SEAMAP ENVIRONMENTAL AND BIOLOGICAL ATLAS OF THE GULF OF MEXICO, 1987

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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 the 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 Center (SEFC), presented a SEAMAP Strategic Plan (January 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 Natural Resources (FDNR); Alabama Department of Conservation and Natural Resources (ADCNR); Mississippi Department of Wildlife, Fisheries and Parks (MDWFP), 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 Center and a non-voting member representing the Gulf of Mexico Fishery Management Council (GMFMC). The Subcommittee organized and successfully coordinated three assessment activities in 1982 - an April-May plankton survey, a June-July shrimp/bottomfish survey and environmental sampling in conjunction with the two surveys (see Stuntz et al. 1985); four assessment activities in 1983 - an April-May plankton survey, a June-July shrimp/bottomfish survey, a December plankton survey and environmental sampling in conjunction with these three surveys (see Thompson and Bane 1986a); five assessment activities in 1984 - an April-May plankton survey, a June-July shrimp/bottomfish survey, an August plankton survey for mackerel, a December plankton survey and environmental sampling in conjunction with these four surveys (see Thompson and Bane 1986b); four assessment activities in 1985 - a June-July shrimp/bottomfish survey, a July-August squid/butterfish survey, a fall shrimp/groundfish survey and environmental sampling in conjunction with these three surveys (see Thompson et al. 1988); and six assessment activities in 1986 - an April-May plankton survey, a May-June squid/butterfish survey, a June-July shrimp/bottomfish survey, a September plankton survey, an October-December shrimp/groundfish survey and environmental sampling in conjunction with these five surveys (see Sanders et al. 1990).

In January 1987, 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 1986 with the exception of the squid/butterfish survey started in 1985. Overall survey objectives in 1982 to 1986 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 (see Sherman et al. 1983). The basis for the trawl surveys which started with the Texas Closure (see Nichols 1982, 1984 and 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 sixth in a series of SEAMAP environmental and biological atlases presents such data, in a summarized form, collected during 1987

SEAMAP surveys. The area covered in the Gulf of Mexico for all SEAMAP survey activities during 1987 is shown in Figure 1.

MATERIALS AND METHODS

Methodology for the 1987 SEAMAP surveys is similar to that of the 1982 through 1986 surveys with the exception of the Fall Shrimp/Groundfish surveys. Sampling was conducted within the U.S. Exclusive Economic Zone (EEZ) and state territorial waters.

Plankton abundance and distribution were assessed by four surveys in the Gulf of Mexico. Offshore plankton/environmental data stations were sampled in April-May (Figure 2). Inshore and offshore plankton were sampled in conjunction with trawl surveys during the June-July Summer Shrimp/Bottomfish Survey (Figure 3). Inshore and offshore plankton/environmental data stations were sampled during the September Plankton Survey (Figure 4). Finally inshore and offshore plankton stations were sampled during the Fall Shrimp/Groundfish Trawl Survey (Figure 5). In some cases during the trawl surveys plankton stations were independent of trawl stations.

Vessels that participated in collecting plankton/environmental data during the April-May offshore plankton survey included the NOAA Ship OREGON II (April 15-May 21) and the Florida vessel HERNAN CORTEZ II (May 1-9). The Louisiana vessel PELICAN collected plankton samples off Louisiana during its trawl survey (April 14-May 20).

Vessels that participated in the June-July Shrimp/Bottomfish Trawl Survey and concurrently sampled plankton/environmental data included the GCRL vessel TOMMY MUNRO (June 11-14 and July 10-20); NOAA Ship OREGON II (June 11-July 14); Louisiana small inshore vessels (July 6-9); Louisiana vessel PELICAN (July 7-11); and an Alabama vessel (July 10-15). The TPWD vessels ARANSAS BAY, MATAGORDA BAY, LAGUNA MADRE, SABINE and GALVESTON BAY (June 2-17) took no plankton samples in conjunction with their summer survey.

Vessels that participated in collecting plankton/environmental data during the September plankton survey included the Florida vessel HERNAN CORTEZ II (September 1-8); NOAA Ship OREGON II (September 12-27); GCRL vessel TOMMY MUNRO (September 15-18); and an Alabama vessel (September 16). The Louisiana vessel PELICAN collected plankton samples off Louisiana during its trawl survey (September 28-October 1).

Vessels that participated in the October-December Shrimp/Groundfish Trawl Survey and concurrently sampled plankton/environmental data included the NOAA Ship OREGON II (October 23-November 22); GCRL vessel TOMMY MUNRO (October 25-26 and November 12-13); an Alabama vessel (October 28 and November 2); Louisiana inshore vessels (November 12-13); and Louisiana vessel PELICAN (November 30-December 3). The TPWD vessels ARANSAS BAY, MATAGORDA BAY, LAGUNA MADRE, SABINE and GALVESTON BAY (November 1-30) did not sample plankton in conjunction with their fall survey.

Environmental station locations and dates of sampling by vessel and by survey are listed in Table 1.

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 to this were with LDWF vessels, which collected samples at the end of a trawl station and during the summer and fall trawl surveys vessels sampled plankton stations opportunistically due to time constraints of trawling (Figures 3 and 5). Also, during the April-May Plankton Survey, the cruise track was sampled twice to collect data to determine the variability between stations sampled over a period of time (Figure 2).

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. For all bongo tows, a 45°-wire angle was maintained. 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, and subsequently shipped to the NMFS Miami Laboratory. At that facility, the samples were curated and the sampling data computerized. The right bongo sample and the neuston sample from each station were transshipped to the Polish Sorting Center (PSC) in Sczcecin, Poland, for sorting and identification. 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).

All sorted ichthyoplankton specimens were returned to the SEAMAP Archiving Center, managed in conjunction with the FDNR, for long-term storage under museum-like conditions. Sorted ichthyoplankton samples from 1982 through 1986 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 PSC, in case of loss or damage during transit. These backup unsorted plankton samples containing zooplankton and phytoplankton were stored at the SEAMAP Invertebrate Plankton Archiving Center, managed in conjunction with GCRL, for use by researchers.

ENVIRONMENTAL SURVEYS

Environmental data stations for the Summer Shrimp/Bottomfish Survey are shown in Figure 6 and Fall Shrimp/Groundfish Survey in Figure 7. Environmental sampling locations are summarized in Figures 6 and 7 by 10-minute squares. Environmental data was collected in conjunction with each plankton station for the April-May and September plankton 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 kilometers per hour with direction recorded in compass degrees from which the wind was blowing.

Air temperature: Recorded in Fahrenheit.

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 recordings.

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, and 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 and 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 3 filters were placed individually in Petri dishes, wrapped in opague 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 3 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). Approximately 10% 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 standard Winkler 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.

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 analyzed by the National Environmental Satellite Data and Information Service (NESDIS).

TRAWL SURVEYS

Louisiana April-May Trawl Survey

LDWF conducted a seasonal day/night April-May trawl survey and concurrently took plankton/environmental samples at each trawl station. 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. Station locations for this survey can be found in Figure 2. The LDWF sampled day and night stations with a 40-ft shrimp trawl to depths of 15 fm. A stratified random station selection design was maintained. All organisms captured were identified, counted, measured and weighed.

Summer Shrimp/Bottomfish Survey

Shrimp and bottomfish sampling was carried out between June and July from off Gulf Shores, Alabama to Brownsville, Texas (Figure 8). Trawl stations are summarized by 10-minute squares. Trawl stations made with a standard 40-ft SEAMAP net covered NMFS shrimp statistical zones 10 through 22 (Figure 9), to a depth of 60 fm.

The sampling strategy and a description of the statistical rationale for the sampling design are described by Nichols in the 1982 SEAMAP Atlas (Stuntz, et al. 1985). Briefly, the strategy was as follows: sampling sites were chosen randomly in five areas stratified by depth and statistical area. These areas are shrimp statistical zones 10-12, 13-15, 16-17, 18-19 and 20-22. Sample sites encompassed a 1-fm depth strata between 5 and 30 fm and a 5-fm depth strata between 30 and 60 fm. 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 and Louisiana vessels did not cover a complete depth stratum on several stations, but did make one maximum 60-minute tow for that particular stratum.

The LDWF used small vessels (less than 30 ft) to sample seven study areas in NMFS statistical zones 11, 12, 13, 14, 16 and 17, utilizing 16-ft shrimp trawls during daylight hours. Statistical zone 15 was not sampled, as stations were made along set transects occurring only in the five other zones with the 16-ft trawl. Six samples were taken weekly in each study area during the survey period. A sampling station consisted of a 10-minute tow at depths of 1, 3 and 5 fm, made parallel to the depth contour.

All Penaeus spp. shrimp were separated from the trawl catch at each station. Total count and weight by species were recorded for pooled trawls within 1-fm strata. A sample of up to 200 shrimp of each species from every trawl tow 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.

Louisiana September-October Trawl Survey

In September-October LDWF continued with a seasonal day/night trawl survey. Sampling strategy was similar to the Louisiana April-May trawl survey. Station locations for this survey can be found in Figure 4.

Fall Shrimp/Groundfish Survey

The Fall Shrimp/Groundfish sampling was conducted between October and December from off Gulf Shores, Alabama to Brownsville, Texas (Figure 10). Trawl stations are summarized by 10-minute squares.

During the fall survey trawl stations were made with the standard 40-ft SEAMAP net and covered NMFS shrimp statistical zones 9 through 22 (Figure 9). The survey design was modified slightly from previous years to conform to the design employed during the SEAMAP Summer Shrimp/Bottomfish Survey.

Catch rates on all the vessels sampling were treated in the same manner as the Summer Shrimp/Bottomfish Survey.

RESULTS

PLANKTON SURVEYS

Approximately 2,372 lots of identified ichthyoplankton samples taken during 1987 surveys were returned from the PSC to the SEAMAP Archiving Center in February 1989. The data will be verified and incorporated into the SEAMAP data system.

Plankton stations for the April-May offshore plankton survey in conjunction with environmental stations are shown in Figure 2, for June-July Shrimp/Bottomfish in Figure 3, September plankton survey stations in conjunction with environmental stations in Figure 4 and October-December Fall Shrimp/Groundfish in Figure 5.

ENVIRONMENTAL SURVEYS

As detailed previously, environmental data are collected in conjunction with plankton (Figures 2 and 4) and trawl surveys (Figures 3 and 5). A complete listing of selected environmental parameters for all SEAMAP surveys is shown in Table 1. In Table 1 under statistical zone, the 99 codes are stations located outside the shrimp statistical zones.

During the Summer Shrimp/Bottomfish Survey, as in the 1986 survey, an area of hypoxia was found offshore Louisiana from east of Timbalier Bay, Louisiana between 10 and 14 fm. Bottom oxygen levels of less than 3 parts per million were measured throughout this area.

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 April (Figure 11), May (Figure 12), June (Figure 13), July (Figure 14), August (Figure 15), September (Figure 16), October (Figure 17) and November (Figure 18).

TRAWL SURVEYS

Louisiana April-May Survey

LDWF conducted their seasonal day/night trawl survey in April-May 1987. Trawl station along with environmental and plankton locations can be found in Figure 2. A species composition listing from the trawls is presented in Table 2, ranked in order of abundance within the categories of finfish, crustaceans and other invertebrates.

Tables 3a-5a 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 12, 13 and 14 by depth stratum. Tables 3b-5b list the total catch and environmental data from the 40-ft nets within NMFS statistical zones 12, 13 and 14 depth stratum.

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

$$SEM = \frac{\alpha}{\sqrt{n}}$$

where α is the population standard deviation
and n is the number of samples.

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

Summer Shrimp/Bottomfish Survey

The June-July Shrimp/Bottomfish Survey consisted primarily of biological trawl data (Figure 8), and concomitant environmental and plankton data. A species composition listing from the 40-ft trawls is presented in Table 6, 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 7 and the 16-ft trawls is presented in Table 8, ranked in the same order as with the 40-ft trawl. 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 6, 7 and 8, are displayed in plots of number/hour and lb/hour in Figures 19-58. Data for the biological plots were computed from the 40-ft, 20-ft and 16-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 at least some of the species were taken are shown. No trawl stations were made by the state of Florida during this survey.

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 each NMFS statistical zone by depth stratum. Tables 9b-19b list the total catch and environmental data from the 40-ft nets within each NMFS statistical zone and 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, 18, 19, 20, 21 and 22 by depth stratum. Tables 20b-25b list the total catch and environmental data from the 20-ft nets within NMFS statistical zones 17, 18, 19, 20, 21 and 22 depth stratum.

Tables 26a-32a present the biological data from the 16-ft nets of the eight most abundant fish, six most abundant invertebrates and squid within NMFS statistical zones 10, 11, 12, 13, 14, 16 and 17. Tables 26b-32b present the total catch and environmental data from the 16-ft nets within the NMFS statistical zones listed above.

Catch rates for the survey were computed with the same equations used to compute the Louisiana April-May Survey catch rates.

For all "b" tables, discrepancies between catch and environmental data may appear in the number of stations (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.

Louisiana September-October Trawl Survey

Louisiana conducted a seasonal day/night trawl survey in September-October 1987. Trawl station data along with environmental and plankton data can be found in Figure 4. A species composition listing from the trawls is presented in Table 33, ranked in order of abundance within the categories of finfish, crustaceans and other invertebrates.

Tables 34a-36a 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 13, 14 and 15, by depth stratum. Tables 34b-36b list the total catch and environmental data from the 40-ft nets by NMFS statistical zones 13, 14 and 15 and depth interval.

Catch rates for the survey were computed with the same equation used to compute the Louisiana April-May survey catch rates.

As in the Summer Shrimp/Bottomfish Survey, discrepancies in the "b" tables may have occurred.

Fall Shrimp/Groundfish Survey

The October-December Fall Shrimp/Groundfish Survey consisted of biological trawl data (Figure 10) and concomitant environmental and plankton data. A species composition listing from the 40-ft trawls is presented in Table 37, 20-ft trawls in Table 38 and 16-ft trawls in Table 39. The species list for Tables 37 to 39 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 37 to 39 are displayed in plots of number/hour and lb/hour in Figures 59 to 98. Data for the biological plots were computed from the 40-ft, 20-ft and from 16-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 at least some of the species were taken are shown. No trawl stations were made by the Florida vessel.

Tables 40a-50a present the biological data, from the 40-ft nets, of the eight most abundant fish, six most abundant invertebrates and squid species within each NMFS statistical zone (10 through 21), by depth stratum. Tables 40b-50b list the total catch and environmental data from the 40-ft nets by NMFS statistical zone (10 through 21) and depth interval.

Tables 51a-57a present the biological data from the 20-ft net used by ADCNR and TPWD of the eight most abundant finfish, six most abundant invertebrates and squid within NMFS shrimp statistical zone 11 for Alabama, and zones 17 through 21 for Texas. Tables 51b-57b present the total catch data for ADCNR and TPWD 20-ft net and combined environmental data taken by the Alabama and Texas vessels within each NMFS statistical zone listed above.

Tables 58a-64a present the biological data from the 16-ft nets of the eight most abundant fish, six most abundant invertebrates and squid within NMFS statistical zones 10, 11, 12, 13, 14, 16 and 17, respectively, inside 10 fm. Tables 58b-64b present the total catch and environmental data from the 16-ft nets for those NMFS statistical zones inside 10 fm listed above.

The catch data were calculated using the same equation that was used to compute catch rates for the Louisiana April-May Survey.

As in the Summer Shrimp/Bottomfish 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, in cooperation with NASA, installed a data communications terminal aboard the NOAA Ship OREGON II. The terminal was designed to operate through the ATS-3

satellite system located in geostationary orbit over the Pacific Ocean. This enabled personnel aboard the vessel to transmit daily catch rates and environmental data to the NMFS computer system through computer hardware, located at the NMFS Mississippi Laboratories in Bay St. Louis.

Summarized data were distributed weekly to over 300 individuals during the June-July Shrimp/Bottomfish Survey. The summarized data went to management agencies and industry members as computer plots and data listings. 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.

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 April-May Gulf-wide Plankton and September Mackerel Surveys. In 1986 and 1987 the SEAMAP Subcommittee renewed its commitment to urge continued support 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.

Similar analyses and investigations are being undertaken with Summer Shrimp/Bottomfish Survey data and in the future with the Fall Shrimp/Groundfish Survey which will be an annual SEAMAP survey activity. 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. There are, in addition, 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 surveys an area of very low dissolved bottom oxygen was found off Louisiana in the summers of 1982, 1985, 1986 and 1987. 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.

In 1982, 1983, 1984 and 1986 SEAMAP ichthyoplankton data were used to estimate spawning stock sizes of bluefin tuna in the Gulf of Mexico (McGowan and Richards 1986). Again in 1987, SEAMAP ichthyoplankton data were used to estimate spawning stock sizes of bluefin tuna. The results of this work were recognized by the International Commission for the Conservation of Atlantic Tunas as a reliable index of stock size, thus precluding the need for a longline fishery in the Gulf which was proposed by Japan. Continuation of the ichthyoplankton surveys each spring by SEAMAP will provide information on Gulf of Mexico tuna stocks.

SEAMAP data collected during the Summer Shrimp/Bottomfish Survey continue to be used extensively for fishery management purposes. In 1981, the Gulf of Mexico Fishery Management Council's plan for shrimp was implemented (Louisiana State University, 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 June 1-July 15 of each year but unlike the other five years, the area closed was only from the coastline to 15 nautical miles off the Texas coast. 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.

NMFS was charged with evaluating the effects of the Texas Closure and several reports were submitted to the GMFMC in January 1988. These reports were subsequently summarized by Klima and Nance (1988), who reported on size and abundance of commercial shrimp collected by SEAMAP in 1987, and Klima et al. (1988), who described the impact of the combined Texas territorial sea and EEZ closures on brown shrimp yields. After review of these data and other information, the GMFMC voted to continue the Texas Closure in 1988.

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 Operations Plan: 1985-1990 (Gulf States Marine Fisheries Commission 1983).

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. Selected environmental parameters measured during 1987 SEAMAP surveys in the Gulf of Mexico, by individual vessel and survey.

LOUISIANA APRIL-MAY TRAWL SURVEY
PELICAN

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
35132	4/14/87	1450	2907.3	8950.7	13	20	10	20	20.2	18.8	19.9				2.242	8.2	5.9	3.0	ST/PN
35133	4/14/87	1830	2859.0	8934.0	12	26	13	24	19.3	19.2	19.7	19.9	29.2	36.1	0.925	8.7	6.2	3.4	ST/PN
35134	4/14/87	2115	2859.1	8934.0	13	26	12	23	19.7	19.3	19.8	24.8	28.6	36.0	0.254	8.2	7.8	3.1	ST/PN
35135	4/15/87	1144	2857.7	9004.0	14	24	12	24	19.7	19.5	19.7	24.2	34.9	35.7	7.797	9.1	4.2	3.9	ST/PN
35136	4/15/87	1651	2859.2	9024.2	14	11	5	11	20.1	19.7	19.0	23.9	24.3	33.3	16.185	8.6	8.0	2.9	ST/PN
35137	4/15/87	1919	2901.9	9027.1	14	5	2	4	19.9	19.9	19.7	25.8	26.4	28.6	17.491	6.9	6.6	4.5	ST/PN
35138	5/19/87	2155	2853.0	9031.8	14	16	7	15	26.4	23.8	20.3	28.6	31.6	34.2	0.580	7.6	3.8	0.5	ST/PN
35139	5/20/87	0040	2852.2	9041.3	14	15	6	12	27.6	25.3	20.3	27.9	31.3	34.4	0.505	5.4	3.4	0.8	ST/PN
35140	5/20/87	0310	2859.2	9048.4	14	7	3	6	28.1	27.7	25.3	25.4	26.9	28.9	3.538	7.1	4.9	4.3	ST/PN
35141	5/20/87	0706	2859.2	9048.4	14	7	4	7	27.7	26.5	24.5	25.7	27.4	29.8	6.342	5.3	4.1	6.1	ST/PN
35142	5/20/87	0912	2852.1	9041.6	14	15	6	12	27.6	25.8	20.7	27.8	31.2	34.2	0.754	6.0	4.8	1.6	ST/PN
35143	5/20/87	1135	2852.9	9031.6	14	16	8	15	27.3	24.6	20.3	29.2	31.1	34.7	0.370	6.9	2.2	1.4	ST/PN
35144	5/20/87	1454	2834.8	9041.1	14	22	10	19	28.2	23.4	20.1	28.0	32.1	35.0	0.580	7.1	5.6	2.2	ST/PN
35145	5/20/87	1703	2836.7	9052.1	14	18	9	17	29.0	24.0	20.8	26.6	35.0	34.9	1.362	8.4	7.0	5.9	ST/PN
35146	5/20/87	2058	2836.6	9052.6	14	18	9	17	28.9	22.5	20.7	26.8	35.1	35.1	1.356	8.3	7.5	5.8	ST/PN
35147	5/20/87	2310	2834.5	9041.6	14	20	10	20	28.2	23.8	20.1	27.9	30.1	35.1	1.072	7.4	5.6	2.2	ST/PN

Table 1 (cont'd.)

NMFS APRIL-MAY OFFSHORE PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45201	4/15/87	0136	2959.9	8659.8	10	72	36	72	18.0			31.7	35.8	36.1	0.430	11.0	9.9	8.7	PN
45203	4/15/87	1014	2900.0	8600.0	99	240	100	200				35.9	36.5	36.0	0.153	7.4	6.4	6.6	PN
45204	4/18/87	0700	2900.9	8600.6	99	244	100	202	19.2	17.9	15.1	35.0	36.4	36.1	0.132	6.6	6.1	5.5	PN
45205	4/18/87	1203	2830.0	8530.0	8	200	100	200	19.9	18.4	15.6	35.8	36.3	36.1	0.081	7.3	6.5	5.6	PN
45213	4/18/87	2050	2800.0	8500.0	6	251	100	200	23.2	20.7	17.1	36.5	36.7	36.4	0.055	6.6	5.3	5.6	PN
45214	4/19/87	0052	2729.9	8500.1	5	400	100	200	23.2	20.5	15.9	36.6	36.5	36.3	0.084	6.9	6.7	5.6	PN
45215	4/19/87	0422	2700.0	8500.0	5	1143	100	200	22.8	19.3	14.2	36.5	36.8	36.0	0.073	7.0	5.4	5.2	PN
45216	4/19/87	0815	2630.0	8500.0	99	1830	99	199	24.7	21.0	16.4	36.5	36.5	36.0	0.299	6.7	6.2	5.1	PN
45217	4/19/87	1145	2600.0	8500.0	99	3292	100	200	25.5	21.1	17.1	36.5	37.1	36.4	0.096	6.7	6.4		PN
45218	4/19/87	1525	2600.1	8430.0	99	212	100	200	25.9	20.6	14.9	36.5	37.0	36.1	0.075	6.6	5.6	5.2	PN
45219	4/19/87	1832	2600.0	8400.0	4	138	68	138	24.9	21.3	18.4	36.4	37.0	36.6	0.064	6.5	6.6	5.5	PN
45241	4/20/87	1421	2530.0	8400.0	3	135	67	135	25.6	22.5	19.3	36.5	37.0	36.8	0.047	6.6	5.8	5.4	PN
45263	4/21/87	1720	2500.0	8400.0	3	125	63	125	25.5	23.0	20.5	36.5	37.0	36.8	0.044	6.6	5.8	5.6	PN
45264	4/21/87	2049	2430.0	8400.0	2	2000	100	200	25.5	21.8	11.9	36.5	36.7	35.8	0.056	6.6	6.5	5.3	PN
45265	4/22/87	0028	2430.4	8430.1	99	3385	100	200	26.3	25.4	21.6	36.2	36.2	37.0	0.043	6.5	6.5	5.6	PN
45266	4/22/87	0428	2430.0	8500.0	99	3379	100	200	25.5	25.4	24.4	36.2	36.3	37.0	0.070	6.5	6.4	5.7	PN
45267	4/22/87	0823	2500.0	8500.0	99	3290	100	200	26.3	25.9	22.6	36.1	36.2	36.9	0.053	6.7	6.6	5.9	PN
45268	4/22/87	1218	2500.0	8530.0	99	3294	100	200	25.8	25.4	23.7	36.3	36.2	37.1	0.000	6.7	6.7	5.9	PN
45269	4/22/87	1542	2500.0	8600.0	99	3276	100	200	26.0	25.5	24.1	36.3	36.2	37.0		6.4	6.4	5.6	PN
45270	4/22/87	2030	2530.0	8600.0	99	3200	104	200	26.4	26.1	22.8	36.2	36.3	37.1	0.023	6.5	6.6	6.8	PN
45271	4/23/87	0015	2529.9	8629.8	99	3174	100	200	26.4	25.7	23.3	36.2	36.3	37.1	0.029	6.5	6.5	5.8	PN
45272	4/23/87	0420	2600.0	8600.0	99	3203	101	201	24.2	21.5	17.5	36.6	36.8	36.6	0.070	7.4	6.3	5.7	PN
45273	4/23/87	0816	2630.0	8600.0	99	3200	100	200	22.9	19.0	14.9	36.5	36.5	36.0	0.062	5.0	4.1	3.7	PN
45298	4/24/87	1340	2700.0	8600.1	99	3203	100	200	23.2	22.5	22.3	36.3	36.1	35.4	0.081	6.7	5.4	5.1	PN
45299	4/24/87	1744	2730.0	8600.0	99	3205	100	200	24.0	17.8	13.8	36.6	36.4	35.8	0.045	6.7	6.1	4.8	PN
45300	4/24/87	2115	2800.0	8600.0	99	1060	100	200				36.1	36.5	36.2	0.056	6.9	6.4	5.6	PN
45301	4/25/87	0120	2830.0	8559.9	99	325	100	200	22.0	19.1		35.3	36.2	36.2	0.122	7.0	7.0	5.9	PN
45302	4/25/87	0634	2900.0	8630.0	99	369	100	200	21.2	19.4	16.3	34.3	36.3	36.3	0.137	7.3	7.2	5.4	PN

Table 1 (cont'd.)

NMFS APRIL-MAY OFFSHORE PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45303	4/25/87	0925	2900.0	8700.0	99	1060	100	200	22.9	20.0	16.1	35.9	36.4	36.3	0.056	7.0	6.7	5.6	PN
45304	4/25/87	1308	2830.0	8659.8	99	860	100	200	21.4	19.7	16.1	33.6	36.5	36.3	0.110	7.4	6.6	5.9	PN
45305	4/25/87	1637	2800.2	8700.0	99	2857	100	200	23.5	18.9	14.3	36.6	36.5	35.9	0.056	7.2	5.6	5.5	PN
45306	4/25/87	2114	2730.0	8700.0	99	3000	100	200	23.8	18.0	13.9	36.7	36.5	35.9	0.034	7.0	5.8	5.6	PN
45307	4/26/87	0036	2700.0	8700.0	99	2946	100	200	22.8	18.0	13.6	36.2	36.4	35.9	0.070	6.8	5.6	5.0	PN
45308	4/26/87	0435	2630.0	8700.0	99	2948	100	200	23.5	21.0	16.4	36.5	36.3	36.4	0.099	6.7	6.5	4.8	PN
45309	4/26/87	0802	2600.0	8700.0	99	3100	125	200	26.1	25.3	21.4	36.4	36.5	36.5	0.049	6.8	6.5	6.4	PN
45310	4/26/87	1206	2600.1	8730.1	99	3148	100	200	26.6	25.1	19.1	36.3	36.6	36.5	0.078	6.7	6.3	5.8	PN
45311	4/26/87	1545	2600.0	8759.8	99	3075	100	200	26.8	21.6	17.4	36.4	36.8	36.6	0.140	6.5	5.4	5.6	PN
45312	4/26/87	1940	2630.0	8800.0	99	2708	100	200	23.0	20.6	15.6	36.5	36.4	36.2	0.094	6.7	6.6	5.7	PN
45313	4/26/87	2305	2700.0	8800.0	99	2754	100	200	27.5	22.8	18.5	36.4	36.4	35.9	0.055	7.0	5.4	5.2	PN
45314	4/27/87	0235	2700.0	8829.9	99	3020	100	200	23.0	19.0	14.7	35.6	36.5	36.0	0.075	6.9	6.0	5.3	PN
45315	4/27/87	0540	2700.0	8900.0	99	2256	100	200	23.0	19.2	14.5	34.8	36.4	35.9	0.092	6.8	6.1	4.8	PN
45316	4/27/87	0929	2630.0	8900.0	99	2928	100	200	23.2	20.0	14.9	36.6	36.5	36.1	0.044	6.7	6.5	5.2	PN
45317	4/27/87	1245	2600.0	8900.0	99	3111	100	200	23.4	19.8	15.0	36.5	36.4	36.0	0.040	6.9	6.3	5.3	PN
45318	4/27/87	1620	2600.0	8930.0	99	3276	100	200	23.4	19.8	14.5	36.7	36.4	36.0	0.076	7.2		4.8	PN
45319	4/27/87	1935	2600.0	9000.0	99	1590	100	200	23.5	20.3	15.4	36.7	36.2	36.4	0.141	6.8	6.6	5.7	PN
45320	4/27/87	2330	2630.0	9000.0	99	2837	100	200	23.4	19.5	16.1	36.6	36.4	35.9	0.075	7.1	6.0	5.2	PN
45321	4/28/87	0250	2700.0	9000.0	99	2306	100	200	23.4	18.3	14.1	35.0	36.4	35.8	0.064	6.8	5.6	4.3	PN
45322	4/28/87	0615	2700.0	9030.0	99	1638	100	200				33.0	36.4	36.0	0.118	6.9	5.8	4.8	PN
45323	4/28/87	0914	2700.0	9100.0	99	1812	100	200	22.6	19.7	14.8	32.4	36.4	36.0	0.176	7.1	6.4	5.8	PN
45324	4/28/87	1302	2630.0	9100.0	99	2105	100	200	23.4	19.5	13.7	36.5	36.5	35.9	0.040	6.8	6.3	5.0	PN
45325	4/28/87	1636	2600.0	9100.0	99	2694	100	200	26.7	19.0	13.5	36.5	36.4	35.9	0.027	6.7	5.4	4.8	PN
45326	4/28/87	2030	2600.0	9130.0	99	2050	100	200	20.5	23.4	20.0	36.6	36.5	35.9	0.070	6.7	6.8	5.9	PN
45327	4/28/87	2345	2600.0	9200.0	99	2196	100	200	23.8	20.8	16.0	36.0	36.4	36.3	0.054	6.5	6.0	5.2	PN
45328	4/29/87	0355	2630.0	9200.0	99	1869	100	200	22.8	20.2	15.3	35.4	36.4	36.2	0.098	7.0	6.9	5.0	PN
45329	4/29/87	0727	2700.0	9200.0	99	1592	100	200	22.9	20.1	15.7	35.7	36.4	36.2	0.106	6.7	6.7	5.7	PN
45330	4/29/87	1051	2700.0	9230.0	99	1455	100	200	23.4	17.8	14.1	34.7	36.4	35.9	0.115	7.5	6.5	5.9	PN

Table 1 (cont'd.)

