus</i>	gray triggerfish	7	0.5	3	12.5
<i>Lutjanus campechanus</i>	red snapper	6	0.2	1	4.2
<i>Urophycis cirrata</i>	gulf hake	5	0.3	1	4.2
<i>Scomberomorus maculatus</i>	Spanish mackerel	5	1.1	2	8.3
<i>Pogonias cromis</i>	black drum	5	55.5	2	8.3
<i>Scorpaena calcarata</i>	smoothhead scorpionfish	5	0.0	3	12.5
<i>Polydactylus octonemus</i>	Atlantic threadfin	4	0.6	1	4.2
<i>Echeneis naucrates</i>	sharksucker	3	2.4	1	4.2
<i>Paraconger caudilimbatus</i>	margintail conger	3	0.0	1	4.2
<i>Gymnothorax ocellatus</i>	ocellated moray	3	0.3	1	4.2
<i>Saurida brasiliensis</i>	largescale lizardfish	3	0.0	2	8.3
<i>Prionotus stearnsi</i>	shortwing searobin	3	0.0	1	4.2
<i>Antennarius radiosus</i>	singlespot frogfish	3	0.0	1	4.2
<i>Ancylosetta quadrocellata</i>	ocellated flounder	3	0.0	1	4.2
<i>Harengula jaguana</i>	scaled sardine	2	0.2	1	4.2
<i>Bagre marinus</i>	gafftopsail catfish	2	1.0	2	8.3
<i>Synodus poeyi</i>	offshore lizardfish	2	0.1	1	4.2
<i>Remora remora</i>	remora	2	0.4	2	8.3
<i>Lutjanus synagris</i>	lane snapper	2	0.0	1	4.2
<i>Dasyatis americana</i>	southern stingray	2	1.1	1	4.2
<i>Dasyatis</i> spp.	stingrays	2	3.4	1	4.2
<i>Eucinostomus gula</i>	silver jenny	1	0.0	1	4.2
<i>Sphyræna guachancho</i>	guaguanche	1	0.0	1	4.2
<i>Citharichthys macrops</i>	spotted whiff	1	0.0	1	4.2
<i>Peristedion spiniger</i>	armored searobin	1	0.0	1	4.2
<i>Sciaenops ocellatus</i>	red drum	1	7.5	1	4.2

Table 3. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT(KG)	TOWS WHERE CAUGHT	OF OCCURRENCE

Table 3. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT(KG)	TOWS WHERE CAUGHT	OF OCCURRENCE

Crustaceans

Trachypenaeus similis	roughback shrimp	5823	17.1	18	75.0
Sicyonia dorsalis	lesser rock shrimp	2413	4.5	21	87.5
Trachypenaeus spp.	roughneck shrimps	1870	8.0	4	16.7
Squilla empusa	mantis shrimp	1761	15.0	22	91.7
Callinectes similis	lesser blue crab	1729	21.6	22	91.7
Portunus gibbesii	iridescent swimming crab	528	2.9	22	91.7
Penaeus setiferus	white shrimp	192	6.5	24	100.0
Trachypenaeus constrictus	roughneck shrimp	95	0.3	3	12.5
Squilla chydrea	mantis shrimp	62	0.3	8	33.3
Penaeus aztecus	brown shrimp	57	0.9	18	75.0
Libinia emarginata	portly spider crab	15	4.8	4	16.7
Portunus spinimanus	blotched swimming crab	11	0.1	3	12.5
Persephona mediterranea	mottled purse crab	9	0.0	3	12.5
Sicyonia brevirostris	brown rock shrimp	8	0.1	3	12.5
Callinectes sapidus	blue crab	8	1.9	4	16.7
Ovalipes spp.	lady crabs	7	0.0	2	8.3
Libinia dubia	longnose spider crab	6	1.5	3	12.5
Penaeus duorarum	pink shrimp	5	0.1	2	8.3
Hepatus epheliticus	calico crab	5	0.0	1	4.2
Calappa sulcata	yellow box crab	3	1.3	2	8.3
Speocarcinus lobatus	gulf squareback crab	3	0.0	2	8.3
Porcellana sayana	spotted porcelain crab	3	0.0	1	4.2
Porcellana sigsbeiana	striped porcelain crab	3	0.0	2	8.3
Portunus spinicarpus	longspine swimming crab	2	0.0	1	4.2
Persephona spp.	purse crabs	1	0.0	1	4.2
Myropsis quinquespinosa	fivespine purse crab	1	0.0	1	4.2

Table 3. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Others</u>					
Lolliguncula brevis	Atlantic brief squid	1654	20.1	24	100.0
Loligo pealeii	longfin squid	66	1.5	6	25.0
Loligo pleii	arrow squid	15	0.2	2	8.3

Table 4a  
 Statistical Zone 13  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 13 during the 1992 Spring Louisiana Trawl Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm or greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	0	246.0	216.00	2.1	1.82	2	417.5	71.10	8.0	1.01	2
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	0	342.0	312.00	1.0	0.95	2	272.7	272.73	0.3	0.31	2
<i>Squilla</i> spp.	0.0	0.00	0.0	0.00	0	127.0	65.00	1.1	0.59	2	91.5	34.22	0.9	0.40	2
<i>Trachypenaeus constrictus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	71.4	71.43	0.3	0.26	2
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	0	42.0	36.00	0.1	0.09	2	8.4	0.19	0.0	0.00	2
<i>Penaeus setiferus</i>	0.0	0.00	0.0	0.00	0	24.0	16.00	0.8	0.41	2	13.8	5.26	0.5	0.12	2
<i>Etropus crossotus</i>	0.0	0.00	0.0	0.00	0	172.0	134.00	2.1	1.68	2	8.4	0.19	0.2	0.07	2
<i>Citharichthys spilopterus</i>	0.0	0.00	0.0	0.00	0	123.0	99.00	1.6	1.32	2	19.7	6.04	0.4	0.14	2
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	0	104.0	104.00	9.4	9.41	2	0.0	0.00	0.0	0.00	2
<i>Spherooides parvus</i>	0.0	0.00	0.0	0.00	0	99.0	79.00	0.7	0.64	2	1.4	1.36	0.0	0.00	2
<i>Syacium gunteri</i>	0.0	0.00	0.0	0.00	0	67.0	41.00	0.9	0.59	2	29.0	11.88	0.3	0.01	2
<i>Cynoscion arenarius</i>	0.0	0.00	0.0	0.00	0	17.0	13.00	2.4	1.73	2	93.1	41.23	7.7	2.91	2
<i>Prionotus longispinosus</i>	0.0	0.00	0.0	0.00	0	77.0	17.00	0.8	0.27	2	5.6	2.92	0.2	0.19	2
<i>Cynoscion nothus</i>	0.0	0.00	0.0	0.00	0	14.0	14.00	0.3	0.27	2	59.9	57.21	6.8	6.56	2
<i>Squid</i>	0.0	0.00	0.0	0.00	0	26.0	22.00	0.4	0.32	2	49.9	47.21	0.4	0.26	2

Table 4b  
 Statistical Zone 13  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Spring Louisiana Trawl Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less than 6 fm or greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	50.5	19.55	2	29.4	10.83	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	43.6	24.55	2	17.4	11.19	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	6.4	5.45	2	11.4	0.27	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.5	0.45	2	0.0	0.00	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	19.5	0.16	2	20.5	0.32	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	19.6	0.23	2	19.7	0.03	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	19.6	0.16	2	20.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	25.1	0.84	2	28.3	0.02	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	28.7	2.67	2	33.0	0.17	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	33.0	0.56	2	35.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	30.3	28.64	2	20.9	0.73	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	14.1	0.88	2	4.9	0.47	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	9.4	4.77	2	2.5	0.40	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	10.0	0.30	2	9.9	1.25	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	9.0	0.40	2	7.6	0.25	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	5.8	0.65	2	6.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 5a  
 Statistical Zone 14  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 14 during the 1992 Spring Louisiana Trawl Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths from 6 to 10 fm or greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Trachypenaeus similis</i>	945.8	498.59	1.7	0.85	4	0.0	0.00	0.0	0.00	0	343.0	237.37	1.5	1.10	4
<i>Callinectes similis</i>	117.1	84.38	0.5	0.39	4	0.0	0.00	0.0	0.00	0	258.5	139.38	2.9	1.41	4
<i>Portunus gibbesii</i>	7.0	6.25	0.0	0.02	4	0.0	0.00	0.0	0.00	0	181.0	127.88	1.4	1.09	4
<i>Squilla spp.</i>	18.9	6.83	0.1	0.03	4	0.0	0.00	0.0	0.00	0	33.0	20.09	0.3	0.24	4
<i>Penaeus setiferus</i>	19.9	2.54	0.6	0.07	4	0.0	0.00	0.0	0.00	0	21.0	6.14	1.0	0.34	4
<i>Sicyonia dorsalis</i>	24.0	14.70	0.0	0.02	4	0.0	0.00	0.0	0.00	0	5.5	3.10	0.0	0.00	4
<i>Micropogonias undulatus</i>	272.8	133.79	2.0	0.49	4	0.0	0.00	0.0	0.00	0	7.0	4.51	0.3	0.23	4
<i>Etropus crossotus</i>	40.8	13.09	0.4	0.13	4	0.0	0.00	0.0	0.00	0	134.0	27.99	2.5	0.51	4
<i>Peprius burti</i>	101.7	94.16	1.7	1.19	4	0.0	0.00	0.0	0.00	0	8.5	6.65	0.5	0.37	4
<i>Spherooides parvus</i>	1.1	0.66	0.0	0.00	4	0.0	0.00	0.0	0.00	0	91.5	52.43	0.6	0.37	4
<i>Cynoscion arenarius</i>	38.3	17.46	1.5	0.63	4	0.0	0.00	0.0	0.00	0	39.5	26.83	3.6	2.19	4
<i>Menticirrhus americanus</i>	51.1	24.99	5.0	2.34	4	0.0	0.00	0.0	0.00	0	2.0	1.41	0.3	0.19	4
<i>Prionotus longispinosus</i>	41.6	36.99	0.1	0.09	4	0.0	0.00	0.0	0.00	0	19.0	4.93	0.7	0.33	4
<i>Arius felis</i>	44.2	16.88	9.1	4.32	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	4
<i>Squid</i>	127.7	65.10	1.9	1.16	4	0.0	0.00	0.0	0.00	0	104.5	46.69	1.4	0.56	4

Table 5b  
 Statistical Zone 14  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Spring Louisiana Trawl Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths from 6 to 10 fm or greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	54.8	20.87	4	0.0	0.00	0	24.8	3.45	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	48.9	20.46	4	0.0	0.00	0	14.5	2.70	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	3.9	1.64	4	0.0	0.00	0	8.4	2.74	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.1	1.18	4	0.0	0.00	0	1.4	0.59	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	18.9	0.23	2	19.7	0.12	3	19.1	0.34	5	19.1	0.00	1	0.0	0.00	0	0.0	0.00	0
Midwater temperature	18.9	0.22	2	19.7	0.11	3	19.4	0.12	5	19.4	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom temperature	18.9	0.23	2	19.5	0.11	3	20.1	0.18	5	19.9	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface salinity	25.9	0.10	2	24.3	2.49	3	30.2	1.71	5	34.2	0.00	1	0.0	0.00	0	0.0	0.00	0
Midwater salinity	25.9	0.09	2	27.5	0.83	3	32.9	0.99	5	34.4	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom salinity	27.4	1.60	2	31.4	1.63	3	35.9	0.08	5	36.1	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	11.6	1.32	2	29.8	2.25	3	32.5	13.41	5	6.4	0.00	1	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	10.8	0.34	2	36.9	9.38	3	4.7	0.56	5	4.3	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	12.0	0.37	2	7.5	0.85	3	2.5	0.61	5	5.2	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.0	0.15	2	9.6	0.42	3	9.7	0.94	5	12.9	0.00	1	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.0	0.15	2	9.6	0.39	3	6.8	0.35	5	8.0	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.1	0.10	2	5.9	1.69	3	3.8	0.29	5	5.3	0.00	1	0.0	0.00	0	0.0	0.00	0



Table 6a  
 Statistical Zone 15  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 15 during the 1992 Spring Louisiana Trawl Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm or greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	0	504.5	293.55	1.5	0.93	4	734.0	380.80	2.9	1.45	8
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	0	70.5	42.52	0.1	0.04	4	754.9	245.66	1.4	0.42	8
<i>Trachypenaeus spp.</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	4	596.3	312.75	2.5	1.28	8
<i>Squilla spp.</i>	0.0	0.00	0.0	0.00	0	109.0	63.25	0.9	0.53	4	457.6	165.97	3.8	1.41	8
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	0	14.0	8.04	0.0	0.03	4	213.8	57.67	3.1	0.91	8
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	0	4.0	0.82	0.0	0.00	4	108.4	26.34	0.5	0.13	8
<i>Micropogonias undulatus</i>	0.0	0.00	0.0	0.00	0	785.0	399.31	4.9	2.63	4	1.5	1.50	0.0	0.00	8
<i>Prionotus longispinosus</i>	0.0	0.00	0.0	0.00	0	174.0	42.25	0.5	0.20	4	138.5	50.62	1.7	0.34	8
<i>Cynoscion arenarius</i>	0.0	0.00	0.0	0.00	0	103.0	85.46	2.7	1.21	4	132.9	46.70	6.4	1.38	8
<i>Syacium gunteri</i>	0.0	0.00	0.0	0.00	0	0.5	0.50	0.0	0.00	4	152.6	26.72	2.4	0.48	8
<i>Etropus crossotus</i>	0.0	0.00	0.0	0.00	0	46.5	10.87	0.3	0.10	4	102.9	23.74	1.4	0.32	8
<i>Trachurus lathami</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	4	77.3	76.91	0.2	0.18	8
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	0	27.5	18.87	0.4	0.31	4	20.7	11.41	0.5	0.27	8
<i>Arius felis</i>	0.0	0.00	0.0	0.00	0	53.0	4.36	14.3	0.55	4	1.4	1.01	0.8	0.62	8
<i>Squid</i>	0.0	0.00	0.0	0.00	0	85.0	40.22	0.8	0.41	4	373.5	92.44	4.7	1.22	8

Table 6b  
 Statistical Zone 15  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Spring Louisiana Trawl Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less 6 fm or greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	33.2	1.76	4	46.0	5.84	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	29.3	1.72	4	24.6	3.61	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	3.4	1.25	4	16.5	4.01	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.9	0.52	4	4.7	1.28	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	18.8	0.00	1	18.4	0.08	5	18.3	0.07	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	18.8	0.00	1	18.6	0.14	5	18.8	0.13	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	18.8	0.00	1	18.8	0.06	5	19.5	0.05	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	25.4	0.00	1	28.0	0.26	5	30.9	0.28	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	25.4	0.00	1	28.5	0.46	5	31.9	0.42	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	25.4	0.00	1	32.6	0.57	5	35.6	0.10	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	13.1	0.00	1	13.9	1.50	5	10.5	0.70	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	11.1	0.00	1	9.5	0.93	5	9.0	0.65	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	11.9	0.00	1	7.5	1.86	5	4.7	1.23	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.3	0.00	1	7.3	0.06	5	7.2	0.18	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.4	0.00	1	7.2	0.11	5	6.5	0.22	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.3	0.00	1	4.7	0.87	5	3.2	0.27	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 7. 1992 Summer Shrimp/Groundfish Survey species composition list, 282 trawl stations, for those vessels that used a 40-ft. trawl. Species with a total weight of less than 0.0227 kg (0.05 lbs) are indicated on the table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Finfishes</u>					
<i>Stenotomus caprinus</i>	longspine porgy	103591	1028.7	230	78.2
<i>Micropogonias undulatus</i>	Atlantic croaker	66591	2160.9	101	34.4
<i>Peprilus burti</i>	gulf butterfish	32465	1004.4	177	60.2
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	12587	419.9	58	19.7
<i>Saurida brasiliensis</i>	largescale lizardfish	8446	50.9	161	54.8
<i>Centropristis philadelphica</i>	rock sea bass	8208	146.0	169	57.5
<i>Etrumeus teres</i>	round herring	7109	65.3	67	22.8
<i>Prionotus longispinosus</i>	bigeye searobin	6899	111.1	169	57.5
<i>Serranus atrobranchus</i>	blackear bass	5839	71.5	105	35.7
<i>Trachurus lathamii</i>	rough scad	4711	86.7	107	36.4
<i>Synodus foetens</i>	inshore lizardfish	4369	359.5	223	75.9
<i>Leiostomus xanthurus</i>	spot	3560	272.6	56	19.0
<i>Prionotus paralatus</i>	Mexican searobin	2723	47.3	96	32.7
<i>Prionotus stearnsi</i>	shortwing searobin	2554	17.5	116	39.5
<i>Engraulis eurystole</i>	silver anchovy	2531	12.2	22	7.5
<i>Diplectrum bivittatum</i>	dwarf sand perch	2479	64.0	129	43.9
<i>Lagodon rhomboides</i>	pinfish	2099	99.2	109	37.1
<i>Trichiurus lepturus</i>	Atlantic cutlassfish	1877	61.3	92	31.3
<i>Syacium</i> spp.	lefteye flounders	1820	39.4	76	25.9
<i>Arius felis</i>	hardhead catfish	1796	237.9	25	8.5
<i>Cynoscion nothus</i>	silver seatrout	1736	95.4	38	12.9
<i>Cynoscion arenarius</i>	sand seatrout	1682	183.9	104	35.4
<i>Upeneus parvus</i>	dwarf goatfish	1652	39.3	125	42.5
<i>Anchoa hepsetus</i>	striped anchovy	1652	26.3	35	11.9
<i>Pristipomoides aquilonaris</i>	wenchman	1539	114.5	88	29.9
<i>Lepophidium breviparbe</i>	blackedge cusk-ee1	1517	38.2	71	24.1
<i>Sphoeroides parvus</i>	least puffer	1479	6.0	75	25.5
<i>Etropus crossotus</i>	fringed flounder	1204	13.2	94	32.0
<i>Larimus fasciatus</i>	banded drum	1126	27.8	11	3.7
<i>Haliutichthys aculeatus</i>	pancake batfish	1109	6.8	83	28.2
<i>Decapterus punctatus</i>	round scad	902	14.2	23	7.8
<i>Syacium gunteri</i>	shoal flounder	851	13.5	68	23.1
<i>Trichopsetta ventralis</i>	sash flounder	787	21.5	51	17.3
<i>Opisthonema oglinum</i>	Atlantic thread herring	779	67.2	29	9.9
<i>Urophycis floridana</i>	southern hake	696	52.5	78	26.5
<i>Bollmannia communis</i>	ragged goby	669	3.4	31	10.5

Table 7. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Anchoa lyolepis</i>	dusky anchovy	636	1.5	12	4.1
<i>Harengula jaguana</i>	scaled sardine	625	40.7	38	12.9
<i>Steindachneria argentea</i>	luminous hake	616	5.5	9	3.1
<i>Anchoa mitchilli</i>	bay anchovy	568	0.6	15	5.1
<i>Urophycis cirrata</i>	gulf hake	561	11.7	42	14.3
<i>Syacium papillosum</i>	dusky flounder	553	15.9	43	14.6
<i>Saurida caribbaea</i>	smallscale lizardfish	484	4.6	17	5.8
<i>Lutjanus campechanus</i>	red snapper	483	50.8	81	27.6
<i>Porichthys plectrodon</i>	Atlantic midshipman	473	11.0	66	22.4
<i>Symphurus plagiusa</i>	blackcheek tonguefish	392	5.5	54	18.4
<i>Synodus poeyi</i>	offshore lizardfish	372	2.7	54	18.4
<i>Peprilus alepidotus</i>	harvestfish	330	4.5	20	6.8
<i>Cynoscion</i> spp.	seatrouts	288	1.5	7	2.4
<i>Hildebrandia flava</i>	yellow conger	250	14.5	32	10.9
<i>Brevoortia patronus</i>	gulf menhaden	245	5.2	9	3.1
<i>Etopus cyclosquamus</i>	shelf flounder	229	1.7	20	6.8
<i>Mullus auratus</i>	red goatfish	225	18.0	21	7.1
<i>Citharichthys spilopterus</i>	bay whiff	222	3.5	40	13.6
<i>Prionotus tribulus</i>	bighead searobin	217	6.2	37	12.6
<i>Cyclopsetta chittendeni</i>	Mexican flounder	204	17.3	61	20.7
<i>Scorpaena calcarata</i>	smoothhead scorpionfish	203	2.7	26	8.8
<i>Lepophidium</i> spp.	cusks-eels	200	4.3	16	5.4
<i>Selene setapinnis</i>	Atlantic moonfish	188	6.0	35	11.9
<i>Ophidion welshi</i>	crested cusk-eel	174	5.9	24	8.2
<i>Prionotus rubio</i>	blackwing searobin	173	3.2	25	8.5
<i>Ancylopsetta dilecta</i>	three-eye flounder	162	4.8	48	16.3
<i>Citharichthys macrops</i>	spotted whiff	153	1.5	12	4.1
<i>Stellifer lanceolatus</i>	star drum	140	1.5	8	2.7
<i>Hoplunnis macrurus</i>	freckled pike-conger	139	1.7	36	12.2
<i>Monacanthus hispidus</i>	planehead filefish	130	2.0	54	18.4
<i>Orthopristis chrysoptera</i>	pigfish	127	2.9	7	2.4
<i>Symphurus</i> spp.	tonguefishes	109	1.8	2	0.7
<i>Brotula barbata</i>	bearded brotula	107	19.2	38	12.9
<i>Chaetodipterus faber</i>	Atlantic spadefish	104	5.2	7	2.4
<i>Ophidion holbrooki</i>	bank cusk-eel	103	6.3	3	1.0
<i>Symphurus civitatus</i>	offshore tonguefish	94	1.9	5	1.7
<i>Kathetostoma albigutta</i>	lancer stargazer	89	4.8	27	9.2
<i>Lutjanus synagris</i>	lane snapper	88	7.6	22	7.5
<i>Sardinella aurita</i>	Spanish sardine	88	7.4	11	3.7

Table 7. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Anchoa spp.	anchovies	87	0.3	5	1.7
Ogcocephalus spp.	batfishes	83	2.3	26	8.8
Bregmaceros atlanticus	antenna codlet	81	0.1	23	7.8
Eucinostomus gula	silver jenny	81	2.8	25	8.5
Neobythites gillii	cusk-eel	81	0.4	6	2.0
Polydactylus octonemus	Atlantic threadfin	79	1.3	7	2.4
Bellator militaris	horned searobin	77	1.6	16	5.4
Gobionellus hastatus	sharptail goby	76	0.2	3	1.0
Balistes capriscus	gray triggerfish	69	17.3	26	8.8
Engyophrys senta	spiny flounder	67	0.6	27	9.2
Pontinus longispinis	longspine scorpionfish	65	1.0	14	4.8
Anchoviella perfasciata	flat anchovy	64	0.3	4	1.4
Gymnothorax nigromarginatus	blackedge moray	62	4.5	14	4.8
Prionotus roseus	bluespotted searobin	61	2.0	2	0.7
Lagocephalus laevigatus	smooth puffer	60	3.2	29	9.9
Haemulon aurolineatum	tomtate	58	2.3	6	2.0
Selar crumenophthalmus	bigeye scad	57	4.1	16	5.4
Priacanthus arenatus	bigeye	57	9.5	20	6.8
Ancylosetta quadrocellata	ocellated flounder	56	8.5	30	10.2
Symphurus diomedianus	spottedfin tonguefish	55	1.0	16	5.4
Caulolatilus intermedius	anchor tilefish	55	9.0	23	7.8
Ophichthus gomesi	shrimp eel	53	2.2	12	4.1
Anchoa cubana	Cuban anchovy	51	0.1	1	0.3
Rhizoprionodon terraenovae	Atlantic sharpnose shark	50	34.2	20	6.8
Equetus umbrosus	cubbyu	50	3.4	13	4.4
Anchoa nasuta	longnose anchovy	45	0.1	3	1.0
Ogcocephalus declivirostris	slantbrow batfish	45	1.1	20	6.8
Gymnachirus texae	fringed sole	44	0.5	15	5.1
Equetus spp.	drums	42	2.2	2	0.7
Menticirrhus americanus	southern kingfish	40	4.3	12	4.1
Antennarius radiosus	singlespot frogfish	40	0.5	21	7.1
Scomberomorus maculatus	Spanish mackerel	38	6.1	8	2.7
Paralichthys lethostigma	southern flounder	38	11.9	23	7.8
Sphyrnaea guachancho	guaguanche	35	4.8	16	5.4
Serraniculus pumilio	pygmy sea bass	35	0.3	11	3.7
Neomerinthe hemingwayi	spinycheek scorpionfish	34	13.7	13	4.4
Equetus wamotoi	blackbar drum	31	1.7	5	1.7
Bathyanthias mexicanus	yellowtail bass	25	0.3	4	1.4
Lepophidium jeannae	mottled cusk-eel	24	1.0	7	2.4

Table 7. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Mustelus canis</i>	smooth dogfish	20	16.3	14	4.8
<i>Sardinella brasiliensis</i>	orangespot sardine	19	0.6	2	0.7
<i>Apogon</i> spp.	cardinalfishes	18	0.0	3	1.0
<i>Raja texana</i>	roundel skate	17	6.6	13	4.4
<i>Bagre marinus</i>	gafftopsail catfish	17	2.4	3	1.0
<i>Gymnothorax saxicola</i>	honeycomb moray	17	3.1	8	2.7
<i>Prionotus ophryas</i>	bandtail searobin	16	0.1	6	2.0
<i>Prionotus scitulus</i>	leopard searobin	15	0.3	6	2.0
<i>Synagrops bellus</i>	blackmouth bass	15	0.1	1	0.3
<i>Ogcocephalus pantostictus</i>	spotted batfish	15	0.4	4	1.4
<i>Syacium micrurum</i>	channel flounder	14	0.3	3	1.0
<i>Centropristis ocyura</i>	bank sea bass	14	0.8	1	0.3
<i>Apogon aurolineatus</i>	bridle cardinalfish	12	0.1	3	1.0
<i>Equetus acuminatus</i>	high-hat	12	0.4	3	1.0
<i>Synagrops spinosus</i>	keelcheek bass	11	0.1	2	0.7
<i>Paraconger caudilimbatus</i>	margintail conger	11	0.9	2	0.7
<i>Ogcocephalus pumilus</i>	batfish	11	0.1	3	1.0
<i>Squatina dumeril</i>	Atlantic angel shark	10	10.6	8	2.7
<i>Rhomboplites aurorubens</i>	vermilion snapper	10	1.0	5	1.7
<i>Prionotus martis</i>	barred searobin	10	0.1	5	1.7
<i>Scorpaena brasiliensis</i>	barbfish	9	0.9	3	1.0
<i>Gymnachirus melas</i>	naked sole	9	0.0	1	0.3
<i>Paralichthys squamilentus</i>	broad flounder	9	2.8	7	2.4
<i>Menticirrhus littoralis</i>	gulf kingfish	9	1.5	3	1.0
<i>Trinectes maculatus</i>	hogchoker	8	0.0	4	1.4
<i>Mustelus norrisi</i>	Florida smoothhound	8	20.0	6	2.0
<i>Hippocampus erectus</i>	lined seahorse	7	0.0	7	2.4
<i>Chilomycterus schoepfi</i>	striped burrfish	7	0.9	4	1.4
<i>Trachinotus carolinus</i>	Florida pompano	7	0.1	2	0.7
<i>Rypticus maculatus</i>	whitespotted soapfish	7	0.3	4	1.4
<i>Priacanthus cruentatus</i>	glasseye snapper	6	0.2	4	1.4
<i>Caranx crysos</i>	blue runner	6	1.5	4	1.4
<i>Gymnothorax ocellatus</i>	ocellated moray	6	0.6	3	1.0
<i>Epinephelus flavolimbatus</i>	yellowedge grouper	5	0.5	3	1.0
<i>Trachinocephalus myops</i>	snakefish	5	0.2	4	1.4
<i>Selene vomer</i>	lookdown	5	0.0	1	0.3
<i>Bembrops gobioides</i>	goby flathead	5	0.1	1	0.3
<i>Decodon puellaris</i>	red hogfish	5	0.2	4	1.4
<i>Ogcocephalus radiatus</i>	polka-dot batfish	5	0.2	3	1.0

Table 7. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Diplectrum formosum</i>	sand perch	4	0.5	4	1.4
<i>Physiculus fulvus</i>	metallic codling	4	0.0	3	1.0
<i>Fistularia tabacaria</i>	bluespotted cornetfish	3	1.1	1	0.3
<i>Rhinoptera bonasus</i>	cownose ray	3	28.6	3	1.0
<i>Scomber japonicus</i>	chub mackerel	3	0.2	2	0.7
<i>Pristigenys alta</i>	short bigeye	3	0.1	1	0.3
<i>Opsanus pardus</i>	leopard toadfish	3	0.1	1	0.3
<i>Sphoeroides dorsalis</i>	marbled puffer	3	0.3	1	0.3
<i>Paralichthys</i> spp.	flounders	3	0.4	1	0.3
<i>Monolene sessilicauda</i>	deepwater flounder	2	0.0	1	0.3
<i>Prionotus alatus</i>	spiny searobin	2	0.0	2	0.7
<i>Hemicaranx amblyrhynchus</i>	bluntnose jack	2	0.1	1	0.3
<i>Seriola dumerili</i>	greater amberjack	2	0.2	2	0.7
<i>Scomberomorus cavalla</i>	king mackerel	2	1.5	2	0.7
<i>Calamus leucosteus</i>	whitebone porgy	2	0.5	1	0.3
<i>Raja olseni</i>	spreadfin skate	2	0.1	2	0.7
<i>Synodus</i> spp.	lizardfishes	2	0.0	1	0.3
<i>Hemanthias aureorubens</i>	streamer bass	2	0.0	1	0.3
<i>Hoplunnis</i> spp.	pike-congers	2	0.0	1	0.3
<i>Histrio histrio</i>	sargassumfish	2	0.0	1	0.3
<i>Conger</i> spp.	conger eels	1	1.0	1	0.3
<i>Gymnothorax kolpos</i>	blacktail moray	1	0.2	1	0.3
Exocoetidae	flyingfishes	1	0.1	1	0.3
<i>Aplatophis chauliodus</i>	tusky eel	1	0.1	1	0.3
<i>Echiophis intertinctus</i>	spotted spoon-nose eel	1	0.1	1	0.3
<i>Syngnathus louisianae</i>	chain pipefish	1	0.0	1	0.3
<i>Dasyatis americana</i>	southern stingray	1	0.2	1	0.3
<i>Sphyrna lewini</i>	scalloped hammerhead	1	0.4	1	0.3
<i>Rhinobatos lentiginosus</i>	Atlantic guitarfish	1	0.5	1	0.3
<i>Sphyrna tiburo</i>	bonnethead	1	4.3	1	0.3
<i>Alosa chrysochloris</i>	skipjack herring	1	0.1	1	0.3
Clupeidae	herrings	1	0.0	1	0.3
Pisces	fishes	1	0.0	1	0.3
<i>Pogonias cromis</i>	black drum	1	10.0	1	0.3
<i>Cynoscion nebulosus</i>	spotted seatrout	1	0.2	1	0.3
<i>Ariomma bondi</i>	silver-rag	1	0.0	1	0.3
<i>Hemipteronotus novacula</i>	pearly razorfish	1	0.0	1	0.3
<i>Eucinostomus argenteus</i>	spotfin mojarra	1	0.0	1	0.3
<i>Alectis ciliaris</i>	African pompano	1	0.2	1	0.3

Table 7. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT(KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Echeneis naucrates</i>	sharksucker	1	0.2	1	0.3
<i>Apogon pseudomaculatus</i>	twospot cardinalfish	1	0.0	1	0.3
<i>Prionotus</i> spp.	searobins	1	0.0	1	0.3
<i>Scorpaena plumieri</i>	spotted scorpionfish	1	0.0	1	0.3
Bothidae	lefteye flounders	1	0.0	1	0.3
<i>Etropus rimosus</i>	gray flounder	1	0.0	1	0.3
<i>Cyclopsetta fimbriata</i>	spotfin flounder	1	0.0	1	0.3
<i>Paralichthys albigutta</i>	gulf flounder	1	0.2	1	0.3
<i>Achirus lineatus</i>	lined sole	1	0.0	1	0.3
<i>Lactophrys quadricornis</i>	scrawled cowfish	1	0.1	1	0.3
<i>Aluterus schoepfi</i>	orange filefish	1	0.0	1	0.3
<i>Aluterus monoceros</i>	unicorn filefish	1	1.2	1	0.3
<i>Monacanthus ciliatus</i>	fringed filefish	1	0.0	1	0.3
<u>Crustaceans</u>					
<i>Trachypenaeus</i> spp.	roughneck shrimps	20692	100.9	73	24.8
<i>Trachypenaeus similis</i>	roughback shrimp	14513	77.3	55	18.7
<i>Callinectes similis</i>	lesser blue crab	13231	105.5	164	55.8
<i>Penaeus aztecus</i>	brown shrimp	12947	204.0	209	71.1
<i>Portunus spinicarpus</i>	longspine swimming crab	8374	47.3	107	36.4
<i>Squilla empusa</i>	mantis shrimp	7520	66.5	109	37.1
<i>Sicyonia brevirostris</i>	brown rock shrimp	4784	45.5	101	34.4
<i>Sicyonia dorsalis</i>	lesser rock shrimp	3644	11.0	119	40.5
<i>Portunus gibbesii</i>	irridescent swimming crab	3030	17.2	108	36.7
<i>Trachypenaeus constrictus</i>	roughneck shrimp	2807	10.1	10	3.4
<i>Solenocera</i> spp.	humpback shrimps	1878	5.8	31	10.5
<i>Squilla chydadea</i>	mantis shrimp	1717	13.2	70	23.8
<i>Parapenaeus</i> spp.	penaeid shrimps	1278	1.5	23	7.8
<i>Penaeus duorarum</i>	pink shrimp	1163	21.2	58	19.7
<i>Solenocera vioscai</i>	humpback shrimp	862	3.5	13	4.4
<i>Penaeus setiferus</i>	white shrimp	694	29.5	36	12.2
<i>Squilla</i> spp.	mantis shrimps	584	7.3	14	4.8
<i>Xiphopenaeus kroyeri</i>	seabob	492	2.1	9	3.1
<i>Portunus spinimanus</i>	blotched swimming crab	305	4.5	36	12.2
<i>Parapenaeus politus</i>	deepwater rose shrimp	266	0.4	2	0.7
<i>Ovalipes floridanus</i>	Florida lady crab	229	2.5	16	5.4
<i>Raninoides louisianensis</i>	gulf frog crab	199	1.5	19	6.5
<i>Calappa sulcata</i>	yellow box crab	148	34.2	62	21.1



Table 7. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Anasimus latus</i>	stilt spider crab	115	0.9	27	9.2
<i>Callinectes sapidus</i>	blue crab	115	16.7	41	13.9
<i>Sicyonia stimpsoni</i>	eyespot rock shrimp	91	0.0	9	3.1
<i>Hepatus epheliticus</i>	calico crab	53	2.1	20	6.8
<i>Sicyonia burkenroadi</i>	spiny rock shrimp	52	0.0	10	3.4
<i>Podochela sidneyi</i>	shortfinger neck crab	46	0.0	10	3.4
<i>Stenorhynchus seticornis</i>	yellowline arrow crab	35	0.2	8	2.7
<i>Plesionika longicauda</i>	pandalid shrimp	24	0.1	3	1.0
Xanthidae	mud crabs	20	0.1	11	3.7
<i>Libinia emarginata</i>	portly spider crab	19	3.7	7	2.4
<i>Portunus</i> spp.	swimming crabs	19	0.5	9	3.1
<i>Libinia dubia</i>	longnose spider crab	16	6.3	6	2.0
<i>Myropsis quinquespinosa</i>	fivespine purse crab	16	0.1	7	2.4
<i>Leiolambrus nitidus</i>	white elbow crab	15	0.0	6	2.0
<i>Porcellana sayana</i>	spotted porcelain crab	14	0.0	5	1.7
<i>Persephona crinita</i>	pink purse crab	6	0.0	2	0.7
Paguridae	right-handed hermit crabs	5	0.0	4	1.4
<i>Arenaeus cribrarius</i>	speckled swimming crab	5	0.2	5	1.7
<i>Parthenope serrata</i>	sawtooth elbow crab	5	0.0	5	1.7
<i>Parthenope</i> spp.	elbow crabs	4	0.0	2	0.7
Dromiidae	sponge crabs	4	0.0	2	0.7
<i>Metoporphaphis calcarata</i>	false arrow crab	4	0.0	2	0.7
<i>Stenocionops spinimanus</i>	prickly spider crab	4	0.0	2	0.7
<i>Persephona mediterranea</i>	mottled purse crab	4	0.0	2	0.7
<i>Plesionika</i> spp.	pandalid shrimps	4	0.0	1	0.3
Callianassidae	ghost shrimps	3	0.0	1	0.3
<i>Petrochirus diogenes</i>	giant hermit crab	3	2.6	3	1.0
<i>Portunus sayi</i>	sargassum swimming crab	3	0.0	1	0.3
<i>Scyllarus chacei</i>	chace slipper lobster	3	0.0	1	0.3
<i>Scyllarides nodifer</i>	ridged slipper lobster	2	0.9	2	0.7
<i>Emerita benedicti</i>	Benedict sand crab	2	0.0	1	0.3
<i>Ovalipes ocellatus</i>	lady crab	2	0.0	2	0.7
<i>Stenopus scutellatus</i>	golden coral shrimp	2	0.0	2	0.7
<i>Speocarcinus lobatus</i>	gulf squareback crab	2	0.0	1	0.3
<i>Acanthocarpus alexandri</i>	gladiator box crab	2	0.0	2	0.7
<i>Calappa flammea</i>	flame box crab	2	0.4	2	0.7
<i>Parthenope granulata</i>	bladetooth elbow crab	2	0.0	1	0.3
<i>Parthenope punctata</i>	elbow crab	1	0.0	1	0.3
<i>Dromidia antillensis</i>	hairy sponge crab	1	0.0	1	0.3

Table 7. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT(KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
Porcellana spp.	porcelain crabs	1	0.0	1	0.3
Porcellanidae	porcelain crabs	1	0.0	1	0.3
Hypoconcha arcuata	granulate shellback crab	1	0.0	1	0.3
Porcellana sigsbeiana	striped porcelain crab	1	0.0	1	0.3
Parasquilla coccinea	mantis shrimp	1	0.0	1	0.3
Squilla neglecta	mantis shrimp	1	0.0	1	0.3
Pagurus impressus	dimpled hermit	1	0.0	1	0.3
Pagurus spp.	right-handed hermit crabs	1	0.0	1	0.3
Coelocerus spinosus	channelnose spider crab	1	0.0	1	0.3
Stenocionops furcata	furcate crab	1	0.0	1	0.3
Stenocionops coelata	spider crab	1	0.1	1	0.3
Munida forceps	squat lobster	1	0.0	1	0.3
Munida spp.	squat lobsters	1	0.0	1	0.3
<u>Others</u>					
Loligo spp.	squids	22460	273.5	127	43.2
Loligo pealeii	longfin squid	8388	131.9	82	27.9
Loligo pleii	arrow squid	6846	87.9	49	16.7
Amusium papyraceum	paper scallop	2035	15.0	60	20.4
Lolliguncula brevis	Atlantic brief squid	1370	10.1	38	12.9
Renilla mulleri	short-stemmed sea pansy	950	5.2	33	11.2
Chrysaora quinquecirrha	sea nettle	829	74.2	15	5.1
Asteroidea	starfishes	405	3.7	54	18.4
Chrysaora spp.	sea nettles	182	6.9	8	2.7
Scyphozoa	jellyfishes	174	2.1	15	5.1
Aplysia spp.	sea hares	170	3.9	7	2.4
Astropecten duplicatus	spiny beaded sea star	70	0.1	6	2.0
Astropecten spp.	sea stars	64	0.0	3	1.0
Pitar cordatus	Schwengel's pitar	61	0.9	10	3.4
Mellita quinquesperforata	five-slotted sand dollar	59	0.4	3	1.0
Anadara baughmani	Baughman's ark	58	0.6	12	4.1
Luidia spp.	sea stars	43	0.2	9	3.1
Aurelia spp.	jellyfishes	42	0.2	7	2.4
Polychaeta	bristleworms	41	0.6	2	0.7
Astropecten americanus	starfish	33	0.0	4	1.4
Clypeaster spp.	cake urchins	32	4.8	10	3.4
Anadara spp.	ark shells	31	0.5	3	1.0
Calliactis spp.	anemone	26	0.1	1	0.3

Table 7. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Ophiuroidea	brittlestars	20	0.1	9	3.1
Echinaster spp.	thorny sea stars	20	0.0	1	0.3
Luidia clathrata	sea star	17	0.2	4	1.4
Renilla muelleri	Muller's sea pansy	14	0.1	3	1.0
Muricanthus fulvescens	giant eastern murex	10	2.4	1	0.3
Polystira albida	white giant turris	9	0.0	3	1.0
Ophionereis spp.	brittle stars	7	0.0	1	0.3
Polystira spp.	turret shells	6	0.0	1	0.3
Porifera	sponges	5	1.0	2	0.7
Gorgonidae	gorgonians	5	0.0	1	0.3
Bryozoa	moss animals	5	0.0	1	0.3
Lepas spp.	barnacles	5	0.0	1	0.3
Actinidae	sea anemones	4	0.0	1	0.3
Ctenophora	comb jellies	4	0.0	1	0.3
Ophionereis spp.	brittle stars	4	0.0	3	1.0
Pelecypoda	bivalve mollusks	4	0.0	1	0.3
Ventricularia rigida	rigid venus	4	0.1	1	0.3
Phalium granulatum	scotch bonnet	4	0.0	1	0.3
Neverita duplicata	shark eye	3	0.2	3	1.0
Sconsia striata	royal bonnet	3	0.0	1	0.3
Semirossia equalis	greater shining bobtail	3	0.0	2	0.7
Hydroidea	hydras	3	0.0	1	0.3
Octopus spp.	octopuses	3	0.0	3	1.0
Anthozoa	anthozoans	3	0.0	1	0.3
Crinoidea	crinoids	2	0.0	2	0.7
Hermodice carunculata	green fire worm	2	0.0	1	0.3
Pyrosoma spp.	pelagic tunicates	2	0.0	1	0.3
Rossia spp.	bob-tailed squids	2	0.0	2	0.7
Pitar spp.	Venus shells	2	0.0	1	0.3
Mercenaria spp.	quahogs	2	0.0	2	0.7
Pinna carnea	amber penshell	2	0.0	1	0.3
Distorsio clathrata	Atlantic distorsio	2	0.0	2	0.7
Polystira tellea	delicate giant turret	2	0.0	2	0.7
Eratoidea	trivia shells	2	0.0	1	0.3
Mollusca	molluscs	1	0.0	1	0.3
Busycon spp.	whelks	1	0.1	1	0.3
Atrina seminuda	half-naked penshell	1	0.6	1	0.3
Anadara brasiliana	incongruous ark	1	0.0	1	0.3
Nudibranchia	sea slugs	1	0.0	1	0.3

Table 7. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Barbatia spp.	ark shells	1	0.0	1	0.3
Laevicardium sybariticum	delicate eggcockle	1	0.0	1	0.3
Cubomedusae	sea wasps	1	0.0	1	0.3
Tunicata	tunicates	1	0.0	1	0.3
Octopus vulgaris	common Atlantic octopus	1	0.0	1	0.3
Myopsida	squids	1	0.0	1	0.3
Polychaeta	polychetes	1	0.0	1	0.3
Echinodermata	echinoderms	1	0.0	1	0.3
Actiniaria spp.	sea anemones	1	0.0	1	0.3
Asteropora annulata	starfish	1	0.0	1	0.3
Clypeaster ravenelii	cake urchin	1	0.2	1	0.3

Table 8. 1992 Summer Shrimp/Groundfish Survey species composition list, 80 trawl stations, for those vessels that used a 20-ft. trawl. Species with a total weight of less than 0.0227 kg (0.05 lbs) are indicated on the table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Finfishes</u>					
Micropogonias undulatus	Atlantic croaker	4322	79.6	33	41.3
Stenotomus caprinus	longspine porgy	766	4.1	27	33.8
Peprilus burti	gulf butterfish	676	11.5	26	32.5
Cynoscion nothus	silver seatrout	466	16.2	16	20.0
Syacium gunteri	shoal flounder	399	6.0	38	47.5
Leiostomus xanthurus	spot	362	10.0	18	22.5
Chloroscombrus chrysurus	Atlantic bumper	327	5.5	19	23.7
Trichiurus lepturus	Atlantic cutlassfish	193	5.2	15	18.8
Cynoscion arenarius	sand seatrout	189	6.7	16	20.0
Arius felis	hardhead catfish	137	13.2	12	15.0
Larimus fasciatus	banded drum	128	3.3	12	15.0
Lagodon rhomboides	pinfish	118	2.3	25	31.3
Peprilus alepidotus	harvestfish	106	1.2	14	17.5
Stellifer lanceolatus	star drum	87	1.7	10	12.5
Selene setapinnis	Atlantic moonfish	81	0.5	6	7.5
Brevoortia patronus	gulf menhaden	53	2.7	6	7.5
Polydactylus octonemus	Atlantic threadfin	30	0.9	7	8.8
Prionotus tribulus	bighead searobin	29	0.2	7	8.8
Dorosoma petenense	threadfin shad	27	0.6	2	2.5
Prionotus rubio	blackwing searobin	25	0.0	11	13.8
Etropus crossotus	fringed flounder	20	0.1	15	18.8
Prionotus scitulus	leopard searobin	13	0.0	6	7.5
Citharichthys spilopterus	bay whiff	12	0.0	10	12.5
Anchoa mitchilli	bay anchovy	12	0.0	2	2.5
Saurida brasiliensis	largescale lizardfish	11	0.1	5	6.3
Lutjanus campechanus	red snapper	11	0.4	4	5.0
Diplectrum bivittatum	dwarf sand perch	11	0.2	9	11.3
Ancylopsetta quadrocellata	ocellated flounder	10	0.4	9	11.3
Trachurus lathami	rough scad	9	0.2	3	3.7
Halieutichthys aculeatus	pancake batfish	9	0.0	3	3.7
Symphurus plagiosa	blackcheek tonguefish	8	0.1	5	6.3
Upeneus parvus	dwarf goatfish	8	0.1	3	3.7
Trachinotus carolinus	Florida pompano	6	0.0	2	2.5
Anchoa hepsetus	striped anchovy	6	0.1	4	5.0
Centropristis philadelphica	rock sea bass	5	0.0	5	6.3
Hippocampus erectus	lined seahorse	4	0.0	2	2.5

Table 8. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Orthopristis chrysoptera</i>	pigfish	4	0.2	2	2.5
<i>Monacanthus hispidus</i>	planehead filefish	4	0.0	4	5.0
<i>Lagocephalus laevigatus</i>	smooth puffer	4	0.1	3	3.7
<i>Trinectes maculatus</i>	hogchoker	4	0.1	3	3.7
<i>Sphoeroides parvus</i>	least puffer	2	0.0	2	2.5
<i>Synodus foetens</i>	inshore lizardfish	2	0.1	1	1.3
<i>Dasyatis sabina</i>	Atlantic stringray	2	0.5	1	1.3
<i>Raja texana</i>	roundel skate	1	0.0	1	1.3
<i>Sardinella aurita</i>	Spanish sardine	1	0.0	1	1.3
<i>Etrumeus teres</i>	round herring	1	0.0	1	1.3
<i>Narcine brasiliensis</i>	lesser electric ray	1	0.3	1	1.3
<i>Rhinoptera bonasus</i>	cownose ray	1	15.9	1	1.3
<i>Saurida caribbaea</i>	smallscale lizardfish	1	0.0	1	1.3
<i>Anchoa nasuta</i>	longnose anchovy	1	0.0	1	1.3
<i>Bagre marinus</i>	gafftopsail catfish	1	0.1	1	1.3
<i>Serraniculus pumilio</i>	pygmy sea bass	1	0.0	1	1.3
<i>Aluterus schoepfi</i>	orange filefish	1	0.0	1	1.3
<i>Aluterus heudeloti</i>	dotterel filefish	1	0.0	1	1.3
<i>Balistes capriscus</i>	gray triggerfish	1	0.1	1	1.3
<i>Symphurus urospilus</i>	spottail tonguefish	1	0.0	1	1.3
<i>Bairdiella chrysoura</i>	silver perch	1	0.1	1	1.3
<i>Prionotus roseus</i>	bluespotted searobin	1	0.0	1	1.3
<i>Prionotus paralatus</i>	Mexican searobin	1	0.0	1	1.3
<i>Ogcocephalus</i> spp.	batfishes	1	0.0	1	1.3
<u>Crustaceans</u>					
<i>Penaeus aztecus</i>	brown shrimp	662	4.0	35	43.8
<i>Xiphopenaeus kroyeri</i>	seabob	363	2.3	5	6.3
<i>Penaeus setiferus</i>	white shrimp	96	2.7	18	22.5
<i>Callinectes similis</i>	lesser blue crab	82	0.7	25	31.3
<i>Sicyonia dorsalis</i>	lesser rock shrimp	55	0.0	16	20.0
Xanthidae	mud crabs	44	0.0	5	6.3
<i>Trachypenaeus similis</i>	roughback shrimp	42	0.0	16	20.0
<i>Pagurus pollicaris</i>	flatclaw hermit crab	33	0.2	19	23.7
<i>Callinectes sapidus</i>	blue crab	25	2.0	7	8.8
<i>Portunus gibbesii</i>	irridescent swimming crab	24	0.1	14	17.5
<i>Portunus sayi</i>	sargassum swimming crab	22	0.0	3	3.7
<i>Persephona crinita</i>	pink purse crab	22	0.0	13	16.3

Table 8. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
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Table 8. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
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<i>Sicyonia brevirostris</i>	brown rock shrimp	18	0.1	6	7.5
<i>Squilla empusa</i>	mantis shrimp	14	0.1	8	10.0
<i>Portunus spinimanus</i>	blotched swimming crab	14	0.1	9	11.3
<i>Petrochirus diogenes</i>	giant hermit crab	13	0.8	6	7.5
<i>Penaeus duorarum</i>	pink shrimp	12	0.2	2	2.5
<i>Libinia dubia</i>	longnose spider crab	10	0.0	3	3.7
<i>Libinia emarginata</i>	portly spider crab	6	0.1	5	6.3
<i>Arenaeus cribrarius</i>	speckled swimming crab	6	0.3	1	1.3
<i>Hepatus epheliticus</i>	calico crab	6	0.0	3	3.7
<i>Ovalipes floridanus</i>	Florida lady crab	5	0.0	2	2.5
<i>Dromidia antillensis</i>	hairy sponge crab	4	0.0	3	3.7
<i>Metoporhaphis calcarata</i>	false arrow crab	3	0.0	1	1.3
<i>Podochela sidneyi</i>	shortfinger neck crab	3	0.0	3	3.7
<i>Dyspanopeus texana</i>	gulf grassflat crab	2	0.0	2	2.5
<i>Trachypenaeus constrictus</i>	roughneck shrimp	2	0.0	2	2.5
<i>Calappa sulcata</i>	yellow box crab	2	0.0	2	2.5
<i>Parthenope serrata</i>	sawtooth elbow crab	2	0.0	1	1.3
<i>Calappa flammea</i>	flame box crab	1	0.4	1	1.3
<i>Speocarcinus lobatus</i>	gulf squareback crab	1	0.0	1	1.3
<i>Pagurus brevidactylus</i>	hermit crab	1	0.0	1	1.3
<i>Squilla neglecta</i>	mantis shrimp	1	0.0	1	1.3
<i>Porcellana sayana</i>	spotted porcelain crab	1	0.0	1	1.3
<i>Persephona mediterranea</i>	mottled purse crab	1	0.0	1	1.3

Others

<i>Renilla mulleri</i>	short-stemmed sea pansy	1191	4.9	25	31.3
<i>Lolliguncula brevis</i>	Atlantic brief squid	228	2.8	42	52.5
<i>Loligo pealeii</i>	longfin squid	160	1.9	14	17.5
<i>Chrysaora quinquecirrha</i>	sea nettle	123	2.3	18	22.5
<i>Luidia clathrata</i>	sea star	110	2.0	21	26.3
Actinidae	sea anemones	26	0.1	10	12.5
<i>Thais haemastoma</i>	rocksnail	13	0.1	3	3.7

Table 8. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Cantharus cancellarius</i>	cancellate cantharus	11	0.0	4	5.0
<i>Strombus alatus</i>	Florida fighting conch	10	0.7	2	2.5
<i>Dactylometra quinquecirrha</i>	compass jellyfish	10	0.2	1	1.3
Asteroidea	starfishes	9	0.2	5	6.3
Sargassaceae	sargassum	9	1.4	8	10.0
<i>Aplysia</i> spp.	sea hares	8	0.6	1	1.3
<i>Mellita quinquiesperforata</i>	five-slotted sand dollar	7	0.0	1	1.3
<i>Chione clenchi</i>	Clench venus	6	0.0	4	5.0
<i>Busycon perversum</i>	perverse whelk	6	1.6	6	7.5
<i>Neverita duplicata</i>	shark eye	3	0.0	3	3.7
<i>Luidia alternata</i>	banded luidia	3	0.1	2	2.5
Gorgonidae	gorgonians	3	0.0	3	3.7
<i>Arbacia punctulata</i>	purple sea-urchin	2	0.0	1	1.3
<i>Aurelia aurita</i>	moon jellyfish	2	0.1	2	2.5
<i>Aurelia</i> spp.	jellyfishes	2	0.0	1	1.3
<i>Loligo pleii</i>	arrow squid	1	0.0	1	1.3
Pennatulidae	sea pens	1	0.0	1	1.3
<i>Muricea</i> spp.	Anthozoans	1	0.2	1	1.3
<i>Architectonica nobilis</i>	common sundial	1	0.0	1	1.3
<i>Fasciolaria liliium</i>	banded tulip	1	0.0	1	1.3
<i>Oliva sayana</i>	lettered olive	1	0.0	1	1.3
Algae	algae	1	0.0	1	1.3



Table 9a  
 Statistical Zone 10  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 10 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 5 fm or greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	0	182.2	0.00	1.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus constrictus</i>	0.0	0.00	0.0	0.00	0	60.0	0.00	0.7	0.00	1	0.0	0.00	0.0	0.00	0
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	0	24.4	0.00	0.4	0.00	1	0.0	0.00	0.0	0.00	0
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	0	4.4	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	0
<i>Penaeus duorarum</i>	0.0	0.00	0.0	0.00	0	4.4	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	0
<i>Squilla</i> spp.	0.0	0.00	0.0	0.00	0	2.2	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	0
<i>Centropristis philadelphia</i>	0.0	0.00	0.0	0.00	0	677.8	0.00	6.1	0.00	1	0.0	0.00	0.0	0.00	0
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	0	573.3	0.00	5.5	0.00	1	0.0	0.00	0.0	0.00	0
<i>Synodus foetens</i>	0.0	0.00	0.0	0.00	0	368.9	0.00	7.1	0.00	1	0.0	0.00	0.0	0.00	0
<i>Etropus crossotus</i>	0.0	0.00	0.0	0.00	0	346.7	0.00	4.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Prionotus longispinosus</i>	0.0	0.00	0.0	0.00	0	306.7	0.00	1.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	0	262.2	0.00	1.5	0.00	1	0.0	0.00	0.0	0.00	0
<i>Anchoa hepsetus</i>	0.0	0.00	0.0	0.00	0	206.7	0.00	3.3	0.00	1	0.0	0.00	0.0	0.00	0
<i>Diplectrum bivittatum</i>	0.0	0.00	0.0	0.00	0	51.1	0.00	1.4	0.00	1	0.0	0.00	0.0	0.00	0
<i>Squid</i>	0.0	0.00	0.0	0.00	0	193.3	0.00	3.5	0.00	1	0.0	0.00	0.0	0.00	0

Table 9b  
 Statistical Zone 10  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less than 6 fm or greater than 10 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	40.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	34.3	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	3.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	4.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	26.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	25.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	23.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	30.6	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	34.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	35.8	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	6.6	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	7.9	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	5.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 10a  
 Statistical Zone 11  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 11 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Callinectes similis</i>	483.0	351.38	5.6	4.99	3	241.4	160.51	1.0	0.24	10	1282.0	605.01	6.8	2.92	24
<i>Portunus spinicarpus</i>	14.6	14.62	0.1	0.07	3	5.0	4.97	0.0	0.01	10	86.9	27.62	0.2	0.07	24
<i>Trachypenaeus constrictus</i>	82.3	82.31	0.3	0.28	3	691.5	649.89	0.6	0.43	10	0.0	0.00	0.0	0.00	24
<i>Squilla</i> spp.	203.3	138.98	0.8	0.42	3	103.8	36.62	0.9	0.42	10	198.5	90.54	2.1	0.93	24
<i>Trachypenaeus similis</i>	7.3	7.27	0.1	0.08	3	68.9	45.69	0.3	0.20	10	324.7	104.16	1.2	0.40	24
<i>Sicyonia dorsalis</i>	3.8	3.85	0.0	0.00	3	75.6	40.92	0.1	0.04	10	209.5	69.04	0.5	0.15	24
<i>Stenotomus caprinus</i>	24.4	19.21	0.2	0.08	3	1545.2	397.40	11.6	3.67	10	3013.1	1081.36	24.7	11.29	24
<i>Micropogonias undulatus</i>	9.3	6.51	0.4	0.30	3	0.0	0.00	0.0	0.00	10	0.3	0.25	0.0	0.01	24
<i>Peprilus burti</i>	81.2	68.89	0.9	0.81	3	11.8	5.60	0.2	0.09	10	73.9	48.58	1.2	0.81	24
<i>Saurida brasiliensis</i>	4.6	4.62	0.0	0.00	3	33.1	18.47	0.1	0.06	10	190.5	35.58	1.2	0.25	24
<i>Serranus atrobranchus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	10	53.0	19.60	0.6	0.39	24
<i>Centropristis philadelphica</i>	32.4	30.17	0.2	0.25	3	117.4	67.88	1.1	0.60	10	55.6	19.51	0.3	0.11	24
<i>Prionotus longispinosus</i>	165.7	143.98	1.3	1.00	3	70.0	48.63	0.4	0.26	10	108.5	28.28	0.8	0.20	24
<i>Syacium</i> spp.	3.1	3.08	0.0	0.00	3	15.4	5.99	0.3	0.12	10	111.8	29.34	2.4	0.71	24
<i>Squid</i>	328.3	153.29	3.9	1.77	3	723.7	210.37	13.4	4.79	10	435.0	130.14	5.0	1.42	24

Table 10a (continued)  
 Statistical Zone 11  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 11 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Callinectes similis</i>	823.6	772.22	5.1	4.61	5	342.8	308.21	2.3	1.69	6	0.0	0.00	0.0	0.00	4
<i>Portunus spinicarpus</i>	76.3	59.11	0.2	0.16	5	982.9	803.94	6.9	5.55	6	202.5	190.74	1.7	1.58	4
<i>Trachypenaeus constrictus</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	4
<i>Squilla</i> spp.	106.8	69.47	0.8	0.59	5	160.7	114.01	1.7	1.14	6	10.4	5.06	0.2	0.09	4
<i>Trachypenaeus similis</i>	229.5	164.83	1.0	0.73	5	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	4
<i>Sicyonia dorsalis</i>	180.4	175.83	0.4	0.34	5	5.7	5.71	0.0	0.00	6	0.0	0.00	0.0	0.00	4
<i>Stenotomus caprinus</i>	21.9	8.66	0.4	0.20	5	68.3	55.37	2.8	2.52	6	349.2	196.31	19.7	11.04	4
<i>Micropogonias undulatus</i>	0.8	0.84	0.1	0.07	5	13.1	4.99	0.8	0.31	6	7025.7	5121.68	419.5	302.20	4
<i>Peprilus burti</i>	459.0	377.91	18.4	13.48	5	1.5	1.52	0.2	0.20	6	39.1	31.59	4.2	3.40	4
<i>Saurida brasiliensis</i>	106.4	56.76	0.7	0.43	5	0.2	0.22	0.0	0.02	6	0.0	0.00	0.0	0.00	4
<i>Serranus atrobranchus</i>	92.2	55.08	1.1	0.98	5	365.3	228.81	7.3	4.51	6	7.7	4.82	0.2	0.10	4
<i>Centropristis philadelphia</i>	51.6	40.69	0.4	0.19	5	103.6	70.28	7.0	3.97	6	19.8	9.57	1.9	0.69	4
<i>Prionotus longispinosus</i>	50.8	28.84	0.9	0.50	5	10.6	5.53	1.7	1.07	6	22.4	5.56	3.5	1.91	4
<i>Syacium</i> spp.	25.1	15.37	0.8	0.53	5	63.9	40.87	2.1	1.35	6	0.0	0.00	0.0	0.00	4
<i>Squid</i>	93.1	27.04	1.4	0.64	5	23.1	15.09	0.1	0.08	6	53.7	50.17	0.5	0.47	4

Table 10b  
 Statistical Zone 11  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	87.9	37.19	3	54.9	8.25	10	71.5	13.54	24	56.6	24.24	5	65.2	27.82	6	589.5	355.61	4
Total finfish kg	15.9	7.46	3	24.1	5.89	10	50.6	13.02	24	44.1	23.48	5	50.9	19.05	6	584.3	354.25	4
Total crustacean kg	9.7	6.30	3	10.6	3.11	10	15.3	4.68	24	10.7	6.86	5	14.1	8.88	6	4.5	2.38	4
Total others kg	62.3	31.23	3	20.1	4.32	10	5.6	1.47	24	1.8	0.54	5	0.2	0.11	6	0.7	0.68	4
Surface temperature	27.6	0.66	2	27.1	0.33	9	26.3	0.20	22	26.8	0.17	8	27.4	0.75	5	28.1	0.29	4
Midwater temperature	27.7	0.73	2	25.8	0.36	9	23.7	0.27	22	22.8	0.34	8	22.0	0.59	5	22.1	0.58	4
Bottom temperature	27.1	0.54	2	23.3	0.27	9	21.5	0.15	22	21.0	0.14	8	19.9	0.27	5	19.4	0.40	4
Surface salinity	23.7	1.70	2	27.6	1.60	9	29.9	0.92	21	31.1	0.78	8	27.6	0.93	5	27.8	1.12	4
Midwater salinity	28.4	2.77	2	34.3	0.61	9	35.2	0.22	21	36.0	0.18	8	36.1	0.07	5	36.2	0.02	4
Bottom salinity	31.3	0.18	2	35.9	0.14	9	36.2	0.04	21	36.3	0.02	8	36.4	0.04	5	36.4	0.01	4
Surface chlorophyll	0.0	0.00	0	0.9	0.14	7	5.2	1.96	15	9.9	5.42	5	19.0	2.78	4	20.3	5.35	3
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	5.5	0.85	2	5.9	0.21	9	6.4	0.11	22	6.8	0.49	8	6.1	0.48	5	6.4	0.18	4
Midwater oxygen	6.3	0.00	2	5.8	0.30	9	5.7	0.12	22	5.7	0.19	8	6.3	0.25	5	6.8	0.19	4
Bottom oxygen	6.7	0.35	2	5.0	0.19	9	4.9	0.11	22	5.1	0.26	8	4.8	0.28	5	4.6	0.12	4

Table 11a  
 Statistical Zone 13  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 13 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Squilla spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	3613.8	0.00	13.4	0.00	1
Trachypenaeus spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	3433.8	0.00	13.0	0.00	1
Callinectes similis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	1186.2	0.00	5.2	0.00	1
Penaeus aztecus	2.4	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	78.5	0.00	0.8	0.00	1
Portunus gibbesii	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	50.8	0.00	0.2	0.00	1
Penaeus setiferus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	36.9	0.00	1.5	0.00	1
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	6041.5	0.00	33.6	0.00	1
Prionotus longispinosus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	2838.5	0.00	13.0	0.00	1
Cynoscion arenarius	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	1213.8	0.00	69.9	0.00	1
Anchoa mitchilli	93.6	0.00	0.1	0.00	1	223.6	0.00	0.2	0.00	1	410.8	0.00	0.2	0.00	1
Anchoa cubana	0.0	0.00	0.0	0.00	1	92.7	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	1
Spherooides parvus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	207.7	0.00	0.2	0.00	1
Trichiurus lepturus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	180.0	0.00	0.4	0.00	1
Ophidion welshi	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	156.9	0.00	1.9	0.00	1
Squid	2.4	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	180.0	0.00	0.6	0.00	1

Table 11b  
 Statistical Zone 13  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	1	0.8	0.00	1	161.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	1	0.0	0.00	1	125.9	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	1	0.0	0.00	1	33.6	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	1	0.0	0.00	1	0.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	30.8	0.00	1	30.8	0.56	3	30.7	0.00	1	0.0	0.00	0	25.6	0.00	1	30.3	0.00	1
Midwater temperature	30.6	0.00	1	30.0	0.10	3	27.7	0.00	1	0.0	0.00	0	20.7	0.00	1	18.4	0.00	1
Bottom temperature	29.5	0.00	1	25.4	0.54	3	21.6	0.00	1	0.0	0.00	0	19.8	0.00	1	14.1	0.00	1
Surface salinity	8.6	0.00	1	25.8	1.40	3	28.7	0.00	1	0.0	0.00	0	25.0	0.00	1	32.1	0.00	1
Midwater salinity	26.4	0.00	1	28.5	1.04	3	31.3	0.00	1	0.0	0.00	0	36.2	0.00	1	36.4	0.00	1
Bottom salinity	29.4	0.00	1	33.6	0.69	3	36.1	0.00	1	0.0	0.00	0	36.4	0.00	1	35.8	0.00	1
Surface chlorophyll	17.8	0.00	1	2.7	1.62	3	0.6	0.00	1	0.0	0.00	0	21.9	0.00	1	0.3	0.00	1
Midwater chlorophyll	0.0	0.00	0	7.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	5.5	1.55	3	1.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	11.7	0.00	1	6.8	0.67	3	6.4	0.00	1	0.0	0.00	0	6.3	0.00	1	6.2	0.00	1
Midwater oxygen	6.1	0.00	1	5.1	0.43	3	5.6	0.00	1	0.0	0.00	0	6.6	0.00	1	4.3	0.00	1
Bottom oxygen	5.4	0.00	1	0.8	0.52	3	0.8	0.00	1	0.0	0.00	0	5.1	0.00	1	4.0	0.00	1

Table 12a  
 Statistical Zone 14  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 14 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	0.0	0.00	0.0	0.00	7	0.0	0.00	0.0	0.00	8	852.0	326.87	4.5	1.65	20
Trachypenaeus spp.	0.0	0.00	0.0	0.00	7	6.8	6.79	0.0	0.03	8	399.6	292.95	2.0	1.46	20
Squilla spp.	0.9	0.90	0.0	0.00	7	34.3	27.75	0.1	0.07	8	114.2	38.01	1.2	0.37	20
Callinectes similis	59.5	29.25	0.3	0.17	7	10.7	10.71	0.0	0.05	8	66.2	39.22	1.4	0.59	20
Portunus gibbesii	14.3	8.82	0.1	0.04	7	0.6	0.41	0.0	0.00	8	60.3	35.21	0.5	0.23	20
Penaeus aztecus	108.2	54.93	1.6	0.79	7	2.9	1.77	0.0	0.02	8	28.2	8.05	0.5	0.14	20
Micropogonias undulatus	3347.0	1786.15	98.3	60.95	7	4.1	4.09	0.1	0.14	8	383.9	379.83	19.6	19.42	20
Stenotomus caprinus	0.0	0.00	0.0	0.00	7	1.1	1.07	0.0	0.00	8	1170.3	400.39	8.6	3.07	20
Peprilus burti	30.0	28.58	1.4	1.45	7	0.0	0.00	0.0	0.00	8	682.8	454.00	13.6	8.55	20
Prionotus longispinosus	7.8	7.79	0.0	0.04	7	24.8	15.59	0.2	0.13	8	270.5	91.04	3.7	1.01	20
Etrumeus teres	0.0	0.00	0.0	0.00	7	0.0	0.00	0.0	0.00	8	314.1	307.65	3.1	3.09	20
Centropristis philadelphia	0.0	0.00	0.0	0.00	7	4.3	2.94	0.0	0.01	8	259.7	87.12	2.9	0.91	20
Engraulis eurystole	0.0	0.00	0.0	0.00	7	0.0	0.00	0.0	0.00	8	156.3	156.32	0.7	0.69	20
Serranus atrobranchus	0.0	0.00	0.0	0.00	7	0.0	0.00	0.0	0.00	8	83.5	44.94	0.4	0.19	20
Squid	11.5	7.34	0.2	0.12	7	0.0	0.00	0.0	0.00	8	443.8	207.13	4.7	1.74	20



Table 12a (continued)  
 Statistical Zone 14  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 14 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	117.8	114.10	0.9	0.92	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Trachypenaeus spp.	39.8	31.48	0.4	0.30	4	1.8	1.76	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Squilla spp.	156.6	86.55	2.3	1.39	4	6.0	6.00	0.1	0.14	2	45.0	45.00	0.4	0.41	2
Callinectes similis	8.0	4.32	0.3	0.20	4	0.0	0.00	0.0	0.00	2	10.9	7.09	0.0	0.00	2
Portunus gibbesii	24.8	10.09	0.1	0.08	4	6.2	6.18	0.0	0.04	2	30.0	30.00	0.0	0.00	2
Penaeus aztecus	56.9	17.63	1.7	0.64	4	37.1	22.94	0.8	0.26	2	1.3	1.28	0.2	0.20	2
Micropogonias undulatus	135.0	127.04	12.3	12.02	4	110.6	104.65	8.2	7.63	2	45.2	38.81	3.9	2.92	2
Stenotomus caprinus	13.7	10.28	0.1	0.06	4	19.4	19.41	1.2	1.20	2	85.3	19.34	6.4	4.75	2
Peprilus burti	138.4	135.92	8.3	8.19	4	219.2	153.18	10.7	6.62	2	86.8	86.81	7.9	7.86	2
Prionotus longispinosus	198.5	101.01	4.8	2.10	4	55.9	40.06	3.5	2.52	2	322.9	319.09	16.2	15.97	2
Etrumeus teres	1.0	1.02	0.0	0.01	4	1.8	1.76	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Centropristis philadelphia	210.8	114.88	6.2	2.87	4	27.5	20.47	0.4	0.15	2	93.2	86.81	7.6	6.29	2
Engraulis eurystole	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Serranus atrobranchus	152.9	69.91	1.2	0.72	4	157.1	112.94	2.3	1.76	2	280.4	253.60	6.5	5.82	2
Squid	13.6	9.36	0.2	0.11	4	1176.2	1163.82	7.6	7.38	2	305.7	305.74	2.5	2.47	2

Table 12b  
 Statistical Zone 14  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	141.6	71.20	7	0.7	0.37	8	82.0	23.25	20	61.6	7.08	4	51.3	10.43	2	98.6	21.41	2
Total finfish kg	134.1	71.05	7	0.4	0.21	8	66.2	21.74	20	54.1	6.80	4	42.4	17.81	2	93.2	21.30	2
Total crustacean kg	4.4	2.14	7	0.3	0.18	8	11.0	3.03	20	7.3	2.66	4	1.8	0.96	2	3.0	2.44	2
Total others kg	2.6	1.50	7	0.0	0.00	8	4.6	1.74	20	0.1	0.12	4	9.0	7.38	2	2.3	2.32	2
Surface temperature	30.5	0.31	11	30.7	0.29	7	30.6	0.14	22	30.4	0.14	4	30.3	0.19	2	30.7	0.30	3
Midwater temperature	29.4	0.34	11	28.7	0.35	7	26.8	0.38	22	24.6	0.22	4	22.2	1.07	2	21.2	0.27	3
Bottom temperature	27.3	0.66	11	24.1	0.53	7	21.8	0.09	22	21.2	0.09	4	19.7	0.14	2	17.3	0.21	3
Surface salinity	26.2	0.86	11	27.2	0.56	7	27.0	0.56	22	29.5	0.05	4	30.8	0.99	2	28.4	2.40	3
Midwater salinity	28.9	0.35	11	29.7	0.31	7	32.1	0.36	22	34.5	0.28	4	35.9	0.24	2	36.1	0.04	3
Bottom salinity	31.6	0.63	11	34.9	0.47	7	36.0	0.04	22	36.1	0.02	4	36.3	0.02	2	36.3	0.04	3
Surface chlorophyll	7.5	1.88	11	2.9	0.44	7	1.1	0.23	21	0.3	0.09	4	0.2	0.07	2	0.5	0.27	3
Midwater chlorophyll	12.6	2.85	5	4.6	1.40	4	1.5	0.31	11	1.0	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	17.9	4.32	7	7.8	0.95	7	1.4	0.22	20	0.9	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.4	0.35	11	6.9	0.27	7	6.0	0.08	22	5.9	0.21	4	6.0	0.05	2	6.0	0.15	3
Midwater oxygen	5.2	0.44	11	5.1	0.42	7	4.7	0.22	22	5.5	0.31	4	5.0	1.75	2	6.0	0.66	3
Bottom oxygen	2.8	0.76	11	0.3	0.11	7	2.3	0.23	22	4.5	0.33	4	4.7	0.70	2	4.1	0.03	3

Table 13a  
 Statistical Zone 15  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 15 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	0.0	0.00	0.0	0.00	2	0.3	0.25	0.0	0.00	10	830.5	557.59	4.6	3.11	12
Trachypenaeus similis	0.0	0.00	0.0	0.00	2	6.0	3.75	0.0	0.01	10	666.6	486.02	3.2	2.16	12
Squilla spp.	0.0	0.00	0.0	0.00	2	29.4	23.12	0.1	0.10	10	176.0	74.39	1.2	0.57	12
Portunus gibbesii	23.7	11.73	0.1	0.06	2	24.9	15.33	0.1	0.03	10	111.6	63.23	0.4	0.24	12
Sicyonia dorsalis	0.0	0.00	0.0	0.00	2	0.9	0.88	0.0	0.00	10	74.8	31.87	0.3	0.10	12
Penaeus aztecus	5.0	2.24	0.0	0.00	2	1.2	0.69	0.0	0.01	10	28.0	10.52	0.6	0.23	12
Stenotomus caprinus	0.0	0.00	0.0	0.00	2	159.7	154.28	1.1	1.08	10	1946.8	738.98	11.4	4.98	12
Peprilus burti	170.5	170.45	6.9	6.88	2	55.7	48.92	1.3	1.22	10	181.3	57.04	3.7	1.11	12
Saurida brasiliensis	0.0	0.00	0.0	0.00	2	17.5	17.47	0.1	0.14	10	74.4	41.04	0.5	0.24	12
Micropogonias undulatus	2.4	2.40	0.1	0.05	2	0.4	0.43	0.0	0.01	10	2.0	1.11	0.1	0.05	12
Chloroscombrus chrysurus	1898.2	1339.04	67.4	44.05	2	44.4	27.27	2.4	1.50	10	3.7	3.02	0.2	0.18	12
Etrumeus teres	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	10	32.7	26.06	0.6	0.56	12
Centropristis philadelphia	0.0	0.00	0.0	0.00	2	2.2	1.29	0.0	0.01	10	134.0	65.02	1.0	0.47	12
Serranus atrobranchus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	10	55.1	35.29	0.3	0.19	12
Squid	154.5	39.93	2.0	0.24	2	195.3	136.45	2.7	1.86	10	435.3	142.90	5.1	2.37	12