NMFS APRIL-MAY OFFSHORE PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45331	4/29/87	1400	2700.1	9259.9	99	1281	100	200	23.7	16.5	12.8	34.1	36.2	35.7	0.148	6.8	5.3	5.0	PN
45332	4/29/87	1820	2630.0	9300.0	99	1627	100	200	24.2	18.1	13.4	34.4	35.8	36.5	0.135	7.0	5.2	4.7	PN
45333	4/29/87	2139	2600.0	9300.0	99	2196	100	200	24.4	22.1	16.8	36.4	36.5	36.4	0.055	6.8	6.7	5.2	PN
45334	4/30/87	0120	2600.0	9330.0	99	2288	100	200	24.1	20.8	15.7	36.0	36.5	36.1		6.8	6.1	5.2	PN
45335	4/30/87	0448	2600.0	9400.0	99	2196	100	200	22.3	20.1	14.7	33.3	36.3	36.1	0.104	7.2	7.2	4.7	PN
45336	4/30/87	0830	2630.0	9400.0	99	1557	100	200	23.1	17.3	12.9	36.5	36.4	35.8	0.072	6.5	5.3	4.8	PN
45337	4/30/87	1153	2700.0	9400.0	99	1610	100	200	23.8	17.2	11.7	35.0	36.3	35.5	0.093	6.8	5.2	4.7	PN
45338	4/30/87	1650	2730.0	9330.0	99	622	100	200	24.6	17.3	13.0	34.4	36.3	35.7	0.177	7.1	5.0	4.6	PN
45339	4/30/87	2104	2800.0	9300.0	17	115	57	115	23.4	20.1	12.2	35.2	36.6	36.3	0.129	6.8	7.0	5.7	PN
45340	5/ 1/87	0010	2800.0	9229.9	16	106	53	106	23.6	20.1	17.9	34.8	36.4	36.3	0.084	6.9	7.2	5.4	PN
45341	5/ 1/87	0255	2800.0	9200.0	16	120	60	120	23.3	20.2	18.7	36.1	36.4	36.3	0.072	7.0	7.2	6.1	PN
45342	5/ 1/87	0557	2800.0	9130.0	15	172	86	167	23.2	18.7	14.6	34.7	36.3	35.9	0.125	7.1	6.1	4.7	PN
45343	5/ 1/87	0855	2800.0	9100.0	15	150	75	150	23.7	18.9	15.1	30.9	36.4	36.2	0.174	7.3	6.9	4.9	PN
45344	5/ 1/87	1225	2800.0	9030.0	14	304	100	200	23.6	18.3		35.3	36.4	35.9	0.102	7.1	6.8	5.4	PN
45345	5/ 1/87	1525	2800.0	9000.1	14	604	100	200	24.5	20.0		35.7	36.4	36.0	0.095	7.2	7.1	4.8	PN
45346	5/ 2/87	0700	2800.0	8930.0	99	1076	100	200	24.2	19.9	15.1	31.9	36.4	36.0	0.172	7.2	6.2	4.8	PN
45347	5/ 2/87	0950	2800.0	8900.0	99	1336	100	200	23.5	19.8	15.4	31.7	36.4	36.3	0.129	7.6	7.0	5.0	PN
45348	5/ 2/87	1309	2800.0	8830.0	99	2196	100	200	23.8	18.8	14.0	32.9	36.4	35.8	0.080	7.1	5.9	5.2	PN
45349	5/ 2/87	1612	2800.0	8800.0	99	2420	100	200	23.9	16.9	12.9	36.4	36.4	35.8	0.076	7.2	5.9	5.0	PN
45356	5/ 3/87	0615	2700.0	8800.0	99	2739	100	200	24.5	19.7	15.3	36.4	36.4	36.2	0.032	6.9	7.0	5.8	PN
45357	5/ 3/87	1501	2830.0	8800.0	99	2306	100	200	24.2	19.0	14.1	36.3	36.4	36.3	0.048	7.0	5.9	5.0	PN
45358	5/ 3/87	1812	2900.0	8800.0	11	1375	100	200	24.1	19.1		34.7	36.5	36.1	0.090	7.2	5.7	5.1	PN
45359	5/ 3/87	2143	2930.0	8800.0	11	47	23	47	24.7	19.6	19.5	25.4	36.3	36.4	5.757	8.3	6.6	5.7	PN
45360	5/ 7/87	0056	3000.0	8659.9	10	71	38	67	25.1	20.3	18.5	33.4	36.4	36.5	0.110	7.3	6.7	5.3	PN
45361	5/ 7/87	0532	2930.0	8630.0	9	197	100	190	24.2	20.1	16.4	36.1	36.7	36.2	0.165	7.1	6.1	5.1	PN
45362	5/ 7/87	0933	2900.0	8600.0	99	246	100	200	23.4	18.0	14.4	33.8	36.3	36.2	0.163	6.4	5.3	4.4	PN
45363	5/ 7/87	1420	2830.0	8530.0	8	194	95	190	24.0	19.0	15.8	34.8	36.4	36.3	0.063	7.3	6.5	5.5	PN
45364	5/ 7/87	1920	2800.0	8500.0	6	227	100	200	24.3	18.5	16.6	33.0	36.4	36.2	0.055	7.1	5.1	4.8	PN

Table 1 (cont'd.)

NMFS APRIL-MAY OFFSHORE PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	MAX	TEMPERATURE,C SUR	MID	MAX	SALINITY,PPT SUR	MID	MAX	CL, SUR	DISSOLVED OXYGEN SUR	MID	MAX	GEAR
45365	5/ 7/87	2338	2730.0	8500.0	5	271	100	200	23.5	19.1	15.9	34.5	36.8	36.3	0.093	7.3	6.4	5.6	PN
45366	5/ 8/87	0148	2700.0	8500.1	5	878	99	99	25.0	18.6	14.2	36.5	36.8	36.2	0.053	7.0	5.0	4.6	PN
45367	5/ 8/87	1150	2630.1	8500.1	99	2011	100	200	25.2	18.8	14.4	35.8	36.5	36.0	0.093	7.0	4.7	4.6	PN
45368	5/ 8/87	0930	2600.0	8500.0	99	3226	100	200	26.1	19.3	14.4	36.3	36.5	36.0	0.380	6.9	5.7	4.6	PN
45369	5/ 8/87	1344	2600.0	8429.9	99	194	99	194	26.9	20.3	16.1	36.5	36.4	36.3	0.080	6.6	6.8	4.8	PN
45369	5/ 8/87	1344	2600.0	8429.9	99	194	99	194	27.5	20.3	15.5	36.2	36.4	36.0	0.087	7.2	6.8	5.4	PN
45381	5/ 9/87	1225	2600.0	8400.0	4	134	67	131	24.8	21.1	17.2	36.4	36.7	36.6	0.045	7.2	7.3	5.3	PN
45382	5/ 9/87	1616	2530.0	8400.0	3	130	60	120	26.4	22.3	19.8	36.7	36.6	37.2	0.071	7.1	7.5	5.2	PN
45383	5/ 9/87	1928	2500.0	8400.0	3	126	60	120	26.4	21.3	19.3	35.9	36.4	36.6	0.107	7.0	7.4	4.9	PN
45384	5/ 9/87	2247	2430.0	8400.0	2	3010	100	200	26.0	20.2	15.6	36.1	36.4	36.2	0.071	6.8	6.5	4.6	PN
45385	5/10/87	0155	2430.2	8429.9	99	3440	98	200	27.2	22.6	17.9	36.3	37.0	36.5	0.063	6.8	6.5	4.8	PN
45386	5/10/87	0610	2430.0	8500.0	99	3240	100	200	28.2	27.1	23.2	36.2	36.4	37.0	0.041	6.7	6.5	5.4	PN
45387	5/10/87	1304	2500.0	8500.0	99	3303	100	200	26.9	25.9	22.3	36.5	36.3	37.0	0.118	6.4	6.4	4.9	PN
45388	5/10/87	1630	2500.0	8600.0	99	3240	100	200	28.6	26.6	25.0	36.4	36.3	36.9		6.5	6.5	5.3	PN
45389	5/10/87	2041	2530.0	8600.0	99	3130	100	200	27.3	25.7	23.0	36.3	36.3	37.1	0.056	6.6	6.7	5.5	PN
45390	5/11/87	2345	2530.0	8630.0	99	3276	100	200	27.4	26.5	24.3	36.4	36.4	36.9	0.027	6.4	6.4	5.6	PN
45391	5/11/87	0413	2600.0	8600.0	99	3200	100	200	28.3	26.6	21.9	36.3	36.4	37.0	0.044	6.5	6.4	5.2	PN
45392	5/11/87	0915	2630.0	8600.0	99	3320	100	200	27.4	24.1	18.6	36.4	36.8	36.6	0.112	6.5	5.6	4.9	PN
45393	5/11/87	1311	2659.9	8559.9	99	3239	100	200	26.7	20.5	15.8	35.9	36.6	36.2		7.1	6.4	5.1	PN
45394	5/11/87	1721	2730.0	8600.0	99	3100	100	200	26.6	20.4	16.5	36.5	36.6	36.2	0.067	7.2	4.9	4.8	PN
45406	5/12/87	0940	2800.0	8600.0	99	1052	100	200	24.7	19.2	15.3	34.5	36.2	36.1	0.094	7.0	5.9	5.3	PN
45407	5/12/87	1300	2830.0	8600.0	99	329	100	200	24.7	19.5	16.0	34.9	36.4	36.3	0.112	7.3	7.1	4.9	PN
45408	5/12/87	1730	2900.1	8630.0	99	398	100	200	26.8	20.7	17.0	34.5	36.5	36.3		7.0		5.0	PN
45409	5/12/87	2030	2900.0	8700.0	99	672	100	200	25.1	19.9	15.6	35.6	36.8	36.3	0.058	8.9	8.3	6.6	PN
45410	5/13/87	0005	2830.0	8700.0	99	860	100	200	24.9	19.6	17.1	35.4	36.4	36.0	0.062	7.2		5.3	PN
45411	5/13/87	0337	2800.0	8700.0	99	2873	101	200	25.2	19.1	15.5	35.1	36.4	36.0		7.1	6.3	5.3	PN
45412	5/13/87	0720	2730.0	8700.0	99	3072	100	200	28.2	19.8	15.3	36.5	36.6	36.2	0.234	6.6	5.8	4.6	PN
45424	5/14/87	0430	2700.0	8700.0	99	3038	100	200	28.8	25.4	20.0	36.0	37.0	37.0	0.053	6.7	5.9	5.4	PN

Table 1 (cont'd.)

NMFS APRIL-MAY OFFSHORE PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45425	5/14/87	0900	2630.0	8700.0	99	2281	100	200	27.3	26.0	21.7	36.4	36.3	36.9	0.180	6.5	6.3	5.4	PN
45426	5/14/87	1236	2559.9	8700.2	99	3148	101	200	27.4	25.5	23.1	36.4	36.3	37.2	0.107	6.6	6.5	5.4	PN
45427	5/14/87	1619	2600.0	8730.0	99	3147	100	200	28.9	26.5	21.9	36.5	36.3	36.9	0.027	6.5	6.5	5.3	PN
45428	5/14/87	1929	2600.0	8800.0	99	5530	100	200	29.2	24.6	17.9	36.3	36.9	36.5	0.050	6.6	5.6	5.1	PN
45429	5/14/87	2230	2630.0	8800.0	99	2708	100	200	27.4	19.0	15.2	36.5	36.8	36.3	0.126	6.7	5.4	5.0	PN
45430	5/15/87	0125	2700.0	8800.1	99	2745	100	200	26.9	17.0	13.5	36.6	36.8	36.0	0.056	7.0	5.3	5.0	PN
45431	5/15/87	0452	2700.0	8830.0	99	2470	100	200	26.8	18.9	14.3	36.0	36.8	36.0	0.066	7.1	5.0	4.8	PN
45432	5/15/87	1345	2800.0	8800.1	99	2471	100	200	27.0	18.3	14.2	36.7	36.7	36.0	0.099	6.6	5.2	4.8	PN
45433	5/15/87	2215	2700.0	8900.0	99	2269	100	200	26.7	19.4	14.6	32.5	36.6	36.4	0.075	7.0	6.2	5.4	PN
45434	5/16/87	0132	2629.9	8900.1	99	2873	100	200	26.9	18.5	14.4	33.7	36.7	36.0		7.0	5.3	4.7	PN
45435	5/16/87	0442	2600.0	8900.0	99	3109	100	200	27.7	20.3	15.6	36.0	36.6	36.0	0.097	6.8	4.8	4.2	PN
45436	5/16/87	0812	2600.0	8930.0	99	3100	100	200	25.9	19.9	15.0	35.0	36.5	36.0	0.056	7.3	6.7	5.3	PN
45437	5/16/87	1117	2600.0	9000.0	99	2909	100	200	26.4	19.7	15.3	36.5	36.7	36.2		7.2	5.7	4.5	PN
45438	5/16/87	1512	2630.0	9000.0	99	2837	100	199	26.9	18.9	14.6	35.7	36.7	36.0	0.080	6.8	5.0	4.8	PN
45439	5/16/87	1841	2600.0	9000.0	99	2377	100	200	27.5	20.9	16.4	34.4	36.6	36.1	0.092	7.0	6.2	4.6	PN
45440	5/16/87	2204	2700.0	9030.0	99	1647	100	200	26.2	20.0	15.8	34.9	36.5	36.2	0.137	6.8	6.4	4.6	PN
45441	5/17/87	0103	2700.1	9100.0	99	1647	100	200	26.1	20.4	16.5	35.4	36.5	36.4		6.6	6.6	4.3	PN
45442	5/17/87	0439	2630.0	9100.0	99	2103	100	200	27.4	21.5	16.8	36.4	36.5	36.2	0.046	6.3	5.9	4.0	PN
45443	5/17/87	0805	2600.0	9100.0	99	2743	100	200	26.8	18.8	14.5	36.4	36.5	35.9	0.080	6.4	5.2	4.1	PN
45444	5/17/87	1109	2600.0	9130.0	99	2196	100	200	26.8	20.1	13.5	36.1	36.5	35.9	0.053	6.6	6.2	4.4	PN
45445	5/17/87	1420	2559.9	9200.2	99	2159	100	199	26.9	18.5	13.5	36.1	36.6	35.9	0.056	6.5		4.1	PN
45446	5/17/87	1812	2630.0	9200.0	99	1829	100	200	27.7	21.3	15.4	36.4	36.6	36.0	0.062	6.4	5.9	4.0	PN
45447	5/17/87	2118	2700.0	9200.0	99	1554	100	200	26.6	20.4	16.7	35.3	36.5	36.4		6.9	6.4	5.5	PN
45448	5/18/87	0026	2700.0	9230.0	99	1464	100	200	26.6	20.3	15.9	36.4	36.5	36.4	0.056	6.6	6.6	4.3	PN
45449	5/18/87	0325	2700.0	9300.0	99	1281	100	200	26.2	19.4	15.1	36.3	36.7	36.1	0.037	6.5	5.0	4.2	PN
45450	5/18/87	0720	2630.0	9300.0	99	1646	100	200	26.8	19.5	15.1	35.9	36.6	36.0	0.120	6.4	4.2	3.9	PN
45451	5/18/87	1043	2600.0	9300.0	99	2196	100	200	27.1	18.3	13.8	35.4	36.4	35.9	0.135	6.1	4.2	3.8	PN
45452	5/18/87	1440	2600.0	9329.8	99	2288	100	200	26.0	21.0	15.9	36.6	36.7	36.2	0.044	6.6	5.6	4.4	PN

Table 1 (cont'd.)

NMFS APRIL-MAY OFFSHORE PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45453	5/18/87	1816	2600.0	9400.0	99	2743	100	200	27.1	22.9	17.7	36.2	36.7	36.4	0.075	6.4	5.6	4.2	PN
45454	5/18/87	2210	2630.0	9400.0	99	1571	100	200	25.1	17.7	13.0	35.4	36.4	35.8	0.053	6.5	4.0	3.8	PN
45455	5/19/87	0125	2700.0	9400.1	99	1464	100	200	25.6	17.9	13.3	36.3	36.5	36.0	0.212	6.5	4.3	4.0	PN
45456	5/19/87	0609	2730.0	9330.0	99	585	100	200	26.6	19.9	15.3	36.2	36.5	36.0	0.056	5.7	4.3	3.7	PN
45457	5/19/87	1010	2800.0	9300.0	17	107	50	100	25.5	20.6	18.5	35.0	36.3	36.5	0.062	6.7	6.9	4.7	PN
45458	5/19/87	1315	2800.1	9230.0	16	105	52	104	25.6	20.8	18.8	36.2	36.5	36.5	0.107	6.8	6.9	5.0	PN
45459	5/19/87	1605	2800.0	9200.0	16	119	55	109	27.2	21.6	19.0	35.4	36.5	36.5	0.072	6.6	6.9	4.9	PN
45460	5/19/87	1915	2800.0	9130.0	15	160	75	151	27.2	20.4	17.1	35.1	36.7	36.2	0.070	6.6	5.8	4.0	PN
45461	5/19/87	2200	2800.0	9100.0	15	146	70	140	26.3	19.2	15.8	34.5	36.5	36.2	0.107	6.7	5.8	4.4	PN
45462	5/20/87	0100	2800.0	9030.0	14	293	100	201	26.2	18.8	13.9	35.2	36.5	36.0	0.107	6.6	5.3	4.2	PN
45463	5/20/87	0356	2800.0	9000.0	14	300	100	200	26.7	21.2	14.8	34.8	36.5	36.1		6.6	5.8	4.2	PN
45464	5/20/87	0716	2800.0	8930.0	99	969	100	200	26.8	21.2	16.7	33.3	36.6	36.5	0.498	6.9	6.2	4.2	PN
45465	5/20/87	1010	2800.0	8900.0	99	1390	100	200	28.1	18.7	14.7	26.8	36.4	35.9	1.991	7.3	5.1	4.4	PN
45466	5/20/87	1325	2800.0	8830.0	99	2196	100	200	28.4	17.9	13.0	36.6	36.6	36.0	0.124	6.7	5.0	4.6	PN
45467	5/20/87	1828	2830.0	8800.0	99	2196	100	200	27.6	20.7	16.9	35.3	36.5	36.2	0.118	7.0	6.6	5.1	PN
45468	5/20/87	2148	2900.0	8800.0	11	1383	100	200	26.8	19.3	16.0	35.4	36.4	36.3	0.053	6.5	5.7	4.7	PN
45469	5/21/87	0125	2930.0	8800.1	11	44	22	42	28.2	20.1	19.9	26.1	37.2	36.4	6.224	9.3	5.7	5.6	PN

Table 1 (cont'd.)

FLORIDA APRIL-MAY OFFSHORE PLANKTON SURVEY
HERNAN CORTEZ II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
00001	5/ 1/87	1333	2730.0	8300.1	5	15			23.3			33.0			1.177	6.8			PN
00002	5/ 1/87	1720	2730.0	8330.0	5	37			22.5			34.6	36.1	36.0	0.237	6.6			PN
00003	5/ 1/87	2155	2700.0	8329.5	5	47	24	47	27.8	20.8	19.6	35.8	36.4	36.4	0.260	6.0	6.2	5.6	PN
00004	5/ 2/87	0350	2630.0	8330.0	4	53			22.6			36.3			0.360	6.6			PN
00005	5/ 2/87	0804	2559.6	8330.0	4	43	21	42	20.3	21.7	23.9	36.3	36.3	36.4		6.3	6.7	5.9	PN
00006	5/ 2/87	1250	2530.0	8330.1	3	65			24.6			36.5			0.067	6.7			PN
00007	5/ 2/87	1648	2500.0	8330.0	3	67	34	67	23.9	20.7	19.2	36.7	36.3	36.8	0.227	6.2	6.9	4.9	PN
00008	5/ 2/87	2133	2430.2	8330.0	2	466			25.0			36.5			0.190	6.2			PN
00009	5/ 3/87	0205	2359.6	8359.6	2	2304	100	200	26.4	23.8	18.8	36.4	36.6	37.5	0.210	5.6	5.4	4.2	PN
00010	5/ 5/87	1555	2459.6	8400.0	3	123	60	120	25.2	21.2	18.8	35.8	36.5	36.4	0.217	6.1	6.4	4.4	PN
00011	5/ 5/87	2104	2530.0	8400.0	3	158			25.0			36.5			0.180	6.4			PN
00012	5/ 6/87	0116	2559.6	8359.6	4	136	68	136	24.3	20.7	18.7	36.5	36.3	36.4	0.040	6.3	6.7	4.2	PN
00013	5/ 6/87	0535	2600.1	8430.1	99	220	100	200	24.6	22.0	16.4	36.9	36.7	36.1		6.3	4.7	4.2	PN
00014	5/ 6/87	1000	2600.0	8500.0	99	3240	100	200	26.8	18.8	16.3	36.4	36.6	35.9	0.177	6.4	4.3	4.0	PN
00015	5/ 6/87	1402	2630.1	8459.6	99	2926			26.2			36.4			0.120	6.2			PN
00016	5/ 6/87	1742	2659.2	8500.1	99	720	100	200	24.5	18.5	16.3	36.3	36.4	36.0	0.130	6.5	4.2	4.2	PN
00017	5/ 6/87	2200	2700.0	8430.0	5	173	90	173	24.3	20.8	16.3	36.5	36.6	36.0	0.133	6.4	6.4	4.2	PN
00018	5/ 7/87	0200	2700.0	8359.6	5	78	39	78	23.8	18.8	15.3	35.5	36.1	36.3	0.240	6.7	7.0	4.0	PN
00019	5/ 7/87	0647	2730.0	8400.0	5	58			23.1			35.6			0.183	6.8			PN
00020	5/ 7/87	1030	2800.0	8359.6	6	43	19	38	25.4	20.4	19.2	35.0	38.0	38.0	0.247	6.6	6.8	6.8	PN
00021	5/ 7/87	1400	2800.0	8430.0	6	74	37	74	25.1	19.5	15.4	33.9	36.5	36.3	0.200	6.5	6.0	4.0	PN
00022	5/ 7/87	2153	2830.0	8500.3	8	110			23.9			33.5			0.170	8.3			PN
00023	5/ 8/87	0225	2900.0	8500.0	8	37	17	34	23.5	20.3	18.3	33.6	35.1	36.3	0.200	6.7	7.1	4.8	PN
00024	5/ 8/87	0619	2900.0	8429.6	7	30	14	28	21.2	22.3	18.7	35.2	35.4	36.0	0.453	6.8	7.1	5.8	PN
00025	5/ 8/87	1106	2829.6	8429.6	6	47			23.8			34.5			0.347	6.6			PN
00026	5/ 8/87	1601	2900.0	8359.6	7	27	12	24	23.4	20.3	18.2	35.1	35.2	35.5	0.373	6.8	7.1	6.7	PN
00027	5/ 8/87	1941	2859.6	8330.0	7	15	6	12	23.2	22.4	20.4	34.9	34.7	34.8	0.430	7.0	7.1	7.7	PN
00028	5/ 8/87	2337	2830.0	8330.0	6	21			23.5			33.4			0.445	7.0			PN
00029	5/ 9/87	0322	2800.0	8329.6	6	26	12	24	23.5	20.5	19.1	33.1	35.0	35.7	0.633	6.8	6.8	6.8	PN

Table 1 (cont'd.)

TEXAS JUNE SHRIMP AND BOTTOMFISH SURVEY
ARANSAS BAY

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
31001	6/ 2/87	0918	2754.0	9656.5	20	13	7	13								6.4	5.6	6.8	ST
31002	6/ 2/87	1024	2758.7	9653.6	20	12	6	12								6.5	6.6	6.9	ST
31003	6/ 2/87	1059	2800.6	9653.2	19	9	4	9								6.7	6.9	7.3	ST
31004	6/ 2/87	1145	2758.4	9652.5	20	12	6	12								5.6	5.4	5.7	ST
31005	6/13/87	0910	2755.6	9648.1	20	19	10	19								8.0	7.2	8.1	ST
31006	6/13/87	0954	2754.4	9649.6	20	19	10	19								8.2	7.7	7.6	ST
31007	6/13/87	1028	2753.6	9648.2	20	21	10	21								7.4	7.6	7.8	ST
31008	6/13/87	1122	2753.6	9653.5	20	17	8	17								7.5	7.3	7.5	ST
31009	6/16/87	0800	2751.7	9659.1	20	11	6	11								7.5	7.5	8.3	ST
31010	6/16/87	0826	2752.3	9659.6	20	11	6	11								7.8	7.4	7.8	ST
31011	6/16/87	0917	2750.6	9657.3	20	15	7	15								8.4	7.8	8.1	ST
31012	6/16/87	1006	2747.6	9659.5	20	15	8	15								8.4	8.5	8.5	ST
31013	6/16/87	1210	2743.5	9657.6	20	22	11	22								8.2	8.2	8.5	ST
31014	6/16/87	1247	2741.6	9659.7	20	22	11	22								8.1	8.2	8.5	ST
31015	6/16/87	1339	2744.1	9703.2	20	14	7	14								8.0	8.1	8.0	ST
31016	6/16/87	1448	2738.8	9707.5	20	15	8	15								8.4	8.4	8.5	ST

Table 1 (cont'd.)

TEXAS JUNE SHRIMP AND BOTTOMFISH SURVEY
MATAGORDA BAY

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
32001	6/ 2/87	0848	2820.9	9617.7	19	15	7	14	26.8	26.8	26.8	31.3	31.5	31.5		6.3	6.3	6.3	ST
32002	6/ 2/87	0942	2818.5	9616.5	19	19	9	18	26.8	26.7	26.6	31.7	31.8	32.8		6.8	6.9	6.6	ST
32003	6/ 2/87	1037	2815.5	9616.5	19	22	11	21	26.6	26.6	26.5	32.5	32.5	33.0		6.8	6.8	6.9	ST
32004	6/ 2/87	1123	2816.5	9618.5	19	20	10	19	26.7	26.7	26.6	31.7	31.7	31.8		6.7	6.8	7.4	ST
32005	6/ 2/87	1225	2814.5	9623.5	19	20	10	19	26.8	26.7	26.7	31.6	31.7	31.9		6.5	6.5	6.6	ST
32006	6/ 2/87	1309	2814.5	9624.5	19	18	9	17	26.9	26.9	26.9	31.9	31.9	32.0		6.6	6.7	6.2	ST
32007	6/ 3/87	0922	2818.5	9626.5	19	5	3	5	26.8	26.8	26.8	31.5	31.6	31.7		7.1	7.2	7.1	ST
32008	6/ 3/87	0955	2817.5	9625.5	19	10	5	9	26.8	26.8	26.9	31.5	31.6	31.6		6.5	6.8	6.8	ST
32009	6/16/87	0823	2821.9	9614.6	19	17	8	16								8.0	8.0	6.0	ST
32010	6/16/87	0916	2822.5	9614.5	19	16	8	15								8.0	6.0	7.0	ST
32011	6/16/87	1007	2822.5	9610.5	19	18	9	17								7.0	7.0	6.0	ST
32012	6/16/87	1056	2825.5	9610.5	19	15	7	14								6.0	7.0	6.0	ST
32013	6/16/87	1146	2827.5	9605.5	19	15	7	14								6.0	8.0	6.0	ST
32014	6/16/87	1228	2828.5	9606.5	19	13	6	12								6.0	6.0	7.0	ST
32015	6/16/87	1311	2829.5	9608.5	19	11	5	10								6.0	6.0	8.0	ST
32016	6/16/87	1420	2826.5	9614.5	19	11	5	10								8.0	8.0	8.0	ST

Table 1 (cont'd.)

TEXAS JUNE SHRIMP AND BOTTOMFISH SURVEY
LAGUNA MADRE

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
33001	6/ 6/87	0840	2611.5	9703.5	21	20		20	26.2		26.1	35.5		35.5		3.4		6.3	ST
33002	6/ 6/87	1005	2620.5	9702.5	21	23		23	26.2		26.3	35.5		35.5		7.6		9.3	ST
33003	6/ 6/87	1049	2620.5	9706.5	21	18		18	26.5		26.4	35.5		35.5		7.9		7.8	ST
33004	6/ 6/87	1117	2621.5	9707.5	21	17		17	26.6		26.5	35.5		35.5		9.0		7.9	ST
33005	6/ 6/87	1225	2619.5	9711.5	21	7		7	26.8		26.9	35.5		35.5		8.9		7.9	ST
33006	6/ 6/87	1258	2619.5	9709.5	21	16		16	26.7		26.6	35.5		35.5		8.0		7.9	ST
33007	6/ 6/87	1330	2618.5	9708.5	21	16		16	26.8		26.6	35.5		35.5		8.0		7.9	ST
33008	6/ 6/87	1405	2614.5	9710.5	21	7		7	27.0		27.0	35.5		35.5		8.8		8.6	ST
33009	6/17/87	0834	2609.8	9701.5	21	24		24	27.8		25.5	34.3		34.5		7.6		7.9	ST
33010	6/17/87	0935	2604.8	9701.6	21	24		24	27.8		26.3	34.5		34.5		7.6		8.0	ST
33011	6/17/87	1028	2602.5	9701.6	21	24		24	27.7		26.5	34.4		34.4		7.5		7.8	ST
33012	6/17/87	1115	2600.6	9659.6	21	28		28	27.8		26.9	34.3		34.4		7.6		7.8	ST
33013	6/17/87	1204	2558.6	9700.6	22	26		26	27.8		26.7	34.5		34.5		7.6		8.0	ST
33014	6/17/87	1248	2600.7	9703.5	21	22		22	27.9		24.7	34.5		34.5		7.9		7.6	ST
33015	6/17/87	1325	2601.9	9705.4	21	19		19	28.0		24.8	34.5		35.2		7.9		7.7	ST
33016	6/17/87	1425	2601.8	9706.5	21	16		16	28.0		25.2	34.6		35.0		7.9		7.8	ST

Table 1 (cont'd.)

TEXAS JUNE SHRIMP AND BOTTOMFISH SURVEY
GALVESTON BAY

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
34001	6/11/87	1132	2917.4	9442.5	18	8	4	7	26.9	26.9	27.0	20.7	23.2	25.5		6.7	5.4	4.2	ST
34002	6/14/87	0738	2916.4	9439.4	18	12	6	11	27.1	27.2	26.9	28.4	29.3	31.6		6.0	5.9	5.9	ST
34003	6/14/87	0821	2914.7	9438.4	18	16	8	15	27.4	27.4	27.0	26.8	27.0	32.0		6.5	6.4	5.7	ST
34004	6/14/87	0910	2919.5	9435.5	18	13	6	12	27.3	27.2	27.0	19.8	28.0	31.3		6.9	6.1	5.8	ST
34005	6/14/87	0954	2924.3	9435.7	18	9	4	8	27.4	27.1	27.0	24.8	26.5	30.5		6.4	5.4	5.3	ST
34006	6/14/87	1027	2925.5	9437.1	18	8	4	7	27.5	27.0	26.9	25.6	30.2	30.4		5.6	5.0	4.8	ST
34007	6/14/87	1112	2923.3	9442.5	18	3	1	2	28.3	27.1	27.1	27.1	28.9	28.9		5.2	4.2	4.2	ST
34008	6/14/87	1148	2921.7	9440.7	18	9	4	8	28.5	27.2	27.1	25.3	26.4	30.0		6.4	5.1	4.3	ST
34009	6/16/87	0813	2912.5	9440.1	18	16	8	15	27.8	27.1	27.1	27.9	32.8	32.8		7.0	5.2	5.2	ST
34010	6/16/87	0859	2909.5	9443.8	18	16	8	16	28.1	27.1	27.1	29.1	32.8	32.8		7.2	5.5	5.5	ST
34011	6/16/87	0944	2909.6	9448.2	18	15	7	14	28.0	27.1	27.0	32.6	32.7	32.8		6.7	5.4	5.1	ST
34012	6/16/87	1013	2908.5	9449.6	18	15	8	14	28.1	27.0	27.0	31.6	32.9	32.9		6.9	5.1	5.1	ST
34013	6/16/87	1040	2908.6	9450.3	18	15	7	14	28.2	26.9	27.0	31.7	32.8	32.9		6.8	5.2	5.2	ST
34014	6/16/87	1122	2912.6	9453.6	18	7	3	6	28.9	27.0	27.0	32.1	32.6	32.6		6.2	4.6	4.6	ST
34015	6/16/87	1206	2911.5	9447.3	18	13	6	12	28.5	27.1	27.1	31.7	32.7	32.7		6.8	5.3	5.0	ST
34016	6/16/87	1225	2912.5	9446.4	18	12	6	11	28.6	27.2	27.1	31.5	32.7	32.6		6.8	5.0	4.8	ST

Table 1 (cont'd.)

TEXAS JUNE SHRIMP AND BOTTOMFISH SURVEY
SABINE

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
40001	6/ 3/87	0845	2937.0	9348.7	17	9	5	9	28.4	28.4	28.4					8.6	8.4	6.6	ST
40002	6/ 3/87	0947	2934.7	9349.8	17	12	6	12	28.3	28.2	27.8					8.7	7.0	8.3	ST
40003	6/ 3/87	1046	2936.1	9354.5	17	7	4	7	28.5	28.2	27.9					6.5	3.5	2.6	ST
40004	6/ 3/87	1123	2936.6	9354.8	17	7	4	7	28.6	28.3	27.8					6.4	3.6	2.4	ST
40005	6/ 3/87	1210	2937.5	9354.9	17	6	3	6	28.4	28.3	27.8					7.4	6.9	1.4	ST
40006	6/ 3/87	1340	2938.6	9401.2	18	6	3	6	28.7	28.9	28.9					9.1	9.2	9.1	ST
40007	6/ 3/87	1507	2939.6	9403.6	18	5	3	5	28.0	28.0	29.1					8.5	8.7	8.8	ST
40008	6/ 3/87	1650	2939.3	9357.7	17	4	2	4	29.3	29.3	29.0					10.3	9.6	8.1	ST
40009	6/16/87	0759	2941.5	9347.6	17	6	3	6	27.8	27.6	27.3					9.5	10.7	5.6	ST
40010	6/16/87	0835	2941.3	9345.0	17	8	4	8	28.5	27.7	27.7					10.6	8.5	5.9	ST
40011	6/16/87	0948	2942.1	9340.7	17	8	4	8	28.5	28.5	27.4					10.8	8.4	6.0	ST
40012	6/16/87	1040	2941.4	9337.6	17	9	4	9	28.8	27.5	27.4					10.6	8.1	7.2	ST
40013	6/16/87	1146	2937.1	9339.4	17	11	6	11	28.0	26.9	26.9					11.4	7.0	6.8	ST
40014	6/16/87	1221	2938.0	9340.7	17	11	6	11	28.3	27.2	27.3					11.5	7.4	6.6	ST
40015	6/16/87	1255	2936.4	9340.6	17	12	6	12	28.8	27.2	27.7					11.5	7.7	7.8	ST
40016	6/16/87	1401	2939.9	9344.7	17	10	5	10	29.5	28.4	27.3					11.6	11.5	7.1	ST

Table 1 (cont'd.)

NMFS JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45482	6/11/87	2102	2954.8	8824.5	11	29	15	29	28.1	28.1	26.1	33.1	33.1	34.4	0.320	6.4		5.1	ST
45484	6/12/87	0013	2958.0	8813.4	11	31	15	31	27.8	27.8	26.1	34.1	34.1	34.9	0.187	6.4	6.4	6.2	ST
45486	6/12/87	0300	3002.1	8821.7	11	24	12	24	28.2	28.2	26.9	33.0	33.1	33.9	0.299	6.4	6.4	4.2	ST
45488	6/12/87	0746	3008.1	8818.4	11	18	8	17	28.2	28.2	28.3	32.8	32.9	32.9	0.262	6.1	5.9	5.9	ST
45490	6/12/87	0941	3008.9	8814.5	11	16	8	16	28.7	28.6	28.5	32.3	32.9	33.2	0.860	6.6	6.3	5.7	ST
45492	6/12/87	1113	3012.0	8809.0	11	11	5	11	28.7	28.7	28.6	31.0	31.0	32.0	1.651	6.5	6.4	6.4	ST
45494	6/12/87	1409	2959.1	8814.8	11	28	14	28	28.4	27.7	27.4	33.5	34.2	34.2	0.398	6.4	6.4	6.3	ST
45495	6/12/87	1610	3000.0	8800.0	11	24	12	24	28.0	28.0	27.7	34.0	34.1	34.1	0.841	6.3	6.3	6.2	PN
45497	6/12/87	1817	2957.1	8751.3	10	29	14	29	28.1	28.0	26.8	34.0	34.1	34.2	0.221	6.2	6.2	5.3	ST
45499	6/12/87	2150	2941.7	8731.2	10	40	20	40	27.7	23.7	21.1	33.3	35.9	36.3	0.142	6.2	6.5	6.3	ST
45501	6/13/87	0111	3000.8	8741.8	10	27	14	27	27.9	27.8	26.8	24.0	34.1	34.6	0.140	6.4	6.4	6.1	ST
45503	6/13/87	0324	3006.6	8739.3	10	16	8	16	28.1	28.1	28.0	33.5	34.2	34.2	0.791	6.5	6.3	6.3	ST
45505	6/13/87	0500	3011.0	8737.6	10	10	6	10	28.2	28.5	28.5	30.9	33.5	34.0		6.3			ST
45507	6/13/87	0651	3006.5	8736.2	10	20	10	20				33.8	34.1	34.3	0.336	6.3	6.3	6.3	ST
45508	6/13/87	0850	3000.0	8730.0	10	24	12	24	27.7	27.6	26.9	34.6	34.7	34.8	0.274	6.3	6.2	6.3	PN
45510	6/13/87	1107	2950.3	8732.7	10	34	16	34	27.4	27.3	21.9	34.3	35.2	35.8	0.153	6.3	6.3	6.4	ST
45511	6/13/87	1445	2930.1	8730.0	10	70	35	70	27.4	22.1	19.3	35.2	36.5	36.3	0.089	6.3	6.5	5.5	PN
45513	6/13/87	1733	2929.6	8739.7	10	64	32	64	27.6	22.7	19.3	33.8	36.2	36.4	0.163	6.4	6.4	5.7	ST
45515	6/13/87	2013	2932.4	8747.6	10	46	23	46	27.3	20.9	19.2	33.5	35.8	36.2	0.162	6.3	6.3	4.8	ST
45517	6/13/87	2245	2923.5	8747.6	99	73	35	73	27.6	21.4	19.3	32.5	36.4	36.4	0.098	6.4	6.8	5.6	ST
45519	6/14/87	0045	2923.0	8741.5	99	92	46	92	27.4	20.9	18.9	33.1	36.4	36.4	0.138	6.4	6.6	5.2	ST
45521	6/14/87	0248	2925.0	8734.4	99	82	41	82	27.3	21.6	18.5	34.5	36.4	36.4	0.154	6.4	6.8	5.4	ST
45523	6/14/87	0619	2924.2	8736.0	99	91	45	90	27.3	21.0	18.3	34.3	36.4	36.5	0.163	6.5	6.7	4.9	ST
45525	6/14/87	0807	2927.0	8740.0	99	75	34	74	27.3	21.9	19.7	34.0	36.5	36.4	0.154	6.4	6.7	6.7	ST
45527	6/14/87	0933	2927.9	8741.1	99	71	35	71	27.3	21.8	19.5	33.7	36.7	36.5	0.134	6.4	6.6	5.6	ST
45529	6/14/87	1242	2931.3	8754.3	10	46	23	46	27.4	21.1	19.3	33.9	35.8	36.3	0.172	6.4	6.8	5.2	ST
45530	6/14/87	1458	2930.0	8800.0	11	44	22	44	27.4	21.0	19.4	34.0	35.8	36.3	0.235	6.4	6.8	5.4	PN
45532	6/14/87	2016	2936.6	8834.0	11	24	12	24	27.6	27.2	25.4	30.7	32.8	34.5	0.330	6.4	6.3	5.4	ST

Table 1 (cont'd.)

NMFS JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45534	6/14/87	2322	2925.4	8848.2	11	20	10	20	27.3	27.6	26.3	30.9	31.0	34.2	1.670	6.7	6.7	5.6	ST
45536	6/15/87	0143	2919.0	8855.0	11	26	13	26	27.5	27.3	23.9	29.0	32.9	34.6		6.6	6.3	5.6	ST
45538	6/15/87	0225	2918.0	8853.5	11	26	13	26	27.5	27.3	23.9					6.6	6.3	5.6	ST
45540	6/15/87	0429	2913.3	8848.4	11	62	31	62	27.3	25.3	20.0	29.4	35.9	36.2	3.524	6.7	6.5	5.1	ST
45542	6/15/87	0611	2910.7	8847.5	11	62	31	62	27.3	25.3	20.0	29.4	35.9	36.2		6.7	6.5	5.1	ST
45544	6/15/87	0854	2916.1	8857.8	11	22	11	22	27.4	26.8	23.7	21.9	32.2	34.7	3.629	6.6	5.9	5.3	ST
45546	6/15/87	1214	2915.1	8830.6	11	80	40	80	27.4	20.5	18.5	32.3	36.0	36.3	0.361	6.3	6.2	4.9	ST
45548	6/16/87	2048	2801.0	9403.7	18	70	35	70	27.7	20.9	19.3	34.7	36.3	36.3	0.053	6.2	6.8	6.7	ST
45550	6/16/87	2328	2757.9	9414.1	99	90	45	90	27.6	20.0	18.9	34.6	36.4	36.3		6.3	6.7	5.9	ST
45552	6/17/87	0114	2800.9	9415.2	18	78	39	78	27.8	20.7	19.3	34.5	36.3	36.3	0.080	6.1	6.9	5.8	ST
45554	6/17/87	0513	2830.7	9415.0	18	36	18	36	28.1	24.3	20.3	31.5	34.7	36.2	0.081	6.3	6.2	6.5	ST
45556	6/17/87	0642	2828.9	9412.9	18	36	18	36	28.1	24.3	20.3					6.3	6.2	6.5	ST
45558	6/17/87	0815	2827.2	9413.0	18	40	20	40	28.0	23.8	20.2	31.8	35.3	36.1	0.000	6.3	6.3	6.4	ST
45560	6/17/87	1040	2827.5	9418.5	18	39	19	39	28.1	26.7	20.4	32.3	34.8	36.2	0.075	5.8	5.9	5.8	ST
45561	6/17/87	1230	2829.8	9430.0	18	35	18	35	28.7	26.4	20.2	27.1	34.1	35.8	0.371	6.5	6.3	6.1	PN
45562	6/17/87	1535	2830.0	9500.0	19	32	16	32	29.1	26.9	20.4	27.1	33.3	35.3	0.274	6.5	6.5	6.1	PN
45564	6/17/87	1717	2826.3	9508.7	19	35	17	35	29.3	27.1	20.4	27.9	33.2	35.3	0.126	6.3	6.4	6.2	ST
45566	6/17/87	1933	2839.1	9515.4	19	30	15	30	29.4	27.2	22.1	26.8	32.3	35.0	0.285	6.1	6.4	5.8	ST
45568	6/17/87	2123	2843.7	9506.0	19	21	10	21	29.3	27.7	22.8	26.9	30.2	33.2	0.106	6.6	6.5	6.7	ST
45569	6/17/87	2123	2843.7	9506.0	19	21	10	21	29.3	27.7	22.8	26.9	30.2	33.2	0.106	6.6	6.5	6.7	ST
45570	6/18/87	0155	2859.9	9500.1	19	15	7	15	28.2	27.6	24.0	28.5	28.5	33.2	5.078	6.7	6.7	5.3	PN
45572	6/18/87	0414	2909.6	9448.3	18	13	6	13	27.9	27.1	27.0	29.6	29.6	31.8	0.523	6.4	6.4	5.2	ST
45574	6/18/87	0715	2913.6	9434.3	18	15	7	15	28.0	27.7	27.1	30.8	30.9	31.5	0.491	6.6	6.5	5.2	ST
45576	6/18/87	1017	2927.5	9422.4	18	11	5	11	27.8	27.8	27.3	29.0	29.0	30.6	3.514	6.6	6.6	5.1	ST
45577	6/18/87	1127	2929.2	9422.2	18	11	5	11	27.8	27.8	27.3					6.6	6.6	5.1	PN
45579	6/18/87	1254	2933.3	9413.5	18	10	5	10	27.9	27.4	27.1	28.8	28.9	29.5	3.196	6.5	6.1	4.8	ST
45581	6/18/87	2019	2842.5	9401.0	18	27	13	27	28.1	26.0	22.0	29.5	33.2	35.1	0.328	6.4	6.6	6.4	ST
45583	6/18/87	2136	2845.2	9400.1	18	25	12	25	28.0	27.9	23.9	29.5	29.4	34.2	0.361	6.4	6.6	6.1	ST

Table 1 (cont'd.)

NMFS JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45584	6/19/87	0130	2902.7	9426.7	18	16	8	16	28.5	27.6	25.9	26.8	27.0	33.4	0.500	7.0	6.8	5.4	PN
45586	6/19/87	0229	2902.5	9427.4	18	16	8	16	28.5	27.6	25.9					7.0	6.8	5.4	ST
45588	6/19/87	0453	2854.8	9439.6	18	17	8	17	28.2	27.5	23.4	28.1	28.0	33.7	0.306	6.9	6.7	5.8	ST
45590	6/20/87	2027	2818.5	9501.3	19	39	20	39	29.0	26.8	19.7	29.8	32.7	35.8	0.143	7.0	8.8	6.5	ST
45592	6/20/87	2300	2806.0	9501.5	19	53	26	53	28.7	25.9	20.0	30.7	33.2	36.0	0.000	7.0	6.6	7.1	ST
45593	6/21/87	0040	2800.2	9500.1	19	78	39	78	28.6	26.6	20.6	30.7	36.4	36.4	0.106	6.7	6.5	6.2	PN
45594	6/21/87	0445	2800.0	9430.0	18	70	35	70	28.7	20.5	19.6	28.0	35.1	36.4	0.130	6.6	7.1	6.4	PN
45596	6/21/87	0719	2805.1	9446.5	18	53	26	53	28.6	25.0	19.5	29.8	34.4	36.0		6.7	6.7	6.2	ST
45598	6/21/87	0901	2803.2	9449.3	18	66	33	66	28.3	24.1	19.6	30.6	33.8	36.1	0.172	6.5	6.6	6.3	ST
45600	6/21/87	1122	2801.0	9459.2	18	71	35	71	28.5	26.6	20.4	34.3	36.1	36.4	0.112	6.3	6.4	6.0	ST
45602	6/21/87	1426	2753.9	9509.8	99	93	46	92	28.7	24.1	21.3		36.5	36.5	0.112	6.2	6.8	6.8	ST
45604	6/21/87	1923	2745.6	9550.8	20	75	37	75	28.8	23.7	21.4	31.3	36.6	36.4	0.093	6.3	6.6	6.1	ST
45606	6/21/87	2013	2741.8	9553.4	20	75	37	75	28.8	23.7	21.4	31.3	36.6	36.4	0.093	6.3	6.6	6.1	ST
45607	6/22/87	0047	2759.9	9530.1	19	53	26	53	28.8	26.4	21.9	29.5	34.7	36.4	0.129	6.6	6.5	6.6	PN
45609	6/22/87	0315	2802.3	9543.7	19	44	22	44	28.0	26.8	21.0	32.8	33.5	36.3	0.130	6.6	6.6	6.3	ST
45611	6/22/87	0452	2759.4	9543.7	20	44	22	44	28.0	26.8	21.0	32.8	33.5	36.3	0.102	6.6	6.6	6.3	ST
45613	6/22/87	0619	2756.1	9544.2	20	44	22	44	28.0	26.8	21.0	32.8	33.5	36.3	0.102	6.6	6.6	6.3	ST
45615	6/22/87	0938	2803.5	9519.1	19	54	27	54	28.6	26.4	21.7	30.4	35.5	36.4		6.5	6.5	6.4	ST
45617	6/22/87	1107	2806.7	9519.4	19	54	27	54	28.6	26.4	21.7	30.4	35.5	36.4		6.5	6.5	6.4	ST
45618	6/22/87	1318	2817.3	9522.4	19	37	19	37	28.8	27.3	20.2	29.5	31.8	36.2	0.089	6.4	6.3	5.7	ST
45620	6/22/87	1557	2821.2	9540.9	19	26	13	26	28.1	27.4	21.5				0.106	7.1	6.8	5.8	ST
45622	6/22/87	1714	2820.7	9537.4	19	26	13	26	28.1	27.4	21.5					7.1	6.8	5.8	ST
45624	6/22/87	1923	2835.2	9529.2	19	21	11	21	29.0	27.5	20.9	31.1	31.3	34.7	0.112	6.1	6.2	6.3	ST
45625	6/22/87	2008	2836.4	9530.5	19	21	11	21	29.0	27.5	20.9	31.1	31.3	34.7	0.112	6.1	6.2	6.3	PN
45627	6/22/87	2149	2840.0	9543.1	19	11	5	11	28.2	28.2	25.1	31.5	31.3	33.2	0.299	6.1	6.1	4.7	ST
45629	6/22/87	2330	2837.1	9551.0	19	9	4	9	28.3	28.1	25.7	32.1	31.9	32.6	0.287	6.1	6.2	4.6	ST
45631	6/23/87	0057	2832.5	9556.0	19	15	7	15	27.8	27.7	24.5	32.8	32.6	34.3	0.804	7.1	7.0	6.7	ST
45633	6/23/87	0319	2828.7	9546.4	19	22	11	22	27.9	26.8	22.2	32.1	32.0	35.4	0.130	5.4	6.2	6.1	ST

Table 1 (cont'd.)

NMFS JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45635	6/23/87	0545	2816.4	9530.7	19	35	17	35	28.4	27.8	20.6	32.1	31.7	32.2	0.100	6.7	6.6	6.8	ST
45637	6/23/87	0913	2825.3	9552.4	19	20	10	20	28.0	27.7	22.5	32.6	32.4	35.5	0.109	6.6	6.7	6.7	ST
45639	6/23/87	1028	2828.4	9556.8	19	16	8	16	28.3	27.9	24.3	32.5	32.5	34.7	0.110	6.6	6.6	5.2	ST
45640	6/23/87	1112	2826.4	9556.0	19	16	8	16	28.3	28.3	24.3	33.3	33.6	36.2		6.6	6.6	5.2	PN
45642	6/23/87	1319	2810.7	9555.1	19	31	15	31	28.4	27.4	21.7				0.109	6.7	6.8	7.0	ST
45644	6/23/87	1513	2809.7	9603.0	19	28	14	28	28.3	27.6	21.9	33.5	33.8	36.3		6.5	6.6	6.4	ST
45646	6/23/87	2032	2806.1	9614.0	19	30	15	30	28.6	27.0	22.5	34.7		36.3	0.096	6.6	6.7	6.9	ST
45648	6/23/87	2132	2802.8	9614.5	19	29	15	29	28.1	26.2	22.5			36.3	0.111	6.7	6.6	7.1	ST
45650	6/23/87	2242	2801.3	9616.3	19	32	16	32	28.4	27.6	21.9	35.1		36.4	0.070	6.6	6.6	6.9	ST
45652	6/23/87	2359	2802.7	9618.4	19	30	15	30	28.3	27.4	22.0	35.2		36.3	0.089	6.5	6.5	7.1	ST
45654	6/24/87	0317	2800.7	9633.3	19	25	12	25	27.6	26.9	22.9	35.0	35.0	36.5	0.181	6.6	6.7	6.5	ST
45655	6/24/87	0200	2800.0	9633.1	19	25	12	25	27.6	26.9	22.9	35.0	35.0	36.5		6.6	6.7	6.5	PN
45657	6/24/87	0621	2815.7	9627.0	19	12	6	12	29.9	28.4	24.6	25.1		34.4	2.417	6.9	7.0	3.8	ST
45659	6/24/87	0800	2809.7	9619.2	19	25	12	25	27.9	27.3	23.7	34.5		36.2	0.142	6.7	6.7	6.9	ST
45661	6/24/87	1012	2801.8	9624.2	19	27	13	27	27.4	27.4	22.5	35.6		36.4	0.118	6.6	6.8	7.1	ST
45663	6/24/87	1344	2752.0	9647.0	20	25	12	25	27.6	26.0	23.0	35.4	35.4	36.3		6.6	6.7	7.0	ST
45665	6/24/87	1603	2741.8	9641.6	20	34	17	34	28.4	27.3	21.4	34.8	35.0	36.3	0.053	6.3	6.6	6.6	ST
45667	6/24/87	1903	2735.2	9648.3	20	34	17	34	28.9	25.1	22.1	34.8		36.4	0.126	6.5	6.7	6.7	ST
45669	6/24/87	2058	2732.5	9637.4	20	53	26	53	29.0	26.3	20.6	34.0		36.4	0.096	6.6	6.8	6.4	ST
45671	6/24/87	2228	2730.3	9634.7	20	53	26	53	29.0	26.3	20.6	34.0		36.4	0.096	6.6	6.8	6.4	ST
45673	6/25/87	0102	2719.8	9636.6	20	70	35	70	28.7	23.5	20.7	34.4	36.5	36.4	0.062	6.7	6.3	6.2	ST
45675	6/25/87	0337	2715.4	9635.2	20	85	42	85	28.8	23.3	20.4	34.1	36.5	36.7	0.037	6.2	6.3	5.8	ST
45677	6/25/87	0603	2712.7	9632.6	20	90	45	90	28.7	23.4	20.3	34.2		36.4	0.083	6.5	7.2	5.8	ST
45679	6/25/87	0856	2725.3	9628.5	99	85	43	85	28.5	23.7	21.0	34.5		36.5	0.095	6.4	7.0	6.2	ST
45680	6/25/87	1015	2724.5	9625.5	99	85	43	85	28.5	23.7	21.0			36.6	0.095	6.4	7.0	6.2	PN
45682	6/25/87	1132	2724.3	9631.2	20	83	41	83	28.6	23.8	20.5	34.2			0.055	6.5	7.0	5.7	ST
45684	6/25/87	1550	2735.8	9607.0	20	16	8	16	28.1	26.2	24.7	34.1	35.3	36.3	0.045	6.2	6.4	6.8	ST
45686	6/25/87	1753	2741.5	9654.0	20	24	12	24	29.2	26.2	23.0	31.4	35.6	36.4	0.931	6.7	6.8	6.5	ST

Table 1 (cont'd.)

NMFS JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45688	6/25/87	2025	2751.6	9655.7	20	15	7	15	29.4	27.3	25.3	32.9	35.0	36.1	0.361	6.7	7.0	6.8	ST
45690	6/25/87	2304	2732.3	9649.7	20	34	17	34	28.3	26.8	21.9			36.4	0.107	6.7	6.8	6.9	ST
45692	6/26/87	0010	2731.5	9649.1	20	37	18	37	28.6	26.9	21.3	35.2	35.4	36.4	0.080	6.7	6.8	6.7	ST
45694	6/26/87	0232	2736.3	9701.5	20	23	12	23	27.8	25.9	22.0	35.7	35.7	36.3	0.027	6.7	6.8	6.8	ST
45696	6/26/87	0513	2732.1	9613.8	20	7	3	7	29.3	29.3	28.0	35.3	35.3	35.9	0.210	7.4	6.6	5.7	ST
45698	6/26/87	0724	2724.3	9704.7	20	27	13	27	27.6	23.8	22.1	35.8	35.8	36.4	0.125	6.6	6.4	6.6	ST
45699	6/26/87	0854	2719.5	9658.0	20	27	13	27	27.6	23.8	22.1	35.8	35.8	36.4		6.6	6.4	6.6	PN
45701	6/26/87	1009	2715.2	9653.0	20	44	22	44	28.3	21.9	21.3	35.3	36.1	36.5	0.133	6.4	6.5	6.1	ST
45703	6/26/87	1352	2702.3	9651.9	20	54	27	54	28.5	23.1	21.1	35.8	36.4	36.5	0.045	6.7	6.2	6.1	ST
45704	6/26/87	1315	2702.3	9653.5	20	54	27	54	28.5	23.1	21.1	35.8	36.4	36.6	0.045	6.7	6.2	6.1	PN
45706	6/26/87	1626	2756.2	9647.8	20	64	32	64	29.4	23.0	20.8	35.1	36.5	36.5	0.081	6.9	7.8	6.4	ST
45708	6/26/87	2054	2715.2	9643.5	20	62	31	62	29.5	24.8	21.6	34.8	36.5	36.5	0.093	6.0	6.5	6.0	ST
45710	6/27/87	0032	2700.8	9656.9	20	46	23	45	28.6	21.9	20.8	35.8		36.6	0.027	6.2	6.6	5.5	ST
45712	6/27/87	0310	2712.8	9706.4	20	30	15	30	28.4	22.6	21.4	35.8	35.9	36.3	0.045	6.1	6.4	5.9	ST
45714	6/27/87	0541	2706.3	9720.5	20	14	7	14	27.9	27.3	23.6	36.0	36.1	36.1	0.111	6.3	6.4	6.8	ST
45716	6/27/87	0635	2706.1	9720.7	20	14	7	14	27.9	27.3	23.6					6.3	6.4	6.8	ST
45718	6/27/87	0838	2656.8	9710.0	21	27	13	27	27.4	25.1	21.4	36.2	36.1	36.4	0.156	6.1	6.3	6.0	ST
45720	6/27/87	1023	2652.4	9659.2	21	41	20	41	27.5	23.2	20.4	35.9	35.9	36.5	0.132	6.2	6.3	5.1	ST
45722	6/27/87	1303	2646.0	9706.6	21	31	15	30	27.2	22.5	21.3	36.2	36.1	36.3	0.050	6.4	6.4	6.3	ST
45724	6/27/87	1520	2646.0	9719.4	21	9	4	9				36.2		36.1	0.068	6.2	6.3	6.4	ST
45726	6/27/87	2035	2652.0	9717.9	21	20	10	20	27.6	27.6	24.6	36.0	35.9	36.0	0.125	6.2	6.3	6.5	ST
45728	6/27/87	2242	2640.1	9717.3	21	14	7	14	27.5	27.5	27.4	36.2	36.1	36.1	0.374	6.2	6.2	6.2	ST
45730	6/28/87	0048	2637.9	9704.8	21	30	15	29	27.8	22.0	21.9	36.1	36.1	36.2	0.048	6.3	6.3	6.5	ST
45732	6/28/87	0257	2634.6	9702.2	21	33	16	33	28.0	21.9	21.7	36.0	36.2	36.4	0.040	6.0	6.2	6.3	ST
45734	6/28/87	0519	2628.0	9703.0	21	24	12	24	28.0	26.4	22.2	36.2	36.2	36.4	0.134	6.5	6.7	6.8	ST
45735	6/28/87	0608	2627.8	9703.3	21	24	12	24	28.0	26.4	22.2	36.2	36.2	36.4		6.5	6.7	6.8	PN
45737	6/28/87	0712	2630.1	9700.7	21	30	15	30	28.3	26.3	22.1	36.1	36.2	36.5	0.159	6.1	6.1	6.3	ST
45739	6/28/87	1038	2610.6	9655.7	21	31	15	31	28.8	28.8	22.5	35.7	35.7	36.6	0.104	6.1	6.1	6.3	ST

Table 1 (cont'd.)