Table 13a (continued)  
 Statistical Zone 15  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 15 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2
Trachypenaeus similis	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2
Squilla spp.	0.9	0.91	0.0	0.00	2	30.2	12.41	0.3	0.12	5	9.8	9.75	0.1	0.14	2
Portunus gibbesii	0.9	0.91	0.0	0.00	2	1.2	1.20	0.0	0.00	5	0.0	0.00	0.0	0.00	2
Sicyonia dorsalis	13.9	12.09	0.0	0.02	2	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2
Penaeus aztecus	21.9	0.09	0.3	0.07	2	30.3	13.47	1.3	0.53	5	10.9	5.57	0.5	0.20	2
Stenotomus caprinus	40.5	11.45	0.4	0.15	2	113.0	47.80	7.8	3.65	5	101.0	72.54	6.5	4.57	2
Peprilus burti	597.1	129.86	24.5	4.87	2	562.2	375.56	19.8	12.30	5	188.0	188.04	11.2	11.15	2
Saurida brasiliensis	877.3	513.68	4.4	2.37	2	30.5	18.81	0.1	0.05	5	16.6	16.61	0.1	0.07	2
Micropogonias undulatus	0.0	0.00	0.0	0.00	2	619.4	433.77	61.0	46.35	5	348.0	348.00	32.7	32.69	2
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2
Etrumeus teres	82.3	72.27	0.6	0.60	2	309.3	309.28	2.5	2.48	5	4.3	4.29	0.1	0.15	2
Centropristis philadelphica	30.7	25.27	0.9	0.69	2	60.7	30.42	2.5	0.70	5	12.0	12.00	1.5	1.47	2
Serranus atrobranchus	36.7	20.32	0.4	0.08	2	137.0	41.05	1.6	0.61	5	75.4	70.07	1.4	1.34	2
Squid	694.1	135.91	4.4	0.77	2	41.8	30.12	0.2	0.17	5	219.6	219.64	2.2	2.19	2

Table 13b  
 Statistical Zone 15  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	128.3	9.35	2	9.8	6.61	10	44.3	10.76	12	54.6	15.81	2	138.1	65.48	5	83.6	17.34	2
Total finfish kg	125.9	9.20	2	6.9	4.82	10	27.2	7.01	12	49.6	14.92	2	134.5	65.19	5	78.7	18.80	2
Total crustacean kg	0.0	0.00	2	0.3	0.14	10	11.7	4.54	12	0.9	0.04	2	2.1	0.52	5	0.9	0.44	2
Total others kg	2.3	0.15	2	2.8	1.90	10	5.2	2.35	12	4.2	0.85	2	1.3	0.40	5	3.9	1.90	2
Surface temperature	30.7	0.25	6	31.2	0.33	11	30.2	0.07	12	30.3	0.14	4	30.3	0.20	3	30.2	0.28	2
Midwater temperature	30.0	0.29	6	29.2	0.23	11	28.0	0.48	12	24.1	0.26	4	23.0	0.33	3	22.6	0.22	2
Bottom temperature	26.7	0.88	6	23.7	0.16	11	22.7	0.23	12	21.3	0.28	4	20.0	0.16	3	19.7	0.05	2
Surface salinity	23.6	2.42	6	24.1	2.37	11	29.5	0.08	12	30.1	0.44	4	31.0	0.18	3	32.6	0.79	2
Midwater salinity	28.0	0.65	6	30.0	0.25	11	31.3	0.42	12	35.3	0.23	4	35.8	0.01	3	35.8	0.14	2
Bottom salinity	32.6	0.84	6	35.2	0.10	11	34.7	1.13	12	36.1	0.08	4	36.3	0.01	3	36.3	0.00	2
Surface chlorophyll	1.9	0.65	6	2.1	0.72	11	0.3	0.04	11	0.2	0.03	4	0.1	0.01	3	0.1	0.06	2
Midwater chlorophyll	9.0	6.97	2	1.6	0.65	4	0.7	0.18	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	16.2	6.47	5	6.0	1.66	11	2.1	0.45	10	0.8	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.2	0.40	6	6.4	0.23	11	5.8	0.11	12	5.9	0.09	4	6.0	0.06	3	5.8	0.05	2
Midwater oxygen	4.7	0.68	6	4.9	0.38	11	5.7	0.12	12	6.8	0.05	4	6.8	0.03	3	7.0	0.20	2
Bottom oxygen	2.5	0.99	6	0.8	0.26	11	3.6	0.40	12	6.0	0.32	4	5.5	0.12	3	5.3	0.05	2

Table 14a  
 Statistical Zone 16  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 16 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	0.0	0.00	0.0	0.00	1	816.5	816.52	4.1	4.10	7	15.6	15.40	0.0	0.04	9
Trachypenaeus similis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7	406.1	317.35	3.1	2.54	9
Squilla spp.	0.0	0.00	0.0	0.00	1	180.2	150.96	1.5	1.36	7	133.4	68.51	1.2	0.67	9
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7	96.3	59.43	0.9	0.54	9
Solenocera spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7	0.0	0.00	0.0	0.00	9
Portunus spinicarpus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7	3.6	2.49	0.0	0.02	9
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	2340.7	2340.75	11.7	11.72	7	522.3	373.54	4.7	2.57	9
Peprilus burti	0.0	0.00	0.0	0.00	1	2.6	2.62	0.0	0.04	7	1262.2	646.82	30.5	16.22	9
Chloroscombrus chrysurus	17760.0	0.00	501.8	0.00	1	372.3	241.97	16.8	10.75	7	11.5	11.13	0.6	0.59	9
Centropristis philadelphica	0.0	0.00	0.0	0.00	1	90.1	89.76	0.5	0.54	7	292.4	180.11	2.3	1.17	9
Saurida brasiliensis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7	15.4	6.11	0.1	0.02	9
Prionotus longispinosus	0.0	0.00	0.0	0.00	1	86.0	85.66	0.7	0.68	7	61.4	33.53	0.9	0.47	9
Micropogonias undulatus	150.0	0.00	4.1	0.00	1	45.0	43.38	1.1	1.09	7	71.0	70.29	5.0	5.03	9
Prionotus paralatus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7	44.5	23.61	0.4	0.20	9
Squid	42.9	0.00	0.4	0.00	1	21.0	11.87	0.3	0.15	7	213.1	85.38	2.9	1.35	9

Table 14a (continued)  
 Statistical Zone 16  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 16 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	5.2	5.23	0.0	0.02	6	0.8	0.61	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Trachypenaeus similis	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Squilla spp.	13.3	13.15	0.2	0.15	6	19.9	8.10	0.2	0.08	5	0.0	0.00	0.0	0.00	0
Sicyonia brevirostris	50.5	39.62	0.5	0.35	6	114.9	54.54	1.3	0.62	5	0.0	0.00	0.0	0.00	0
Solenocera spp.	0.0	0.00	0.0	0.00	6	152.9	66.94	0.3	0.14	5	0.0	0.00	0.0	0.00	0
Portunus spinicarpus	35.3	21.94	0.2	0.14	6	116.2	66.11	0.7	0.50	5	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	82.8	21.20	4.8	1.25	6	149.2	51.49	6.4	2.25	5	0.0	0.00	0.0	0.00	0
Peprilus burti	21.1	18.80	1.6	1.41	6	35.4	33.80	2.4	2.21	5	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Centropristis philadelphica	26.8	22.25	0.9	0.39	6	20.2	9.82	1.0	0.42	5	0.0	0.00	0.0	0.00	0
Saurida brasiliensis	245.6	159.98	1.4	0.92	6	229.5	226.44	1.4	1.36	5	0.0	0.00	0.0	0.00	0
Prionotus longispinosus	5.5	2.69	0.2	0.08	6	7.2	4.04	0.5	0.29	5	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	30.9	29.29	2.3	2.20	6	6.1	3.68	0.5	0.25	5	0.0	0.00	0.0	0.00	0
Prionotus paralatus	24.8	21.54	0.2	0.14	6	52.2	24.20	0.4	0.18	5	0.0	0.00	0.0	0.00	0
Squid	750.6	201.31	6.3	1.69	6	216.7	183.70	1.3	0.92	5	0.0	0.00	0.0	0.00	0

Table 14b  
 Statistical Zone 16  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 40 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	603.9	0.00	1	57.5	23.47	7	71.6	18.33	9	31.2	5.47	6	28.0	9.36	5	0.0	0.00	0
Total finfish kg	598.1	0.00	1	50.6	20.23	7	60.8	16.79	9	23.3	5.90	6	22.3	8.47	5	0.0	0.00	0
Total crustacean kg	5.8	0.00	1	6.3	6.27	7	7.8	4.45	9	1.2	0.90	6	3.8	1.57	5	0.0	0.00	0
Total others kg	0.0	0.00	1	0.2	0.17	7	3.0	1.34	9	6.8	1.68	6	2.0	0.97	5	0.0	0.00	0
Surface temperature	30.7	0.26	4	30.4	0.23	5	29.7	0.10	9	29.8	0.20	4	30.1	0.00	1	0.0	0.00	0
Midwater temperature	30.0	0.22	4	29.7	0.11	5	27.3	0.67	9	25.5	0.76	4	23.8	0.00	1	0.0	0.00	0
Bottom temperature	26.4	1.38	4	24.8	1.03	5	22.8	0.17	9	21.3	0.21	4	20.4	0.00	1	0.0	0.00	0
Surface salinity	28.9	0.37	4	29.8	0.27	5	29.6	0.22	9	30.1	0.37	4	30.2	0.00	1	0.0	0.00	0
Midwater salinity	29.6	0.31	4	30.2	0.14	5	31.9	0.54	9	34.4	0.25	4	35.6	0.00	1	0.0	0.00	0
Bottom salinity	32.8	1.25	4	34.0	0.89	5	35.6	0.10	9	36.1	0.04	4	36.2	0.00	1	0.0	0.00	0
Surface chlorophyll	2.7	1.22	4	0.6	0.12	5	0.3	0.09	9	0.5	0.24	4	0.3	0.00	1	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	18.0	2.83	3	10.2	4.74	5	1.3	0.18	9	1.2	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.1	0.11	4	6.3	0.10	5	6.1	0.05	9	6.2	0.07	4	6.0	0.00	1	0.0	0.00	0
Midwater oxygen	6.0	0.06	4	6.2	0.15	5	5.9	0.12	9	6.4	0.05	4	6.7	0.00	1	0.0	0.00	0
Bottom oxygen	2.4	1.25	4	2.1	1.05	5	3.7	0.55	9	5.6	0.38	4	6.1	0.00	1	0.0	0.00	0



Table 15a  
 Statistical Zone 17  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 17 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia brevirostris</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	4	146.2	71.32	1.3	0.68	11
<i>Portunus spinicarpus</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	4	8.2	6.53	0.0	0.03	11
<i>Penaeus aztecus</i>	292.3	119.39	2.6	1.09	5	0.6	0.32	0.0	0.00	4	17.4	6.13	0.4	0.19	11
<i>Squilla</i> spp.	0.0	0.00	0.0	0.00	5	4.5	4.50	0.0	0.02	4	212.0	117.37	1.6	0.77	11
<i>Trachypenaeus</i> spp.	0.0	0.00	0.0	0.00	5	0.5	0.55	0.0	0.00	4	256.1	142.54	1.2	0.69	11
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	4	69.0	69.00	0.2	0.17	11
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	5	44.5	44.50	0.4	0.41	4	2392.5	776.06	23.3	6.97	11
<i>Micropogonias undulatus</i>	927.0	436.15	16.2	8.08	5	4291.5	4291.45	96.0	96.03	4	27.0	20.14	2.2	1.79	11
<i>Peprilus burti</i>	46.6	39.05	1.3	1.09	5	320.6	309.92	6.1	6.05	4	514.8	290.72	16.7	9.92	11
<i>Chloroscombrus chrysurus</i>	113.6	42.36	1.8	0.98	5	843.0	815.32	19.8	18.36	4	9.9	8.58	0.5	0.40	11
<i>Leiostomus xanthurus</i>	8.0	3.01	0.2	0.08	5	73.1	73.06	4.8	4.79	4	173.2	88.34	19.4	9.81	11
<i>Arius felis</i>	30.6	15.72	1.7	0.89	5	423.4	423.39	31.8	31.85	4	0.2	0.25	0.1	0.08	11
<i>Trachurus lathamii</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	4	148.2	98.80	2.1	1.44	11
<i>Cynoscion nothus</i>	142.3	85.11	6.4	4.17	5	271.1	269.63	11.7	11.59	4	2.4	1.57	0.2	0.12	11
<i>Squid</i>	44.7	19.17	0.5	0.21	5	141.8	69.30	0.6	0.31	4	219.5	96.88	3.4	1.49	11

Table 15a (continued)  
 Statistical Zone 17  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 17 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia brevirostris</i>	194.6	79.52	1.4	0.64	5	46.0	23.79	0.3	0.21	5	1.5	1.46	0.0	0.03	7
<i>Portunus spinicarpus</i>	219.3	119.19	0.9	0.38	5	29.9	16.70	0.2	0.12	5	23.9	12.03	0.1	0.07	7
<i>Penaeus aztecus</i>	22.8	7.98	1.1	0.46	5	33.2	10.27	1.8	0.60	5	9.5	2.96	0.7	0.23	7
<i>Squilla</i> spp.	11.0	5.00	0.1	0.07	5	3.3	1.52	0.0	0.01	5	7.3	4.37	0.0	0.03	7
<i>Trachypenaeus</i> spp.	2.0	2.00	0.0	0.01	5	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	7
<i>Trachypenaeus similis</i>	7.0	7.03	0.1	0.06	5	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	7
<i>Stenotomus caprinus</i>	256.8	58.43	14.5	3.77	5	192.2	55.70	15.4	3.74	5	93.5	19.77	6.2	1.12	7
<i>Micropogonias undulatus</i>	102.1	67.82	10.1	6.99	5	372.6	195.59	32.2	16.76	5	5.8	3.62	0.6	0.36	7
<i>Peprilus burti</i>	420.7	308.77	13.9	9.41	5	81.8	71.65	6.4	5.57	5	149.1	85.39	12.0	6.90	7
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	7
<i>Leiostomus xanthurus</i>	31.3	24.80	3.5	2.84	5	17.4	8.72	1.4	0.66	5	0.0	0.00	0.0	0.00	7
<i>Arius felis</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	7
<i>Trachurus lathamii</i>	72.4	51.68	1.5	1.35	5	2.8	2.80	0.0	0.05	5	8.8	8.04	0.2	0.22	7
<i>Cynoscion nothus</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	7
<i>Squid</i>	313.9	187.41	3.6	2.02	5	50.9	36.60	1.0	0.61	5	89.5	53.46	1.3	0.65	7

Table 15b  
 Statistical Zone 17  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	46.7	16.51	5	176.5	172.55	4	92.1	18.68	11	65.6	16.66	5	72.2	17.98	5	37.2	9.18	7
Total finfish kg	41.9	17.18	5	175.4	172.61	4	79.7	18.57	11	58.0	17.50	5	68.5	17.91	5	34.6	9.06	7
Total crustacean kg	4.2	1.94	5	0.2	0.22	4	8.9	4.55	11	3.7	1.71	5	2.6	0.78	5	0.8	0.34	7
Total others kg	0.4	0.30	5	0.8	0.39	4	3.3	1.45	11	3.9	1.98	5	1.1	0.77	5	1.6	0.62	7
Surface temperature	30.3	0.29	5	29.2	0.10	6	29.3	0.08	12	29.4	0.20	3	29.7	0.23	3	29.6	0.11	6
Midwater temperature	30.2	0.19	5	29.2	0.10	6	28.7	0.20	12	25.9	1.77	3	22.3	0.29	3	21.5	0.26	6
Bottom temperature	30.1	0.19	5	25.7	1.12	6	23.1	0.28	12	21.0	0.20	3	19.9	0.10	3	19.2	0.15	6
Surface salinity	29.1	1.18	5	30.5	0.43	6	30.8	0.22	12	30.8	0.40	3	30.6	0.46	3	31.9	0.64	6
Midwater salinity	29.2	1.21	5	30.6	0.44	6	31.8	0.36	12	32.8	1.12	3	35.9	0.19	3	36.1	0.05	6
Bottom salinity	29.5	1.27	5	32.9	0.78	6	34.9	0.21	12	35.9	0.07	3	36.2	0.02	3	36.2	0.02	6
Surface chlorophyll	2.4	0.44	5	0.8	0.53	6	0.3	0.11	12	0.9	0.75	3	0.2	0.06	3	0.2	0.01	6
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	3.2	1.25	3	2.3	0.53	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.1	0.08	5	6.0	0.07	6	6.0	0.09	12	6.0	0.03	3	6.2	0.15	3	6.0	0.12	6
Midwater oxygen	5.8	0.08	5	5.9	0.04	6	6.0	0.07	12	5.8	0.18	3	6.7	0.03	3	7.0	0.13	6
Bottom oxygen	5.6	0.16	5	2.7	0.83	6	3.7	0.35	12	5.3	0.32	3	5.9	0.15	3	5.0	0.21	6

Table 16a  
 Statistical Zone 18  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 18 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia brevis</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	248.9	210.87	1.0	0.65	3
<i>Portunus spinicarpus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	23.1	13.38	0.2	0.08	3
<i>Squilla</i> spp.	0.0	0.00	0.0	0.00	0	10.5	10.54	0.0	0.04	2	151.8	134.48	1.3	1.22	3
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	0	6.7	1.85	0.0	0.04	2	22.2	12.60	0.5	0.42	3
<i>Parapenaeus</i> spp.	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	3.6	3.64	0.0	0.00	3
<i>Trachypenaeus</i> spp.	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	61.5	61.54	0.3	0.28	3
<i>Micropogonias undulatus</i>	0.0	0.00	0.0	0.00	0	8548.8	8527.67	196.9	196.57	2	0.9	0.91	0.1	0.08	3
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	0	677.0	677.03	7.4	7.44	2	4780.3	2828.08	42.5	25.94	3
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	0	1096.5	980.79	30.7	29.73	2	45.1	41.45	1.1	0.94	3
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	0	1174.1	1174.05	42.3	42.27	2	22.0	22.00	1.1	1.06	3
<i>Prionotus paralatus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	18.2	18.18	0.1	0.08	3
<i>Opisthonema oglinum</i>	0.0	0.00	0.0	0.00	0	361.6	361.62	37.1	37.15	2	0.0	0.00	0.0	0.00	3
<i>Lagodon rhomboides</i>	0.0	0.00	0.0	0.00	0	30.7	11.44	0.9	0.18	2	69.5	61.45	2.9	2.65	3
<i>Leiostomus xanthurus</i>	0.0	0.00	0.0	0.00	0	209.4	74.39	15.8	9.06	2	82.5	79.77	7.0	6.77	3
<i>Squid</i>	0.0	0.00	0.0	0.00	0	131.4	131.35	2.1	2.14	2	109.7	56.56	1.0	0.51	3

Table 16a (continued)  
 Statistical Zone 18  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 18 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia brevirostris</i>	183.3	0.00	2.6	0.00	1	8.8	7.51	0.1	0.10	4	0.0	0.00	0.0	0.00	2
<i>Portunus spinicarpus</i>	126.7	0.00	1.1	0.00	1	21.4	12.12	0.1	0.09	4	0.0	0.00	0.0	0.00	2
<i>Squilla</i> spp.	0.0	0.00	0.0	0.00	1	5.6	5.56	0.0	0.03	4	2.0	2.00	0.0	0.00	2
<i>Penaeus aztecus</i>	18.9	0.00	0.8	0.00	1	19.3	13.59	0.8	0.61	4	5.0	5.00	0.4	0.41	2
<i>Parapenaeus</i> spp.	0.0	0.00	0.0	0.00	1	30.4	29.13	0.1	0.05	4	0.0	0.00	0.0	0.00	2
<i>Trachypenaeus</i> spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	11.0	11.00	0.0	0.05	2
<i>Micropogonias undulatus</i>	0.0	0.00	0.0	0.00	1	1.0	0.59	0.1	0.07	4	0.0	0.00	0.0	0.00	2
<i>Stenotomus caprinus</i>	305.6	0.00	17.6	0.00	1	235.3	57.07	16.1	4.25	4	200.8	9.17	12.8	1.45	2
<i>Peprilus burti</i>	7.8	0.00	0.4	0.00	1	31.0	30.27	1.4	1.35	4	11.8	10.17	0.8	0.57	2
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	2
<i>Prionotus paralatus</i>	164.4	0.00	1.9	0.00	1	65.0	35.63	1.7	0.98	4	140.0	70.00	5.6	3.40	2
<i>Opisthonema oglinum</i>	3.3	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	2
<i>Lagodon rhomboides</i>	30.0	0.00	2.2	0.00	1	92.7	63.49	6.0	4.14	4	1.0	1.00	0.1	0.09	2
<i>Leiostomus xanthurus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	2
Squid	26.7	0.00	0.8	0.00	1	108.4	77.39	1.3	0.62	4	5.8	5.83	0.1	0.08	2

Table 16b  
 Statistical Zone 18  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less than 6 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	375.5	45.28	2	73.8	21.51	3	48.5	0.00	1	50.7	6.58	4	47.7	15.08	2
Total finfish kg	0.0	0.00	0	372.9	47.86	2	68.1	20.55	3	42.4	0.00	1	47.7	6.64	4	46.4	14.55	2
Total crustacean kg	0.0	0.00	0	0.4	0.37	2	4.5	2.44	3	4.5	0.00	1	1.3	0.95	4	0.5	0.45	2
Total others kg	0.0	0.00	0	2.2	2.21	2	1.0	0.54	3	1.5	0.00	1	2.0	0.54	4	0.8	0.08	2
Surface temperature	27.4	0.00	1	28.8	0.00	1	29.8	0.24	3	30.2	0.00	1	30.1	0.12	3	29.9	0.09	5
Midwater temperature	23.4	0.00	1	28.9	0.00	1	29.0	0.47	3	24.0	0.00	1	24.2	0.49	3	23.7	0.35	5
Bottom temperature	23.1	0.00	1	24.6	0.00	1	23.3	0.56	3	19.6	0.00	1	19.5	0.11	3	19.1	0.12	5
Surface salinity	33.4	0.00	1	31.5	0.00	1	29.7	0.31	3	30.6	0.00	1	31.1	0.26	3	31.5	0.27	5
Midwater salinity	34.3	0.00	1	31.5	0.00	1	30.9	0.28	3	36.4	0.00	1	36.1	0.03	3	36.3	0.03	5
Bottom salinity	34.3	0.00	1	33.6	0.00	1	34.4	0.57	3	36.0	0.00	1	36.0	0.02	3	36.4	0.03	5
Surface chlorophyll	0.6	0.00	1	0.5	0.00	1	0.1	0.03	3	0.1	0.00	1	0.1	0.02	3	0.1	0.01	5
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	1.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	5.8	0.00	1	6.2	0.00	1	6.1	0.07	3	6.1	0.00	1	6.0	0.12	3	6.0	0.04	5
Midwater oxygen	4.3	0.00	1	6.0	0.00	1	6.1	0.10	3	6.9	0.00	1	6.8	0.07	3	6.9	0.09	5
Bottom oxygen	1.1	0.00	1	4.6	0.00	1	4.5	0.22	3	4.7	0.00	1	5.2	0.17	3	4.4	0.08	5

Table 17a  
 Statistical Zone 19  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 19 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths from 31 to 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	18.0	0.00	0.0	0.00	1	198.9	99.90	0.6	0.28	8	403.3	187.76	2.1	1.01	18
Penaeus aztecus	36.0	0.00	0.0	0.00	1	342.5	130.39	2.8	1.36	8	164.4	138.82	1.9	1.31	18
Portunus spinicarpus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	8	1.6	0.81	0.0	0.00	18
Callinectes similis	264.0	0.00	0.5	0.00	1	213.2	76.67	1.5	0.60	8	47.8	21.70	0.4	0.20	18
Squilla spp.	0.0	0.00	0.0	0.00	1	50.2	21.64	0.5	0.24	8	78.0	35.61	0.8	0.38	18
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	8	38.2	29.92	0.3	0.22	18
Micropogonias undulatus	24126.0	0.00	555.8	0.00	1	9076.8	5082.57	171.5	86.76	8	4.0	3.84	0.1	0.11	18
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	720.7	390.48	4.8	2.66	8	1077.2	333.23	5.6	1.73	18
Peprilus burti	264.0	0.00	8.7	0.00	1	248.3	98.65	5.1	1.86	8	25.8	8.83	0.4	0.17	18
Trachurus lathami	0.0	0.00	0.0	0.00	1	0.3	0.31	0.0	0.00	8	16.9	9.41	0.3	0.14	18
Trichiurus lepturus	36.0	0.00	1.6	0.00	1	200.8	103.75	6.2	5.14	8	4.3	4.02	0.0	0.02	18
Saurida brasiliensis	0.0	0.00	0.0	0.00	1	16.2	7.69	0.1	0.05	8	47.3	14.60	0.4	0.11	18
Etrumeus teres	6.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	8	65.8	35.62	0.6	0.28	18
Synodus foetens	0.0	0.00	0.0	0.00	1	13.7	7.32	0.7	0.35	8	23.3	6.15	1.6	0.38	18
Squid	0.0	0.00	0.0	0.00	1	116.2	44.69	1.3	0.40	8	422.1	103.83	5.7	1.48	18

Table 17a (continued)  
 Statistical Zone 19  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 19 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths from 31 to 40 fm.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	51.6	31.15	0.1	0.08	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Penaeus aztecus	16.7	7.39	0.6	0.27	7	0.0	0.00	0.0	0.00	0	2.1	0.00	0.1	0.00	1
Portunus spinicarpus	244.4	161.38	1.6	1.08	7	0.0	0.00	0.0	0.00	0	1.1	0.00	0.0	0.00	1
Callinectes similis	10.1	5.94	0.1	0.08	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Squilla spp.	15.2	9.23	0.2	0.12	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Sicyonia brevirostris	77.2	50.35	1.2	1.06	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Micropogonias undulatus	0.0	0.00	0.0	0.00	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Stenotomus caprinus	294.4	177.09	1.9	0.84	7	0.0	0.00	0.0	0.00	0	139.3	0.00	7.9	0.00	1
Peprilus burti	90.8	49.22	1.6	0.87	7	0.0	0.00	0.0	0.00	0	9.6	0.00	0.5	0.00	1
Trachurus lathami	67.5	43.82	1.4	0.89	7	0.0	0.00	0.0	0.00	0	19.3	0.00	1.0	0.00	1
Trichiurus lepturus	0.2	0.22	0.0	0.01	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Saurida brasiliensis	33.7	20.97	0.2	0.14	7	0.0	0.00	0.0	0.00	0	6.4	0.00	0.0	0.00	1
Etrumeus teres	3.6	2.71	0.1	0.04	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Synodus foetens	51.6	8.72	4.1	0.60	7	0.0	0.00	0.0	0.00	0	21.4	0.00	3.0	0.00	1
Squid	396.6	137.89	9.0	3.85	7	0.0	0.00	0.0	0.00	0	60.0	0.00	0.4	0.00	1



Table 17b  
 Statistical Zone 19  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths from 31 to 40 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	610.9	0.00	1	227.6	101.05	8	26.6	3.35	18	26.0	4.39	7	0.0	0.00	0	25.8	0.00	1
Total finfish kg	600.0	0.00	1	214.1	99.59	8	14.4	2.15	18	13.1	1.79	7	0.0	0.00	0	25.3	0.00	1
Total crustacean kg	10.9	0.00	1	10.8	2.97	8	6.2	2.41	18	4.0	1.87	7	0.0	0.00	0	0.0	0.00	1
Total others kg	0.0	0.00	1	2.8	0.84	8	6.0	1.49	18	9.1	3.88	7	0.0	0.00	0	0.5	0.00	1
Surface temperature	27.8	0.00	1	29.0	0.26	8	29.0	0.14	18	28.2	0.16	3	29.7	0.00	1	29.6	0.00	1
Midwater temperature	25.8	0.00	1	27.1	0.67	8	27.1	0.34	18	26.3	1.07	3	28.1	0.00	1	23.4	0.00	1
Bottom temperature	22.9	0.00	1	22.8	0.53	8	21.4	0.13	18	20.9	0.40	3	20.5	0.00	1	19.0	0.00	1
Surface salinity	32.9	0.00	1	32.3	0.52	8	33.9	0.37	18	34.6	1.35	3	33.7	0.00	1	31.4	0.00	1
Midwater salinity	33.7	0.00	1	33.9	0.28	8	35.5	0.24	18	35.9	0.22	3	35.9	0.00	1	36.3	0.00	1
Bottom salinity	34.3	0.00	1	34.9	0.19	8	35.9	0.09	18	36.1	0.18	3	36.2	0.00	1	36.3	0.00	1
Surface chlorophyll	0.7	0.00	1	0.4	0.24	7	0.1	0.02	16	0.1	0.05	3	0.1	0.00	1	0.1	0.00	1
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.1	0.00	1	6.0	0.06	8	5.9	0.03	18	6.1	0.00	3	6.1	0.00	1	5.8	0.00	1
Midwater oxygen	5.8	0.00	1	6.0	0.05	8	6.2	0.06	18	6.3	0.17	3	6.2	0.00	1	7.0	0.00	1
Bottom oxygen	5.2	0.00	1	5.1	0.18	8	6.0	0.11	18	5.5	0.32	3	5.0	0.00	1	4.4	0.00	1

Table 18a  
 Statistical Zone 20  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 20 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	0.0	0.00	0.0	0.00	0	2370.9	1463.62	23.7	13.72	4	490.6	246.26	7.4	3.33	15
Trachypenaeus spp.	0.0	0.00	0.0	0.00	0	355.7	235.01	0.9	0.62	4	196.5	93.42	1.0	0.46	15
Portunus spinicarpus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	4	17.0	12.01	0.0	0.03	15
Squilla spp.	0.0	0.00	0.0	0.00	0	98.0	68.87	1.4	0.86	4	33.8	15.56	0.4	0.15	15
Callinectes similis	0.0	0.00	0.0	0.00	0	50.6	30.05	0.6	0.25	4	17.6	7.41	0.4	0.18	15
Solenocera spp.	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	15
Stenotomus caprinus	0.0	0.00	0.0	0.00	0	275.2	172.02	1.6	0.89	4	1231.9	226.44	6.9	1.36	15
Peprilus burti	0.0	0.00	0.0	0.00	0	21.6	7.26	0.3	0.21	4	224.5	94.31	3.9	2.08	15
Trachurus lathamii	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	4	62.3	24.58	1.1	0.40	15
Etrumeus teres	0.0	0.00	0.0	0.00	0	6.6	5.82	0.0	0.00	4	124.9	66.93	0.9	0.49	15
Saurida brasiliensis	0.0	0.00	0.0	0.00	0	22.5	22.50	0.1	0.06	4	78.1	29.08	0.6	0.22	15
Synodus foetens	0.0	0.00	0.0	0.00	0	14.2	2.23	0.6	0.18	4	32.7	5.18	2.0	0.36	15
Serranus atrobranchus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	4	4.4	3.13	0.0	0.03	15
Prionotus stearnsi	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	4	30.2	6.75	0.2	0.03	15
Squid	0.0	0.00	0.0	0.00	0	267.8	113.84	1.7	0.43	4	519.7	137.68	6.7	2.08	15

Table 18a (continued)  
 Statistical Zone 20  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 20 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	10.6	4.81	0.4	0.21	6	13.8	3.82	0.4	0.06	2	30.5	0.00	1.8	0.00	1
<i>Trachypenaeus</i> spp.	77.2	76.49	0.3	0.31	6	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Portunus spinicarpus</i>	128.1	73.08	0.9	0.54	6	0.0	0.00	0.0	0.00	2	3.3	0.00	0.0	0.00	1
<i>Squilla</i> spp.	10.9	6.31	0.1	0.08	6	0.0	0.00	0.0	0.00	2	2.2	0.00	0.0	0.00	1
<i>Callinectes similis</i>	6.8	5.00	0.3	0.13	6	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Solenocera</i> spp.	30.7	20.79	0.2	0.10	6	0.0	0.00	0.0	0.00	2	26.2	0.00	0.3	0.00	1
<i>Stenotomus caprinus</i>	34.4	23.28	0.6	0.42	6	73.6	0.56	3.5	0.31	2	55.6	0.00	3.8	0.00	1
<i>Peprilus burti</i>	21.3	16.58	0.5	0.36	6	14.1	7.09	0.8	0.36	2	3.3	0.00	0.3	0.00	1
<i>Trachurus lathami</i>	82.5	66.03	1.4	1.06	6	1.8	1.76	0.1	0.08	2	0.0	0.00	0.0	0.00	1
<i>Etrumeus teres</i>	8.1	7.55	0.1	0.11	6	8.1	6.06	0.1	0.08	2	0.0	0.00	0.0	0.00	1
<i>Saurida brasiliensis</i>	13.5	5.92	0.2	0.08	6	15.0	7.97	0.0	0.05	2	0.0	0.00	0.0	0.00	1
<i>Synodus foetens</i>	32.9	3.62	3.4	0.69	6	38.1	16.91	3.9	1.63	2	15.3	0.00	2.2	0.00	1
<i>Serranus atrobranchus</i>	55.5	32.00	0.9	0.47	6	8.8	5.24	0.2	0.18	2	79.6	0.00	1.3	0.00	1
<i>Prionotus stearnsi</i>	26.9	11.15	0.2	0.09	6	6.3	4.29	0.2	0.14	2	19.6	0.00	0.2	0.00	1
<i>Squid</i>	409.5	121.17	5.5	1.31	6	590.4	115.44	8.9	1.73	2	39.3	0.00	0.4	0.00	1

Table 18b  
 Statistical Zone 20  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less than 6 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	36.8	17.73	4	38.5	5.50	15	21.5	3.34	6	22.3	1.80	2	35.7	0.00	1
Total finfish kg	0.0	0.00	0	7.0	2.26	4	21.4	2.80	15	13.0	2.44	6	12.8	0.05	2	31.2	0.00	1
Total crustacean kg	0.0	0.00	0	28.2	15.97	4	10.0	3.94	15	3.2	1.03	6	0.2	0.23	2	2.5	0.00	1
Total others kg	0.0	0.00	0	2.5	0.10	4	7.0	2.19	15	5.5	1.31	6	9.3	1.98	2	2.0	0.00	1
Surface temperature	0.0	0.00	0	27.3	0.65	6	27.6	0.32	13	28.4	0.32	4	28.5	0.10	2	29.7	0.00	1
Midwater temperature	0.0	0.00	0	25.3	0.79	6	24.1	0.31	13	25.3	0.57	4	24.6	0.53	2	24.8	0.00	1
Bottom temperature	0.0	0.00	0	21.7	0.13	6	22.0	0.12	13	21.3	0.24	4	21.2	0.14	2	20.7	0.00	1
Surface salinity	0.0	0.00	0	35.4	0.37	6	35.7	0.23	13	35.7	0.44	4	36.0	0.02	2	35.9	0.00	1
Midwater salinity	0.0	0.00	0	35.7	0.26	6	36.3	0.06	13	36.2	0.12	4	36.3	0.14	2	36.3	0.00	1
Bottom salinity	0.0	0.00	0	36.0	0.05	6	36.3	0.02	13	36.3	0.04	4	36.3	0.02	2	36.3	0.00	1
Surface chlorophyll	0.0	0.00	0	0.5	0.21	4	0.3	0.12	12	0.1	0.01	4	1.8	1.74	2	0.0	0.00	1
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	6.1	0.06	6	6.0	0.05	13	5.9	0.05	4	5.8	0.05	2	5.9	0.00	1
Midwater oxygen	0.0	0.00	0	5.9	0.18	6	6.3	0.05	13	6.7	0.09	4	6.8	0.15	2	6.7	0.00	1
Bottom oxygen	0.0	0.00	0	5.7	0.23	6	6.2	0.07	13	5.8	0.28	4	5.5	0.10	2	4.9	0.00	1

Table 19a  
 Statistical Zone 21  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 21 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	6.0	0.00	0.0	0.00	1	0.9	0.91	0.0	0.00	6	682.1	449.13	3.1	2.03	5
Penaeus aztecus	36.0	0.00	0.0	0.00	1	5.9	3.36	0.0	0.04	6	356.7	194.72	6.2	2.98	5
Portunus spinicarpus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	65.2	37.81	0.2	0.08	5
Solenocera spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	13.5	13.50	0.0	0.05	5
Squilla spp.	0.0	0.00	0.0	0.00	1	7.4	4.37	0.0	0.04	6	34.7	13.61	0.4	0.20	5
Trachypenaeus similis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	101.0	101.00	0.3	0.34	5
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	106.4	46.24	1.1	0.51	6	2170.3	619.43	11.2	4.05	5
Micropogonias undulatus	13488.0	0.00	297.5	0.00	1	1012.0	1012.00	22.3	22.32	6	0.9	0.89	0.0	0.04	5
Larimus fasciatus	1968.0	0.00	44.5	0.00	1	514.0	514.00	11.3	11.27	6	0.0	0.00	0.0	0.00	5
Etrumeus teres	0.0	0.00	0.0	0.00	1	7.7	6.54	0.1	0.05	6	575.1	575.08	4.2	4.24	5
Lagodon rhomboides	336.0	0.00	5.5	0.00	1	362.4	277.61	6.5	4.69	6	119.0	105.28	1.0	0.53	5
Serranus atrobranchus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	23.5	14.65	0.1	0.06	5
Leiostomus xanthurus	918.0	0.00	16.9	0.00	1	295.4	287.79	4.5	4.39	6	0.0	0.00	0.0	0.00	5
Prionotus stearnsi	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	29.6	14.73	0.1	0.05	5
Squid	54.0	0.00	0.0	0.00	1	330.9	182.66	3.9	2.45	6	439.9	221.54	6.4	2.89	5

Table 19a (continued)  
 Statistical Zone 21  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 21 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	268.0	76.18	1.2	0.47	3	5.5	5.53	0.0	0.00	3	1.5	1.53	0.0	0.01	4
Penaeus aztecus	56.9	25.63	1.7	0.50	3	15.1	12.30	0.8	0.70	3	9.0	5.24	0.5	0.25	4
Portunus spinicarpus	248.9	146.27	1.1	0.69	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Solenocera spp.	84.3	72.37	0.4	0.29	3	8.5	8.51	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Squilla spp.	56.1	13.53	0.7	0.23	3	1.3	1.28	0.0	0.02	3	0.7	0.68	0.0	0.00	4
Trachypenaeus similis	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Stenotomus caprinus	768.9	245.41	2.4	0.82	3	59.6	27.35	3.4	1.56	3	26.3	15.45	1.9	0.97	4
Micropogonias undulatus	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Larimus fasciatus	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Etrumeus teres	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.6	0.61	0.1	0.06	4
Lagodon rhomboides	13.3	5.56	0.5	0.26	3	13.2	4.10	0.9	0.28	3	0.8	0.75	0.0	0.03	4
Serranus atrobranchus	155.6	16.69	0.9	0.47	3	8.3	6.18	0.2	0.17	3	55.5	37.99	1.3	0.85	4
Leiostomus xanthurus	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Prionotus stearnsi	62.6	22.63	0.4	0.11	3	65.8	63.50	0.7	0.72	3	20.4	8.66	0.2	0.09	4
Squid	153.5	23.55	2.5	0.21	3	346.1	227.50	2.0	0.94	3	28.5	10.70	0.3	0.10	4

Table 19b  
 Statistical Zone 21  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	534.5	0.00	1	71.2	53.18	6	44.9	2.74	5	22.1	2.68	3	22.1	2.72	3	38.0	13.32	4
Total finfish kg	501.8	0.00	1	52.5	45.73	6	26.7	3.00	5	12.9	0.79	3	19.1	3.39	3	35.6	13.63	4
Total crustacean kg	32.7	0.00	1	12.0	8.69	6	11.4	4.96	5	6.5	2.27	3	0.8	0.77	3	1.4	0.56	4
Total others kg	0.0	0.00	1	7.2	4.67	6	6.4	2.74	5	2.5	0.24	3	2.2	0.98	3	1.0	0.66	4
Surface temperature	0.0	0.00	0	24.3	0.35	7	26.9	0.26	6	28.0	0.91	2	28.9	0.00	1	28.6	0.18	6
Midwater temperature	0.0	0.00	0	22.9	0.33	7	23.6	0.39	6	24.1	0.10	2	26.1	0.00	1	24.5	0.45	6
Bottom temperature	0.0	0.00	0	22.4	0.22	7	21.7	0.21	6	21.8	0.79	2	21.9	0.00	1	20.0	0.40	6
Surface salinity	0.0	0.00	0	35.9	0.32	7	35.9	0.07	6	36.0	0.13	2	35.9	0.00	1	35.9	0.05	6
Midwater salinity	0.0	0.00	0	36.3	0.02	7	36.3	0.02	6	36.2	0.03	2	36.0	0.00	1	36.2	0.04	6
Bottom salinity	0.0	0.00	0	36.3	0.01	7	36.4	0.04	6	36.3	0.02	2	36.3	0.00	1	36.4	0.02	6
Surface chlorophyll	0.0	0.00	0	2.3	0.96	7	2.2	0.87	5	3.0	0.00	1	2.9	0.00	1	3.0	0.71	6
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	6.1	0.14	7	6.1	0.03	6	6.0	0.20	2	5.9	0.00	1	5.9	0.03	6
Midwater oxygen	0.0	0.00	0	6.0	0.10	7	6.3	0.14	6	6.9	0.20	2	6.7	0.00	1	6.7	0.10	6
Bottom oxygen	0.0	0.00	0	5.7	0.13	7	5.6	0.14	6	5.8	0.60	2	6.3	0.00	1	4.7	0.28	6

Table 20a  
 Statistical Zone 17  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 17 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Xiphopenaeus kroyeri	242.0	112.17	1.5	0.71	9	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0
Xanthidae	0.7	0.67	0.0	0.00	9	43.0	21.66	0.0	0.05	6	0.0	0.00	0.0	0.00	0
Penaeus setiferus	18.0	10.91	0.3	0.11	9	9.0	9.00	0.4	0.36	6	0.0	0.00	0.0	0.00	0
Penaeus aztecus	14.7	6.41	0.1	0.05	9	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0
Persephona crinita	2.0	1.00	0.0	0.00	9	13.0	6.47	0.0	0.05	6	0.0	0.00	0.0	0.00	0
Pagurus pollicaris	2.7	2.03	0.0	0.00	9	6.0	2.68	0.1	0.06	6	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	205.3	83.71	5.0	2.22	9	224.0	222.80	4.4	4.31	6	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	40.7	21.81	0.8	0.40	9	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0
Arius felis	28.7	8.82	1.4	0.58	9	2.0	1.26	0.6	0.39	6	0.0	0.00	0.0	0.00	0
Brevoortia patronus	29.3	15.51	1.6	0.83	9	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0
Peprilus burti	24.0	12.33	0.3	0.12	9	5.0	5.00	0.1	0.09	6	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	14.7	4.37	0.5	0.18	9	15.0	15.00	0.7	0.68	6	0.0	0.00	0.0	0.00	0
Prionotus tribulus	0.0	0.00	0.0	0.00	9	16.0	16.00	0.1	0.14	6	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	10.7	9.94	0.2	0.15	9	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0
Squid	12.7	3.93	0.2	0.08	9	1.0	1.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0



Table 20b  
 Statistical Zone 17  
 20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	14.2	2.64	9	6.8	5.75	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	11.2	2.55	9	5.9	5.38	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.1	0.76	9	0.5	0.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	9	0.5	0.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	26.7	0.23	14	26.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	25.6	0.36	14	25.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	24.7	0.49	14	23.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	26.3	1.40	14	17.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	29.4	0.61	14	29.8	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	30.1	0.58	14	30.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	2.9	0.63	14	1.9	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.5	0.35	14	8.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.5	0.68	14	10.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	8.8	0.93	14	10.3	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 21a  
 Statistical Zone 18  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 18 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	0.0	0.00	0.0	0.00	6	51.8	22.79	0.3	0.12	11	0.0	0.00	0.0	0.00	0
Penaeus setiferus	19.0	6.83	0.6	0.25	6	4.4	3.80	0.1	0.12	11	0.0	0.00	0.0	0.00	0
Portunus sayi	0.0	0.00	0.0	0.00	6	10.9	9.77	0.0	0.00	11	0.0	0.00	0.0	0.00	0
Pagurus pollicaris	2.0	2.00	0.0	0.00	6	9.3	2.48	0.0	0.03	11	0.0	0.00	0.0	0.00	0
Callinectes similis	0.0	0.00	0.0	0.00	6	10.4	3.89	0.0	0.00	11	0.0	0.00	0.0	0.00	0
Trachypenaeus similis	0.0	0.00	0.0	0.00	6	7.1	4.98	0.0	0.00	11	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	655.0	373.21	11.3	6.71	6	457.1	455.29	8.6	8.63	11	0.0	0.00	0.0	0.00	0
Peprilus burti	11.0	11.00	0.3	0.27	6	247.6	134.38	4.2	2.97	11	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	148.0	54.98	2.5	0.88	6	48.5	29.01	0.9	0.53	11	0.0	0.00	0.0	0.00	0
Cynoscion nothus	81.0	81.00	4.9	4.86	6	66.5	59.10	2.0	1.70	11	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	120.0	95.11	4.4	3.89	6	4.4	2.57	0.0	0.02	11	0.0	0.00	0.0	0.00	0
Arius felis	92.0	42.56	10.5	5.63	6	0.0	0.00	0.0	0.00	11	0.0	0.00	0.0	0.00	0
Leiostomus xanthurus	56.0	29.79	1.3	0.61	6	10.9	10.91	0.5	0.47	11	0.0	0.00	0.0	0.00	0
Larimus fasciatus	40.0	28.17	1.2	0.86	6	0.0	0.00	0.0	0.00	11	0.0	0.00	0.0	0.00	0
Squid	21.0	4.31	0.2	0.05	6	19.1	7.49	0.2	0.10	11	0.0	0.00	0.0	0.00	0

Table 21b  
 Statistical Zone 18  
 20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	39.5	14.27	6	26.8	15.91	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	38.2	14.35	6	25.3	15.89	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.5	0.45	6	0.2	0.25	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	6	0.7	0.38	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	27.4	0.19	6	26.4	0.38	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	26.9	0.34	6	24.6	0.21	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	26.5	0.47	6	23.4	0.09	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	31.5	0.09	6	27.6	0.71	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	31.9	0.17	6	28.7	0.64	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	32.3	0.25	6	32.4	0.37	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.7	0.14	5	0.3	0.07	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	5.5	0.06	6	8.8	0.73	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	5.6	0.20	6	6.3	0.93	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.0	1.06	6	1.8	0.09	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 22a  
 Statistical Zone 19  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 19 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	1	13.3	5.81	0.1	0.05	9	28.0	8.00	0.2	0.06	6
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	1	14.0	9.59	0.1	0.04	9	7.0	3.61	0.1	0.06	6
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	9	23.0	10.21	0.0	0.00	6
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	1	4.7	1.94	0.0	0.00	9	14.0	4.29	0.0	0.00	6
<i>Penaeus setiferus</i>	0.0	0.00	0.0	0.00	1	8.7	7.94	0.3	0.30	9	0.0	0.00	0.0	0.00	6
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	1	4.0	2.24	0.0	0.00	9	3.0	1.34	0.0	0.00	6
<i>Micropogonias undulatus</i>	318.0	0.00	8.5	0.00	1	808.7	716.35	16.5	13.97	9	0.0	0.00	0.0	0.00	6
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	1	144.0	138.08	0.5	0.48	9	172.0	62.77	0.6	0.25	6
<i>Cynoscion nothus</i>	60.0	0.00	1.6	0.00	1	150.7	134.58	4.4	3.96	9	4.0	4.00	0.0	0.00	6
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	1	102.7	81.49	1.8	1.35	9	2.0	1.26	0.0	0.00	6
<i>Leiostomus xanthurus</i>	48.0	0.00	1.6	0.00	1	90.7	90.67	3.2	3.21	9	0.0	0.00	0.0	0.00	6
<i>Trichiurus lepturus</i>	6.0	0.00	0.3	0.00	1	72.7	69.00	2.4	2.33	9	1.0	1.00	0.0	0.00	6
<i>Syacium gunteri</i>	0.0	0.00	0.0	0.00	1	10.7	4.10	0.1	0.05	9	52.0	12.36	0.5	0.13	6
<i>Larimus fasciatus</i>	174.0	0.00	3.5	0.00	1	12.0	12.00	0.3	0.27	9	0.0	0.00	0.0	0.00	6
<i>Squid</i>	0.0	0.00	0.0	0.00	1	65.3	18.18	0.8	0.23	9	74.0	38.25	0.5	0.34	6

Zone 19  
20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	16.4	0.00	1	34.8	19.35	9	3.6	0.91	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	16.4	0.00	1	30.0	19.23	9	1.8	0.57	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	1	0.3	0.30	9	0.0	0.00	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	1	3.0	0.55	9	1.4	0.93	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	25.2	0.00	1	26.2	0.70	9	28.0	0.57	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	23.8	0.00	1	24.8	0.42	9	23.1	0.75	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	23.5	0.00	1	22.5	0.39	9	21.6	0.20	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	19.0	0.00	1	25.7	2.17	9	31.4	2.29	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	25.0	0.00	1	29.6	1.61	9	34.5	1.30	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	25.0	0.00	1	30.8	1.53	9	35.4	0.70	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	2.5	0.00	1	2.4	0.48	8	1.0	0.63	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	6.0	0.00	3	6.1	0.05	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	6.4	0.09	3	6.3	0.08	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	6.0	0.10	3	6.3	0.15	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 23a  
 Statistical Zone 20  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 20 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	1	239.0	219.01	1.4	1.26	12	44.0	14.00	0.3	0.16	3
<i>Penaeus setiferus</i>	24.0	0.00	0.5	0.00	1	5.0	3.37	0.1	0.09	12	0.0	0.00	0.0	0.00	3
<i>Penaeus duorarum</i>	0.0	0.00	0.0	0.00	1	5.5	5.50	0.1	0.11	12	0.0	0.00	0.0	0.00	3
<i>Callinectes sapidus</i>	6.0	0.00	0.0	0.00	1	4.0	4.00	0.4	0.39	12	0.0	0.00	0.0	0.00	3
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	1	2.5	1.73	0.0	0.00	12	4.0	4.00	0.0	0.00	3
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	1	1.0	0.67	0.0	0.00	12	8.0	2.00	0.1	0.09	3
<i>Micropogonias undulatus</i>	210.0	0.00	2.7	0.00	1	445.5	208.21	6.0	2.54	12	2.0	2.00	0.0	0.00	3
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	1	2.0	1.13	0.0	0.00	12	360.0	180.63	2.8	1.58	3
<i>Leiostomus xanthurus</i>	18.0	0.00	0.3	0.00	1	56.5	30.40	1.1	0.50	12	0.0	0.00	0.0	0.00	3
<i>Peprilus alepidotus</i>	0.0	0.00	0.0	0.00	1	35.0	32.85	0.5	0.52	12	12.0	12.00	0.2	0.18	3
<i>Syacium gunteri</i>	0.0	0.00	0.0	0.00	1	15.0	4.08	0.2	0.06	12	78.0	34.64	1.3	0.55	3
<i>Trichiurus lepturus</i>	6.0	0.00	0.0	0.00	1	31.0	31.00	0.4	0.43	12	0.0	0.00	0.0	0.00	3
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	1	18.0	10.98	0.3	0.16	12	0.0	0.00	0.0	0.00	3
<i>Lagodon rhomboides</i>	0.0	0.00	0.0	0.00	1	16.5	7.57	0.3	0.15	12	2.0	2.00	0.0	0.00	3
Squid	0.0	0.00	0.0	0.00	1	48.0	19.15	0.6	0.28	12	78.0	51.03	1.0	0.74	3

Table 23b  
 Statistical Zone 20  
 20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	5.5	0.00	1	14.1	4.67	12	6.4	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	2.7	0.00	1	9.8	3.09	12	4.5	2.41	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	1	2.0	1.81	12	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	1	1.4	0.53	12	1.8	1.82	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	24.9	0.70	2	25.6	0.34	11	26.5	0.78	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	24.6	0.10	2	24.9	0.23	11	24.9	0.32	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	24.4	0.15	2	23.9	0.50	11	24.5	0.24	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	32.1	0.00	1	35.0	0.42	5	32.1	0.41	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	34.3	0.00	1	35.2	0.29	5	34.3	0.10	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	31.5	3.04	2	32.4	1.05	11	34.4	0.28	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	2.6	0.41	2	1.7	0.21	9	1.3	0.28	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.6	0.35	2	6.8	0.10	11	7.1	0.48	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.3	0.70	2	6.5	0.15	11	7.2	0.55	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.1	0.70	2	6.1	0.33	11	6.3	1.23	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 24a  
 Statistical Zone 21  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 21 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm or greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	0	10.5	2.95	0.0	0.00	8	11.1	5.14	0.0	0.00	7
<i>Sicyonia brevirostris</i>	0.0	0.00	0.0	0.00	0	11.3	5.61	0.1	0.05	8	1.7	1.11	0.0	0.00	7
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	0	7.5	5.97	0.1	0.07	8	4.3	2.16	0.0	0.04	7
<i>Portunus spinimanus</i>	0.0	0.00	0.0	0.00	0	6.0	3.00	0.1	0.04	8	1.7	1.11	0.0	0.00	7
<i>Petrochirus diogenes</i>	0.0	0.00	0.0	0.00	0	0.8	0.75	0.0	0.03	8	7.7	4.48	0.5	0.36	7
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	0	4.5	4.50	0.2	0.20	8	1.7	1.71	0.0	0.04	7
<i>Syacium gunteri</i>	0.0	0.00	0.0	0.00	0	65.3	16.87	1.0	0.26	8	128.6	17.11	2.1	0.27	7
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	0	9.0	3.00	0.0	0.03	8	146.6	62.41	1.0	0.45	7
<i>Micropogonias undulatus</i>	0.0	0.00	0.0	0.00	0	77.3	77.25	1.5	1.47	8	0.9	0.86	0.0	0.04	7
<i>Selene setapinnis</i>	0.0	0.00	0.0	0.00	0	52.5	52.50	0.3	0.31	8	0.0	0.00	0.0	0.00	7
<i>Lagodon rhomboides</i>	0.0	0.00	0.0	0.00	0	25.5	25.50	0.3	0.31	8	6.0	3.93	0.1	0.08	7
<i>Larimus fasciatus</i>	0.0	0.00	0.0	0.00	0	12.8	12.75	0.3	0.31	8	0.0	0.00	0.0	0.00	7
<i>Etropus crossotus</i>	0.0	0.00	0.0	0.00	0	4.5	1.88	0.0	0.03	8	5.1	2.76	0.0	0.04	7
<i>Lutjanus campechanus</i>	0.0	0.00	0.0	0.00	0	7.5	5.86	0.3	0.24	8	0.9	0.86	0.0	0.04	7
<i>Squid</i>	0.0	0.00	0.0	0.00	0	0.8	0.75	0.0	0.03	8	4.3	3.39	0.2	0.12	7



Table 24b  
 Statistical Zone 21  
 20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less than 6 fm or greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	9.2	3.99	8	5.1	0.71	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	4.8	2.86	8	3.9	0.55	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	1.4	1.03	8	0.8	0.50	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	2.4	0.96	8	0.0	0.00	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	25.3	0.40	2	26.5	0.37	7	27.1	0.06	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	24.8	1.85	2	24.2	0.62	7	25.2	0.49	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	23.3	0.40	2	22.5	0.14	7	22.6	0.33	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	34.9	1.59	2	34.8	0.28	7	34.7	0.35	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	35.6	1.00	2	35.6	0.31	7	35.5	0.25	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	35.9	0.64	2	36.3	0.09	7	36.4	0.04	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.5	0.23	2	0.3	0.05	7	0.2	0.03	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.8	0.35	2	6.8	0.13	7	6.5	0.08	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.8	0.35	2	7.1	0.16	7	6.8	0.23	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.2	0.90	2	6.8	0.20	7	6.3	0.28	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 25a  
 Statistical Zone 22  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 22 during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 11 fm or greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	18.0	0.00	0.0	0.00	1
<i>Petrochirus diogenes</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	12.0	0.00	0.3	0.00	1
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	12.0	0.00	0.3	0.00	1
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	12.0	0.00	0.0	0.00	1
<i>Pagurus pollicaris</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	6.0	0.00	0.0	0.00	1
<i>Podochela sidneyi</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	6.0	0.00	0.0	0.00	1
<i>Syacium gunteri</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	150.0	0.00	2.7	0.00	1
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	66.0	0.00	0.3	0.00	1
<i>Hippocampus erectus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	12.0	0.00	0.0	0.00	1
<i>Prionotus tribulus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	6.0	0.00	0.0	0.00	1
<i>Etropus crossotus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	6.0	0.00	0.3	0.00	1

Table 25b  
 Statistical Zone 22  
 20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less than 11 fm or greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	0.0	0.00	0	5.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	0.0	0.00	0	2.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	0.0	0.00	0	0.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.0	0.00	0	2.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	0.0	0.00	0	26.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	26.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	0.0	0.00	0	22.6	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	0.0	0.00	0	33.6	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	34.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	0.0	0.00	0	36.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	0.0	0.00	0	6.6	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	6.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	0.0	0.00	0	6.3	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 26. 1992 Fall Shrimp/Groundfish Survey species composition list, 285 trawl stations, for those vessels that used a 40-ft. trawl. Species with a total weight of less than 0.0227 kg (0.05 lbs) are indicated on the table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Finfishes</u>					
Micropogonias undulatus	Atlantic croaker	58463	2693.9	222	77.9
Stenotomus caprinus	longspine porgy	37025	972.8	203	71.2
Arius felis	hardhead catfish	11774	1236.3	118	41.4
Chloroscombrus chrysurus	Atlantic bumper	9583	222.5	124	43.5
Pepilus burti	gulf butterfish	8162	471.3	144	50.5
Prionotus longispinosus	bigeye searobin	6728	191.8	165	57.9
Cynoscion arenarius	sand seatrout	4845	495.5	171	60.0
Leiostomus xanthurus	spot	4487	448.2	150	52.6
Steindachneria argentea	luminous hake	3870	25.1	6	2.1
Centropristis philadelphia	rock sea bass	3452	126.9	166	58.2
Trichiurus lepturus	Atlantic cutlassfish	3228	138.1	101	35.4
Synodus foetens	inshore lizardfish	2968	342.9	196	68.8
Syacium gunteri	shoal flounder	2347	51.2	135	47.4
Serranus atrobranchus	blackear bass	2301	33.0	80	28.1
Prionotus paralatus	Mexican searobin	2149	73.6	49	17.2
Sphoeroides parvus	least puffer	1989	13.3	122	42.8
Trachurus lathami	rough scad	1948	76.9	52	18.2
Lagodon rhomboides	pinfish	1888	128.4	102	35.8
Cynoscion nothus	silver seatrout	1852	75.7	110	38.6
Pepilus alepidotus	harvestfish	1806	24.9	57	20.0
Diplectrum bivittatum	dwarf sand perch	1572	28.5	132	46.3
Etropus crossotus	fringed flounder	1408	24.5	107	37.5
Anchoa hepsetus	striped anchovy	1154	15.3	40	14.0
Halieutichthys aculeatus	pancake batfish	1126	9.9	123	43.2
Cynoscion spp.	seatrouts	1078	5.7	44	15.4
Mullus auratus	red goatfish	1071	53.6	45	15.8
Lutjanus campechanus	red snapper	800	57.4	133	46.7
Pristipomoides aquilonaris	wenchman	770	69.7	41	14.4
Harengula jaguana	scaled sardine	705	19.0	62	21.8
Chaetodipterus faber	Atlantic spadefish	648	36.7	104	36.5
Upeneus parvus	dwarf goatfish	637	24.5	53	18.6
Stellifer lanceolatus	star drum	537	7.4	30	10.5
Lepophidium brevibarbe	blackedge cusk-eel	486	24.0	67	23.5
Trichopsetta ventralis	sash flounder	421	12.2	31	10.9
Porichthys plectrodon	Atlantic midshipman	419	10.1	61	21.4
Prionotus rubio	blackwing searobin	410	18.8	32	11.2

Table 26. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Lutjanus synagris</i>	lane snapper	354	24.5	71	24.9
<i>Saurida brasiliensis</i>	largescale lizardfish	347	2.7	51	17.9
<i>Opisthonema oglinum</i>	Atlantic thread herring	340	16.8	52	18.2
<i>Citharichthys spilopterus</i>	bay whiff	307	4.5	63	22.1
<i>Cyclopsetta chittendeni</i>	Mexican flounder	301	22.3	71	24.9
<i>Eucinostomus gula</i>	silver jenny	301	10.0	64	22.5
<i>Scorpaena calcarata</i>	smoothhead scorpionfish	284	4.7	38	13.3
<i>Bellator militaris</i>	horned searobin	281	4.4	23	8.1
<i>Prionotus stearnsi</i>	shortwing searobin	276	3.6	29	10.2
<i>Anchoa mitchilli</i>	bay anchovy	274	1.3	27	9.5
<i>Brevoortia patronus</i>	gulf menhaden	263	21.7	30	10.5
<i>Etrumeus teres</i>	round herring	248	6.2	9	3.2
<i>Syacium</i> spp.	lefteye flounders	244	4.2	14	4.9
<i>Symphurus plagiosa</i>	blackcheek tonguefish	237	4.3	36	12.6
<i>Selene setapinnis</i>	Atlantic moonfish	219	8.2	44	15.4
<i>Caranx crysos</i>	blue runner	157	15.9	41	14.4
<i>Ophidion welshi</i>	crested cusk-eel	152	7.0	34	11.9
<i>Menticirrhus americanus</i>	southern kingfish	149	16.0	25	8.8
<i>Urophycis floridana</i>	southern hake	130	16.2	12	4.2
<i>Prionotus roseus</i>	bluespotted searobin	127	3.4	14	4.9
<i>Larimus fasciatus</i>	banded drum	126	7.7	31	10.9
<i>Lagocephalus laevigatus</i>	smooth puffer	123	15.0	46	16.1
<i>Scomberomorus maculatus</i>	Spanish mackerel	119	21.4	27	9.5
<i>Monacanthus hispidus</i>	planehead filefish	116	3.5	36	12.6
<i>Bollmannia communis</i>	ragged goby	106	0.5	20	7.0
<i>Hildebrandia flava</i>	yellow conger	106	9.9	24	8.4
<i>Peristedion gracile</i>	slender searobin	105	2.7	2	0.7
<i>Orthopristis chrysoptera</i>	pigfish	100	6.2	23	8.1
<i>Bairdiella chrysoura</i>	silver perch	99	3.3	8	2.8
<i>Diplectrum formosum</i>	sand perch	97	7.7	12	4.2
<i>Gymnachirus texae</i>	fringed sole	96	3.5	28	9.8
<i>Ogcocephalus declivirostris</i>	slantbrow batfish	91	2.8	26	9.1
<i>Hoplunnis macrurus</i>	freckled pike-conger	91	1.9	34	11.9
<i>Balistes capriscus</i>	gray triggerfish	89	14.4	27	9.5
<i>Ancylopsetta dilecta</i>	three-eye flounder	88	5.0	19	6.7
<i>Syacium papillosum</i>	dusky flounder	83	4.1	14	4.9
<i>Symphurus diomedianus</i>	spottedfin tonguefish	83	2.4	11	3.9
<i>Ancylopsetta quadrocellata</i>	ocellated flounder	77	13.7	20	7.0

Table 26. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Haemulon aurolineatum</i>	tomtate	72	7.0	10	3.5
<i>Prionotus tribulus</i>	bighead searobin	70	8.8	27	9.5
<i>Paralichthys lethostigma</i>	southern flounder	64	24.4	41	14.4
<i>Pontinus longispinis</i>	longspine scorpionfish	61	1.1	6	2.1
<i>Trachinocephalus myops</i>	snakefish	57	3.3	5	1.8
<i>Selar crumenophthalmus</i>	bigeye scad	55	8.4	18	6.3
<i>Synodus poeyi</i>	offshore lizardfish	54	0.7	19	6.7
<i>Kathetostoma albigutta</i>	lancer stargazer	53	3.9	16	5.6
<i>Prionotus ophryas</i>	bandtail searobin	51	1.9	20	7.0
<i>Rhomboplites aurorubens</i>	vermilion snapper	49	4.4	6	2.1
<i>Sphoeroides dorsalis</i>	marbled puffer	47	3.0	15	5.3
<i>Prionotus scitulus</i>	leopard searobin	43	1.5	7	2.5
<i>Engyophrys senta</i>	spiny flounder	43	0.3	15	5.3
<i>Synodus intermedius</i>	sand diver	43	4.3	2	0.7
<i>Sardinella aurita</i>	Spanish sardine	40	2.1	13	4.6
<i>Bagre marinus</i>	gafftopsail catfish	38	5.2	8	2.8
<i>Sphyraena guachancho</i>	guaguanche	36	6.8	17	6.0
<i>Selene vomer</i>	lookdown	35	0.9	18	6.3
<i>Brotula barbata</i>	bearded brotula	35	11.7	16	5.6
<i>Equetus umbrosus</i>	cubbyu	34	2.0	13	4.6
<i>Raja texana</i>	roundel skate	33	12.0	17	6.0
<i>Priacanthus arenatus</i>	bigeye	30	7.5	15	5.3
<i>Ophidion holbrookii</i>	bank cusk-eel	28	1.4	3	1.1
<i>Equetus wamotoi</i>	blackbar drum	24	3.5	7	2.5
<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	21	36.9	18	6.3
<i>Gymnothorax saxicola</i>	honeycomb moray	20	1.8	9	3.2
<i>Anchoviella perfasciata</i>	flat anchovy	20	0.0	3	1.1
<i>Ogcocephalus pantostictus</i>	spotted batfish	19	2.5	6	2.1
<i>Citharichthys macrops</i>	spotted whiff	18	0.7	10	3.5
<i>Symphurus</i> spp.	tonguefishes	16	0.2	2	0.7
<i>Eucinostomus argenteus</i>	spotfin mojarra	16	0.4	7	2.5
<i>Neomerinthe hemingwayi</i>	spinycheek scorpionfish	14	7.2	7	2.5
<i>Pomatomus saltatrix</i>	bluefish	14	6.2	6	2.1
<i>Caranx hippos</i>	crevalle jack	14	1.3	5	1.8
<i>Centropristis ocyura</i>	bank sea bass	13	1.7	5	1.8
<i>Anchoa lyolepis</i>	dusky anchovy	13	0.0	1	0.4
<i>Scomberomorus cavalla</i>	king mackerel	12	0.5	7	2.5
<i>Lepophidium</i> spp.	cusk-eels	12	1.3	4	1.4

Table 26. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Etropus rimosus</i>	gray flounder	12	0.3	6	2.1
<i>Symphurus cavitatus</i>	offshore tonguefish	10	0.4	2	0.7
<i>Ogcocephalus</i> spp.	batfishes	10	0.1	4	1.4
<i>Caulolatilus intermedius</i>	anchor tilefish	10	2.3	6	2.1
<i>Sphyrna tiburo</i>	bonnethead	10	7.7	8	2.8
<i>Dasyatis say</i>	bluntnose stingray	9	8.9	4	1.4
<i>Rachycentron canadum</i>	cobia	9	17.1	6	2.1
<i>Trinectes maculatus</i>	hogchoker	9	0.0	6	2.1
<i>Ophidion grayi</i>	blotched cusk-eel	9	0.8	5	1.8
<i>Rypticus maculatus</i>	whitespotted soapfish	8	0.4	2	0.7
<i>Decapterus punctatus</i>	round scad	7	0.3	2	0.7
<i>Calamus penna</i>	sheepshead porgy	7	1.6	3	1.1
<i>Lepophidium jeannae</i>	mottled cusk-eel	7	0.2	1	0.4
<i>Ogcocephalus radiatus</i>	polka-dot batfish	7	0.4	5	1.8
<i>Ogcocephalus corniger</i>	longnose batfish	6	0.1	5	1.8
<i>Aluterus scriptus</i>	scrawled filefish	6	0.2	3	1.1
<i>Prionotus martis</i>	barred searobin	6	0.3	5	1.8
<i>Menticirrhus saxatilis</i>	northern kingfish	6	0.6	2	0.7
<i>Menticirrhus littoralis</i>	gulf kingfish	5	0.8	2	0.7
<i>Sciaenops ocellatus</i>	red drum	5	23.5	4	1.4
<i>Trachinotus carolinus</i>	Florida pompano	5	0.9	2	0.7
<i>Bathyanthias mexicanus</i>	yellowtail bass	5	0.0	1	0.4
<i>Bregmaceros atlanticus</i>	antenna codlet	5	0.0	3	1.1
<i>Urophycis cirrata</i>	gulf hake	5	0.2	2	0.7
<i>Antennarius radiosus</i>	singlespot frogfish	5	0.2	4	1.4
<i>Bothus robinsi</i>	twospot flounder	5	0.2	2	0.7
<i>Gymnothorax nigromarginatus</i>	blackedge moray	4	0.5	3	1.1
<i>Brevoortia gunteri</i>	finescape menhaden	4	0.1	1	0.4
<i>Pogonias cromis</i>	black drum	4	18.3	4	1.4
<i>Equetus acuminatus</i>	high-hat	4	0.3	2	0.7
<i>Opistognathus</i> spp.	jawfishes	4	0.1	2	0.7
<i>Rhinoptera bonasus</i>	cownose ray	4	9.3	1	0.4
<i>Dasyatis americana</i>	southern stingray	3	8.2	3	1.1
<i>Decodon puellaris</i>	red hogfish	3	0.3	1	0.4
<i>Astroscopus y-graecum</i>	southern stargazer	3	0.4	2	0.7
<i>Anchoa</i> spp.	anchovies	3	0.0	2	0.7
<i>Gymnothorax kolpos</i>	blacktail moray	3	2.0	3	1.1
<i>Physiculus fulvus</i>	metallic codling	3	0.0	1	0.4

Table 26. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Urophycis regia</i>	spotted hake	3	0.4	1	0.4
<i>Serranus phoebe</i>	tattler	3	0.2	1	0.4
<i>Echeneis naucrates</i>	sharksucker	3	0.9	3	1.1
<i>Serraniculus pumilio</i>	pygmy sea bass	3	0.0	3	1.1
<i>Paralichthys albigutta</i>	gulf flounder	3	1.0	2	0.7
<i>Etropus cycloquamus</i>	shelf flounder	3	0.0	2	0.7
<i>Chilomycterus schoepfi</i>	striped burrfish	3	0.5	2	0.7
<i>Lactophrys quadricornis</i>	scrawled cowfish	3	2.0	2	0.7
<i>Sphoeroides spengleri</i>	bandtail puffer	2	0.0	1	0.4
<i>Opsanus beta</i>	gulf toadfish	2	0.1	2	0.7
<i>Pristigenys alta</i>	short bigeye	2	0.0	2	0.7
<i>Apogon pseudomaculatus</i>	twospot cardinalfish	2	0.0	1	0.4
<i>Apogon aurolineatus</i>	bridle cardinalfish	2	0.0	1	0.4
<i>Remora remora</i>	remora	2	1.4	2	0.7
<i>Epinephelus flavolimbatus</i>	yellowedge grouper	2	0.3	1	0.4
<i>Hemanthias aureorubens</i>	streamer bass	2	0.0	1	0.4
<i>Ophichthus puncticeps</i>	palespotted eel	2	0.3	2	0.7
<i>Ophichthus gomesi</i>	shrimp eel	2	0.4	2	0.7
<i>Chaetodon ocellatus</i>	spotfin butterflyfish	2	0.3	1	0.4
<i>Pagrus pagrus</i>	red porgy	2	0.1	1	0.4
<i>Ariomma melanum</i>	brown driftfish	2	0.0	1	0.4
<i>Lutjanus griseus</i>	grey snapper	2	0.9	1	0.4
<i>Ginglymostoma cirratum</i>	nurse shark	2	1.9	1	0.4
<i>Mustelus norrisi</i>	Florida smoothhound	2	2.1	2	0.7
<i>Carcharhinus acronotus</i>	blacknose shark	2	5.0	2	0.7
<i>Squatina dumeril</i>	Atlantic angel shark	1	11.4	1	0.4
<i>Mustelus canis</i>	smooth dogfish	1	1.0	1	0.4
<i>Narcine brasiliensis</i>	lesser electric ray	1	0.7	1	0.4
<i>Dasyatis sabina</i>	Atlantic stringray	1	3.0	1	0.4
<i>Raja eglanteria</i>	clearnose skate	1	0.2	1	0.4
<i>Trachinotus falcatus</i>	permit	1	0.1	1	0.4
<i>Calamus arctifrons</i>	grass porgy	1	0.3	1	0.4
<i>Scorpaena brasiliensis</i>	barbfish	1	0.1	1	0.4
<i>Prionotus</i> spp.	searobins	1	0.0	1	0.4
<i>Scorpaena dispar</i>	hunchback scorpionfish	1	0.1	1	0.4
<i>Calamus leucosteus</i>	whitebone porgy	1	0.4	1	0.4
<i>Chaetodon aya</i>	bank butterflyfish	1	0.0	1	0.4
<i>Ophichthus</i> spp.	snake eels	1	0.0	1	0.4
<i>Echiophis intertinctus</i>	spotted spoon-nose eel	1	0.2	1	0.4



Table 26. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Myrophis punctatus</i>	speckled worm eel	1	0.0	1	0.4
<i>Anguilliformes</i>	eels	1	0.0	1	0.4
<i>Elops saurus</i>	ladyfish	1	0.1	1	0.4
<i>Hemanthias vivanus</i>	red barbier	1	0.5	1	0.4
<i>Mugil cephalus</i>	striped mullet	1	0.1	1	0.4
<i>Alectis ciliaris</i>	African pompano	1	0.3	1	0.4
<i>Chilomycterus atinga</i>	spotted burrfish	1	0.3	1	0.4
<i>Lophiodes beroe</i>	goosefish	1	0.0	1	0.4
<i>Ogcocephalus parvus</i>	roughback batfish	1	0.0	1	0.4
<i>Gymnachirus melas</i>	naked sole	1	0.0	1	0.4
<i>Paralichthys squamilentus</i>	broad flounder	1	0.3	1	0.4
<i>Etropus spp.</i>	lefteye flounders	1	0.0	1	0.4
<i>Cyclopsetta fimbriata</i>	spotfin flounder	1	0.3	1	0.4
<i>Citharichthys cornutus</i>	horned whiff	1	0.0	1	0.4
<i>Ophidion marginatum</i>	striped cusk-eel	1	0.0	1	0.4
<u>Crustaceans</u>					
<i>Penaeus aztecus</i>	brown shrimp	9900	224.5	242	84.9
<i>Trachypenaeus similis</i>	roughback shrimp	5080	17.7	121	42.5
<i>Portunus spinicarpus</i>	longspine swimming crab	5024	41.1	66	23.2
<i>Callinectes similis</i>	lesser blue crab	4745	86.3	177	62.1
<i>Squilla empusa</i>	mantis shrimp	3352	32.6	127	44.6
<i>Portunus gibbesii</i>	iridescent swimming crab	3350	22.6	160	56.1
<i>Penaeus setiferus</i>	white shrimp	2810	69.3	122	42.8
<i>Sicyonia brevirostris</i>	brown rock shrimp	2522	36.1	93	32.6
<i>Sicyonia dorsalis</i>	lesser rock shrimp	964	4.5	62	21.8
<i>Parapenaeus politus</i>	deepwater rose shrimp	617	1.2	8	2.8
<i>Solenocera vioscai</i>	humpback shrimp	612	3.8	26	9.1
<i>Trachypenaeus constrictus</i>	roughneck shrimp	505	2.0	16	5.6
<i>Xiphopenaeus kroyeri</i>	seabob	471	2.6	9	3.2
<i>Squilla chydrea</i>	mantis shrimp	389	4.9	47	16.5
<i>Portunus spinimanus</i>	blotched swimming crab	250	11.4	47	16.5
<i>Penaeus duorarum</i>	pink shrimp	225	5.7	39	13.7
<i>Trachypenaeus spp.</i>	roughneck shrimps	93	0.1	4	1.4
Paguridae	right-handed hermit crabs	74	0.2	1	0.4
<i>Calappa sulcata</i>	yellow box crab	71	16.5	40	14.0
<i>Solenocera spp.</i>	humpback shrimps	53	0.1	7	2.5
<i>Anasimus latus</i>	stilt spider crab	51	1.0	13	4.6