NMFS JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45741	6/28/87	1217	2613.7	9702.6	21	21	10	21	28.7	28.0	22.9	36.4	36.1	36.4	0.027	6.2	6.2	5.6	ST
45743	6/28/87	1332	2609.8	9703.6	21	19	9	19	28.2	25.4	23.0	36.2	36.1	36.4	0.057	6.2	6.3	6.1	ST
45745	6/28/87	1449	2606.8	9706.9	21	16	8	16	27.4	26.8	23.4	36.3	36.2	36.2	0.187	6.3	6.4	5.7	ST
45747	6/28/87	1606	2606.7	9708.5	21	9	5	9	27.6	27.3	26.6	36.3	36.1	36.2	0.156	6.2	6.3	6.0	ST
45748	6/28/87	1754	2659.9	9700.0	20	25	12	25	29.2	27.9	22.5	35.6	36.1	36.5	0.137	6.5	6.7	7.0	PN
45750	6/28/87	2034	2602.4	9705.0	21	18	9	18	27.5	26.5	23.3	36.3	36.2	36.4	0.177	6.3	6.3	5.7	ST
45752	6/28/87	2123	2603.2	9703.7	21	18	9	18	27.5	26.5	23.3	35.8	35.8	36.4		6.3	6.3	5.7	ST
45754	6/28/87	2318	2611.1	9657.0	21	29	14	29	28.9	28.1	22.5				0.087	6.2	6.3	6.5	ST
45756	6/29/87	0222	2628.3	9642.2	21	44	22	44	28.9	26.1	21.4	34.9	35.6	36.4	0.168	6.1	6.1	6.4	ST
45757	6/29/87	0616	2700.2	9630.4	20	134	67	134	29.0	22.7	18.7	34.1	36.7	36.5		6.1	7.0	5.8	PN
45758	6/29/87	1118	2730.0	9600.0	20	211	205	211	29.0	19.5	14.2	33.7	36.6	36.0	0.107	6.2	5.0	4.2	PN
45759	6/29/87	1441	2800.0	9559.9	19	46	23	46	28.8	26.9	21.4	34.1	35.7	36.4	0.045	6.6	6.3	6.3	PN
45760	6/30/87	0245	2804.0	9344.4	17	72	36	72	29.2	21.5	19.7	30.9	36.4	36.2	0.036	6.4	6.6	6.2	PN
45762	6/30/87	0349	2802.2	9344.3	17	72	36	72	29.2	21.5	19.7	30.9	36.4	36.2	0.036	6.4	6.6	6.2	ST
45763	6/30/87	0712	2828.0	9331.7	17	46	23	46	28.3	24.4	20.2	32.0	35.6	36.1	0.162	6.5	6.1	6.0	PN
45765	6/30/87	0749	2828.9	9330.7	17	46	23	46	28.3	24.4	20.2	32.0	35.6	36.1	0.162	6.5	6.1	6.0	ST
45767	6/30/87	1026	2841.0	9316.7	17	30	15	30	28.6	27.5	22.4	32.9	32.6	35.4	0.137	6.3	6.4	5.0	ST
45769	6/30/87	1109	2842.8	9316.8	17	28	14	28	28.5	28.5	22.6	32.6	32.5	35.4	0.199	6.3	6.3	5.1	ST
45771	6/30/87	1321	2847.0	9333.5	17	26	13	26	28.7	27.0	22.2	28.6	30.4	35.0	1.023	6.2	6.7	3.9	ST
45772	6/30/87	1540	2833.7	9346.3	17	36	18	36	28.9	26.9	20.6	29.1	32.2	35.7	0.101	6.5	6.6	5.2	PN
45774	6/30/87	1631	2832.9	9345.8	17	36	18	36	28.9	26.9	20.6	29.1	32.2	35.7	0.101	6.5	6.6	5.2	ST
45776	6/30/87	2031	2813.2	9348.4	17	66	33	66	28.9	23.3	19.8	31.8		36.4	0.116	7.6	8.2	7.5	ST
45777	6/30/87	2245	2816.3	9349.1	17	66	33	66	28.9	23.3	19.8	31.8		36.4	0.116	7.6	8.2	7.5	ST
45779	7/ 2/87	2037	2835.7	9337.1	17	35	17	35	29.8	26.8	20.7	29.0	33.2	36.0	0.541	7.0	6.8	4.8	ST
45781	7/ 2/87	2219	2838.0	9340.6	17	32	16	32	29.2	28.1	21.2	29.2	32.7	35.7	0.147	7.0	4.7	6.4	ST
45783	7/ 3/87	0038	2837.3	9350.7	17	31	15	30	29.1	27.1	21.2	29.2	32.8	35.7	0.132	6.9	6.5	5.0	ST
45785	7/ 3/87	0243	2847.0	9351.1	17	22	11	21	28.9	28.3	24.0	29.1	30.9	34.9	0.078	6.7	6.3	5.5	ST
45786	7/ 3/87	0633	2856.1	9351.2	17	21	11	21	28.9	28.9	24.2	29.1	29.1	35.0	0.224	6.6	6.6	4.0	PN

Table 1 (cont'd.)

NMFS JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45788	7/ 3/87	0607	2857.1	9351.0	17	21	11	21	28.9	28.9	24.2	31.2	29.1	35.0		6.6	6.6	4.0	ST
45789	7/ 3/87	0930	2900.2	9329.9	17	22	11	21	28.9	28.9	24.8	27.9	27.9	34.3	0.295	6.6	5.4	3.3	PN
45791	7/ 3/87	1347	2928.1	9317.6	17	12	6	12	28.9	28.9	28.6	27.8		27.9	3.167	7.6	8.0	6.7	ST
45797	7/ 3/87	2233	2909.8	9349.7	17	16	8	16	29.1	29.1	29.2	29.5	29.4	33.0	0.748	6.9	6.9	2.5	ST
45799	7/ 4/87	0037	2919.4	9347.4	17	15	7	15	29.0	29.1	28.6	29.0		31.7	0.818	6.9	7.7	1.7	ST
45801	7/ 4/87	0430	2940.9	9334.3	17	8	4	8	28.6	29.2	28.6	25.0		27.5	3.975	6.9	6.9	3.7	ST
45802	7/ 4/87	0620	2930.0	9330.0	17	9	4	9	28.4	28.9	28.8	27.9		27.9	2.901	6.7	6.7	5.5	PN
45804	7/ 4/87	1022	2937.5	9301.0	17	9	5	9	27.9	28.8	28.4	24.8	24.7	25.8	5.327	7.6	7.7	6.8	ST
45806	7/ 4/87	1203	2930.1	9253.6	16	11	6	11	28.4	28.8	27.9	27.3		30.5	1.520	7.8	7.3	7.4	ST
45807	7/ 4/87	1250	2928.4	9253.2	16	11	6	11	28.4	28.8	27.9	27.3		30.5	1.520	7.8	7.3	7.4	PN
45808	7/ 4/87	1507	2925.0	9230.0	16	11	6	11	29.4	29.8	28.9	26.9		29.0	1.072	6.6	6.2	4.2	PN
45810	7/ 4/87	1638	2920.6	9237.7	16	13	7	13	28.9	29.1	27.6	27.1		31.7	0.592	6.8	6.9	6.0	ST
45812	7/ 4/87	2044	2933.5	9253.1	16	10	5	10	29.2	29.5	27.7	25.1		26.3	2.110	8.2	8.3	8.0	ST
45814	7/ 4/87	2304	2923.2	9242.7	16	14	7	14	29.2	29.0	27.4	27.3		32.2	0.534	6.9	7.1	4.1	ST
45816	7/ 5/87	0152	2911.7	9238.3	16	18	9	18	28.2	28.8	26.1	28.0		33.8	0.312	6.5	7.4	5.3	ST
45818	7/ 5/87	0443	2906.7	9255.4	16	20	10	20	28.4	28.9	25.6	28.2		34.5	0.162	6.6	6.6	4.6	ST
45820	7/ 5/87	0705	2905.9	9249.1	16	21	10	21	29.3	29.1	25.6	28.9	30.1	34.9	0.134	6.5	6.2	4.1	ST
45822	7/ 5/87	0834	2859.6	9249.0	16	23	12	23	29.1	28.7	25.8	30.4	31.8	34.9	0.178	6.5	6.5	5.7	ST
45824	7/ 5/87	0957	2856.3	9248.3	16	23	12	23	29.1	28.7	25.8	30.4	31.8	35.2		6.5	6.5	5.7	ST
45825	7/ 5/87	1037	2855.1	9248.0	16	23	12	23	29.1	28.7	25.8	30.4	31.8	35.2		6.5	6.5	5.7	PN
45827	7/ 5/87	1342	2903.4	9219.0	16	19	9	18	29.4	28.9	25.7	28.3	29.0	34.9	0.380	6.5	6.2	1.0	ST
45829	7/ 5/87	1522	2903.0	9212.1	16	17	8	16	29.8	29.1	26.1	26.7	27.9	34.9	0.675	6.5	4.0	2.1	ST
45830	7/ 5/87	1656	2903.8	9204.5	16	16	7	16	29.9	29.3	26.3	27.7	28.5	34.6	0.604	7.0	6.6	1.4	PN
45832	7/ 5/87	1727	2903.9	9204.2	16	16	7	16	29.9	29.3	26.3	27.7	28.5	34.6	0.604	7.0	6.6	1.4	ST
45834	7/ 5/87	1943	2905.1	9148.5	15	11	6	11	30.4	30.0	28.9	25.6	25.9	28.9	1.466	7.5	7.6	5.0	ST
45836	7/ 5/87	2032	2900.6	9145.5	15	16	8	16	29.6	29.1	26.6	28.7	28.9	35.0	0.456	6.6	2.7	1.9	ST
45838	7/ 5/87	2215	2858.3	9148.4	15	16	8	16	29.4	29.2	26.5	29.0	29.0	35.1	0.258	6.6	5.4	2.9	ST
45840	7/ 6/87	0010	2902.2	9154.8	15	16	8	16	29.7	29.4	26.3	27.5	28.2	35.1	0.241	6.4	6.4	2.1	ST

Table 1 (cont'd.)

NMFS JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45841	7/ 6/87	0409	2855.6	9226.6	16	26	13	26	29.5	29.1	23.6	29.4	30.6	36.4	0.199	6.7	6.4	3.7	PN
45843	7/ 6/87	0505	2855.2	9226.6	16	26	13	26	29.5	29.1	23.6	29.4	30.6	36.4	0.199	6.7	6.4	3.7	ST
45845	7/ 6/87	0705	2845.7	9224.2	16	33	16	33	29.3	27.7	21.6	31.7	34.9	36.2	0.151	6.6	6.7	4.0	ST
45847	7/ 6/87	0750	2843.7	9221.9	16	36	18	36	29.1	27.3	21.8	33.3	35.8	36.0	0.143	6.7	6.5	4.8	ST
45849	7/ 6/87	1020	2848.0	9209.2	16	30	15	30	29.2	29.1	22.9	31.9	32.9	35.5		6.6	6.6	4.0	ST
45851	7/ 6/87	1237	2847.6	9155.9	15	27	13	26	29.2	29.0	25.4	31.1	31.7	35.8	0.237	7.0	6.9	5.3	ST
45852	7/ 6/87	1511	2830.0	9159.9	16	48	24	48	29.3	26.6	20.2	32.3	35.8	36.5	0.214	6.8	4.9	4.6	PN
45854	7/ 6/87	2048	2831.8	9157.1	15	46	23	46	29.1	26.3	20.3	33.2	35.7	36.5	0.153	6.7	4.5	4.8	ST
45856	7/ 6/87	2340	2841.0	9211.0	16	37	18	37	29.1	28.3	21.6	32.0	33.3	36.4	0.150	6.6	6.6	4.0	ST
45858	7/ 7/87	0107	2837.7	9216.0	16	45	23	45	28.9	26.8	20.2	32.2	36.0	36.3		6.4	6.2	4.4	ST
45860	7/ 7/87	0219	2836.2	9217.0	16	45	23	45	28.9	26.8	20.2	32.2	36.0	36.3	0.187	6.4	6.2	4.4	ST
45861	7/ 7/87	0532	2829.9	9230.2	16	49	25	49	28.5	22.8	19.9	35.1	36.6	36.4	0.131	6.5	6.8	4.4	PN
45863	7/ 7/87	0807	2824.6	9230.4	16	56	27	56	28.6	21.9	19.9	34.9	35.9	36.3		6.5	7.6	4.8	ST
45865	7/ 7/87	0936	2821.2	9230.3	16	56	27	56	28.6	21.9	19.9	35.1	36.7	36.5		6.5	7.6	4.8	ST
45867	7/ 7/87	1121	2814.3	9234.1	16	74	37	74	29.0	20.5	19.8	33.2	35.7	36.4		6.6	7.1	5.4	ST
45869	7/ 7/87	1248	2810.8	9235.1	16	74	37	74	29.0	20.5	19.8	33.2	36.3	36.4		6.6	7.1	5.4	ST
45871	7/ 7/87	1515	2823.6	9242.6	16	54	27	54	28.6	21.5	20.1	34.6	36.1	36.4	0.126	6.5	5.8	6.4	ST
45873	7/ 7/87	1646	2827.3	9243.2	16	54	27	54	28.6	21.5	20.1	34.6	36.1	36.4		6.5	5.8	6.4	ST
45875	7/ 7/87	2034	2851.6	9245.8	16	25	13	25	29.0	28.6	25.1	31.1	32.5	35.3	0.246	6.5	6.5	3.9	ST
45877	7/ 8/87	0031	2838.6	9310.6	17	34	17	34	28.8	27.4	22.3	32.7	34.8	35.8	0.181	6.5	6.4	5.1	ST
45879	7/ 8/87	0257	2826.0	9308.5	17	45	23	45	28.5	26.2	20.4	31.0	35.9	36.3	0.191	6.8	6.8	6.6	ST
45881	7/ 8/87	0458	2823.0	9307.7	17	45	23	45	28.5	26.2	20.4	31.0	35.9	36.3	0.191	6.8	6.8	6.6	ST
45882	7/ 8/87	0627	2820.0	9307.7	17	45	23	45	28.5	26.2	20.4	31.0	35.9	36.3	0.191	6.8	6.8	6.6	PN
45884	7/ 8/87	0939	2806.0	9253.0	16	85	43	85	28.9	21.5	19.8	32.2	36.4	36.2	0.159	6.5	6.7	5.2	ST
45885	7/ 8/87	1250	2800.2	9229.7	16	102	51	102	28.7	20.5	18.5	33.2	36.5	36.5	0.137	6.5	7.0	4.8	PN
45887	7/ 8/87	1545	2802.1	9214.2	16	110	55	110	28.4	20.3	18.1	34.9	36.5	36.5	0.101	6.5	6.9	4.6	ST
45889	7/ 8/87	1721	2807.3	9213.6	16	77	38	77	28.4	21.4	19.9	35.3	36.5	36.5	0.084	7.2	7.2	5.4	ST
45891	7/ 8/87	2227	2826.0	9142.2	15	56	28	56	28.6	25.8	20.3	33.0	36.0	36.5	0.115	6.4	6.7	4.6	ST

Table 1 (cont'd.)

NMFS JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45893	7/ 9/87	2358	2829.5	9141.0	15	56	28	56	28.6	25.8	20.3	33.0	36.0	36.5	0.115	6.4	6.7	4.6	ST
45895	7/ 9/87	0252	2835.7	9125.1	15	34	17	34	28.6	28.8	22.2	33.4	34.7	36.4	0.104	6.4	6.2	4.1	ST
45897	7/ 9/87	0531	2829.6	9108.8	15	37	18	37	28.7	28.2	21.7	33.5	35.5	36.2	0.143	6.3	6.3	4.5	ST
45899	7/ 9/87	0902	2851.0	9054.7	14	11	5	11	29.1	29.1	29.1	29.5	29.7	29.8	0.766	6.5	6.4	6.3	ST
45901	7/ 9/87	1108	2838.0	9051.1	14	20	10	20	29.5	29.2	27.7	30.2	32.1	35.4	0.178	6.5	6.4	5.5	ST
45903	7/ 9/87	1340	2834.4	9050.3	14	22	11	22	29.5	28.6	26.2	29.8	33.5	36.3	0.310	6.1	6.3	4.9	ST
45905	7/ 9/87	1413	2832.8	9050.6	14	29	15	29	29.6	27.4	23.2	30.4	35.5	36.2	0.195	6.4	6.0	4.4	ST
45906	7/ 9/87	1600	2831.8	9100.1	15	30	15	30	29.4	26.7	23.2	33.2	33.7	36.2	0.165	6.7	6.7	4.9	PN
45908	7/ 9/87	1651	2830.6	9101.0	15	30	15	30	29.4	26.7	23.2	33.2	33.7	36.2	0.165	6.7	6.7	4.9	ST
45910	7/ 9/87	2048	2852.0	9046.8	14	8	4	8	29.4	29.4	29.2	29.4	29.4	29.6	1.090	7.0	7.1	7.0	ST
45912	7/ 9/87	2308	2848.5	9100.6	15	10	4	8	29.3	29.3	29.3	30.0	30.1	30.0	0.505	6.8	6.8	6.8	ST
45916	7/10/87	0357	2831.5	9039.2	14	35	17	35	28.7	26.6	21.9	34.2	35.9	36.9	0.231	6.6	4.5	4.3	ST
45918	7/10/87	0559	2835.3	9026.7	14	30	15	30	29.0	28.8	24.3	34.8	35.2	36.3	0.132	6.6	6.6	4.7	ST
45919	7/10/87	0858	2857.2	9030.0	14	13	7	13	29.2	29.1	29.0	30.7	31.4	31.9	0.498	6.6	6.3	6.2	PN
45921	7/10/87	0928	2857.2	9030.0	14	13	7	13	29.2	29.1	29.0	30.8	31.2	31.8	0.498	6.6	6.3	6.2	ST
45923	7/10/87	1213	2854.7	9018.9	14	19	10	19	29.8	29.5	27.2	29.4	29.6	35.4	0.343	6.6	6.5	2.3	ST
45925	7/10/87	1325	2853.2	9016.9	14	21	11	21	30.2	29.5	26.7	29.3	29.7	35.8	0.449	6.6	6.0	2.0	ST
45927	7/10/87	1636	2854.5	8959.1	13	33	16	33	30.1	27.9	23.3	29.2	33.5	36.8	0.262	6.6	5.8	2.8	ST
45929	7/10/87	1740	2851.8	8956.1	13	37	18	37	29.9	27.2	22.5	28.8	35.6	36.6	0.592	6.6	6.1	4.0	ST
45930	7/10/87	1903	2855.8	8959.6	14	30	15	30	30.1	28.0	24.0	29.2	32.3	36.5	0.436	6.8	6.3	2.6	PN
45932	7/10/87	2102	2855.6	9005.2	14	24	12	24	30.2	29.5	25.8	29.3	29.5	36.3	0.324	6.8	5.9	2.7	ST
45934	7/11/87	0000	2859.0	9021.4	14	12	6	12	30.3	30.3	29.4	27.6	27.6	30.0	0.945	7.4	7.5	7.1	ST
45936	7/11/87	0103	2855.2	9017.8	14	20	10	20	29.8	29.4	27.1	29.5	29.8	35.6	0.238	6.3	6.2	2.3	ST
45938	7/11/87	0311	2852.5	9014.0	14	22	11	22	29.9	29.4	26.3	29.2	29.8	35.8	0.415	6.3	6.1	1.5	ST
45940	7/11/87	0523	2843.0	9017.6	14	28	14	28	29.3	27.6	25.5	31.3	34.0	36.2	0.262	6.0	4.3	3.8	ST
45942	7/11/87	0838	2828.9	9041.0	14	35	17	35	28.8	28.7	22.3	35.1	35.4	36.0	0.096	6.2	6.0	4.1	ST
45944	7/11/87	1110	2818.7	9053.9	14	56	28	56	29.0	24.9	20.9	35.4	36.4	36.6	0.138	5.7	6.2	6.0	ST
45946	7/11/87	1453	2809.6	9116.8	15	92	46	92	30.0	21.7	19.6	35.6	36.5	36.5	0.192	5.8	6.4	5.0	ST

Table 1 (cont'd.)

NMFS JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
45950	7/11/87	1848	2811.8	9123.6	15	84	42	84	29.4	21.4	19.4	35.0	37.1	36.5	0.122	5.8	6.5	4.4	ST
45952	7/11/87	2024	2812.1	9128.7	15	74	37	74	29.0	22.2	19.7	35.5	36.6	36.6	0.037	5.6	6.3	4.5	ST
45954	7/12/87	0053	2807.9	9201.5	16	83	42	83	29.0	21.5	19.1	35.3	36.7	36.7	0.085	5.8	6.5	4.6	ST
45956	7/12/87	0403	2809.6	9145.2	15	84	42	84	29.4	21.1	19.3	34.7	37.2	36.6	0.056	6.5	7.5	5.8	ST
45958	7/12/87	0538	2815.3	9146.3	15	66	33	66	28.8	22.7	20.0	35.3	36.7	36.5		6.5	7.6	4.3	ST
45960	7/12/87	0850	2815.8	9131.1	15	74	37	74	28.9	22.8	19.9	35.2	36.2	36.3	0.087	6.5	7.4	5.1	ST
45962	7/12/87	1202	2827.1	9114.3	15	46	23	46	29.6	26.8	20.5	32.6	35.6	36.4	0.125	6.5	6.1	3.6	ST
45964	7/12/87	1442	2838.5	9128.3	15	30	15	30	30.9	29.1	25.3	32.0	33.9	35.8	0.131	6.6	6.6	6.4	ST
45966	7/12/87	2220	2812.5	9256.6	16	66	31	66	29.6	22.3	19.9	32.3	36.3	36.4	0.039	6.4	6.8	5.6	ST
45968	7/13/87	0142	2803.4	9308.2	17	93	47	93	29.9	22.1	19.2	30.6	36.9	36.7	0.098	6.4	6.5	4.7	ST
45971	7/13/87	0710	2800.1	9230.0	16	106	53	106	29.5	20.4	18.3	33.1	36.5	36.7	0.125	6.5	7.0	4.2	PN
45972	7/13/87	1245	2800.0	9130.1	15	166	83	166	30.3	20.2	15.8	34.9	36.6	36.3	0.480	6.4	5.7	4.2	PN
45973	7/13/87	1843	2800.0	9030.0	14	314	100	200	29.9	19.5	15.0	35.6	36.7	36.2	0.075	6.4	5.6	4.8	PN
45975	7/13/87	2059	2810.7	9040.3	14	93	46	93	29.9	22.1	19.7	35.3	37.3	36.6	0.079	6.4	6.9	5.0	ST
45977	7/13/87	2336	2812.8	9022.1	14	96	48	96	30.0	21.6	18.5	35.6	37.3	36.9	0.117	6.1	6.7	4.3	ST
45979	7/14/87	0426	2840.5	9005.8	14	59	29	59	31.1	24.5	20.5	25.8	36.4	36.5	5.102	10.0	6.2	4.9	ST
45980	7/14/87	0609	2830.0	9000.1	14	90	45	90	30.1	22.5	19.3	30.1	36.7	36.9	0.218	6.5	7.4	5.0	PN
45982	7/14/87	1127	2855.5	8932.4	13	56	28	56	30.7	24.9	21.0	25.0	36.2	36.3		7.0	6.4	5.1	ST
45983	7/14/87	1220	2857.1	8932.3	13	56	28	56	30.7	24.9	21.0	26.4	37.0	36.7		7.0	6.4	5.1	PN
45985	7/14/87	1416	2903.1	8939.1	13	24	12	24	31.9	28.2	25.6	21.4	31.8	36.9	2.835	7.8	4.7	4.6	ST
45987	7/14/87	2030	2900.7	8936.1	13	24	12	24	30.7	28.1	24.9	27.0	32.8	37.1	2.720	6.9	6.0	5.0	ST
45989	7/14/87	2143	2857.8	8932.3	13	37	18	37	31.3	27.5	22.9	21.1	35.9	37.2	0.753	8.7	5.8	5.1	ST

Table 1 (cont'd.)

MISSISSIPPI JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
17001	6/11/87	1021	3012.1	8839.5	11	10	5	9	28.0	28.2	28.5					6.0	5.9	5.8	ST
17002	6/11/87	1330	3002.7	8844.8	11	13	6	12	28.5	28.5	28.2					5.9	5.8	5.1	ST
17066	6/11/87	1551	3000.2	8830.0	11	23	11	22	28.2	28.1	27.8					6.0	6.0	5.4	PN
17003	6/11/87	1826	2953.4	8828.2	11	32	16	31	28.0	27.6	26.3					5.8	5.7	4.9	ST
17004	6/11/87	2157	2938.5	8845.8	11	13	6	12	27.3	27.9	27.8					5.8	5.6	4.7	ST
17005	6/11/87	2334	2943.7	8849.3	11	9	5	9	27.7	28.0	28.0					5.6	5.9	5.8	ST
17006	6/12/87	0127	2950.4	8845.6	11	12	5	11	27.9	28.0	27.8					5.9	5.8	4.3	ST
17007	6/12/87	0303	2957.9	8840.6	11	20	10	20	28.1	27.9	27.7					5.8	5.7	5.4	ST
17008	6/12/87	1757	2943.3	8844.1	11	13	6	12	28.0	28.1	28.0					5.9	5.4	5.0	ST
17009	6/13/87	0654	2922.7	8847.3	11	37	18	36	27.4	26.5	24.3					6.5	5.8	5.1	ST
17010	6/13/87	0825	2924.9	8842.4	11	40	20	39	27.6	25.2	22.9					6.2	5.9	4.9	ST
17011	6/13/87	1014	2926.7	8843.3	11	30	15	29	27.8	27.1	23.9					6.2	6.1	5.1	ST
17012	6/13/87	1207	2930.1	8841.3	11	17	8	16	28.0	28.0	27.2					6.1	5.9	5.8	ST
17013	6/13/87	1306	2931.1	8839.3	11	26	13	26	27.9	27.2	26.2					5.2	5.9	5.4	ST
17067	6/13/87	2027	2930.1	8829.9	11	50	25	49	28.0	24.8	22.0					6.1	6.1	5.5	PN
17014	6/13/87	2330	2922.6	8827.2	11	55	27	54	27.3	24.1	21.8					6.2	6.1	5.7	ST
17016	6/14/87	0332	2928.3	8839.6	11	36	18	36	27.5	26.6	22.9					5.6	5.7	4.8	ST
17017	6/14/87	0537	2932.8	8834.6	11	39	19	38	27.4	26.0	23.0					5.8	5.6	4.9	ST
17018	7/10/87	0728	3011.5	8850.4	11	13	6	13	30.0	29.5	28.0					6.8	6.0	4.0	ST
17019	7/10/87	1145	3006.0	8825.1	11	14	7	13	31.0	30.0	27.0					5.1	4.8	3.0	ST
17068	7/10/87	1318	3000.0	8830.1	11	23	11	22	31.0	29.0	27.2					5.3	5.4	3.7	PN
17020	7/10/87	1438	2954.8	8830.1	11	26	13	25	32.2	28.7	26.5					5.5	3.4	3.4	ST
17021	7/10/87	1910	2959.7	8817.7	11	29	12	25	31.0	29.0	28.0					5.1	4.8	4.2	ST
17022	7/10/87	2116	2952.9	8810.1	11	34	16	32	30.0	28.0	27.0					5.0	4.8	4.2	ST
17023	7/11/87	0033	2958.5	8820.9	11	30	15	29	29.7	27.8	26.2					5.3	4.8	3.6	ST
17024	7/11/87	0406	2952.0	8840.2	11	16	8	16	29.9	29.2	27.0					5.5	5.5	4.3	ST
17025	7/11/87	0639	2955.9	8845.9	11	12	6	12	29.0	29.0	28.0					5.6	5.2	4.0	ST
17026	7/11/87	0746	2955.5	8842.5	11	15	8	15	30.0	29.0	27.0					5.0	4.8	3.9	ST

Table 1 (cont'd.)

MISSISSIPPI JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
17027	7/11/87	0946	2947.3	8848.2	11	10	5	10	30.0	30.0	29.0					5.2	5.0	4.8	ST
17028	7/11/87	1126	2943.8	8838.2	11	20	10	20	30.0	29.0	27.0					5.0	4.7	3.8	ST
17029	7/11/87	1247	2945.7	8834.8	11	26	13	26	30.8	29.3	27.3					5.2	4.9	3.7	ST
17030	7/11/87	2000	3001.9	8804.5	11	20	10	20	34.0	29.0	28.0					5.4	5.2	4.1	ST
17031	7/11/87	2209	3007.4	8803.5	11	19	10	19	31.0	29.0	28.0					6.4	4.0	3.8	ST
17032	7/11/87	2325	3010.1	8800.4	11	12	6	12	30.9	30.2	27.2					6.0	5.5	4.0	ST
17033	7/12/87	0100	3012.9	8756.5	10	10	5	9	30.0	31.0	28.9					5.8	5.2	5.2	ST
17034	7/12/87	0231	3008.0	8750.9	10	14	7	13	30.2	29.7	28.3					5.7	5.5	4.5	ST
17069	7/12/87	0434	3000.0	8759.9	11	22	11	21	30.2	29.6	28.5					5.6	5.4	5.2	PN
17035	7/12/87	0649	2954.7	8751.9	10	27	14	27	30.0	29.0	27.0					5.0	4.6	4.2	ST
17036	7/12/87	0814	2949.8	8749.5	10	31	16	31	30.0	29.0	26.0					4.8	4.6	4.4	ST
17037	7/12/87	1054	2935.0	8745.9	10	39	19	39	30.0	27.0	25.0					5.0	4.8	4.6	ST
17037	7/12/87	1054	2935.0	8745.9	10	39	19	39	30.7	29.3	28.8					5.4	5.3	4.8	ST
17070	7/12/87	1341	2929.9	8759.9	11	45	23	44	30.4	26.4	26.4					5.0	4.8	4.2	PN
17038	7/12/87	1948	2947.6	8746.4	10	34	16	33	30.0	28.0	25.0					4.8	4.6	4.6	ST
17039	7/12/87	2042	2949.8	8747.3	10	33	16	32	30.0	28.0	25.0					4.8	4.6	4.6	ST
17040	7/12/87	2216	2959.2	8748.6	10	27	13	26	31.0	29.0	28.0					5.0	4.8	4.4	ST
17042	7/13/87	0217	3004.5	8735.4	10	23	11	23	30.8	29.3	27.8					5.4	5.0	4.6	ST
17071	7/13/87	0428	2959.8	8729.6	10	24	12	23	31.1	29.3	28.0					5.5	5.2	4.7	PN
17072	7/13/87	0838	2930.2	8730.0	10	72	36	72	30.0	26.0	24.0					5.0	4.6	4.0	PN
17043	7/13/87	2001	2946.9	8753.6	10	36	17	34	30.0	28.0	25.0					4.5	4.5	4.5	ST
17046	7/14/87	0153	2931.2	8742.2	10	54	27	54	28.5	27.8	24.8					5.2	5.2	5.0	ST
17047	7/14/87	0507	2923.8	8746.4	99	78	39	77	29.5	25.3	25.6					5.6	5.9	5.7	ST
17048	7/14/87	0848	2921.4	8801.1	11	108	54	108	29.0	23.0	23.0					5.2	4.4	4.0	ST
17049	7/14/87	1107	2919.4	8808.0	11	81	40	81	29.0	24.0	24.0					4.8	4.6	4.4	ST
17050	7/14/87	1705	2915.9	8824.3	11	71	36	70	30.2	24.8	26.2					5.4	5.4	5.3	ST
17051	7/14/87	1831	2917.7	8826.5	11	63	31	63	30.0	23.0	21.0					6.2	5.8	5.2	ST
17052	7/14/87	2025	2916.0	8819.6	11	81	40	81	30.0	24.0	23.0					5.2	4.6	4.8	ST

Table 1 (cont'd.)

MISSISSIPPI JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
17053	7/15/87	0020	2912.2	8832.3	11	92	46	91	30.0	24.2	23.3					5.3	4.9	4.2	ST
17063	7/15/87	0039	2935.5	8821.6	11	41	21	40	29.7	27.6	23.8					5.8	5.5	4.9	ST
17054	7/15/87	0231	2913.9	8845.7	11	67	33	66	30.1	25.6	23.2					6.8	5.9	5.5	ST
17055	7/15/87	0624	2911.7	8853.8	11	45	22	45	30.0	26.0	23.0					8.0	4.2	3.4	ST
17056	7/15/87	0829	2919.1	8853.9	11	29	13	26	30.0	27.0	25.0					5.6	3.8	3.6	ST
17057	7/15/87	1023	2921.8	8854.9	11	23	11	22	30.0	28.0	26.0					4.8	4.0	4.0	ST
17058	7/15/87	1155	2926.8	8848.8	11	20	10	19	30.0	30.0	27.0					4.8	4.6	4.4	ST
17059	7/15/87	1315	2923.7	8845.4	11	36	18	35	30.1	27.2	24.3					5.3	5.4	4.5	ST
17060	7/15/87	1546	2919.9	8843.7	11	54	27	53	30.2	26.8	24.9					5.7	5.7	5.0	ST
17062	7/15/87	2110	2933.9	8835.5	11	27	13	26	30.0	29.0	24.0					5.2	4.8	3.2	ST
17061	7/15/87	2140	2931.5	8835.6	11	36	18	36	30.0	26.0	21.0					4.8	4.4	3.2	ST
17073	7/15/87	2239	2930.0	8829.9	11	48	24	48	29.0	25.0	23.0					5.0	4.6	3.8	PN
17064	7/16/87	0251	2931.4	8817.6	11	46	23	45	28.6	26.2	23.6					5.6	5.7	5.2	ST
17065	7/20/87	2050	3007.1	8854.5	11	13	6	13	29.0	29.0	28.5					6.0	6.0	5.6	ST

Table 1 (cont'd.)

ALABAMA JULY SHRIMP AND BOTTOMFISH SURVEY
ALABAMA INSHORE VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
23001	7/10/87	1436	3013.0	8810.0	11	10	5	10	28.0	25.0	25.0					6.2	6.4	3.2	ST
23002	7/10/87	1614	3010.7	8758.6	10	13	7	13	27.0	25.0	25.0					6.8	7.2	6.7	ST
23003	7/10/87	1655	3013.2	8759.4	10	4	2	4	26.5	26.0	25.5					6.6	7.2	7.6	ST
23004	7/10/87	1747	3013.3	8753.1	10	7	4	7	27.0	25.5	24.5					5.6	6.7	6.8	ST
23005	7/10/87	1912	3014.5	8740.6	10	4	2	4	27.0	26.0	25.5					5.7	5.8	7.0	ST
23006	7/10/87	2025	3013.3	8753.4	10	7	4	7	26.0	25.0	24.5					5.6	6.5	7.0	ST
23007	7/10/87	2058	3013.4	8755.2	10	4	2	4	26.0	25.5	25.0					5.5	5.8	6.6	ST
23008	7/10/87	2145	3010.1	8757.2	10	13	7	13	25.5	24.5	24.0					7.4	6.4	6.5	ST
23009	7/15/87	1845	3011.3	8829.3	11	10	5	10	25.5	24.5	23.5					6.2	6.0	6.0	ST
23010	7/15/87	2001	3014.2	8813.4	11	3	2	3	26.0	26.0	26.0					5.8	5.9	6.2	ST
23011	7/15/87	2053	3012.2	8818.1	11	9	5	9	25.5	25.0	24.0					5.4	5.6	5.7	ST
23012	7/15/87	2157	3013.3	8818.9	11	10	5	10	25.5	25.0	23.5					5.6	5.6	5.9	ST

Table 1 (cont'd.)

LOUISIANA JULY SHRIMP AND BOTTOMFISH SURVEY
LOUISIANA INSHORE VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
35172	7/ 6/87	0838	2940.0	9322.0	17	9		9	29.8		29.8	25.0		25.0	4.730	6.4		2.9	ST/PN
35173	7/ 6/87	0920	2944.0	9322.0	17	5		5	29.8		29.8	23.3		23.3	8.720	6.2		6.0	ST/PN
35174	7/ 6/87	0952	2945.0	9322.0	17	2		2	30.1		30.1	22.0		22.0	11.560	7.5		6.5	ST/PN
35175	7/ 6/87	1116	2856.2	9058.0	14	9		9	30.9		30.8	28.0		28.2	1.610	7.2		1.6	ST/PN
35176	7/ 6/87	1137	2924.8	8904.3	12	9		9	30.1		28.4	24.8		33.2	5.720	8.3		6.5	ST/PN
35177	7/ 6/87	1201	2901.0	9058.9	14	5		5	31.0		30.9	25.2		25.2	4.340	7.0		6.5	ST/PN
35178	7/ 6/87	1300	2926.9	8909.6	12	5		5	30.0		28.9	26.7		31.7	4.470	7.2		7.2	ST/PN
35179	7/ 6/87	1302	2909.5	9058.3	14	2		2	31.3		31.3	15.3		15.3	20.070	8.2		7.1	ST/PN
35180	7/ 6/87	1340	2927.4	8912.2	12	2		2	31.5		29.5	24.5		28.6	43.480	14.8		10.9	ST/PN
35181	7/ 8/87	0820	3003.2	8851.7	11	2		2	28.8		28.6	28.1		28.4	2.740	7.1		6.8	ST/PN
35182	7/ 8/87	0852	3003.3	8851.4	11	5		5	29.1		28.5	28.4		31.0	2.340	7.2		3.6	ST/PN
35183	7/ 8/87	0930	3003.7	8850.8	11	5		5	29.2		28.7	28.2		32.5	2.000	7.1		3.5	ST/PN
35184	7/ 9/87	0855	2916.3	8956.0	13	2		2	29.5		29.4	17.3		20.1	11.710	7.8		7.4	ST/PN
35185	7/ 9/87	0939	2909.5	9209.5	16	9			29.0		29.1	27.4		28.0	4.340	6.7		6.5	ST/PN
35186	7/ 9/87	0949	2915.1	8954.2	13	5		5	30.1		29.5	22.8		26.9	15.540	8.8		2.4	ST/PN
35187	7/ 9/87	1032	2913.9	8952.7	13	9		9	30.2		29.2	23.7		29.8	9.030	8.4		3.5	ST/PN
35188	7/ 9/87	1054	2904.5	9035.7	14	2		2	29.6		29.6	23.9		23.9	8.920	7.8		7.0	ST/PN
35189	7/ 9/87	1102	2919.3	9206.8	16	5		5	29.8		29.2	18.2		22.8	29.050	8.0		6.0	ST/PN
35190	7/ 9/87	1120	2902.0	9035.7	14	6		6	29.7		29.3	25.2		28.3	6.900	8.2		6.8	ST/PN
35191	7/ 9/87	1215	2900.5	9035.7	14	9		9	30.3		29.9	28.2		28.5	3.400	7.3		6.5	ST/PN
35192	7/ 9/87	1235	2934.0	9201.8	16	2		2	29.4		28.3	7.1		9.1	11.450	8.0		7.5	ST/PN

Table 1 (cont'd.)

LOUISIANA JULY SHRIMP AND BOTTOMFISH SURVEY
PELICAN

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
35149	7/ 7/87	0407	2909.5	8944.2	13	17	9	17	28.9	28.0	26.8	26.9	31.6	35.4	3.380	4.2	4.0	1.7	ST/PN
35150	7/ 7/87	0724	2909.5	8944.0	13	16	8	16	29.0	29.0	27.0	27.0	28.0	35.3	3.540	4.2	4.2	1.5	ST/PN
35151	7/ 7/87	1617	2859.5	9050.2	14	7	3	7	29.6	29.6	29.4	28.0	28.0	28.1	5.140	5.9	6.0	5.6	ST/PN
35152	7/ 7/87	1915	2900.7	9104.3	15	5	3	5	29.6	29.6	29.6	27.9	27.9	27.9	6.520	3.8	3.8	3.8	ST/PN
35153	7/ 7/87	2115	2900.5	9104.3	15	5	3	5	29.5	29.6	29.6	27.8	27.9	27.9	4.050	3.4	3.8	3.8	ST/PN
35148	7/ 7/87	2358	2858.3	9049.8	14	7	3	7	29.3	29.3	29.3	28.0	28.0	28.0	10.250	4.5	4.5	4.5	ST/PN
35154	7/ 8/87	0506	2838.9	9116.8	15	24	13	24	28.8	28.9	26.8	31.8	32.7	34.9	0.520	4.4	4.3	2.6	ST/PN
35155	7/ 8/87	0746	2838.7	9115.8	15	25	12	25	28.8	28.9	26.3	31.9	33.1	29.4	2.540	4.3	4.3	2.5	ST/PN
35156	7/ 8/87	1110	2847.4	9100.7	15	10	5	10	28.9	29.0	29.0	30.5	30.5	30.5	2.600	6.4	6.1	5.6	ST/PN
35157	7/ 8/87	2145	2847.0	9051.3	14	17	10	17	29.1	28.9	27.2	30.2	30.9	35.1	0.450	4.5	4.4	2.2	ST/PN
35158	7/ 9/87	0904	2851.1	9055.2	14	13	9	13	28.9	28.9	28.8	30.1	30.1	31.2	0.590	6.0	6.2	4.2	ST/PN
35159	7/ 9/87	1111	2838.0	9051.6	14	18	9	18	29.4	28.9	27.6	29.8	32.5	35.1	0.290	6.5	6.1	5.4	ST/PN
35160	7/ 9/87	1344	2834.2	9050.7	14	23	13	23	29.4	27.7	24.6	29.6	34.8	35.7	1.010	6.2	5.4	4.4	ST/PN
35161	7/ 9/87	1416	2832.9	9051.0	14	27	13	27	29.5	27.5	22.9	29.7	35.0	35.8	3.720	6.3	5.6	3.5	ST/PN
35162	7/ 9/87	2054	2852.0	9047.3	14	10	5	10	29.5	29.5	29.1	29.5	29.5	30.2		4.7	4.6	4.6	ST/PN
35163	7/ 9/87	2310	2846.3	9101.4	15	9	4	9	29.1	29.1	29.0	29.8	29.8	30.1	0.700	4.3	4.4	4.3	ST/PN
35164	7/10/87	0255	2835.0	9042.6	14	19	10	19	29.2	29.0	27.1	32.0	32.7	35.1	0.350	6.0	6.0	4.4	ST/PN
35165	7/10/87	0933	2857.8	9030.1	14	13	7	12	29.2	29.0	29.0	30.4	30.8	31.8	0.810	6.4	6.2	4.9	ST/PN
35166	7/10/87	1217	2854.6	9019.3	14	19	10	19	29.8	29.2	26.9	29.2	29.8	35.3	0.380	6.4	6.2	1.6	ST/PN
35167	7/10/87	1327	2853.0	9017.2	14	21	10	21	29.8	29.2	26.3	29.3	29.7	35.6	4.550	6.1	6.3	1.2	ST/PN
35168	7/10/87	2104	2855.5	9005.7	14	26	12	24	30.1	28.7	25.6	29.2	30.6	35.6	1.080	4.7	4.5	1.7	ST/PN
35169	7/11/87	0002	2858.9	9021.8	14	13	6	11	30.1	30.1	29.2	26.7	27.7	30.3	2.640	7.5	7.1	6.5	ST/PN
35170	7/11/87	0106	2855.2	9018.5	14	19	10	19	29.5	29.3	27.1	29.2	29.7	34.9	0.720	7.1	6.1	1.6	ST/PN
35171	7/11/87	0311	2852.7	9014.5	14	22	12	24	29.6	29.1	25.5	28.8	29.8	35.6	0.580	5.0	6.3	1.3	ST/PN

Table 1 (cont'd.)

FLORIDA SEPTEMBER PLANKTON SURVEY
HERNAN CORTEZ II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
00030	9/ 1/87	1340	2731.0	8259.6	5	16	5	10	30.4	30.4	30.4	36.0	36.2	35.9	0.293	6.6	6.7	6.7	PN
00031	9/ 1/87	1827	2730.0	8330.0	5	37	16	32	30.0	30.0	29.9	36.9	36.7	36.2	0.110	6.3	6.3	6.5	PN
00032	9/ 1/87	2230	2729.6	8359.5	5	53	24	48	30.0	30.0	28.0	36.2	36.3	36.3	0.080	6.4	6.4	6.7	PN
00033	9/ 2/87	0225	2730.0	8429.6	5	87	41	82	29.0	25.0	22.5	35.4	36.6	36.5	0.115	6.0	7.2	5.4	PN
00034	9/ 2/87	0645	2700.0	8429.6	5	165	80	160	28.0	23.5	20.5	36.4	36.5	36.2	0.110	6.0	6.0	4.0	PN
00035	9/ 2/87	1110	2700.1	8359.6	5	75	35	70	28.5	25.8	23.0	36.1	36.4	36.8	0.100	6.4	7.4	6.3	PN
00036	9/ 2/87	1532	2700.0	8329.6	5	46	21	41	27.5	28.0	23.3	35.1	36.5	36.3	0.193	6.7	6.7	6.6	PN
00037	9/ 2/87	1919	2700.0	8300.1	5	30	13	25	28.3	29.0	26.3	35.9	36.1	36.2	0.260	6.2	6.2	6.6	PN
00038	9/ 2/87	2302	2700.0	8230.0	5	9	3	6	28.8	29.0	28.3	35.6	35.5	35.7	1.417	6.0	6.0	6.0	PN
00039	9/ 3/87	0318	2630.0	8229.6	4	16	6	11	29.2	29.2	29.2	35.7	35.8	35.7	0.420	6.1	6.1	6.0	PN
00040	9/ 3/87	0700	2630.0	8259.6	4	35	15	30	29.0	29.0	26.0	36.2	36.8	36.2	0.167	6.2	6.2	6.4	PN
00041	9/ 3/87	1050	2630.0	8330.0	4	52	24	47	31.0	29.0	24.0	36.6	36.2	36.6	0.075	6.2	6.2	7.0	PN
00042	9/ 3/87	1443	2629.6	8359.6	4	114	55	109	29.5	24.2	21.0	36.1	36.6	36.6	0.095	6.2	6.9	4.4	PN
00043	9/ 3/87	1905	2630.0	8429.6	99	186	90	181	29.5	22.8	18.5	36.5	36.9	36.0	0.160	6.0	6.7	4.1	PN
00044	9/ 3/87	2314	2600.0	8430.0	99	203	99	197	28.0	22.5	17.8	36.3	36.6	36.3	0.075	6.0	5.7	4.0	PN
00045	9/ 4/87	0315	2559.6	8359.6	4	126	60	121	29.3	24.3	20.3	36.9	36.5	36.3	0.167	6.5	7.1	4.6	PN
00046	9/ 4/87	0705	2559.6	8329.6	4	59	27	54	29.3	24.3	20.3	36.2	36.3	36.6	0.105	6.5	7.1	4.6	PN
00047	9/ 4/87	1025	2559.6	8304.5	4	44	20	39	29.0	29.8	24.9	36.3	36.2	36.3	0.210	6.2	6.2	7.4	PN
00048	9/ 4/87	1502	2600.0	8230.0	4	24	10	19	29.0	30.0	27.5	36.4	36.2	36.1	0.157	6.1	6.2	6.0	PN
00049	9/ 4/87	2020	2530.0	8200.1	3	15	5	10	28.5	29.8	29.8	36.3	36.4	36.4	1.457	6.2	6.2	6.1	PN
00050	9/ 5/87	0012	2530.0	8230.0	3	29	12	24	29.0	29.0	28.8	36.3	36.3	36.2	0.150	6.4	6.4	6.8	PN
00051	9/ 5/87	0403	2530.1	8300.0	3	47	21	42	29.8	29.5	25.0	36.5	36.3	36.5	0.157	6.0	6.0	5.9	PN
00052	9/ 5/87	0806	2529.5	8330.1	3	64	30	59	29.3	27.8	23.3	36.2	36.5	36.3	0.100	6.0	7.9	6.0	PN
00053	9/ 5/87	1211	2529.6	8400.0	3	123	59	118	29.0	25.0	21.5	36.3	36.5	36.4	0.187	5.8	6.4	4.0	PN
00054	9/ 5/87	1603	2530.0	8430.0	99	200	100	200	30.5	22.8	19.3		36.5	36.6	0.093	5.9	5.4	4.4	PN
00055	9/ 5/87	2208	2459.6	8359.6	3	113	54	108	29.3	23.3	21.0	36.1	36.6	36.5	0.070	6.2	6.8	4.6	PN
00056	9/ 6/87	0215	2430.2	8300.1	2	1829	100	200	28.8	25.3	21.8	36.1	36.6	36.3	0.095	6.0	5.4	4.5	PN
00057	9/ 6/87	0716	2400.0	8359.6	2	2286	100	200	29.3	27.3	23.8	36.2	36.3	37.1	0.033	6.1	6.1	5.2	PN

Table 1 (cont'd.)

FLORIDA SEPTEMBER PLANKTON SURVEY
HERNAN CORTEZ II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
00058	9/ 6/87	1236	2430.0	8330.0	2	220	100	200	30.3	24.0	17.3	35.9	36.5	35.7	0.137	5.8	5.8	4.1	PN
00059	9/ 6/87	1752	2500.0	8329.6	3	64	30	59	31.5	27.8	24.3	36.2	36.3	36.4	0.050	6.2	7.2	6.8	PN
00060	9/ 6/87	2133	2500.0	8300.0	3	46	20	41	29.1	28.8	25.8	35.9	36.7	36.4	0.050	6.0	6.2	6.6	PN
00061	9/ 7/87	2012	2459.6	8229.6	3	27	11	22	30.1	30.1	30.0	36.0	36.2	36.2	0.223	5.9	5.9	6.0	PN
00062	9/ 7/87	2351	2500.0	8159.5	3	18	7	13	29.8	29.3	28.5	36.8	36.2	36.4	0.287	5.8	5.9	4.8	PN
00063	9/ 8/87	0338	2459.6	8129.6	3	9	2	4	30.1	30.1	30.1	36.6	36.8	37.0	0.493	5.9	5.9	5.9	PN
00064	9/ 8/87	0750	2530.0	8139.6	3	8	2	4	30.3	30.2	30.1		36.2	36.3	1.080	5.3	5.3	5.3	PN
00065	9/ 8/87	1302	2600.0	8200.0	4	11	3	5	31.3	31.0	31.0	36.3	36.1	36.1	0.700	5.6	5.6	5.6	PN

Table 1 (cont'd.)

NMFS SEPTEMBER PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
46191	9/12/87	1230	2810.0	8500.0	6	173	85	170	29.0	20.0	13.2	35.1	36.3	35.6	0.116	6.3	6.2	3.9	PN
46192	9/12/87	1632	2800.0	8430.0	6	78	36	72	29.2	24.7	19.7	35.5	35.6	36.3		6.6	8.5	5.9	PN
46193	9/12/87	1952	2800.0	8400.0	6	46	20	41	29.1	28.7	22.4	35.1	35.8	36.2	0.116	6.6	6.7	6.6	PN
46194	9/12/87	2303	2759.9	8330.0	6	31	13	26	26.7	29.4	26.6	32.8	35.6	36.0	0.142	6.9	6.8	6.5	PN
46195	9/13/87	0202	2800.0	8300.0	6	13	5	10	29.1	29.3	29.4	34.7	34.8	34.9	0.741	6.7	6.6	6.5	PN
46196	9/13/87	0542	2830.0	8303.0	6	11	5	10	29.3	29.3	29.3	34.5	34.5	34.5	0.619	6.4	6.4	6.3	PN
46197	9/13/87	1720	2830.0	8330.0	6	22	10	20	29.3	29.4	29.3	35.3	35.3	35.4		6.8	6.8	6.7	PN
46198	9/13/87	2039	2830.0	8359.9	6	35	15	30	29.3	28.5	26.3	34.7	35.8	36.0	0.134	6.4	6.4	6.5	PN
46199	9/13/87	2344	2830.0	8430.0	6	48	21	43	29.4	26.9	21.3	34.8	35.7	36.2	0.089	6.2	6.2	6.3	PN
46200	9/14/87	0304	2830.0	8500.0	8	98	47	94	29.0	22.1	18.3	34.3	36.3	36.3	0.080	6.2	7.0	4.3	PN
46201	9/14/87	0617	2840.0	8530.0	8	172	85	170	28.8	19.3	14.3	33.7	36.3	35.8		6.3	5.0	4.2	PN
46202	9/14/87	0858	2900.0	8529.9	8	71	33	66	28.5	24.8	19.5	33.2	35.8	36.3	0.136	6.4	6.9	5.3	PN
46203	9/14/87	1155	2900.0	8500.0	8	34	15	29	29.1	29.1	24.0	34.5	34.4	35.9	0.134	6.5	6.3	6.7	PN
46204	9/14/87	1455	2900.0	8429.7	7	31	14	28	29.4	29.0	24.3	34.4	34.6	36.1	0.134	6.6	6.4	6.6	PN
46205	9/14/87	1756	2900.0	8400.0	7	29	13	25	29.5	29.1	27.4	33.5	34.2	35.8	0.160	6.4	6.0	6.5	PN
46206	9/14/87	2050	2900.1	8329.9	7	18	6	13	29.4	29.5	29.4	34.5	34.4	34.6	0.254	6.7	6.8	6.8	PN
46207	9/14/87	2220	2900.0	8318.1	7	11	3	6	29.3	29.3	29.4	33.3	33.4	34.0	0.498	6.6	6.7	6.6	PN
46208	9/15/87	0214	2930.0	8336.0	7	11	4	8	28.7	29.0	29.2	32.3	32.5	33.7	0.554	6.5	6.5	6.4	PN
46209	9/15/87	0450	2930.0	8400.0	7	20	9	18	27.6	28.9	28.9	35.1	34.0	34.2	0.181	6.5	6.4	6.2	PN
46210	9/15/87	0653	2946.0	8400.0	7	11	5	10	27.1	28.7	28.8	32.8	31.8	33.0	0.303	6.9	7.0	6.2	PN
46211	9/15/87	1036	2930.0	8430.3	7	24	9	19	29.0	29.0	27.1	33.7	33.8	35.1	0.240	6.9	6.9	6.3	PN
46212	9/15/87	1325	2930.0	8456.0	7	9	4	8	29.5	29.3	29.1	33.2	33.2	34.0	0.223	7.0	6.7	6.4	PN
46213	9/15/87	1756	2930.0	8530.0	8	12	5	10	29.4	29.1	28.4	33.1	33.5	34.3	0.780	6.5	6.6	6.4	PN
46214	9/15/87	2027	2948.0	8530.0	8	20	7	15	29.0	28.8	28.5	31.2	33.6	34.3	0.259	8.7	8.7	7.7	PN
46215	9/16/87	0015	3000.0	8600.0	9	29	13	27	28.8	28.9	24.8	32.7	34.1	35.9	0.132	6.5	6.7	5.6	PN
46216	9/16/87	0401	2930.0	8558.4	8	49	23	45	29.1	29.5	22.2	32.5	35.0	36.1	0.107	6.7	6.6	6.0	PN
46217	9/16/87	0705	2912.1	8600.0	99	183	90	180	29.0	19.9	13.4	33.1	36.2	35.7	0.361	7.3	7.2	5.0	PN
46218	9/16/87	1200	2930.3	8630.0	9	179	88	176	29.0	19.6	14.3	33.2	36.5	35.9	0.165	7.1	5.4	4.7	PN

Table 1 (cont'd.)

NMFS SEPTEMBER PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
46219	9/16/87	1556	3000.0	8630.0	9	55	25	50	29.2	27.4	20.0	32.2	35.7	36.3	0.118	6.8	6.9	6.1	PN
46220	9/16/87	1836	3020.0	8630.0	9	20	9	18	29.1	29.1	27.9	32.2	33.9	35.0	0.483	7.0	7.0	6.6	PN
46221	9/16/87	2216	3020.0	8700.0	10	18	6	13	29.1	29.0	26.4	31.1	32.4	35.4	0.586	7.2	7.3	6.5	PN
46222	9/17/87	0057	3000.0	8700.0	10	69	33	66	29.0	23.9	19.4	32.8	35.8	36.3	0.072	7.1	6.7	6.4	PN
46223	9/17/87	0244	2950.5	8700.0	10	183	90	180	29.0	19.6	12.6	33.7	36.2	35.6	0.081	7.0	6.1	5.9	PN
46224	9/17/87	1902	2905.0	8900.0	13	22	9	17	29.5	29.4	24.6	15.8	33.5	36.3	1.913	10.0	6.8	6.8	PN
46225	9/17/87	2015	2900.1	8900.0	13	69	32	64	29.8	24.5	20.6	30.3	36.4	36.3	1.495	7.6	8.0	5.6	PN
46226	9/18/87	0055	2840.0	8930.0	13	190	94	188	29.5	17.9	14.3	29.3	36.4	35.8	0.850	7.1	5.9	5.8	PN
46227	9/18/87	0448	2900.0	8929.8	13	13	5	10	29.4	29.4	29.2	29.6	29.7	33.7	0.467	6.7	6.5	3.8	PN
46228	9/18/87	0853	2900.0	9000.0	14	26	10	21	29.2	29.6	25.0	27.8	33.5	36.1	0.316	7.7	7.6	4.6	PN
46229	9/18/87	1325	2829.9	8959.9	14	89	43	86	29.7	23.1	18.9	32.1	35.8	36.3	0.147	7.7	7.4	5.4	PN
46230	9/18/87	1510	2820.0	9000.0	14	109	53	106	27.8	24.0	17.5	34.5	36.2	36.3	0.106	7.4	8.2	5.7	PN
46231	9/18/87	1918	2805.0	9030.1	14	135	65	130	29.6	22.3	15.6	30.4	36.1	36.0	0.160	7.2	7.5	4.9	PN
46232	9/18/87	2249	2830.0	9030.0	14	38	17	33	29.5	29.4	22.5	31.5	34.8	36.2	0.178	7.4	7.4	4.5	PN
46233	9/19/87	0235	2900.0	9030.0	14	9	3	6	29.8	29.9	29.6	26.9	27.4	34.2	1.653	7.3	7.6	6.4	PN
46234	9/19/87	0720	2843.7	9100.0	15	14	5	10	29.4	29.5	29.5	29.8	30.7	34.0	0.285	7.4	7.4	5.4	PN
46235	9/19/87	0933	2830.0	9100.0	15	35	15	30	29.3	29.3	22.7	30.2	36.1	32.6	0.336	6.4	6.5	3.0	PN
46236	9/19/87	1325	2800.0	9100.0	15	148	73	146	29.8	21.0	15.6	30.8	36.3	36.0	0.151	6.6	5.7	4.3	PN
46237	9/19/87	1721	2800.0	9129.9	15	155	75	150	29.8	19.5	15.5				0.169	5.9	6.4	4.2	PN
46238	9/19/87	2202	2830.0	9130.0	15	46	20	41	29.5	29.6	21.0				0.172	5.9	5.9	2.0	PN
46239	9/20/87	0215	2900.0	9130.5	15	10	4	8	29.0	29.4	28.7	28.3	30.3	34.5	1.112	6.2	6.2	3.2	PN
46240	9/20/87	0557	2900.5	9200.0	16	18	8	15	28.9	29.2	27.7	29.5	30.2	34.9	0.724	6.0	5.9	4.3	PN
46241	9/20/87	1021	2830.0	9200.0	16	49	22	44	29.4	29.2	20.9	33.2	35.4	36.1	0.169	6.0	5.8	4.1	PN
46242	9/20/87	1423	2800.0	9200.0	16	117	57	114	29.7	23.2	18.0				0.134	6.8	6.7	5.3	PN
46243	9/20/87	1818	2800.0	9230.0	16	100	47	95	29.3	24.7	20.1	36.0	36.2	36.4	0.080	6.0	7.0	5.2	PN
46244	9/20/87	2220	2829.9	9229.7	16	49	22	44	28.3	29.5	23.5	36.3	36.1	36.1	0.084	6.2	6.1	4.9	PN
46245	9/21/87	0247	2900.0	9231.5	16	22	10	20	29.0	29.6	26.1	32.3	34.9	35.4	0.150	6.1	6.0	4.3	PN
46246	9/21/87	0658	2929.0	9230.0	16	11	5	10	28.2	28.3	28.3	29.6	29.6	29.4	0.347	5.9	5.6	5.5	PN

Table 1 (cont'd.)

NMFS SEPTEMBER PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
46247	9/21/87	1034	2929.9	9259.9	17	14	5	10	28.3	28.8	28.8	31.3	31.1	31.1	1.551	6.3	5.9	5.8	PN
46248	9/21/87	1434	2900.0	9300.0	17	21	9	18	28.9	28.9	29.4	32.6	32.7	35.3	0.255	6.5	6.3	6.0	PN
46249	9/21/87	1813	2830.0	9300.0	17	39	17	35	28.8	28.7	22.6	33.6	35.8	36.4	0.253	6.1	6.2	5.5	PN
46250	9/21/87	2227	2800.1	9300.0	17	108	51	103	29.1	22.9	18.9				0.187	6.8	7.6	5.0	PN
46251	9/22/87	0210	2800.0	9330.0	17	92	44	88	28.9	24.6	20.3	35.3	36.3	36.4	0.160	6.0	6.7	6.4	PN
46252	9/22/87	0648	2830.0	9330.0	17	34	15	30	28.5	29.2	23.4	33.9	35.6	36.3	0.199	6.1	6.0	5.8	PN
46253	9/22/87	1143	2901.0	9330.0	17	23	9	18	28.5	28.6	28.6	33.6	33.3	33.5	0.498	6.2	6.2	6.2	PN
46254	9/22/87	1535	2930.0	9330.0	17	10	4	8	27.9	28.2	28.2	31.4	31.2	31.2	1.103	6.6	6.5	6.2	PN
46255	9/22/87	1913	2930.0	9400.0	18	12	5	10	28.0	28.1	28.1	32.0	31.9	31.9	1.285	6.5	6.5	6.6	PN
46256	9/22/87	2324	2900.0	9400.0	18	20	7	15	26.9	28.6	28.7	34.3	33.5	33.5	0.282	6.3	6.2	6.1	PN
46257	9/23/87	0310	2830.0	9400.0	18	38	18	36	24.5	28.6	27.6	30.5	35.4	35.8	0.093	6.2	6.2	6.4	PN
46258	9/23/87	0715	2800.0	9400.0	18	77	37	75	28.8	27.1	20.8				0.123	6.2	6.1	5.6	PN
46259	9/23/87	1119	2800.1	9430.0	18	70	32	65	27.9	28.9	22.5	36.2	36.5	36.1	0.187	6.3	6.1	5.9	PN
46260	9/23/87	1523	2830.1	9430.0	18	36	17	34	28.2	28.5	26.6	35.7	35.5	36.2	0.084	6.4	6.3	6.3	PN
46261	9/23/87	1930	2900.0	9430.0	18	18	8	16	28.3	28.3	28.3	33.9	33.9	33.9	0.561	6.3	6.4	6.3	PN
46262	9/23/87	2322	2926.0	9430.0	18	11	4	8	26.3	27.3	27.3	32.8	32.5	32.6	1.533	6.7	6.5	6.5	PN
46263	9/24/87	0355	2900.0	9500.0	19	15	7	14	27.9	27.9	27.9	33.9	33.9	34.0	0.935	6.3	6.4	6.4	PN
46264	9/24/87	0752	2830.0	9500.0	19	33	14	28	24.3	28.3	28.2	35.3	35.5	36.1	0.214	6.7	6.7	6.1	PN
46265	9/24/87	1139	2800.0	9500.0	19	80	37	75	28.1	28.5	21.0	36.1	35.8	36.4	0.083	6.6	6.5	5.6	PN
46266	9/24/87	1529	2745.0	9530.0	20	103	51	102	28.8	24.0	19.1	35.6	36.4	36.4	0.206	6.7	6.9	5.2	PN
46267	9/24/87	1802	2800.0	9530.0	19	55	25	50	28.4	28.5	23.4	35.9	35.9	36.4	0.078	6.2	6.1	5.7	PN
46268	9/24/87	2200	2830.0	9529.9	19	25	10	20	28.2	28.4	28.4	34.5	34.5	34.5	1.819	6.4	6.4	6.2	PN
46269	9/25/87	0127	2828.6	9600.0	19	13	6	12	27.9	28.0	28.0	34.7	34.7	34.7	1.595	6.2	6.3	6.2	PN
46270	9/25/87	0403	2820.0	9620.0	19	15	6	12	27.6	27.8	27.8	34.9	34.8	34.8	2.554	6.2	6.3	6.2	PN
46271	9/25/87	0801	2800.0	9600.0	19	46	20	41	28.3	28.3	26.3	36.2	36.0	36.3	0.174	6.5	6.4	5.7	PN
46272	9/25/87	1127	2735.0	9600.0	20	145	70	140	28.5	21.2	16.2	35.9	36.4	36.1	0.080	6.2	5.9	3.9	PN
46273	9/25/87	1604	2800.0	9630.0	19	28	13	25	28.4	28.3	28.2	35.7	35.7	35.5	0.773	6.1	6.3	6.1	PN
46274	9/25/87	1950	2730.0	9630.0	20	73	35	70	28.6	28.5	22.3	35.8	36.0	36.4	0.098	6.5	6.8	6.5	PN

Table 1 (cont'd.)