Table 26. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Raninoides louisianensis</i>	gulf frog crab	42	0.4	10	3.5
<i>Arenaeus cribrarius</i>	speckled swimming crab	41	0.8	7	2.5
<i>Petrochirus diogenes</i>	giant hermit crab	24	0.6	5	1.8
<i>Callinectes sapidus</i>	blue crab	22	4.3	13	4.6
<i>Scyllarus depressus</i>	scaled slipper lobster	15	0.1	3	1.1
<i>Hepatus epheliticus</i>	calico crab	14	1.2	7	2.5
<i>Scyllarus chacei</i>	chace slipper lobster	11	0.0	4	1.4
<i>Plesionika longicauda</i>	pandalid shrimp	11	0.0	3	1.1
<i>Lysiosquilla scabricauda</i>	mantis shrimp	11	0.5	4	1.4
<i>Stenorhynchus seticornis</i>	yellowline arrow crab	10	0.1	5	1.8
<i>Sicyonia burkenroadi</i>	spiny rock shrimp	7	0.0	3	1.1
<i>Pagurus bullisi</i>	hermit crab	6	0.0	3	1.1
Xanthidae	mud crabs	6	0.0	3	1.1
<i>Squilla neglecta</i>	mantis shrimp	5	0.1	3	1.1
<i>Menippe adina</i>	Gulf stone crab	4	0.6	3	1.1
<i>Ovalipes floridanus</i>	Florida lady crab	4	0.1	2	0.7
Reptantia	lobsters	4	0.2	2	0.7
<i>Dardanus insignis</i>	red brocade hermit	4	0.0	2	0.7
<i>Libinia emarginata</i>	portly spider crab	4	0.8	4	1.4
<i>Munida forceps</i>	squat lobster	3	0.0	1	0.4
<i>Podochela sidneyi</i>	shortfinger neck crab	3	0.0	1	0.4
<i>Porcellana sayana</i>	spotted porcelain crab	3	0.0	2	0.7
<i>Porcellana</i> spp.	porcelain crabs	3	0.0	1	0.4
<i>Parthenope serrata</i>	sawtooth elbow crab	3	0.0	2	0.7
<i>Leiolambrus nitidus</i>	white elbow crab	3	0.0	2	0.7
<i>Raninoides loevis</i>	furrowed frog crab	2	0.0	2	0.7
<i>Persephona mediterranea</i>	mottled purse crab	2	0.0	1	0.4
<i>Paguristes sericeus</i>	blue-eyed hermit	2	0.0	1	0.4
<i>Paguristes triangulatus</i>	hermit crab	1	0.0	1	0.4
<i>Persephona crinita</i>	pink purse crab	1	0.0	1	0.4
<i>Myropsis quinquespina</i>	fivespine purse crab	1	0.0	1	0.4
<i>Eurypanopeus depressus</i>	flatback mud crab	1	0.0	1	0.4
<i>Pagurus pollicaris</i>	flatclaw hermit crab	1	0.0	1	0.4
<i>Hexapanopeus</i> spp.	mud crabs	1	0.0	1	0.4
<i>Plesionika longipes</i>	shrimp	1	0.0	1	0.4
<i>Mesopenaeus tropicalis</i>	salmon shrimp	1	0.0	1	0.4
<i>Parthenope granulata</i>	bladetooth elbow crab	1	0.0	1	0.4
<i>Stenocionops</i> spp.	spider crabs	1	0.2	1	0.4

Table 26. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Metoporphaphis calcarata</i>	false arrow crab	1	0.0	1	0.4
<i>Stenocionops spinosissimus</i>	tenspine spider crab	1	0.2	1	0.4
<i>Scyllarides nodifer</i>	ridged slipper lobster	1	0.8	1	0.4
<i>Tetraxanthus</i> spp.	mud crabs	1	0.0	1	0.4
<u>Others</u>					
<i>Amusium papyraceum</i>	paper scallop	3486	28.8	56	19.6
<i>Lolliguncula brevis</i>	Atlantic brief squid	2544	24.0	107	37.5
<i>Aurelia aurita</i>	moon jellyfish	2191	600.2	72	25.3
<i>Mellita quinquiesperforata</i>	five-slotted sand dollar	1624	6.5	2	0.7
<i>Loligo</i> spp.	squids	761	7.7	73	25.6
<i>Loligo plei</i>	arrow squid	745	17.3	66	23.2
<i>Loligo pealeii</i>	longfin squid	607	16.8	62	21.8
<i>Astropecten duplicatus</i>	spiny beaded sea star	138	0.5	22	7.7
<i>Renilla mulleri</i>	short-stemmed sea pansy	129	0.6	22	7.7
<i>Anadara baughmani</i>	Baughman's ark	47	0.6	8	2.8
<i>Astropecten americanus</i>	starfish	29	0.8	13	4.6
<i>Ophiolepis elegans</i>	brittle star	22	0.0	10	3.5
Asteroidea	starfishes	15	1.0	8	2.8
<i>Conus austini</i>	cone shell	15	0.2	2	0.7
<i>Polystira albida</i>	white giant turris	13	0.1	6	2.1
<i>Astropecten cingulatus</i>	starfish	12	0.1	2	0.7
<i>Clypeaster ravenelii</i>	cake urchin	11	1.4	4	1.4
<i>Tamoya haplonema</i>	sea wasp	10	1.0	6	2.1
<i>Luidia clathrata</i>	sea star	9	0.5	6	2.1
<i>Octopus</i> spp.	octopuses	9	0.2	3	1.1
<i>Clypeaster</i> spp.	cake urchins	8	1.0	3	1.1
<i>Asteropora annulata</i>	starfish	7	0.0	3	1.1
Scyphozoa	jellyfishes	7	0.8	3	1.1
<i>Polystira tellea</i>	delicate giant turret	7	0.1	2	0.7
<i>Muricanthus fulvescens</i>	giant eastern murex	6	0.1	2	0.7
<i>Ascidia</i> spp.	tunicates	6	0.1	1	0.4
Tunicata	tunicates	6	0.3	1	0.4
Ophiuroidea	brittlestars	5	0.0	2	0.7
<i>Calliactris tricolor</i>	common sea anemone	3	0.0	2	0.7
<i>Chrysaora quinquecirrha</i>	sea nettle	3	0.1	2	0.7
<i>Pitar cordatus</i>	Schwengel's pitar	3	0.0	2	0.7

Table 26. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Macoma brevifrons</i>	short macoma	3	0.0	1	0.4
<i>Neverita duplicata</i>	shark eye	3	0.1	2	0.7
Mollusca	molluscs	3	0.0	1	0.4
<i>Strombus alatus</i>	Florida fighting conch	2	0.3	1	0.4
<i>Sconsia striata</i>	royal bonnet	2	0.0	1	0.4
<i>Argopecten gibbus</i>	calico scallop	2	0.0	1	0.4
<i>Pteria colymbus</i>	Atlantic wing-oyster	2	0.0	2	0.7
<i>Chione clenchi</i>	Clench venus	2	0.0	1	0.4
<i>Arcinella cornuta</i>	Florida spiny jewelbox	2	0.0	1	0.4
<i>Ostreola equestris</i>	crested oyster	2	0.0	1	0.4
<i>Rossia</i> spp.	bob-tailed squids	2	0.0	1	0.4
Porifera	sponges	2	0.1	1	0.4
<i>Chloeia viridis</i>	red-tipped fire worm	2	0.0	1	0.4
<i>Leptogorgia</i> spp.	sea whips	2	0.0	1	0.4
<i>Chiropsalmus quadrumanus</i>	jellyfish	2	0.2	1	0.4
<i>Gorgonocephalus arcticus</i>	basket star	2	1.2	1	0.4
Cubomedusae	sea wasps	1	0.1	1	0.4
<i>Aurelia</i> spp.	jellyfishes	1	0.1	1	0.4
Crinoidea	crinoids	1	0.0	1	0.4
Aphrodita spp.	polychetes	1	0.0	1	0.4
<i>Caretta caretta</i>	loggerhead turtle	1	102.3	1	0.4
<i>Pinna</i> spp.	penshell	1	0.5	1	0.4
<i>Atrina</i> spp.	penshells	1	0.1	1	0.4
<i>Anadara ovalis</i>	blood ark	1	0.0	1	0.4
<i>Aequipecten glyptus</i>	red-ribbed scallop	1	0.0	1	0.4
<i>Pecten</i> spp.	scallops	1	0.0	1	0.4
<i>Busycon contrarium</i>	lightning whelk	1	1.0	1	0.4
<i>Sinum perspectivum</i>	white baby-ear	1	0.0	1	0.4

Table 27. 1992 Fall Shrimp/Groundfish Survey species composition list, 80 trawl stations, for those vessels that used a 20-ft. trawl. Species with a total weight of less than 0.0227 kg (0.05 lbs) are indicated on the table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Finfishes</u>					
<i>Stellifer lanceolatus</i>	star drum	1307	14.7	40	50.0
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	706	2.9	31	38.8
<i>Cynoscion nothus</i>	silver seatrout	361	2.7	39	48.7
<i>Arius felis</i>	hardhead catfish	344	5.8	14	17.5
<i>Syacium gunteri</i>	shoal flounder	186	2.5	25	31.3
<i>Peprilus burti</i>	gulf butterfish	145	0.5	35	43.8
<i>Symphurus plagiosa</i>	blackcheek tonguefish	127	1.9	30	37.5
<i>Selene vomer</i>	lookdown	113	0.6	12	15.0
<i>Sphoeroides parvus</i>	least puffer	102	0.1	33	41.3
<i>Halieutichthys aculeatus</i>	pancake batfish	90	0.4	11	13.8
<i>Cynoscion arenarius</i>	sand seatrout	90	3.2	30	37.5
<i>Micropogonias undulatus</i>	Atlantic croaker	75	2.0	26	32.5
<i>Chaetodipterus faber</i>	Atlantic spadefish	71	0.3	28	35.0
<i>Peprilus alepidotus</i>	harvestfish	58	0.3	16	20.0
<i>Larimus fasciatus</i>	banded drum	57	0.1	14	17.5
<i>Etropus crossotus</i>	fringed flounder	55	0.8	21	26.3
<i>Selene setapinnis</i>	Atlantic moonfish	54	0.3	15	18.8
<i>Menticirrhus americanus</i>	southern kingfish	41	1.7	16	20.0
<i>Lutjanus campechanus</i>	red snapper	31	0.3	8	10.0
<i>Anchoa mitchilli</i>	bay anchovy	24	0.0	11	13.8
<i>Trichiurus lepturus</i>	Atlantic cutlassfish	22	0.1	11	13.8
<i>Citharichthys spilopterus</i>	bay whiff	19	0.1	11	13.8
<i>Prionotus tribulus</i>	bighead searobin	16	0.0	8	10.0
<i>Synodus foetens</i>	inshore lizardfish	14	0.4	8	10.0
<i>Orthopristis chrysoptera</i>	pigfish	10	0.7	9	11.3
<i>Eucinostomus gula</i>	silver jenny	7	0.0	5	6.3
<i>Prionotus rubio</i>	blackwing searobin	7	0.0	7	8.8
<i>Saurida brasiliensis</i>	largescale lizardfish	7	0.0	4	5.0
<i>Centropristis philadelphica</i>	rock sea bass	7	0.1	6	7.5
<i>Brevoortia patronus</i>	gulf menhaden	7	0.5	5	6.3
<i>Lagodon rhomboides</i>	pinfish	6	0.1	3	3.7
<i>Ophidion welshi</i>	crested cusk-eel	5	0.2	4	5.0
<i>Eucinostomus argenteus</i>	spotfin mojarra	5	0.0	5	6.3
<i>Opisthonema oglinum</i>	Atlantic thread herring	5	0.0	3	3.7
<i>Hemicaranx amblyrhynchus</i>	bluntnose jack	5	0.0	4	5.0

Table 27. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Conodon nobilis	barred grunt	4	0.0	1	1.3
Leiostomus xanthurus	spot	3	0.2	2	2.5
Scomberomorus maculatus	Spanish mackerel	3	0.1	2	2.5
Scomberomorus cavalla	king mackerel	3	0.1	3	3.7
Anchoa hepsetus	striped anchovy	3	0.0	2	2.5
Harengula jaguana	scaled sardine	3	0.0	3	3.7
Dasyatis sabina	Atlantic stringray	2	0.8	2	2.5
Bagre marinus	gafftopsail catfish	2	0.1	2	2.5
Prionotus longispinosus	bigeye searobin	2	0.0	1	1.3
Microgobius thalassinus	green goby	2	0.0	2	2.5
Trinectes maculatus	hogchoker	2	0.0	2	2.5
Paralichthys lethostigma	southern flounder	1	0.9	1	1.3
Gymnachirus texae	fringed sole	1	0.1	1	1.3
Ancylopsetta quadrocellata	ocellated flounder	1	0.2	1	1.3
Porichthys plectrodon	Atlantic midshipman	1	0.0	1	1.3
Monacanthus hispidus	planehead filefish	1	0.0	1	1.3
Symphurus urospilus	spottail tonguefish	1	0.0	1	1.3
Citharichthys macrops	spotted whiff	1	0.0	1	1.3
Lepophidium brevibarbe	blackedge cusk-eel	1	0.0	1	1.3
Umbrina coroides	sand drum	1	0.0	1	1.3
Astroscopus y-graecum	southern stargazer	1	0.0	1	1.3
Equetus umbrosus	cubbyu	1	0.0	1	1.3
Menticirrhus littoralis	gulf kingfish	1	0.0	1	1.3
Bairdiella chrysoura	silver perch	1	0.0	1	1.3
Gerres cinereus	yellowfin mojarra	1	0.0	1	1.3
Membras martinica	rough silverside	1	0.0	1	1.3
Trachinocephalus myops	snakefish	1	0.0	1	1.3
Caranx hippos	crevalle jack	1	0.1	1	1.3
Diplectrum bivittatum	dwarf sand perch	1	0.0	1	1.3
Sphyraena guachancho	guaguanche	1	0.0	1	1.3
<u>Crustaceans</u>					
Penaeus setiferus	white shrimp	929	8.5	52	65.0
Xiphopenaeus kroyeri	seabob	889	4.3	27	33.8
Trachypenaeus similis	roughback shrimp	207	0.1	30	37.5
Portunus gibbesii	irridescent swimming crab	195	0.6	44	55.0
Callinectes similis	lesser blue crab	168	0.4	36	45.0
Squilla empusa	mantis shrimp	147	1.2	39	48.7
Pagurus annulipes	hermit crab	79	0.0	2	2.5

Table 27. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT(KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Sicyonia dorsalis</i>	lesser rock shrimp	74	0.0	25	31.3
<i>Penaeus aztecus</i>	brown shrimp	70	0.7	17	21.3
<i>Pagurus pollicaris</i>	flatclaw hermit crab	33	0.5	16	20.0
<i>Trachypenaeus constrictus</i>	roughneck shrimp	22	0.0	6	7.5
<i>Porcellana sigsbeiana</i>	striped porcelain crab	12	0.0	4	5.0
<i>Calappa sulcata</i>	yellow box crab	10	1.4	8	10.0
<i>Penaeus duorarum</i>	pink shrimp	10	0.0	7	8.8
<i>Arenaeus cribrarius</i>	speckled swimming crab	9	0.1	2	2.5
<i>Sicyonia brevirostris</i>	brown rock shrimp	8	0.1	1	1.3
<i>Persephona crinita</i>	pink purse crab	8	0.0	5	6.3
<i>Petrochirus diogenes</i>	giant hermit crab	8	1.2	6	7.5
<i>Libinia emarginata</i>	portly spider crab	5	0.3	5	6.3
<i>Portunus spinimanus</i>	blotched swimming crab	5	0.0	4	5.0
<i>Libinia dubia</i>	longnose spider crab	4	0.0	3	3.7
<i>Callinectes sapidus</i>	blue crab	3	0.0	1	1.3
<i>Calappa flammea</i>	flame box crab	3	0.5	3	3.7
<i>Hepatus epheliticus</i>	calico crab	3	0.0	2	2.5
<i>Portunus sayi</i>	sargassum swimming crab	2	0.0	2	2.5
<i>Sicyonia typica</i>	kinglet rock shrimp	2	0.0	1	1.3
<i>Squilla neglecta</i>	mantis shrimp	2	0.0	1	1.3
<i>Clibanarius vittatus</i>	thinstripe hermit crab	1	0.0	1	1.3
<i>Dyspanopeus texana</i>	gulf grassflat crab	1	0.0	1	1.3
<i>Porcellana sayana</i>	spotted porcelain crab	1	0.0	1	1.3
<i>Parthenope serrata</i>	sawtooth elbow crab	1	0.0	1	1.3
<u>Others</u>					
<i>Lolliguncula brevis</i>	Atlantic brief squid	853	8.8	72	90.0
<i>Renilla mulleri</i>	short-stemmed sea pansy	774	1.6	20	25.0
Actinidae	sea anemones	72	0.1	14	17.5
<i>Luidia clathrata</i>	sea star	60	1.6	15	18.8
<i>Aurelia aurita</i>	moon jellyfish	53	8.5	16	20.0
<i>Loligo pealeii</i>	longfin squid	49	0.8	9	11.3
<i>Neverita duplicata</i>	shark eye	25	0.3	11	13.8
<i>Chrysaora quinquecirrha</i>	sea nettle	21	0.2	9	11.3
<i>Cantharus cancellarius</i>	cancellate cantharus	9	0.0	3	3.7
<i>Astropecten duplicatus</i>	spiny beaded sea star	6	0.0	4	5.0
Asteroidea	starfishes	6	0.0	4	5.0
<i>Busycon perversum</i>	perverse whelk	4	0.2	4	5.0
<i>Luidia alternata</i>	banded luidia	3	0.2	2	2.5

Table 27. Species composition list (continued)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF	
				TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Thais haemastoma</i>	rocksnail	2	0.0	2	2.5
Algae	algae	2	0.0	2	2.5
Holothuroidea	sea cucumbers	2	0.0	2	2.5
<i>Mellita quinquiesperforata</i>	five-slotted sand dollar	2	0.0	2	2.5
Ophiuroidea	brittlestars	1	0.0	1	1.3
Sargassaceae	sargassum	1	0.0	1	1.3
Mollusca	molluscs	1	0.0	1	1.3
<i>Stomolophus meleagris</i>	many-mouthed sea jelly	1	0.0	1	1.3
Gorgonidae	gorgonians	1	0.0	1	1.3
<i>Busycon sinistrum</i>	lightning whelk	1	0.0	1	1.3
<i>Crassostrea virginica</i>	eastern oyster	1	0.0	1	1.3
Porifera	sponges	1	0.0	1	1.3



Table 28a  
 Statistical Zone 11  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 11 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus spinicarpus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	6	1.2	1.20	0.0	0.00	10
Callinectes similis	91.3	79.36	0.9	0.56	5	125.5	73.83	2.2	1.18	6	23.5	15.69	0.1	0.06	10
Trachypenaeus similis	0.8	0.80	0.0	0.00	5	23.6	21.23	0.1	0.08	6	33.7	18.93	0.0	0.02	10
Penaeus aztecus	0.0	0.00	0.0	0.00	5	3.2	2.71	0.0	0.03	6	27.6	11.41	0.4	0.14	10
Parapenaeus politus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	10
Squilla spp.	9.2	5.62	0.1	0.10	5	62.3	34.70	0.8	0.43	6	7.4	3.88	0.1	0.06	10
Arius felis	1524.5	1516.38	14.7	14.59	5	1237.3	1219.12	259.7	255.00	6	116.1	54.39	28.2	12.39	10
Stenotomus caprinus	0.0	0.00	0.0	0.00	5	466.3	403.93	10.7	9.15	6	685.1	426.88	16.1	10.47	10
Micropogonias undulatus	403.7	392.73	21.3	20.97	5	239.7	179.08	13.1	9.41	6	49.2	21.39	2.9	1.30	10
Cynoscion arenarius	92.7	92.73	6.0	6.05	5	16.3	13.84	1.6	1.13	6	31.8	18.11	2.7	1.47	10
Leiostomus xanthurus	21.8	21.82	2.0	1.98	5	1.7	1.11	0.2	0.15	6	11.3	8.92	0.7	0.60	10
Serranus atrobranchus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	6	0.6	0.60	0.0	0.00	10
Synodus foetens	214.7	144.07	15.9	8.99	5	12.8	8.53	1.2	0.84	6	50.6	16.55	4.0	1.27	10
Centropristis philadelphia	0.0	0.00	0.0	0.00	5	6.2	2.90	0.2	0.09	6	7.9	4.93	0.3	0.30	10
Squid	20.0	8.34	0.1	0.15	5	6.7	3.96	0.2	0.17	6	20.0	8.91	0.1	0.09	10

Table 28a (continued)  
 Statistical Zone 11  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 11 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus spinicarpus	1.4	1.12	0.0	0.01	8	146.5	83.04	1.4	0.83	4	1388.7	558.72	9.0	4.48	4
Callinectes similis	97.4	33.88	1.8	0.63	8	100.1	50.47	2.2	1.50	4	35.7	28.61	1.1	0.73	4
Trachypenaeus similis	165.4	88.85	0.4	0.22	8	37.6	17.61	0.1	0.07	4	6.4	4.72	0.0	0.00	4
Penaeus aztecus	51.9	10.83	1.0	0.21	8	118.3	28.84	3.2	0.39	4	211.4	144.48	5.8	3.65	4
Parapenaeus politus	1.0	0.98	0.0	0.00	8	4.0	4.04	0.0	0.00	4	318.6	157.35	0.7	0.30	4
Squilla spp.	52.9	23.16	0.6	0.28	8	63.2	22.86	1.1	0.48	4	56.1	30.60	0.6	0.36	4
Arius felis	0.5	0.50	0.1	0.11	8	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4
Stenotomus caprinus	110.9	32.43	3.4	1.59	8	197.8	37.66	4.0	1.47	4	340.3	325.03	7.2	6.84	4
Micropogonias undulatus	334.1	210.59	19.6	12.03	8	76.1	39.82	6.9	2.73	4	9.2	9.23	0.7	0.73	4
Cynoscion arenarius	358.1	192.94	29.1	14.92	8	974.6	495.08	86.3	40.56	4	357.2	129.80	47.5	15.96	4
Leiostomus xanthurus	146.4	56.07	12.8	4.99	8	232.0	72.11	23.4	6.42	4	204.7	104.12	26.4	11.45	4
Serranus atrobranchus	99.4	39.50	0.8	0.35	8	181.8	77.28	1.9	0.97	4	234.6	88.33	5.3	2.09	4
Synodus foetens	81.3	28.42	7.2	2.68	8	70.1	22.00	6.4	2.51	4	27.6	11.87	2.8	1.21	4
Centropristis philadelphica	24.7	11.87	0.6	0.27	8	301.6	131.27	10.3	3.79	4	108.9	40.42	6.0	2.00	4
Squid	13.9	10.58	0.2	0.16	8	1.4	1.43	0.2	0.16	4	0.0	0.00	0.0	0.00	4

Table 28b  
 Statistical Zone 11  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	150.1	58.07	5	399.8	232.83	6	83.4	12.51	10	102.5	22.42	8	176.5	44.44	4	153.0	24.56	4
Total finfish kg	74.2	33.03	5	294.0	248.37	6	79.9	12.80	10	95.1	22.55	8	162.7	46.08	4	132.3	20.81	4
Total crustacean kg	2.0	1.00	5	5.2	2.38	6	2.4	1.27	10	6.5	1.44	8	14.6	2.05	4	21.2	4.51	4
Total others kg	73.5	64.34	5	100.1	63.07	6	0.0	0.00	10	0.6	0.46	8	0.0	0.00	4	0.0	0.00	4
Surface temperature	21.5	1.22	7	21.7	1.16	5	21.7	0.15	10	20.8	0.68	6	20.6	1.51	2	20.9	0.58	4
Midwater temperature	21.5	1.22	7	21.6	1.11	5	21.7	0.12	10	21.5	0.55	6	22.3	0.05	2	23.0	0.31	4
Bottom temperature	21.5	1.19	7	21.9	1.16	5	21.7	0.11	10	21.9	0.32	6	21.7	0.17	2	21.5	0.21	4
Surface salinity	30.5	0.83	7	32.5	0.92	5	35.3	0.04	11	33.9	0.56	6	33.9	1.33	3	33.4	0.82	5
Midwater salinity	31.6	0.82	7	33.1	0.89	5	35.3	0.03	10	34.6	0.30	6	35.1	0.37	3	35.2	0.24	5
Bottom salinity	32.8	0.82	7	34.0	0.92	5	35.3	0.03	10	34.9	0.14	6	35.6	0.33	3	36.1	0.12	5
Surface chlorophyll	4.8	0.21	2	2.1	1.07	2	0.9	0.17	11	3.6	1.05	6	2.3	0.58	3	3.9	0.59	5
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.3	0.16	7	7.0	0.16	5	6.6	0.13	11	7.2	0.21	6	7.2	0.23	3	7.2	0.13	5
Midwater oxygen	7.1	0.12	7	7.0	0.16	5	6.5	0.07	10	7.0	0.19	6	6.9	0.06	3	6.9	0.06	5
Bottom oxygen	6.7	0.26	7	6.5	0.22	5	6.5	0.08	10	7.0	0.19	6	6.1	0.72	3	4.9	0.14	5

Table 29a  
 Statistical Zone 13  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 13 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm or greater than 30 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	0.0	0.00	0.0	0.00	0	254.4	140.43	1.0	0.46	6	75.7	30.62	0.8	0.30	14
Squilla spp.	0.0	0.00	0.0	0.00	0	246.3	136.72	1.6	0.83	6	40.7	18.13	0.4	0.15	14
Penaeus setiferus	0.0	0.00	0.0	0.00	0	209.1	42.98	2.8	0.56	6	72.2	27.38	1.7	0.78	14
Trachypenaeus similis	0.0	0.00	0.0	0.00	0	122.1	72.93	0.3	0.15	6	138.3	66.57	0.4	0.18	14
Penaeus aztecus	0.0	0.00	0.0	0.00	0	18.2	5.87	0.1	0.05	6	51.7	21.72	0.5	0.24	14
Portunus gibbesii	0.0	0.00	0.0	0.00	0	11.1	2.89	0.1	0.02	6	80.0	38.63	0.3	0.10	14
Micropogonias undulatus	0.0	0.00	0.0	0.00	0	313.3	87.64	17.0	4.86	6	2647.0	1192.03	107.4	48.61	14
Arius felis	0.0	0.00	0.0	0.00	0	829.7	433.37	10.6	3.52	6	18.6	10.99	2.4	1.30	14
Trichiurus lepturus	0.0	0.00	0.0	0.00	0	199.4	126.70	4.2	3.02	6	391.8	132.74	15.9	8.73	14
Prionotus longispinosus	0.0	0.00	0.0	0.00	0	1.7	1.31	0.1	0.12	6	303.8	164.11	3.8	1.82	14
Stenotomus caprinus	0.0	0.00	0.0	0.00	0	0.3	0.33	0.0	0.00	6	132.0	77.24	2.0	1.20	14
Cynoscion nothus	0.0	0.00	0.0	0.00	0	71.2	27.43	0.6	0.20	6	120.7	44.00	2.4	1.06	14
Cynoscion arenarius	0.0	0.00	0.0	0.00	0	31.9	15.17	0.8	0.44	6	104.4	34.11	6.8	2.40	14
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	0	31.4	19.50	0.3	0.20	6	139.1	55.08	4.0	1.79	14
Squid	0.0	0.00	0.0	0.00	0	32.0	11.67	0.4	0.18	6	42.7	16.43	0.3	0.12	14

Table 29a (continued)  
 Statistical Zone 13  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 13 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm or greater than 30 fm.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	36.8	0.00	0.9	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus setiferus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus similis	36.8	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus aztecus	120.0	0.00	2.2	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus gibbesii	9.5	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	5762.7	0.00	261.3	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius felis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trichiurus lepturus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Prionotus longispinosus	47.7	0.00	1.9	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	109.1	0.00	1.8	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion nothus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	145.9	0.00	18.3	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 29b  
 Statistical Zone 13  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less than 6 fm or greater than 30 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	47.0	5.08	6	162.7	60.20	14	313.6	0.00	1	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	40.6	4.80	6	157.8	59.91	14	309.3	0.00	1	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	6.0	1.55	6	4.4	1.04	14	4.3	0.00	1	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.7	0.68	6	0.2	0.19	14	0.0	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface temperature	18.2	2.55	2	19.6	1.77	7	22.8	1.11	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	18.9	2.25	2	20.0	1.79	7	23.9	0.84	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	21.0	0.69	2	22.6	1.37	7	25.0	0.53	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	27.7	3.38	2	25.1	1.41	7	28.3	0.89	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	28.3	2.55	2	26.7	1.43	7	30.9	0.58	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	31.7	0.64	2	32.0	0.81	7	34.0	0.39	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	7.1	5.52	2	4.3	1.19	7	2.0	0.36	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	2.0	0.00	1	2.8	0.86	6	1.2	0.36	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	3.1	0.86	2	4.8	2.23	7	1.6	0.36	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.6	0.70	2	7.3	1.19	7	7.9	0.17	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.7	0.10	2	8.0	0.33	7	7.8	0.34	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	4.8	1.30	2	5.7	0.90	7	7.2	0.46	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 30a  
 Statistical Zone 14  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 14 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	4	74.4	37.33	1.5	0.98	12	31.8	9.20	0.5	0.13	16
<i>Penaeus setiferus</i>	38.1	16.72	0.6	0.25	4	70.9	26.49	1.6	0.45	12	8.5	4.30	0.2	0.11	16
<i>Xiphopenaeus kroyeri</i>	408.0	273.65	2.2	1.52	4	0.8	0.59	0.0	0.01	12	0.0	0.00	0.0	0.00	16
<i>Callinectes similis</i>	25.5	18.39	0.1	0.08	4	12.1	2.90	0.1	0.03	12	26.0	8.43	0.5	0.18	16
<i>Portunus spinicarpus</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	12	0.0	0.00	0.0	0.00	16
<i>Trachypenaeus similis</i>	15.2	12.71	0.3	0.23	4	14.1	7.25	0.0	0.02	12	11.9	7.66	0.0	0.02	16
<i>Micropogonias undulatus</i>	2478.7	1482.20	119.1	72.37	4	1021.7	259.72	46.0	10.89	12	2419.3	844.70	88.6	30.47	16
<i>Steindachneria argentea</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	12	0.0	0.00	0.0	0.00	16
<i>Stenotomus caprinus</i>	6.6	6.56	0.1	0.13	4	57.8	49.74	1.1	0.99	12	57.3	14.60	1.3	0.33	16
<i>Arius felis</i>	863.4	820.23	5.8	5.13	4	225.7	70.86	22.7	5.85	12	9.4	4.01	3.1	1.18	16
<i>Prionotus longispinosus</i>	0.0	0.00	0.0	0.00	4	21.1	7.66	0.5	0.18	12	115.1	32.83	3.7	1.00	16
<i>Leiostomus xanthurus</i>	0.0	0.00	0.0	0.00	4	14.4	11.26	0.8	0.53	12	67.1	35.46	5.6	2.78	16
<i>Peprilus burti</i>	1.0	1.00	0.1	0.07	4	35.9	18.79	1.9	0.94	12	14.1	5.64	1.0	0.49	16
<i>Cynoscion arenarius</i>	59.3	34.62	4.1	2.51	4	14.4	6.78	1.2	0.57	12	34.1	16.26	5.1	2.54	16
Squid	3.6	2.36	0.0	0.03	4	41.8	22.65	0.6	0.27	12	36.6	17.49	0.6	0.25	16

Table 30a (continued)  
 Statistical Zone 14  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 14 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	326.6	235.16	5.8	4.34	3	57.8	15.04	2.9	0.62	4	8.8	7.62	0.4	0.35	3
<i>Penaeus setiferus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
<i>Xiphopenaeus kroyeri</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
<i>Callinectes similis</i>	34.8	19.96	0.6	0.20	3	2.3	0.79	0.1	0.04	4	2.7	2.67	0.1	0.06	3
<i>Portunus spinicarpus</i>	0.0	0.00	0.0	0.00	3	96.7	61.96	1.1	0.77	4	5.7	5.71	0.1	0.09	3
<i>Trachypenaeus similis</i>	38.0	38.00	0.2	0.18	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
<i>Micropogonias undulatus</i>	410.9	238.82	23.1	12.47	3	149.5	54.33	12.7	2.96	4	341.3	339.34	29.6	29.39	3
<i>Steindachneria argentea</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4	6586.0	6586.00	39.6	39.64	3
<i>Stenotomus caprinus</i>	266.9	199.59	5.6	4.12	3	413.5	202.66	11.4	3.32	4	117.6	59.02	5.1	3.45	3
<i>Arius felis</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
<i>Prionotus longispinosus</i>	13.3	5.50	0.6	0.19	3	57.8	13.80	3.8	0.94	4	28.7	10.97	2.4	1.20	3
<i>Leiostomus xanthurus</i>	51.1	28.51	6.0	3.70	3	113.6	42.56	13.5	5.36	4	2.1	1.16	0.5	0.33	3
<i>Peprilus burti</i>	90.5	68.79	6.9	4.75	3	87.4	51.74	5.8	3.56	4	8.7	5.21	0.4	0.24	3
<i>Cynoscion arenarius</i>	37.3	35.35	5.4	5.07	3	13.9	8.74	2.7	1.30	4	41.6	39.21	8.8	7.78	3
<i>Squid</i>	7.3	5.46	0.2	0.16	3	8.4	2.63	1.0	0.48	4	14.1	10.93	0.2	0.18	3



Table 30b  
 Statistical Zone 14  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	152.4	92.35	4	90.1	19.05	12	125.2	37.17	16	73.7	18.08	3	76.1	6.28	4	142.9	70.12	3
Total finfish kg	136.5	81.98	4	83.9	18.43	12	121.4	36.60	16	66.8	13.45	3	66.9	4.93	4	141.1	69.69	3
Total crustacean kg	3.5	2.17	4	3.7	1.11	12	1.7	0.46	16	6.9	4.72	3	5.4	0.99	4	1.1	0.83	3
Total others kg	12.7	10.16	4	2.1	1.13	12	1.6	0.86	16	0.0	0.00	3	3.7	2.39	4	0.4	0.37	3
Surface temperature	20.7	1.78	4	23.7	1.04	16	22.4	0.69	17	22.5	0.56	3	23.7	0.28	3	23.7	0.19	5
Midwater temperature	20.8	1.78	4	23.8	1.02	16	22.6	0.61	17	22.6	0.63	3	24.4	0.36	3	24.4	0.22	4
Bottom temperature	21.3	1.50	4	24.0	0.98	16	23.5	0.51	17	23.8	1.33	3	23.4	0.64	3	22.5	0.51	5
Surface salinity	29.5	0.87	4	29.5	0.65	16	30.0	2.03	17	23.0	11.49	3	34.1	0.04	3	34.0	0.28	5
Midwater salinity	29.4	0.80	4	29.5	0.64	16	32.5	0.61	17	34.6	0.62	3	34.7	0.22	3	34.9	0.31	5
Bottom salinity	30.2	0.47	4	30.3	0.51	16	33.6	0.42	17	34.9	0.50	3	35.5	0.20	3	35.7	0.15	5
Surface chlorophyll	3.2	1.31	4	2.2	0.24	16	1.9	0.40	16	0.8	0.12	3	4.6	1.91	3	2.3	0.76	5
Midwater chlorophyll	2.0	0.56	2	1.9	0.24	12	1.3	0.19	8	1.0	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	2.4	0.26	4	2.0	0.24	16	1.1	0.11	16	0.9	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	8.2	0.59	4	7.9	0.37	16	6.9	0.34	17	6.7	0.12	3	6.9	0.09	3	6.8	0.09	5
Midwater oxygen	8.2	0.60	4	8.4	0.19	16	7.2	0.17	17	6.9	0.06	3	6.8	0.09	3	6.2	0.41	5
Bottom oxygen	7.8	0.65	4	8.1	0.24	16	6.1	0.37	17	6.1	0.65	3	5.6	0.90	2	4.8	0.12	5

Table 31a  
 Statistical Zone 15  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 15 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	0.0	0.00	0.0	0.00	0	12.5	4.20	0.2	0.06	5	205.7	51.51	2.9	0.72	15
Trachypenaeus similis	0.0	0.00	0.0	0.00	0	128.4	102.10	0.3	0.28	5	57.4	23.55	0.2	0.10	15
Portunus gibbesii	0.0	0.00	0.0	0.00	0	23.9	7.81	0.2	0.07	5	41.4	8.08	0.3	0.04	15
Callinectes similis	0.0	0.00	0.0	0.00	0	23.3	11.03	0.3	0.15	5	12.4	2.97	0.2	0.04	15
Squilla spp.	0.0	0.00	0.0	0.00	0	15.3	7.85	0.1	0.06	5	31.0	19.37	0.2	0.09	15
Sicyonia dorsalis	0.0	0.00	0.0	0.00	0	3.6	2.35	0.0	0.02	5	7.0	2.60	0.0	0.02	15
Micropogonias undulatus	0.0	0.00	0.0	0.00	0	746.1	436.88	29.2	16.27	5	558.1	248.74	25.2	10.46	15
Stenotomus caprinus	0.0	0.00	0.0	0.00	0	132.0	78.21	2.4	1.31	5	516.1	155.94	9.3	2.97	15
Prionotus longispinosus	0.0	0.00	0.0	0.00	0	55.4	21.80	0.6	0.24	5	145.1	38.10	4.0	0.99	15
Peprilus burti	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	5	16.3	11.55	1.2	0.85	15
Leiostomus xanthurus	0.0	0.00	0.0	0.00	0	1.3	1.26	0.1	0.09	5	30.0	26.53	2.2	1.97	15
Synodus foetens	0.0	0.00	0.0	0.00	0	14.1	10.62	1.3	1.01	5	55.2	10.56	6.5	1.31	15
Syacium gunteri	0.0	0.00	0.0	0.00	0	9.7	6.41	0.2	0.14	5	75.8	11.96	1.9	0.26	15
Centropristis philadelphica	0.0	0.00	0.0	0.00	0	12.4	7.29	0.2	0.14	5	45.8	12.31	1.1	0.27	15
Squid	0.0	0.00	0.0	0.00	0	153.7	109.87	1.3	0.88	5	95.7	26.85	0.8	0.22	15

Table 31a (continued)  
 Statistical Zone 15  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 15 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	58.7	28.93	1.5	0.85	3	75.0	0.00	3.1	0.00	1	26.4	0.00	2.0	0.00	1
<i>Trachypenaeus similis</i>	39.3	39.31	0.3	0.31	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
<i>Portunus gibbesii</i>	74.8	70.76	0.7	0.60	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
<i>Callinectes similis</i>	69.8	51.98	2.4	1.93	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
<i>Squilla</i> spp.	12.4	12.41	0.3	0.27	3	2.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
<i>Sicyonia dorsalis</i>	46.4	43.54	0.4	0.29	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
<i>Micropogonias undulatus</i>	459.9	152.22	25.3	7.51	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
<i>Stenotomus caprinus</i>	213.9	58.58	4.0	0.97	3	310.0	0.00	8.6	0.00	1	547.2	0.00	15.8	0.00	1
<i>Prionotus longispinosus</i>	76.2	65.37	3.5	3.02	3	5.0	0.00	0.5	0.00	1	7.2	0.00	0.7	0.00	1
<i>Peprilus burti</i>	221.8	147.74	13.7	8.92	3	193.0	0.00	12.3	0.00	1	79.2	0.00	4.1	0.00	1
<i>Leiostomus xanthurus</i>	112.5	107.73	9.0	8.66	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
<i>Synodus foetens</i>	71.0	15.37	8.9	2.27	3	12.0	0.00	2.0	0.00	1	40.8	0.00	7.1	0.00	1
<i>Syacium gunteri</i>	23.8	5.66	0.7	0.14	3	2.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
<i>Centropristis philadelphia</i>	68.0	43.27	2.7	1.60	3	0.0	0.00	0.0	0.00	1	12.0	0.00	0.2	0.00	1
Squid	16.3	4.07	0.5	0.10	3	41.0	0.00	1.4	0.00	1	69.6	0.00	3.6	0.00	1

Table 31b  
 Statistical Zone 15  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less than 6 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	68.2	17.28	5	76.5	15.25	15	90.6	22.40	3	45.0	0.00	1	58.9	0.00	1
Total finfish kg	0.0	0.00	0	64.2	17.79	5	70.8	15.38	15	84.6	18.95	3	37.3	0.00	1	50.2	0.00	1
Total crustacean kg	0.0	0.00	0	3.0	0.55	5	4.8	0.81	15	5.8	4.40	3	4.1	0.00	1	2.2	0.00	1
Total others kg	0.0	0.00	0	1.5	0.98	5	0.8	0.25	15	0.4	0.20	3	3.6	0.00	1	6.5	0.00	1
Surface temperature	21.0	3.78	2	20.1	1.27	7	20.7	0.53	17	24.1	0.20	3	24.3	0.00	1	26.3	0.00	1
Midwater temperature	21.0	3.79	2	20.3	1.11	7	21.0	0.42	17	23.9	0.10	3	24.3	0.00	1	26.2	0.00	1
Bottom temperature	21.0	3.81	2	21.1	1.14	7	21.7	0.34	17	24.6	0.46	3	23.5	0.00	1	20.4	0.00	1
Surface salinity	29.6	0.74	2	29.8	1.13	7	21.2	3.91	17	34.5	0.13	3	34.4	0.00	1	35.0	0.00	1
Midwater salinity	29.6	0.75	2	30.6	0.61	7	33.3	0.24	17	34.7	0.18	3	34.5	0.00	1	35.5	0.00	1
Bottom salinity	29.6	0.77	2	31.3	0.58	7	33.9	0.24	17	34.9	0.32	3	35.7	0.00	1	35.8	0.00	1
Surface chlorophyll	5.3	1.87	2	2.6	0.48	7	2.6	0.43	16	4.8	1.78	3	1.2	0.00	1	0.1	0.00	1
Midwater chlorophyll	5.8	1.85	2	2.6	0.82	3	1.9	0.43	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	7.1	2.30	2	4.1	1.13	7	2.1	0.44	17	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.8	3.05	2	7.0	0.78	7	6.9	0.46	17	7.0	0.06	3	7.0	0.00	1	6.6	0.00	1
Midwater oxygen	9.3	0.60	2	6.5	1.09	7	7.1	0.08	17	6.9	0.06	3	7.1	0.00	1	6.5	0.00	1
Bottom oxygen	9.4	0.55	2	6.1	0.99	7	6.7	0.11	17	5.8	0.76	3	5.3	0.00	1	5.5	0.00	1

Table 32a  
 Statistical Zone 16  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 16 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	1	48.3	17.49	0.4	0.17	9	187.5	57.54	3.4	1.09	11
<i>Callinectes similis</i>	16.2	0.00	0.2	0.00	1	7.1	1.81	0.1	0.03	9	105.2	40.27	2.5	0.99	11
<i>Sicyonia brevirostris</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	9	54.8	28.74	0.8	0.42	11
<i>Squilla</i> spp.	71.5	0.00	1.0	0.00	1	58.9	20.41	0.4	0.14	9	10.7	4.82	0.2	0.09	11
<i>Portunus gibbesii</i>	43.8	0.00	0.5	0.00	1	23.1	16.51	0.1	0.05	9	41.8	21.36	0.3	0.13	11
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	1	47.8	18.74	0.1	0.04	9	10.2	4.04	0.1	0.02	11
<i>Stenotomus caprinus</i>	4.6	0.00	0.1	0.00	1	283.8	128.08	4.3	1.92	9	470.1	141.68	9.9	3.12	11
<i>Micropogonias undulatus</i>	2051.5	0.00	88.1	0.00	1	215.0	48.72	9.5	2.10	9	627.9	222.56	29.6	9.23	11
<i>Prionotus longispinosus</i>	0.0	0.00	0.0	0.00	1	13.2	5.14	0.3	0.12	9	208.5	90.62	5.4	2.12	11
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	1	87.8	41.43	4.7	2.26	9	25.2	14.86	1.6	0.88	11
<i>Leiostomus xanthurus</i>	4.6	0.00	0.5	0.00	1	0.6	0.32	0.1	0.07	9	30.1	9.30	2.6	0.76	11
<i>Arius felis</i>	11.5	0.00	1.7	0.00	1	144.0	70.03	13.1	7.18	9	8.3	3.67	2.1	1.01	11
<i>Centropristis philadelphica</i>	0.0	0.00	0.0	0.00	1	53.5	19.47	0.8	0.36	9	31.1	7.70	0.8	0.20	11
<i>Anchoa hepsetus</i>	0.0	0.00	0.0	0.00	1	119.4	53.68	1.5	0.73	9	0.0	0.00	0.0	0.00	11
<i>Squid</i>	4.6	0.00	0.1	0.00	1	147.3	34.67	1.4	0.30	9	3.8	1.42	0.0	0.02	11

Table 32a (continued)  
 Statistical Zone 16  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 16 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	32.9	17.51	0.8	0.40	3	74.5	14.16	2.9	0.50	5	28.0	10.97	1.6	0.14	2
<i>Callinectes similis</i>	80.3	43.90	2.0	1.27	3	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2
<i>Sicyonia brevirostris</i>	17.6	9.19	0.2	0.15	3	40.9	20.89	0.5	0.29	5	0.0	0.00	0.0	0.00	2
<i>Squilla</i> spp.	12.3	6.23	0.2	0.09	3	2.8	2.01	0.0	0.02	5	2.5	0.89	0.1	0.01	2
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	3	0.6	0.62	0.0	0.01	5	0.0	0.00	0.0	0.00	2
<i>Trachypenaeus similis</i>	1.5	1.48	0.0	0.00	3	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2
<i>Stenotomus caprinus</i>	688.7	424.97	20.1	15.16	3	260.3	59.01	9.2	3.25	5	170.0	11.11	7.2	0.90	2
<i>Micropogonias undulatus</i>	41.4	12.21	3.4	1.22	3	1.2	1.20	0.2	0.20	5	0.0	0.00	0.0	0.00	2
<i>Prionotus longispinosus</i>	51.0	25.42	1.6	0.73	3	10.7	6.96	0.6	0.40	5	11.0	9.38	1.5	0.86	2
<i>Peprilus burti</i>	13.8	8.08	0.8	0.46	3	177.7	82.03	11.4	5.25	5	150.1	135.34	8.6	7.17	2
<i>Leiostomus xanthurus</i>	27.3	17.14	3.3	2.16	3	168.5	115.07	21.8	15.34	5	0.0	0.00	0.0	0.00	2
<i>Arius felis</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2
<i>Centropristis philadelphica</i>	32.1	25.10	0.5	0.21	3	40.2	31.38	1.4	0.70	5	15.5	10.59	1.4	0.41	2
<i>Anchoa hepsetus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2
<i>Squid</i>	1.7	0.88	0.1	0.07	3	9.6	4.63	0.5	0.30	5	19.9	14.20	0.7	0.40	2

Table 32b  
 Statistical Zone 16  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 40 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	141.6	0.00	1	46.9	7.77	9	74.9	12.76	11	47.9	28.24	3	76.3	17.46	5	66.2	16.10	2
Total finfish kg	122.7	0.00	1	41.6	7.70	9	66.5	12.78	11	44.3	26.37	3	69.7	17.88	5	62.8	16.40	2
Total crustacean kg	5.2	0.00	1	2.4	0.45	9	8.0	2.17	11	3.4	1.85	3	4.1	0.76	5	2.1	0.08	2
Total others kg	13.6	0.00	1	3.1	1.37	9	0.3	0.29	11	0.2	0.23	3	2.8	1.18	5	1.6	0.59	2
Surface temperature	21.4	1.19	2	23.0	0.10	6	24.0	0.39	10	25.0	0.16	6	26.2	0.40	3	26.2	0.18	5
Midwater temperature	21.1	0.89	2	22.9	0.14	6	24.0	0.37	10	25.1	0.19	6	26.3	0.16	3	26.2	0.18	5
Bottom temperature	21.7	0.31	2	23.3	0.51	6	24.9	0.38	10	25.5	0.28	6	23.4	0.31	3	21.6	0.59	5
Surface salinity	28.4	0.29	2	30.3	0.51	6	33.3	0.37	10	35.0	0.20	6	35.3	0.14	3	35.4	0.09	5
Midwater salinity	28.7	0.10	2	30.3	0.45	6	33.6	0.31	10	34.7	0.14	6	35.8	0.25	3	35.7	0.17	5
Bottom salinity	29.1	0.50	2	31.0	0.74	6	34.1	0.21	10	35.6	0.11	6	35.8	0.21	3	35.8	0.14	5
Surface chlorophyll	3.7	0.78	2	1.5	0.37	6	0.9	0.13	10	0.3	0.09	5	0.1	0.01	3	0.3	0.14	5
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	5.0	1.96	2	1.6	0.58	6	0.8	0.10	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	8.9	1.15	2	9.3	0.88	6	7.9	0.47	10	7.0	0.10	6	6.7	0.06	3	6.8	0.07	5
Midwater oxygen	8.5	1.30	2	9.1	0.74	6	7.9	0.47	10	7.0	0.10	6	6.7	0.03	3	6.7	0.08	5
Bottom oxygen	8.6	1.05	2	8.8	0.61	6	7.6	0.50	10	6.0	0.50	5	6.1	0.17	3	6.0	0.14	5

Table 33a  
 Statistical Zone 17  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 17 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus spinicarpus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	8	0.9	0.60	0.0	0.02	11
Penaeus aztecus	0.0	0.00	0.0	0.00	0	43.0	22.20	0.8	0.44	8	33.0	16.79	0.7	0.35	11
Squilla spp.	0.0	0.00	0.0	0.00	0	146.4	64.45	1.2	0.50	8	7.8	4.76	0.1	0.08	11
Trachypenaeus similis	0.0	0.00	0.0	0.00	0	83.5	45.25	0.2	0.09	8	2.0	1.41	0.0	0.02	11
Portunus gibbesii	0.0	0.00	0.0	0.00	0	99.3	51.89	0.4	0.19	8	10.3	6.55	0.1	0.04	11
Sicyonia brevirostris	0.0	0.00	0.0	0.00	0	4.2	2.67	0.0	0.02	8	75.7	49.61	1.0	0.65	11
Stenotomus caprinus	0.0	0.00	0.0	0.00	0	574.9	378.59	12.4	8.20	8	875.6	315.99	23.1	7.27	11
Micropogonias undulatus	0.0	0.00	0.0	0.00	0	202.8	89.66	10.5	4.83	8	105.3	50.13	7.6	3.69	11
Arius felis	0.0	0.00	0.0	0.00	0	180.0	88.35	27.6	10.59	8	71.7	41.56	18.8	12.22	11
Centropristis philadelphia	0.0	0.00	0.0	0.00	0	64.6	28.40	1.5	0.63	8	15.4	8.53	0.5	0.23	11
Peprilus burti	0.0	0.00	0.0	0.00	0	23.4	15.36	1.4	0.92	8	18.1	6.83	1.1	0.46	11
Prionotus longispinosus	0.0	0.00	0.0	0.00	0	55.9	22.67	1.5	0.56	8	19.2	11.91	0.7	0.37	11
Trachurus lathami	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	8	70.8	44.83	2.7	1.65	11
Sphoeroides parvus	0.0	0.00	0.0	0.00	0	65.2	26.35	0.3	0.10	8	5.6	3.91	0.1	0.04	11
Squid	0.0	0.00	0.0	0.00	0	104.8	40.78	1.3	0.46	8	35.9	11.76	0.2	0.09	11



Table 33a (continued)  
 Statistical Zone 17  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 17 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Portunus spinicarpus</i>	62.7	56.60	0.6	0.51	5	767.2	478.77	7.0	4.25	2	22.2	0.00	0.2	0.00	1
<i>Penaeus aztecus</i>	45.2	30.75	1.2	0.90	5	123.0	27.00	4.9	1.13	2	26.1	0.00	1.5	0.00	1
<i>Squilla</i> spp.	1.8	1.80	0.0	0.04	5	2.5	2.50	0.0	0.05	2	22.2	0.00	0.6	0.00	1
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Sicyonia brevis</i>	8.3	2.91	0.1	0.04	5	95.8	28.81	1.2	0.20	2	0.0	0.00	0.0	0.00	1
<i>Stenotomus caprinus</i>	193.8	30.89	9.0	3.24	5	284.9	28.92	16.3	4.30	2	180.0	0.00	15.8	0.00	1
<i>Micropogonias undulatus</i>	3.6	2.42	0.4	0.29	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Arius felis</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Centropristis philadelphica</i>	10.0	9.51	0.3	0.31	5	176.6	42.62	10.9	2.26	2	24.8	0.00	3.3	0.00	1
<i>Peprilus burti</i>	85.8	53.57	5.4	3.30	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Prionotus longispinosus</i>	1.5	1.16	0.1	0.12	5	17.4	3.58	1.4	0.48	2	3.9	0.00	0.8	0.00	1
<i>Trachurus lathamii</i>	37.9	16.79	0.9	0.48	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Sphoeroides parvus</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Squid</i>	10.5	6.42	0.1	0.07	5	1.0	1.00	0.1	0.11	2	2.6	0.00	0.1	0.00	1

Table 33b  
 Statistical Zone 17  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less than 6 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	72.6	10.66	8	82.1	8.79	11	34.5	4.85	5	74.7	9.23	2	51.6	0.00	1
Total finfish kg	0.0	0.00	0	65.7	11.41	8	78.7	8.97	11	31.5	6.27	5	52.8	10.10	2	47.4	0.00	1
Total crustacean kg	0.0	0.00	0	4.5	1.72	8	3.0	1.54	11	2.1	1.43	5	13.7	3.16	2	3.0	0.00	1
Total others kg	0.0	0.00	0	2.4	0.59	8	0.3	0.18	11	0.9	0.50	5	8.2	2.29	2	1.2	0.00	1
Surface temperature	0.0	0.00	0	22.8	0.67	4	25.2	0.33	11	25.7	0.37	4	0.0	0.00	0	25.6	0.00	1
Midwater temperature	0.0	0.00	0	22.7	0.72	4	25.2	0.30	11	25.8	0.32	4	0.0	0.00	0	25.8	0.00	1
Bottom temperature	0.0	0.00	0	23.3	0.83	4	25.5	0.31	11	25.7	0.35	4	0.0	0.00	0	22.0	0.00	1
Surface salinity	0.0	0.00	0	31.1	0.69	4	33.3	0.15	11	34.6	0.25	4	0.0	0.00	0	35.8	0.00	1
Midwater salinity	0.0	0.00	0	31.2	0.66	4	33.5	0.21	11	35.0	0.13	4	0.0	0.00	0	36.2	0.00	1
Bottom salinity	0.0	0.00	0	31.2	0.62	4	33.9	0.29	11	35.6	0.23	4	0.0	0.00	0	36.1	0.00	1
Surface chlorophyll	0.0	0.00	0	1.8	0.91	3	0.6	0.19	10	0.5	0.29	4	0.0	0.00	0	0.1	0.00	1
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	1.0	0.06	4	0.9	0.13	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	7.4	0.09	4	7.0	0.06	11	6.8	0.02	4	0.0	0.00	0	6.8	0.00	1
Midwater oxygen	0.0	0.00	0	7.4	0.10	4	6.9	0.07	11	6.6	0.05	4	0.0	0.00	0	6.6	0.00	1
Bottom oxygen	0.0	0.00	0	7.2	0.13	4	6.8	0.06	11	6.4	0.09	4	0.0	0.00	0	6.0	0.00	1

Table 34a  
 Statistical Zone 18  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 18 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia brevirostris</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	18.6	9.88	0.2	0.07	4
<i>Portunus spinicarpus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	1.5	0.89	0.0	0.02	4
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	0	33.6	33.60	0.4	0.38	2	75.6	27.57	2.3	0.90	4
<i>Squilla</i> spp.	0.0	0.00	0.0	0.00	0	99.6	99.60	0.7	0.71	2	1.9	1.92	0.1	0.05	4
Paguridae	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	4
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	0	28.8	28.80	0.1	0.05	2	11.4	9.18	0.1	0.04	4
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	636.3	263.78	13.8	5.23	4
<i>Prionotus paralatus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	9.4	7.57	0.1	0.09	4
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	0	1.2	1.20	0.1	0.11	2	5.1	5.10	0.2	0.22	4
<i>Mullus auratus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	1.8	1.76	0.0	0.04	4
<i>Micropogonias undulatus</i>	0.0	0.00	0.0	0.00	0	18.0	18.00	0.5	0.49	2	181.5	79.15	12.3	4.93	4
<i>Trachurus lathami</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	1.5	1.50	0.1	0.07	4
<i>Lagodon rhomboides</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	58.8	57.61	3.6	3.47	4
<i>Synodus foetens</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	34.9	21.88	4.9	2.66	4
Squid	0.0	0.00	0.0	0.00	0	7.2	7.20	0.1	0.11	2	0.8	0.75	0.0	0.03	4

Table 34a (continued)  
 Statistical Zone 18  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 18 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia brevirostris</i>	173.8	65.70	2.4	0.88	5	50.2	22.28	0.8	0.37	5	0.4	0.40	0.0	0.02	5
<i>Portunus spinicarpus</i>	105.9	46.04	0.7	0.29	5	76.6	46.15	0.6	0.43	5	34.4	25.19	0.3	0.22	5
<i>Penaeus aztecus</i>	34.8	10.28	1.5	0.44	5	49.7	19.40	2.6	0.96	5	13.0	6.00	0.7	0.33	5
<i>Squilla</i> spp.	0.2	0.20	0.0	0.01	5	0.0	0.00	0.0	0.00	5	0.7	0.71	0.0	0.00	5
Paguridae	0.0	0.00	0.0	0.00	5	14.8	14.80	0.0	0.05	5	0.0	0.00	0.0	0.00	5
<i>Trachypenaeus similis</i>	0.2	0.20	0.0	0.00	5	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	5
<i>Stenotomus caprinus</i>	225.6	49.28	10.1	1.92	5	263.3	76.50	14.8	4.07	5	183.1	59.75	10.7	3.19	5
<i>Prionotus paralatus</i>	80.3	47.89	1.6	0.98	5	122.5	62.72	3.5	1.91	5	81.2	33.07	1.6	0.65	5
<i>Peprilus burti</i>	22.5	14.73	1.6	0.97	5	88.7	69.50	4.8	3.57	5	103.1	64.33	7.2	4.57	5
<i>Mullus auratus</i>	33.7	23.42	1.7	1.17	5	54.6	24.96	3.2	1.69	5	103.5	37.43	5.0	1.78	5
<i>Micropogonias undulatus</i>	39.6	24.10	3.1	1.87	5	1.6	1.60	0.1	0.13	5	0.0	0.00	0.0	0.00	5
<i>Trachurus lathami</i>	33.7	32.37	1.0	0.91	5	9.8	8.16	0.9	0.81	5	82.3	53.62	3.4	2.49	5
<i>Lagodon rhomboides</i>	35.0	21.78	2.6	1.63	5	1.5	1.05	0.2	0.11	5	5.0	3.87	0.9	0.78	5
<i>Synodus foetens</i>	10.5	1.96	1.6	0.45	5	18.4	5.90	2.5	1.09	5	12.4	3.42	2.0	0.56	5
Squid	0.7	0.46	0.0	0.02	5	3.3	2.16	0.1	0.11	5	17.4	14.42	1.3	1.19	5

Table 34b  
 Statistical Zone 18  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less than 6 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	5.2	2.45	2	48.1	14.15	4	35.9	4.01	5	52.5	7.18	5	40.2	3.65	5
Total finfish kg	0.0	0.00	0	4.1	1.36	2	44.9	13.89	4	30.2	3.92	5	45.5	4.72	5	36.7	3.48	5
Total crustacean kg	0.0	0.00	0	1.6	1.64	2	3.8	0.68	4	5.0	1.17	5	3.9	1.61	5	1.1	0.62	5
Total others kg	0.0	0.00	0	0.0	0.00	2	0.3	0.27	4	0.7	0.46	5	3.4	1.96	5	2.7	0.99	5
Surface temperature	0.0	0.00	0	23.9	0.01	2	25.3	0.13	7	25.8	0.25	2	25.8	0.11	4	25.8	0.11	8
Midwater temperature	0.0	0.00	0	23.9	0.12	2	25.4	0.19	7	25.8	0.24	2	25.8	0.10	4	25.6	0.42	8
Bottom temperature	0.0	0.00	0	24.3	0.13	2	25.4	0.15	7	26.0	0.31	2	24.1	0.60	4	21.4	0.46	8
Surface salinity	0.0	0.00	0	28.4	0.44	2	34.6	0.28	7	35.9	0.16	2	35.8	0.09	4	35.8	0.09	8
Midwater salinity	0.0	0.00	0	32.4	0.88	2	34.8	0.19	7	35.9	0.14	2	35.9	0.07	4	36.2	0.05	8
Bottom salinity	0.0	0.00	0	34.1	0.14	2	35.0	0.18	7	36.1	0.14	2	36.2	0.08	4	36.3	0.02	8
Surface chlorophyll	0.0	0.00	0	1.0	0.38	2	0.4	0.21	7	0.1	0.00	2	0.1	0.03	4	0.2	0.05	8
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	8.3	0.15	2	6.9	0.05	7	6.8	0.10	2	6.7	0.08	4	6.7	0.04	8
Midwater oxygen	0.0	0.00	0	7.0	0.40	2	6.8	0.06	7	6.8	0.05	2	6.6	0.07	4	6.6	0.04	8
Bottom oxygen	0.0	0.00	0	6.3	0.15	2	6.7	0.08	7	6.7	0.05	2	6.2	0.22	4	6.2	0.10	8

Table 35a  
 Statistical Zone 19  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 19 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 30 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	3.0	3.00	0.0	0.00	2	13.2	4.83	0.2	0.08	8	80.2	24.77	1.7	0.52	16
<i>Trachypenaeus similis</i>	3.0	3.00	0.0	0.00	2	23.1	12.04	0.1	0.04	8	44.7	12.94	0.2	0.04	16
<i>Squilla</i> spp.	33.0	33.00	0.5	0.55	2	50.0	13.19	0.6	0.16	8	25.7	8.49	0.3	0.10	16
<i>Callinectes similis</i>	3.0	3.00	0.0	0.00	2	10.9	5.81	0.1	0.03	8	17.4	7.18	0.4	0.19	16
<i>Portunus gibbesii</i>	98.0	88.00	0.5	0.55	2	28.0	16.88	0.1	0.04	8	36.5	15.19	0.2	0.07	16
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	8	27.4	13.98	0.1	0.03	16
<i>Chloroscombrus chrysurus</i>	14.0	4.00	0.3	0.02	2	3.5	1.87	0.1	0.06	8	124.2	54.95	4.3	1.95	16
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	8	37.5	16.61	0.8	0.33	16
<i>Micropogonias undulatus</i>	9.0	9.00	0.3	0.27	2	12.2	3.96	0.4	0.18	8	125.6	41.67	6.6	2.30	16
<i>Peprilus burti</i>	8.0	2.00	0.2	0.23	2	7.7	4.35	0.3	0.20	8	84.9	39.50	5.0	2.37	16
<i>Syacium gunteri</i>	12.0	12.00	0.3	0.27	2	13.3	8.31	0.2	0.08	8	20.7	7.17	0.3	0.11	16
<i>Cynoscion</i> spp.	94.5	40.50	0.2	0.23	2	50.0	13.32	0.2	0.04	8	2.3	2.17	0.0	0.01	16
<i>Halieutichthys aculeatus</i>	0.0	0.00	0.0	0.00	2	8.8	5.59	0.1	0.03	8	23.2	14.25	0.1	0.05	16
<i>Stellifer lanceolatus</i>	10.5	4.50	0.4	0.16	2	49.5	24.11	0.6	0.35	8	0.4	0.39	0.0	0.02	16
<i>Squid</i>	132.5	132.50	1.3	1.25	2	31.8	10.27	0.3	0.07	8	9.4	1.63	0.2	0.06	16

Table 35a (continued)  
 Statistical Zone 19  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 19 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 30 fm.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	53.9	27.46	1.8	0.85	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus similis</i>	33.9	3.60	0.3	0.06	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Squilla</i> spp.	23.8	4.97	0.4	0.16	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Callinectes similis</i>	72.8	37.50	2.0	1.21	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Portunus gibbesii</i>	5.0	2.46	0.1	0.06	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Sicyonia dorsalis</i>	22.5	10.27	0.2	0.11	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Chloroscombrus chrysurus</i>	26.3	26.30	1.2	1.25	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Stenotomus caprinus</i>	375.6	280.52	7.9	5.92	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Micropogonias undulatus</i>	65.1	25.88	4.0	1.48	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Peprilus burti</i>	32.2	31.14	1.5	1.42	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Syacium gunteri</i>	9.2	3.91	0.2	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Cynoscion</i> spp.	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Haliutichthys aculeatus</i>	0.7	0.70	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Stellifer lanceolatus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Squid</i>	0.7	0.74	0.0	0.02	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 35b  
 Statistical Zone 19  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 30 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	17.5	1.59	2	15.7	4.72	8	29.8	4.01	16	25.7	11.14	3	0.0	0.00	0	0.0	0.00	0
Total finfish kg	11.4	2.27	2	12.8	4.82	8	26.4	4.04	16	20.9	10.57	3	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.5	0.23	2	2.5	0.48	8	3.2	0.75	16	4.8	2.00	3	0.0	0.00	0	0.0	0.00	0
Total others kg	2.5	0.23	2	0.5	0.22	8	0.1	0.08	16	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0
Surface temperature	23.1	0.13	2	23.6	0.14	8	24.7	0.22	13	25.5	0.06	5	0.0	0.00	0	26.2	0.00	1
Midwater temperature	23.1	0.13	2	23.7	0.09	8	24.9	0.14	13	25.5	0.05	5	0.0	0.00	0	26.2	0.00	1
Bottom temperature	23.3	0.10	2	24.1	0.10	8	24.9	0.09	13	25.6	0.04	5	0.0	0.00	0	22.2	0.00	1
Surface salinity	27.6	0.48	2	29.2	0.44	8	33.2	0.68	13	35.5	0.07	5	0.0	0.00	0	36.1	0.00	1
Midwater salinity	28.2	0.46	2	31.1	0.54	8	34.8	0.15	13	35.5	0.04	5	0.0	0.00	0	36.2	0.00	1
Bottom salinity	29.4	0.45	2	32.9	0.56	8	35.0	0.10	13	35.7	0.04	5	0.0	0.00	0	36.3	0.00	1
Surface chlorophyll	2.1	0.16	2	1.2	0.17	8	0.5	0.06	13	0.3	0.03	5	0.0	0.00	0	0.1	0.00	1
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.3	0.10	2	7.7	0.16	8	7.2	0.10	13	7.1	0.04	5	0.0	0.00	0	6.8	0.00	1
Midwater oxygen	7.2	0.10	2	7.2	0.06	8	6.9	0.07	13	6.9	0.06	5	0.0	0.00	0	6.9	0.00	1
Bottom oxygen	6.8	0.15	2	6.8	0.14	8	6.7	0.08	12	6.9	0.07	5	0.0	0.00	0	6.4	0.00	1



Table 36a  
 Statistical Zone 20  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 20 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	6.0	0.00	0.3	0.00	1	16.8	15.34	0.2	0.20	5	137.1	35.38	2.5	0.62	14
Portunus gibbesii	60.0	0.00	1.1	0.00	1	25.3	20.88	0.1	0.11	5	63.6	17.55	0.4	0.11	14
Trachypenaeus similis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	63.5	23.08	0.3	0.13	14
Callinectes similis	0.0	0.00	0.0	0.00	1	1.2	1.20	0.1	0.05	5	6.1	3.50	0.1	0.04	14
Penaeus setiferus	12.0	0.00	0.5	0.00	1	30.5	29.87	0.4	0.38	5	15.4	6.86	0.5	0.24	14
Squilla spp.	6.0	0.00	0.5	0.00	1	1.2	1.20	0.1	0.05	5	5.8	2.29	0.1	0.04	14
Peprilus burti	0.0	0.00	0.0	0.00	1	3.4	2.22	0.1	0.06	5	15.0	8.73	0.8	0.47	14
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	2.0	1.86	0.1	0.06	14
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	1	19.1	15.50	0.2	0.13	5	48.2	21.76	0.4	0.17	14
Peprilus alepidotus	18.0	0.00	0.3	0.00	1	60.9	39.20	0.3	0.21	5	149.2	49.18	1.7	0.59	14
Micropogonias undulatus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	46.1	16.61	2.2	0.77	14
Syacium gunteri	0.0	0.00	0.0	0.00	1	2.4	2.40	0.1	0.11	5	25.9	12.76	0.4	0.26	14
Lagodon rhomboides	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	0.8	0.42	0.1	0.02	14
Prionotus paralatus	0.0	0.00	0.0	0.00	1	4.8	4.80	0.1	0.11	5	0.0	0.00	0.0	0.00	14
Squid	6.0	0.00	0.0	0.00	1	46.9	18.41	0.8	0.33	5	36.4	9.49	0.5	0.15	14

Table 36a (continued)  
 Statistical Zone 20  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 20 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	34.8	8.59	1.2	0.30	9	51.7	24.89	1.6	0.70	3	16.7	5.80	0.8	0.31	3
<i>Portunus gibbesii</i>	0.9	0.94	0.0	0.01	9	0.7	0.69	0.0	0.00	3	1.0	1.00	0.0	0.02	3
<i>Trachypenaeus similis</i>	1.7	0.78	0.0	0.01	9	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3
<i>Callinectes similis</i>	21.1	7.65	0.5	0.19	9	13.4	8.38	0.4	0.11	3	0.0	0.00	0.0	0.00	3
<i>Penaeus setiferus</i>	0.0	0.00	0.0	0.00	9	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3
<i>Squilla</i> spp.	16.6	7.76	0.2	0.12	9	2.1	2.07	0.0	0.05	3	0.7	0.67	0.0	0.02	3
<i>Peprilus burti</i>	151.2	88.01	7.4	4.44	9	80.3	40.81	3.6	2.06	3	342.5	338.16	16.2	15.86	3
<i>Stenotomus caprinus</i>	170.4	76.03	3.3	1.51	9	352.8	275.20	6.2	4.46	3	163.8	85.58	10.6	5.13	3
<i>Chloroscombrus chrysurus</i>	175.7	106.91	6.8	3.54	9	53.7	35.22	2.6	1.58	3	0.0	0.00	0.0	0.00	3
<i>Peprilus alepidotus</i>	0.2	0.22	0.0	0.01	9	6.7	6.67	0.6	0.56	3	0.0	0.00	0.0	0.00	3
<i>Micropogonias undulatus</i>	18.5	3.59	1.2	0.35	9	14.9	6.20	1.3	0.53	3	0.0	0.00	0.0	0.00	3
<i>Syacium gunteri</i>	2.5	1.12	0.0	0.02	9	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3
<i>Lagodon rhomboides</i>	18.2	9.85	1.6	1.02	9	22.0	15.81	1.5	1.23	3	3.8	1.97	0.4	0.19	3
<i>Prionotus paralatus</i>	0.0	0.00	0.0	0.00	9	0.0	0.00	0.0	0.00	3	86.4	46.44	2.3	1.27	3
<i>Squid</i>	7.4	3.00	0.2	0.07	9	2.7	2.67	0.1	0.08	3	3.0	1.90	0.2	0.16	3

Table 36b  
 Statistical Zone 20  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	92.7	0.00	1	28.3	11.14	5	16.6	2.19	14	26.3	6.01	9	21.5	6.10	3	49.5	11.96	3
Total finfish kg	87.3	0.00	1	11.4	7.75	5	11.1	2.10	14	24.0	6.24	9	19.2	6.22	3	46.9	12.92	3
Total crustacean kg	5.5	0.00	1	1.1	0.67	5	4.0	0.82	14	2.2	0.39	9	2.0	0.77	3	1.0	0.54	3
Total others kg	0.0	0.00	1	15.7	11.44	5	1.7	0.47	14	0.2	0.09	9	0.3	0.15	3	1.5	0.51	3
Surface temperature	0.0	0.00	0	25.1	0.20	5	24.9	0.11	15	25.4	0.22	3	25.8	0.14	6	25.9	0.11	4
Midwater temperature	0.0	0.00	0	25.0	0.17	5	24.9	0.10	15	25.9	0.08	3	26.1	0.10	6	26.5	0.19	4
Bottom temperature	0.0	0.00	0	25.0	0.16	5	24.9	0.24	15	26.1	0.12	3	26.4	0.18	6	22.5	1.20	4
Surface salinity	0.0	0.00	0	31.4	0.34	5	32.2	0.30	15	33.7	1.07	3	35.0	0.47	6	35.4	0.19	4
Midwater salinity	0.0	0.00	0	31.4	0.34	5	32.8	0.29	15	34.9	0.38	3	35.7	0.08	6	36.0	0.08	4
Bottom salinity	0.0	0.00	0	31.6	0.31	5	33.4	0.31	15	35.0	0.36	3	36.0	0.05	6	36.2	0.07	4
Surface chlorophyll	0.0	0.00	0	0.7	0.15	4	0.8	0.10	15	1.1	0.48	3	0.5	0.18	6	0.2	0.03	4
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	7.6	0.43	5	6.9	0.05	15	6.7	0.03	3	6.8	0.09	6	7.2	0.31	4
Midwater oxygen	0.0	0.00	0	7.5	0.36	5	6.9	0.06	15	6.6	0.03	3	6.7	0.05	6	6.7	0.31	4
Bottom oxygen	0.0	0.00	0	7.0	0.06	4	6.5	0.11	15	6.3	0.30	3	6.5	0.09	6	5.6	0.39	4

Table 37a  
 Statistical Zone 21  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 21 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	144.9	92.51	0.5	0.35	8
Penaeus aztecus	0.0	0.00	0.0	0.00	1	3.4	2.58	0.0	0.03	4	97.0	41.14	2.0	0.73	8
Portunus gibbesii	0.0	0.00	0.0	0.00	1	7.5	5.15	0.0	0.03	4	73.1	23.61	0.8	0.19	8
Sicyonia dorsalis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	10.1	8.43	0.0	0.02	8
Penaeus duorarum	0.0	0.00	0.0	0.00	1	31.1	22.66	0.4	0.25	4	0.7	0.46	0.0	0.01	8
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	8.2	8.18	0.1	0.06	4	4.9	3.27	0.0	0.03	8
Chloroscombrus chrysurus	636.0	0.00	3.0	0.00	1	0.0	0.00	0.0	0.00	4	1497.0	852.63	19.5	11.11	8
Serranus atrobranchus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	35.5	33.17	0.5	0.44	8
Peprilus alepidotus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	83.7	52.39	0.8	0.53	8
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	9.5	5.27	0.2	0.11	8
Diplectrum bivittatum	6.0	0.00	0.3	0.00	1	4.2	1.80	0.0	0.03	4	72.0	36.81	0.9	0.32	8
Trachurus lathamii	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	9.2	5.02	0.2	0.12	8
Syacium gunteri	0.0	0.00	0.0	0.00	1	1.4	1.36	0.0	0.00	4	34.0	14.31	0.7	0.30	8
Saurida brasiliensis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	30.4	13.90	0.2	0.09	8
Squid	90.0	0.00	0.5	0.00	1	27.1	6.79	0.4	0.12	4	111.6	31.79	1.1	0.31	8

Table 37a (continued)  
 Statistical Zone 21  
 40-ft trawls

Summary of dominant organisms taken in statistical zone 21 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken.