NMFS SEPTEMBER PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
46275	9/25/87	2312	2730.0	9704.0	20	29	12	24								6.2	6.3	6.3	PN
46276	9/26/87	0345	2700.0	9640.0	20	88	43	86	27.8	25.7	19.8	36.6	36.2	36.4	0.181	5.9	6.8	4.6	PN
46277	9/26/87	0813	2700.0	9712.0	20	29	12	24	27.9	28.0	28.0	36.5	36.4	36.4	0.785	6.4	6.4	6.4	PN
46278	9/26/87	1215	2630.0	9700.0	21	31	15	30	28.2	28.3	27.9	36.2	36.1	36.2	0.172	6.2	6.3	6.0	PN
46279	9/26/87	1609	2630.0	9630.0	21	84	40	80	28.9	27.5	19.4	35.9	36.0	36.4	0.110	6.2	6.5	5.9	PN
46280	9/26/87	2021	2601.1	9630.0	21	62	29	58	28.7	28.6	23.4	36.2	36.2	36.4	0.062	6.2	6.2	6.7	PN
46281	9/27/87	2357	2600.0	9700.0	21	26	12	24	28.2	28.1	26.8	35.7	36.1	36.3	0.187	5.9	6.0	6.0	PN

Table 1 (cont'd.)

MISSISSIPPI SEPTEMBER PLANKTON SURVEY
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
00001	9/15/87	1813	3011.6	8841.2	11	13	6	11	29.8	29.0	28.9					5.8	5.6	4.8	PN
00002	9/15/87	2151	3000.0	8841.5	11	18	9	17	29.0	28.9	25.9					6.0	5.9	4.4	PN
00003	9/16/87	0135	2947.4	8840.7	11	16	8	15	29.0	28.9	26.0					5.7	5.9	4.6	PN
00004	9/16/87	0459	2935.8	8839.1	11	18	9	17	29.1	29.3	27.5					6.7	5.7	5.4	PN
00005	9/16/87	0847	2934.9	8855.3	11	11	5	9	28.6	28.9	29.0					5.8	5.8	5.8	PN
00006	9/16/87	1213	2923.3	8840.9	11	51	25	46	29.5	26.9	22.4					6.2	6.4	5.4	PN
00007	9/16/87	1553	2922.8	8820.5	11	52	27	51	29.5	26.2	22.1					5.9	6.0	4.7	PN
00008	9/16/87	1858	2936.0	8820.1	11	40	20	39	29.0	29.3	23.2					6.0	5.8	5.8	PN
00009	9/16/87	2327	2950.6	8819.8	11	35	18	31	29.2	28.4	22.7					6.1	5.8	5.4	PN
00010	9/17/87	0149	2959.1	8819.9	11	28	15	27	28.7	28.6	24.0					5.9	5.7	5.4	PN
00011	9/17/87	0448	3010.1	8819.3	11	10	5	9	28.4	28.2	28.9					5.8	5.8	5.7	PN
00012	9/17/87	0912	3009.0	8759.5	11	9	5	8	28.7	28.8	29.0					5.8	5.8	5.2	PN
00013	9/17/87	1218	2958.5	8800.2	11	27	14	26	29.4	29.0	24.0					5.8	5.8	4.4	PN
00014	9/17/87	1444	2946.7	8800.2	11	32	16	31	29.8	28.7	24.3					6.1	6.0	6.1	PN
00015	9/17/87	1712	2934.9	8800.5	11	39	19	37	29.1	28.4	24.3					6.0	6.1	5.5	PN
00018	9/18/87	2315	2935.0	8740.0	10	45	22	44	29.1	29.0	23.1					5.8	5.8	5.8	PN
00019	9/18/87	0054	2946.7	8740.3	10	35	17	33	29.8	29.1	23.9					6.1	5.8	6.3	PN
00020	9/18/87	0324	2959.2	8739.5	10	24	13	24	28.9	29.1	24.2					6.1	5.9	5.3	PN
00021	9/18/87	0456	3010.5	8740.1	10	10	5	9	29.0	28.9	29.0					6.0	6.1	5.7	PN

Table 1 (cont'd.)

ALABAMA SEPTEMBER PLANKTON SURVEY
ALABAMA INSHORE VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
23011	9/16/87	2209	3016.2	8759.9	11	5		5	24.0		24.5					5.2		5.2	PN
23012	9/16/87	2236	3016.8	8802.0	11	13		13	25.0		25.0					6.6		3.8	PN
23013	9/16/87	2322	3017.1	8806.3	11	4		4	25.0		25.0					7.4		4.8	PN
23021	9/16/87	2038	3011.7	8800.8	11	8			25.0							6.8			PN
23022	9/16/87	2131	3012.0	8802.6	11	13		13	25.0		25.0					6.2		4.6	PN
23023	9/16/87	1723	3013.4	8805.1	11	5		5	25.5		25.5					7.0		7.4	PN
23024	9/16/87	1757	3014.2	8807.7	11	4			26.0							6.8			PN
23031	9/16/87	1958	3008.0	8801.7	11	18		18	25.0		23.0					6.4		4.6	PN
23032	9/16/87	1933	3008.0	8803.1	11	15		15	25.0		24.0					6.4		5.0	PN
23033	9/16/87	1857	3008.6	8806.9	11	15		15	25.0		24.5					6.6		6.0	PN

Table 1 (cont'd.)

LOUISIANA SEPTEMBER-OCTOBER TRAWL SURVEY
PELICAN

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
35173	9/28/87	1728	2847.8	9103.1	15	11	2	10	27.2	27.5	27.6	30.3	30.5	31.3	1.290	6.6	5.8	5.7	ST/PN
35174	9/28/87	1956	2847.8	9103.0	15	9	5	9	27.1	27.2	27.7	30.4	30.7	31.3	0.990	6.0	5.9	5.8	ST/PN
35175	9/28/87	2301	2857.3	9113.3	15	5	3	5	26.8	26.8	26.8	29.5	29.5	29.5	2.560	6.4	5.8	5.6	ST/PN
35176	9/29/87	0118	2847.3	9111.6	15	13	5	10	27.6	27.6	27.6	30.6	30.6	30.6	1.690	5.9	5.4	5.5	ST/PN
35177	9/29/87	0347	2840.8	9059.3	14	15	6	13	27.6	27.6	27.7	31.8	31.8	31.8	0.650	6.0	5.8	5.6	ST/PN
35178	9/29/87	0618	2833.3	9051.8	14	24	13	23	27.6	28.0	26.6	32.0	32.4	35.8	0.460	6.1	5.1	1.4	ST/PN
35179	9/29/87	0809	2833.5	9051.6	14	24	12	24	27.5	27.9	26.3	31.6	32.3	35.8	1.100	6.0	5.9	1.8	ST/PN
35180	9/29/87	1058	2840.6	9059.3	14	15	7	14	27.3	27.5	27.8	31.8	32.1	31.9	1.340	5.8	5.8	5.3	ST/PN
35181	9/29/87	1428	2847.3	9111.6	15	11	5	9	27.3	27.4	27.4	31.1	31.3	31.2	2.530	5.9	5.5	5.9	ST/PN
35182	9/29/87	1815	2846.1	9129.7	15	22	11	21	27.8	27.8	28.3	34.3	34.7	36.3	0.420	6.2	6.0	4.3	ST/PN
35183	9/29/87	1955	2846.3	9129.8	15	22	10	22	27.8	27.8	28.3	32.8	32.9	34.7	0.380	6.2	5.8	4.2	ST/PN
35184	9/30/87	0854	2915.1	8953.0	13	6	2	6	26.2	26.2	26.2	26.7	26.7	26.7	2.810	5.3	5.2	5.3	ST/PN
35185	9/30/87	1004	2912.3	8951.3	13	13	7	12	26.7	26.7	28.8	28.6	28.6	34.4	1.850	5.3	5.3	0.3	ST/PN
35186	9/30/87	1141	2907.9	8950.0	13	18	10	18	27.3	27.3	25.6	29.5	29.6	36.0	1.020	6.2	6.0	1.4	ST/PN
35187	9/30/87	1327	2910.1	8945.7	13	18	7	15	26.7	26.7	26.5	28.2	28.3	35.9	2.520	6.8	6.6	0.7	ST/PN
35188	9/30/87	1515	2905.3	8948.9	13	26	10	24	27.5	27.4	23.7	29.3	29.3	36.3	1.080	6.2	6.1	3.5	ST/PN
35189	9/30/87	1738	2902.1	8935.6	13	18	8	16	27.2	27.2	25.8	28.8	28.8	36.2	2.830	6.7	6.2	4.6	ST/PN
35190	9/30/87	1932	2902.1	8935.4	13	18	7	17	27.0	27.1	26.1	28.8	28.8	36.1	1.650	6.3	6.4	4.0	ST/PN
35191	9/30/87	2225	2905.3	8948.9	13	26	12	22	27.3	27.3	23.4	29.3	29.3	36.3	0.930	6.3	6.1	3.9	ST/PN
35192	10/ 1/87	0007	2909.5	8945.4	13	18	10	16	26.9	26.9	25.4	29.3	29.3	36.1	1.080	6.4	6.2	2.2	ST/PN
35193	10/ 1/87	0148	2907.8	8950.2	13	20	10	18	27.3	27.3	24.5	29.5	29.5	36.2	0.960	6.2	6.1	3.2	ST/PN
35194	10/ 1/87	0338	2912.2	8951.1	13	13	6	12	26.5	26.5	28.4	29.1	29.1	34.8	1.090	6.4	6.1	0.0	ST/PN
35195	10/ 1/87	0505	2914.9	8952.9	13	7	3	5	25.0	25.0	25.9	27.0	27.0	28.1	2.810	5.4	5.9	4.1	ST/PN
35196	10/ 1/87	1414	2857.4	9113.0	15	5	2	4	25.6	25.6	25.6	30.1	30.1	30.1	6.000	8.0	7.6	7.4	ST/PN

Table 1 (cont'd.)

NMFS OCTOBER-NOVEMBER SHRIMP AND GROUNDFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
46574	10/23/87	1851	3000.0	8830.0	11	25	12	25	21.8	21.8	21.8	34.3	34.4	34.4	0.685	6.7	6.5		PN
46576	10/23/87	2344	2948.0	8827.5	11	33	13	32	24.3	24.3	23.8	35.3	35.4	35.7	0.164	6.7	6.7	6.6	ST
46578	10/24/87	0334	2934.3	8813.0	11	40	18	39	24.1	24.1	23.8	35.3	35.2	35.9	0.274	8.5	6.4		ST
46580	10/24/87	0515	2931.1	8813.6	11	40	18	39	24.1	24.1	23.8	35.2	35.2	35.9		8.5	6.4		ST
46582	10/24/87	2203	2938.8	8846.3	11	15	7	14	23.1	23.2	23.2	34.6	34.6	34.8	1.103	5.5	4.6	4.7	ST
46584	10/24/87	2203	2928.4	8852.8	11	15	7	15	23.7	23.7	23.7	35.3	35.4	35.4		6.6	6.5	6.5	ST
46586	10/24/87	0012	2922.0	8849.7	11	22	11	22	24.3	24.4	24.4	35.5	35.6	35.6		6.7	6.0		ST
46588	10/25/87	0121	2924.7	8848.1	11	24	12	24	24.1	24.1	24.1	35.3	35.4	35.4	0.270	6.5	6.4	6.2	ST
46590	10/25/87	0239	2923.9	8841.3	11	46	23	46	24.3	24.3	24.3	35.4	35.4	35.5	1.065	6.4	6.4	6.4	ST
46592	10/25/87	0607	2927.7	8841.2	11	34	17	34	24.2	24.3	24.3	35.4	35.4	35.4		6.8	6.8	6.7	ST
46594	10/25/87	0933	2922.4	8824.7	11	53	26	53	23.8	24.3	21.6	35.3	35.7	36.4		7.0	6.9	5.5	ST
46596	10/25/87	1507	2936.2	8833.8	11	30	15	30	24.3	24.1	23.9	35.4	35.4	35.4	0.234	6.6	6.5	6.4	ST
46598	10/25/87	1705	2935.0	8820.4	11	47	23	47	23.9	24.2	23.6	35.2	35.8	36.1		6.7	6.8	5.8	ST
46600	10/25/87	2024	2922.4	8825.0	11	61	30	60	24.2	24.1	20.5	35.7	35.8	36.6	0.320	6.8	6.8	4.9	ST
46602	10/25/87	2154	2917.9	8824.1	11	80	40	79	24.0	22.8	19.3	35.2	36.3	36.5	0.293	7.0		4.9	ST
46603	10/26/87	0047	2930.1	8829.7	11	50	25	50	23.9	24.0	22.7	35.1	35.3	36.2	0.205	6.7	6.5	4.7	PN
46615	10/26/87	1910	2947.7	8748.4	10	37	18	36	23.5	23.3	23.4	35.0	35.0	35.7	0.267	6.8	6.9	4.8	ST
46617	10/26/87	2152	2943.0	8759.5	11	38	19	37	24.0	24.0	24.2	35.2	35.3	35.5	0.237	6.9	6.9	6.5	ST
46618	10/27/87	0022	2930.1	8800.0	11	44	22	44	24.3	24.3	24.3	35.6	35.6	35.9	0.104	6.6	6.5	6.5	PN
46620	10/27/87	0625	2941.6	8759.2	10	35	18	35	23.9	24.0	24.1	35.2	35.2	35.3	0.326	6.8	6.8	6.7	ST
46622	10/27/87	1114	2947.1	8734.4	10	37	18	37	23.1	23.1	22.3	35.1	35.0	0.0	0.467	6.9	7.0		ST
46623	10/27/87	1356	2930.1	8730.0	10	70	35	70	23.9	24.0	19.4	35.3	35.4	36.5	0.678	6.9	6.7	4.6	PN
46625	10/27/87	1648	2926.8	8739.5	99	78	39	77	23.6	24.0	19.6	35.3	36.6	36.5	0.262	7.1	7.0	5.1	ST
46627	10/27/87	2215	2921.5	8809.2	11	78	39	77	24.1	24.1	19.9	35.5	35.9	36.5		7.0	7.0	5.4	ST
46629	10/27/87	2337	2914.4	8815.2	11	96	48	96	24.1	24.4	18.3	35.4	36.0	36.5	0.393	6.8	6.9	4.8	ST
46631	10/28/87	0915	2918.4	8854.5	11	35	17	35	22.7	23.3	23.4	35.1	35.2	35.1	0.555	7.2	7.0	6.8	ST
46633	10/28/87	1218	2906.3	8848.9	11	95	45	95	23.7	23.7	18.9					6.9	6.6	4.8	ST
46635	10/28/87	1434	2901.3	8858.6	11	66	33	66	22.2	23.8	19.9	33.9	34.9	35.1	1.068	6.7	6.5	6.5	ST

Table 1 (cont'd.)

NMFS OCTOBER-NOVEMBER SHRIMP AND GROUNDFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
46636	10/28/87	1516	2900.0	8900.0	13	75	35	70	22.2	23.8	19.9					6.7	6.5	6.5	PN
46638	10/28/87	1954	2843.6	8939.4	13	92	45	92	22.8	25.0	19.6	34.0	35.7	36.5	0.875	7.0	6.9	5.1	ST
46640	10/28/87	2259	2847.2	8932.1	13	82	41	82	22.9	24.9	20.0	33.6	35.4	36.7	0.717	7.0	6.8	5.1	ST
46642	10/29/87	0314	2858.7	8932.6	13	38	19	38	21.7	23.4	24.4	30.4	33.5	35.0	3.481	7.2	6.4		ST/PN
46644	10/29/87	0428	2858.6	8935.4	13	47	27	46	21.8	23.9	24.7	30.8	34.0	35.6	1.583	7.1	6.8	6.5	ST
46646	10/29/87	0552	2901.0	8936.7	13	31	15	30	21.5	22.5	24.3	31.9	33.1	33.9	1.714	7.1	7.0	6.5	ST
46648	10/29/87	0936	2857.7	8932.2	13	47	26	47	21.9	24.1	24.6	31.1	33.7	35.3	1.209				ST
46650	10/29/87	1157	2903.4	8942.3	13	30	15	30	22.9	22.9	24.3	32.8	33.0	34.9	0.716	6.9	6.9	5.6	ST
46652	10/29/87	1406	2901.3	8952.9	13	29	14	29	22.6	22.7	24.3	32.6	33.1	33.1	3.125	7.0	6.7	6.2	ST
46654	10/29/87	1535	2855.1	8957.6	13	35	17	34	23.9	23.8	23.5	35.1	35.2	36.3	0.494	7.0	6.8	5.2	ST
46656	10/29/87	1824	2848.6	8944.7	13	66	33	66	22.9	24.1	21.8	33.2	35.1	36.6	1.140	7.6	7.2	5.2	ST
46658	10/29/87	2158	2900.9	8944.9	13	40	20	40	22.9	23.0	24.4	32.8	33.1	33.9		7.1	6.9	5.8	ST
46660	10/30/87	0036	2906.5	8932.0	13	11	5	11	22.0	22.3	22.9	31.5	32.7	32.9	3.277	7.0	6.7	5.2	ST
46662	10/30/87	0213	2909.0	8931.9	13	8	4	8	21.5	22.3	22.3	30.5	32.6	33.0	7.393	7.8	7.0	6.5	ST
46664	10/30/87	0548	2906.3	8950.2	13	22	11	22	22.3	22.9	23.1	32.5	33.1	33.4	1.209	7.1	7.1	6.8	ST
46666	10/30/87	0949	2841.9	8952.8	13	83	42	81	23.2	25.1	18.8	34.2	35.8	37.5	0.785	7.1	6.7	4.9	ST
46668	10/30/87	1239	2852.2	9009.2	14	25	12	25	23.2	23.0	23.2	33.4	33.5	33.6	1.638	7.0	6.7	6.0	ST
46670	10/30/87	1434	2851.1	9009.7	14	24	12	24	23.1	22.9	23.1	33.3	33.4	33.5	1.277	7.0	6.9	6.1	ST
46672	10/30/87	1603	2851.1	9015.9	14	24	12	24	23.2	23.2	23.5	33.4	33.5	35.4	1.056	7.2	7.1	6.4	ST
46674	10/30/87	1931	2900.4	9005.9	14	17	8	17	22.7	22.7	23.1	32.9	33.0	33.4	0.748	7.6	7.6	7.0	ST
46675	10/30/87	2130	2900.0	9000.2	14	24	11	24	23.0	23.0	23.7	33.2	33.2	34.0	0.891	7.4	7.5	6.8	PN
46677	10/30/87	2302	2902.8	9005.7	14	16	8	16	22.7	22.7	22.7	33.1	33.2	33.2	0.704	7.4	7.4	7.3	ST
46678	10/31/87	0240	2900.0	9030.0	14	10	5	10	22.5	22.5	22.5	34.1	34.1	34.1	0.651	7.3	7.4	7.4	PN
46680	10/31/87	0624	2854.6	9026.3	14	16	8	16	22.8	22.9	22.8	33.6	33.6	34.2	1.109	7.4	7.4	6.9	ST
46682	10/31/87	0908	2859.0	9032.5	14	11	6	11	22.6	22.6	22.6	34.2	34.2	34.2	0.411	7.3	7.3	7.3	ST
46684	10/31/87	1151	2851.4	9044.4	14	16	8	16	22.9	22.9	22.8	34.0	34.0	34.0		7.2	7.1	7.1	ST
46686	10/31/87	1636	2827.8	9029.2	14	39	19	39	24.1	24.1	24.1	35.6	35.6	35.7	0.300	7.2	7.0	6.9	ST/PN
46690	10/31/87	1912	2823.9	9026.5	14	57	23	57	24.2	24.2	24.2	35.8	35.8	35.8	0.199	6.8	6.7	4.1	ST

Table 1 (cont'd.)

NMFS OCTOBER-NOVEMBER SHRIMP AND GROUNDFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
46694	10/31/87	2329	2815.8	9019.9	14	75	38	74	24.3	24.3	20.3	35.8	35.8	36.7		6.8	6.7	5.6	ST
46696	11/ 1/87	0509	2836.7	9051.6	14	18	8	18	23.4	23.4	23.4	34.5	34.5	34.5	0.313	7.1	7.0	7.0	ST
46698	11/ 1/87	0733	2826.9	9044.1	14	37	18	36	24.2	24.2	24.2	35.6	35.7	35.7	0.741	6.8	6.8	6.8	ST
46700	11/ 1/87	0957	2817.9	9042.6	14	57	28	57	24.4	24.4	22.3	35.6	35.6	36.2	0.318	7.0	6.9	4.8	ST
46702	11/ 1/87	1516	2829.7	9107.9	15	36	18	36	24.2	24.1	23.8	35.7	35.7	35.6	0.267	6.8	7.7	7.0	ST/PN
46704	11/ 1/87	1626	2833.4	9108.2	15	27	13	23	23.4	23.4	23.4	35.0	35.1	35.3	0.287	7.2	7.3	7.0	ST
46706	11/ 1/87	1843	2834.4	9119.3	15	31	15	28	23.2	23.2	23.2	35.2	35.2	35.2	0.573	7.0	7.1	7.0	ST
46708	11/ 1/87	1953	2838.0	9118.8	15	25	12	24	23.1	23.1	23.1	34.9	34.9	35.0		6.9	6.8	7.0	ST
46710	11/ 1/87	2220	2843.7	9132.2	15	21	10	21	23.0	23.0	23.0	34.7	34.7	34.7		7.2	7.1	6.9	ST
46712	11/ 2/87	0133	2838.7	9141.4	15	34	17	33	23.6	23.7	23.7	35.3	35.4	35.4		7.0	6.9	6.9	ST/PN
46714	11/ 2/87	0639	2837.2	9106.3	15	20	10	20	23.3	23.3	23.3	34.4	34.7	34.7	1.140	6.9	6.8	6.8	ST
46716	11/ 2/87	0736	2838.3	9109.1	15	18	9	18	23.1	23.1	23.1	34.4	34.3	34.4	1.000	7.1	7.4	7.4	ST
46718	11/ 2/87	1208	2855.8	9126.6	15	13	6	12	21.5	21.5	21.8	32.0	32.0	32.2	1.159	7.5	7.2	6.8	ST/PN
46720	11/ 2/87	1519	2902.5	9144.1	15	8	4	8	22.1	21.6	21.4	32.2	32.5	32.3	2.523	7.4	7.1	7.2	ST
46722	11/ 2/87	1754	2902.1	9147.6	15	11	5	10	22.0	21.8	21.7	32.1	32.4	32.5	0.505	7.2	7.0	6.9	ST
46724	11/ 2/87	2048	2901.4	9201.0	16	18	10	18	22.2	22.4	23.0	32.7	33.1	33.9	0.804	7.3	7.1	6.8	ST/PN
46726	11/ 2/87	2327	2850.4	9205.0	16	28	18	27	23.5	23.5	23.9	34.8	34.8	35.1	0.822	6.7	6.6	6.3	ST
46728	11/ 3/87	0159	2849.3	9153.5	15	25	12	24	22.9	22.9	23.6	34.0	34.0	34.4	1.791	6.9	6.9	6.6	ST
46730	11/ 3/87	0447	2842.8	9143.4	15	29	14	29	23.4	23.4	23.6	35.1	35.1	35.4	0.344	6.6	6.6	6.5	ST
46732	11/ 6/87	1509	2846.5	9204.5	16	31	15	31	22.9	22.9	22.9	34.9	34.9	34.9	0.972	8.6	7.8	7.3	ST
46734	11/ 6/87	1809	2857.9	9218.8	16	24	12	24	22.7	22.7	22.7	34.2	34.3	34.3	1.265	8.3	7.9	7.9	ST
46736	11/ 6/87	2128	2839.7	9233.4	16	34	17	34	23.9	24.0	24.0	35.7	35.7	35.7	0.434	7.2	7.3	7.3	ST
46738	11/ 7/87	0213	2841.1	9203.1	16	37	18	37	23.3	23.3	23.3	35.4	35.4	35.4	0.748	7.1	6.9	6.9	ST
46740	11/ 7/87	0528	2824.4	9202.0	16	57	28	56	24.3	24.3	24.3	36.0	36.0	36.0		7.1	7.2	7.7	ST
46744	11/ 7/87	1225	2807.3	9135.0	15	94	47	94	24.6	24.7	19.6	36.1	36.3	36.5	0.199	7.0	6.9	4.8	ST
46746	11/ 7/87	1527	2813.7	9136.5	15	76	38	76	24.2	24.1	21.1	35.9	36.0	36.6	0.214	7.0	6.8	4.9	ST
46748	11/ 7/87	1913	2824.3	9138.3	15	59	29	58	24.1	24.0	23.8	35.8	35.9	35.9	0.972	6.8	6.7	6.8	ST
46751	11/ 7/87	2310	2830.0	9130.0	15	46	23	46	23.7	23.7	22.7	35.7	35.7	35.7	0.498	6.6	6.4	6.5	PN

Table 1 (cont'd.)

NMFS OCTOBER-NOVEMBER SHRIMP AND GROUNDFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
46752	11/ 8/87	0303	2830.1	9200.0	16	50	25	50	24.0	24.0	24.0	35.9	35.9	35.9	0.399	6.5	6.3	6.5	PN
46754	11/ 8/87	0807	2833.5	9246.8	16	41	20	40	23.9	23.9	23.9	35.8	35.8	35.8	1.128	7.4	7.2		ST/PN
46760	11/ 8/87	1422	2817.3	9237.3	16	65	32	65	24.4	24.4	21.9	36.2	36.2	36.6		8.0	6.8	3.7	ST
46762	11/ 8/87	1619	2814.9	9232.0	16	71	35	70	24.4	24.5	21.8	36.2	36.2	36.4	2.498	7.0	7.4		ST
46764	11/ 8/87	2101	2815.6	9301.2	17	67	34	67	24.4	24.6	23.3	36.2	36.3	36.7		7.7	7.8	6.2	ST
46766	11/ 8/87	2330	2802.9	9258.9	16	92	46	91	24.7	24.7	21.3	36.3	36.4	36.5	0.187	7.2	7.5	6.1	ST
46768	11/ 9/87	0357	2804.0	9324.2	17	86	43	86	24.3	24.9	21.2	36.1	36.4	36.5	0.142	6.8	7.0	5.5	ST
46770	11/ 9/87	0843	2804.0	9317.3	17	85	43	85	24.5	24.9	20.9	36.1	36.3	36.4	0.352	7.3	7.5	6.3	ST
46772	11/ 9/87	1240	2825.3	9306.6	17	44	22	44	24.1	24.1	24.1	36.0	36.0	36.0	0.361	7.1	6.9	7.1	ST
46776	11/ 9/87	1835	2833.9	9257.4	16	41	20	40	23.9	23.9	24.0	35.0	35.9	35.9	0.548	6.7	6.5	6.6	ST/PN
46778	11/10/87	2343	2825.8	9319.8	17	48	24	48	23.6	24.3	24.6	35.4	35.7	36.4	0.673	7.0	8.0	8.5	ST
46782	11/10/87	0427	2837.8	9317.0	17	36	19	36	23.3	23.3	24.0	34.6	35.2	35.8	0.336	7.7	7.8	8.1	ST
46784	11/10/87	0620	2841.8	9321.3	17	30	15	29	23.2	23.2	23.2	35.2	35.2	35.3	1.464	7.1	7.8	8.2	ST
46786	11/10/87	0841	2851.4	9315.4	17	25	12	24	22.8	22.8	22.8	34.8	34.8	34.8	0.584	15.0	15.0	14.0	ST
46790	11/10/87	1437	2852.1	9256.4	16	25	12	25	22.8	22.8	22.8	34.8	34.9	34.9	0.592	7.8	7.2	7.0	ST/PN
46792	11/10/87	1654	2905.7	9256.0	16	20	10	20	22.1	22.1	22.1	34.0	34.1	34.1	0.963	7.0	7.0	6.7	ST
46794	11/10/87	2033	2819.2	9310.8	17	16	8	16	21.3	21.3	21.3	32.6	32.7	32.7	0.536	8.2	8.4	8.4	ST
46796	11/10/87	2309	2907.2	9303.5	17	17	8	17	21.6	21.6	21.7	33.4	33.5	33.5	0.436	7.6	7.6	7.3	ST
46798	11/11/87	0121	2906.0	9315.2	17	20	10	20	21.7	21.7	21.7	33.6	33.6	33.6	0.908	7.7	7.6	7.6	ST
46800	11/11/87	0403	2848.3	9308.4	17	27	13	27	22.4	22.4	22.4	34.8	34.9	34.9	0.367	7.2	7.2	7.1	ST
46802	11/11/87	1152	2838.3	9240.7	16	36	19	35	22.9	22.9	23.0	35.5	35.5	35.5	0.623	7.5	7.5		ST
46804	11/11/87	1323	2843.8	9239.1	16	30	15	30	22.6	22.6	22.7	35.0	35.3	35.5	0.774	7.3	7.1	6.8	ST
46806	11/11/87	1630	2902.5	9249.0	16	22	11	21	21.7	21.7	21.7	34.6	34.6	34.6	0.336	6.8	6.8	6.9	ST
46808	11/11/87	2109	2930.5	9235.3	16	9	5	9	19.3	19.3	19.4	29.4	29.7	29.8	2.110	8.0	8.2	8.2	ST
46810	11/12/87	0024	2924.5	9229.1	16	10	5	10	19.8	19.8	19.9	31.1	31.1	31.1		9.1	8.9	8.6	ST/PN
46812	11/12/87	0551	2919.8	9317.8	17	14	7	14	20.1	20.2	20.2	32.6	32.6	32.6	1.023	7.6	7.5	7.3	ST
46814	11/12/87	0951	2939.7	9327.0	17	10	5	10	17.5	17.5	18.0	28.7	28.7	28.9	2.617	8.4	8.4	8.2	ST
46816	11/12/87	1203	2935.4	9335.8	17	11	6	11	19.2	19.2	19.1	29.6	30.4	30.4	1.539	8.1	8.1	8.2	ST

Table 1 (cont'd.)