SPECIES	21-30 FM					31-40 FM					> 40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Trachypenaeus similis</i>	28.2	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Penaeus aztecus</i>	102.9	0.00	3.6	0.00	1	0.0	0.00	0.0	0.00	1	40.3	40.31	1.8	1.83	2
<i>Portunus gibbesii</i>	61.2	0.00	0.5	0.00	1	1.4	0.00	0.0	0.00	1	6.6	6.56	0.0	0.04	2
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Penaeus duorarum</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Sicyonia brevirostris</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Chloroscombrus chrysurus</i>	4.9	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Serranus atrobranchus</i>	15.9	0.00	0.2	0.00	1	4.1	0.00	0.2	0.00	1	122.8	122.81	2.2	2.17	2
<i>Peprilus alepidotus</i>	1.2	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Stenotomus caprinus</i>	186.1	0.00	4.3	0.00	1	0.0	0.00	0.0	0.00	1	137.8	137.81	7.4	7.37	2
<i>Diplectrum bivittatum</i>	18.4	0.00	0.4	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Trachurus lathami</i>	0.0	0.00	0.0	0.00	1	167.7	0.00	4.6	0.00	1	2.8	2.81	0.2	0.17	2
<i>Syacium gunteri</i>	1.2	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Saurida brasiliensis</i>	2.4	0.00	0.0	0.00	1	1.4	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Squid</i>	2.4	0.00	0.0	0.00	1	17.7	0.00	0.6	0.00	1	7.8	7.83	0.0	0.00	2

Table 37b  
 Statistical Zone 21  
 40-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	5.5	0.00	1	17.9	4.71	4	37.0	11.72	8	12.8	0.00	1	8.1	0.00	1	34.8	26.53	2
Total finfish kg	5.5	0.00	1	13.2	6.33	4	30.8	12.22	8	8.3	0.00	1	7.4	0.00	1	29.1	22.01	2
Total crustacean kg	0.0	0.00	1	0.6	0.62	4	3.9	1.12	8	4.5	0.00	1	0.0	0.00	1	3.4	3.41	2
Total others kg	0.0	0.00	1	4.3	2.21	4	2.2	0.75	8	0.0	0.00	1	0.6	0.00	1	2.7	1.54	2
Surface temperature	0.0	0.00	0	26.1	0.14	6	25.8	0.08	6	25.5	0.18	2	26.6	0.00	1	26.9	0.06	4
Midwater temperature	0.0	0.00	0	26.2	0.13	6	25.9	0.19	6	26.1	0.25	2	27.1	0.00	1	26.5	0.66	4
Bottom temperature	0.0	0.00	0	26.2	0.19	6	26.7	0.24	6	26.3	0.13	2	23.0	0.00	1	20.5	0.93	4
Surface salinity	0.0	0.00	0	33.1	0.24	6	32.1	0.11	6	31.9	0.12	2	35.2	0.00	1	36.0	0.09	4
Midwater salinity	0.0	0.00	0	33.1	0.22	6	32.5	0.23	6	34.3	0.24	2	35.8	0.00	1	36.3	0.03	4
Bottom salinity	0.0	0.00	0	33.4	0.25	6	34.4	0.40	6	34.8	0.08	2	36.3	0.00	1	36.3	0.04	4
Surface chlorophyll	0.0	0.00	0	0.8	0.19	6	0.2	0.04	6	0.4	0.17	2	0.1	0.00	1	0.1	0.01	4
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	7.2	0.28	6	7.0	0.31	6	6.7	0.10	2	6.5	0.00	1	6.6	0.09	4
Midwater oxygen	0.0	0.00	0	7.1	0.27	6	7.0	0.30	6	6.4	0.20	2	6.4	0.00	1	6.5	0.04	4
Bottom oxygen	0.0	0.00	0	7.0	0.30	6	5.7	0.30	6	5.7	0.00	1	5.8	0.00	1	5.5	0.33	4

Table 38a  
 Statistical Zone 17  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 17 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Xiphopenaeus kroyeri	330.5	190.21	1.6	1.00	11	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Penaeus setiferus	52.9	22.40	0.3	0.13	11	4.0	4.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0
Squilla spp.	36.0	15.35	0.3	0.14	11	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Trachypenaeus similis	15.8	8.98	0.0	0.00	11	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Callinectes similis	10.9	5.65	0.0	0.00	11	12.0	9.17	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Portunus gibbesii	9.8	5.32	0.0	0.00	11	8.0	5.29	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	81.3	26.27	0.6	0.22	11	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	9.3	3.07	0.5	0.24	11	18.0	12.00	0.6	0.51	3	0.0	0.00	0.0	0.00	0
Peprilus burti	8.7	4.53	0.1	0.04	11	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Prionotus tribulus	7.1	3.51	0.0	0.00	11	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	2.2	1.67	0.1	0.05	11	14.0	5.29	0.4	0.09	3	0.0	0.00	0.0	0.00	0
Symphurus plagiusa	4.9	2.26	0.1	0.06	11	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Citharichthys spilopterus	3.3	2.20	0.0	0.05	11	8.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Arius felis	1.6	1.17	0.0	0.05	11	12.0	12.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0
Squid	47.5	11.08	0.6	0.17	11	140.0	26.00	2.9	0.64	3	0.0	0.00	0.0	0.00	0

Table 38b  
 Statistical Zone 17  
 20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	7.4	2.15	11	10.9	2.73	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	1.5	0.43	11	0.9	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.2	1.32	11	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.7	1.98	11	8.2	2.73	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	16.9	0.20	12	17.1	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	16.9	0.18	12	16.7	0.35	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	16.7	0.20	12	16.5	0.30	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	26.6	0.17	12	27.3	0.26	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	26.7	0.18	12	27.5	0.26	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	26.8	0.27	12	29.4	0.04	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	8.6	0.30	12	9.9	1.60	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	8.5	0.28	12	10.3	1.60	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	9.1	0.55	12	8.4	1.40	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0



Table 39a  
 Statistical Zone 18  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 18 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus setiferus</i>	288.7	75.68	2.4	0.56	9	103.3	56.65	1.1	0.54	9	0.0	0.00	0.0	0.00	0
<i>Xiphopenaeus kroyeri</i>	102.7	56.17	0.5	0.26	9	0.0	0.00	0.0	0.00	9	0.0	0.00	0.0	0.00	0
<i>Callinectes similis</i>	12.0	4.69	0.0	0.00	9	62.0	41.42	0.2	0.13	9	0.0	0.00	0.0	0.00	0
<i>Pagurus annulipes</i>	52.0	52.00	0.0	0.00	9	0.0	0.00	0.0	0.00	9	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus similis</i>	9.3	4.81	0.0	0.00	9	21.3	13.97	0.0	0.03	9	0.0	0.00	0.0	0.00	0
<i>Penaeus aztecus</i>	2.0	2.00	0.0	0.03	9	18.0	6.56	0.2	0.08	9	0.0	0.00	0.0	0.00	0
<i>Stellifer lanceolatus</i>	208.7	53.74	1.8	0.47	9	17.3	8.57	0.1	0.07	9	0.0	0.00	0.0	0.00	0
<i>Peprilus burti</i>	50.0	43.37	0.2	0.21	9	16.0	5.66	0.0	0.03	9	0.0	0.00	0.0	0.00	0
<i>Cynoscion nothus</i>	10.0	4.00	0.0	0.00	9	52.7	13.52	0.2	0.10	9	0.0	0.00	0.0	0.00	0
<i>Chloroscombrus chrysurus</i>	37.3	36.59	0.2	0.15	9	21.3	12.13	0.1	0.09	9	0.0	0.00	0.0	0.00	0
<i>Micropogonias undulatus</i>	2.7	2.03	0.1	0.04	9	31.3	8.71	0.8	0.18	9	0.0	0.00	0.0	0.00	0
<i>Cynoscion arenarius</i>	21.3	12.21	0.6	0.33	9	6.0	2.83	0.4	0.19	9	0.0	0.00	0.0	0.00	0
<i>Chaetodipterus faber</i>	19.3	8.17	0.1	0.05	9	8.0	3.32	0.0	0.03	9	0.0	0.00	0.0	0.00	0
<i>Arius felis</i>	24.0	12.21	0.3	0.15	9	0.0	0.00	0.0	0.00	9	0.0	0.00	0.0	0.00	0
<i>Squid</i>	43.3	8.29	0.5	0.16	9	58.7	11.91	0.5	0.09	9	0.0	0.00	0.0	0.00	0

Table 39b  
 Statistical Zone 18  
 20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	7.6	1.18	9	6.1	0.76	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	3.6	0.79	9	2.7	0.45	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.7	0.79	9	1.2	0.66	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.6	0.40	9	0.0	0.00	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	19.6	0.90	12	22.0	1.11	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	19.5	0.92	12	22.0	1.14	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	19.5	0.94	12	22.0	1.14	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	28.6	0.49	12	29.6	0.12	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	28.6	0.49	12	30.1	0.44	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	29.1	0.53	12	30.7	0.54	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.8	0.44	12	5.5	0.19	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.8	0.50	12	5.4	0.15	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.6	0.46	12	5.1	0.11	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 40a  
 Statistical Zone 19  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 19 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	46.0	18.95	0.4	0.15	6	72.7	13.80	0.7	0.13	9	18.0	0.00	0.5	0.00	1
Xiphopenaeus kroyeri	48.0	18.07	0.2	0.09	6	52.7	26.47	0.3	0.12	9	6.0	0.00	0.0	0.00	1
Trachypenaeus similis	20.0	15.47	0.0	0.00	6	48.7	19.66	0.0	0.03	9	12.0	0.00	0.0	0.00	1
Portunus gibbesii	29.0	11.32	0.1	0.06	6	40.0	10.10	0.1	0.05	9	6.0	0.00	0.0	0.00	1
Sicyonia dorsalis	1.0	1.00	0.0	0.00	6	20.0	5.66	0.0	0.00	9	42.0	0.00	0.0	0.00	1
Squilla spp.	12.0	5.80	0.1	0.06	6	12.0	2.83	0.1	0.05	9	0.0	0.00	0.0	0.00	1
Stellifer lanceolatus	69.0	19.08	1.1	0.32	6	480.7	172.25	6.2	2.13	9	0.0	0.00	0.0	0.00	1
Arius felis	143.0	104.27	1.6	1.43	6	0.0	0.00	0.0	0.00	9	0.0	0.00	0.0	0.00	1
Cynoscion nothus	7.0	3.61	0.0	0.05	6	73.3	26.87	0.7	0.26	9	42.0	0.00	0.8	0.00	1
Symphurus plagiusa	53.0	19.98	0.7	0.28	6	22.0	4.80	0.3	0.09	9	0.0	0.00	0.0	0.00	1
Spherooides parvus	9.0	3.38	0.0	0.00	6	29.3	6.59	0.1	0.04	9	42.0	0.00	0.0	0.00	1
Syacium gunteri	0.0	0.00	0.0	0.00	6	11.3	7.31	0.1	0.06	9	72.0	0.00	0.5	0.00	1
Chloroscombrus chrysurus	1.0	1.00	0.0	0.00	6	0.0	0.00	0.0	0.00	9	138.0	0.00	1.1	0.00	1
Larimus fasciatus	7.0	2.86	0.0	0.00	6	7.3	5.27	0.0	0.00	9	0.0	0.00	0.0	0.00	1
Squid	104.0	33.11	0.9	0.31	6	105.3	33.36	1.0	0.50	9	318.0	0.00	3.0	0.00	1

Table 40b  
 Statistical Zone 19  
 20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	7.3	2.07	6	11.8	2.08	9	8.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	4.5	2.07	6	8.5	2.10	9	2.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.9	0.57	6	1.5	0.48	9	0.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	1.4	0.61	6	2.1	0.76	9	5.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	19.5	0.32	6	19.6	0.13	9	20.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	19.7	0.29	6	19.5	0.16	9	20.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	19.7	0.30	6	19.5	0.17	9	20.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	29.6	0.10	6	29.9	0.09	9	31.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	29.6	0.11	6	30.0	0.11	9	31.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	29.6	0.09	6	30.2	0.18	9	31.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.3	0.22	6	7.5	0.15	9	7.3	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.4	0.18	6	7.4	0.13	9	7.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	7.5	0.25	6	7.4	0.13	9	7.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 41a  
 Statistical Zone 20  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 20 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus setiferus</i>	45.0	43.02	0.9	0.80	4	34.5	13.21	0.3	0.10	8	1.5	1.50	0.1	0.07	4
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	4	32.3	13.32	0.1	0.07	8	3.0	3.00	0.0	0.00	4
<i>Trachypenaeus similis</i>	9.0	9.00	0.0	0.00	4	21.8	6.89	0.0	0.00	8	1.5	1.50	0.0	0.00	4
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	4	18.0	14.74	0.1	0.10	8	1.5	1.50	0.0	0.00	4
<i>Squilla</i> spp.	0.0	0.00	0.0	0.00	4	17.3	8.05	0.1	0.07	8	1.5	1.50	0.0	0.00	4
<i>Callinectes similis</i>	1.5	1.50	0.0	0.00	4	12.0	5.32	0.0	0.00	8	3.0	3.00	0.0	0.00	4
<i>Chloroscombrus chrysurus</i>	12.0	10.10	0.0	0.00	4	39.8	38.05	0.1	0.10	8	724.5	55.55	2.9	0.23	4
<i>Arius felis</i>	225.0	185.80	5.1	3.63	4	4.5	4.50	0.1	0.14	8	0.0	0.00	0.0	0.00	4
<i>Cynoscion nothus</i>	72.0	42.71	0.5	0.39	4	57.8	27.00	0.3	0.13	8	19.5	11.32	0.5	0.31	4
<i>Selene vomer</i>	109.5	103.59	0.5	0.48	4	4.5	3.72	0.0	0.03	8	10.5	6.65	0.0	0.00	4
<i>Syacium gunteri</i>	0.0	0.00	0.0	0.00	4	21.8	11.16	0.3	0.14	8	54.0	23.62	0.5	0.22	4
<i>Larimus fasciatus</i>	31.5	29.53	0.1	0.07	4	10.5	6.87	0.0	0.03	8	0.0	0.00	0.0	0.00	4
<i>Peprilus alepidotus</i>	0.0	0.00	0.0	0.00	4	0.8	0.75	0.0	0.00	8	42.0	34.21	0.3	0.26	4
<i>Stellifer lanceolatus</i>	1.5	1.50	0.0	0.00	4	20.3	9.14	0.3	0.15	8	0.0	0.00	0.0	0.00	4
<i>Squid</i>	109.5	43.84	1.0	0.45	4	76.5	25.30	0.6	0.25	8	121.5	29.43	1.6	0.37	4

Table 41b  
 Statistical Zone 20  
 20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	10.2	2.81	4	4.8	1.12	8	7.5	0.68	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	6.8	3.61	4	2.7	1.26	8	5.5	0.00	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	1.4	1.36	4	0.7	0.45	8	0.7	0.68	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.0	0.68	4	0.3	0.34	8	2.0	0.68	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	21.7	1.62	4	21.3	0.90	9	25.0	0.06	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	21.8	1.71	4	21.2	0.94	9	25.1	0.15	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	21.7	1.66	4	21.2	0.92	9	25.2	0.13	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	32.5	1.23	4	32.2	0.71	9	34.4	0.11	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	32.4	1.24	4	32.2	0.70	9	34.8	0.19	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	32.5	1.23	4	32.4	0.69	9	35.2	0.21	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.2	0.32	4	7.5	0.34	9	7.0	0.75	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.5	0.46	4	8.1	0.43	9	7.6	0.99	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	7.4	0.36	4	8.8	0.64	9	8.2	1.15	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 42a  
 Statistical Zone 21  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 21 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	2	14.0	6.69	0.1	0.06	6	13.0	6.47	0.1	0.06	6
<i>Porcellana sigsbeiana</i>	0.0	0.00	0.0	0.00	2	4.0	4.00	0.0	0.00	6	8.0	4.29	0.0	0.00	6
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	9.0	6.88	0.1	0.09	6
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	8.0	3.69	0.0	0.00	6
<i>Sicyonia brevis</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	8.0	8.00	0.1	0.09	6
<i>Petrochirus diogenes</i>	0.0	0.00	0.0	0.00	2	1.0	1.00	0.1	0.14	6	6.0	2.68	0.6	0.43	6
<i>Haliutichthys aculeatus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	70.0	50.41	0.4	0.27	6
<i>Syacium gunteri</i>	0.0	0.00	0.0	0.00	2	8.0	3.69	0.1	0.06	6	54.0	13.24	0.9	0.25	6
<i>Chloroscombrus chrysurus</i>	6.0	0.00	0.0	0.00	2	31.0	13.09	0.1	0.09	6	10.0	4.56	0.1	0.09	6
<i>Selene vomer</i>	0.0	0.00	0.0	0.00	2	21.0	11.14	0.2	0.09	6	0.0	0.00	0.0	0.00	6
<i>Selene setapinnis</i>	0.0	0.00	0.0	0.00	2	10.0	7.85	0.0	0.05	6	10.0	8.85	0.0	0.05	6
<i>Etropus crossotus</i>	0.0	0.00	0.0	0.00	2	4.0	2.53	0.0	0.05	6	12.0	6.75	0.2	0.09	6
<i>Peprilus alepidotus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	7.0	4.49	0.0	0.05	6
<i>Lutjanus campechanus</i>	0.0	0.00	0.0	0.00	2	5.0	5.00	0.0	0.05	6	1.0	1.00	0.0	0.05	6
<i>Squid</i>	9.0	9.00	0.0	0.00	2	11.0	4.22	0.0	0.05	6	2.0	1.26	0.0	0.00	6

Table 42b  
 Statistical Zone 21  
 20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	2	2.3	1.09	6	4.5	1.35	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	2	0.5	0.45	6	1.4	0.61	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	2	0.5	0.45	6	1.8	0.91	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	2	0.5	0.45	6	0.0	0.00	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	21.6	0.25	2	21.7	0.16	7	21.7	0.34	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	20.1	0.05	2	20.9	0.37	7	20.9	0.61	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	20.1	0.00	2	20.9	0.33	7	20.9	0.59	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	33.0	0.13	2	33.8	0.41	7	33.4	0.53	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	33.0	0.11	2	33.8	0.44	7	33.3	0.56	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	33.1	0.08	2	33.8	0.44	7	33.4	0.54	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.8	0.15	2	6.9	0.16	7	7.1	0.41	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	8.0	0.40	2	7.6	0.13	7	7.6	0.32	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	8.7	0.75	2	8.2	0.15	7	8.1	0.37	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0



Table 43a  
 Statistical Zone 22  
 20-ft trawls

Summary of dominant organisms taken in statistical zone 22 during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight (WT) in kg per hour, the SEM for weight and the number (N) of samples taken. No trawl samples were taken in depths less than 6 fm or greater than 20 fathoms.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus setiferus</i>	0.0	0.00	0.0	0.00	0	18.0	0.00	0.5	0.00	1	6.0	0.00	0.0	0.00	1
<i>Trachypenaeus constrictus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	24.0	0.00	0.0	0.00	1
<i>Calappa sulcata</i>	0.0	0.00	0.0	0.00	0	6.0	0.00	0.0	0.00	1	12.0	0.00	0.0	0.00	1
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	18.0	0.00	0.3	0.00	1
<i>Petrochirus diogenes</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	6.0	0.00	2.7	0.00	1
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	6.0	0.00	0.0	0.00	1
<i>Syacium gunteri</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	72.0	0.00	1.6	0.00	1
<i>Selene vomer</i>	0.0	0.00	0.0	0.00	0	36.0	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	1
<i>Halieutichthys aculeatus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	36.0	0.00	0.3	0.00	1
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	0	30.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
<i>Lutjanus campechanus</i>	0.0	0.00	0.0	0.00	0	6.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
<i>Equetus umbrosus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	6.0	0.00	0.0	0.00	1
<i>Paralichthys lethostigma</i>	0.0	0.00	0.0	0.00	0	6.0	0.00	5.5	0.00	1	0.0	0.00	0.0	0.00	1
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	0	6.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
<i>Squid</i>	0.0	0.00	0.0	0.00	0	30.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	1

Table 43b  
 Statistical Zone 22  
 20-ft trawls

Summary of mean total catch and environmental data (X), the standard error of the mean (SEM), and the number (n) of samples taken during the 1992 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m<sup>3</sup>, and oxygen in ppm. No trawl samples were taken in depths less than 6 fm or greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	8.2	0.00	1	5.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	5.5	0.00	1	2.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	0.0	0.00	1	2.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.0	0.00	1	0.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	22.2	0.00	1	22.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	22.2	0.00	1	22.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	22.1	0.00	1	22.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	34.7	0.00	1	34.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	34.6	0.00	1	34.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	34.7	0.00	1	34.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	8.0	0.00	1	8.8	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	7.7	0.00	1	8.8	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	7.6	0.00	1	9.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

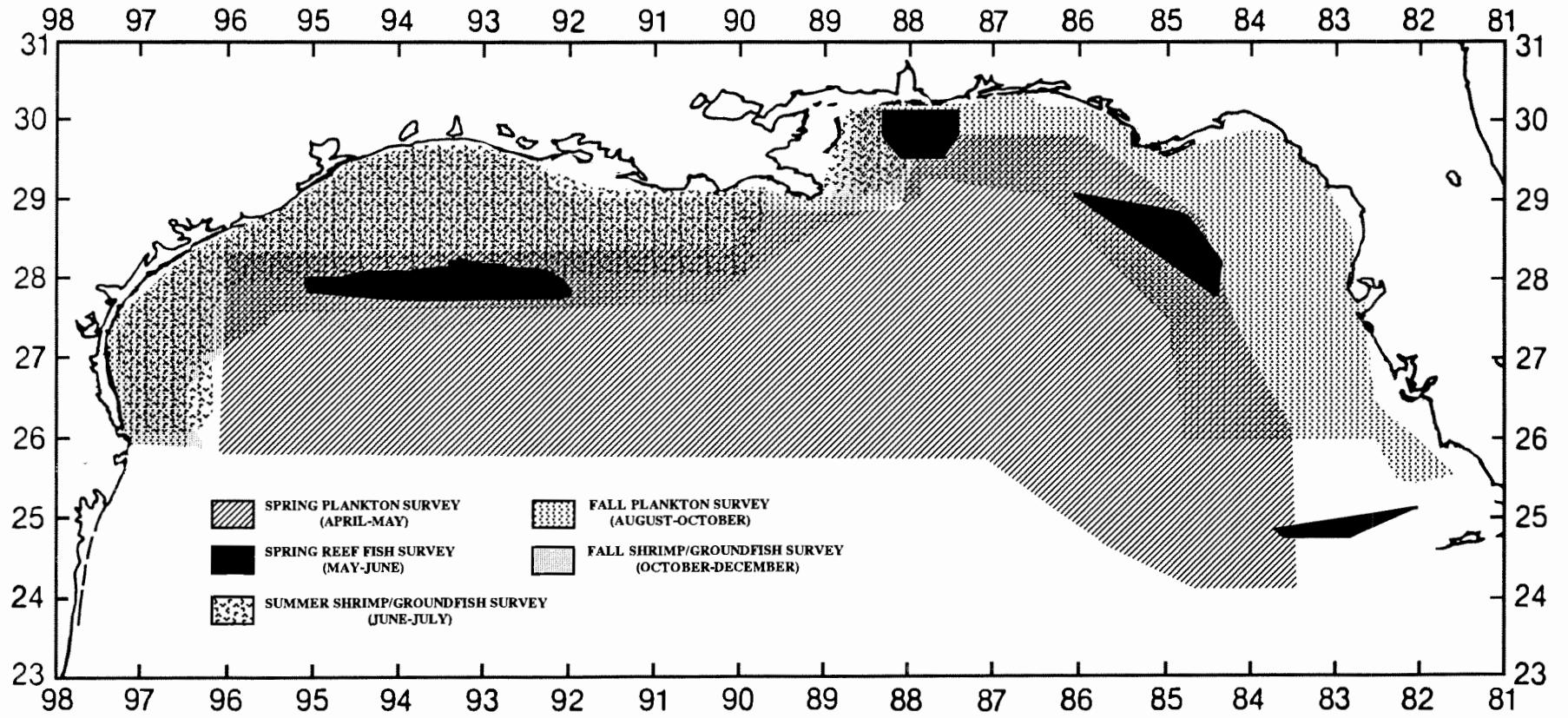


Figure 1. 1992 SEAMAP Surveys, Gulf of Mexico.

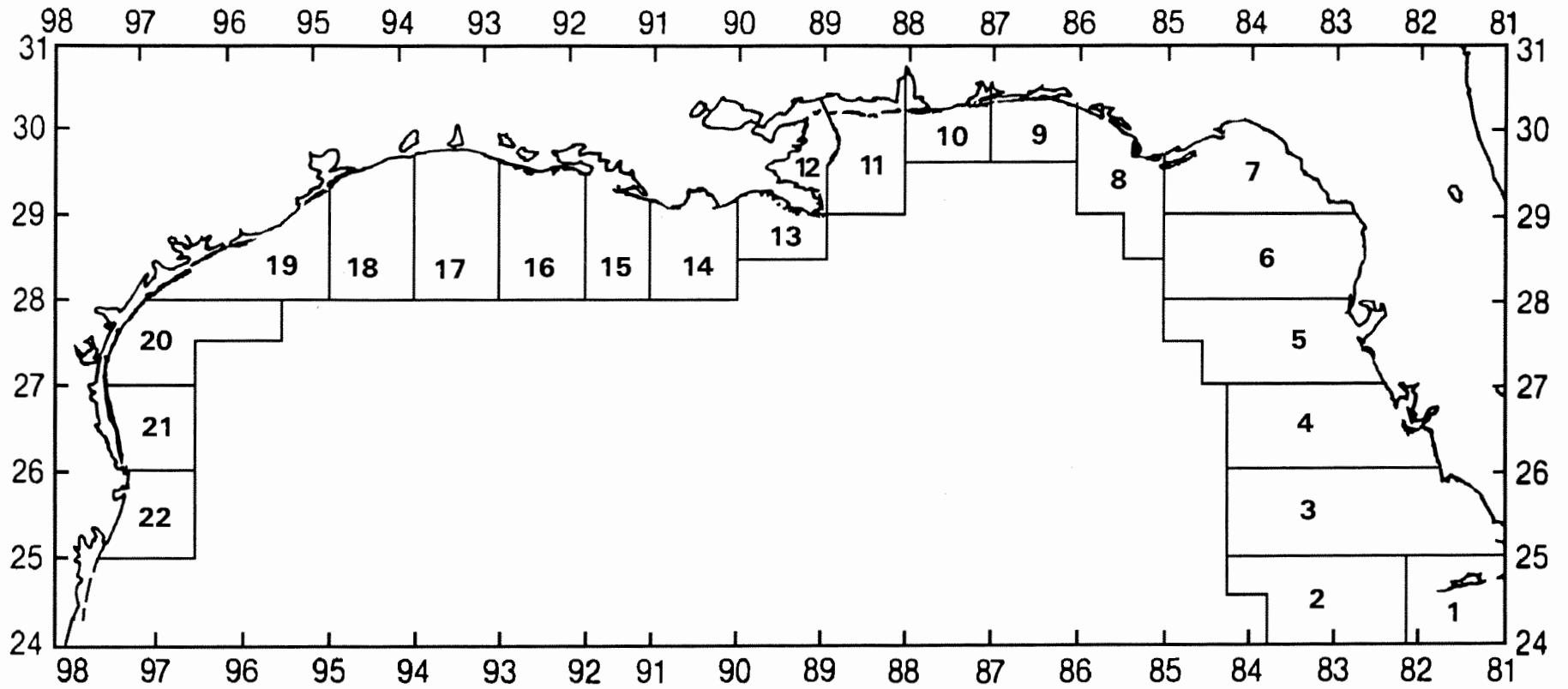


Figure 2. Statistical zones for shrimp in the Gulf of Mexico.

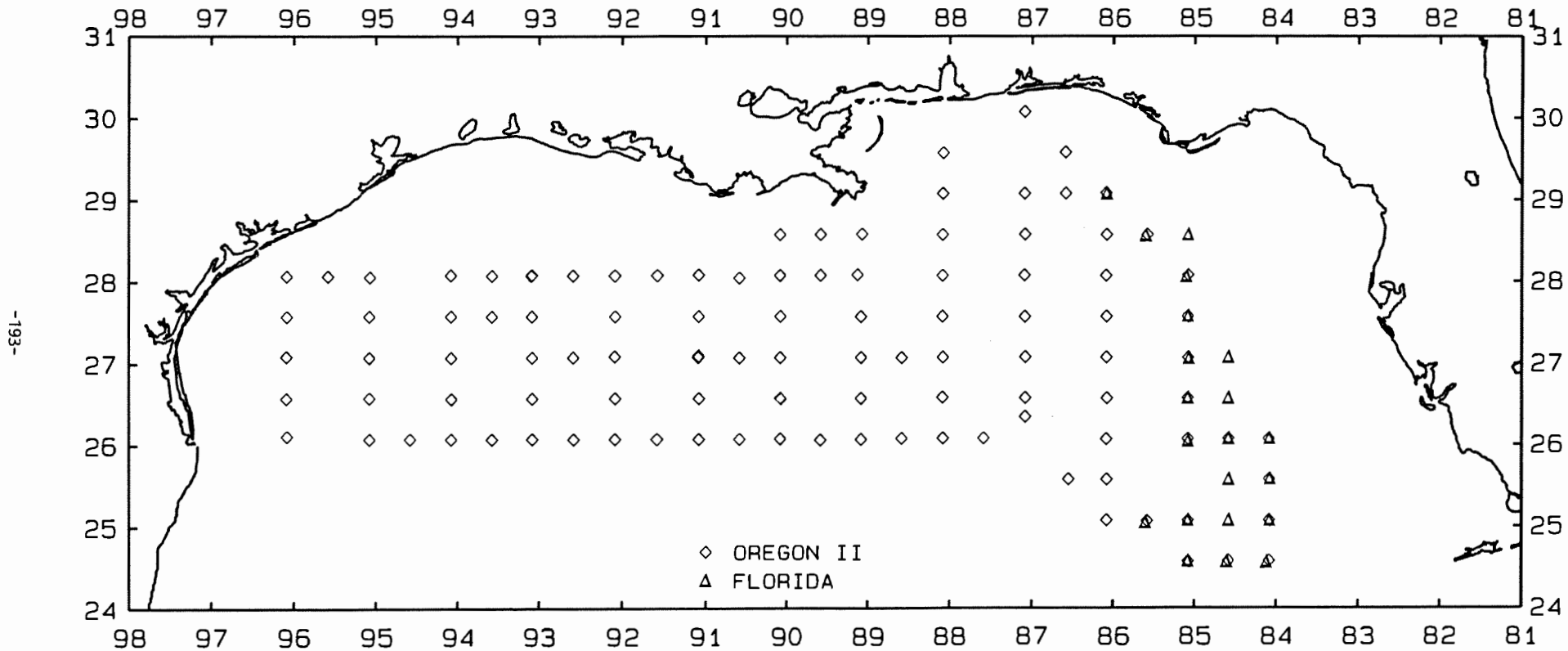


Figure 3. Locations of plankton and environmental stations during 1992 Spring Plankton Survey.

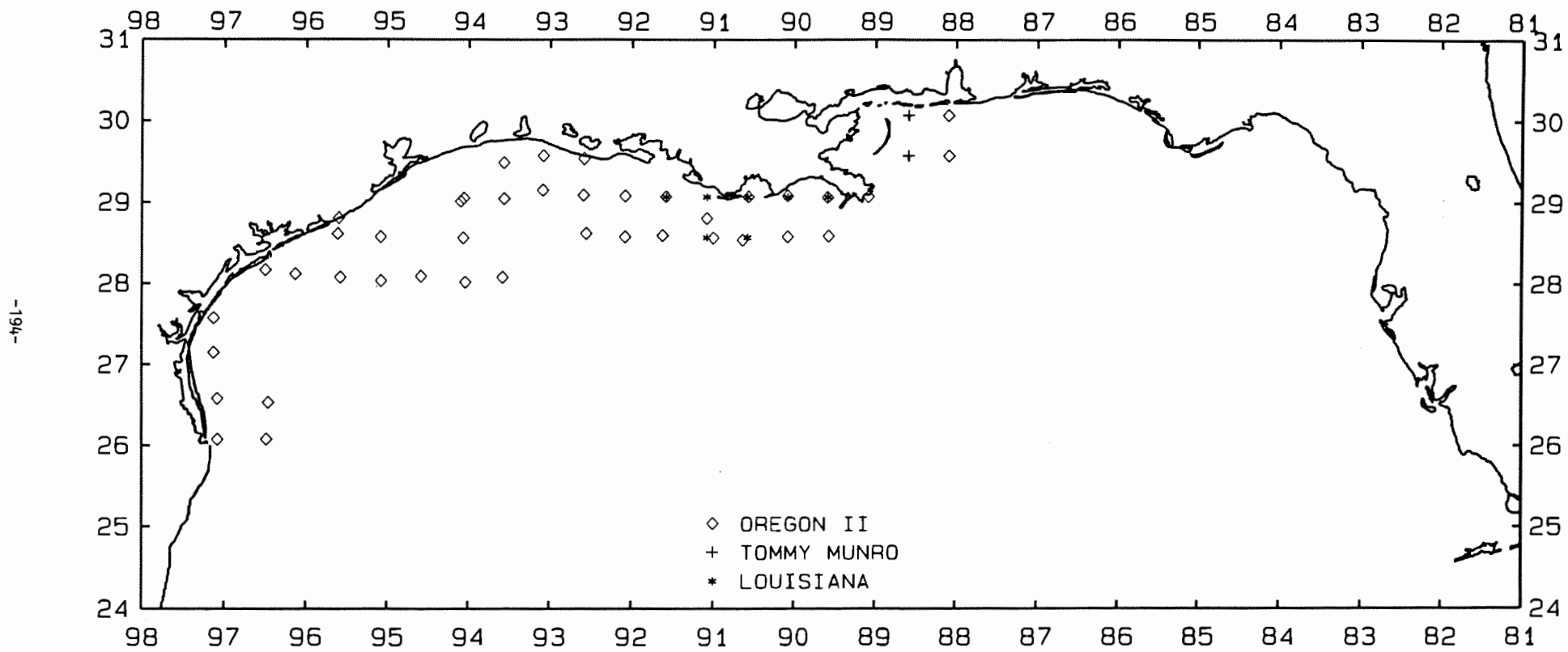


Figure 4. Locations of plankton stations during 1992 Summer Shrimp/Groundfish Survey.

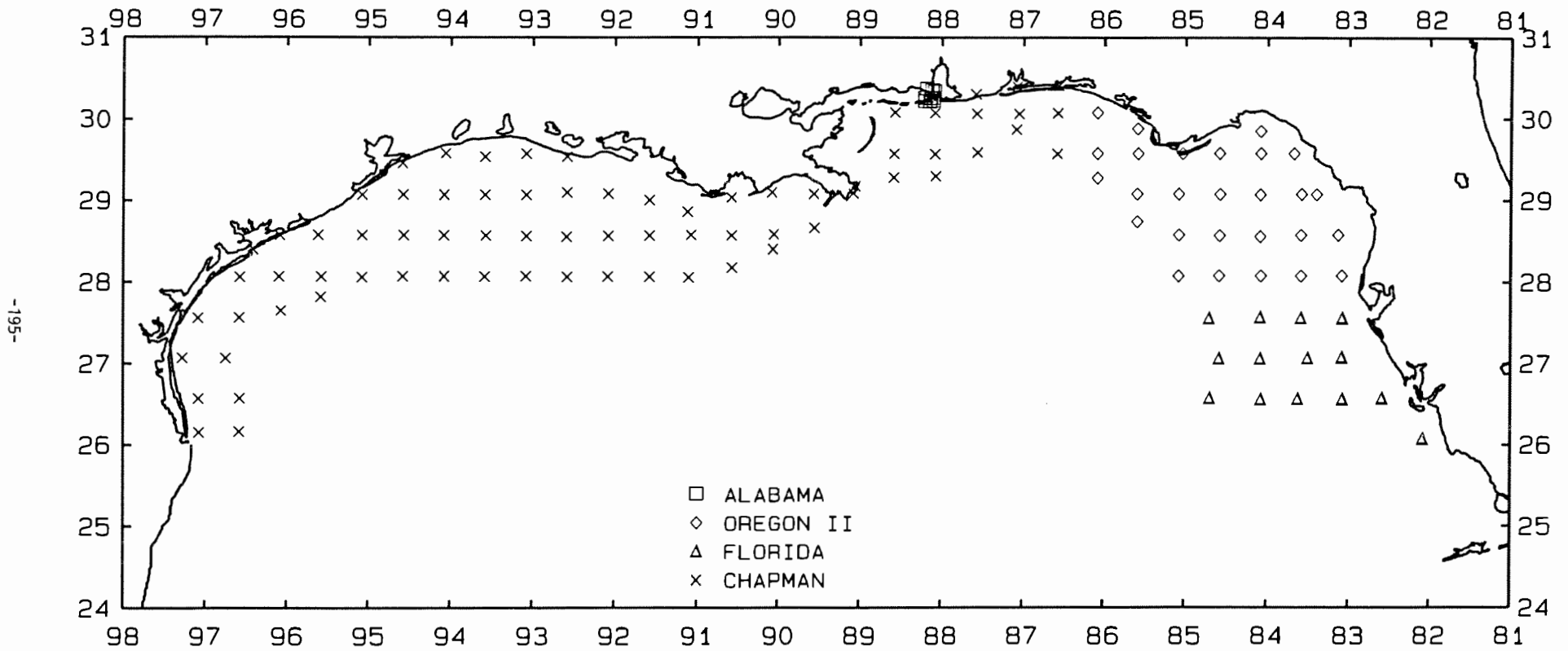


Figure 5. Locations of plankton and environmental stations during 1992 Fall Plankton Survey.

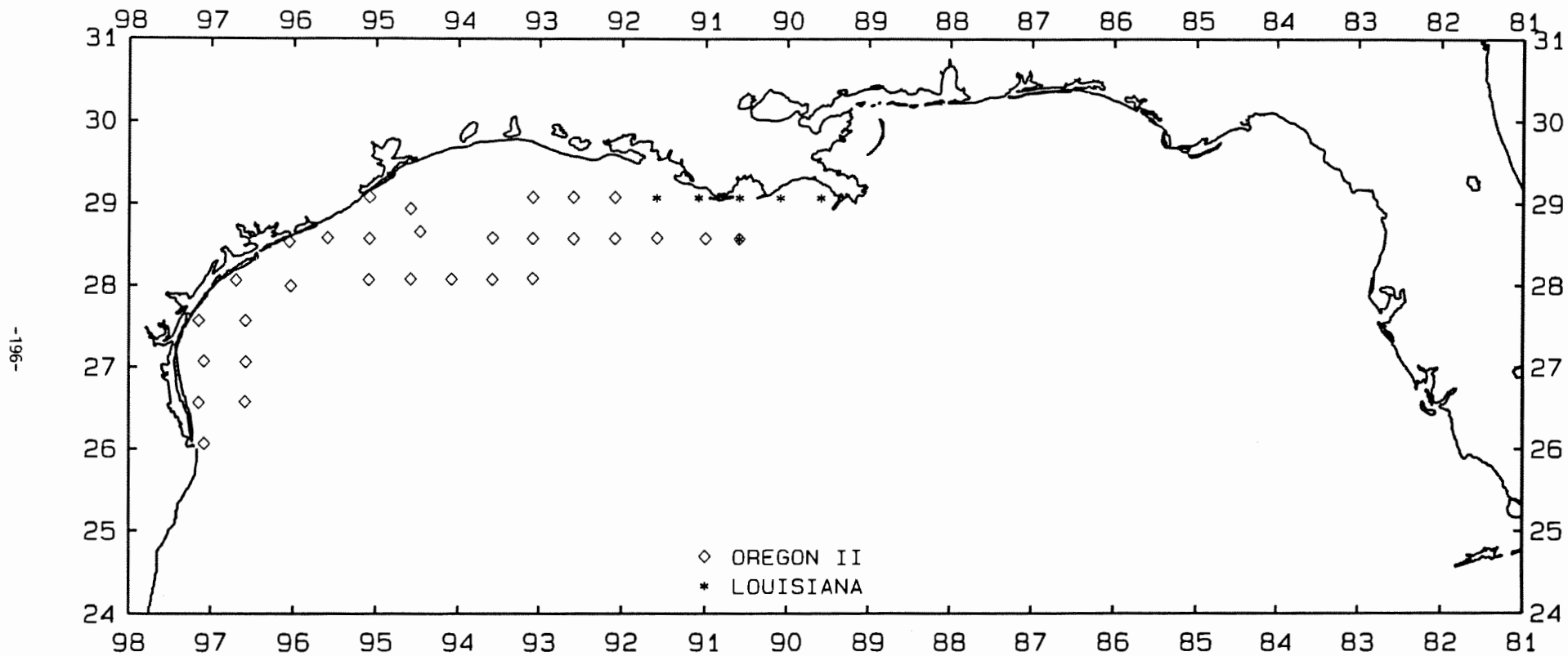


Figure 6. Locations of plankton stations during 1992 Fall Shrimp/Groundfish Survey.



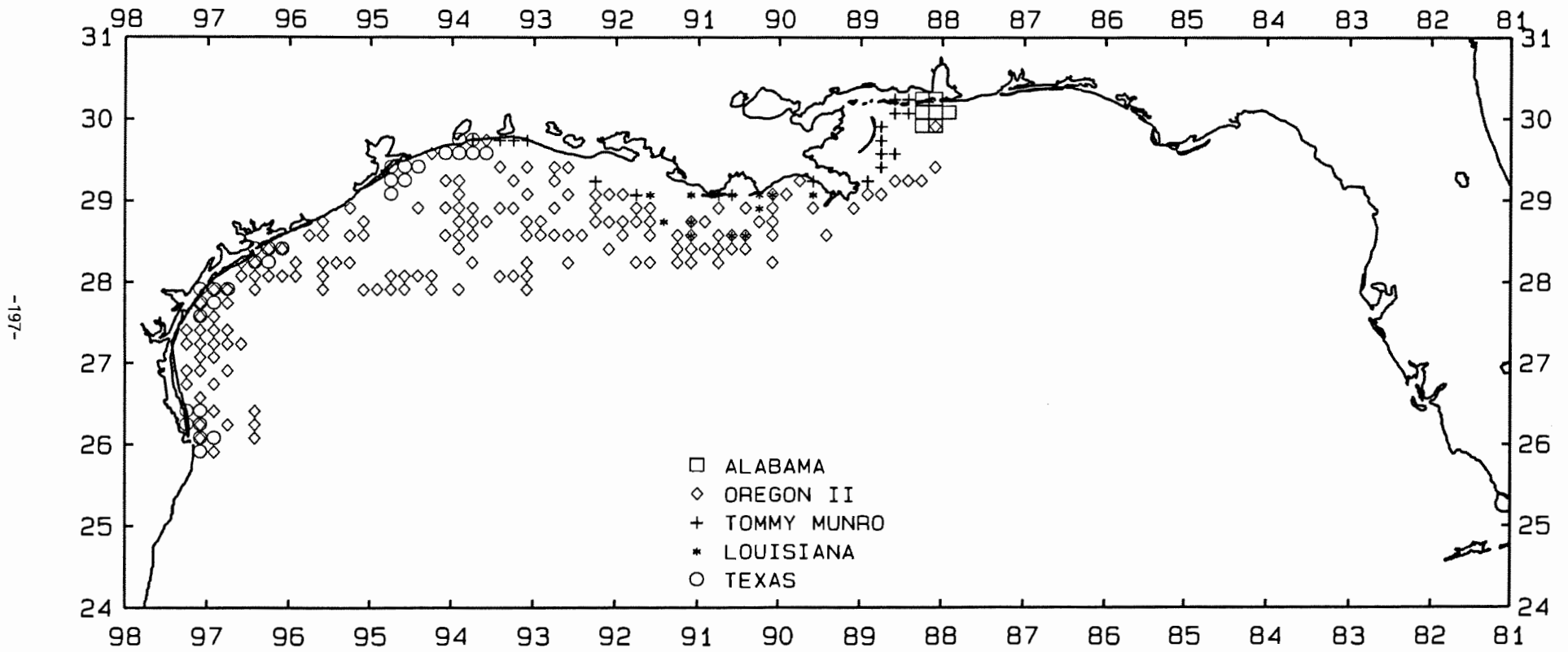


Figure 7. Locations of environmental stations during the 1922 Summer Shrimp/Groundfish Survey summarized by 10-minute squares.

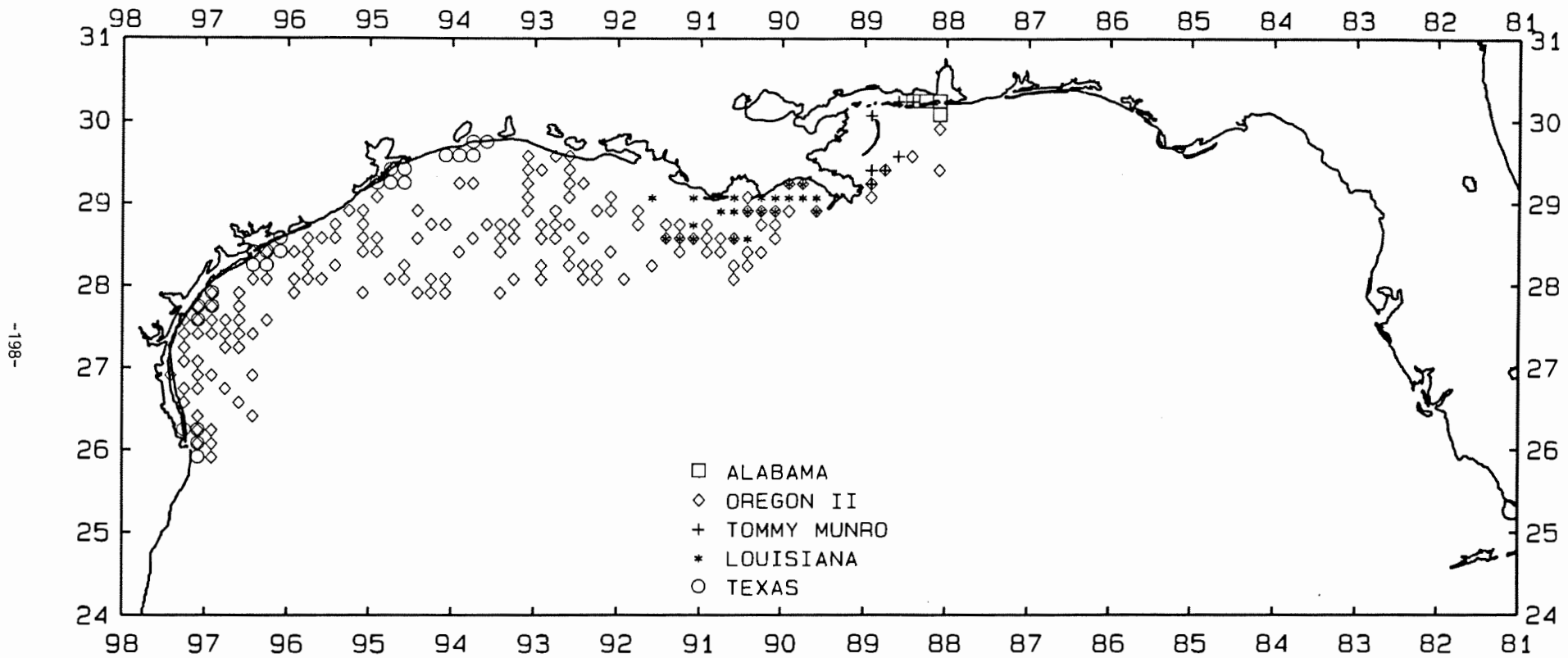


Figure 8. Locations of environmental stations during the 1992 Fall Shrimp/Groundfish Survey summarized by 10-minute squares.

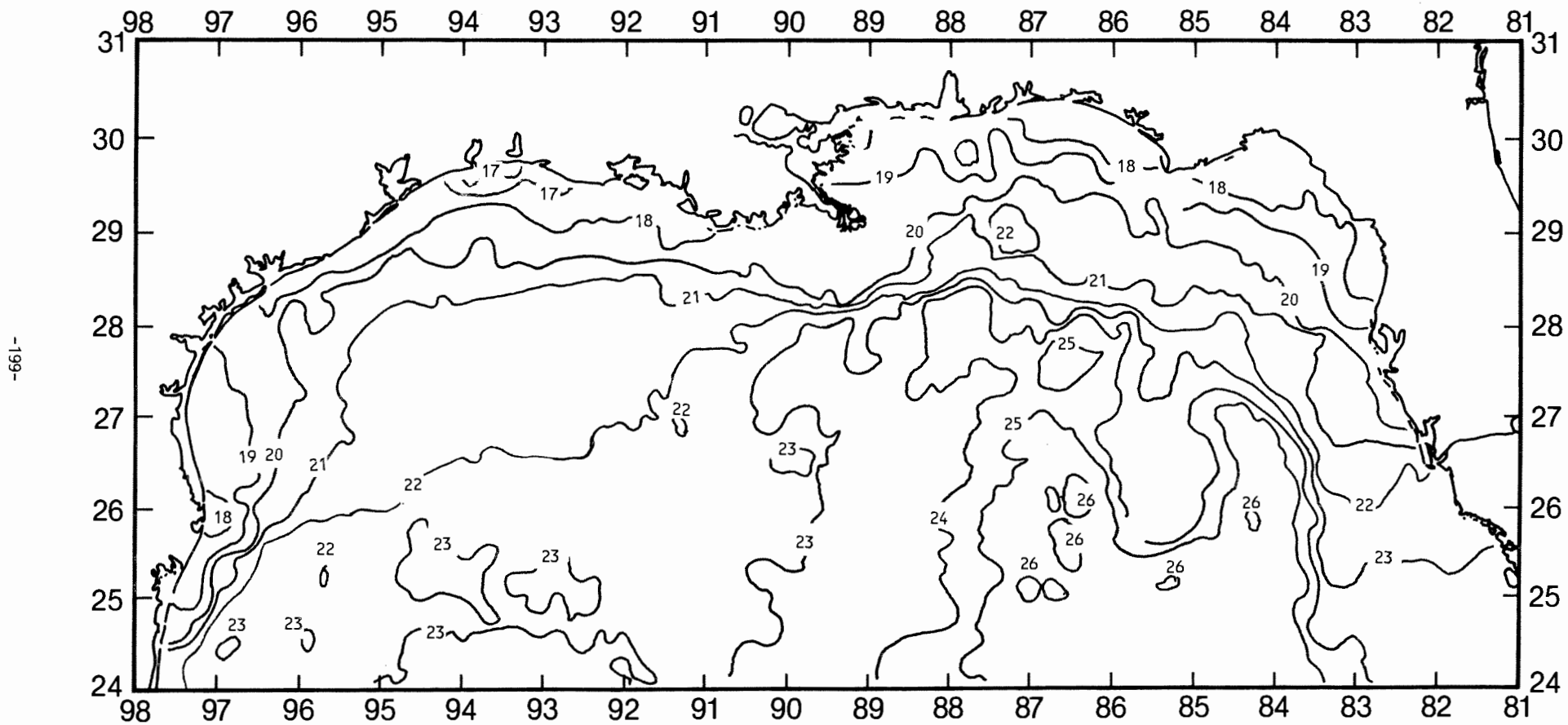


Figure 9. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, March 19, 1992 (modified from NWS/NESS Sea Surface Thermal Analysis).

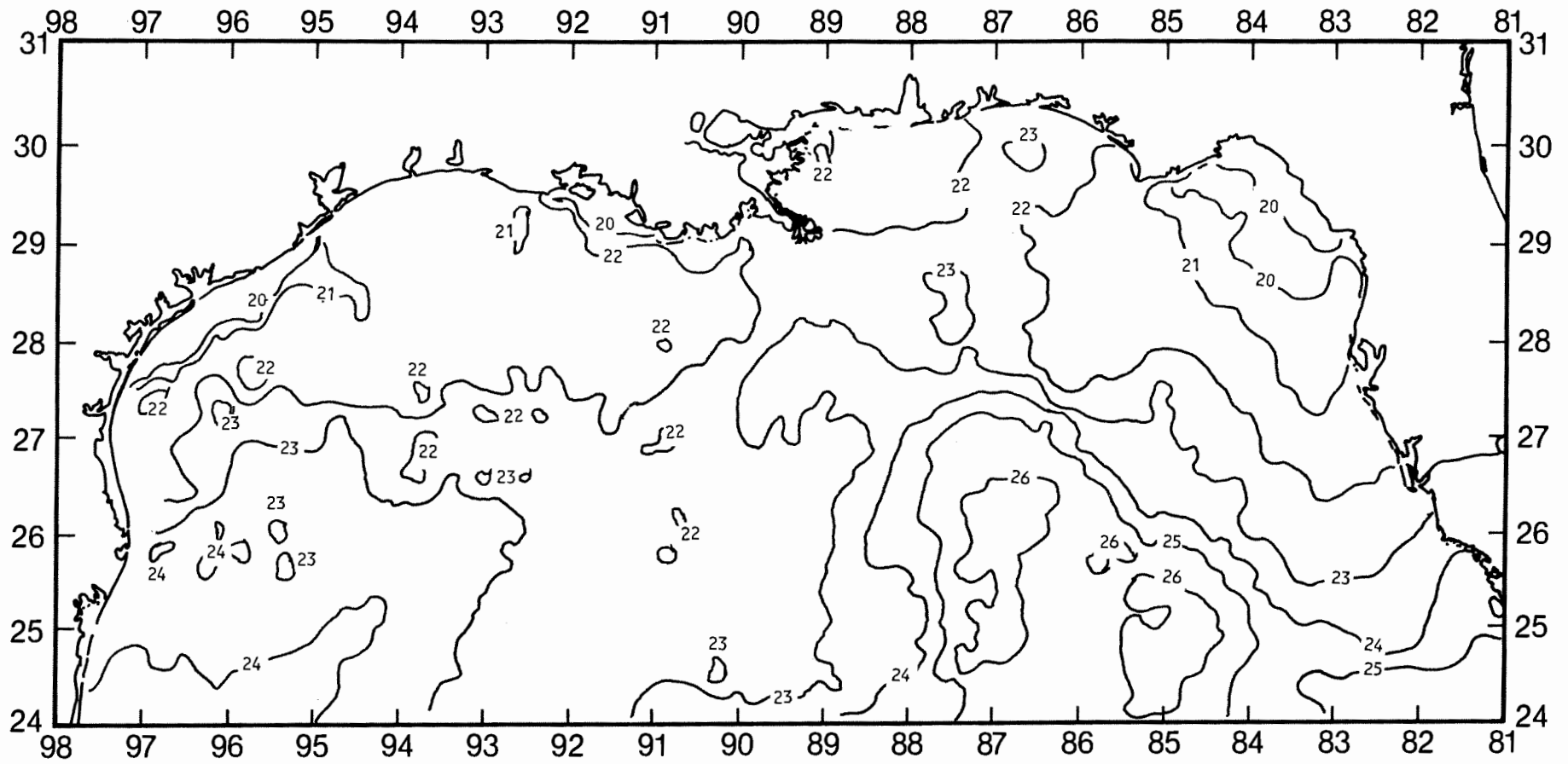


Figure 10. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, April 16, 1992 (modified from NWS/NESS Sea Surface Thermal Analysis).

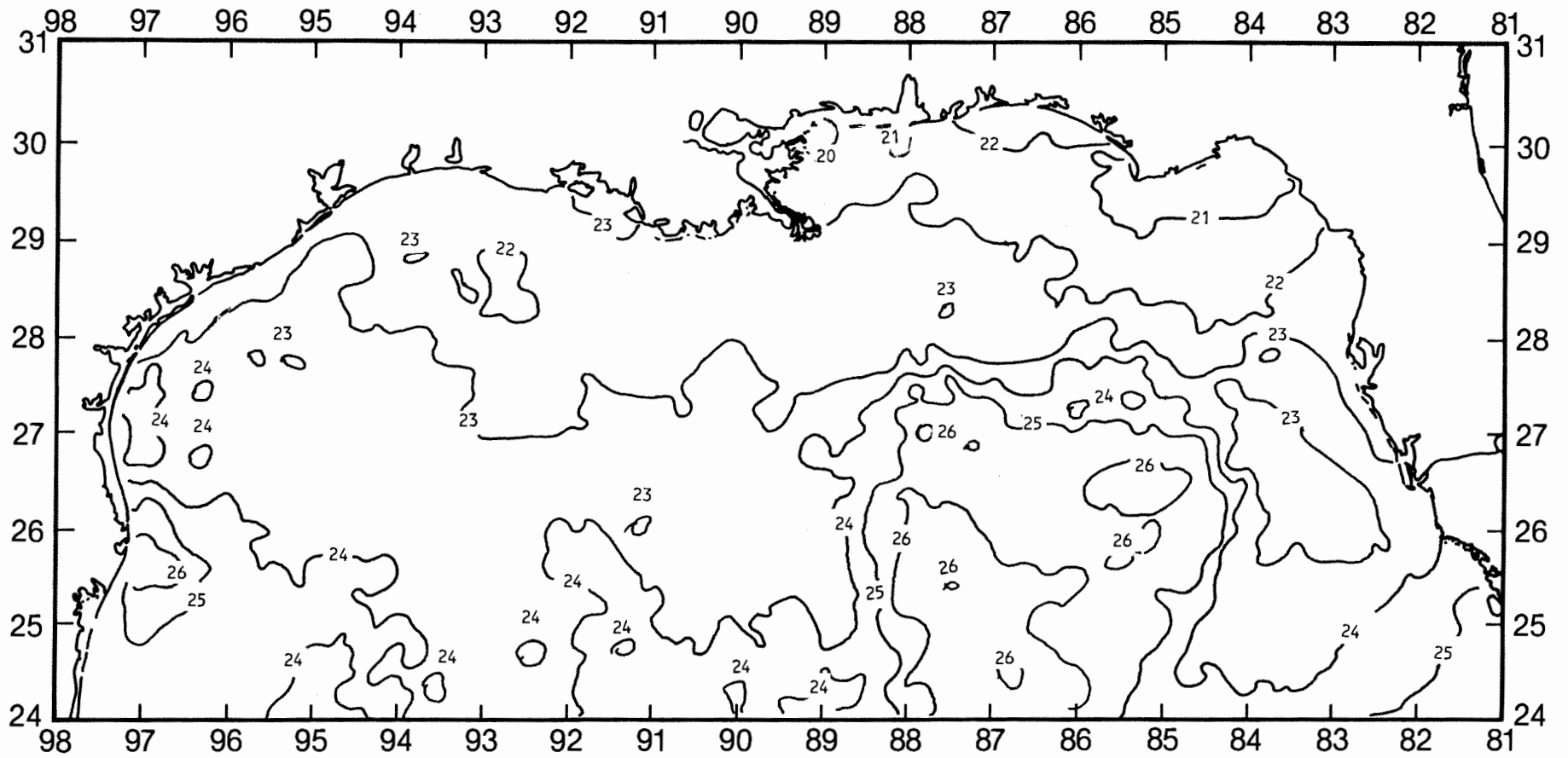


Figure 11. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, May 14, 1992 (modified from NWS/NESS Sea Surface Thermal Analysis).

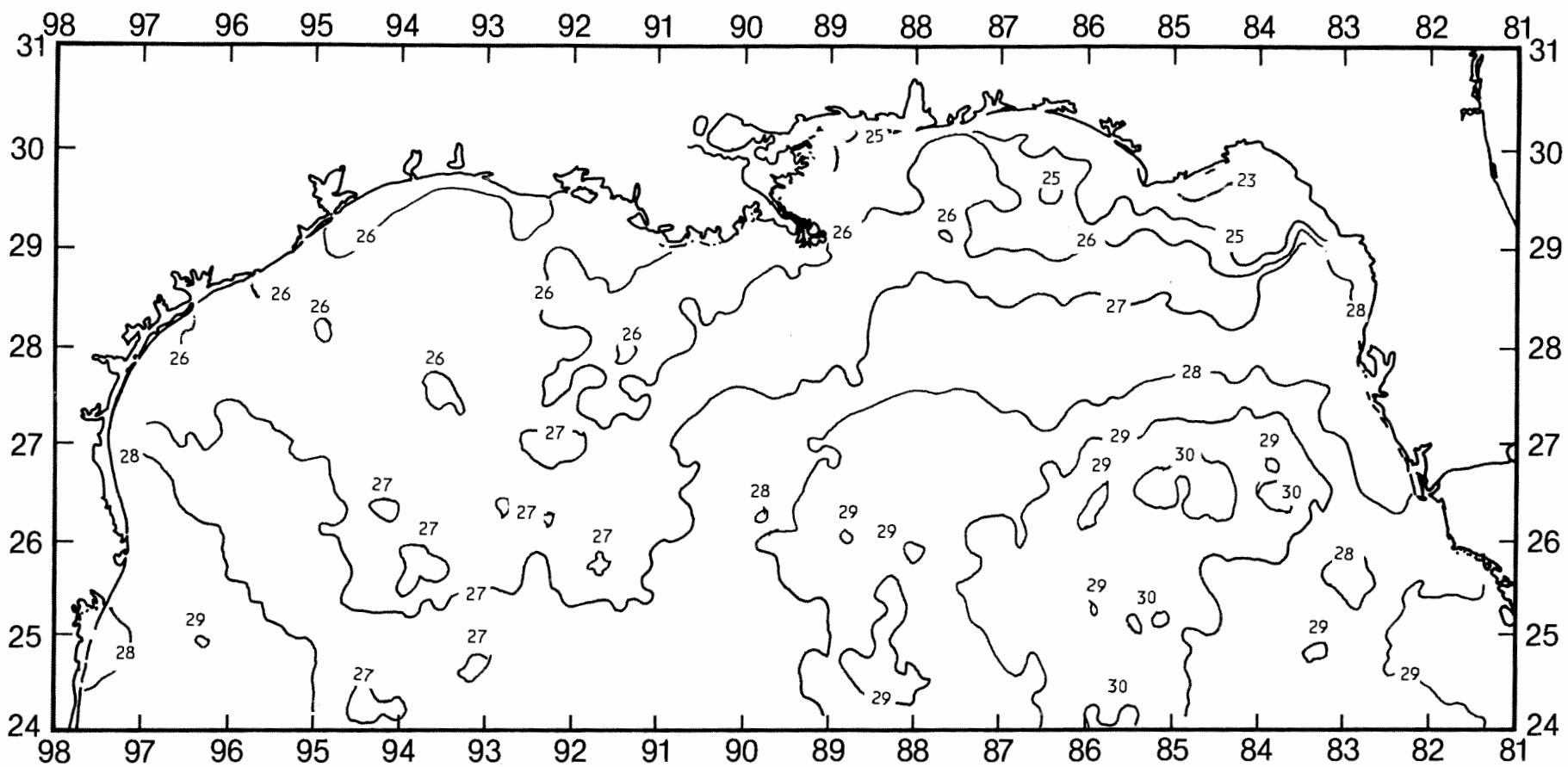


Figure 12. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, June 11, 1992 (modified from NWS/NESS Sea Surface Thermal Analysis).

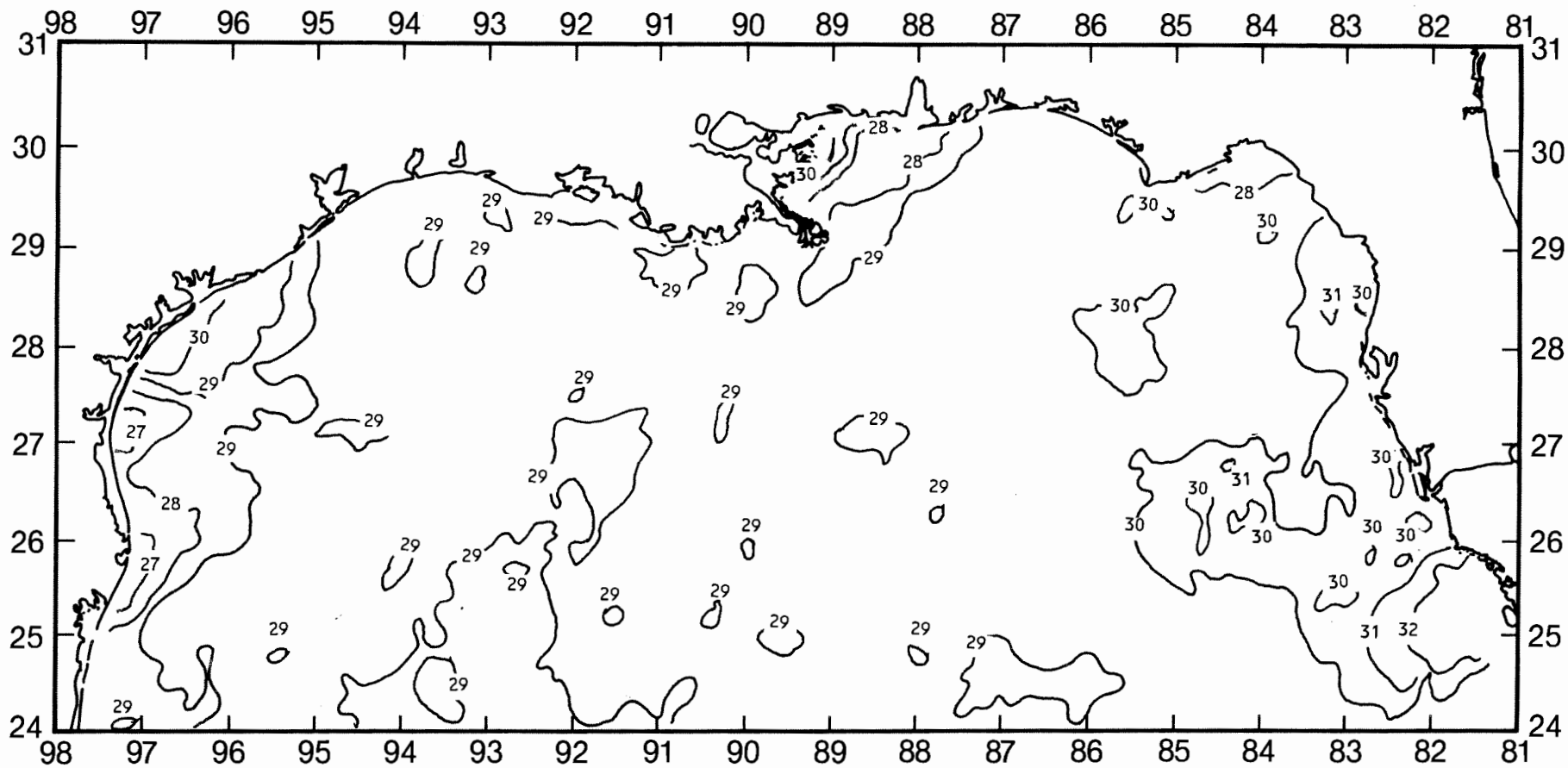


Figure 13. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, July 9, 1992 (modified from NWS/NESS Sea Surface Thermal Analysis).

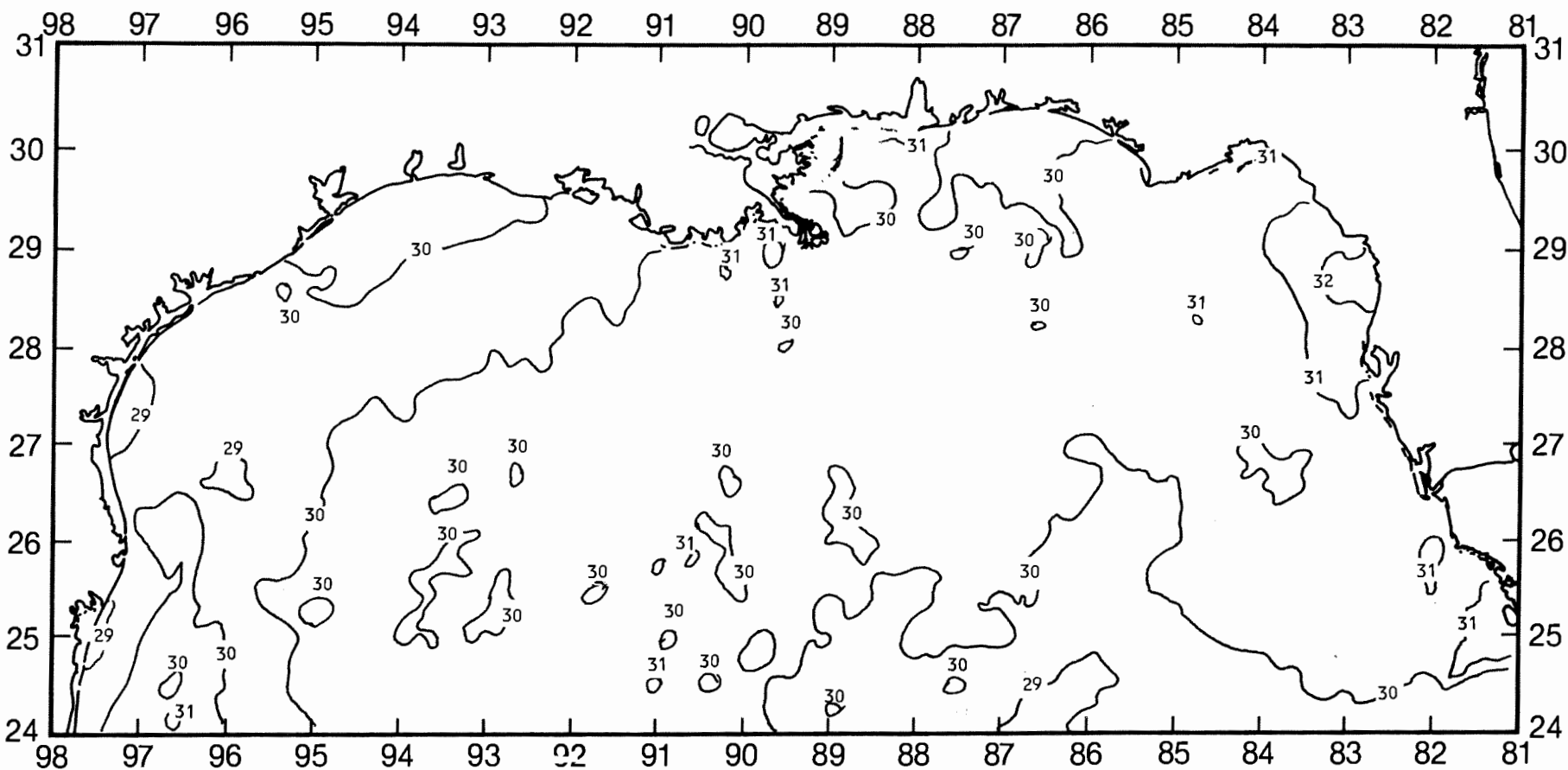
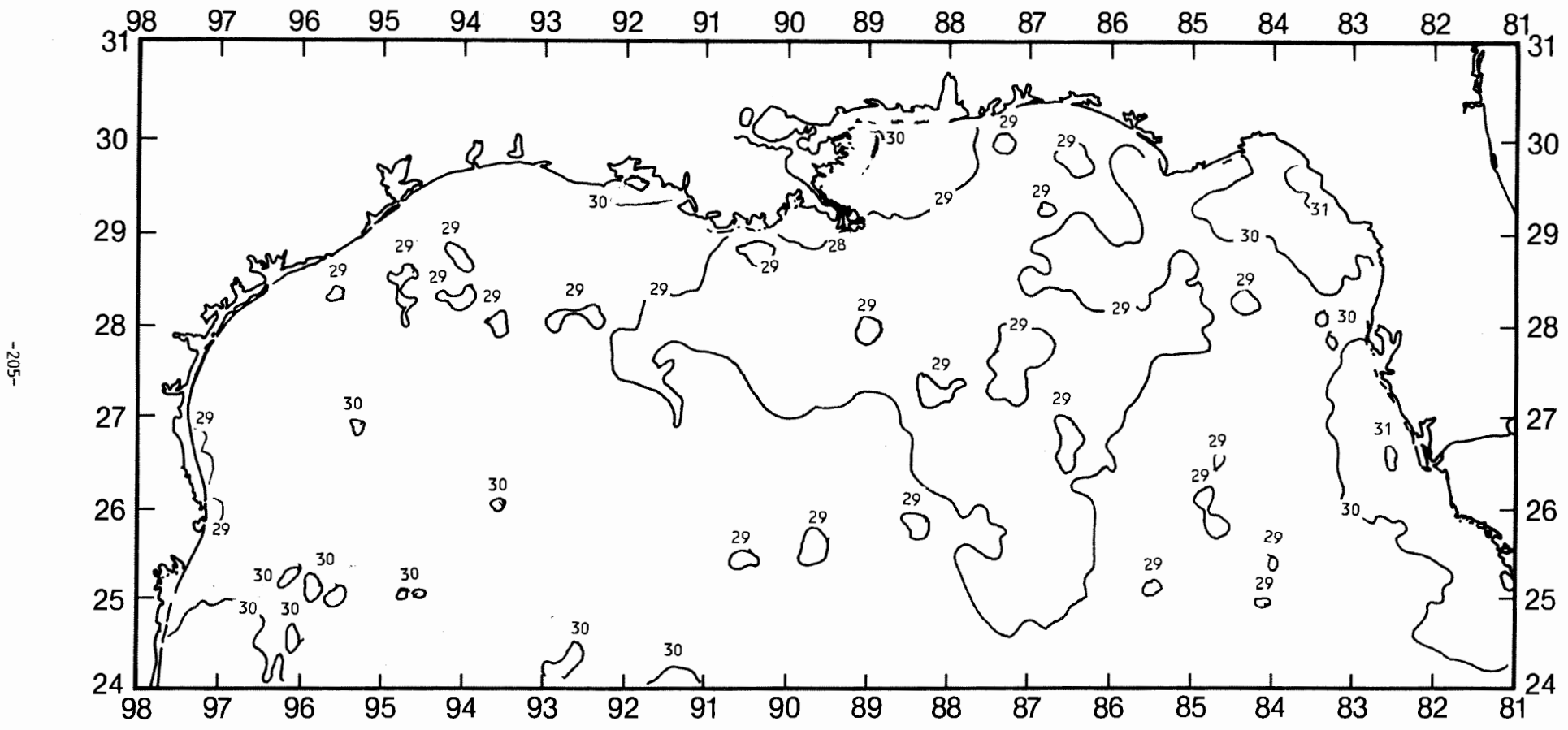


Figure 14. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, August 10, 1992 (modified from NWS/NESS Sea Surface Thermal Analysis).





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Figure 15. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, September 10, 1992 (modified from NWS/NESS Sea Surface Thermal Analysis).

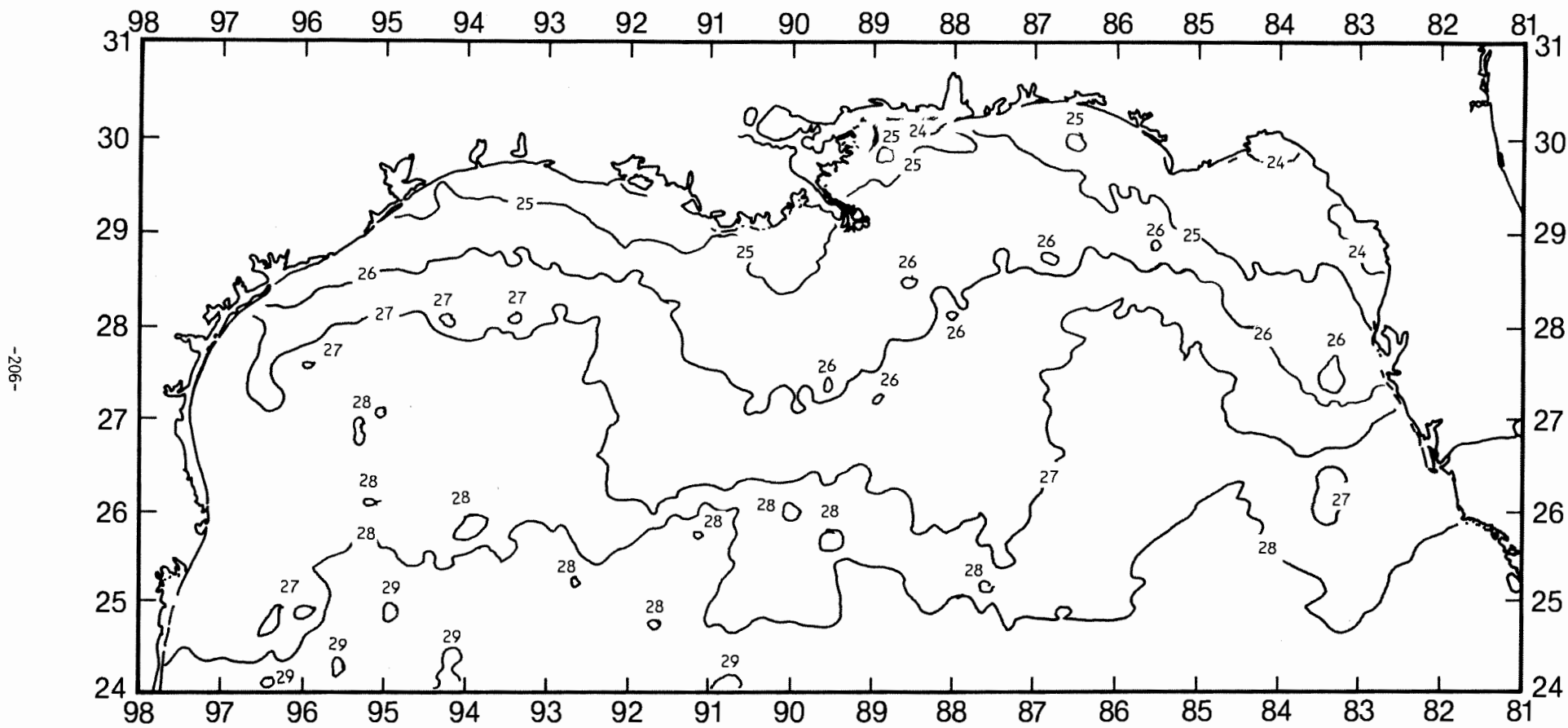


Figure 16. Satellite measurement of surface temperature ( $^{\circ}\text{C}$ ) in the Gulf of Mexico, October 8, 1992 (modified from NWS/NESS Sea Surface Thermal Analysis).

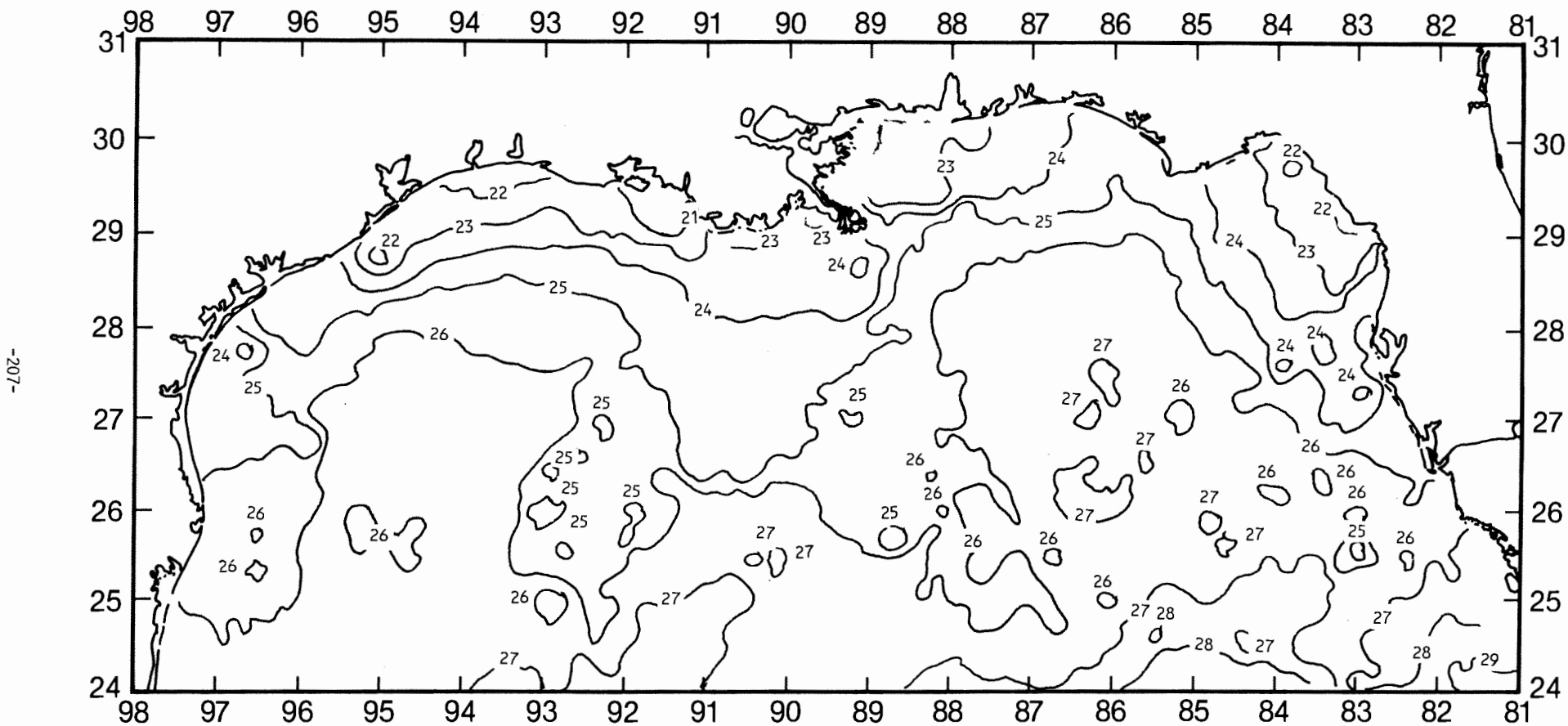


Figure 17. Satellite measurement of surface temperature ( $^{\circ}\text{C}$ ) in the Gulf of Mexico, November 12, 1992 (modified from NWS/NESS Sea Surface Thermal Analysis).

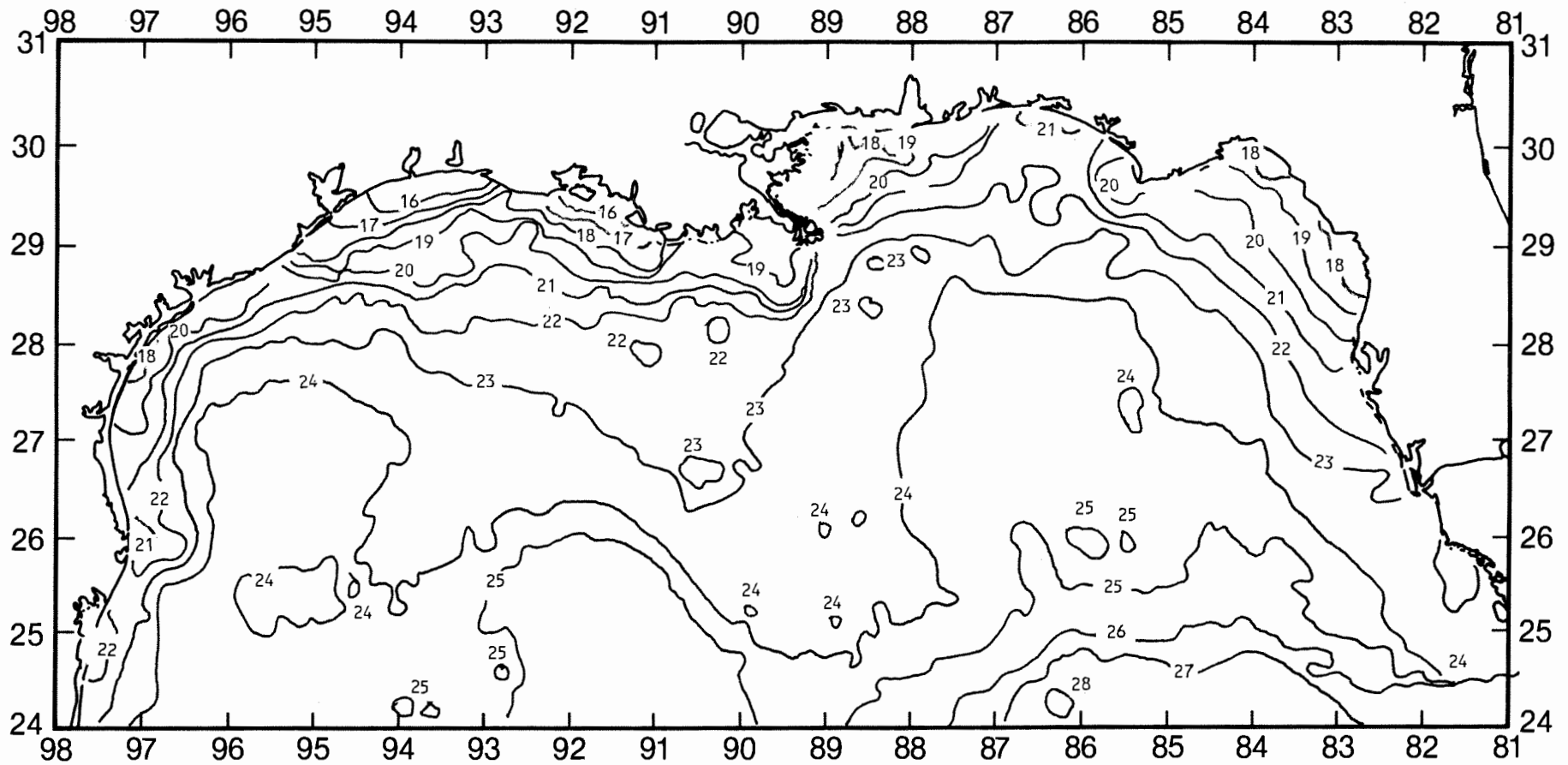


Figure 18. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, December 10, 1992 (modified from NWS/NESS Sea Surface Thermal Analysis).

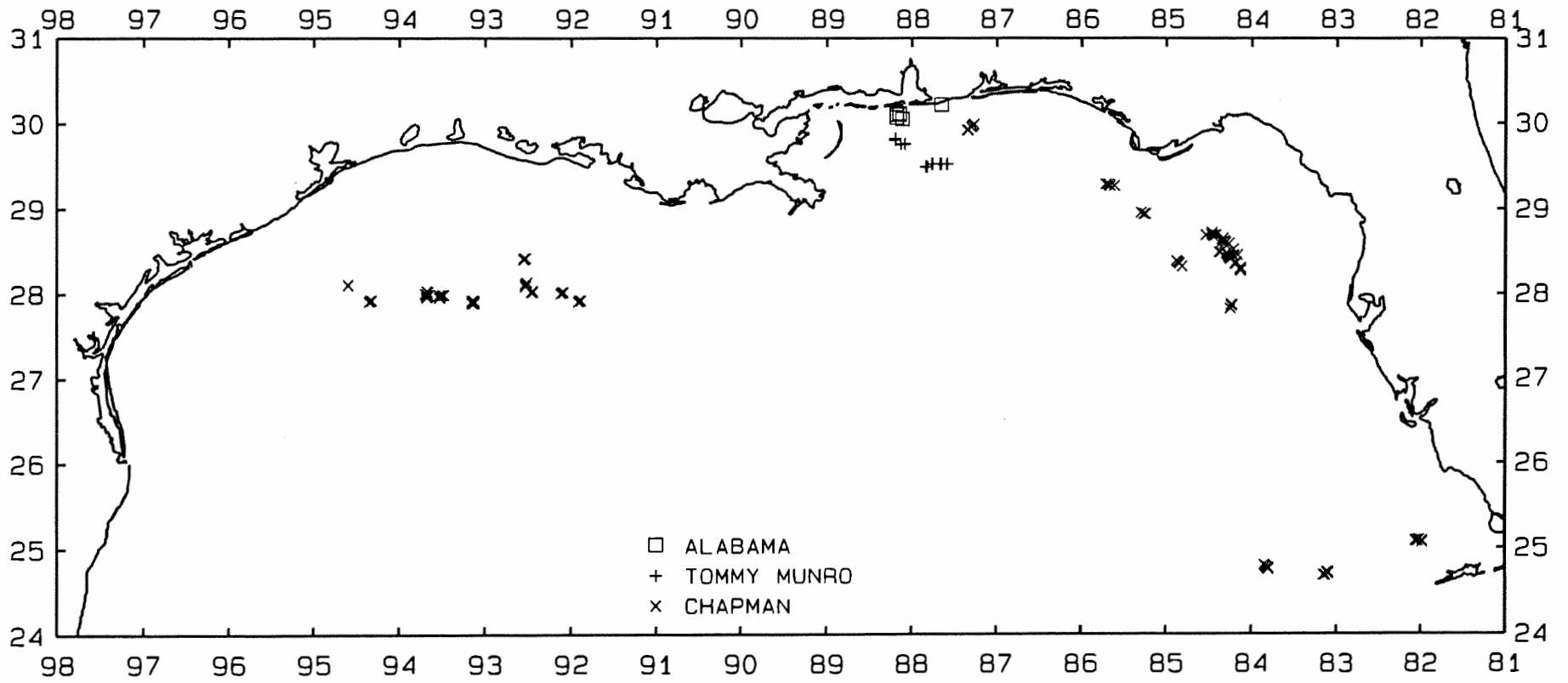


Figure 19. Locations of trap stations during 1992 Spring Reef Fish Survey.

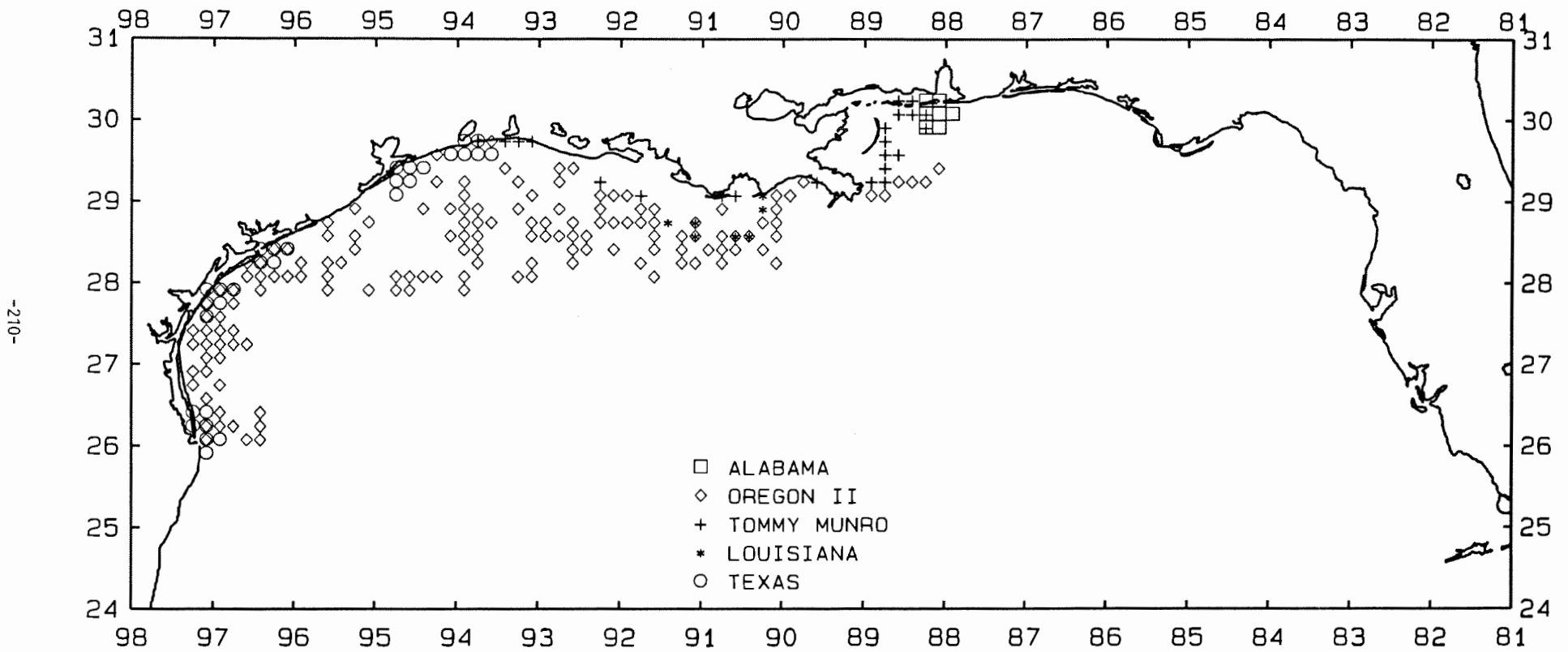


Figure 20. Locations of trawl stations during the 1992 Summer Shrimp/Groundfish summarized by 10-minute squares.

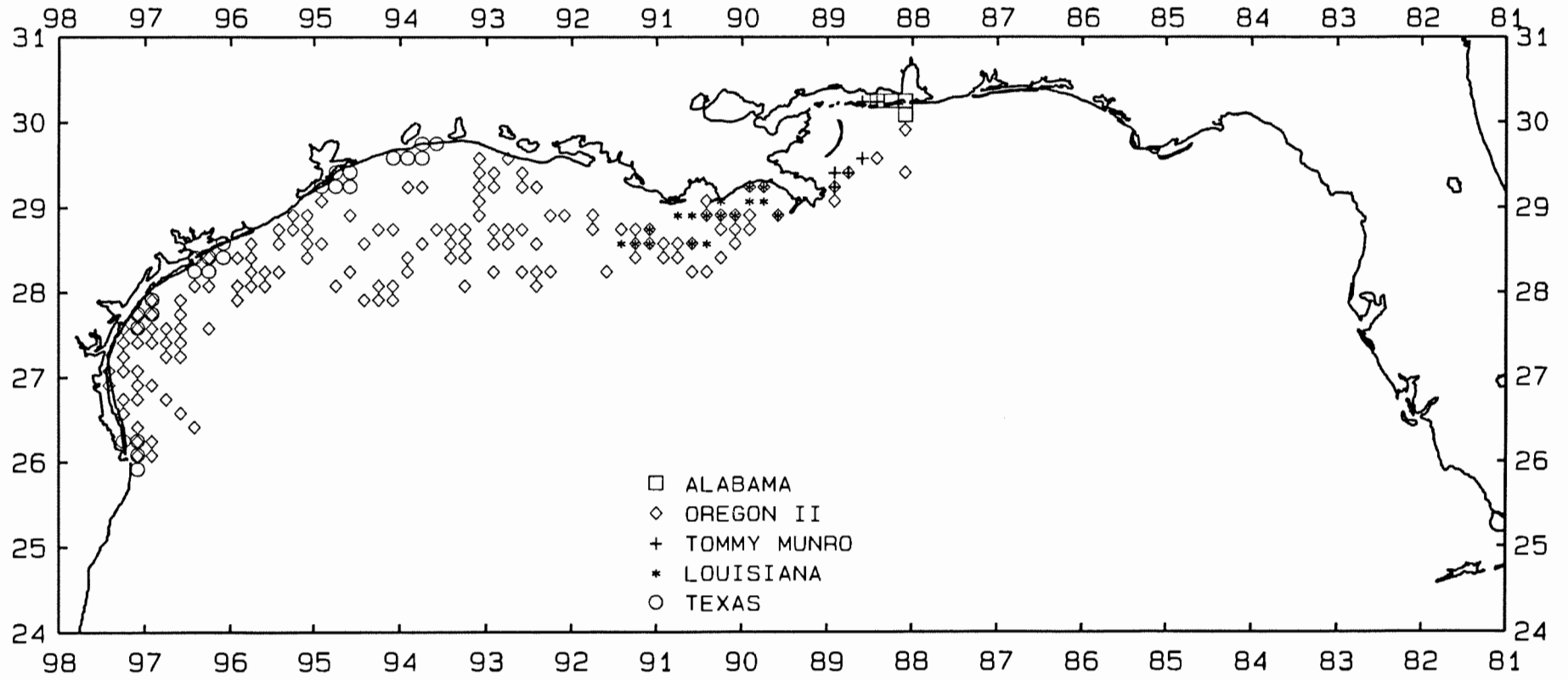


Figure 21. Locations of trawl stations during the 1992 Fall Shrimp/Groundfish summarized by 10-minute squares.

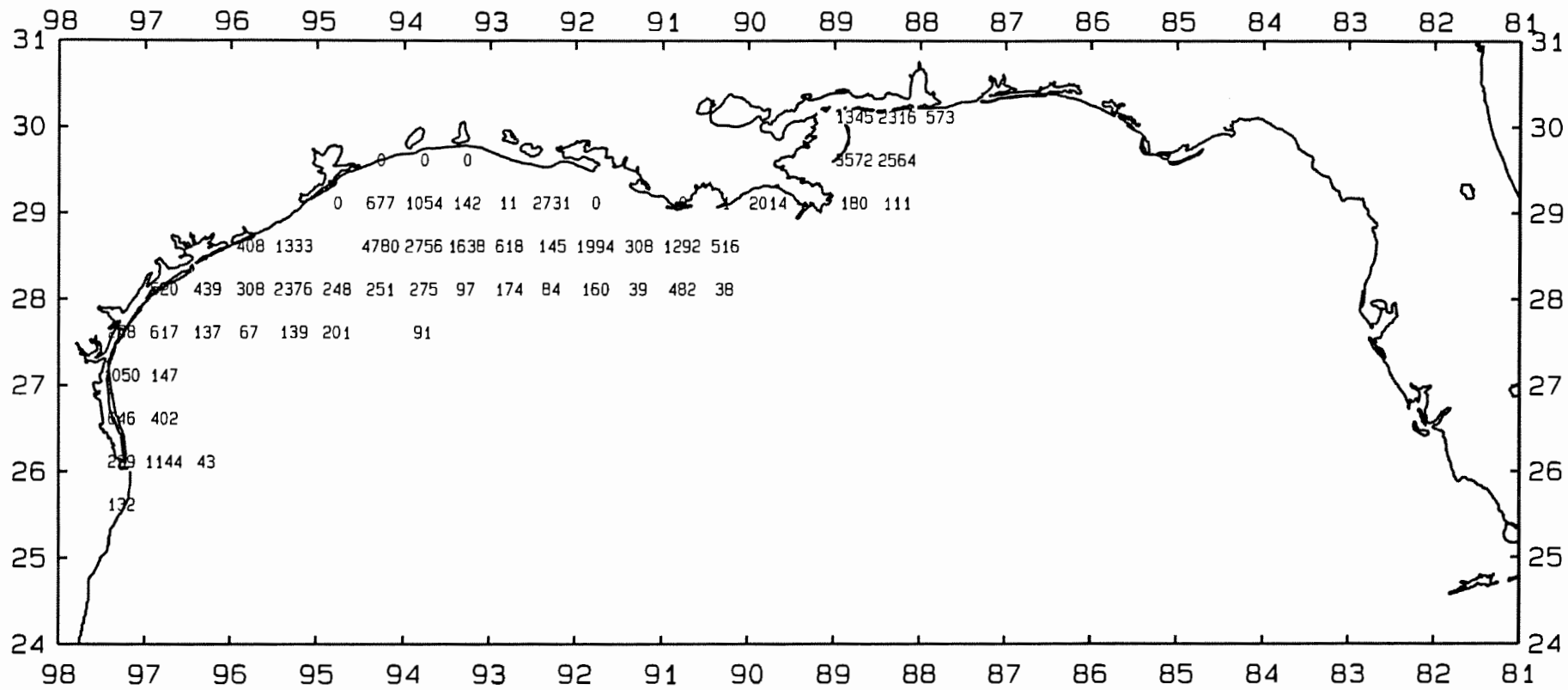


Figure 22. Longspine pogy, *Stenotomus caprinus*, number/hour for June-July 1992.



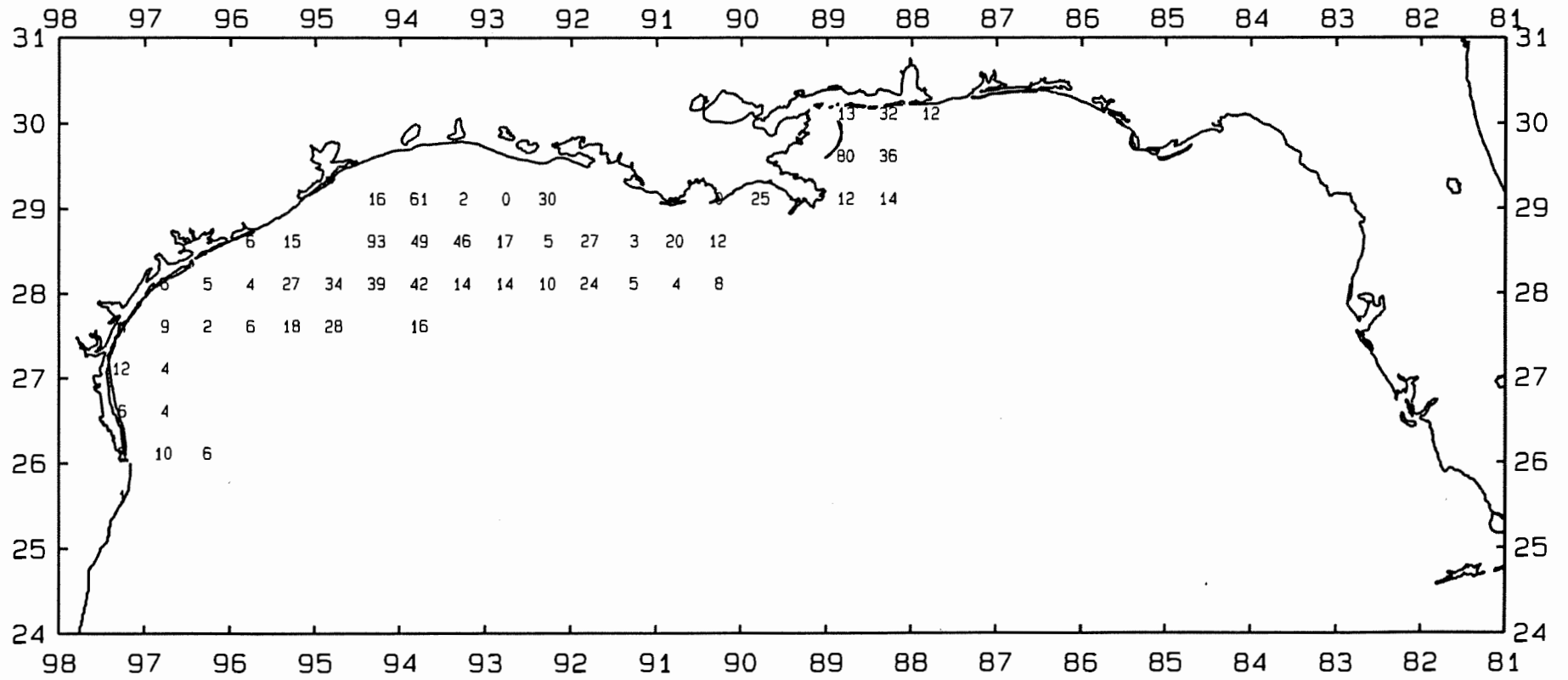


Figure 23. Longspine pogy, *Stenotomus caprinus*, lb/hour for June-July 1992.

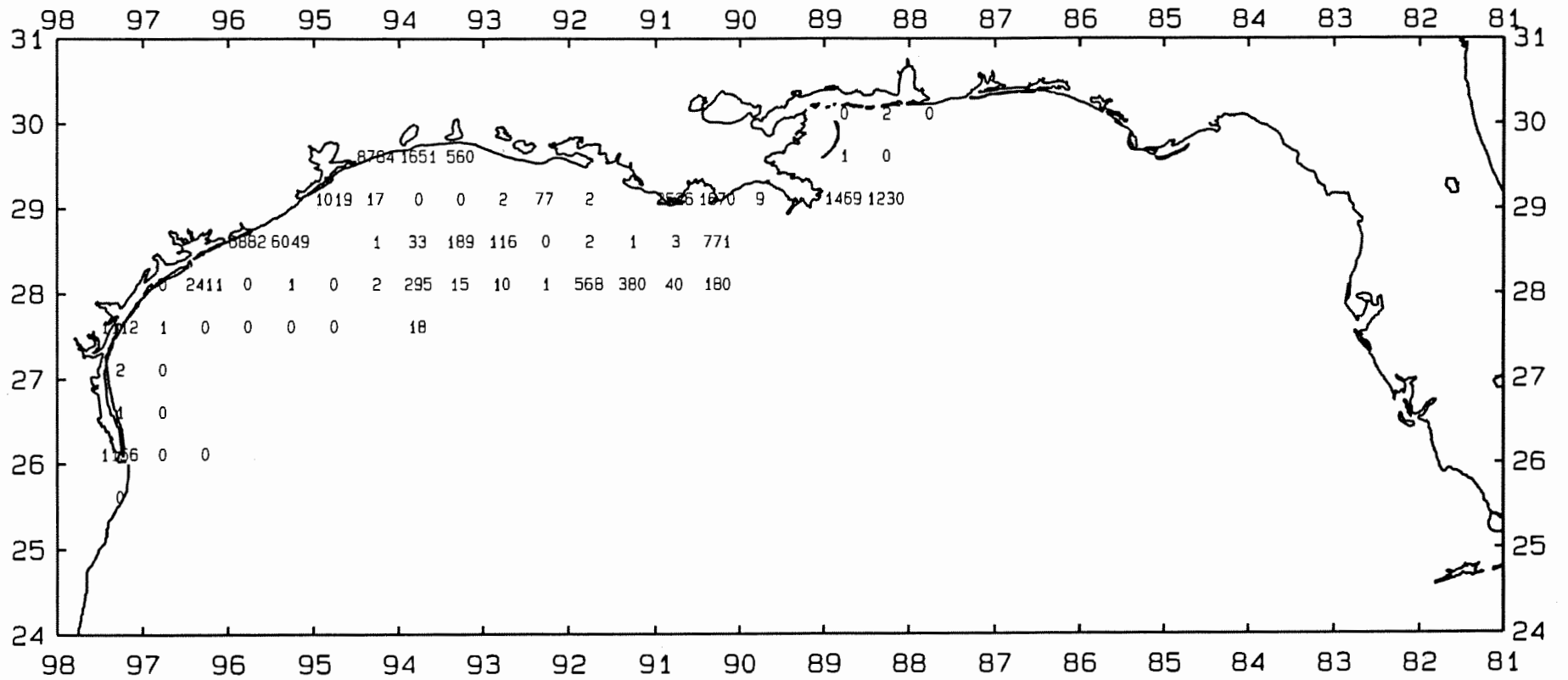


Figure 24. Atlantic croaker, *Micropogonias undulatus*, number/hour for June-July 1992.

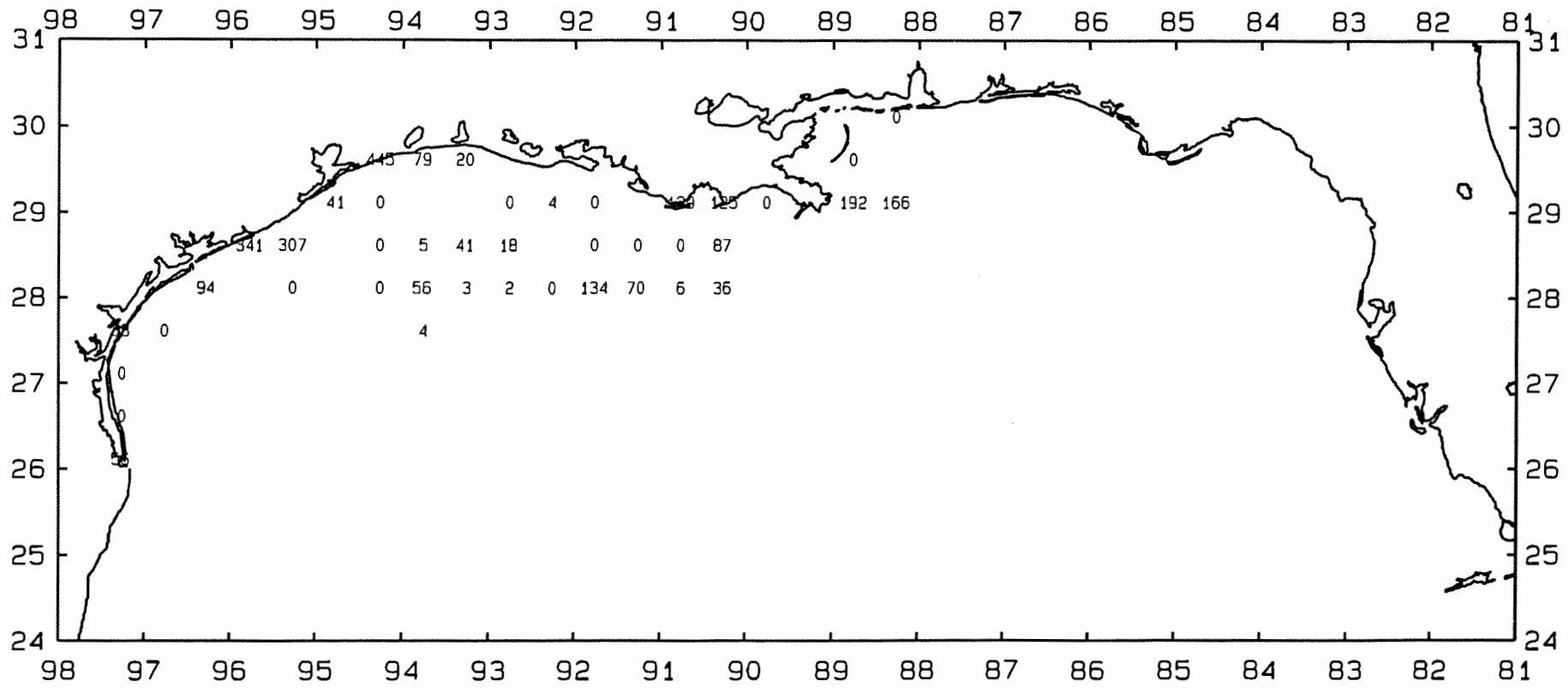


Figure 25. Atlantic croaker, *Micropogonias undulatus*, lb/hour for June-July 1992.

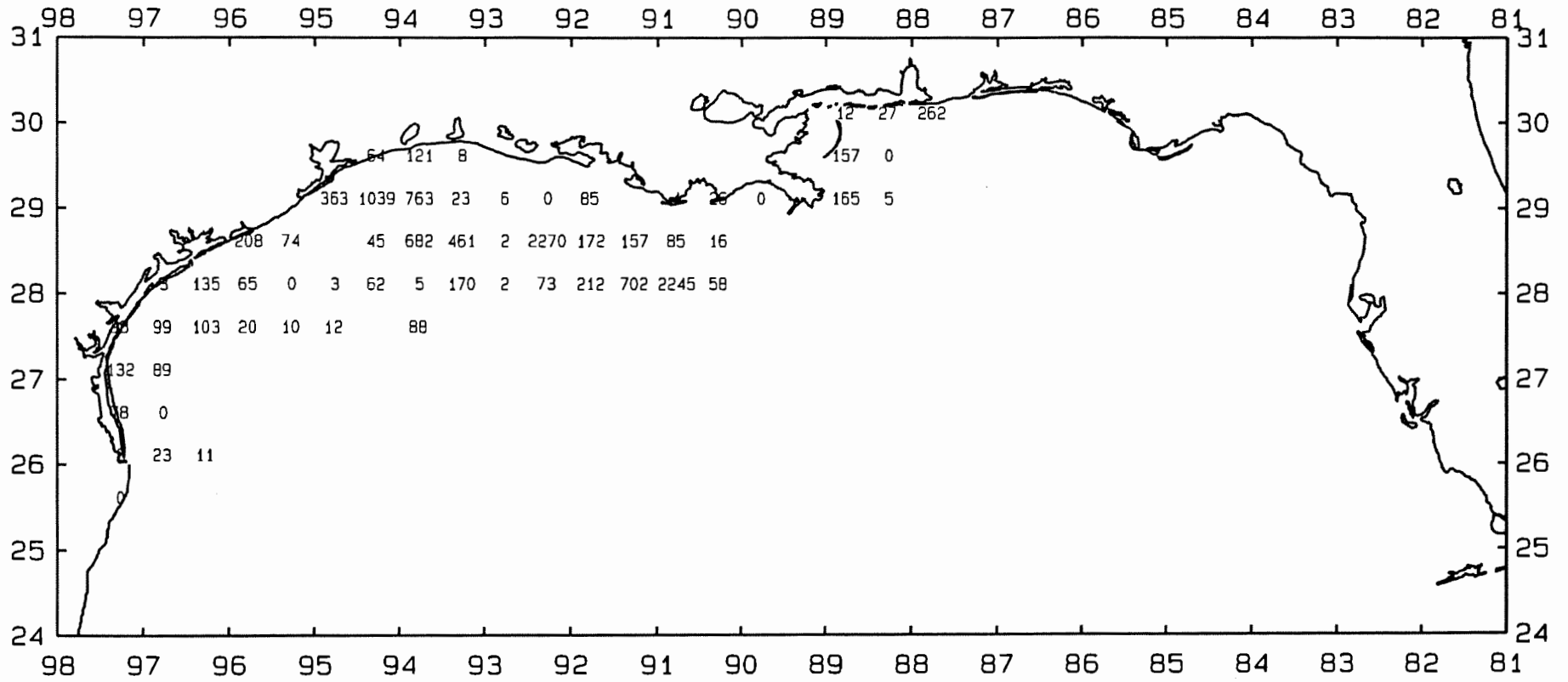


Figure 26. Gulf butterfish, *Peprilus burti*, number/hour for June-July 1992.

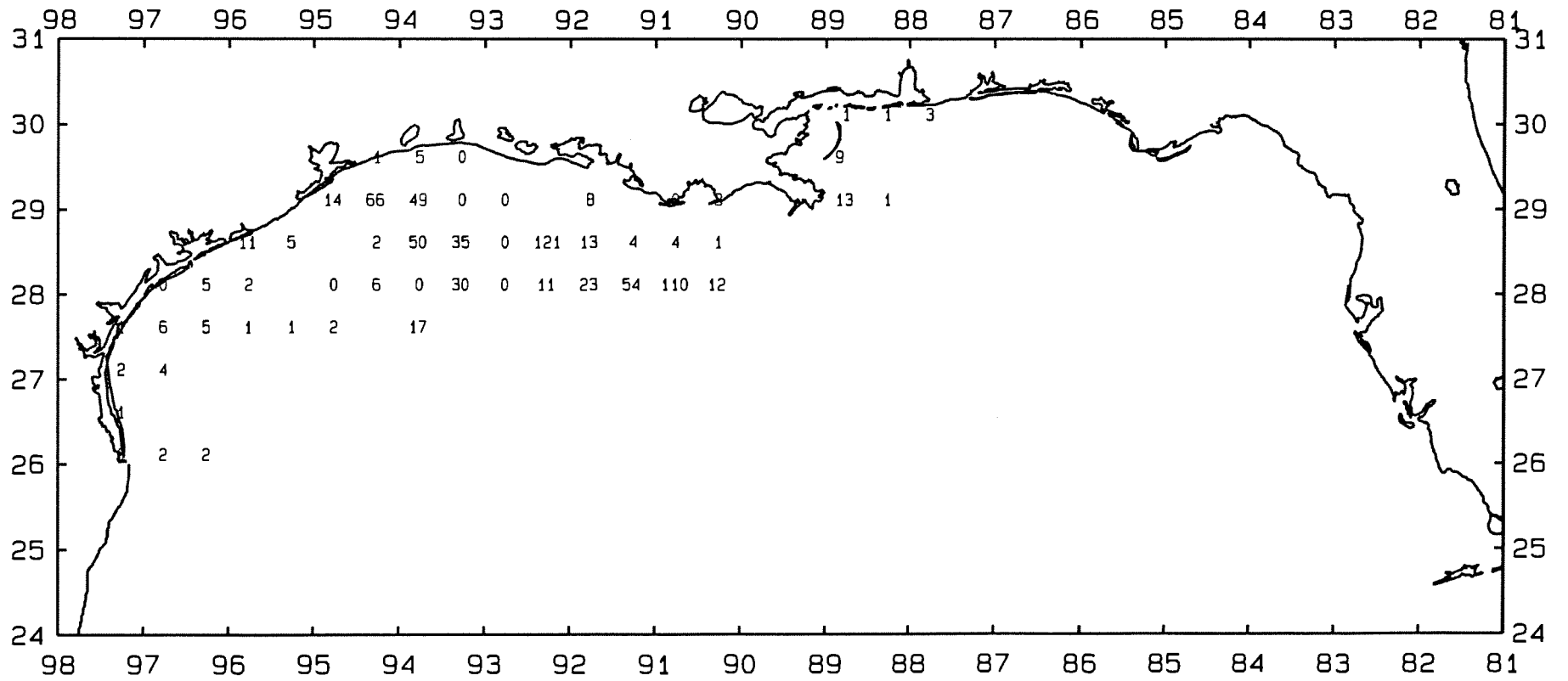


Figure 27. Gulf butterfish, *Peprilus burti*, lb/hour for June-July 1992.

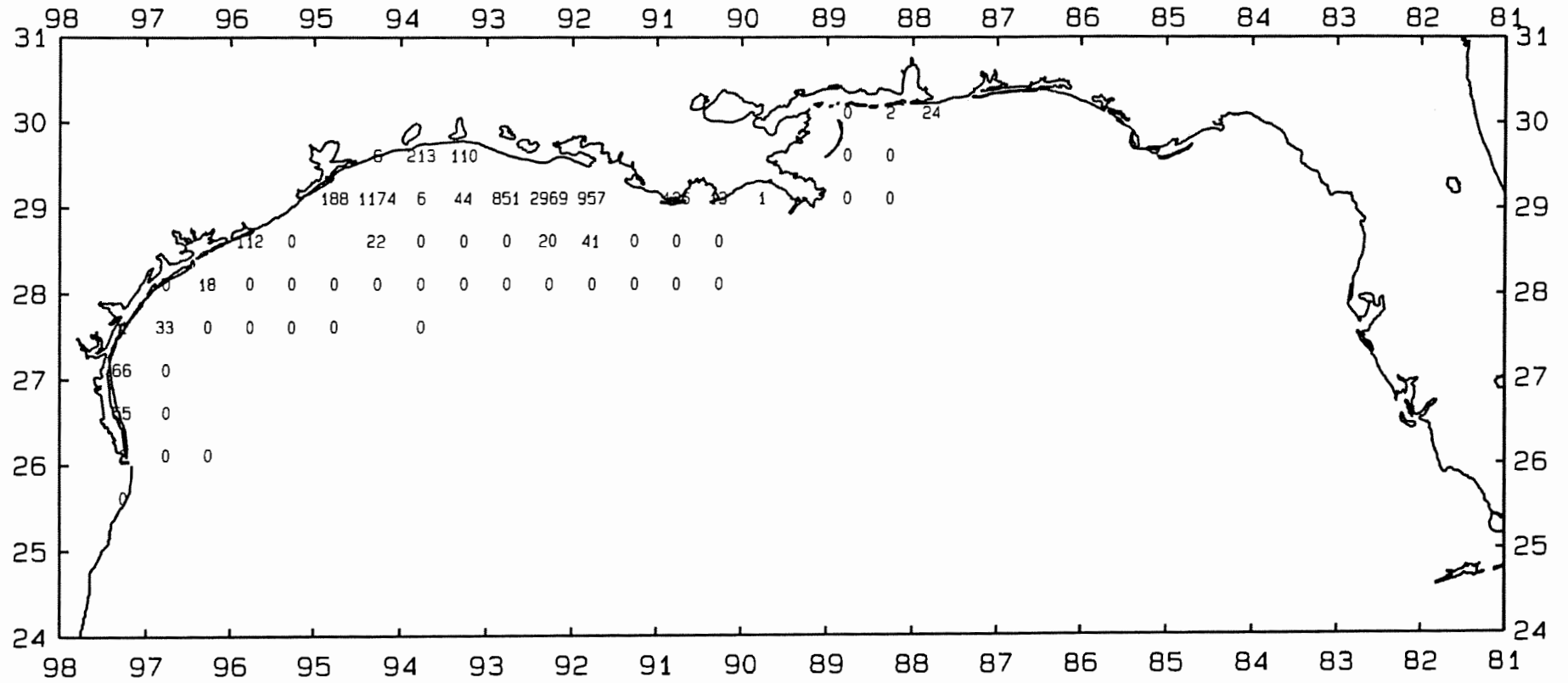


Figure 28. Largescale lizardfish, *Saurida brasiliensis*, number/hour for June-July 1992.

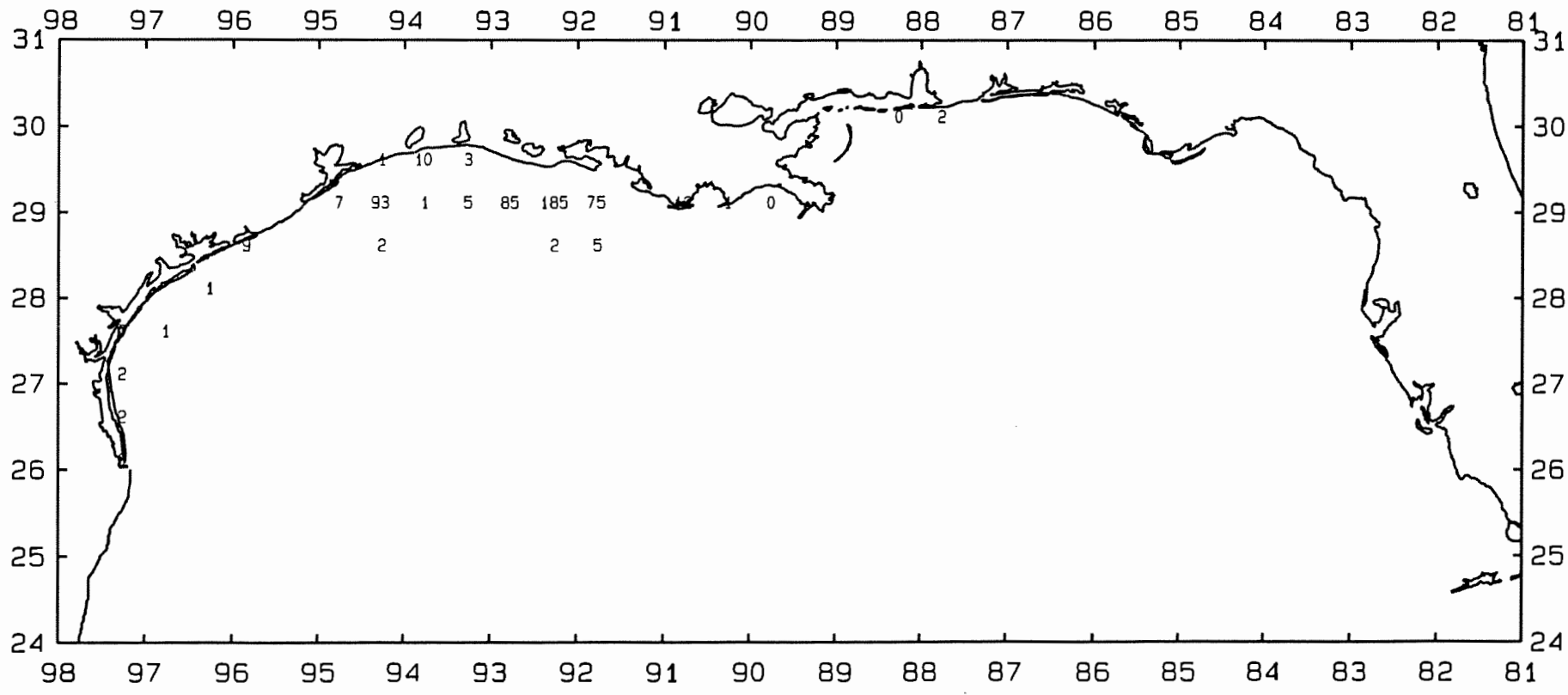


Figure 29. Largescale lizardfish, *Saurida brasiliensis*, lb/hour for June-July 1992.

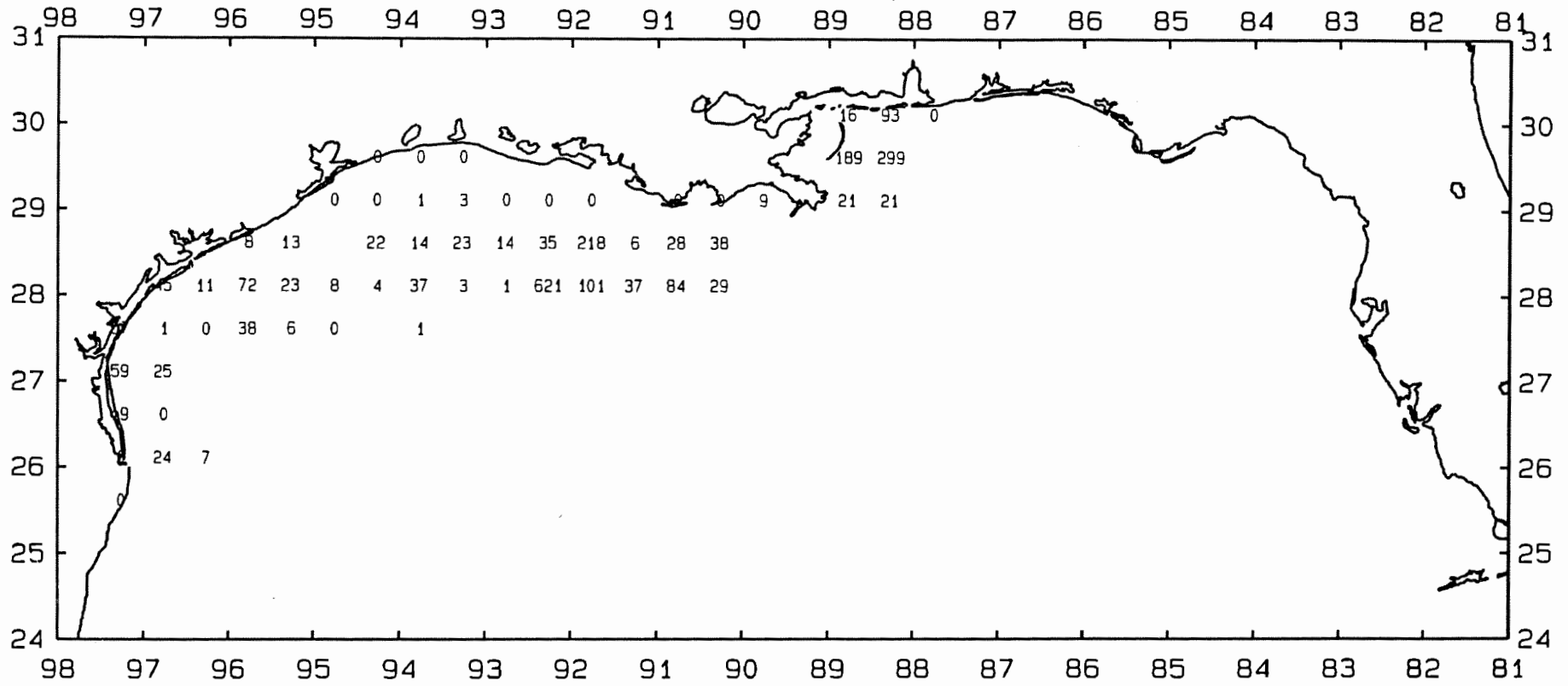


Figure 30. Rock sea bass, *Centropristis philadelphica*, number/hour for June-July 1992.



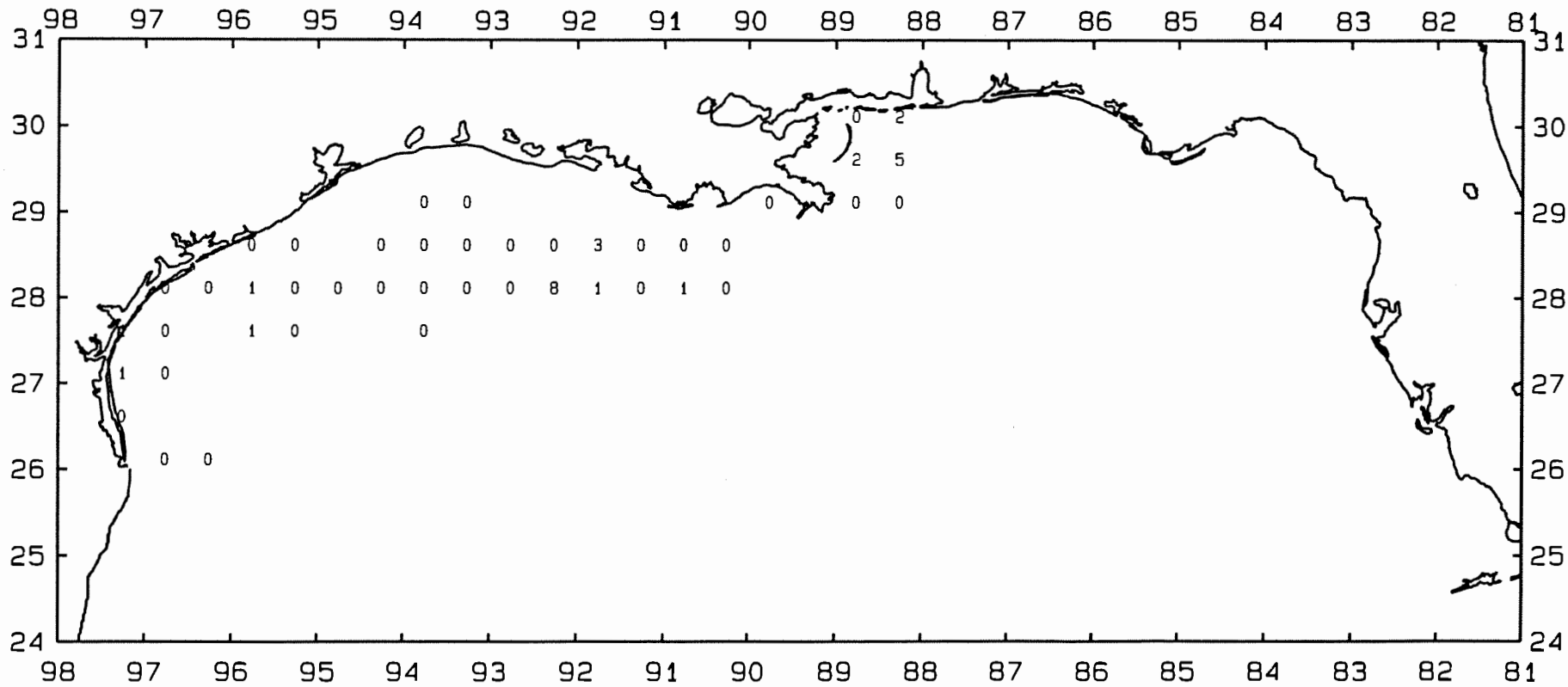


Figure 31. Rock sea bass, *Centropristis philadelphica*, lb/hour for June-July 1992.

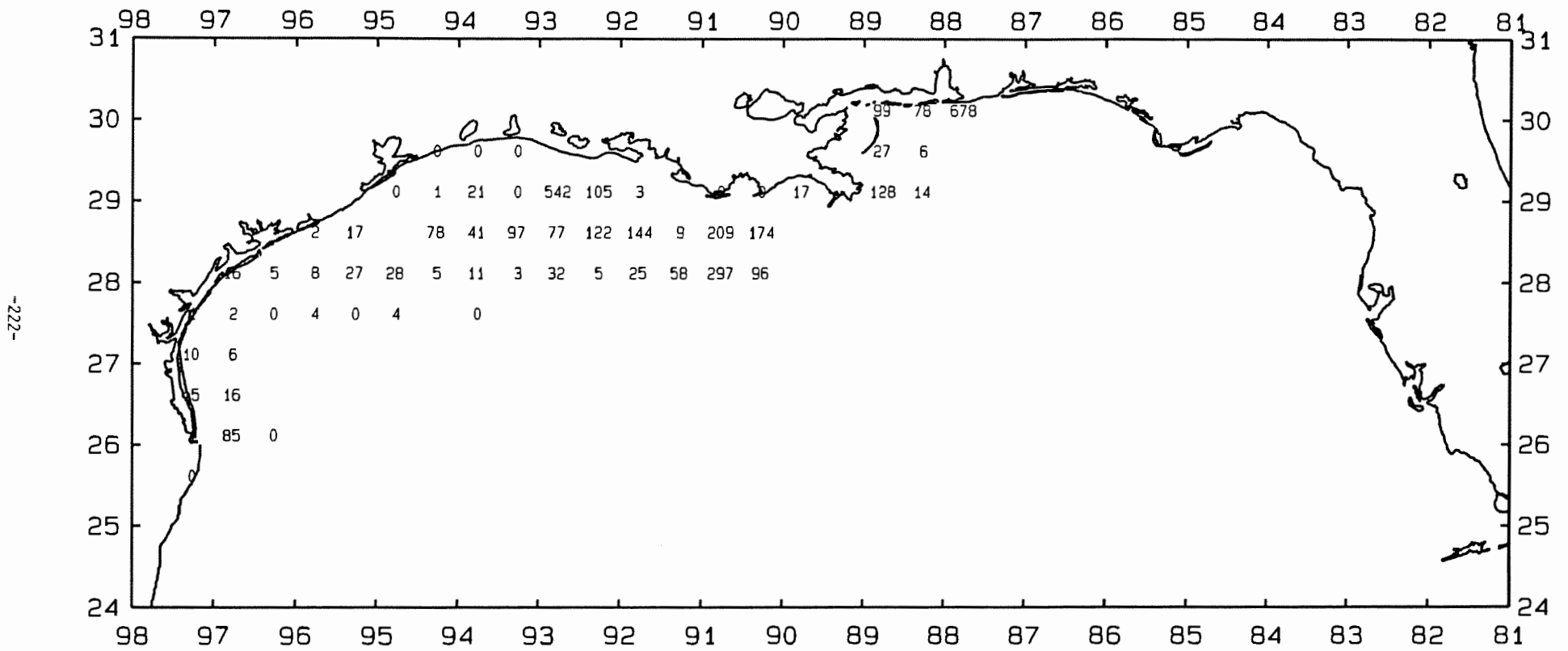


Figure 32. Atlantic bumper, *Chloroscombrus chrysurus*, number/hour for June-July 1992.

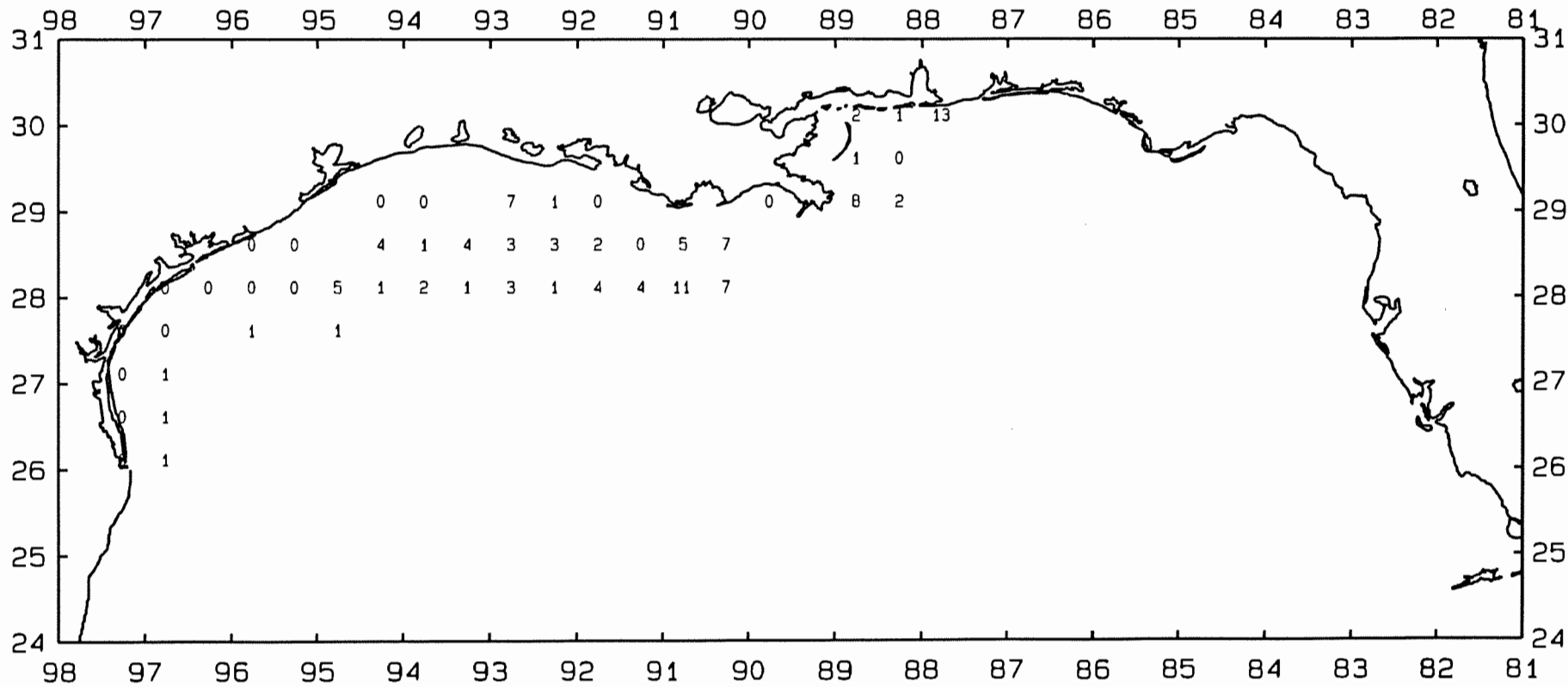


Figure 33. Atlantic bumper, *Chloroscombrus chrysurus*, lb/hour for June-July 1992.

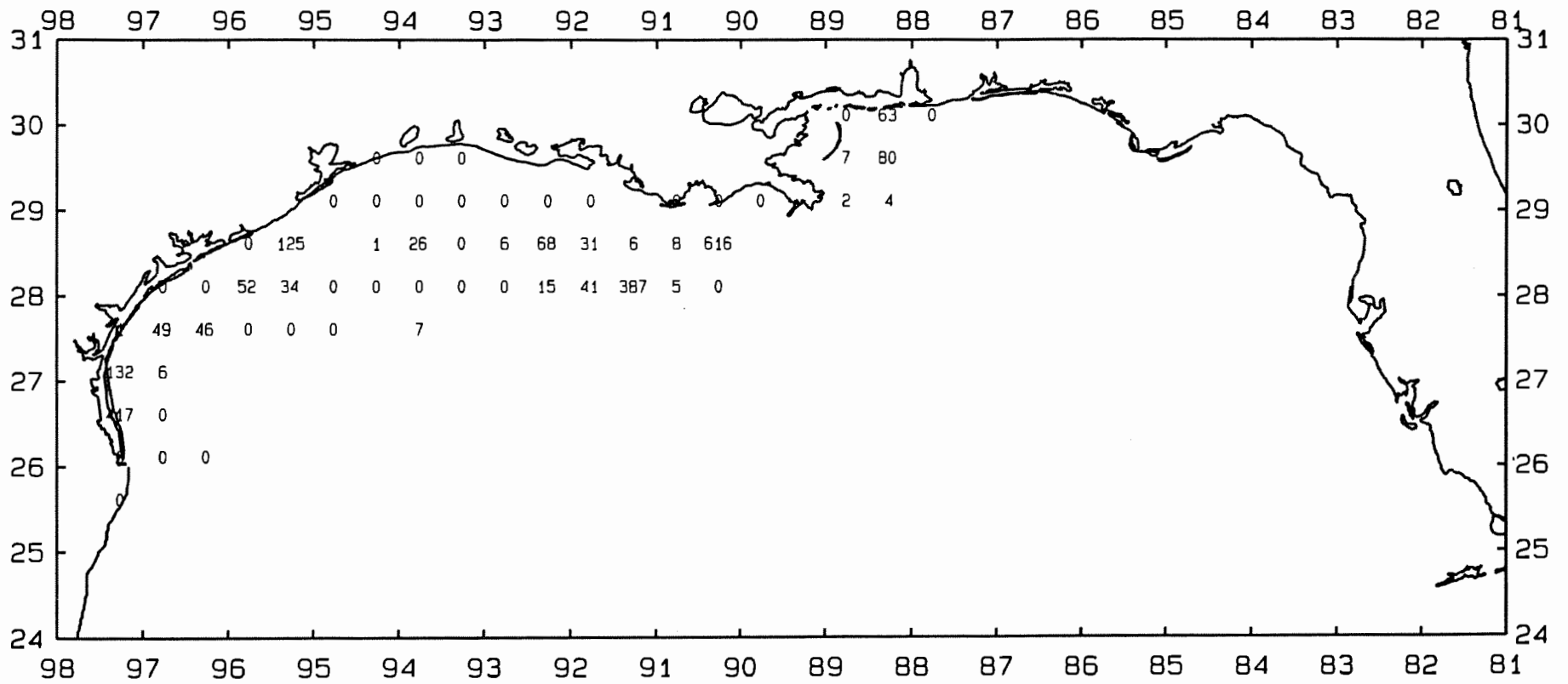


Figure 34. Round herring, *Etrumeus teres*, number/hour for June-July 1992.

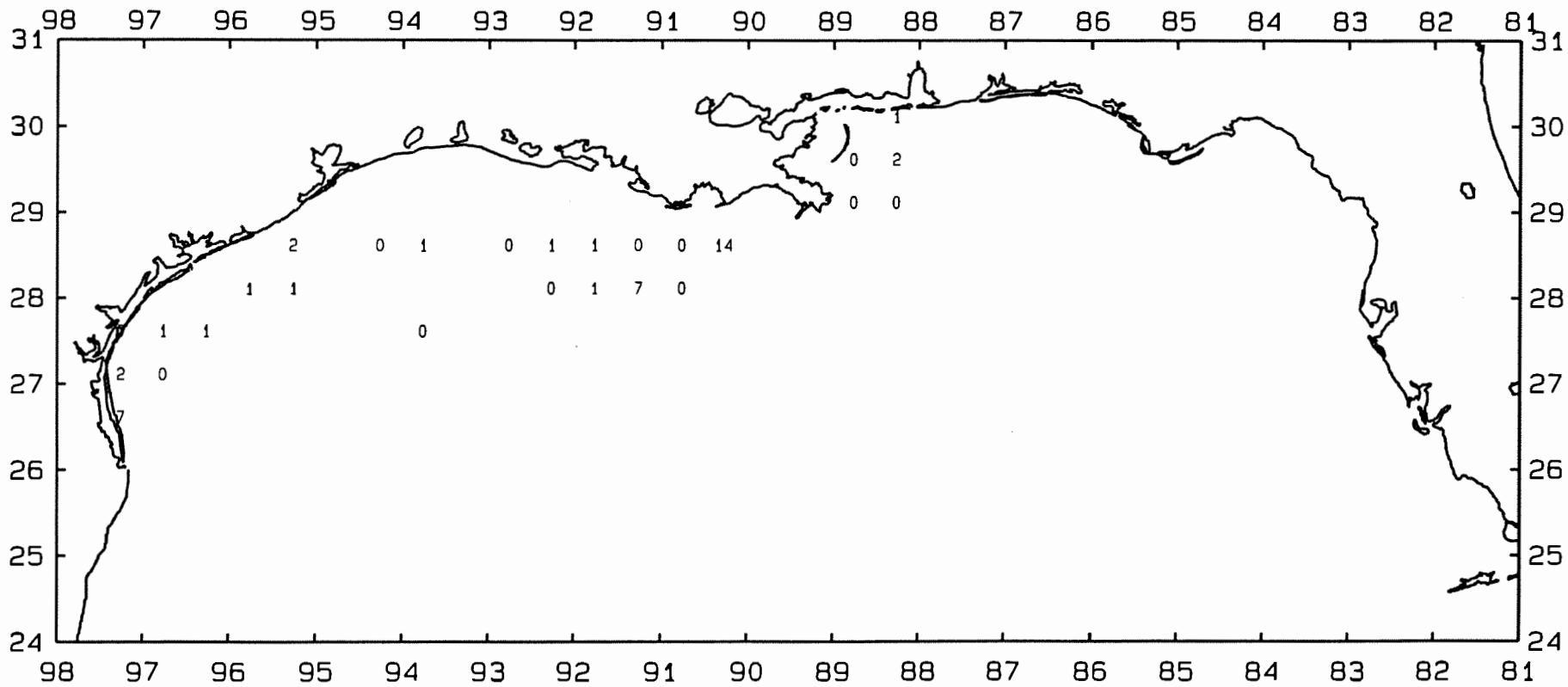


Figure 35. Round herring, *Etrumeus teres*, lb/hour for June-July 1992.

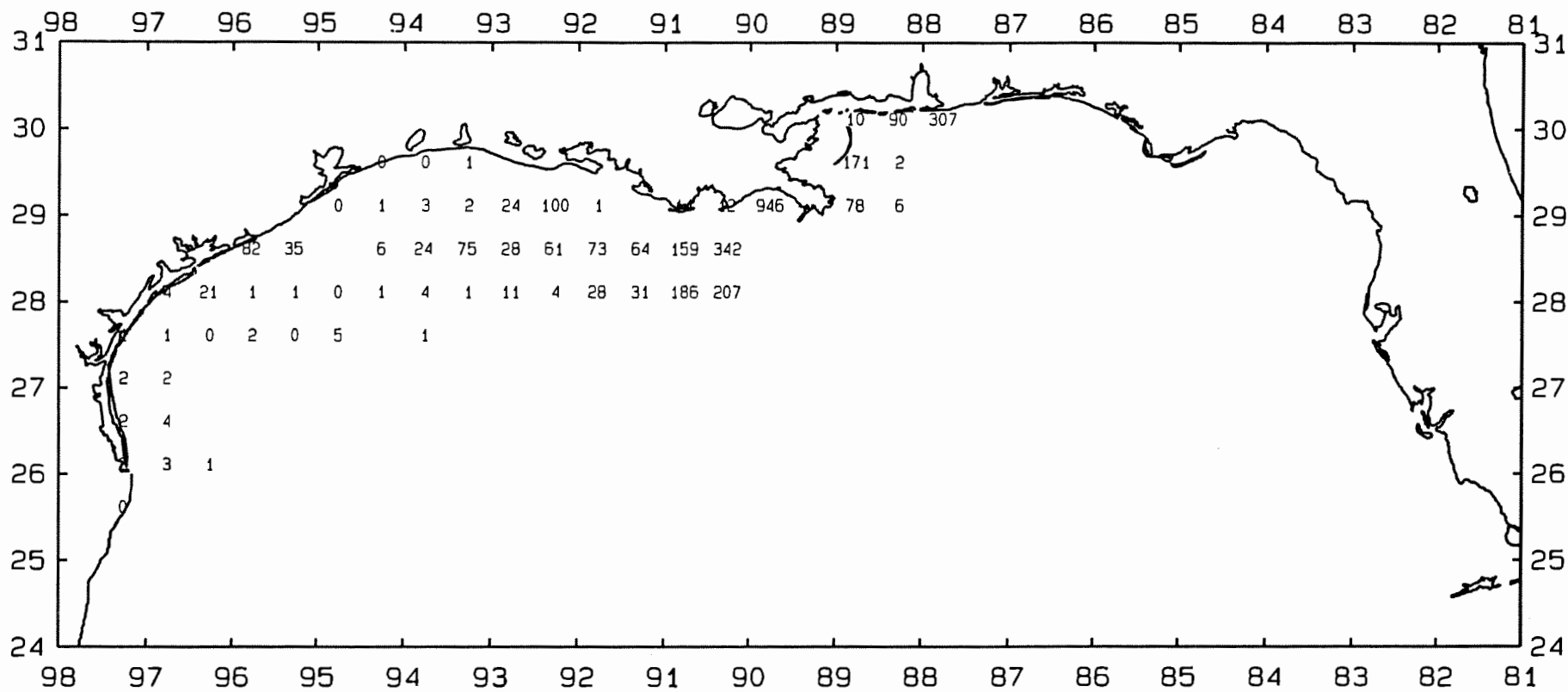


Figure 36. Bigeye searobin, *Prionotus longispinosus*, number/hour for June-July 1992.

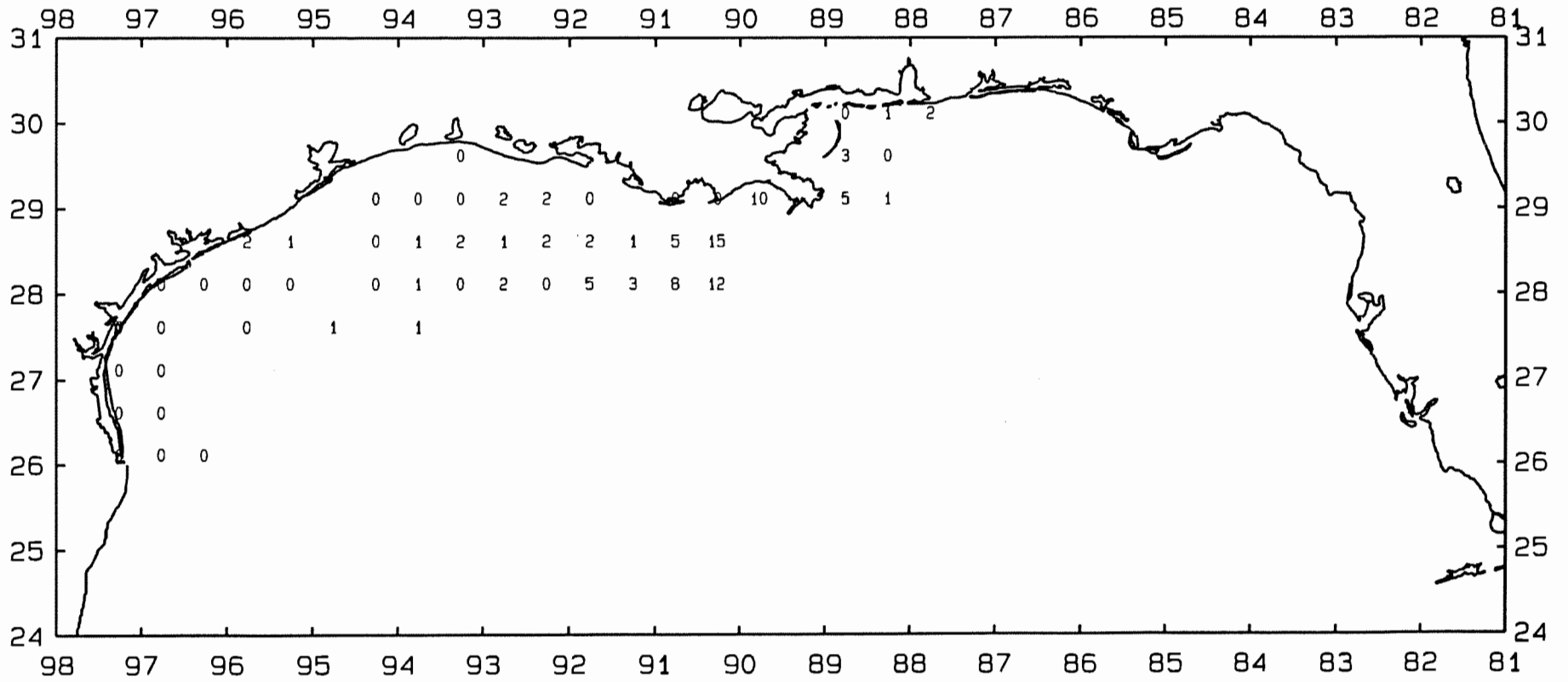


Figure 37. Bigeye searobin, *Prionotus longispinosus*, lb/hour for June-July 1992.