NMFS OCTOBER-NOVEMBER SHRIMP AND GROUNDFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
46822	11/12/87	2137	2843.0	9402.1	18	28	15	28	22.1	22.1	22.1	35.4	35.5	35.5	0.602	7.4	7.3	7.3	ST
46824	11/13/87	0009	2831.2	9417.2	18	36	17	36	23.1	23.1	23.2	35.6	35.8	35.9	0.436	7.0		6.8	ST
46828	11/13/87	0338	2839.1	9422.3	18	31	15	31	22.2	22.2	22.6	35.2	35.3	35.7	0.336	7.0	7.0	7.0	ST
46830	11/13/87	0618	2829.7	9441.0	18	37	19	37	22.5	22.5	23.2	35.0	35.4	35.7	0.359	6.9	6.9	6.9	ST/PN
46832	11/13/87	0928	2817.6	9426.9	18	48	25	48	23.3	23.3	23.3	36.0	36.0	36.0	0.393	6.9	6.8	6.8	ST
46836	11/13/87	1554	2834.9	9409.0	18	35	17	35	22.9	22.9	22.8	35.5	35.7	35.7	0.478	7.1		7.0	ST/PN
46838	11/13/87	1632	2837.6	9408.9	18	32	16	32	22.5	22.5	22.6	35.5	35.7	35.7	0.383	7.0	7.0		ST
46840	11/13/87	2005	2846.5	9436.2	18	23	11	23	21.5	21.5	21.5	34.7	34.8	34.8	0.380	7.0	6.9	7.5	ST
46842	11/14/87	2358	2902.9	9454.3	18	17	9	17	19.9	20.0	21.2	31.2	31.2	32.1	0.377	8.0	8.2	6.1	ST/PN
46844	11/14/87	0304	2842.2	9450.6	18	25	12	25	21.2	21.7	22.0	34.1	34.5	34.9	0.329	7.3	7.4	7.4	ST
46846	11/14/87	0657	2830.0	9447.9	18	35	18	35	22.7	22.8	22.8	35.5	35.6	35.6	0.293	7.0	6.9	7.0	ST/PN
46848	11/14/87	1233	2756.1	9445.9	99	97	48	97	24.7	24.6	20.5	36.4	36.5	36.4	0.498	6.8	6.8	4.2	ST/PN
46850	11/14/87	2224	2757.0	9427.3	99	88	44	88	24.1	24.1	19.2	36.2	36.3	36.4	0.415	6.7	6.6	6.2	ST
46852	11/15/87	0144	2815.5	9432.3	18	48	24	48	23.2	23.2	23.4	36.0	36.0	36.2		6.7	6.6	6.6	ST
46856	11/15/87	0944	2842.3	9506.8	19	22	11	21	21.0	21.0	21.4	33.0	33.0	33.9	1.327	7.3	7.5	7.3	ST
46858	11/15/87	1226	2844.6	9502.0	19	20	10	20	20.4	20.4	20.7				0.430				ST
46860	11/15/87	1524	2856.9	9511.5	19	12	6	12	20.1	20.1	20.0	31.2	31.2	31.2	2.648	8.1	8.1	8.0	ST
46866	11/18/87	0057	2838.4	9530.0	19	16	8	16	20.0	20.0	20.0					7.6	7.5	7.7	ST
46868	11/18/87	0408	2841.7	9537.2	19	15	7	15	19.7	19.7	20.1	30.9	30.8	30.8	0.935	7.9	8.2	7.4	ST
46870	11/18/87	0551	2837.9	9536.2	19	15	7	15	20.0	20.0	20.8	31.3	31.3	31.3	1.776	7.7	7.7	7.8	ST
46872	11/18/87	1000	2838.6	9510.1	19	24	12	24	10.5	20.5	21.4	33.3	33.3	34.6	1.101	7.0	7.0	6.5	ST
46874	11/18/87	1115	2835.6	9513.8	19	28	14	28	21.1	21.2	22.2	33.9	33.8	34.9	2.570	8.7	7.9	7.6	ST
46876	11/18/87	1339	2830.7	9518.6	19	28	14	28	21.1	21.1	21.8	33.9	33.9	34.7	0.401	8.7	8.6		ST
46878	11/18/87	1747	2808.9	9536.4	19	40	20	40	22.5	22.5	23.2	35.0	35.0	35.5	0.672	6.8	6.8	6.2	ST
46880	11/18/87	2039	2815.1	9542.7	19	30	15	30	22.2	22.2	22.2	35.0	35.0	35.0	0.405	6.8	6.8	6.8	ST
46882	11/19/87	2359	2756.3	9539.2	20	54	27	54	23.7	23.7	24.2	36.1	36.1	36.4		6.5	6.4	6.3	ST
46886	11/19/87	0317	2746.1	9539.5	20	86	43	86	24.4	24.3	21.8	36.4	36.4	36.5		6.7	6.5	6.0	ST
46888	11/19/87	1335	2806.0	9544.3	19	46	24	46	23.0	23.0	23.1	35.3	35.4	35.4	0.486	8.1	8.1	7.9	ST

Table 1 (cont'd.)

NMFS OCTOBER-NOVEMBER SHRIMP AND GROUNDFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
46890	11/19/87	1615	2805.0	9551.2	19	40	20	40	22.8	22.8	22.8	35.4	35.4	35.4	1.200	6.6	6.6	6.7	ST
46892	11/19/87	2144	2752.3	9630.5	20	34	17	34	22.2	22.2	22.3	34.2	34.3	34.3	1.557	6.7	6.6	6.5	ST
46894	11/19/87	2309	2748.5	9631.0	20	49	23	49	23.4	23.4	23.4	35.7	35.8	35.8	0.458	6.6	6.5	6.5	ST
46896	11/20/87	0319	2758.7	9654.8	20	12	6	12	19.5	19.5	19.6	31.3	31.4	31.5	1.807	7.3	7.3	7.4	ST
46898	11/20/87	0709	2809.9	9636.7	19	11	6	11	19.0	19.0	19.0	31.2	31.2	31.2	3.458	7.2	7.2	7.2	ST
46900	11/20/87	1100	2741.2	9640.0	20	38	19	38	22.5	22.7	23.0	34.8	34.9	35.1	0.650	6.9	6.7	6.6	ST
46902	11/20/87	1435	2732.0	9700.0	20	25	12	25	21.1	21.1	21.9	33.5	33.5	33.5	0.701	7.1	6.9	6.9	ST
46904	11/20/87	1710	2735.0	9707.9	20	19	10	19	20.5	20.6	20.7	32.7	32.8	33.0	0.654	5.2	7.1	7.0	ST
46906	11/20/87	1912	2736.6	9709.1	20	12	6	12	19.5	19.5	19.5	31.5	31.5	31.5	1.537	7.2	7.2	7.2	ST
46908	11/20/87	2047	2730.0	9704.2	20	23	12	23	21.0	21.0	21.0	33.2	33.3	33.3	0.552	7.1	7.0	6.9	ST
46910	11/20/87	2207	2729.4	9701.0	20	31	15	31	21.8	22.0	22.6	34.0	34.3	35.1	0.765	6.9	6.8	6.7	ST
46912	11/21/87	0037	2733.8	9654.1	20	34	17	34	20.8	22.1	22.7	33.1	34.4	35.2		7.3	6.8	6.6	ST
46914	11/21/87	0308	2727.6	9642.2	20	58	27	58	23.0	23.8	23.9	35.5	36.1	36.3	0.442	6.5	6.4	6.4	ST
46916	11/21/87	0658	2720.8	9658.8	20	33	16	33	21.7	21.8	22.8	34.2	34.4	35.1	0.693	6.9	6.9	6.7	ST
46918	11/21/87	1144	2651.0	9707.5	21	30	15	30	24.1	21.2	21.7	32.9	33.0	33.6	1.058	7.2	7.1	6.9	ST
46920	11/21/87	1531	2710.0	9719.0	20	15	8	15	20.2	19.8	19.9	31.7	31.7	31.7		7.5	7.2	7.1	ST
46922	11/21/87	1726	2700.1	9717.2	20	23	11	23	20.8	20.8	21.0	32.5	32.5	32.6	1.346	7.2	7.2	7.0	ST
46924	11/21/87	1915	2701.2	9718.8	20	16	8	16	20.3	20.3	20.2	32.0	32.0	32.1	1.360	7.4	7.3	6.7	ST
46926	11/21/87	2130	2700.3	9705.7	20	32	16	32	20.8	21.9	22.3	32.8	33.9	34.6	0.737	7.3	6.9	6.7	ST
46928	11/22/87	0048	2645.9	9719.0	21	16	9	16	20.8	20.8	21.0	32.3	32.3	32.8	1.009	7.1	7.5	7.2	ST
46930	11/22/87	0226	2640.0	9717.0	21	18	9	18	21.0	21.0	21.4	32.6	32.6	33.4	0.899	7.3	7.3	7.2	ST
46932	11/22/87	0351	2641.0	9713.5	21	18	9	18	21.0	21.0	21.4	32.6	32.6	33.4	0.899	7.3	7.3	7.2	ST

Table 1 (cont'd.)

MISSISSIPPI OCTOBER-NOVEMBER SHRIMP AND GROUNDFISH SURVEY
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
17001	10/25/87	2116	2954.2	8846.8	11	11	5	10	21.4	21.8	21.3					7.8	7.7	7.6	ST
17002	10/26/87	1330	2959.9	8800.7	11	23	11	22	23.4	23.2	23.2					6.4	6.3	6.3	ST
17016	10/26/87	1436	3000.2	8800.1	11	19	9	18	23.4	23.0	22.9					6.6	6.6	6.6	PN
17003	10/26/87	1600	2956.7	8749.3	10	20	10	20	22.9	22.7	22.4					6.8	6.7	6.6	ST
17004	10/26/87	1705	3001.3	8745.8	10	24	12	24	22.7	22.5	22.5					7.0	6.8	6.3	ST
17005	10/26/87	1902	2955.5	8735.5	10	24	12	24	23.3	23.3	23.4					6.8	6.5	6.1	ST
17006	10/26/87	2147	3002.5	8749.8	10	22	11	21	22.8	22.5	22.0					6.6	6.6	6.4	ST
17007	10/26/87	2311	3001.6	8752.3	10	22	11	22	23.0	22.8	22.5					6.4	6.4	6.4	ST
17008	11/12/87	1455	3005.1	8854.1	11	12	6	11	19.0	18.0	18.1					6.6	7.0	6.8	ST
17009	11/12/87	1828	3000.0	8829.9	11	23	11	22	20.5	20.5	20.5					11.8		11.8	PN
17010	11/12/87	2011	2959.1	8821.5	11	28	14	27	20.5	20.5	20.0					6.7	6.7	6.8	ST
17011	11/12/87	2236	3005.3	8819.8	11	19	9	18	19.0	19.0	19.0					6.6	6.6	6.6	ST
17012	11/13/87	0105	2958.1	8807.9	11	25	10	19	20.5	20.5	20.2					6.6	6.6	6.6	ST
17018	11/13/87	0642	2959.9	8729.6	10	23	11	23	20.0	20.0	21.0					6.6	6.4	6.4	PN
17013	11/13/87	0700	3002.3	8735.0	10	29	15	29	19.5	19.5	19.5					6.4	6.4	6.4	ST
17014	11/13/87	0908	2958.1	8732.4	10	29	13	28	20.0	20.0	20.0					6.3	6.3	6.3	ST
17015	11/13/87	1056	3003.9	8747.8	10	18	9	17	18.2	18.2	19.0					6.6	6.6	6.4	ST
17017	11/13/87	1241	3000.0	8800.0	11	20	10	19	20.0	20.3	20.3					6.4	6.4	6.4	PN

Table 1 (cont'd.)

ALABAMA OCTOBER-NOVEMBER SHRIMP AND GROUNDFISH SURVEY
ALABAMA INSHORE VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
23001	10/28/87	1430	3010.0	8747.3	10	13	7	13	15.0	15.0	15.0					7.4	7.0	7.2	ST
23002	10/28/87	1614	3011.2	8733.2	10	16	8	16	15.5	15.0	15.0					7.4	7.4	7.5	ST
23003	10/28/87	1657	3016.3	8732.0	10	5	3	5	19.0		15.0					7.4		7.2	ST
23004	10/28/87	1722	3015.9	8734.6	10	4	2	4	14.5		14.5					7.4		7.4	ST
23005	10/28/87	1744	3015.4	8735.6	10	5	3	5	14.0		14.5					7.6		7.4	ST
23006	10/28/87	1840	3010.2	8747.5	10	15	8	15	14.0		14.0					7.4		7.2	ST
23007	11/ 2/87	1715	3014.3	8807.8	11	4	2	4	17.0		16.5					7.6		6.8	ST
23008	11/ 2/87	1752	3013.0	8806.9	11	5	3	5	16.5		16.0					7.2		7.6	ST

Table 1 (cont'd.)

TEXAS NOVEMBER SHRIMP AND GROUNDFISH SURVEY
ARANSAS BAY

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
31001	11/ 2/87	0806	2753.6	9659.6	20	9	4	9	23.4	23.4	23.8	34.0	34.0	34.0		8.1	8.1	8.2	ST
31002	11/ 2/87	0827	2754.5	9659.7	20	6	3	6	23.4	23.4	23.1	34.0	34.0	34.0		8.0	8.0	8.1	ST
31003	11/ 2/87	0921	2758.4	9654.6	20	11	5	11	23.3	23.2	23.2	34.0	34.0	34.0		8.1	8.2	8.4	ST
31004	11/ 2/87	1003	2756.5	9653.6	20	14	7	14	23.4	23.3	23.3	34.0	34.0	34.0		8.0	8.1	8.5	ST
31005	11/ 2/87	1050	2752.6	9652.6	20	19	9	19	23.3	23.3	23.3	34.0	34.0	34.0		8.0	8.0	8.7	ST
31006	11/ 2/87	1128	2752.4	9655.7	20	15	8	15	23.5	23.4	23.4	34.0	34.0	34.0		8.1	8.1	8.3	ST
31007	11/ 2/87	1200	2751.4	9657.4	20	15	7	15	23.5	23.4	23.3	34.0	34.0	34.0		7.9	7.9	7.9	ST
31008	11/ 2/87	1232	2751.4	9658.6	20	14	7	14	23.7	23.4	23.4	34.0	34.0	34.0		8.0	8.1	8.4	ST
31009	11/18/87	0745	2747.5	9703.6	20	8	4	8	20.7	20.6	20.5	35.0	35.0	35.0		8.1	8.1	8.4	ST
31010	11/18/87	0857	2742.4	9708.3	20	4	2	4	20.9	20.8	20.5	36.0	36.0	36.0		8.6	8.6	8.7	ST
31011	11/18/87	1022	2736.1	9702.6	20	22	11	22	21.3	21.3	21.3	36.0	36.0	36.0		8.2	8.3	8.7	ST
31012	11/18/87	1120	2739.5	9701.6	20	21	10	21	21.2	21.3	21.3	36.0	36.0	36.0		8.1	8.2	8.3	ST
31013	11/18/87	1205	2742.3	9701.8	20	18	9	18	20.9	20.9	20.9	35.0	35.0	35.0		8.0	8.0	8.1	ST
31014	11/18/87	1239	2743.4	9702.5	20	16	8	16	20.6	20.6	20.6	36.0	36.0	36.0		7.7	7.7	7.9	ST
31015	11/18/87	1340	2746.5	9656.9	20	21	10	21	21.1	21.1	21.1	36.0	36.0	36.0		8.0	8.1	8.2	ST
31016	11/18/87	1421	2747.7	9658.8	20	17	8	17	21.0	21.0	21.0	35.0	35.0	35.0		8.4	8.4	8.4	ST

Table 1 (cont'd.)

TEXAS NOVEMBER SHRIMP AND GROUNDFISH SURVEY
MATAGORDA BAY

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
32001	11/ 3/87	0829	2826.5	9615.5	19	9	4	9	22.6	22.6	22.5	31.6	31.6	31.7		9.4	9.2	9.1	ST
32002	11/ 3/87	0942	2828.5	9607.5	19	13	6	12	22.5	22.3	22.3	31.7	31.8	31.8		9.4	9.4	9.7	ST
32003	11/ 3/87	1014	2827.5	9607.5	19	15	7	14	22.7	22.5	22.7	31.7	31.7	32.2		9.3	9.2	9.2	ST
32004	11/ 3/87	1105	2824.5	9605.5	19	18	8	17	22.8	22.6	22.7	32.8	33.3	33.4		9.2	9.4	9.6	ST
32005	11/ 3/87	1142	2823.5	9608.5	19	18	8	17	23.1	22.8	23.2	32.0	32.8	33.5		9.3	9.3	9.7	ST
32006	11/ 3/87	1215	2822.5	9609.5	19	19	9	18	23.2	23.0	23.4	32.0	33.3	33.7		9.4	9.5	9.6	ST
32007	11/ 3/87	1256	2819.5	9612.5	19	20	9	19	23.8	23.5	23.5	33.8	33.9	33.9		9.1	9.2	9.4	ST
32008	11/ 3/87	1333	2821.5	9614.5	19	18	8	17	23.4	22.9	23.1	31.7	31.9	33.0		9.4	9.3	9.2	ST
32009	11/21/87	0750	2823.5	9615.5	19	14	7	13	16.8	17.3	17.4	33.1	33.1	33.1		9.4	9.2	9.7	ST
32010	11/21/87	0907	2819.5	9619.5	19	16	8	15	17.6	18.2	18.8	33.0	33.0	33.3		9.9	9.7	9.7	ST
32011	11/21/87	0952	2819.5	9616.5	19	18	9	17	18.8	19.0	19.0	33.8	33.7	33.7		9.5	9.7	10.0	ST
32012	11/21/87	1029	2818.5	9615.5	19	20	10	19											ST
32013	11/21/87	1112	2816.5	9615.5	19	22	11	21											ST
32014	11/21/87	1157	2814.5	9617.5	19	22	11	21											ST
32015	11/21/87	1234	2812.5	9619.5	19	23	12	22											ST
32016	11/21/87	1335	2817.5	9618.5	19	20	10	19											ST

Table 1 (cont'd.)

TEXAS NOVEMBER SHRIMP AND GROUNDFISH SURVEY
LAGUNA MADRE

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
33001	11/ 3/87	0845	2610.4	9701.6	21	24	12	24	24.9	24.9	24.9	35.5	35.5	35.5		8.2	8.3	8.5	ST
33002	11/ 3/87	0925	2611.7	9703.6	21	20	10	20	24.9	24.9	24.9	35.5	35.5	35.5		8.2	8.3	8.5	ST
33003	11/ 3/87	1010	2612.3	9700.5	21	27	13	27	24.8	24.8	24.8	35.5	35.5	35.5		8.4	8.5	8.9	ST
33004	11/ 3/87	1050	2613.7	9702.7	21	22	11	22	25.0	24.9	24.8	35.5	35.5	35.5		8.4	8.5	8.9	ST
33005	11/ 3/87	1138	2614.3	9706.6	21	18	9	18	24.9	24.7	24.7	35.5	35.5	35.5		8.2	8.3	8.5	ST
33006	11/ 3/87	1220	2616.7	9706.5	21	18	9	18	24.9	24.7	24.7	35.5	35.5	35.5		8.2	8.3	8.5	ST
33007	11/ 3/87	1250	2616.3	9707.6	21	17	8	17	25.0	24.8	24.7	35.5	35.5	35.5		8.2	8.3	8.5	ST
33008	11/ 3/87	1325	2617.7	9707.6	21	18	9	18	25.0	24.8	24.7	35.5	35.5	35.5		8.2	8.3	8.5	ST
33009	11/24/87	0730	2604.6	9705.5	21	19	9	19	22.0	22.1	22.1	34.0	34.0	34.0		8.1	8.2	8.5	ST
33010	11/24/87	0808	2607.4	9705.5	21	18	9	18	22.0	22.0	22.0	34.0	34.0	34.0		8.1	8.3	8.8	ST
33011	11/24/87	0927	2607.5	9700.4	21	26	13	26	22.3	22.3	22.2	34.0	34.0	34.0		8.2	8.4	8.9	ST
33012	11/30/87	0800	2602.3	9703.4	21	22	11	22	20.8	20.8	20.8	34.0	34.0	34.0		8.8	8.4	8.4	ST
33013	11/30/87	0845	2559.1	9701.5	22	25	12	25	21.1	21.0	21.0	34.0	34.0	34.0		8.8	8.1	8.0	ST
33014	11/30/87	0920	2559.7	9702.6	21	23	11	23	21.0	21.1	21.1	34.0	34.0	34.0		8.1	8.0	7.9	ST
33015	11/30/87	1014	2557.2	9707.6	22	11	5	11	20.3	20.1	19.8	33.5	33.5	33.5		8.5	8.2	8.2	ST
33016	11/30/87	1055	2600.8	9708.5	21	8	4	8	19.5	19.7	19.7	33.5	33.5	33.5		9.3	8.6	8.5	ST

Table 1 (cont'd.)

TEXAS NOVEMBER SHRIMP AND GROUNDFISH SURVEY
GALVESTON BAY

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
34001	11/ 3/87	0721	2922.2	9437.9	18	9	4	8	21.2	21.2	21.4	30.6	30.6	32.0		7.6	7.6	6.7	ST
34002	11/ 3/87	0754	2922.5	9435.4	18	10	4	9	21.1	21.1	21.6	30.2	30.3	32.8		7.5	7.5	7.4	ST
34003	11/ 3/87	0832	2922.1	9431.8	18	11	5	10	20.9	21.3	21.6	30.1	31.7	33.5		7.5	7.4	7.4	ST
34004	11/ 3/87	0908	2924.8	9430.4	18	11	5	10	20.8	20.8	21.0	29.6	29.6	32.4		7.5	7.4	6.9	ST
34005	11/ 3/87	0937	2925.3	9429.9	18	11	5	10	20.9	20.8	21.0	29.4	29.5	30.1		7.5	7.4	7.0	ST
34006	11/ 3/87	1009	2927.5	9430.4	18	8	4	8	21.2	21.0	21.1	29.1	29.2	29.3		7.8	7.7	7.0	ST
34007	11/ 3/87	1051	2924.3	9434.9	18	10	4	9	21.6	21.4	21.4	30.2	30.2	30.4		7.6	7.6	7.1	ST
34008	11/ 3/87	1137	2922.8	9441.4	18	6	3	5	22.4	21.8	21.8	29.6	29.5	29.5		7.7	7.3	7.5	ST
34009	11/30/87	0700	2921.3	9442.3	18	4	2	4	15.3	15.4	16.8	27.4	27.5	29.4		8.4	8.4	6.3	ST
34010	11/30/87	0754	2920.5	9434.2	18	12	6	12	15.8	16.5	18.1	29.3	30.1	32.9		8.3	8.0	7.7	ST
34011	11/30/87	0847	2917.3	9441.7	18	9	5	9	15.3	16.9	17.6	28.4	30.4	31.8		8.3	7.8	7.4	ST
34012	11/30/87	0916	2915.4	9441.4	18	12	6	12	16.1	16.2	18.1	29.2	29.2	32.9		8.3	8.4	7.5	ST
34013	11/30/87	1002	2914.4	9446.7	18	10	5	10	16.1	18.0	18.1	29.2	31.5	32.5		8.3	7.3	7.2	ST
34014	11/30/87	1053	2907.6	9447.4	18	16	8	16	16.2	16.5	18.9	30.1	30.3	34.0		8.5	8.3	7.0	ST
34015	11/30/87	1122	2906.4	9448.8	18	17	8	17	16.2	16.5	18.9	29.7	30.4	33.8		8.5	8.3	6.9	ST
34016	11/30/87	1210	2911.6	9444.4	18	15	8	15	16.0	16.4	18.2	29.5	29.9	33.6		8.6	8.7	7.3	ST

Table 1 (cont'd.)

TEXAS NOVEMBER SHRIMP AND GROUNDFISH SURVEY
SABINE

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
40001	11/ 1/87	0847	2935.5	9350.3	17	10	5	10	20.9	20.9	20.1					8.4	8.4	8.3	ST
40002	11/ 1/87	0944	2931.5	9352.5	17	12	6	12	21.2	21.3	21.1					8.0	8.2	8.1	ST
40003	11/ 1/87	1013	2931.7	9353.6	17	12	6	12	21.4	21.3	21.0					8.1	8.2	8.2	ST
40004	11/ 1/87	1049	2933.4	9353.6	17	12	6	12	21.2	21.3	21.1					8.6	8.5	8.4	ST
40005	11/ 1/87	1157	2937.6	9401.6	18	6	3	6	21.5	21.2	21.0					7.9	7.8	7.9	ST
40006	11/ 1/87	1240	2938.3	9401.4	18	6	3	6	21.4	21.1	21.0					7.8	8.1	8.1	ST
40007	11/ 1/87	1315	2939.6	9402.5	18	5	3	5	21.5	21.4	21.1					8.2	8.6	8.4	ST
40008	11/ 1/87	1517	2938.5	9352.5	17	5	3	5	22.2	22.1	21.9					8.7	8.9	9.0	ST
40009	11/24/87	0800	2934.6	9346.4	17	12	6	12	17.5	17.5	17.6					10.6	11.2	11.2	ST
40010	11/24/87	0906	2936.5	9338.6	17	11	6	11	17.6	17.5	17.8					10.1	10.5	10.7	ST
40011	11/24/87	0953	2940.3	9337.6	17	8	4	8	17.5	17.4	17.4					10.1	10.2	10.8	ST
40012	11/24/87	1038	2943.3	9336.8	17	6	3	6	17.5	17.4	17.4					9.8	10.4	10.6	ST
40013	11/24/87	1110	2944.6	9336.5	17	5	3	5	17.5	17.4	17.4					10.7	10.9	10.8	ST
40014	11/24/87	1150	2944.5	9341.5	17	3	2	3	17.6	17.6	17.6					10.6	10.9	11.1	ST
40015	11/24/87	1224	2943.2	9341.7	17	6	3	6	17.7	17.6	17.5					10.7	10.9	11.0	ST
40016	11/24/87	1255	2941.4	9341.5	17	7	4	7	17.7	17.6	17.6					10.6	10.9	11.0	ST

Table 1 (cont'd.)

LOUISIANA NOVEMBER SHRIMP AND GROUNDFISH SURVEY
LOUISIANA INSHORE VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
36229	11/12/87	0905	2909.5	9209.5	16	9	9		17.9		18.0	29.5		29.6	3.220	7.8		7.6	ST/PN
36230	11/12/87	0920	2945.0	9322.0	17	2	2		15.2		15.2	24.5		24.5	5.940	8.9		8.0	ST/PN
36231	11/12/87	0948	3003.2	8851.7	11	2	2		17.0						2.760	8.3		8.4	ST/PN
36232	11/12/87	0955	2944.0	9322.0	17	5	5		16.3		16.3	26.6		26.6	8.310	7.0		7.5	ST/PN
36233	11/12/87	1037	2940.0	9322.0	17	9	9		18.0		18.0	28.5		28.5	3.590	6.3		6.1	ST/PN
36234	11/12/87	1042	2919.3	9206.8	16	6	6		16.8		16.5	28.2		28.2	8.830	7.0		6.8	ST/PN
36235	11/12/87	1043	2916.3	8956.0	13	2	2		15.8		15.9	28.8		28.7	4.070	8.0		7.8	ST/PN
36236	11/12/87	1045	3003.7	8850.8	11	10	10		18.0		17.0				1.860	8.1		7.8	ST/PN
36237	11/12/87	1045	2856.2	9058.0	14	9	9		19.2		19.0	32.7		32.7	3.130	8.1		8.2	ST/PN
36238	11/12/87	1110	3003.3	8851.4	11	6	6		17.0						1.860	8.1		7.8	ST/PN
36239	11/12/87	1110	2915.1	8954.2	13	5	5		16.2		17.4	27.8		29.8	3.460	7.4		7.6	ST/PN
36240	11/12/87	1133	2913.9	8952.7	13	9	9		18.5		18.9	30.1		30.4	3.630	7.5		7.1	ST/PN
36241	11/12/87	1135	2901.0	9058.9	14	5	5		17.2		17.1	31.5		31.5	5.650	8.3		8.2	ST/PN
36242	11/12/87	1230	2909.5	9058.3	14	2	2		15.2		15.2	24.1		24.2	5.860	8.7		8.7	ST/PN
36243	11/12/87	1233	2904.5	9035.7	14	2	2		16.2		16.2	31.3		31.3	7.690	8.9		8.8	ST/PN
36244	11/12/87	1310	2934.0	9201.8	16	2	2		14.7		14.4	23.3		23.4	3.440	7.7		8.1	ST/PN
36245	11/12/87	1335	2902.0	9035.7	14	3	3		15.8		16.6	30.9		31.5	7.980	8.7		8.6	ST/PN
36246	11/12/87	1410	2900.5	9035.7	14	10	10		18.5		19.2	32.2		32.6	3.440	7.9		7.9	ST/PN
36247	11/13/87	0955	2924.8	8904.3	12	10	10		16.2		16.6	32.2		32.6	2.530	3.2		3.1	ST/PN
36248	11/13/87	1037	2926.9	8909.6	12	6	6		16.1		16.7	28.8		33.1	3.310	8.6		8.2	ST/PN
36249	11/13/87	1107	2927.4	8912.2	12	2	2		15.5		15.5	30.7		30.7	2.300	7.6		8.0	ST/PN

Table 1 (cont'd.)