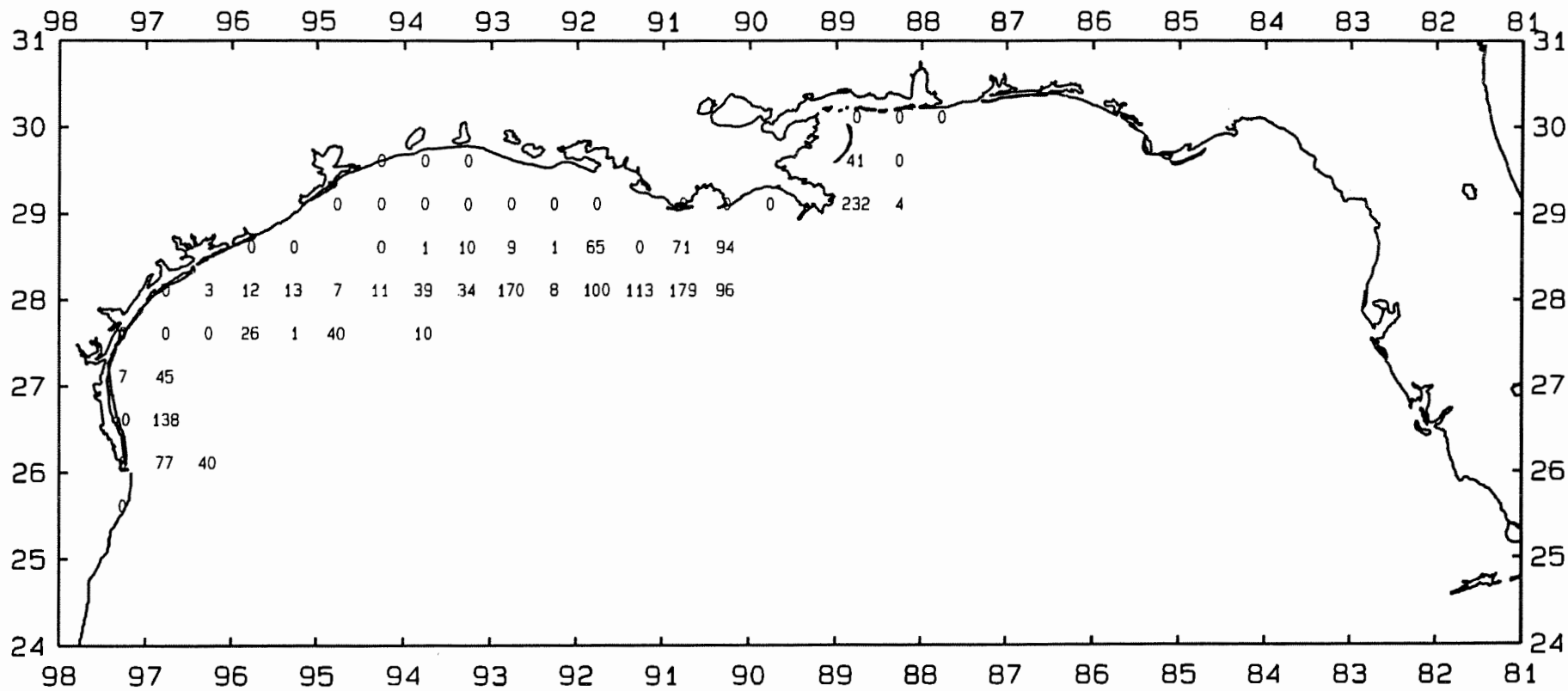


Figure 38. Blackear bass, *Serranus atrobranchus*, number/hour for June-July 1992.



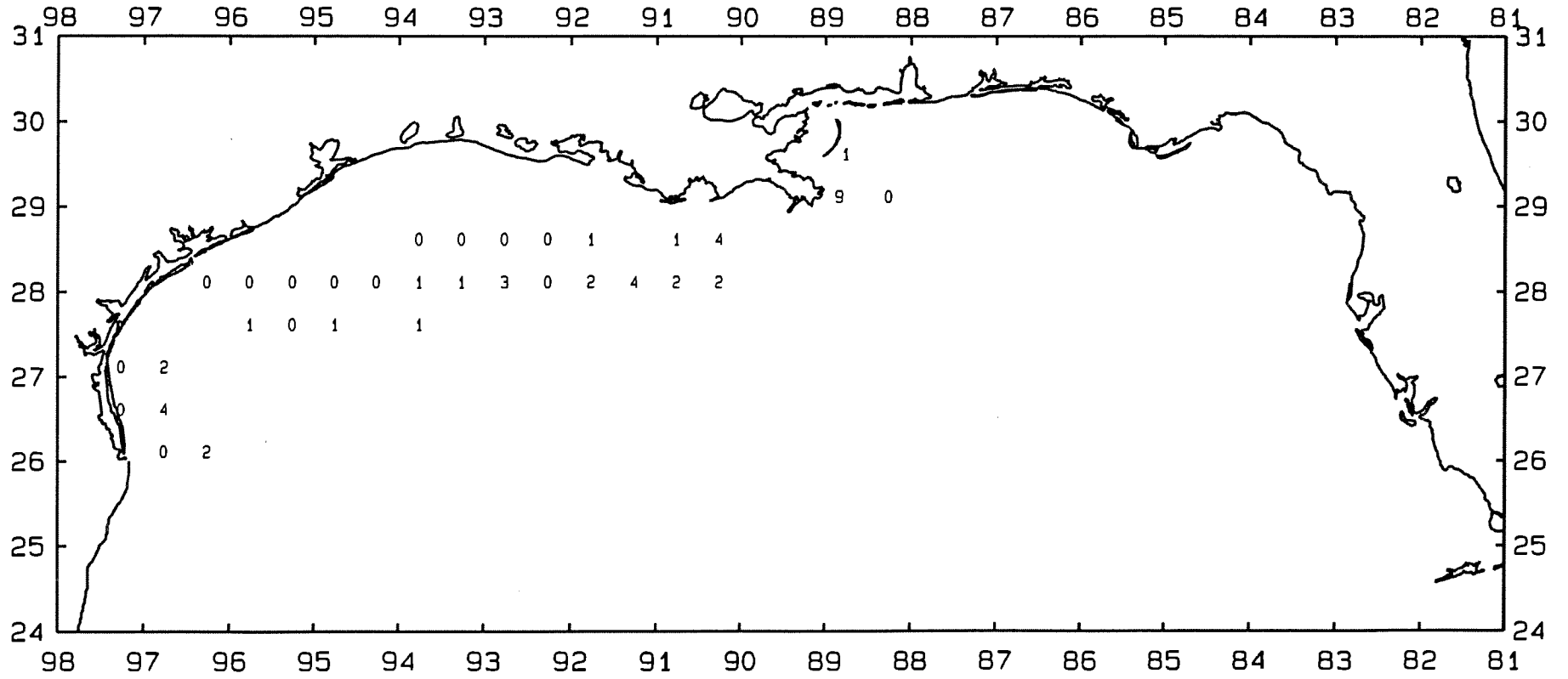


Figure 39. Blackear bass, *Serranus atrobranchus*, lb/hour for June-July 1992.

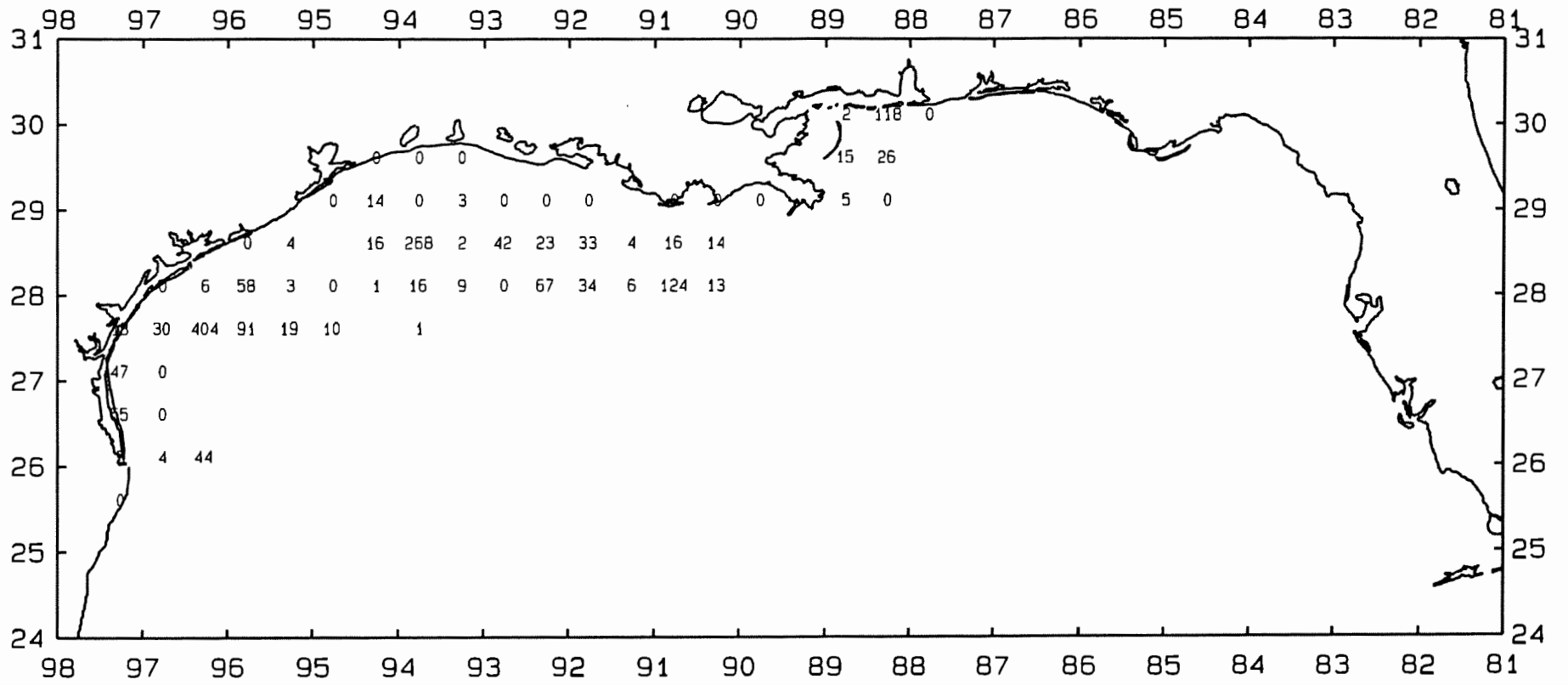


Figure 40. Rough scad, *Trachurus lathami*, number/hour for June-July 1992.

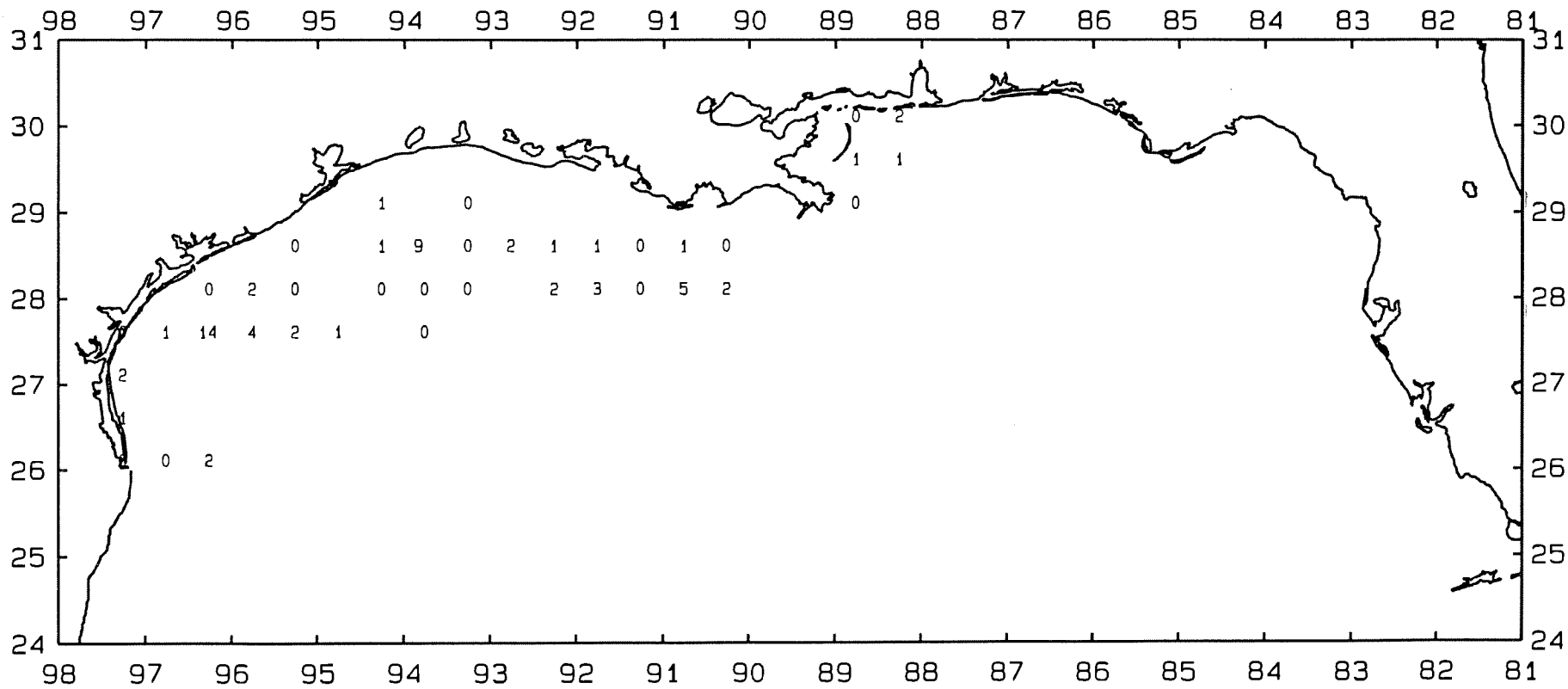


Figure 41. Rough scad, *Trachurus lathami*, lb/hour for June-July 1992.

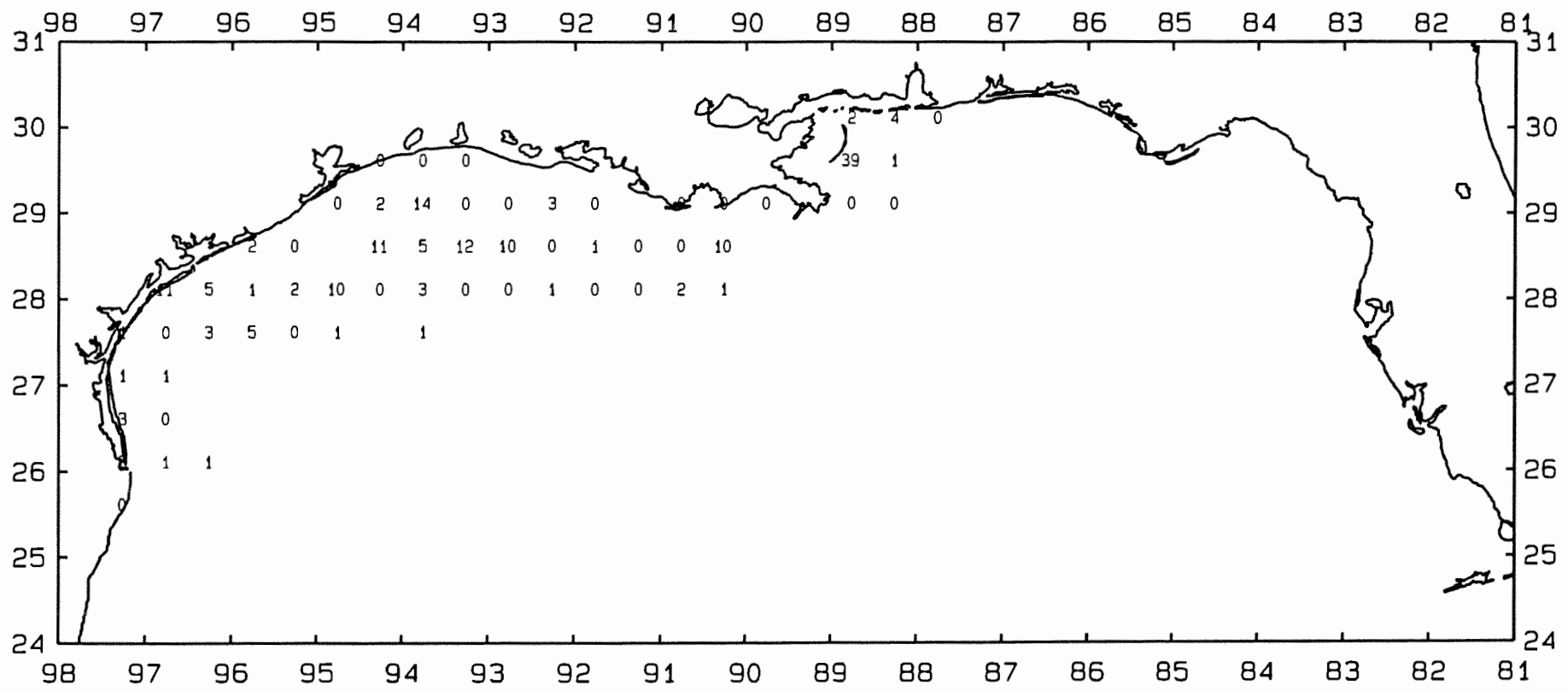


Figure 42. Red snapper, Lutjanus campechanus, number/hour for June-July 1992.

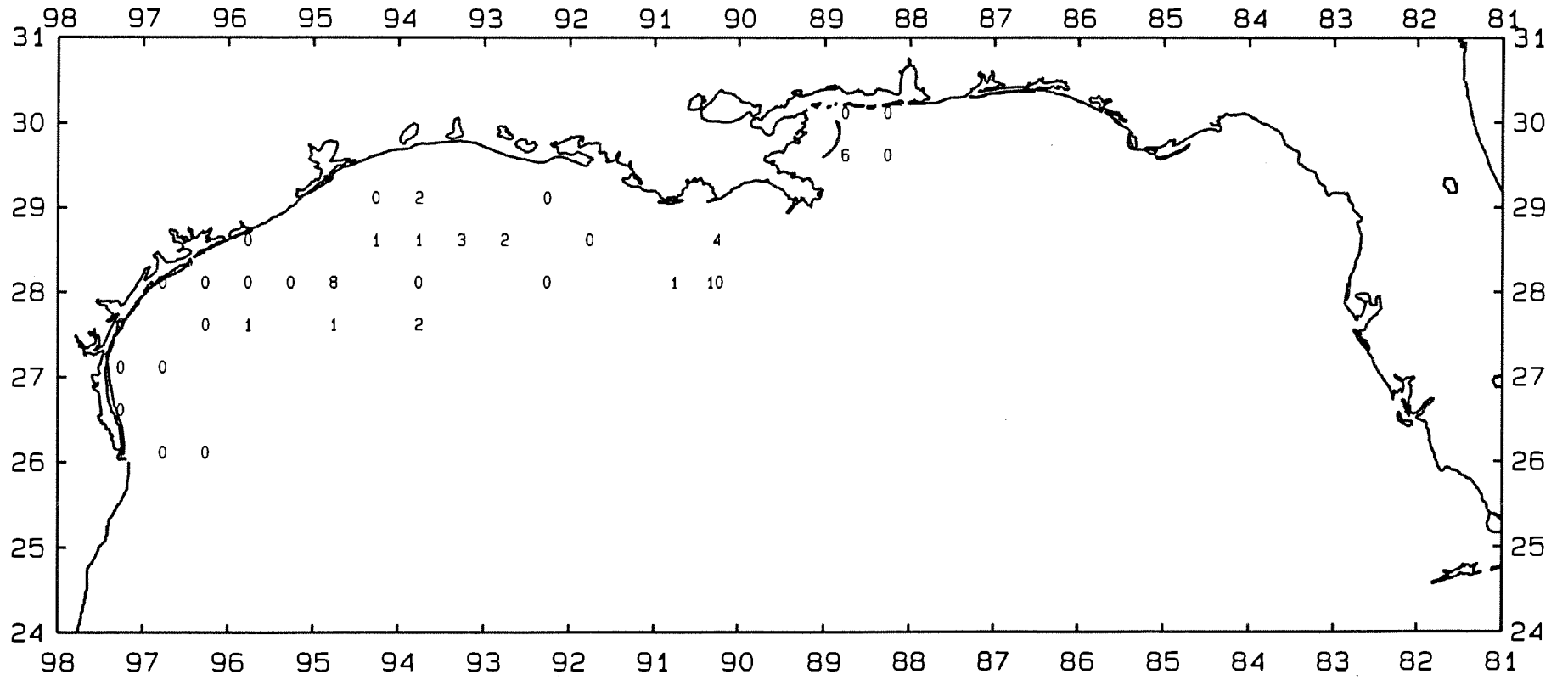


Figure 43. Red snapper, Lutjanus campechanus, lb/hour for June-July 1992.

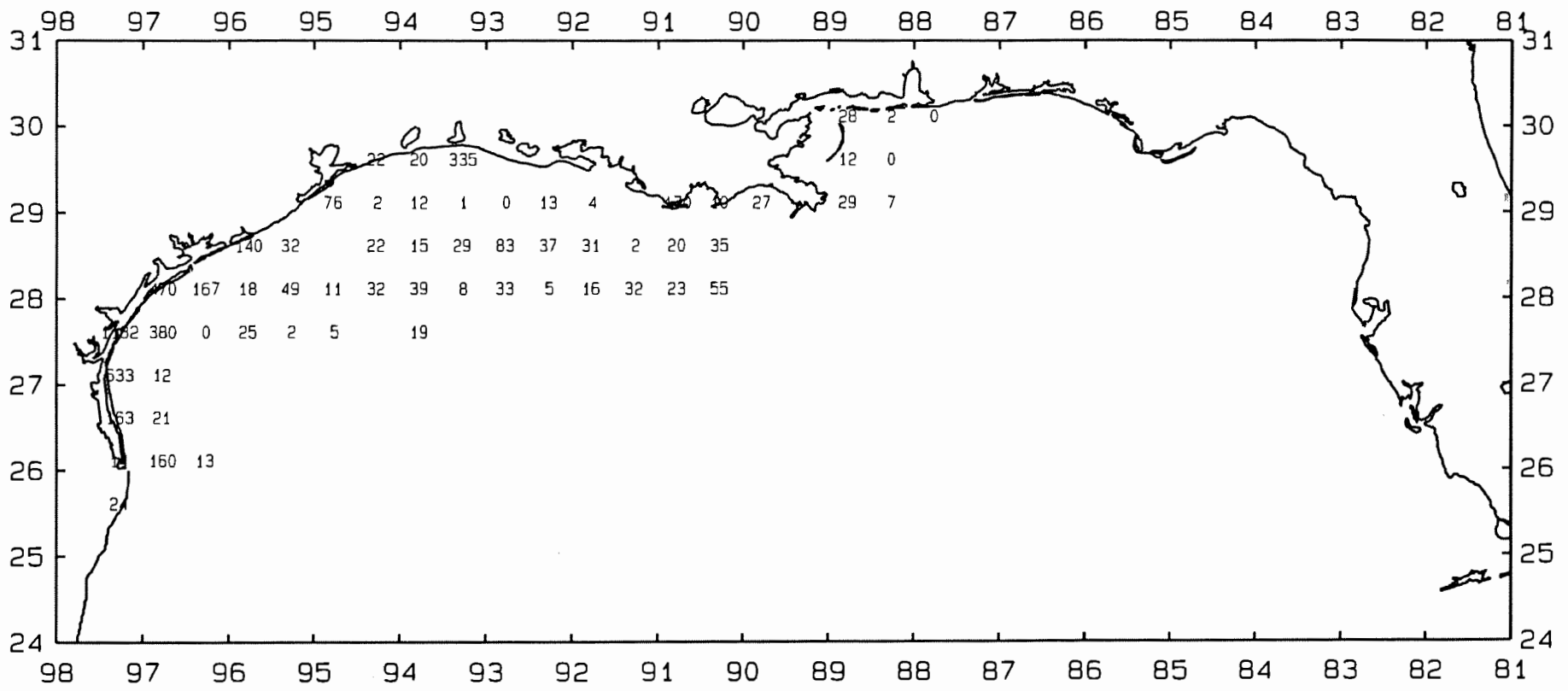


Figure 44. Brown shrimp, *Penaeus aztecus*, number/hour for June-July 1992.

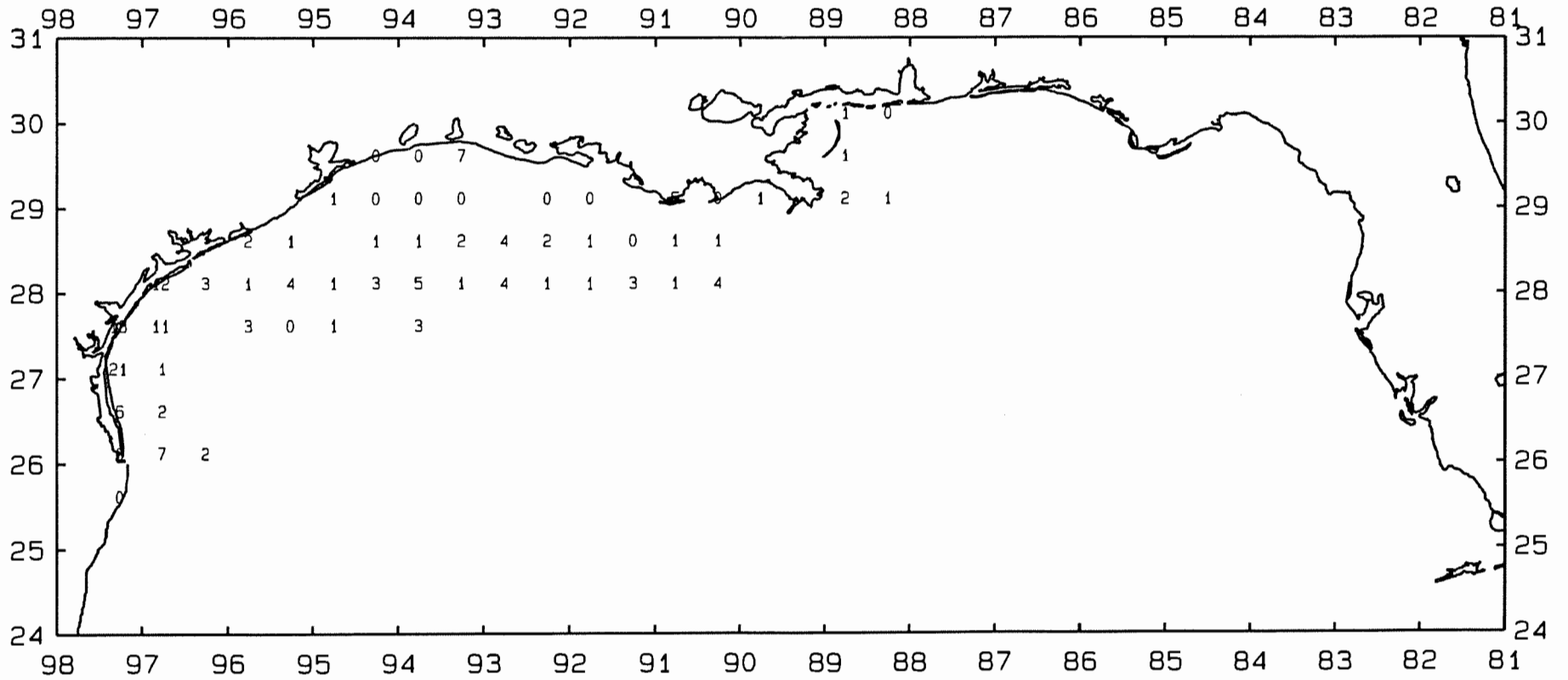


Figure 45. Brown shrimp, Penaeus aztecus, lb/hour for June-July 1992.

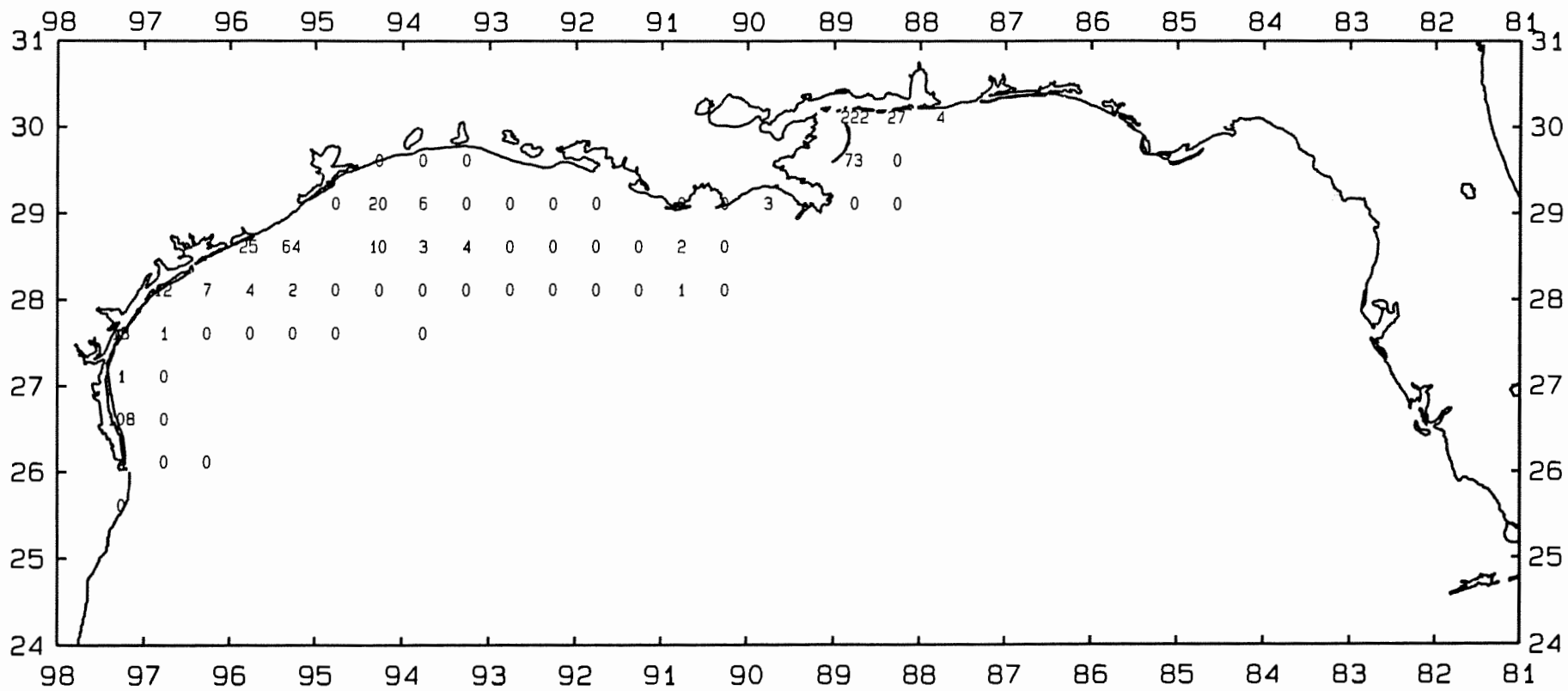


Figure 46. Pink shrimp, *Penaeus duorarum*, number/hour for June-July 1992.



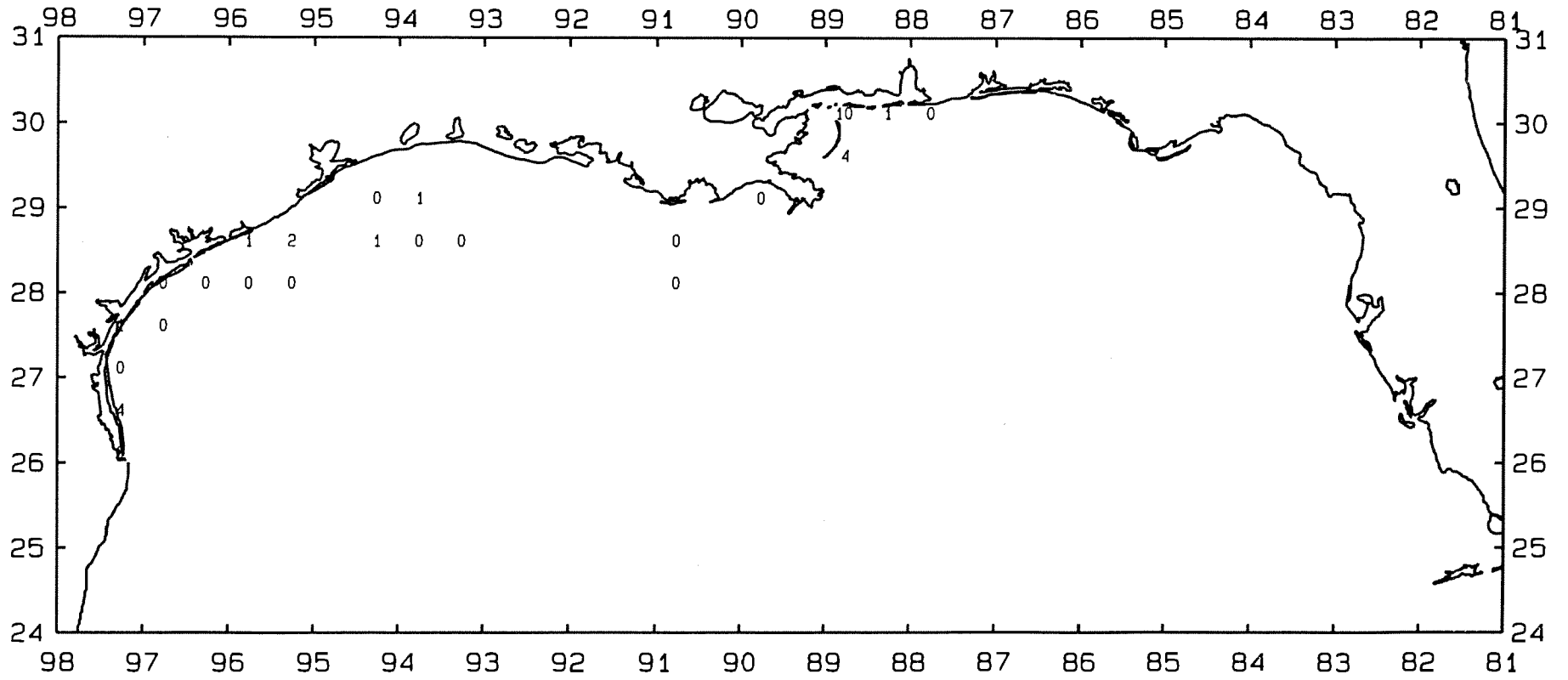


Figure 47. Pink shrimp, *Penaeus duorarum*, lb/hour for June-July 1992.

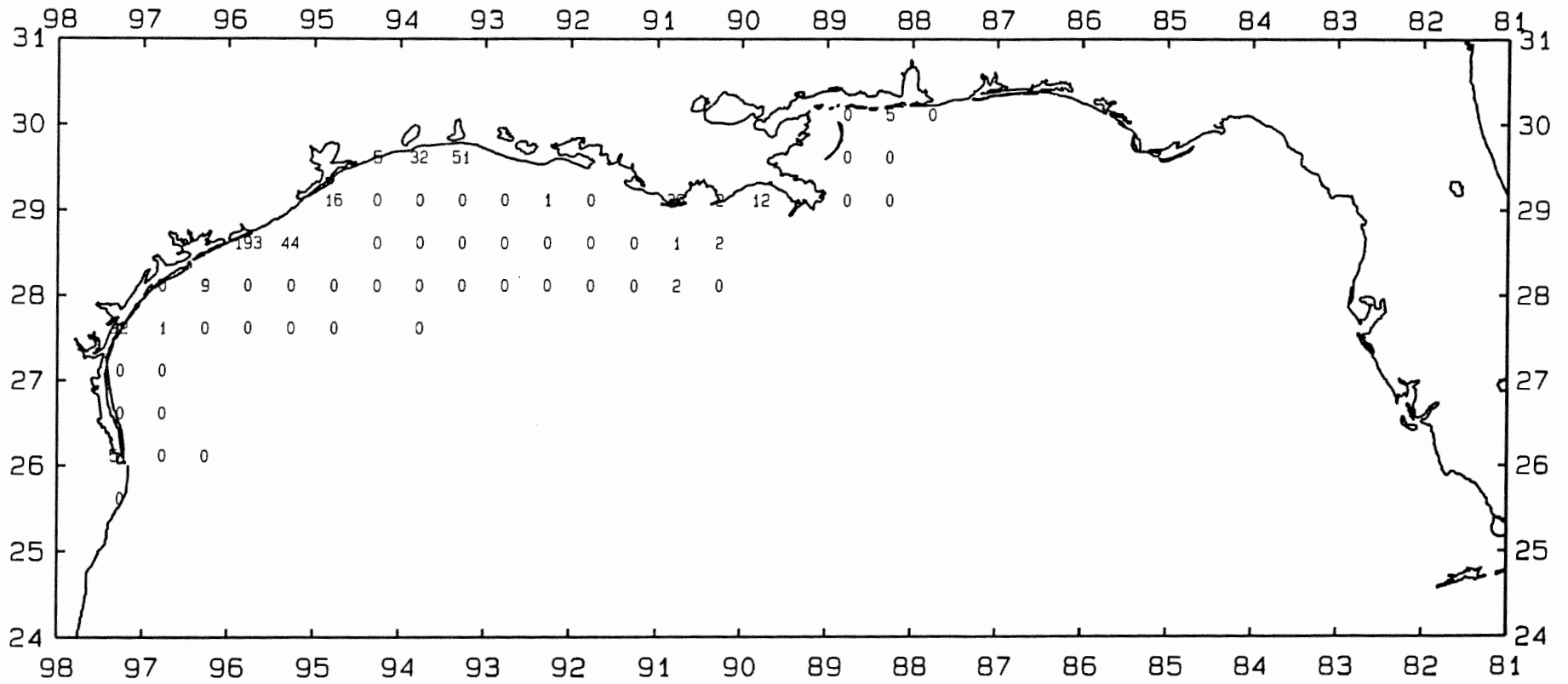


Figure 48. White shrimp, *Penaeus setiferus*, number/hour for June-July 1992.

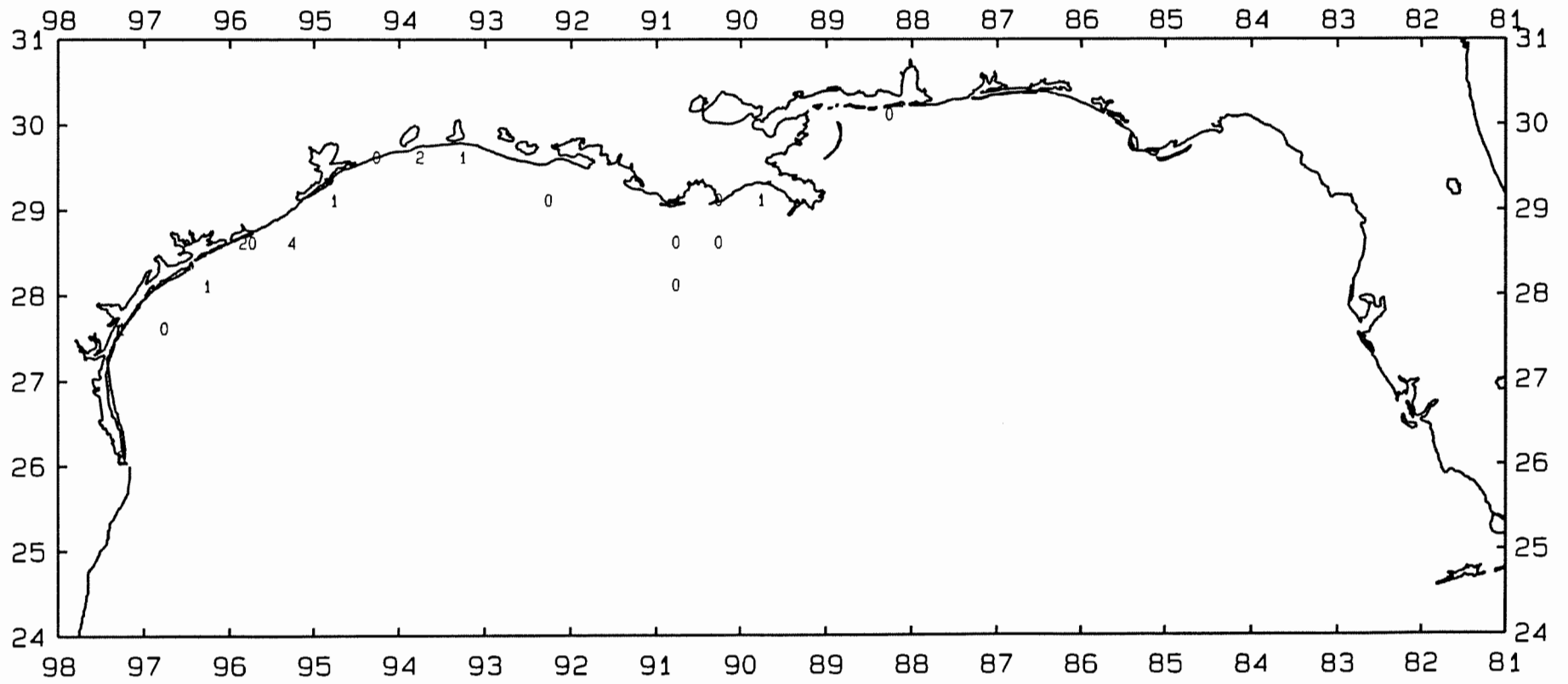


Figure 49. White shrimp, *Penaeus setiferus*, lb/hour for June-July 1992.

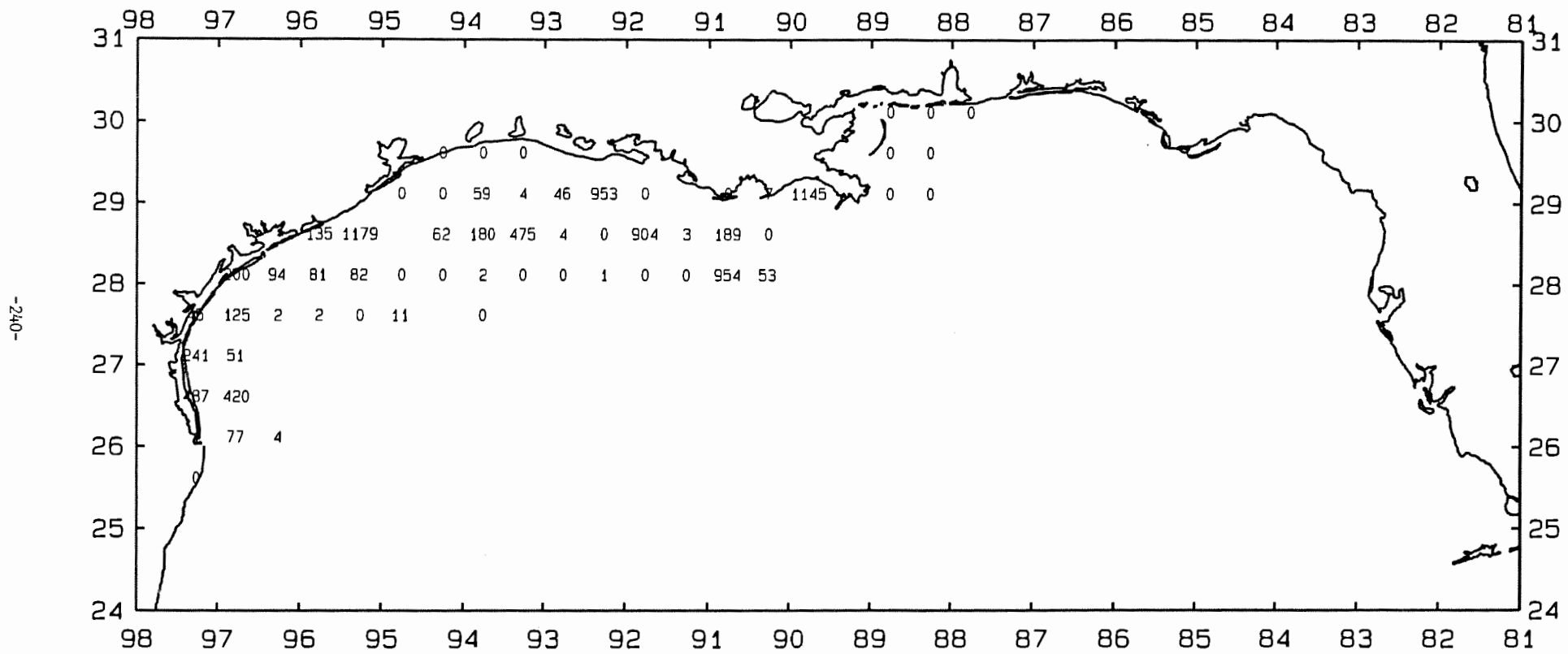


Figure 50. Roughneck shrimps, *Trachypenaeus* spp., number/hour for June-July 1992.

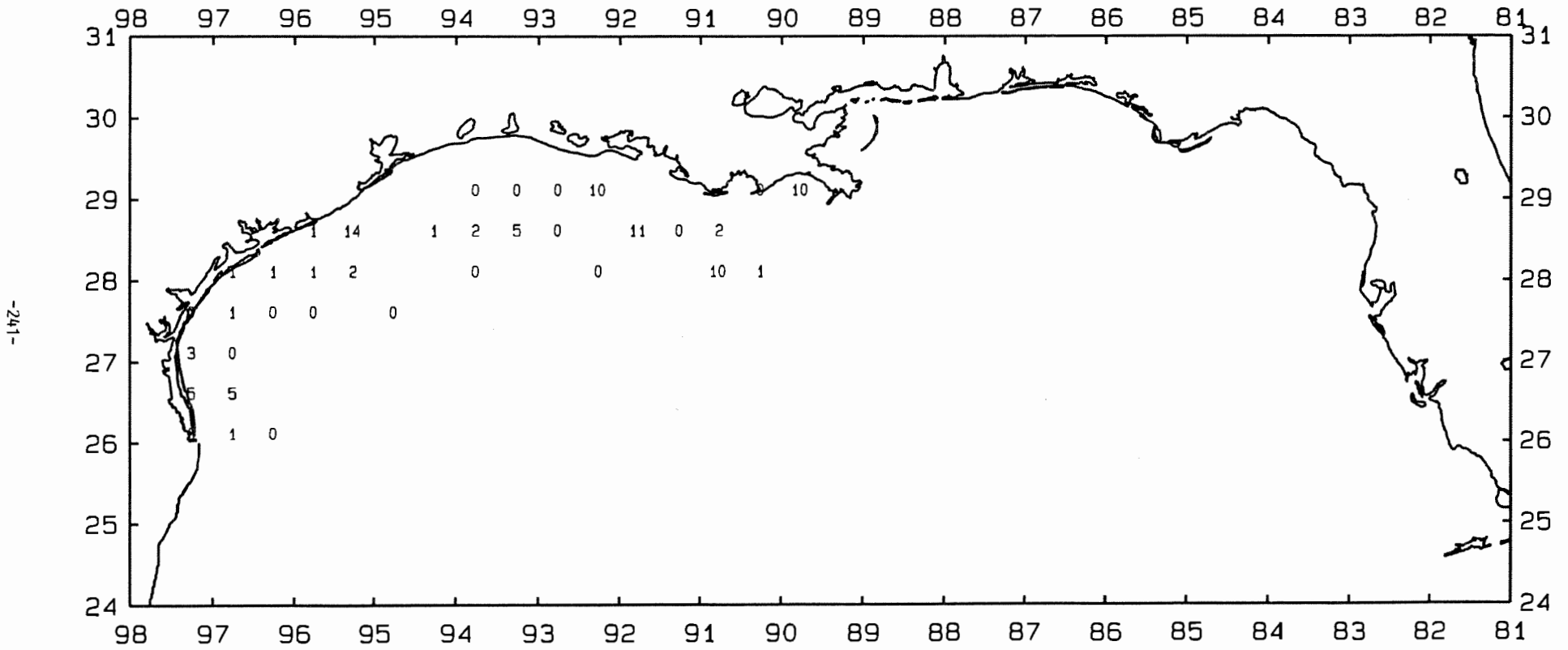


Figure 51. Roughneck shrimps, *Trachypenaeus* spp., lb/hour for June-July 1992.

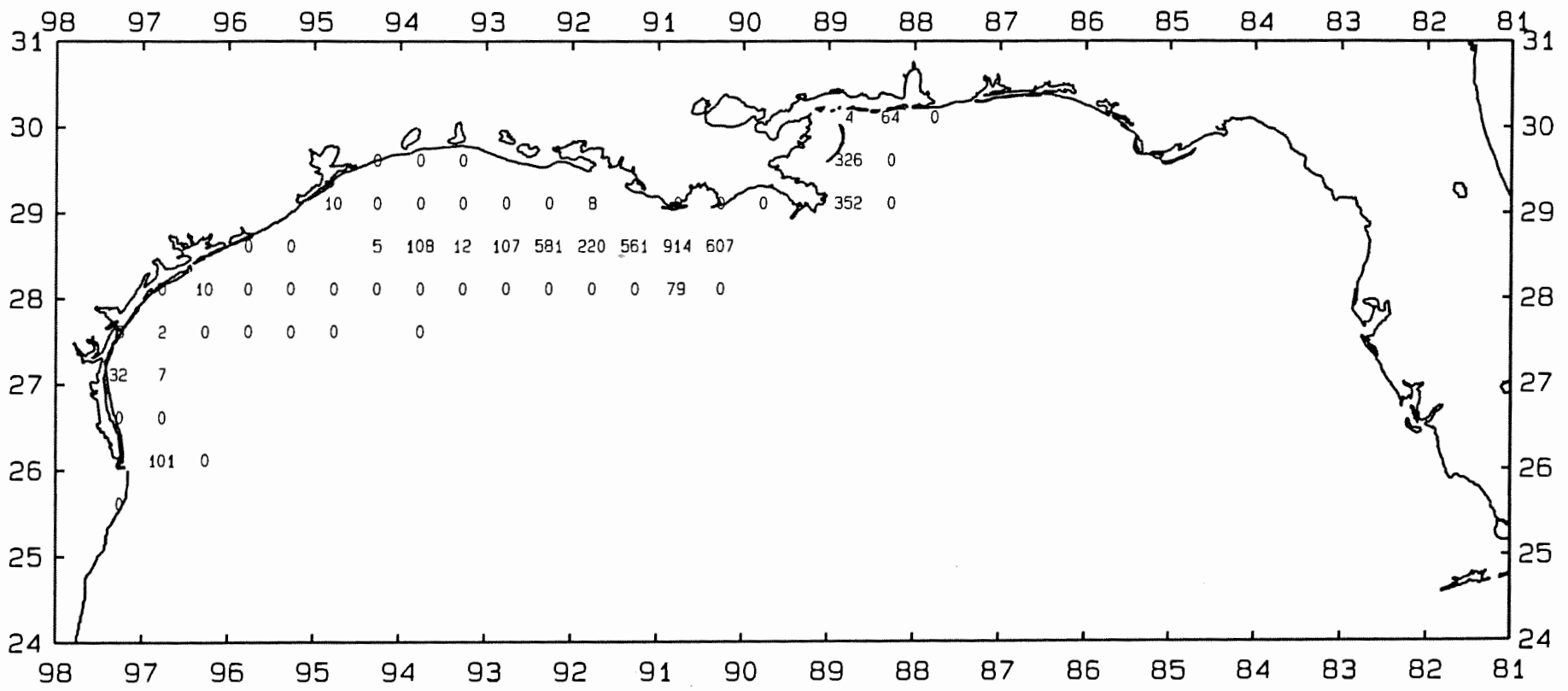


Figure 52. Roughback shrimp, *Trachypenaeus similis*, number/hour for June-July 1992.

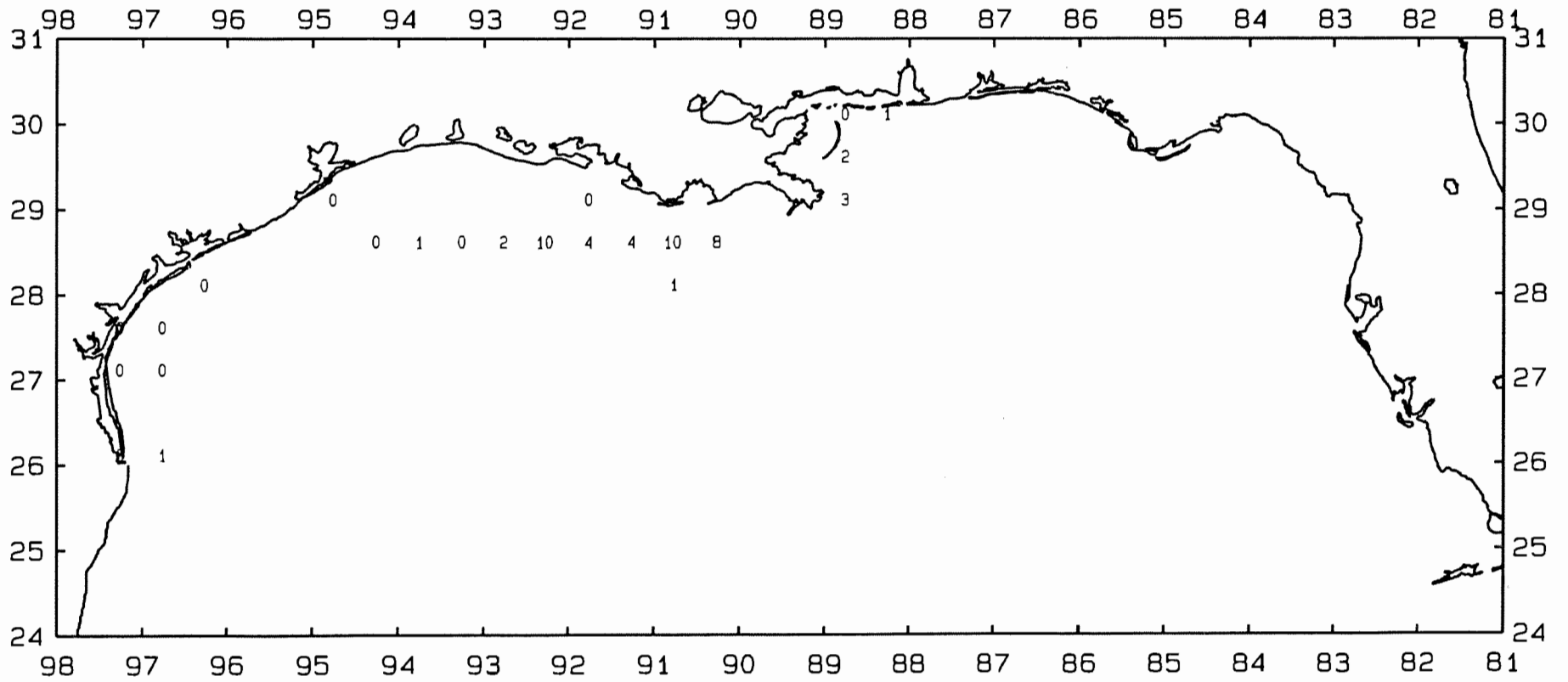


Figure 53. Roughback shrimp, *Trachypenaeus similis*, lb/hour for June-July 1992.

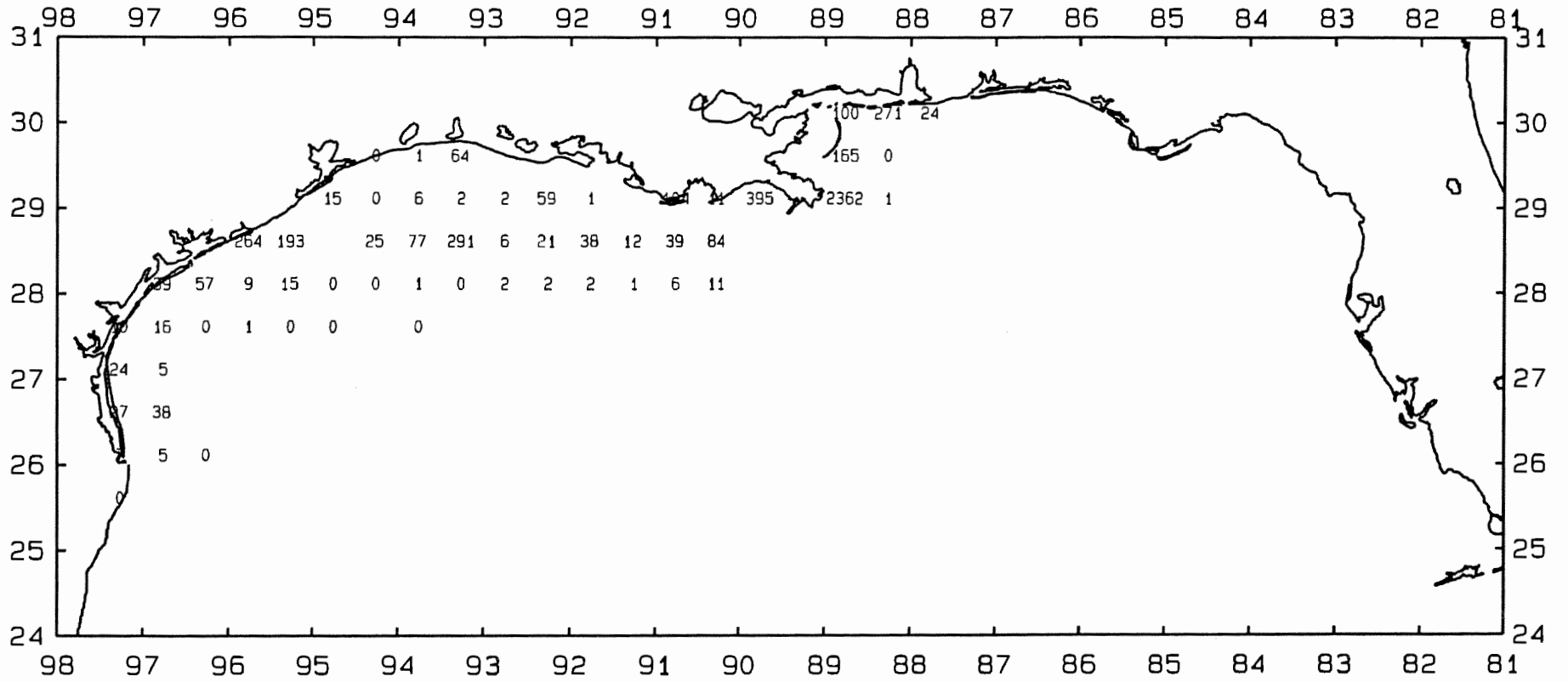


Figure 54. Lesser blue crab, *Callinectes similis*, number/hour for June-July 1992.



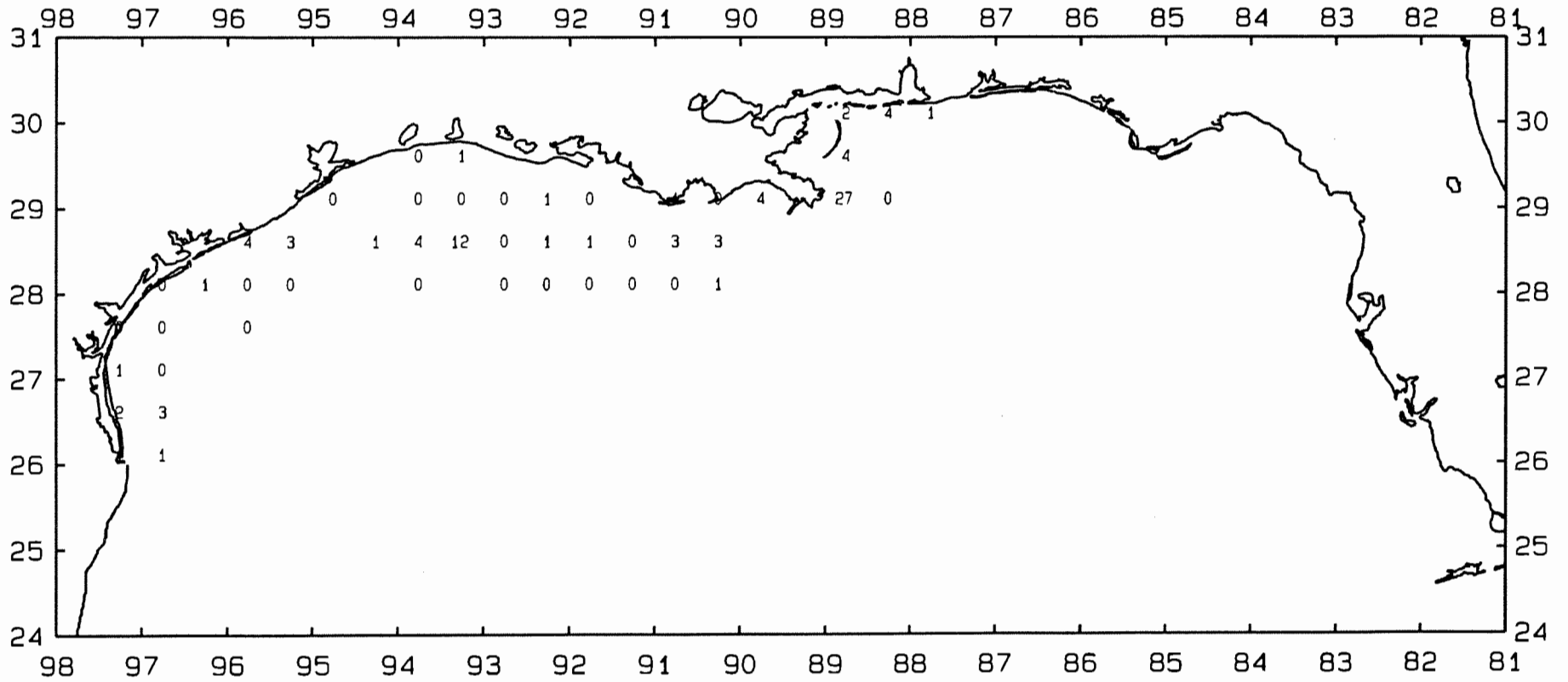


Figure 55. Lesser blue crab, *Callinectes similis*, lb/hour for June-July 1992.

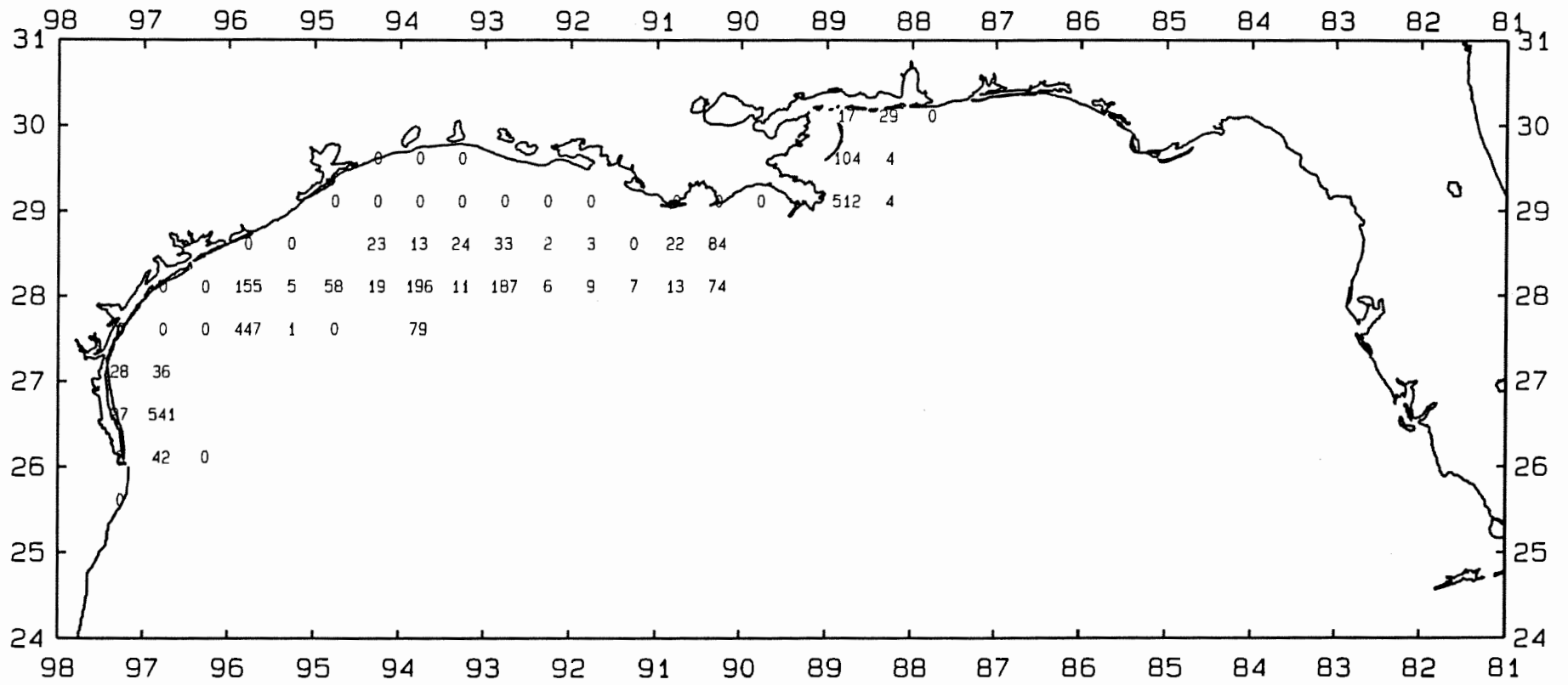


Figure 56. Longspine swimming crab, *Portunus spinicarpus*, number/hour for June-July 1992.

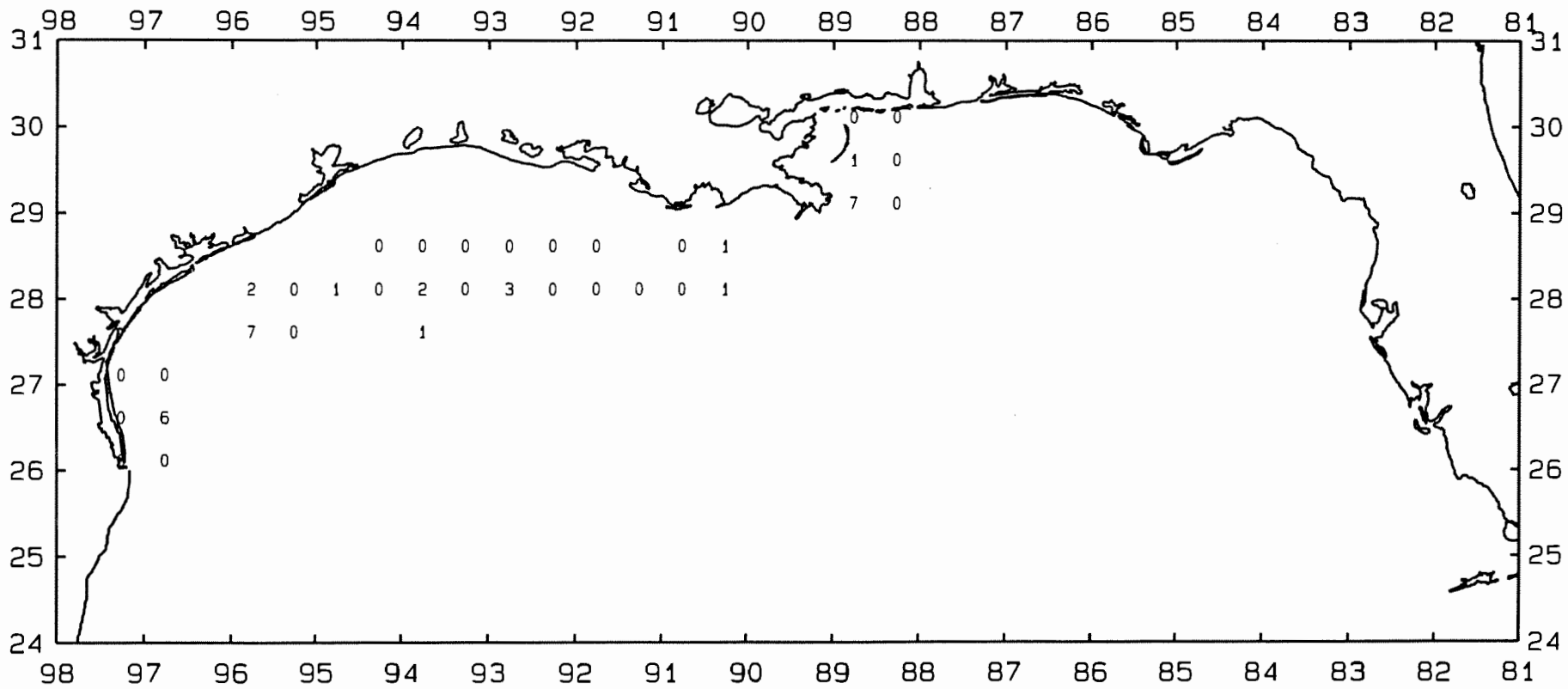


Figure 57. Longspine swimming crab, *Portunus spinicarpus*, lb/hour for June-July 1992.

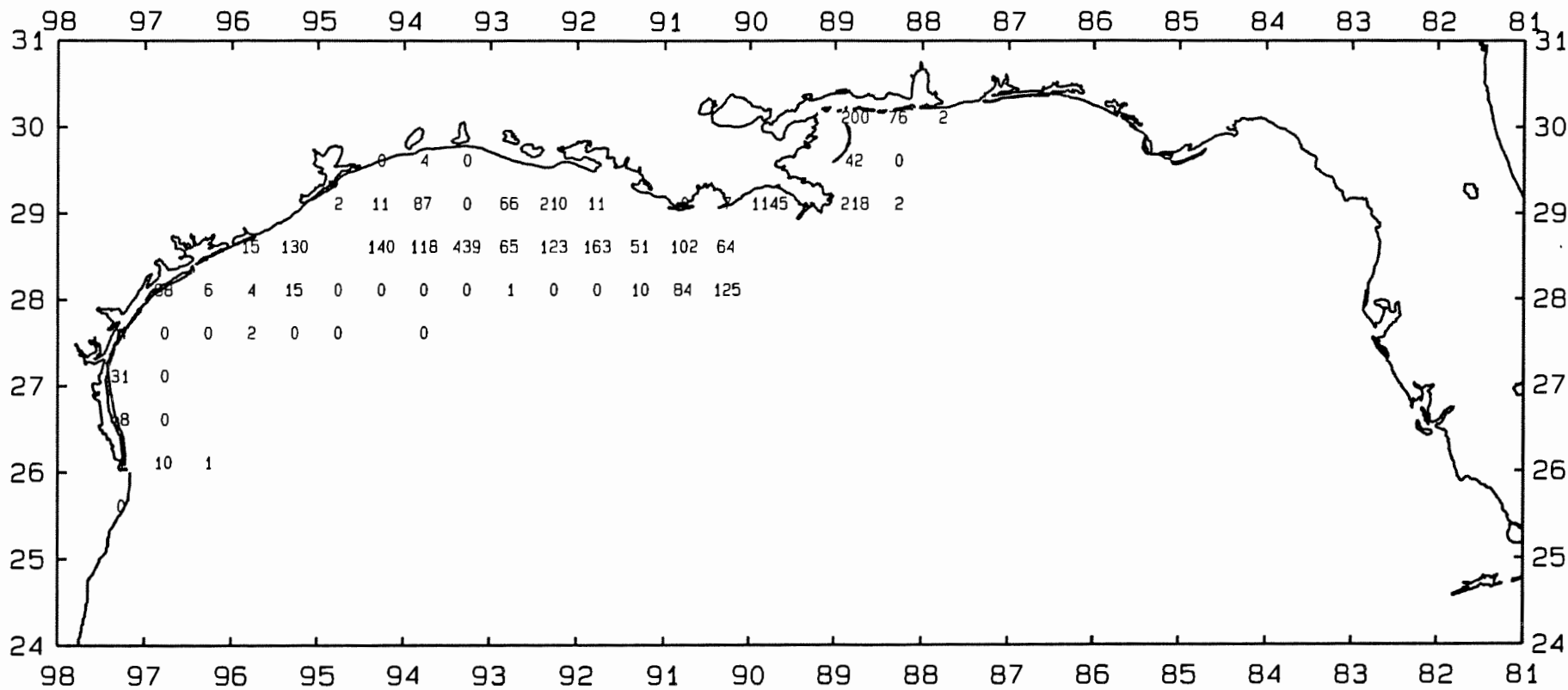


Figure 58. Mantis shrimp, *Squilla empusa*, number/hour for June-July 1992.

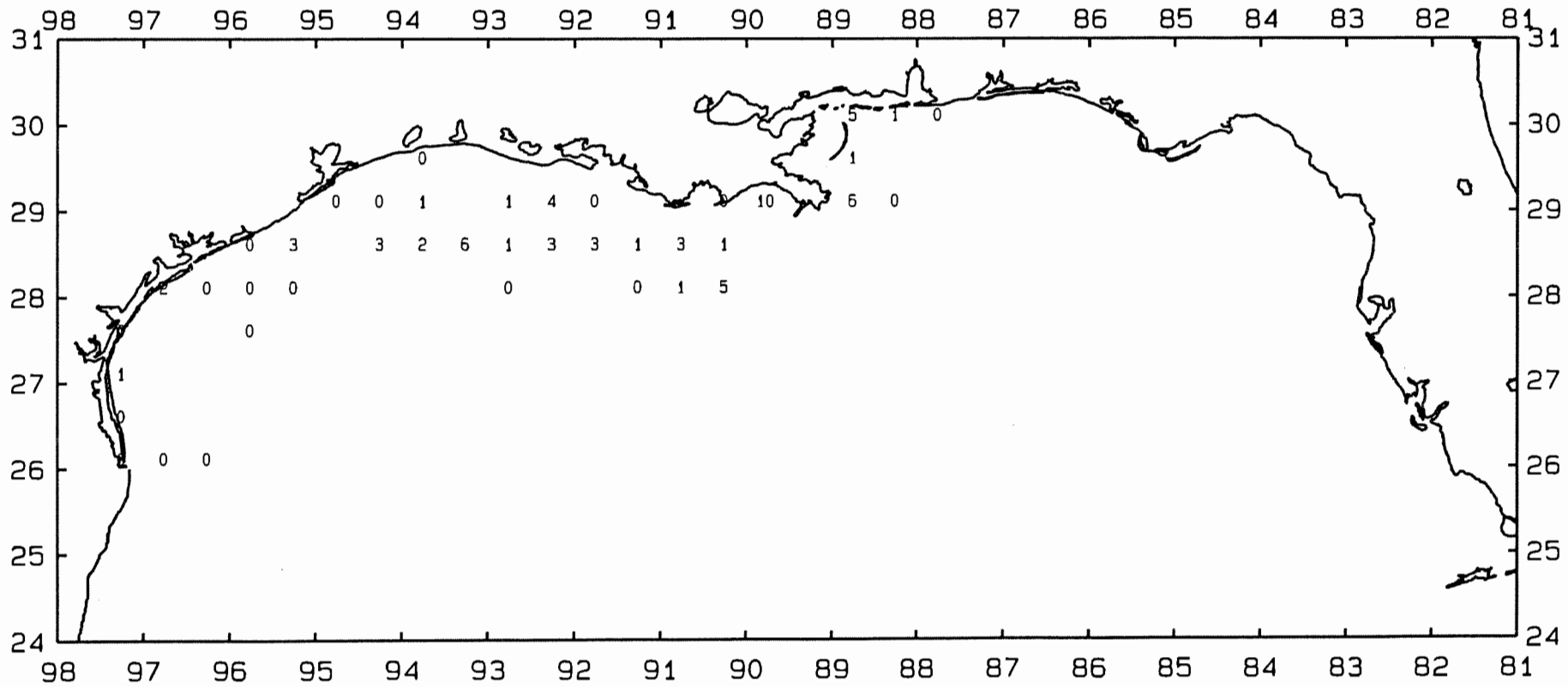


Figure 59. Mantis shrimp, *Squilla empusa*, lb/hour for June-July 1992.

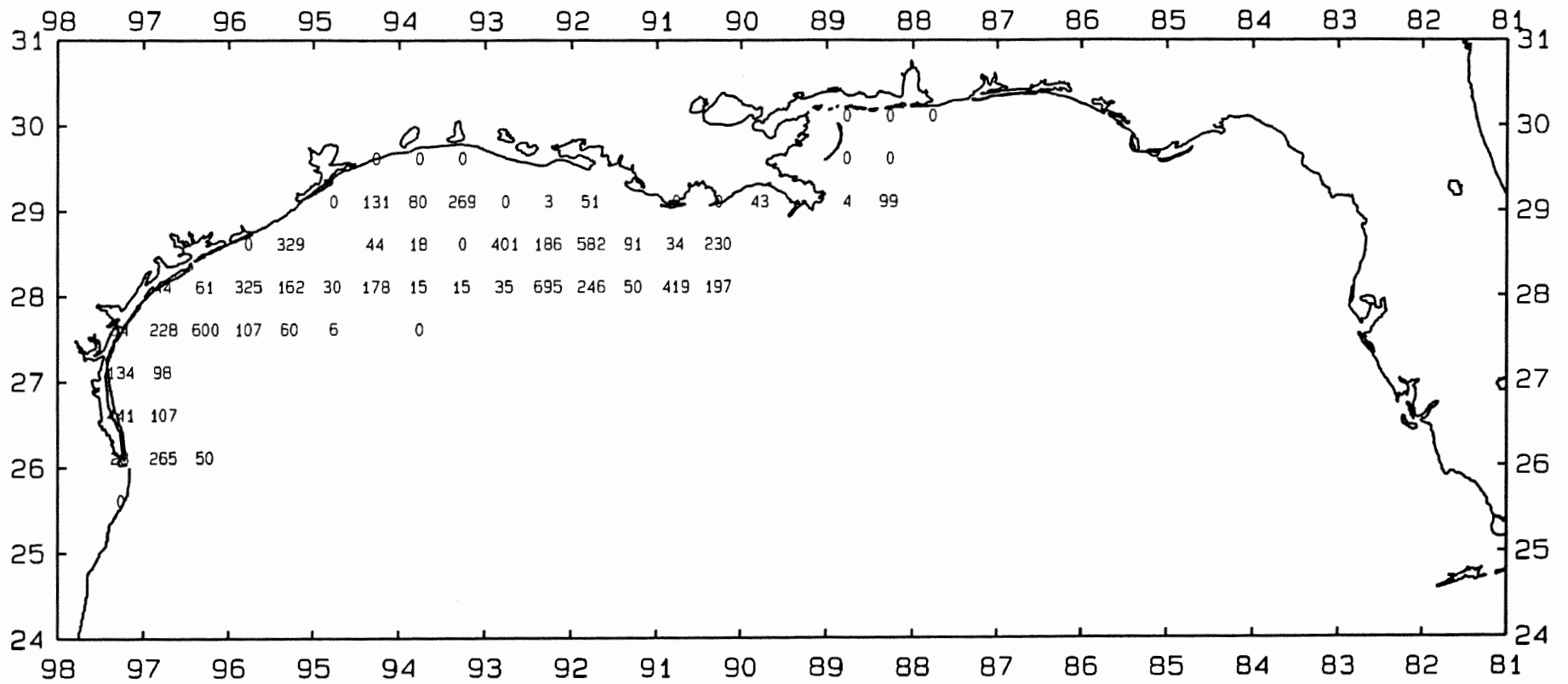


Figure 60. Squids, *Loligo* spp., for June-July 1992.

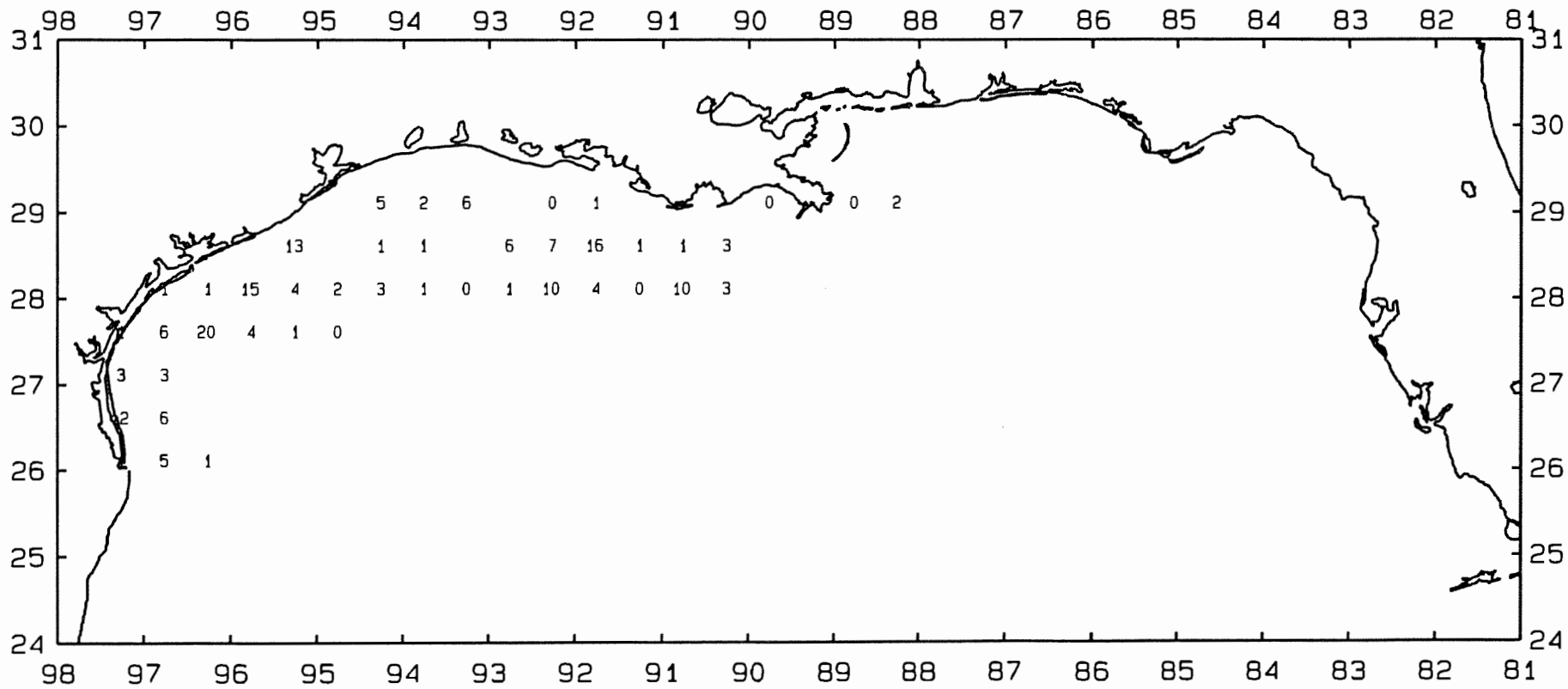


Figure 61. Squids, *Loligo spp.*, lb/hour for June-July 1992.

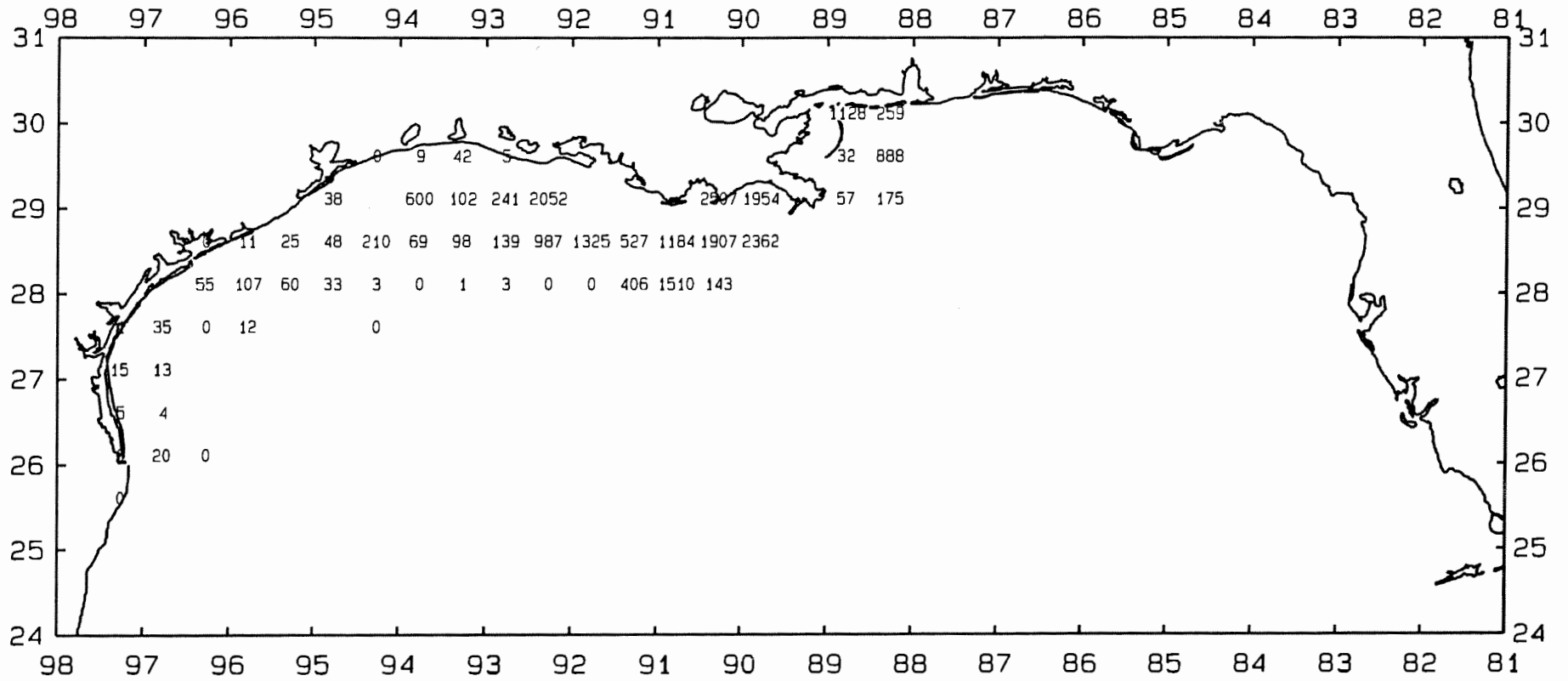


Figure 62. Atlantic croaker, *Micropogonias undulatus*, number/hour for October-December 1992.



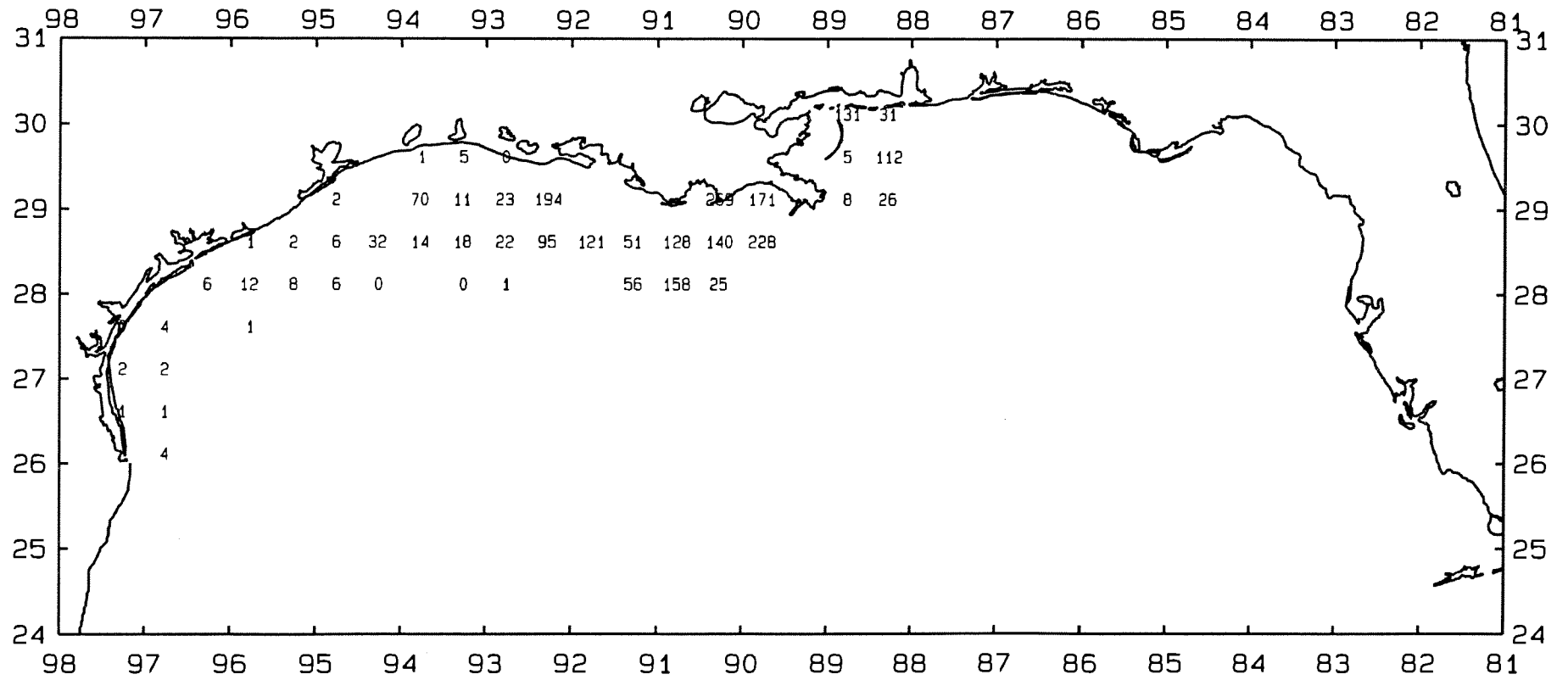


Figure 63. Atlantic croaker, *Microponias undulatus*, lb/hour for October-December 1992.

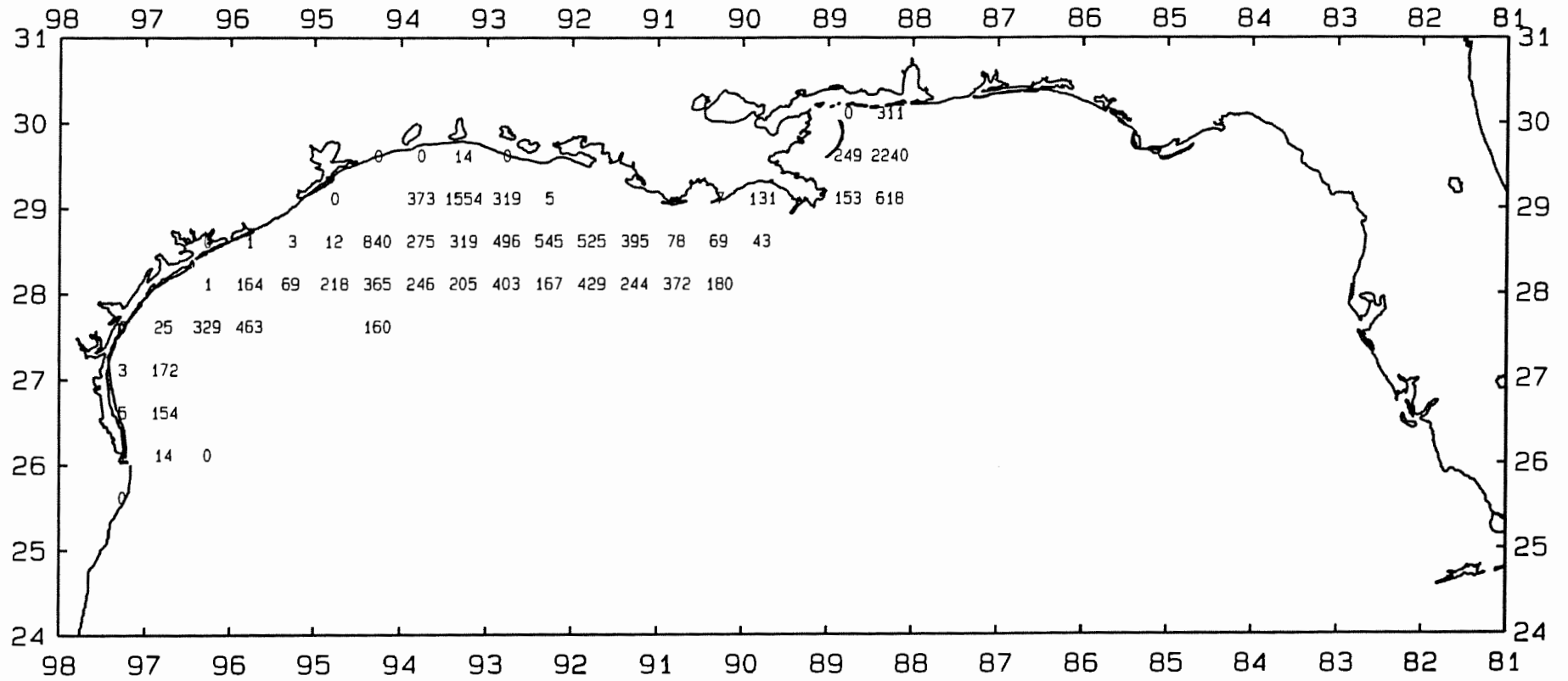


Figure 64. Longspine pogy, *Stenotomus caprinus*, number/hour for October-December 1992.

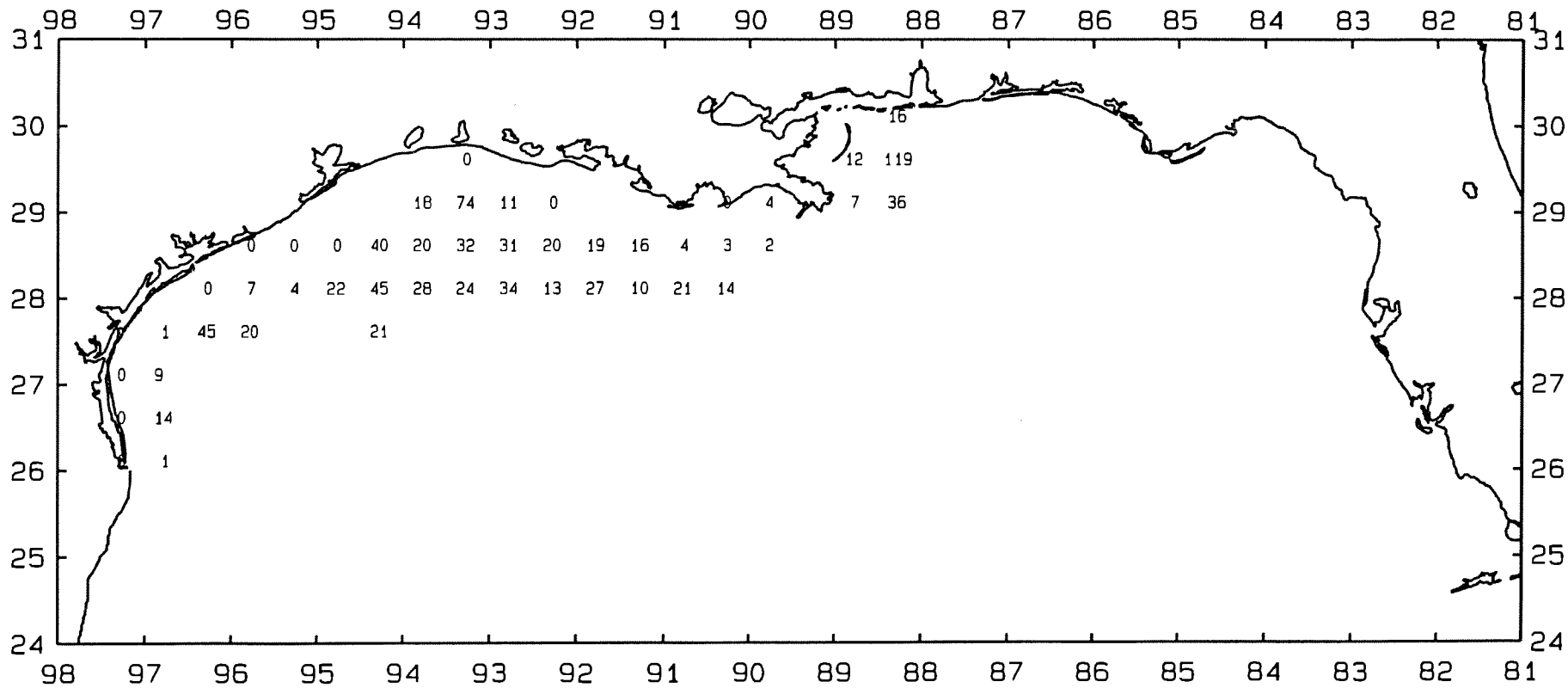


Figure 65. Longspine pogy, *Stenotomus caprinus*, lb/hour for October-December 1992.

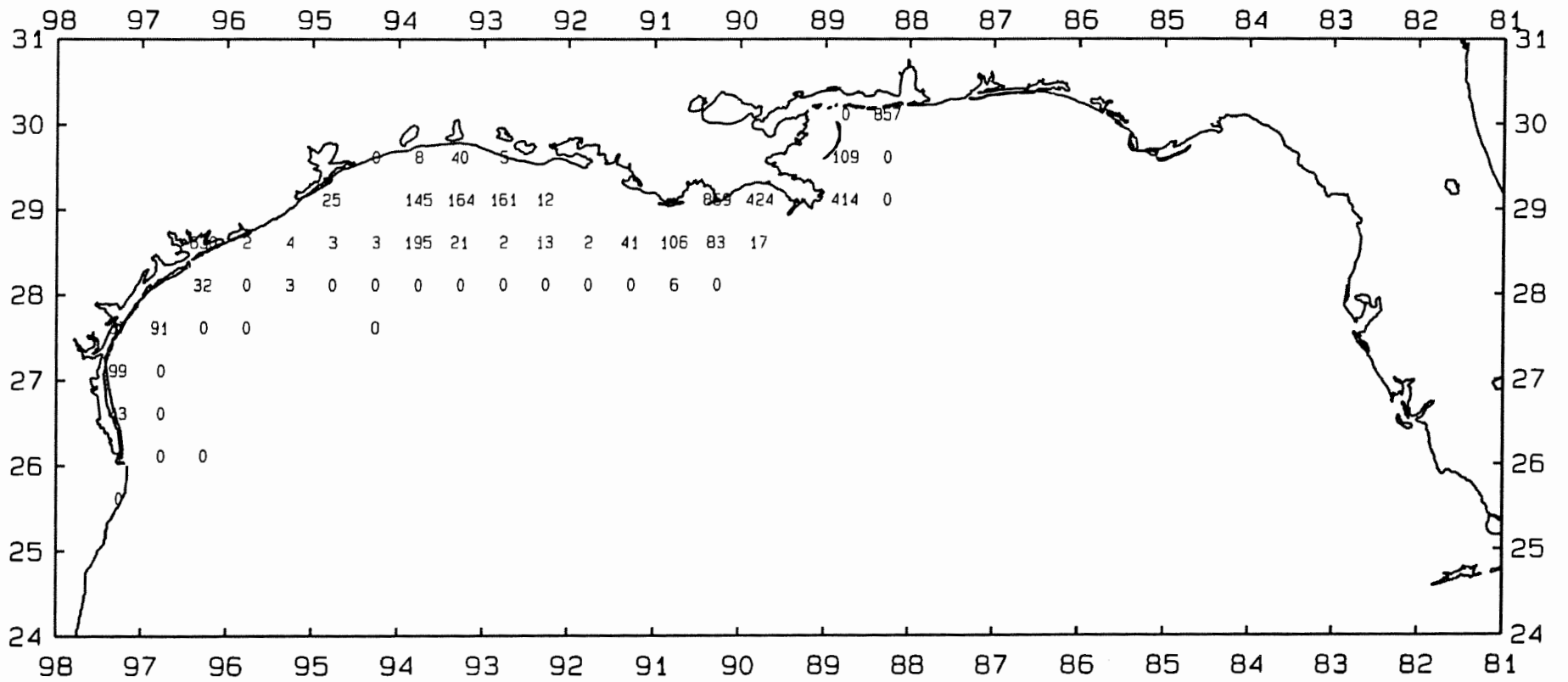


Figure 66. Hardhead catfish, *Arius felis*, number/hour for October-December 1992.

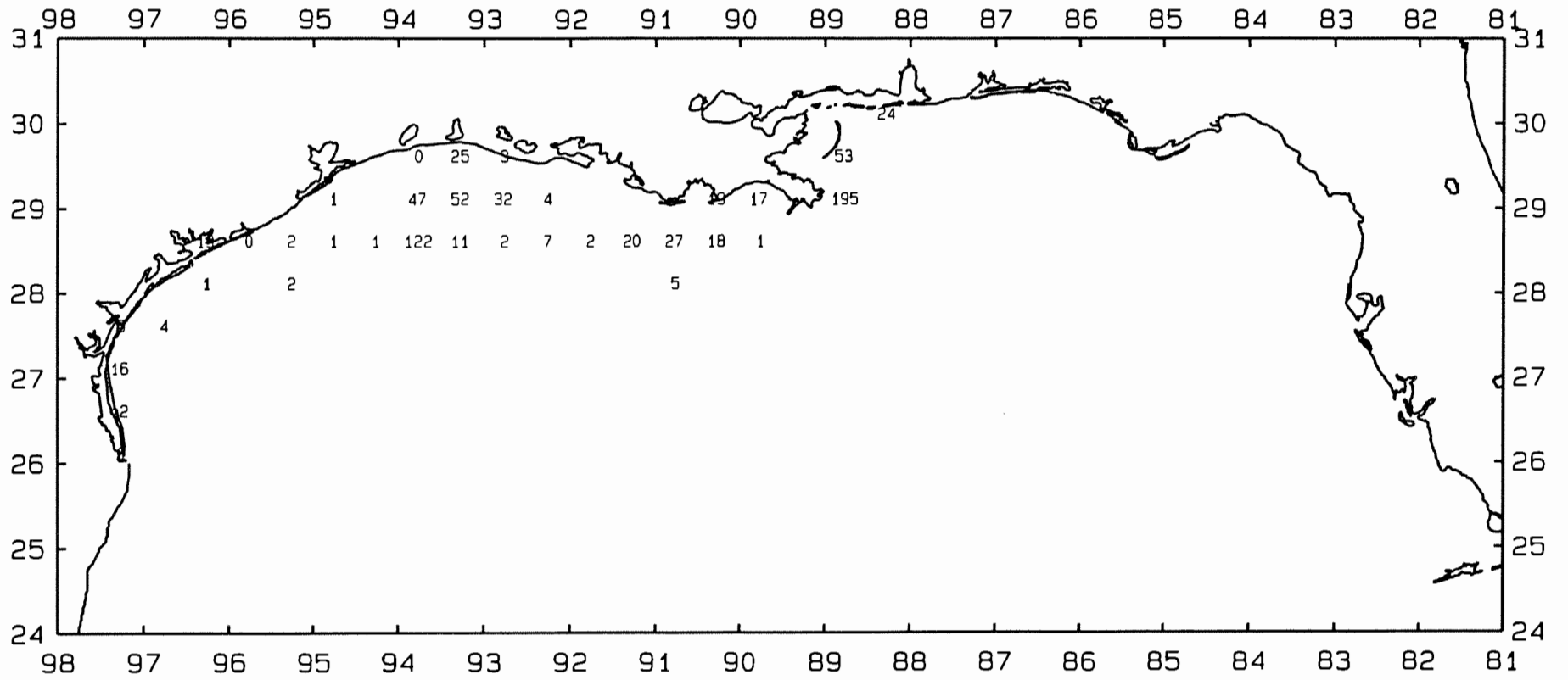


Figure 67. Hardhead catfish, *Arius felis*, lb/hour for October-December 1992.

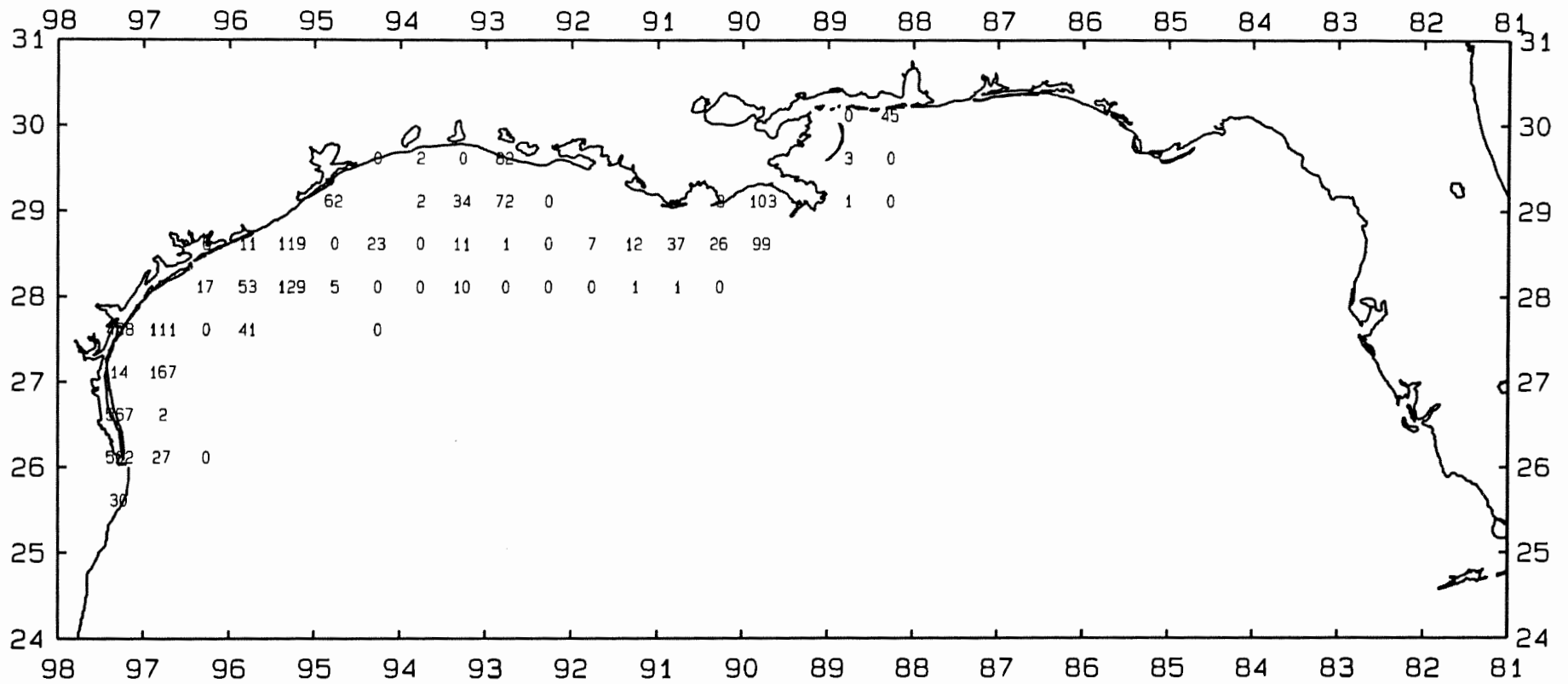


Figure 68. Atlantic bumper, *Chloroscombrus chrysurus*, number/hour for October-December 1992.

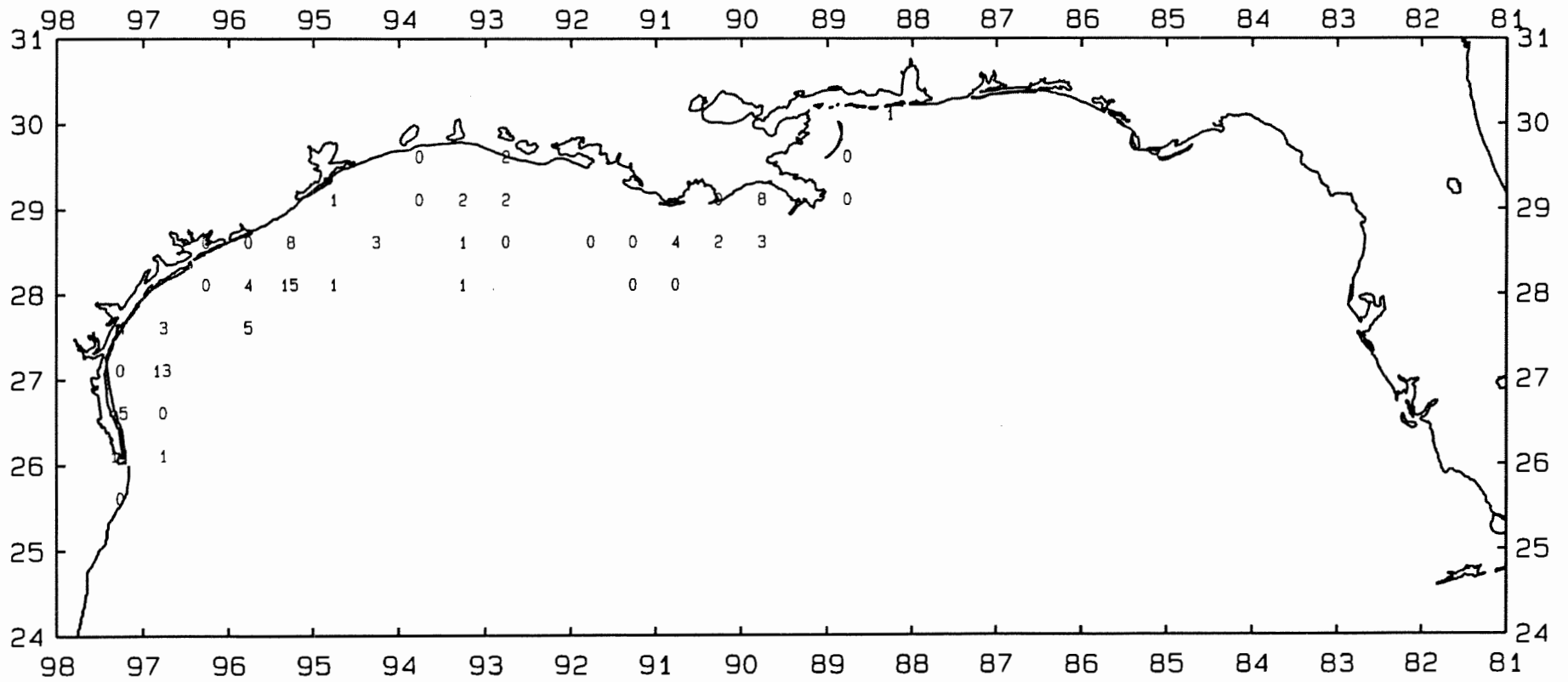


Figure 69. Atlantic bumper, *Chloroscombrus chrysurus*, lb/hour for October-December 1992.

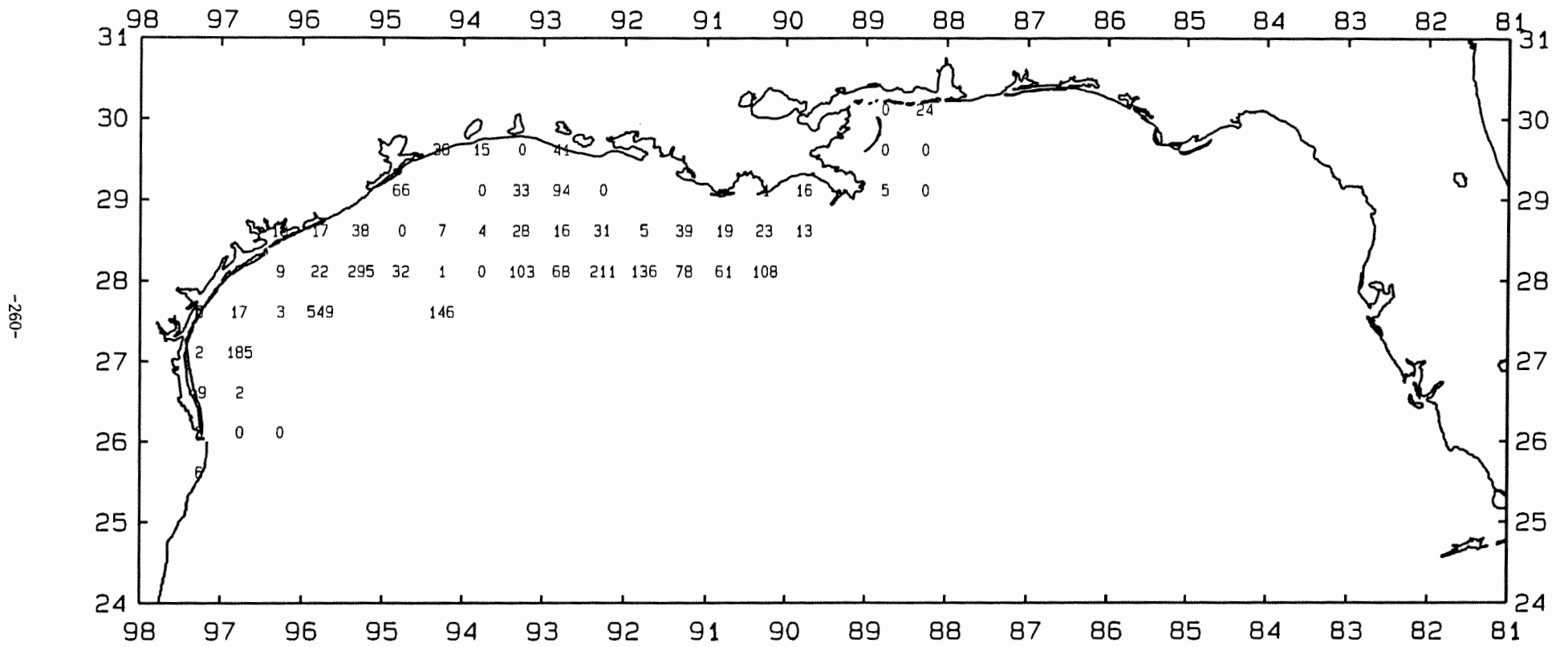


Figure 70. Gulf butterfish, *Peprilus burti*, number/hour for October-December 1992.



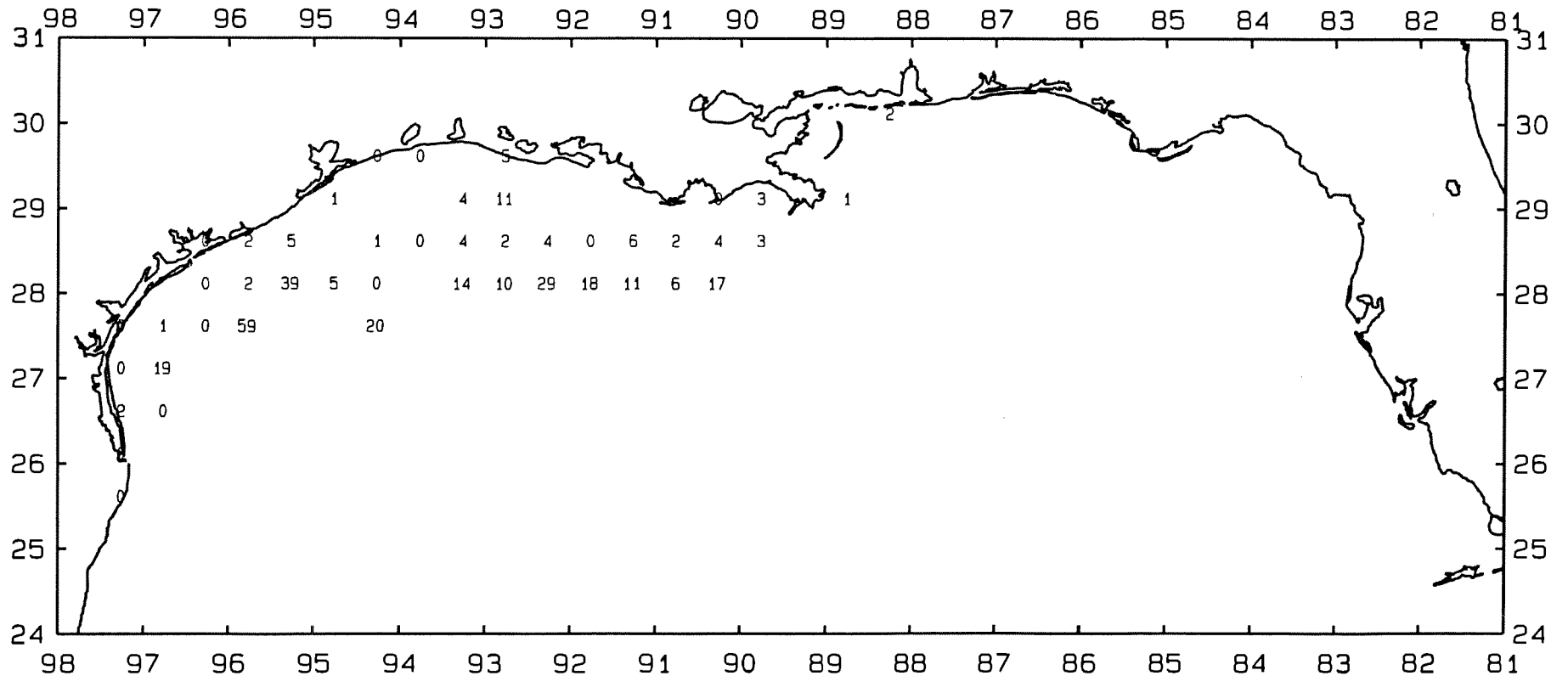


Figure 71. Gulf butterfish, Peprilus burti, lb/hour for October-December 1992.

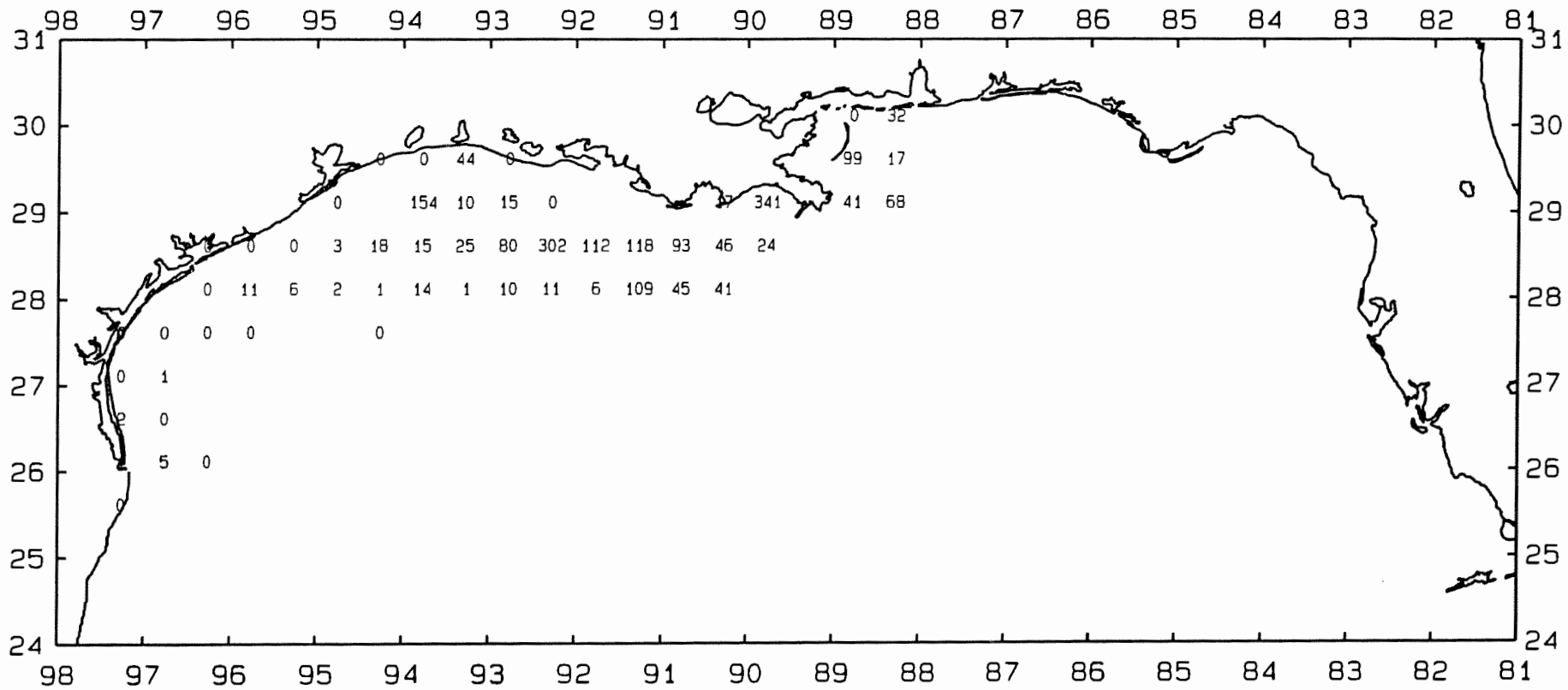


Figure 72. Bigeye searobin, *Prionotus longispinosus*, number/hour for October-December 1992.

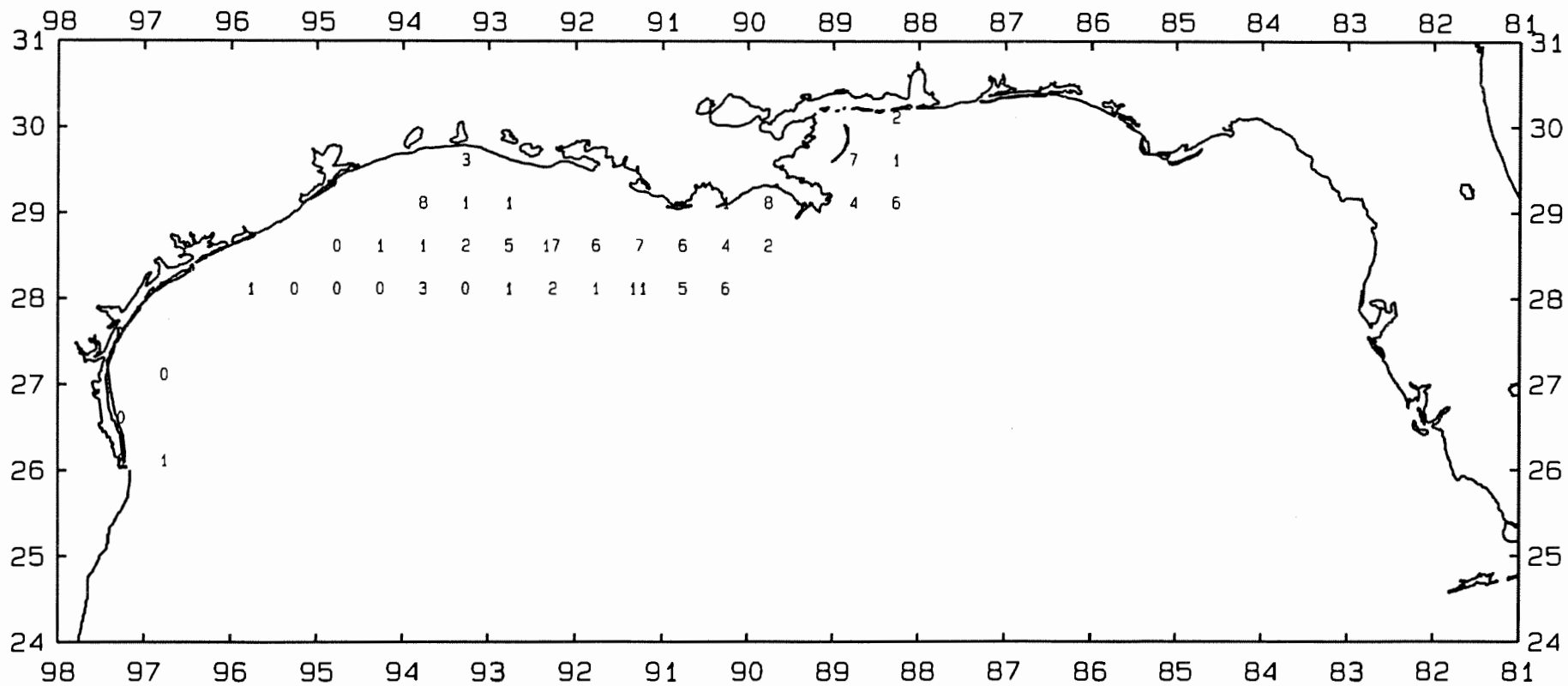


Figure 73. Bigeye searobin, *Prionotus longispinosus*, lb/hour for October-December 1992.

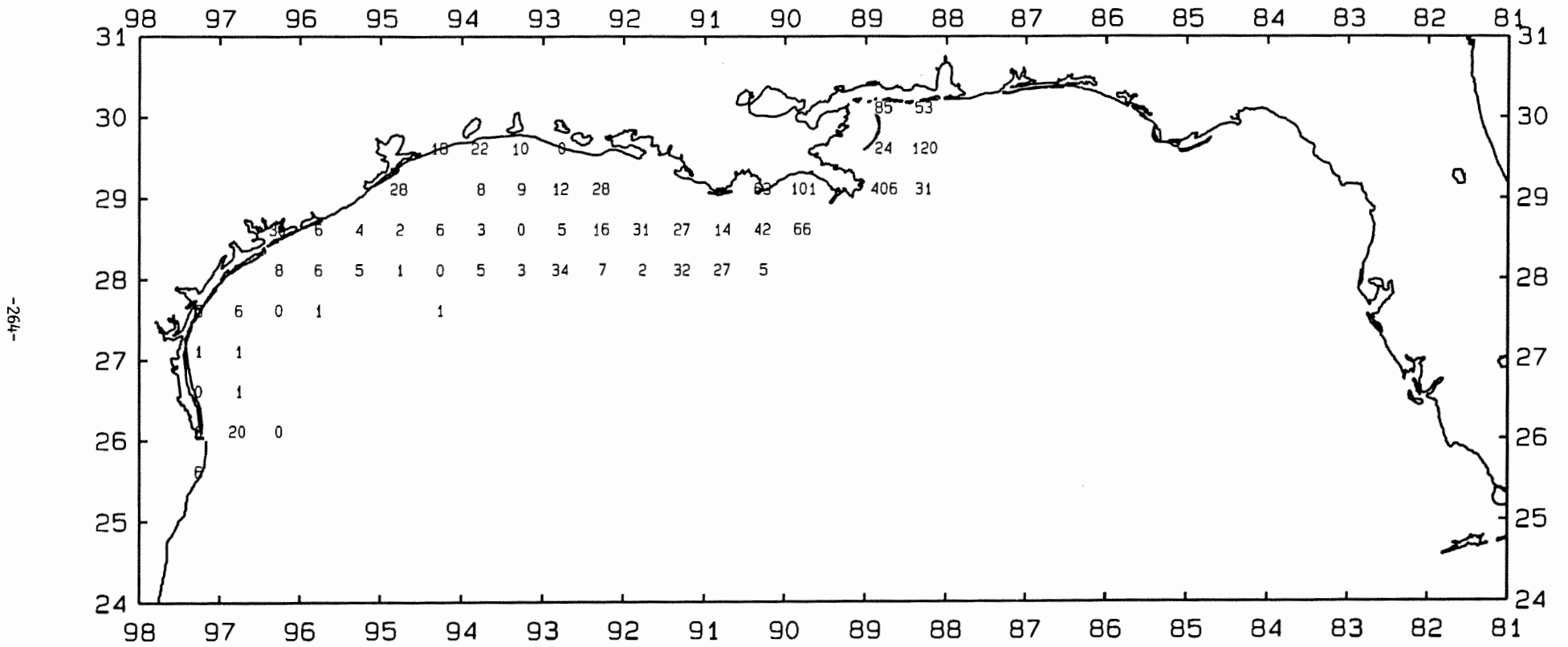


Figure 74. Sand seatrout, *Cynoscion arenarius*, number/hour for October-December 1992.

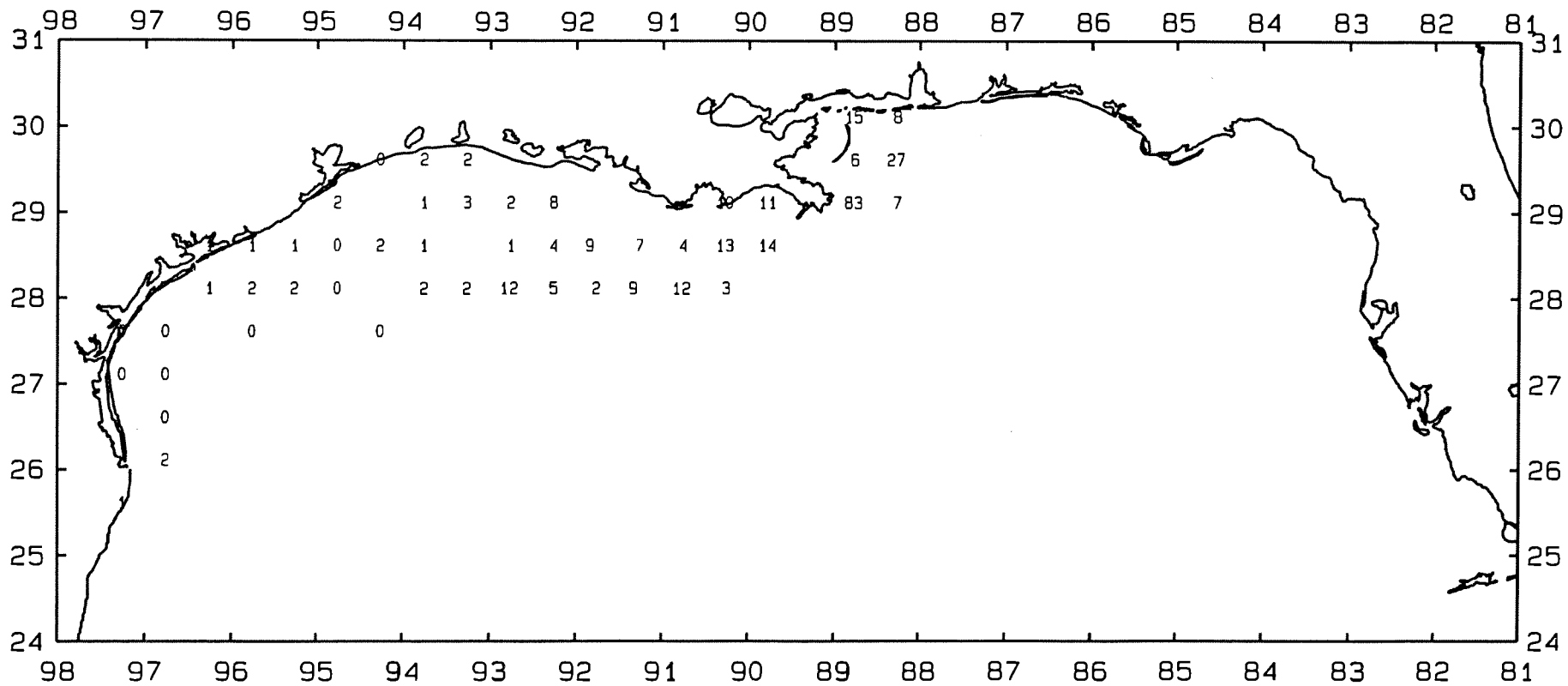


Figure 75. Sand seatrout, *Cynoscion arenarius*, lb/hour for October-December 1992.

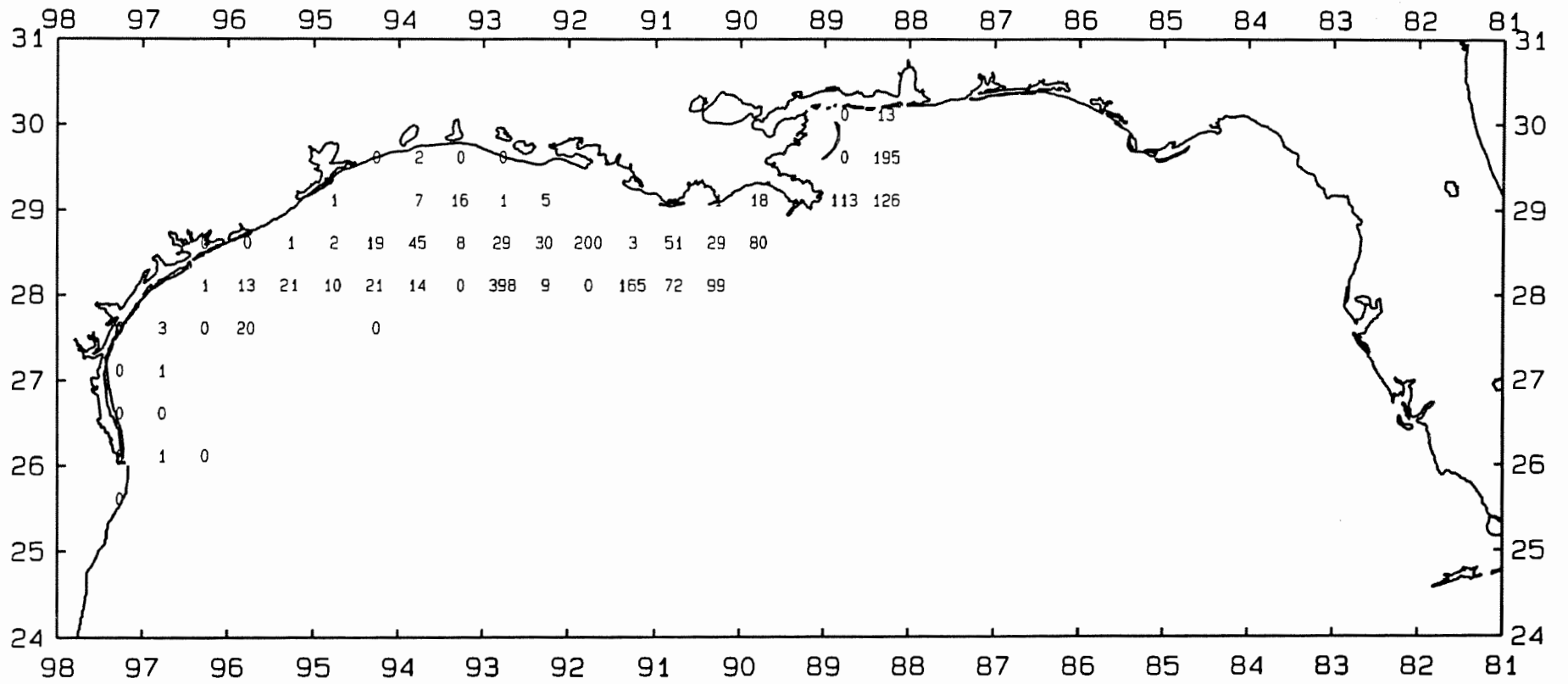


Figure 76. Spot, *Leiosomus xanthurus*, number/hour for October-December 1992.

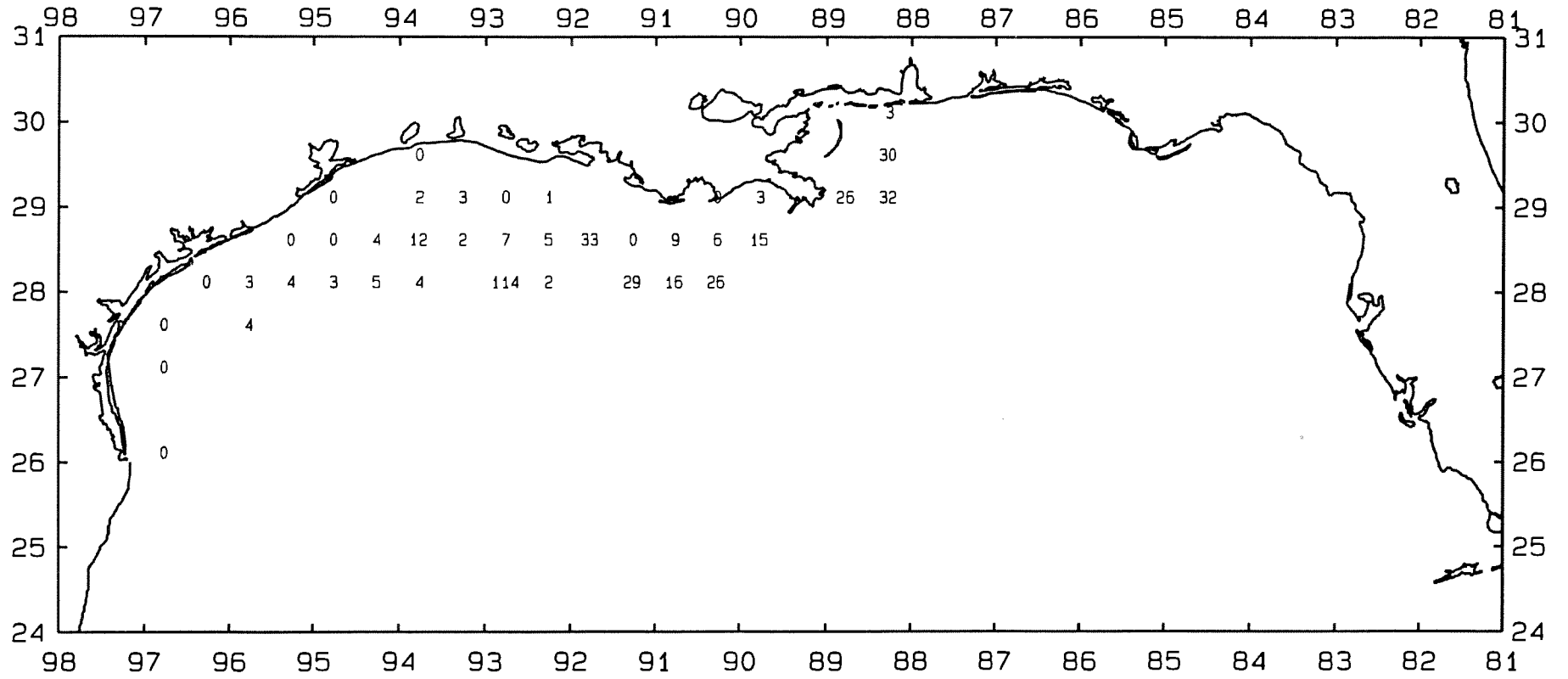


Figure 77. Spot, *Leiostomus xanthurus*, lb/hour for October-December 1992.

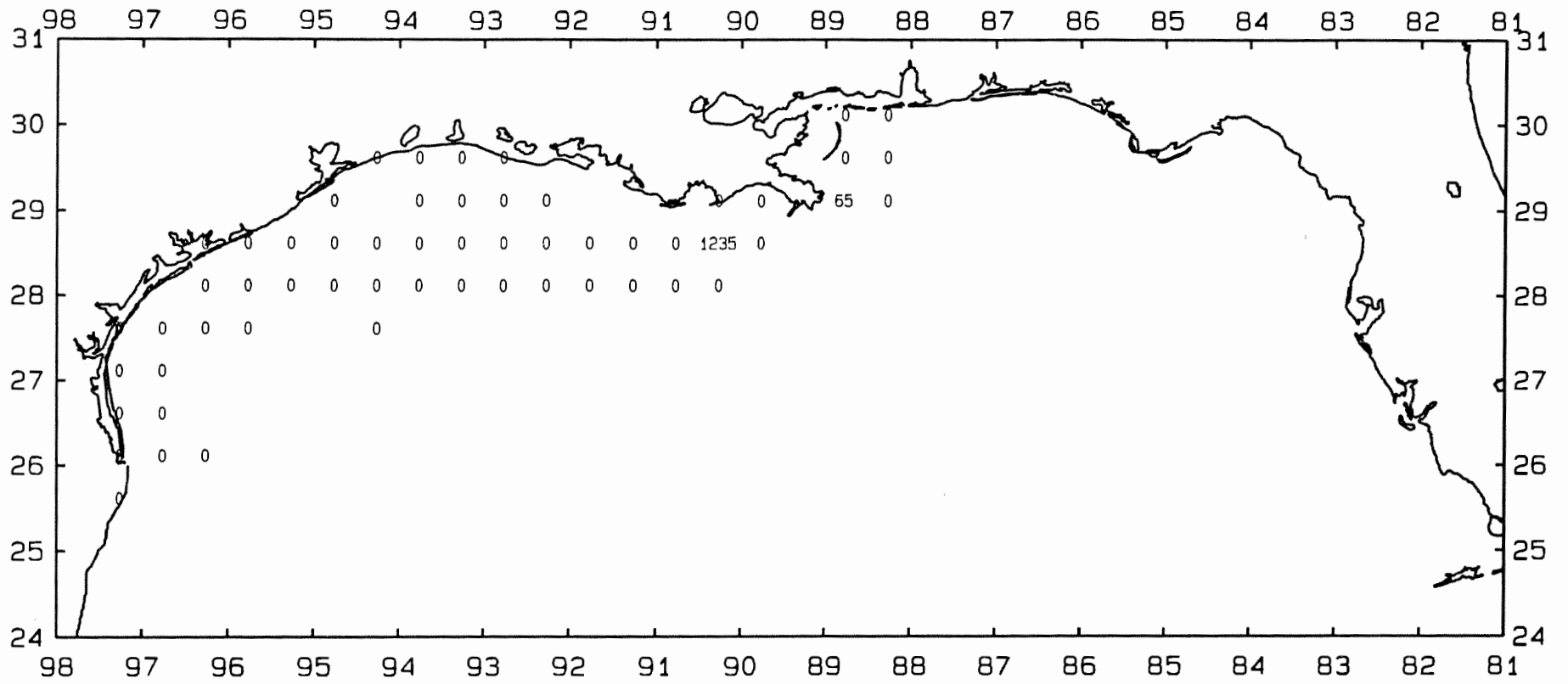


Figure 78. Luminous hake, *Steindachneria agentea*, number/hour for October-December 1992.



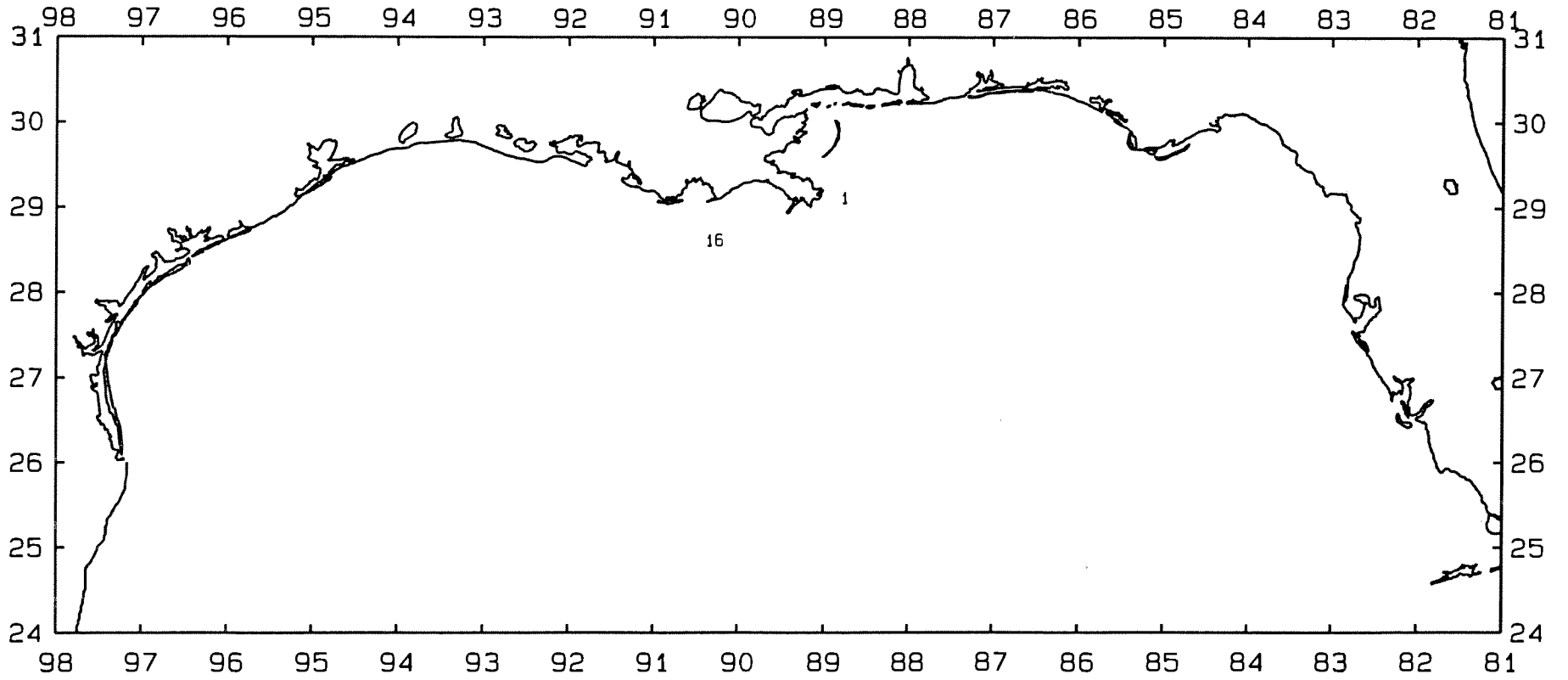


Figure 79. Luminous hake, *Steindachneria agentea*, lb/hour for October-December 1992.

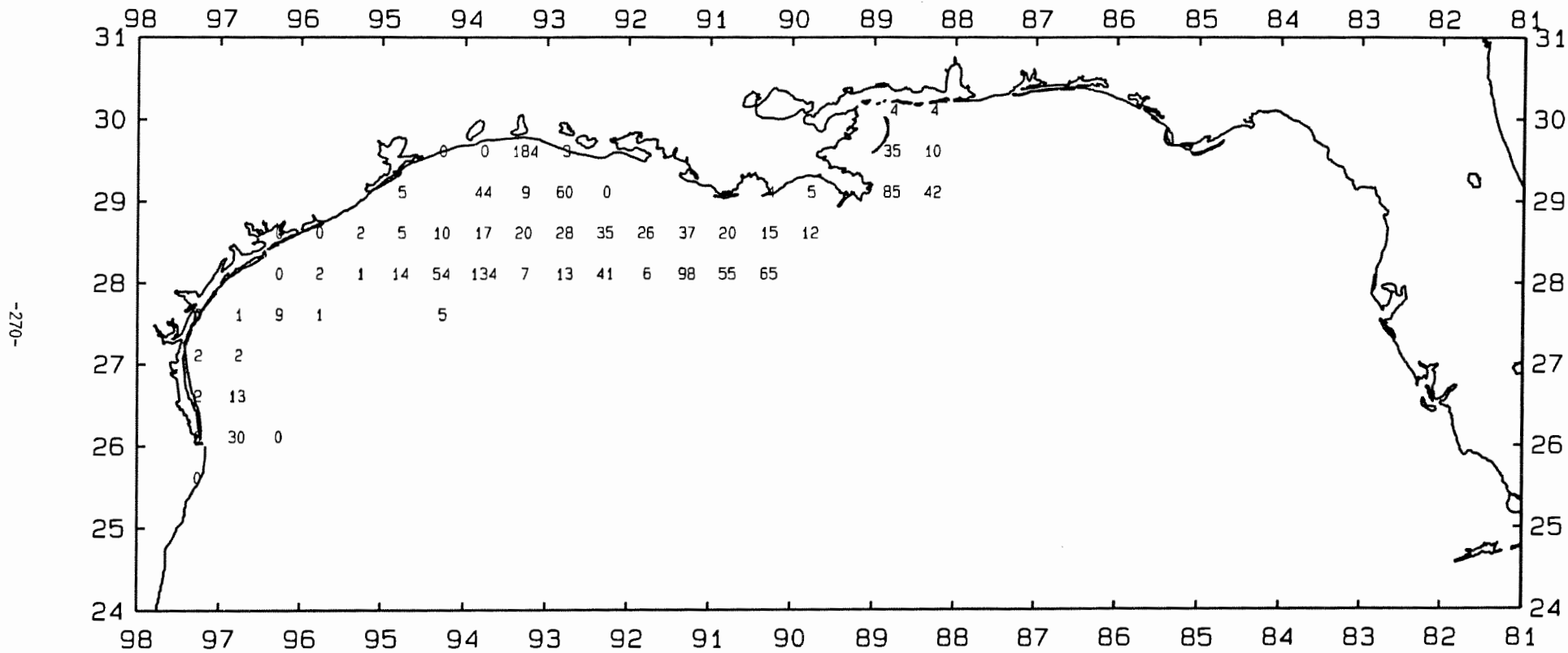


Figure 80. Rock sea bass, *Centropristis philadelphica*, number/hour for October-December 1992.

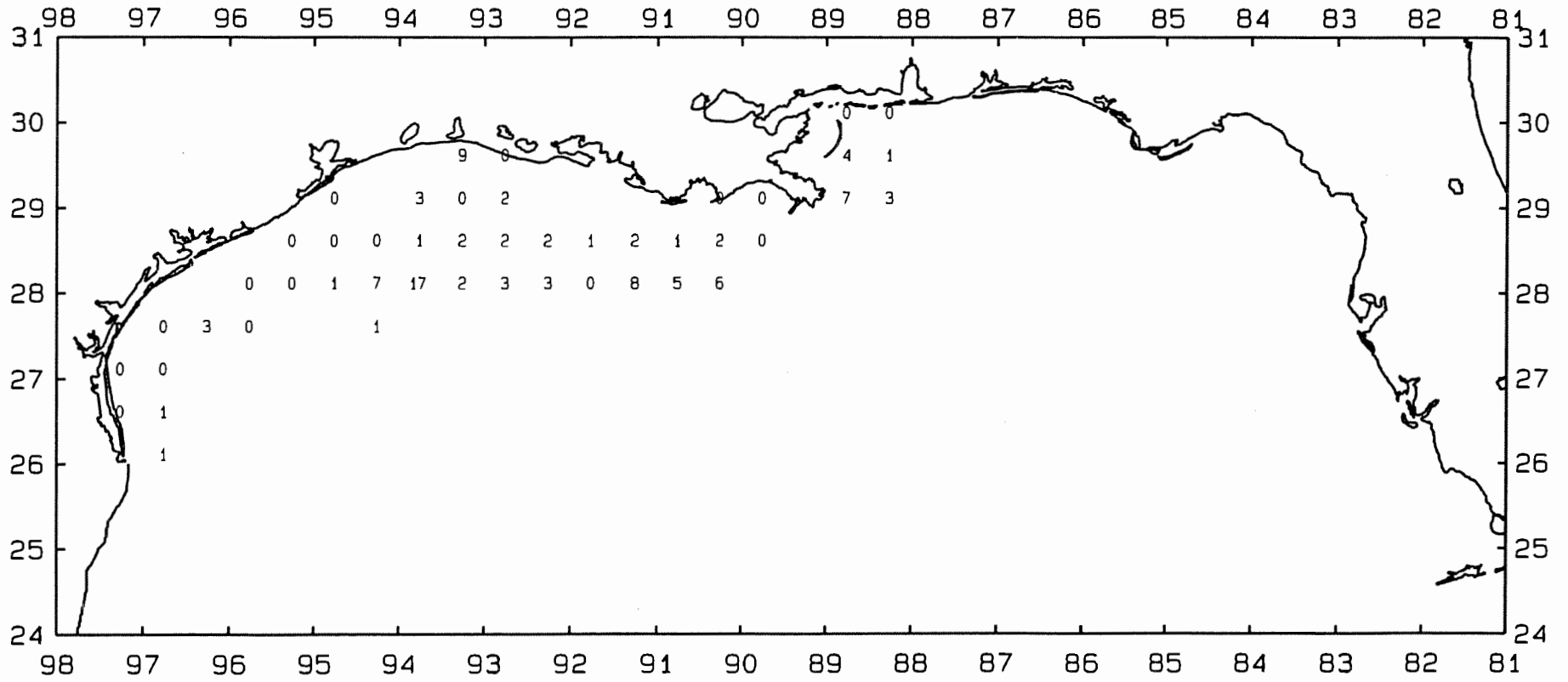


Figure 81. Rock sea bass, *Centropristis philadelphica*, lb/hour for October-December 1992.

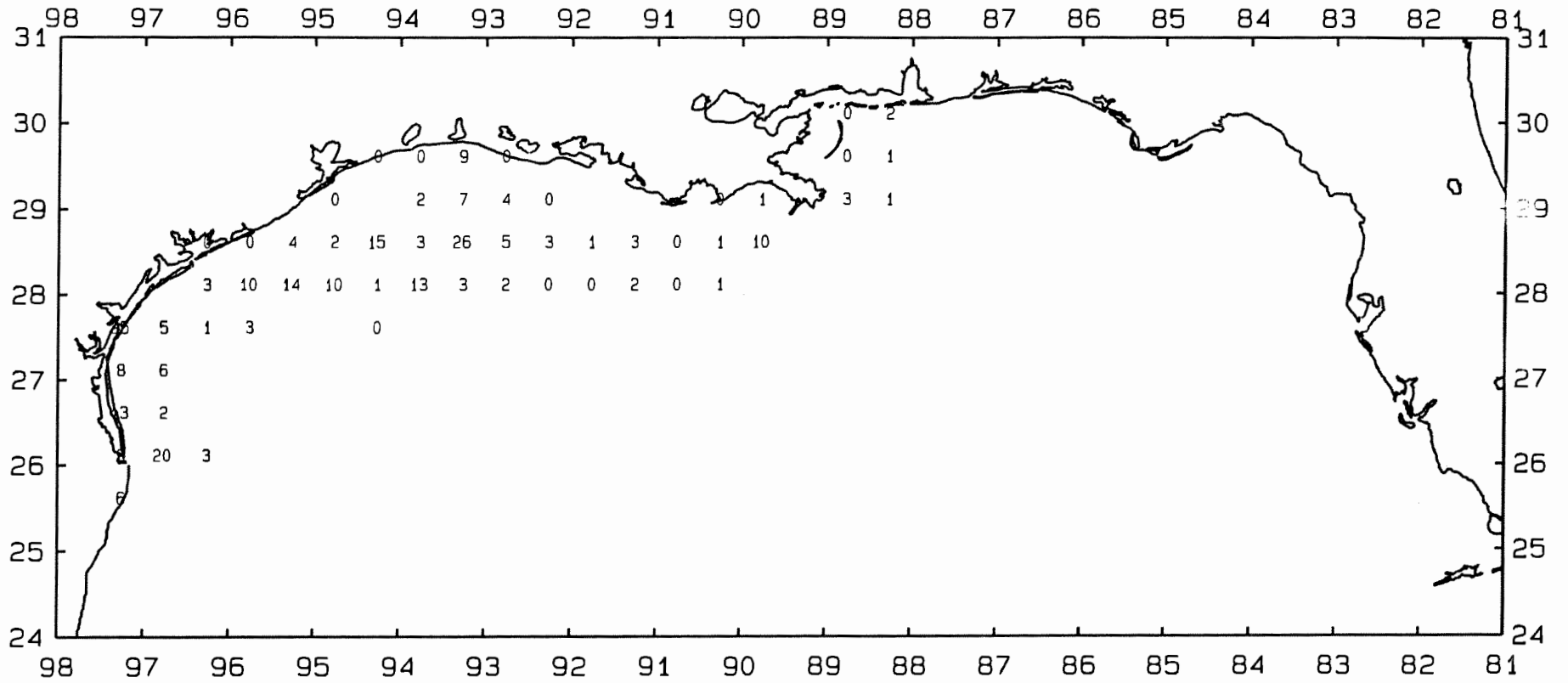


Figure 82. Red snapper, *Lutjanus campechanus*, number/hour for October-December 1992.

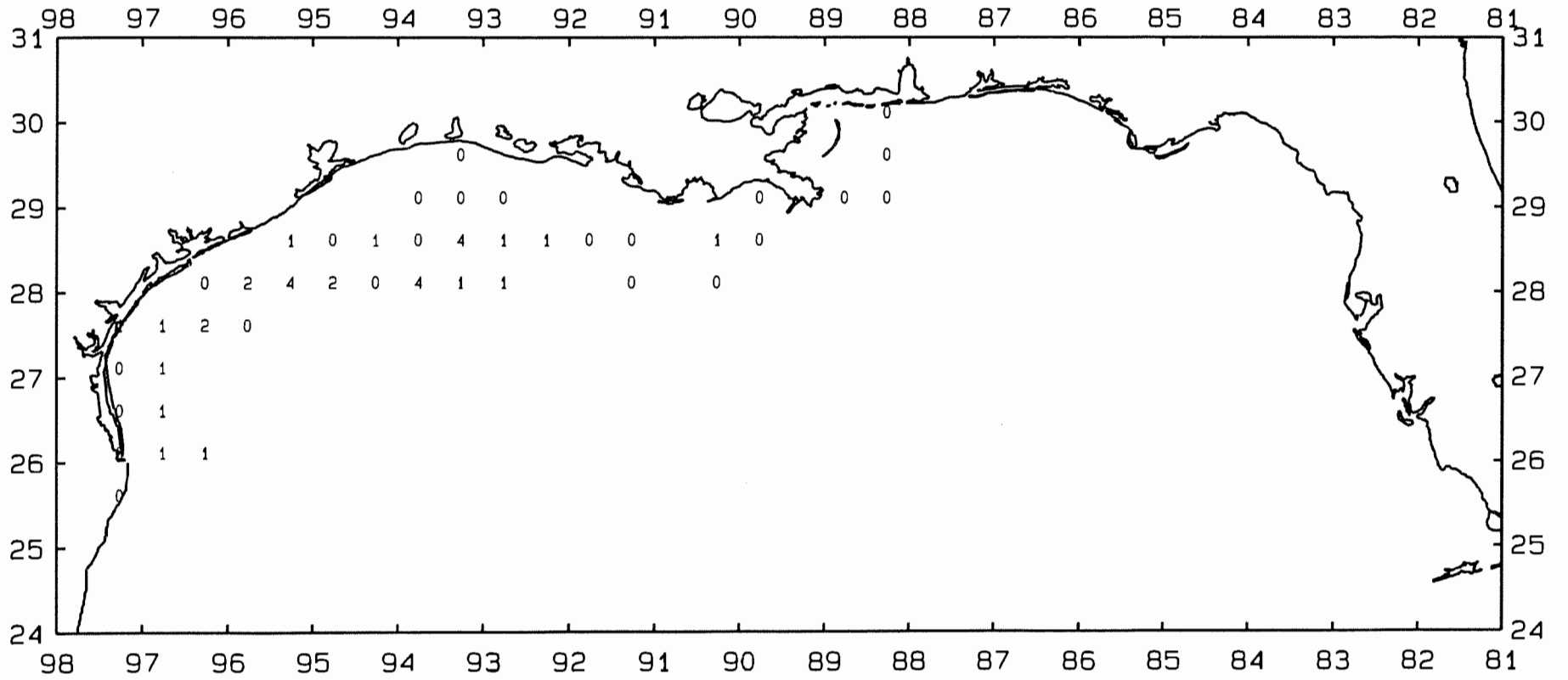


Figure 83. Red snapper, Lutjanus campechanus, lb/hour for October-December 1992.

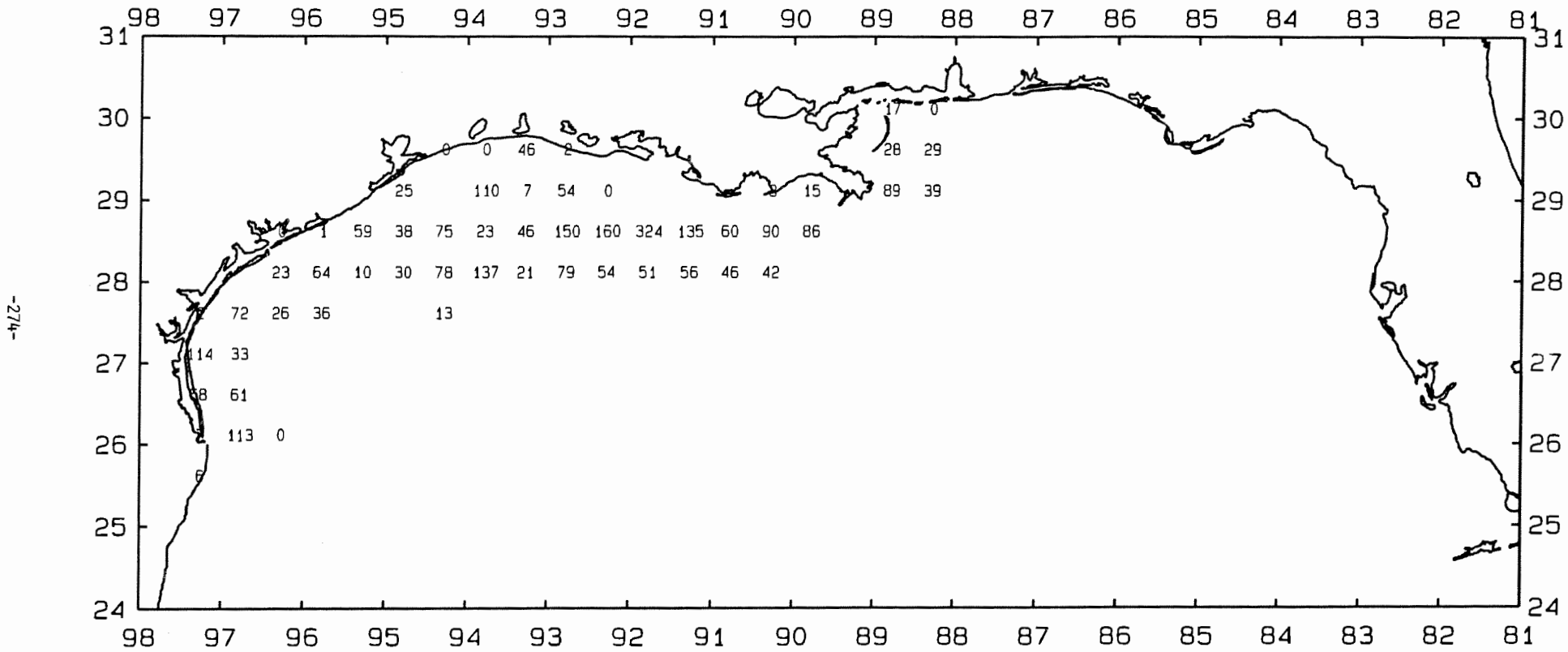


Figure 84. White shrimp, *Penaeus setiferus*, number/hour for October-December 1992.

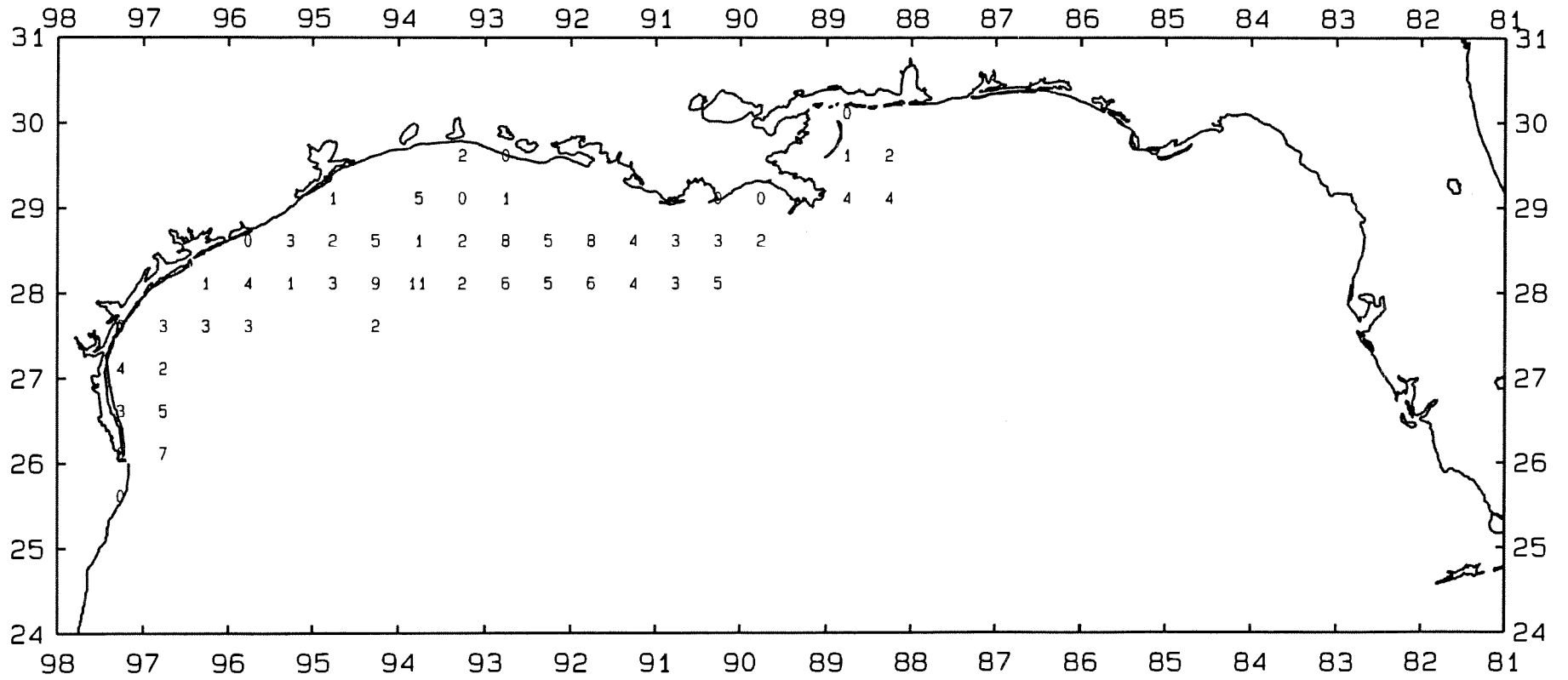


Figure 85. White shrimp, Penaeus setiferus, lb/hour for October-December 1992.

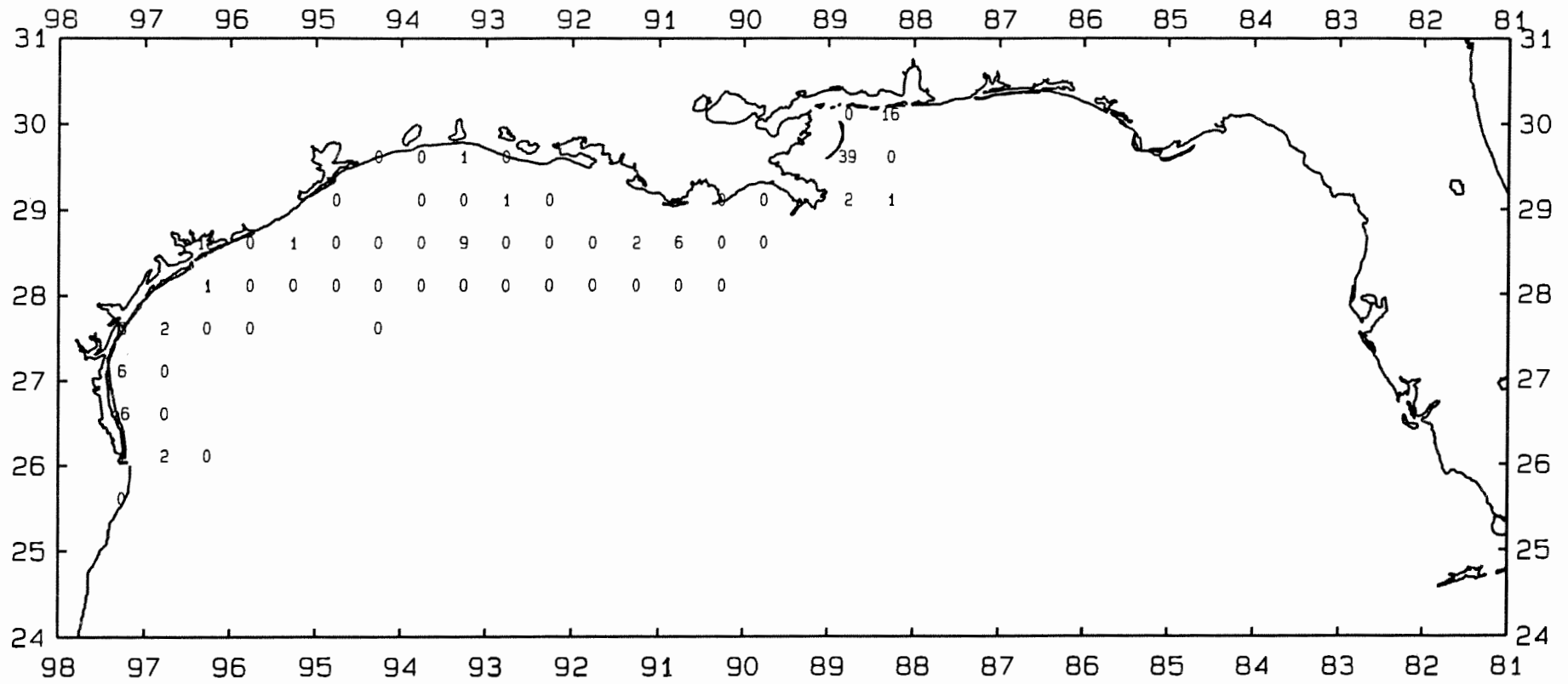


Figure 86. Brown shrimp, *Penaeus aztecus*, number/hour for October-December 1992.



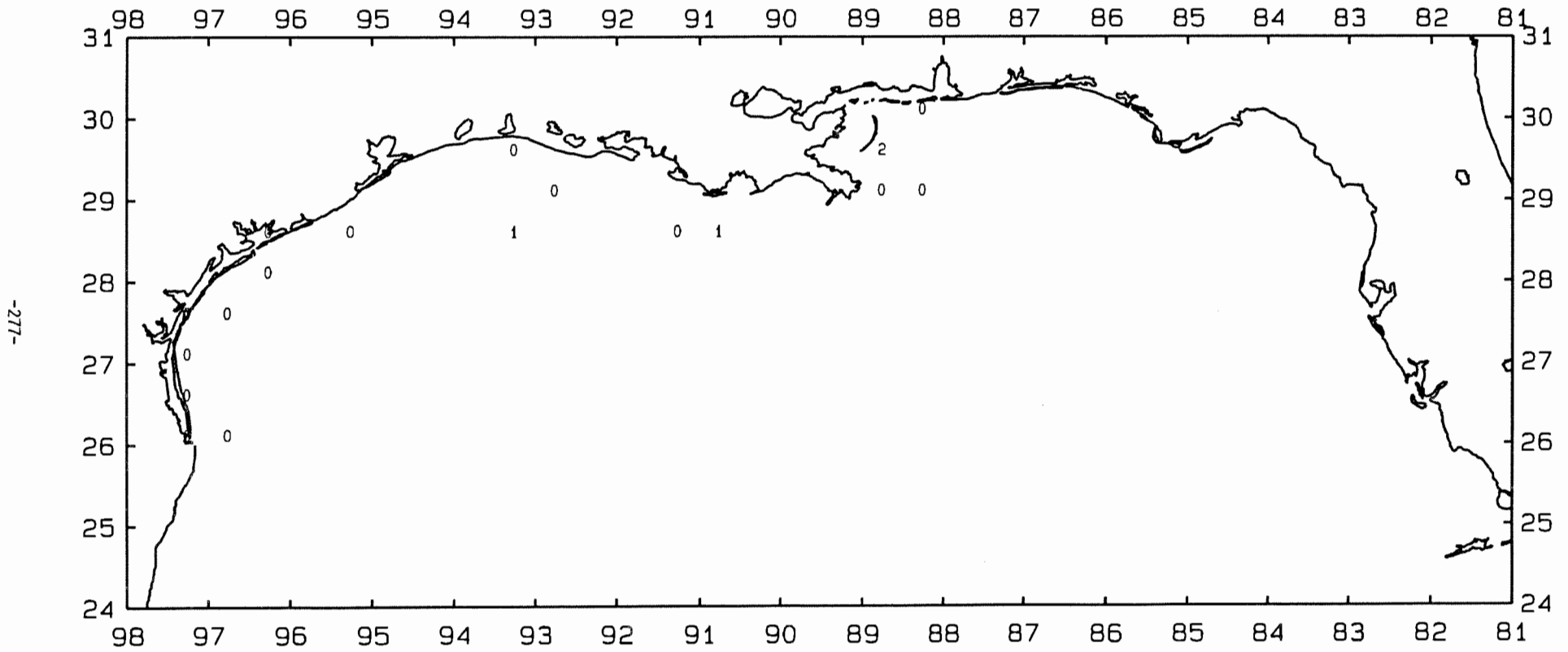


Figure 87. Brown shrimp, *Penaeus aztecus*, lb/hour for October-December 1992.

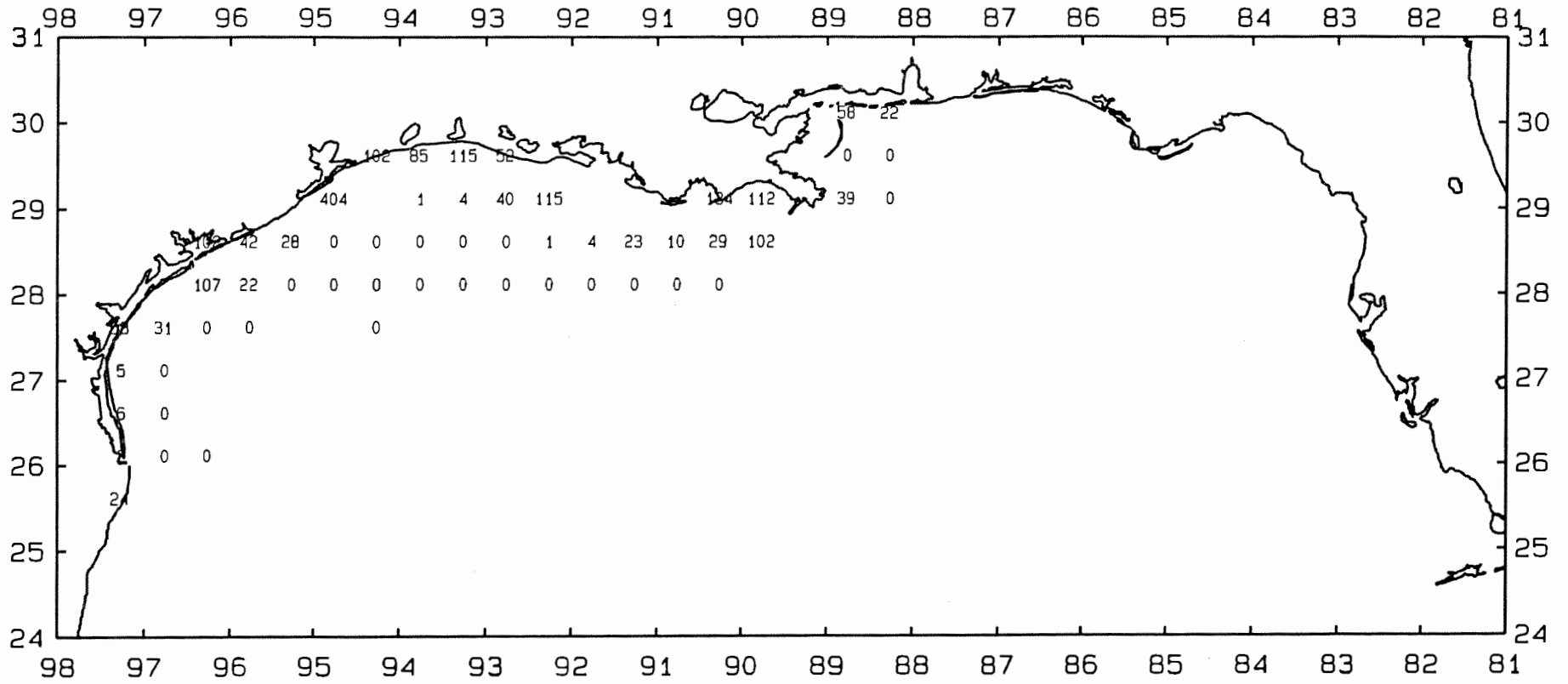


Figure 88. Pink shrimp, *Penaeus duorarum*, number/hour for October-December 1992.

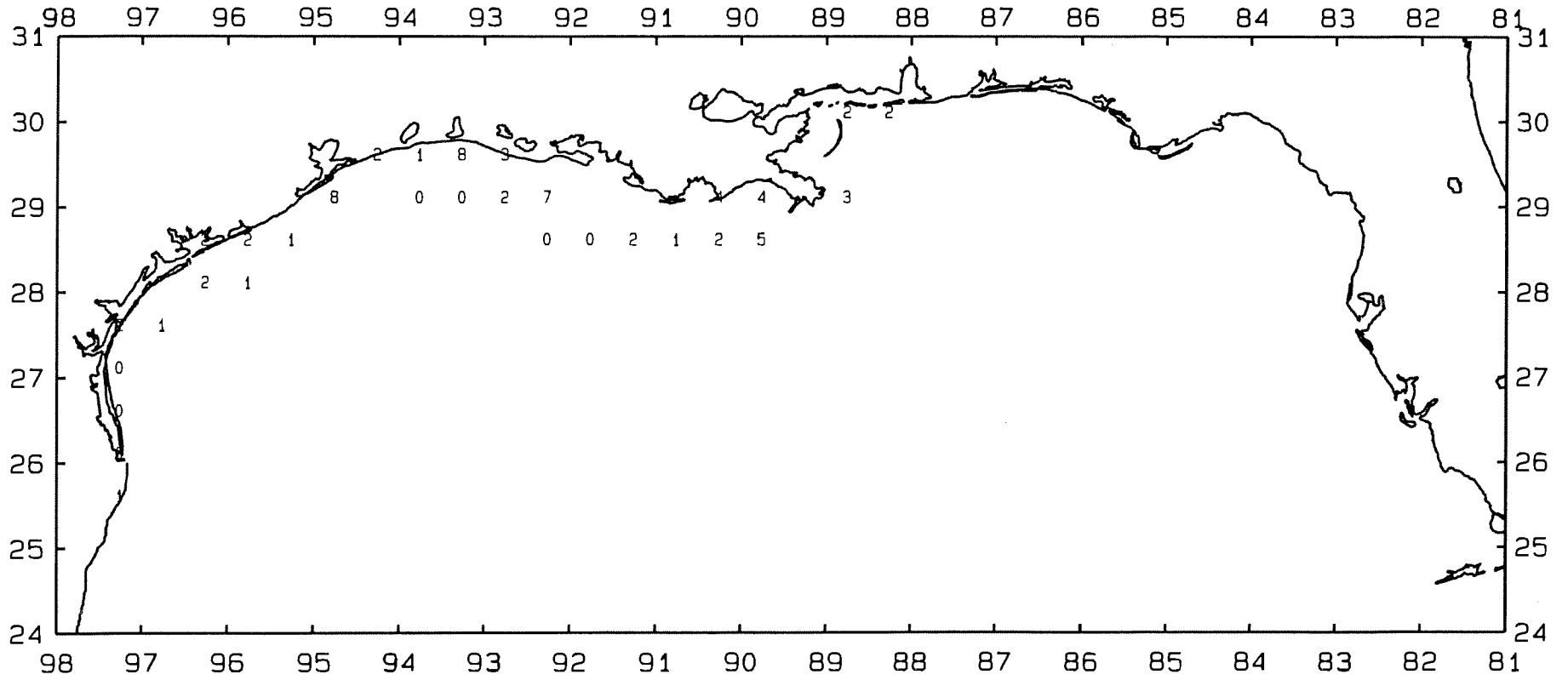


Figure 89. Pink shrimp, Penaeus duorarum, lb/hour for October-December 1992.

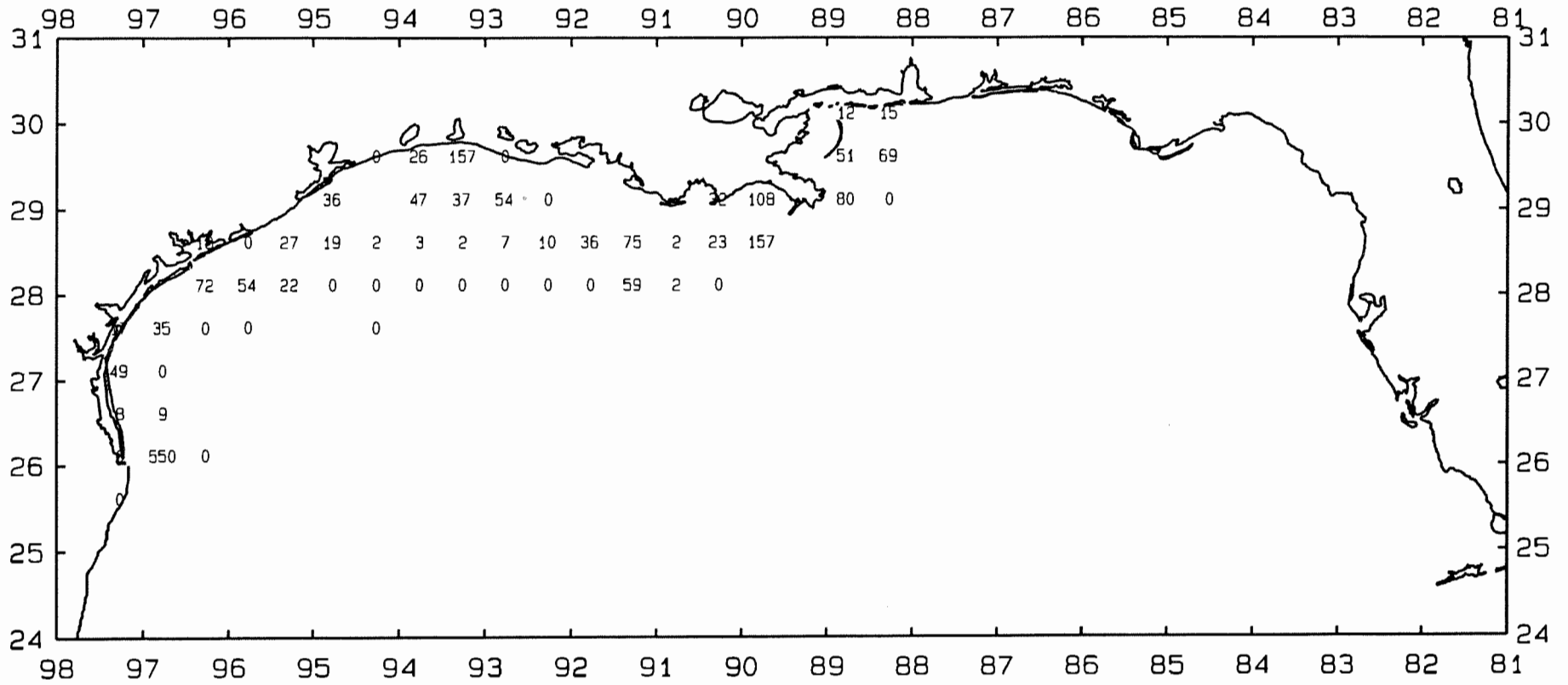


Figure 90. Roughback shrimp, *Trachypenaeus similis*, number/hour for October-December 1992.

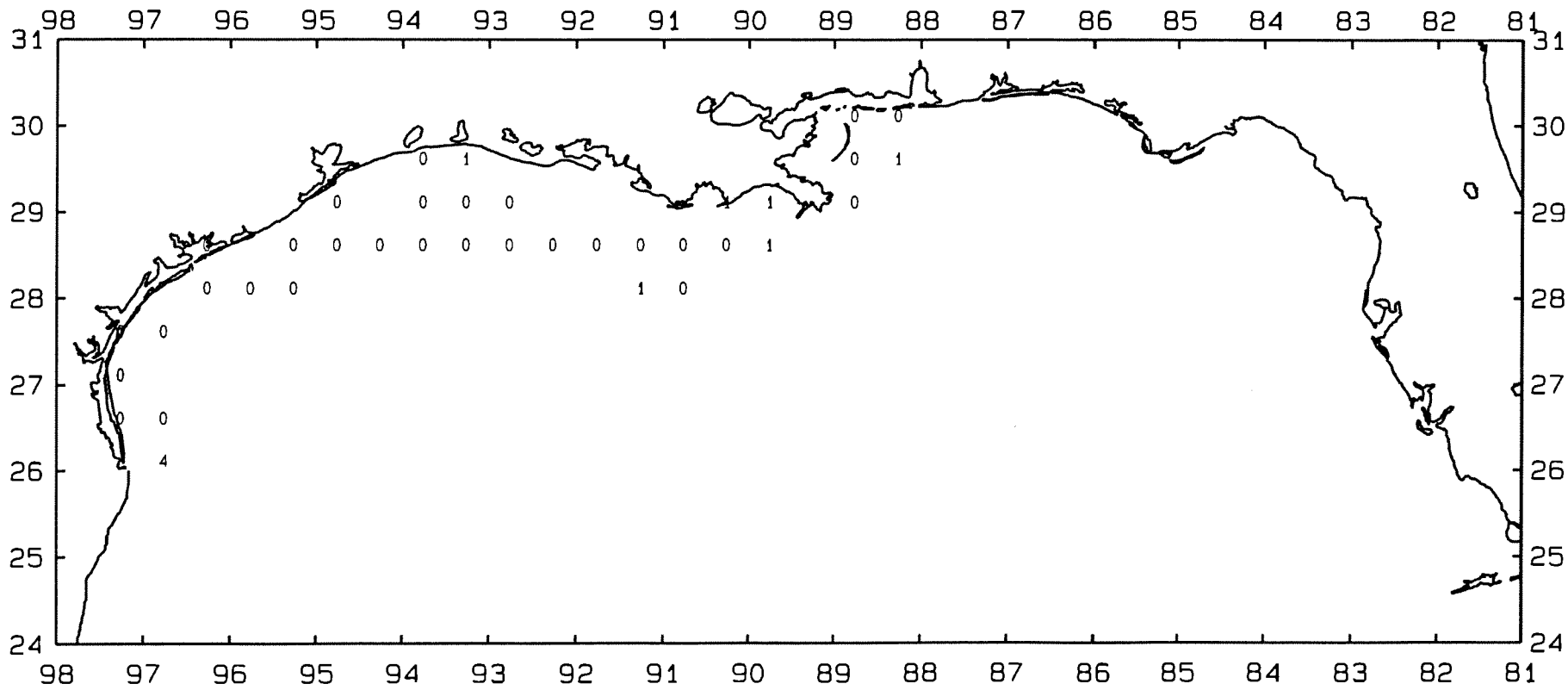


Figure 91. Roughback shrimp, *Trachypenaeus similis*, lb/hour for October-December 1992.

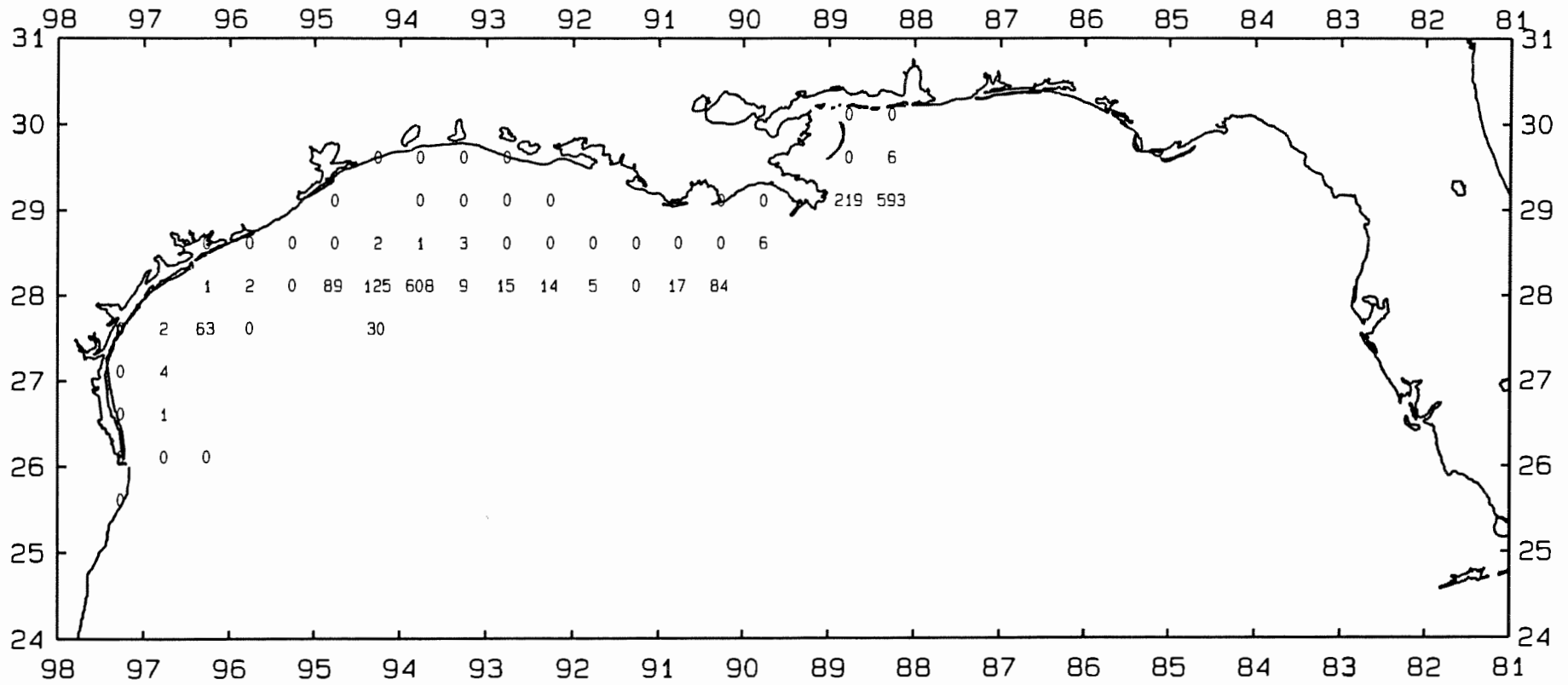


Figure 92. Longspine swimming crab, *Portunus spinicarpus*, number/hour for October-December 1992.

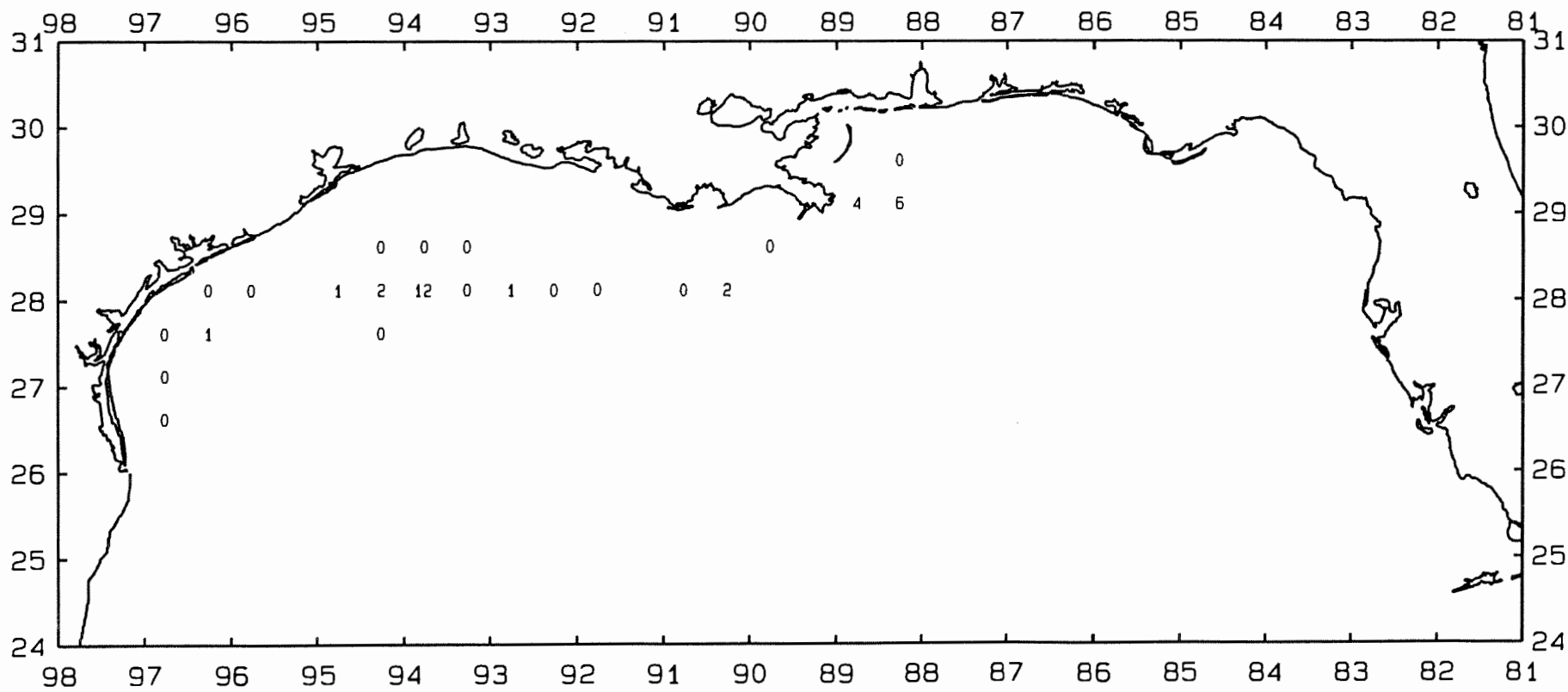


Figure 93. Longspine swimming crab, *Portunus spinicarpus*, lb/hour for October-December 1992.

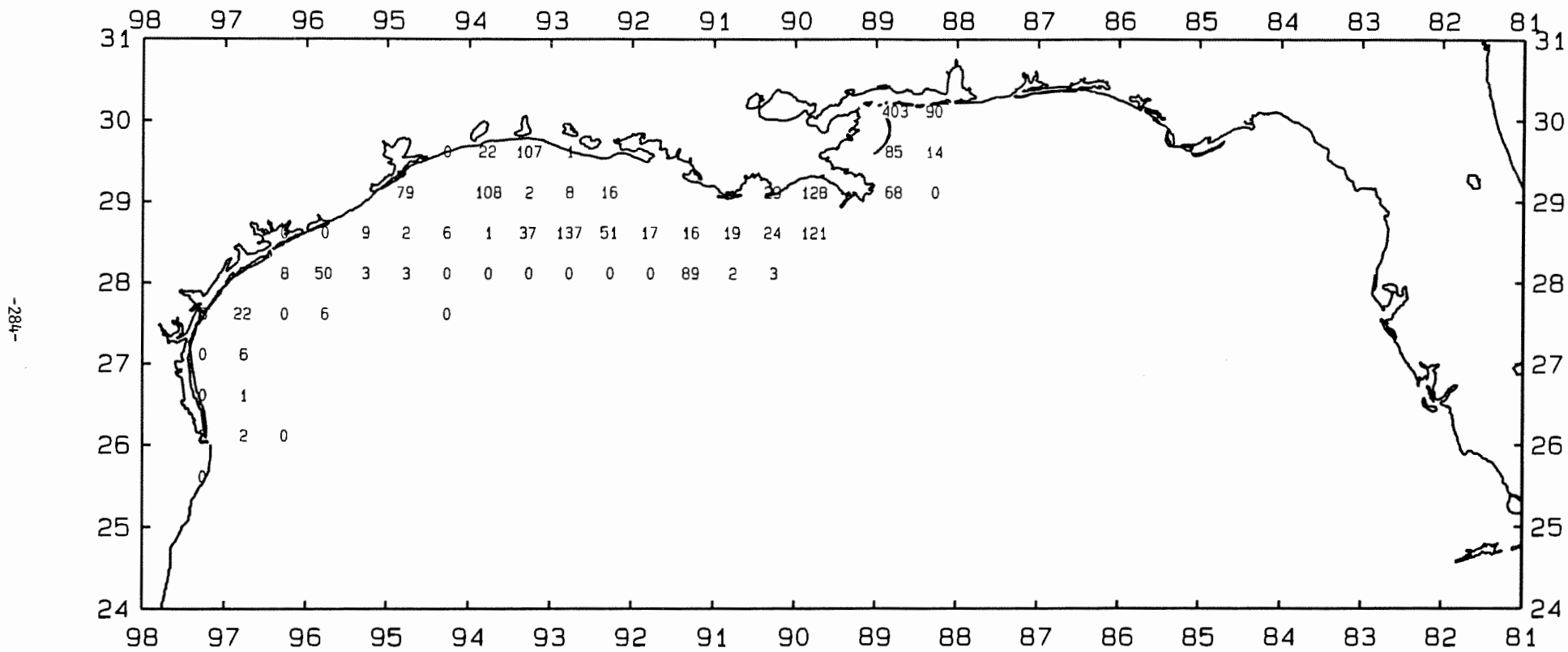


Figure 94. Lesser blue crab, *Callinectes similis*, number/hour for October-December 1992.



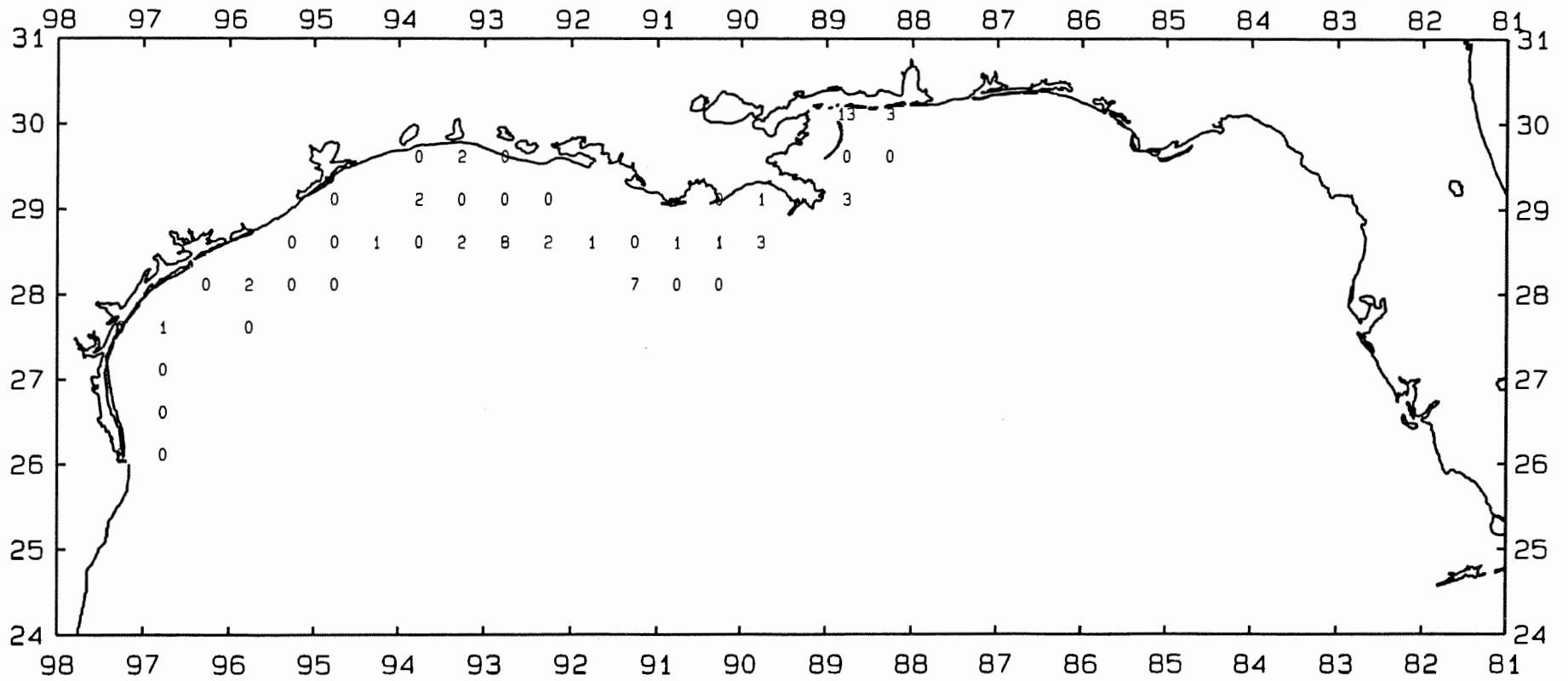


Figure 95. Lesser blue crab, *Callinectes similis*, lb/hour for October-December 1992.

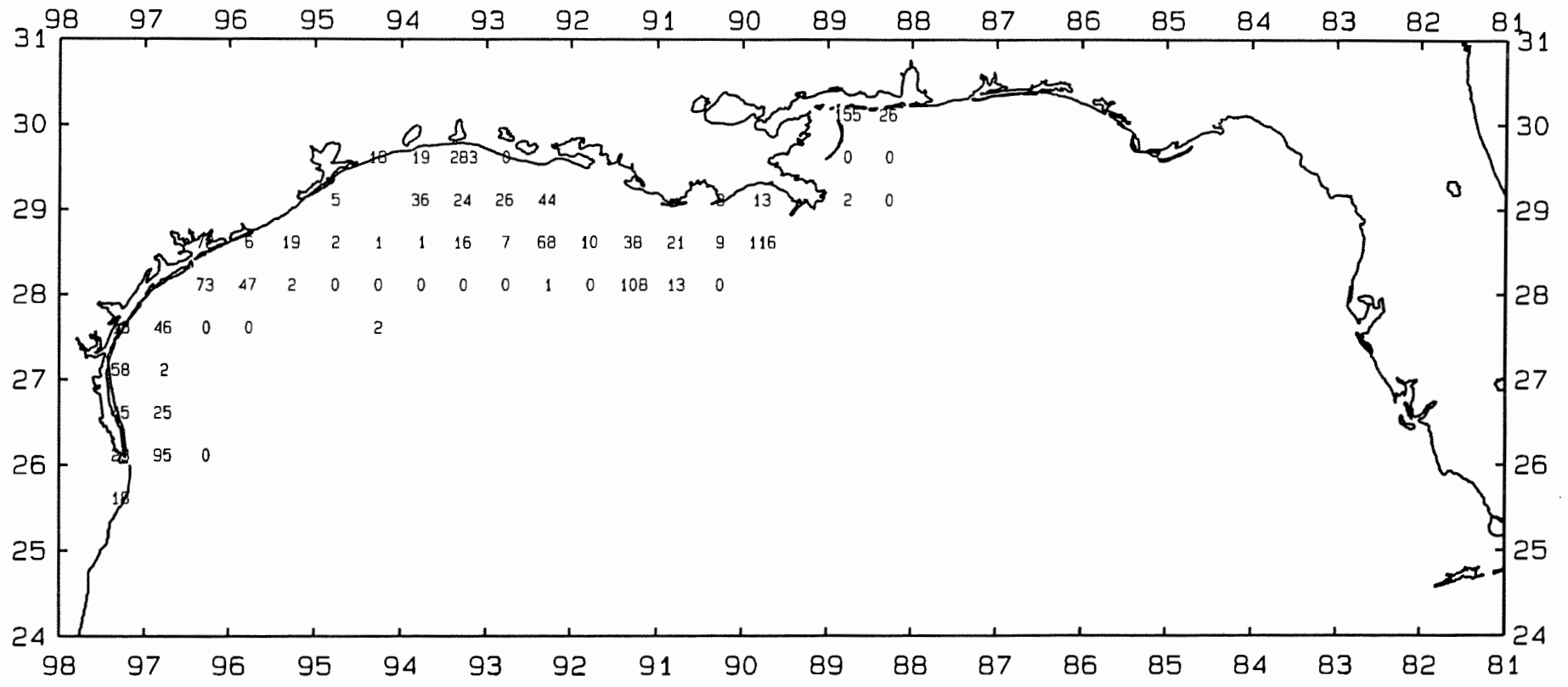


Figure 96. Mantis shrimps, *Squilla* spp., number/hour for October-December 1992.

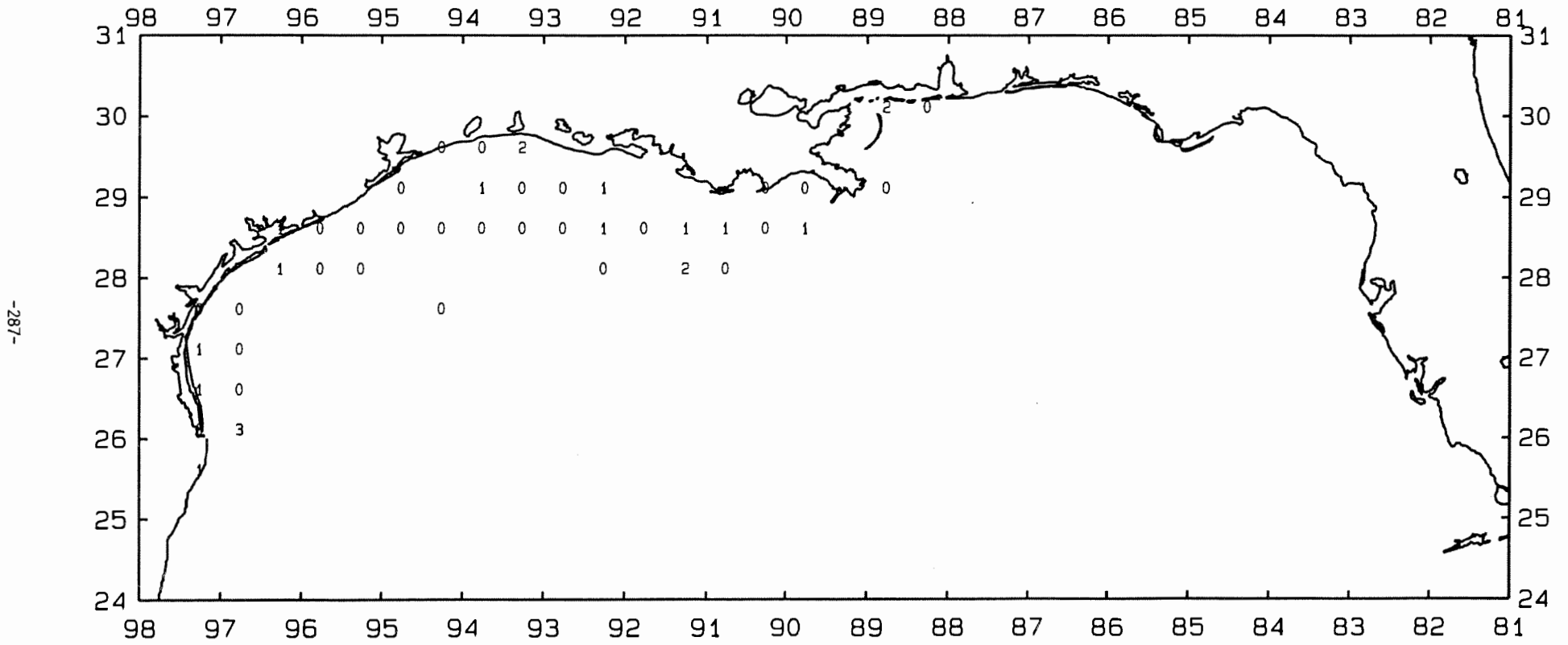


Figure 97. Mantis shrimps, *Squilla spp.*, lb/hour for October-December 1992.

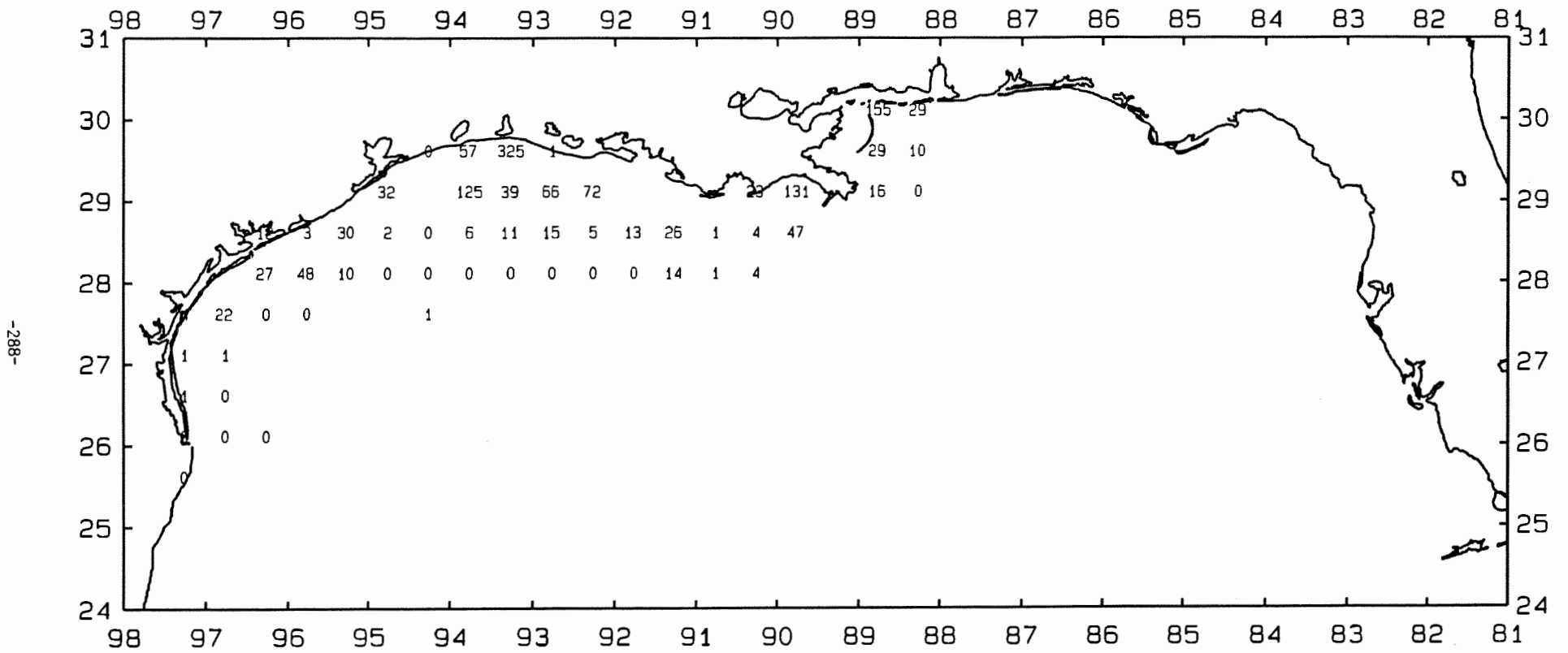


Figure 98. Iridescent swimming crab, *Portunus gibbesii*, number/hour for October-December 1992.

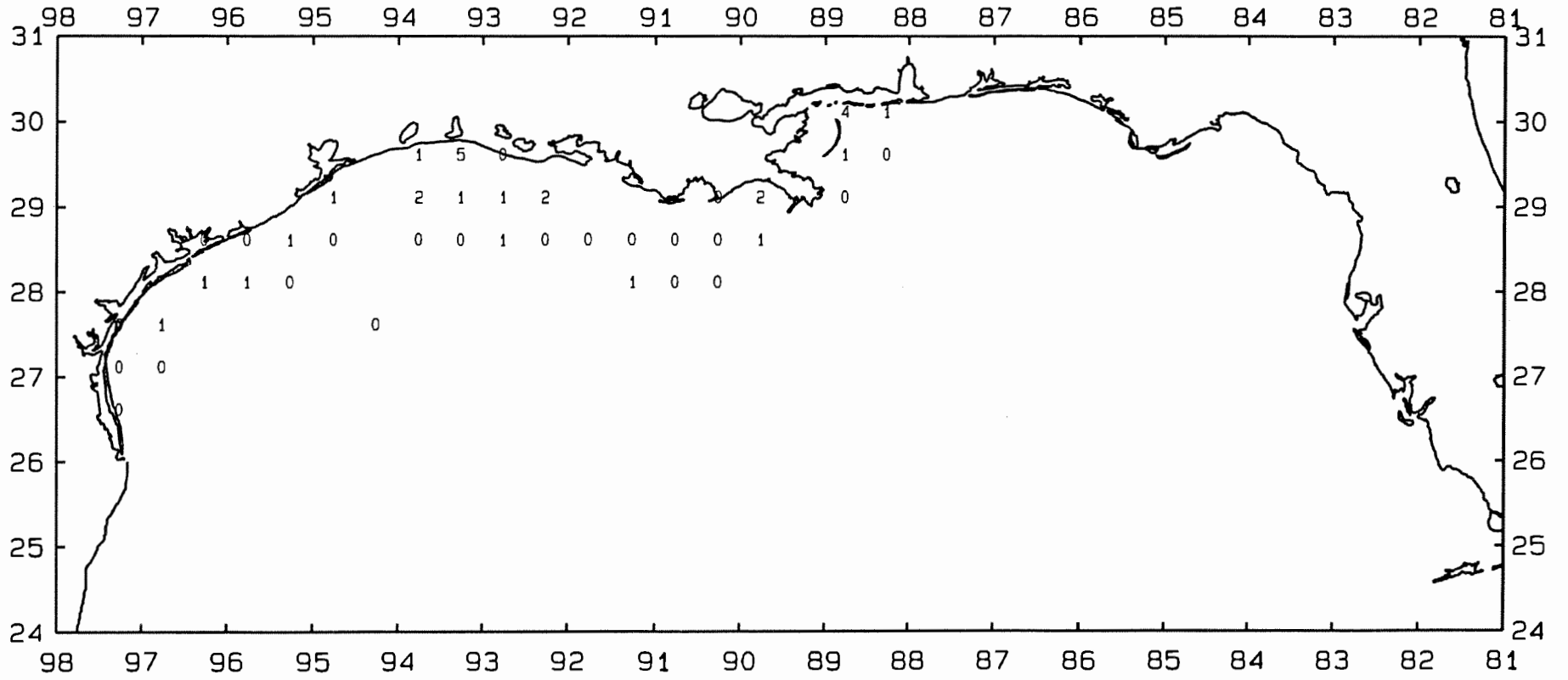


Figure 99. Iridescent swimming crab, *Portunus gibbesii*, lb/hour for October-December 1992.

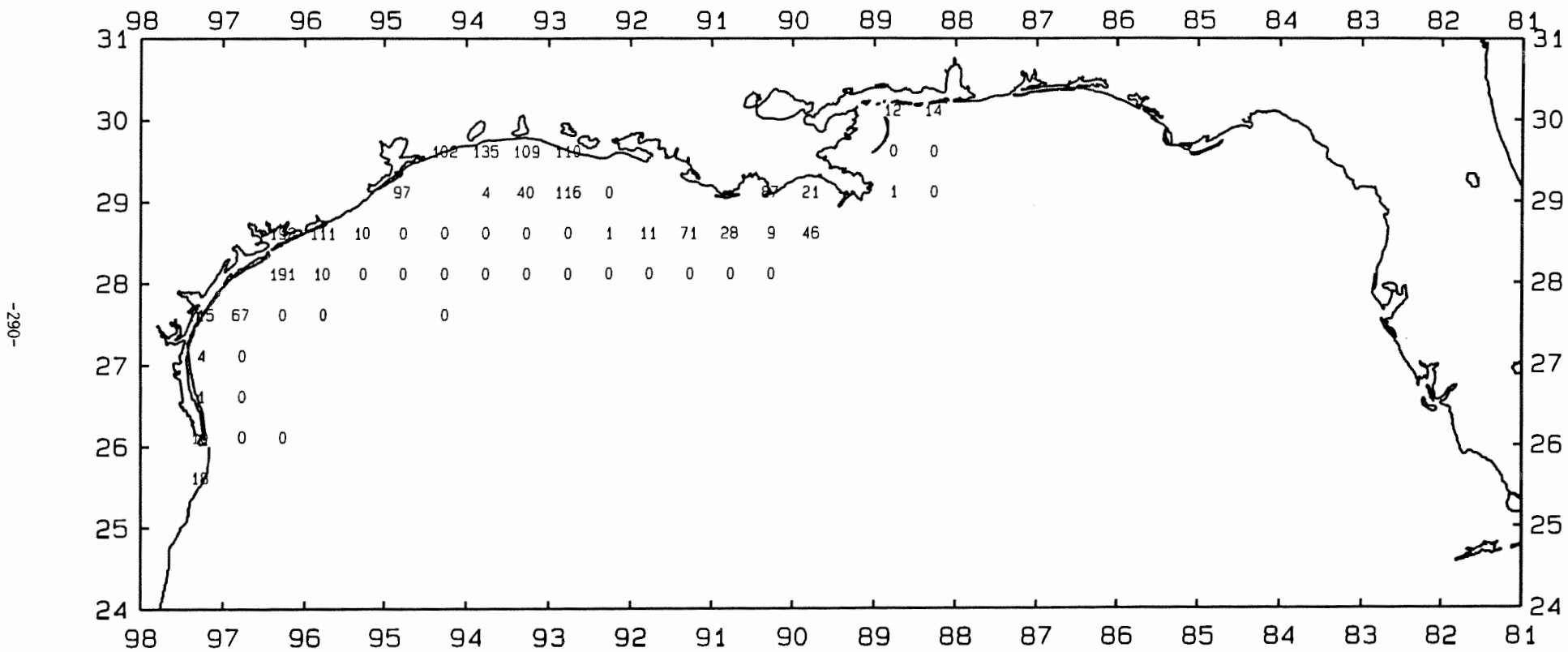


Figure 100. Atlantic brief squid, *Loliguncula brevis*, number/hour for October-December 1992.

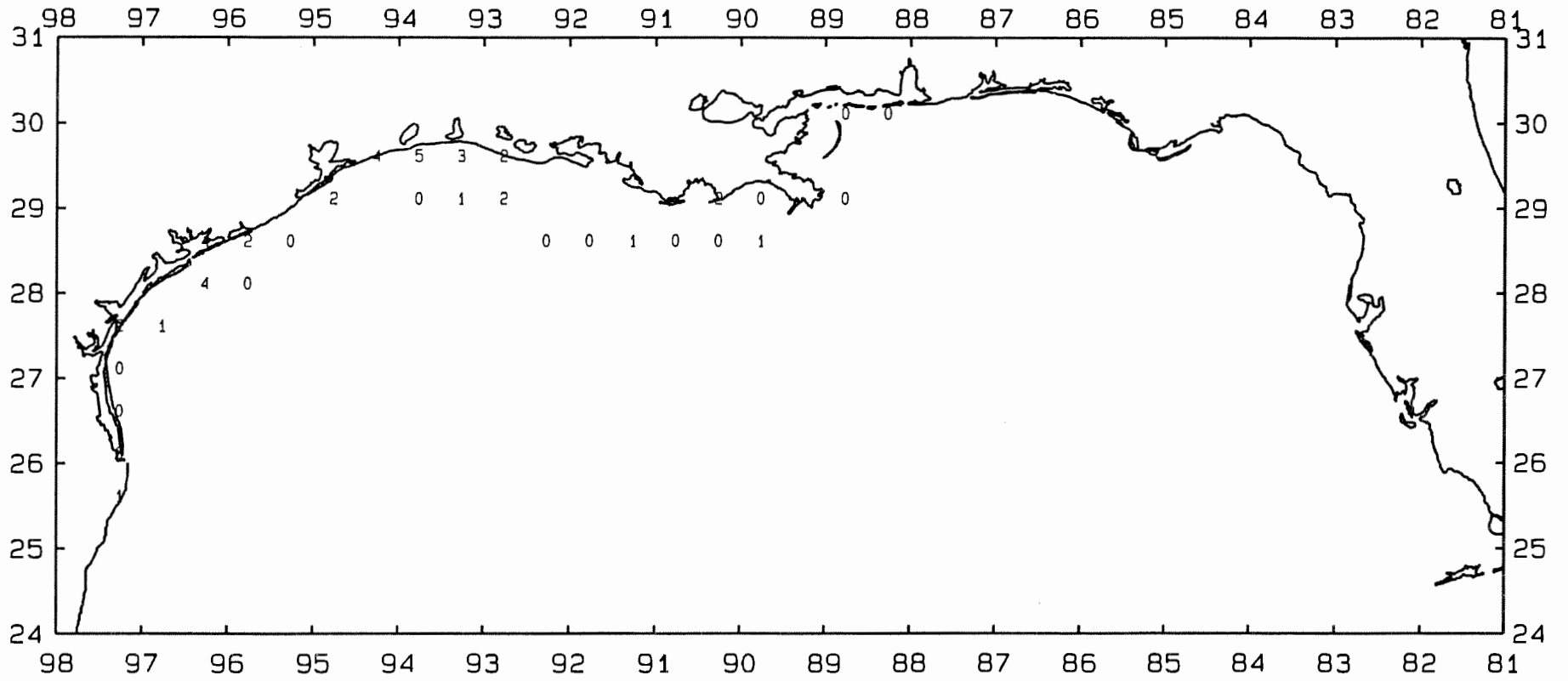


Figure 101. Atlantic brief squid, *Loligo brevis*, lb/hour for October-December 1992.

## LITERATURE CITED

- Atlantic States Marine Fisheries Commission. 1990. SEAMAP Management Plan: 1990-1995. Washington, DC: ASMFC. 56 p.
- Center for Wetland Resources. 1980. Management plan and final environmental impact statement for the shrimp fishery of the Gulf of Mexico, United States waters. Louisiana State Univ., Baton Rouge, Louisiana. 185 p.
- Donaldson, D.M., N.J. Sanders, and P.A. Thompson. 1993. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1991. Gulf States Marine Fisheries Commission. No. 29. 321 p.
- Eldridge, P.J. 1988. The Southeast Area Monitoring and Assessment Program (SEAMAP): A state-federal-university program for collection, management and dissemination of fishery-independent data and information in the southeast United States. *Mar. Fish. Rev.* 50(2): 29-39.
- Jeffrey, S.W. and G.F. Humphrey. 1975. New spectrophotometric equations for determining chlorophylls  $a$ ,  $b$ ,  $c_1$ , and  $c_2$  in higher plants, algae and natural phytoplankton. *Biochem. Physiol. Pflanz* Bpp. 167: 191-194.
- Kelley, S., J.V. Gartner, Jr., W.J. Richards and L. Ejsymont. 1993. SEAMAP 1984 & 1985 - Ichthyoplankton. Larval distribution and abundance of Carangidae, Clupeidae, Coryphaenidae, Engraulididae, Gobiidae, Istiophoridae, Lutjanidae, Scombridae, Serranidae, and Xiphiidae in the Gulf of Mexico. NOAA Tech. Mem., NMFS-SEFSC-317.
- Kelley, S., T. Potthoff, W.J. Richards, L. Ejsymont and J.V. Gartner. 1985. SEAMAP 1983 - Ichthyoplankton. Larval distribution and abundance of Engraulididae, Carangidae, Clupeidae, Lutjanidae, Serranidae, Sciaenidae, Coryphaenidae, Istiophoridae, Xiphiidae and Scombridae in the Gulf of Mexico. NOAA Tech. Mem., NMFS-SEFC-167.
- Kramer, D., M.J. Kalin, E.G. Stevens, J.R. Thrailkill and J.R. Zweifel. 1972. Collecting and processing data on fish eggs and larvae in the California Current region. NOAA Technical Report. NMFS Circular 370. 38 p.
- Leming, T.D. and W.E. Stuntz. 1984. Zones of coastal hypoxia revealed by satellite scanning have implications for strategic fishing. *Nature*, 310 (5973): 131-138.
- McGowan, M.F. and W.J. Richards. 1986. Distribution and abundance of bluefin tuna (*Thunnus thynnus*) larvae in the Gulf of Mexico in 1982 and 1983 with estimates of the biomass and population size of the spawning stock from 1977, 1978, and 1981-1983. International Commission for the Conservation of Atlantic Tunas. Collective Volume of Scientific Papers. 24: 182-195.
- Nance, J.M. 1993. Biological review of the 1992 Texas Closure. NOAA Tech. Mem., NMFS-SEFSC-325.
- Nichols, S. 1982. Impacts of the 1981 and 1982 Texas closure on brown shrimp yields. NOAA, NMFS-SEFC. 44 p.
- Nichols, S. 1984. Impacts of the 1982 and 1983 closure of the Texas FCZ on brown shrimp yields. Report to the Gulf of Mexico Fishery Management Council.
- Nichols, S. and J.R. Poffenberger. 1987. Analysis of alternative closures for improving brown shrimp yield in the Gulf of Mexico. Report to the Gulf of Mexico Fishery Management Council.
- Posgay, J.A. and R.R. Marak. 1980. The MARMAP bongo zooplankton samplers. *J. Northw. Atl. Fish. Sci.* 1: 9-99.
- Richards, W.J., T. Potthoff, S. Kelley, M.F. McGowan, L. Ejsymont, J.H. Power and R.M. Olvera L. 1984. SEAMAP 1982 - Ichthyoplankton. Larval distribution and abundance of Engraulididae, Carangidae, Clupeidae, Lutjanidae, Serranidae, Sciaenidae, Coryphaenidae, Istiophoridae, Xiphiidae and Scombridae in the Gulf of Mexico. NOAA Tech. Mem., NMFS-SEFC-167.
- Sanders, N.J., P.A. Thompson and T. Van Devender. 1990a. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1986. Gulf States Marine Fisheries Commission. No. 20. 328 p.
- Sanders, N.J., P.A. Thompson and D.M. Donaldson. 1990b. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1987. Gulf States Marine Fisheries Commission. No. 22. 337 p.
- Sanders, N.J., D.M. Donaldson and P.A. Thompson. 1991a. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1988. Gulf States Marine Fisheries Commission. No. 23. 320 p.



## LITERATURE CITED

- Sanders, N.J., D.M. Donaldson and P.A. Thompson. 1991b. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1989. Gulf States Marine Fisheries Commission. No. 25. 318 p.
- Sanders, N.J., D.M. Donaldson and P.A. Thompson. 1992. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1990. Gulf States Marine Fisheries Commission. No. 27. 311 p.
- Scott, G.P., S.C. Turner, C.B. Grimes, W.J. Richards, and E. B. Brothers. 1990. Indices of larval bluefin tuna (Thunnus thynnus) abundance from ichthyoplankton surveys in the Gulf of Mexico. SCRS/90/77 pages 257-270.
- Scott, G.P. and S.C. Turner. 1991. Updated indices of larval bluefin tuna (Thunnus thynnus) abundance from ichthyoplankton surveys in the Gulf of Mexico. SCRS/91/95.
- Sherman, K., R. Lasker, W. Richards and A.W. Kendall, Jr. 1983. Ichthyoplankton and fish recruitment studies in large marine ecosystems. Mar. Fish. Rev. 45 (10, 11, 12): 1-25.
- Smith, P.E. and S.L. Richardson, eds. 1977. Standard techniques for pelagic fish egg and larva surveys. FAO Fish. Tech. Paper 175. 100 p.
- Southeast Area Monitoring and Assessment Program (SEAMAP) Strategic Plan. 1981. Report to the Gulf States Marine Fisheries Commission. 50 p.
- Strickland, J.D.H. and T.R. Parsons. 1972. A practical handbook of seawater analysis. Ottawa: Fish. Res. Bd. Can. 310 p.
- Stuntz, W.E., C.E. Bryan, K. Savastano, R.S. Waller and P.A. Thompson. 1985. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1982. Gulf States Marine Fisheries Commission. 145 p.
- Thompson, P.A. and N. Bane. 1986a. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1983. Gulf States Marine Fisheries Commission. No. 13. 179 p.
- Thompson, P.A. and N. Bane. 1986b. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1984. Gulf States Marine Fisheries Commission. No. 15. 171 p.
- Thompson, P.A., T. Van Devender and N.J. Sanders, Jr. 1988. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1985. Gulf States Marine Fisheries Commission. No. 17. 338 p.