LOUISIANA NOVEMBER-DECEMBER SHRIMP AND GROUNDFISH SURVEY
PELICAN

STA#	DATE MM/DD/YY	TIME	POSITION LAT	POSITION LONG	STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M) MID	SAMPLE DEPTHS (M) MAX	TEMPERATURE,C SUR	TEMPERATURE,C MID	TEMPERATURE,C MAX	SALINITY,PPT SUR	SALINITY,PPT MID	SALINITY,PPT MAX	CL, SUR	DISSOLVED OXYGEN SUR	DISSOLVED OXYGEN MID	DISSOLVED OXYGEN MAX	GEAR
36250	11/30/87	1910	2838.4	9122.5	15	27	14	27	18.5	20.6	20.7	33.9	35.4	35.4	1.800	7.2	6.5	6.0	ST
36251	11/30/87	2100	2840.6	9121.9	15	23	13	23	17.8	20.3	20.4	29.9	35.2	35.2	3.530	7.8	5.9	6.2	ST
36252	11/30/87	2249	2843.0	9119.8	15	19	10	19	16.6	19.9	20.3	27.0	36.7	36.8	3.180	8.1	6.4	6.0	ST
36253	12/ 1/87	0256	2859.5	9129.0	15	9	6	9	16.1	18.5	18.5	26.7	33.4	33.4	3.040	8.2	6.6	6.8	ST
36254	12/ 1/87	0713	2900.1	9129.6	15	9	4	9	16.0	16.7	18.6	26.7	28.5	33.4	3.780	7.9	7.8	7.1	ST
36255	12/ 1/87	1041	2843.1	9119.5	15	19	11	19	16.5	19.9	20.3	28.1	34.6	35.1	3.240	7.9	6.6	6.5	ST/PN
36256	12/ 1/87	1157	2841.1	9121.5	15	24	13	24	16.7	20.2	20.5	29.9	36.7	37.2	3.740	7.9	6.5	6.3	ST/PN
36257	12/ 1/87	1327	2838.4	9122.1	15	27	12	27	16.9	20.5	20.6	29.0	36.6	36.6		8.0	6.2	6.2	ST/PN
36258	12/ 1/87	1500	2846.1	9058.2	14	15	7	15	17.4	17.6	19.0	32.3	31.8	34.2	4.140	8.1	7.8	6.0	PN
36259	12/ 1/87	1754	2845.8	9056.2	14	15	8	15	17.6	18.7	19.2	33.4	35.6	34.4	2.780	7.8	6.6	6.0	ST
36260	12/ 1/87	2237	2853.1	9026.5	14	18	10	18	18.8	19.9	20.4	34.3	35.7	36.3	0.490	7.2	6.4	5.9	ST
36261	12/ 2/87	0010	2851.0	9023.5	14	20	10	20	18.9	19.0	20.4	33.4	33.9	34.9	0.670	7.2	7.0	5.8	ST
36262	12/ 2/87	0319	2837.2	9027.9	14	24	13	24	20.4	20.4	20.4	36.8	36.9	36.3	0.510	6.5	6.3	6.0	ST
36263	12/ 2/87	0651	2837.0	9028.0	14	25	11	25	20.4	20.4	20.4	36.7	36.7	36.7	0.570	6.2	6.2	6.0	ST/PN
36264	12/ 2/87	0947	2853.1	9027.2	14	18	9	18	18.4	20.4	20.4	33.1	34.8	34.8	0.530	7.2	5.9	6.2	ST/PN
36265	12/ 2/87	1113	2851.4	9024.1	14	20	10	20	18.8	19.0	20.4	33.5	33.7	34.8	0.680	7.1	6.6	6.5	ST/PN
36266	12/ 2/87	1626	2911.6	8943.9	13	16	8	16	18.9	18.9	21.8	32.7	33.1	36.4	0.480	7.5	7.7	3.6	ST/PN
36267	12/ 2/87	1756	2912.0	8943.9	13	13	5	13	19.3	19.3	21.7	33.8	34.0	36.1	14.290	6.9	6.8	3.8	ST
36268	12/ 2/87	1940	2907.0	8936.8	13	13	4	13	19.0	19.2	21.2	33.6	34.0	35.3	0.860	7.1	6.9	5.3	ST
36269	12/ 2/87	2020	2914.6	8943.7	13	9	4	9	19.6	19.3	20.0	33.8	33.6	35.0	4.680	6.7	6.2	5.8	ST
36270	12/ 3/87	0000	2917.0	8943.8	13	6	3	6	18.8	18.9	18.9	34.4	34.6	34.2	8.200	7.4	6.7	6.9	ST
36271	12/ 3/87	0646	2916.6	8943.9	13	5	3	5	17.5	18.5	18.7	33.3	35.0	35.7	4.910	8.2	7.9	7.3	ST/PN
36272	12/ 3/87	0806	2914.6	8943.7	13	9	4	9	19.3	19.3	19.9	33.7	33.6	35.0	3.000	6.7	6.4	5.4	ST/PN
36273	12/ 3/87	1024	2907.0	8936.7	13	13	6	13	18.7	18.8	21.4	34.2	33.7	35.2	0.820	7.5	7.4	4.4	ST/PN

Table 2. SEAMAP Louisiana April-May Trawl Survey species composition list, 16 trawl stations, using a 40-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Finfishes					
Anchoa mitchilli	bay anchovy	876	6.4	5	31.3
Trachurus lathami	rough scad	594	3.3	4	25.0
Prionotus rubio	blackfin searobin	488	0.8	6	37.5
Peprilus burti	gulf butterfish	440	3.5	9	56.3
Etrumeus teres	round herring	422	1.2	3	18.8
Stenotomus caprinus	longspine porgy	393	1.3	6	37.5
Anchoa hepsetus	striped anchovy	372	2.4	7	43.8
Scomber japonicus	chub mackerel	309	3.9	2	12.5
Arius felis	hardhead catfish	188	28.5	7	43.8
Synodus foetens	inshore lizardfish	173	2.0	8	50.0
Citharichthys spilopterus	bay whiff	142	1.3	11	68.8
Syacium gunteri	shoal flounder	129	2.3	8	50.0
Micropogonias undulatus	Atlantic croaker	125	4.7	5	31.3
Cynoscion nothus	silver seatrout	94	1.5	4	25.0
Prionotus tribulus	bighead searobin	85	0.5	5	31.3
Larimus fasciatus	banded drum	80	0.7	5	31.3
Etropus crossotus	fringed flounder	72	0.8	10	62.5
Trinectes maculatus	hogchoker	62	1.1	2	12.5
Saurida brasiliensis	largescale lizardfish	62	0.3	2	12.5
Cynoscion arenarius	sand seatrout	58	2.4	7	43.8
Anchoa nasuta	longnose anchovy	53	0.1	2	12.5
Sphoeroides parvus	least puffer	53	0.4	5	31.3
Centropristis philadelphica	rock sea bass	27	0.1	4	25.0
Serranus atrobranchus	blackear bass	23	0.2	2	12.5
Trichiurus lepturus	Atlantic cutlassfish	21	0.4	5	31.3
Prionotus salmonicolor	blackwing searobin	18	0.2	5	31.3
Lepophidium graellsi	blackedge cusk-eel	17	0.1	2	12.5
Diplectrum bivittatum	dwarf sand perch	17	0.6	6	37.5

Table 2. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Urophycis floridana	southern hake	16	0.3	5	31.3
Symphurus plagiusa	blackcheek tonguefish	15	0.2	5	31.3
Achirus lineatus	lined sole	9	0.0	2	12.5
Bollmannia communis	ragged goby	8	0.0	3	18.8
Bregmaceros atlanticus	antenna codlet	7	0.0	2	12.5
Pristipomoides aquilonaris	wenchman	6	0.0	3	18.8
Brotula barbata	bearded brotula	6	0.1	4	25.0
Antennarius radiosus	singlespot frogfish	5	0.0	4	25.0
Porichthys plectrodon	Atlantic midshipman	5	0.1	3	18.8
Prionotus stearnsi	shortwing searobin	3	0.0	2	12.5
Scorpaena calcarata	smoothhead scorpionfish	3	0.0	1	6.3
Gobionellus hastatus	sharptail goby	3	0.1	2	12.5
Upeneus parvus	dwarf goatfish	3	0.0	1	6.3
Eucinostomus gula	silver jenny	3	0.0	1	6.3
Lutjanus campechanus	red snapper	3	0.1	1	6.3
Decapterus punctatus	round scad	3	0.0	1	6.3
Harengula jaguana	scaled sardine	3	0.0	2	12.5
Brevoortia patronus	gulf menhaden	2	0.0	1	6.3
Chaetodipterus faber	Atlantic spadefish	2	0.0	2	12.5
Archosargus probatocephalus	sheepshead	2	2.4	1	6.3
Astroscopus y-graecum	southern stargazer	2	0.0	1	6.3
Leiostomus xanthurus	spot	1	0.0	1	6.3
Stellifer lanceolatus	star drum	1	0.0	1	6.3
Chloroscombrus chrysurus	Atlantic bumper	1	0.0	1	6.3
Hoplunnis macrurus	freckled pike-conger	1	0.0	1	6.3
Gymnothorax nigromarginatus	blackedge moray	1	0.1	1	6.3
Sphyraena guachancho	guaguanche	1	0.0	1	6.3
Rhinoptera bonasus	cownose ray	1	16.0	1	6.3

Table 2. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Crustaceans					
Callinectes similis	lesser blue crab	4400	18.9	14	87.5
Trachypenaeus spp.	roughneck shrimps	1458	3.6	1	6.3
Trachypenaeus similis	roughback shrimp	1420	4.8	10	62.5
Trachypenaeus constrictus	roughneck shrimp	435	0.8	6	37.5
Sicyonia dorsalis	lesser rock shrimp	277	0.7	8	50.0
Squilla empusa	mantis shrimp	276	2.8	13	81.3
Xiphopenaeus kroyeri	seabob	262	1.9	1	6.3
Penaeus aztecus	brown shrimp	86	1.0	6	37.5
Sicyonia brevirostris	brown rock shrimp	83	0.8	3	18.8
Portunus gibbesii	irridescent swimming crab	32	0.1	7	43.8
Callinectes sapidus	blue crab	30	2.0	5	31.3
Penaeus setiferus	white shrimp	26	0.9	5	31.3
Lysmata wurdemanni	peppermint shrimp	17	0.0	2	12.5
Penaeus duorarum	pink shrimp	16	0.6	4	25.0
Speocarcinus lobatus	gulf squareback crab	13	0.0	4	25.0
Ovalipes floridanus	Florida lady crab	10	0.0	2	12.5
Portunus spinimanus	blotched swimming crab	5	0.0	3	18.8
Hepatus epheliticus	calico crab	4	0.0	4	25.0
Portunus spinicarpus	longspine swimming crab	4	0.0	2	12.5
Pleoticus robustus	royal red shrimp	4	0.0	1	6.3
Libinia emarginata	portly spider crab	4	0.0	2	12.5
Persephona aquilonaris	purse crab	4	0.0	2	12.5
Persephona crinita	pink purse crab	2	0.0	1	6.3
Calappa sulcata	yellow box crab	2	0.0	2	12.5
Libinia dubia	longnose spider crab	1	0.1	1	6.3
Menippe mercenaria	Florida stone crab	1	0.0	1	6.3

Table 2. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Others					
Loligo pealeii	longfin squid	3231	20.4	10	62.5
Lolliguncula brevis	Atlantic brief squid	287	3.0	11	68.8

Table 3a
Statistical Zone 12
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 12 during the Louisiana April-May 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 11 fm or above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia dorsalis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	552.0	0.00	1.4	0.00	1
Trachypenaeus similis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	234.0	0.00	1.1	0.00	1
Callinectes similis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	210.0	0.00	3.0	0.00	1
Trachypenaeus constrictus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	42.0	0.00	0.3	0.00	1
Squilla spp.	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
Calappa sulcata	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
Syacium gunteri	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	294.0	0.00	5.5	0.00	1
Anchoa mitchilli	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	192.0	0.00	0.5	0.00	1
Serranus atrobranchus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	120.0	0.00	1.1	0.00	1
Anchoa hepsetus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	102.0	0.00	2.2	0.00	1
Synodus foetens	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	60.0	0.00	2.2	0.00	1
Peprilus burti	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	60.0	0.00	0.8	0.00	1
Citharichthys spilopterus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	42.0	0.00	0.5	0.00	1
Diplectrum bivittatum	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	24.0	0.00	1.1	0.00	1
Squid	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	324.0	0.00	2.7	0.00	1

Table 3b
Statistical Zone 12
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during Louisiana April-May trawl survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 11 fm or above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	24.5	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	16.4	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	5.5	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	19.3	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	19.2	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	19.7	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	19.9	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	29.2	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	36.1	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	0.9	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	0.9	0.00	1	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	0.9	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	0.0	0.00	0	8.7	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	6.2	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	3.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 4a
Statistical Zone 13
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 13 during the Louisiana April-May 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 11 fm or above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	0	0.0	0.00	0.0	0.00	0	1541.3	1410.71	7.9	7.40	2
Sicyonia dorsalis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	309.5	302.47	0.7	0.68	2
Callinectes similis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	221.8	144.18	7.7	6.23	2
Trachypenaeus constrictus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	160.8	157.24	1.0	0.95	2
Squilla spp.	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	92.3	81.71	1.3	1.15	2
Penaeus setiferus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	8.8	8.82	0.3	0.32	2
Anchoa mitchilli	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	995.5	977.47	2.4	1.81	2
Cynoscion nothus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	107.6	107.65	0.3	0.32	2
Peprilus burti	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	67.1	67.06	0.5	0.48	2
Syacium gunteri	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	66.9	35.12	1.0	0.66	2
Citharichthys spilopterus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	39.4	14.65	0.3	0.02	2
Etropus crossotus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	28.9	16.94	0.2	0.24	2
Trichiurus lepturus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	19.4	19.41	0.3	0.32	2
Symphurus plagiusa	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	24.0	24.00	0.3	0.27	2
Squid	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	231.9	20.12	3.8	0.79	2

Table 4b
Statistical Zone 13
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during Louisiana April-May trawl survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 11 fm or above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	32.6	16.52	2	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	8.9	0.72	2	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	19.3	16.12	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.0	0.00	0	4.3	1.12	2	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	20.0	0.23	2	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	19.0	0.23	2	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	19.8	0.05	2	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	24.8	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	28.6	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	36.0	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	1.2	0.99	2	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	1.0	0.69	2	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	1.4	0.46	2	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	8.2	0.00	2	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	6.9	0.95	2	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	3.1	0.05	2	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 shrimp statistical zone 14 during the Louisiana April-May 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	2671.3	1926.63	9.0	6.31	3	72.7	51.30	0.3	0.22	7	47.1	23.93	1.2	1.04	3
Trachypenaeus spp.	0.0	0.00	0.0	0.00	3	416.6	416.57	1.0	1.04	7	0.0	0.00	0.0	0.00	3
Trachypenaeus similis	266.7	148.38	0.5	0.27	3	32.9	29.59	0.1	0.05	7	396.5	396.47	1.1	1.12	3
Trachypenaeus constrictus	248.0	236.10	0.3	0.30	3	0.0	0.00	0.0	0.00	7	2.4	2.35	0.0	0.00	3
Xiphopenaeus kroyeri	174.7	174.67	1.2	1.24	3	0.0	0.00	0.0	0.00	7	0.0	0.00	0.0	0.00	3
Squilla spp.	42.7	18.67	0.3	0.13	3	40.7	28.85	0.4	0.35	7	39.5	35.07	0.6	0.51	3
Trachurus lathami	0.0	0.00	0.0	0.00	3	86.3	86.29	0.4	0.36	7	315.6	315.56	2.2	2.22	3
Prionotus rubio	153.3	148.36	0.2	0.18	3	56.6	49.63	0.1	0.08	7	69.4	69.41	0.2	0.21	3
Etrumeus teres	0.0	0.00	0.0	0.00	3	57.4	57.43	0.1	0.14	7	245.2	240.74	0.8	0.67	3
Peprilus burti	137.3	132.36	1.4	1.30	3	34.9	31.90	0.2	0.17	7	64.9	52.13	0.4	0.34	3
Stenotomus caprinus	0.0	0.00	0.0	0.00	3	25.1	16.92	0.0	0.03	7	334.0	211.81	1.1	0.70	3
Anchoa hepsetus	0.0	0.00	0.0	0.00	3	53.1	38.17	0.3	0.28	7	171.1	171.11	0.9	0.86	3
Scomber japonicus	0.0	0.00	0.0	0.00	3	26.0	26.00	0.2	0.25	7	242.2	242.22	3.3	3.33	3
Anchoa mitchilli	48.7	48.67	0.2	0.18	3	0.0	0.00	0.0	0.00	7	209.0	209.00	4.8	4.77	3
Squid	9.3	7.42	0.1	0.06	3	607.2	598.81	2.5	2.41	7	1350.8	1219.33	13.6	11.50	3

Table 5b
Statistical Zone 14
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during Louisiana April-May trawl survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	33.6	1.82	3	13.3	6.51	7	43.0	19.25	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	20.9	7.10	3	8.4	5.57	7	25.0	10.83	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	12.7	5.68	3	2.1	1.36	7	5.1	2.39	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	3	2.9	2.56	7	13.5	11.50	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	25.2	2.65	3	26.7	1.16	7	25.4	2.85	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	24.7	2.43	3	23.7	0.78	7	22.2	1.37	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	23.2	1.75	3	20.3	0.23	7	20.0	0.12	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	25.6	0.13	3	27.3	0.66	7	26.7	1.24	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	26.9	0.29	3	31.4	1.35	7	32.4	1.39	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	29.1	0.36	3	34.4	0.23	7	35.3	0.20	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	9.1	4.26	3	3.0	2.20	7	3.1	2.33	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	9.5	4.08	3	3.4	1.69	7	1.3	0.07	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	9.6	4.11	3	7.5	1.44	7	2.3	0.80	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.4	0.57	3	7.3	0.47	7	7.9	0.62	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	5.2	0.74	3	5.2	0.86	7	5.1	0.47	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.0	0.57	3	2.7	0.86	7	2.8	0.57	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 6. SEAMAP Summer Shrimp and Bottomfish Survey species composition list, 313 trawl stations, for those vessels that used a 40-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Finfishes					
Stenotomus caprinus	longspine porgy	78571	1632.0	254	81.2
Micropogonias undulatus	Atlantic croaker	23869	981.6	106	33.9
Peprilus burti	gulf butterfish	19982	746.0	176	56.2
Trachurus lathami	rough scad	15369	208.5	136	43.5
Anchoa hepsetus	striped anchovy	11436	128.5	79	25.2
Chloroscombrus chrysurus	Atlantic bumper	10062	374.7	126	40.3
Leiostomus xanthurus	spot	4679	333.2	68	21.7
Prionotus rubio	blackfin searobin	4641	66.7	96	30.7
Centropristis philadelphica	rock sea bass	4463	145.6	164	52.4
Prionotus paralatus	Mexican searobin	3992	55.1	78	24.9
Etrumeus teres	round herring	3606	22.3	61	19.5
Arius felis	hardhead catfish	3564	408.2	47	15.0
Synodus foetens	inshore lizardfish	3306	305.8	214	68.4
Serranus atrobranchus	blackear bass	3190	52.1	96	30.7
Pristipomoides aquilonaris	wenchman	2729	128.7	83	26.5
Diplectrum bivittatum	dwarf sand perch	2522	80.1	127	40.6
Prionotus stearnsi	shortwing searobin	2472	25.3	92	29.4
Saurida brasiliensis	largescale lizardfish	2378	25.5	121	38.7
Prionotus salmonicolor	blackwing searobin	2325	59.1	61	19.5
Syacium gunteri	shoal flounder	1905	55.2	102	32.6
Trichiurus lepturus	Atlantic cutlassfish	1871	107.1	74	23.6
Prionotus roseus	bluespotted searobin	1764	51.2	72	23.0
Syacium spp.	lefteye flounders	1622	29.0	65	20.8
Etropus crossotus	fringed flounder	1542	24.5	102	32.6
Harengula jaguana	scaled sardine	1521	59.9	70	22.4
Dibranchus atlanticus	offshore batfish	1509	12.5	13	4.2
Cynoscion nothus	silver seatrout	1378	75.7	59	18.8
Upeneus parvus	dwarf goatfish	1290	37.0	91	29.1

Table 6. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Halieutichthys aculeatus	pancake batfish	1269	11.3	72	23.0
Anchoa mitchilli	bay anchovy	1268	4.7	20	6.4
Anchoviella perfasciata	flat anchovy	1184	5.8	23	7.3
Syacium papillosum	dusky flounder	1035	68.4	73	23.3
Lagodon rhomboides	pinfish	998	48.6	78	24.9
Porichthys plectrodon	Atlantic midshipman	893	21.2	93	29.7
Anchoa spp.	anchovies	884	2.3	8	2.6
Sphoeroides parvus	least puffer	813	6.8	73	23.3
Lepophidium graellsi	blackedge cusk-eel	652	28.2	57	18.2
Cynoscion arenarius	sand seatrout	580	76.8	56	17.9
Stellifer lanceolatus	star drum	532	6.8	14	4.5
Larimus fasciatus	banded drum	514	17.7	26	8.3
Lutjanus campechanus	red snapper	480	57.4	77	24.6
Urophycis floridana	southern hake	454	32.5	49	15.7
Steindachneria argentea	luminous hake	444	1.7	5	1.6
Citharichthys spilopterus	bay whiff	438	5.7	41	13.1
Sardinella aurita	Spanish sardine	420	4.6	11	3.5
Etropus microstomus	smallmouth flounder	392	4.7	28	8.9
Menticirrhus americanus	southern kingfish	388	43.3	28	8.9
Symphurus plagiusa	blackcheek tonguefish	373	7.1	50	16.0
Opisthonema oglinum	Atlantic thread herring	360	14.1	18	5.8
Prionotus tribulus	bighead searobin	344	9.9	48	15.3
Mullus auratus	red goatfish	328	22.5	15	4.8
Scorpaena calcarata	smoothhead scorpionfish	317	6.0	28	8.9
Peprilus alepidotus	harvestfish	315	5.0	24	7.7
Scomber japonicus	chub mackerel	289	8.4	18	5.8
Rhomboplites aurorubens	vermilion snapper	288	19.3	20	6.4
Lepophidium jeannae	mottled cusk-eel	284	12.5	20	6.4
Bellator militaris	horned searobin	272	3.0	23	7.3
Brevoortia patronus	gulf menhaden	246	12.5	13	4.2

Table 6. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Cyclopsetta chittendeni	Mexican flounder	244	26.6	47	15.0
Decapterus punctatus	round scad	243	6.7	17	5.4
Citharichthys macrops	spotted whiff	239	9.4	17	5.4
Trichopsetta ventralis	sash flounder	231	6.3	37	11.8
Prionotus scitulus	leopard searobin	223	4.9	17	5.4
Brotula barbata	bearded brotula	217	21.5	39	12.5
Etropus rimosus	gray flounder	203	1.5	2	0.6
Bollmannia communis	ragged goby	201	2.2	20	6.4
Monacanthus hispidus	planehead filefish	192	3.2	24	7.7
Haemulon aurolineatum	tomtate	174	11.1	14	4.5
Urophycis regia	spotted hake	154	6.9	11	3.5
Polydactylus octonemus	Atlantic threadfin	148	3.8	13	4.2
Selar crumenophthalmus	bigeye scad	147	4.2	12	3.8
Diplectrum formosum	sand perch	134	12.3	23	7.3
Urophycis cirrata	gulf hake	126	3.8	20	6.4
Ancylopsetta dilecta	three-eye flounder	125	4.5	21	6.7
Synagrops spinosus	temperate bass	118	0.9	2	0.6
Selene setapinnis	Atlantic moonfish	116	6.8	30	9.6
Centropristis striata	black sea bass	106	4.9	11	3.5
Orthopristis chrysoptera	pigfish	102	10.9	14	4.5
Gymnachirus texae	fringed sole	102	1.6	18	5.8
Caulolatilus microps	blueline tilefish	100	2.3	6	1.9
Sphyraena guachancho	guaguanche	96	18.4	26	8.3
Lutjanus synagris	lane snapper	91	10.6	21	6.7
Synodus poeyi	offshore lizardfish	87	1.1	17	5.4
Equetus umbrosus	cubbyu	85	4.2	13	4.2
Cynoscion spp.	seatrouts	77	0.8	6	1.9
Caulolatilus intermedius	anchor tilefish	76	3.9	18	5.8
Menticirrhus saxatilis	northern kingfish	75	6.6	1	0.3
Priacanthus arenatus	bigeye	66	5.4	12	3.8

Table 6. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Trachinocephalus myops	snakefish	65	5.4	8	2.6
Lagocephalus laevigatus	smooth puffer	62	2.5	20	6.4
Balistes capriscus	gray triggerfish	59	9.8	18	5.8
Ophidion welshi	crested cusk-eel	58	2.4	14	4.5
Hoplunnis macrurus	freckled pike-conger	55	0.6	7	2.2
Eucinostomus gula	silver jenny	54	2.1	10	3.2
Ogcocephalus spp.	batfishes	54	1.7	22	7.0
Kathetostoma albigutta	lancer stargazer	52	3.1	15	4.8
Symphurus diomedianus	spottedfin tonguefish	51	1.4	10	3.2
Hildebrandia flava	yellow conger	49	3.2	16	5.1
Symphurus civitatus	offshore tonguefish	47	0.9	4	1.3
Antennarius radiosus	singlespot frogfish	47	1.0	16	5.1
Paralichthys lethostigma	southern flounder	43	10.2	18	5.8
Rhizoprionodon terraenovae	Atlantic sharpnose shark	41	20.2	13	4.2
Bairdiella chrysoura	silver perch	38	1.7	5	1.6
Astroscopus y-graecum	southern stargazer	36	1.0	8	2.6
Lepophidium spp.	cusk-eels	36	1.2	7	2.2
Engyophrys senta	spiny flounder	36	0.3	11	3.5
Ophidion holbrooki	bank cusk-eel	34	1.9	2	0.6
Scomberomorus maculatus	Spanish mackerel	34	3.7	8	2.6
Ogcocephalus radiatus	polka-dot batfish	32	2.9	14	4.5
Raja texana	roundel skate	31	6.9	12	3.8
Neomerinthe hemingwayi	spinycheek scorpionfish	28	2.1	3	1.0
Ancylopsetta quadrocellata	ocellated flounder	24	2.7	16	5.1
Scorpaenidae	scorpionfishes	24	0.5	1	0.3
Caranx crysos	blue runner	24	4.9	14	4.5
Scomberomorus cavalla	king mackerel	23	0.9	7	2.2
Gymnothorax nigromarginatus	blackedge moray	23	6.3	10	3.2
Raja eglanteria	clearnose skate	22	11.1	11	3.5
Hoplunnis spp.	pike-congers	21	0.6	13	4.2

Table 6. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Scorpaena brasiliensis	barbfish	20	1.0	7	2.2
Chaetodipterus faber	Atlantic spadefish	18	0.6	6	1.9
Sphoeroides nephelus	southern puffer	18	0.1	3	1.0
Prionotus ophryas	bandtail searobin	16	0.5	8	2.6
Serranus notospilus	saddle bass	16	0.1	3	1.0
Synodus intermedius	sand diver	15	1.5	4	1.3
Peristedion gracile	slender searobin	15	0.2	4	1.3
Anchoa nasuta	longnose anchovy	14	0.0	2	0.6
Prionotus spp.	searobins	13	0.4	2	0.6
Equetus acuminatus	high-hat	12	0.7	1	0.3
Eucinostomus argenteus	spotfin mojarra	11	0.4	4	1.3
Serranus phoebe	tattler	11	0.3	2	0.6
Pristigenys alta	short bigeye	10	0.0	7	2.2
Equetus spp.	drums	10	0.7	3	1.0
Sphoeroides dorsalis	marbled puffer	10	0.4	7	2.2
Antennarius scaber	splitlure frogfish	10	0.0	4	1.3
Decodon puellaris	red hogfish	9	0.5	2	0.6
Pomatomus saltatrix	bluefish	9	2.8	4	1.3
Serraniculus pumilio	pygmy sea bass	8	0.0	5	1.6
Carcharhinus falciformis	silky shark	8	17.5	5	1.6
Ogcocephalus parvus	roughback batfish	8	0.0	2	0.6
Aluterus schoepfi	orange filefish	8	6.0	5	1.6
Cyclopsetta fimbriata	spotfin flounder	8	1.0	2	0.6
Dasyatis americana	southern stingray	7	3.4	2	0.6
Pagrus pagrus	red porgy	7	1.5	5	1.6
Ophidion grayi	blotched cusk-eel	6	0.4	2	0.6
Alosa chrysochloris	skipjack herring	6	0.6	5	1.6
Rypticus maculatus	whitespotted soapfish	6	0.6	3	1.0
Centropristis ocyura	bank sea bass	6	0.3	4	1.3
Echeneis naucrates	sharksucker	6	1.4	2	0.6

Table 6. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Scorpaena dispar	hunchback scorpionfish	6	0.5	2	0.6
Trinectes maculatus	hogchoker	6	0.0	3	1.0
Epinephelus flavolimbatus	yellowedge grouper	5	0.5	2	0.6
Echiophis spp.	snake eels	5	0.8	2	0.6
Scorpaena agassizi	longfin scorpionfish	5	0.0	1	0.3
Equetus lanceolatus	jackknife fish	5	0.1	2	0.6
Seriola dumerili	greater amberjack	5	1.4	1	0.3
Squatina dumerili	Atlantic angel shark	5	5.4	3	1.0
Mustelus canis	smooth dogfish	4	10.5	3	1.0
Bagre marinus	gafftopsail catfish	4	2.1	1	0.3
Anchoviella spp.	anchovies	4	0.0	1	0.3
Bregmaceros atlanticus	antenna codlet	4	0.0	3	1.0
Zenopsis ocellatus	dory	4	0.2	3	1.0
Ogcocephalidae	batfishes	4	0.2	1	0.3
Lactophrys quadricornis	scrawled cowfish	4	0.9	4	1.3
Chilomycterus schoepfi	striped burrfish	4	0.2	2	0.6
Etropus spp.	lefteye flounders	4	0.0	3	1.0
Syacium micrurum	channel flounder	4	0.3	1	0.3
Hemanthias leptus	longtail bass	3	0.1	1	0.3
Selene vomer	lookdown	3	0.0	3	1.0
Otophidium omostigmum	polka-dot cusk-eel	3	0.0	2	0.6
Epinnula americana	snake mackerel	3	0.1	1	0.3
Calamus bajonado	jolthead porgy	3	0.7	3	1.0
Caranx spp.	jacks	2	0.0	1	0.3
Dorosoma petenense	threadfin shad	2	0.2	1	0.3
Rhinoptera bonasus	cownose ray	2	9.0	2	0.6
Gymnothorax spp.	morays	2	0.1	2	0.6
Mustelus norrisi	Florida smoothhound	2	1.8	2	0.6
Trichopsetta spp.	flounder	2	0.0	1	0.3
Sphoeroides spengleri	bandtail puffer	2	0.2	2	0.6

Table 6. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Opsanus spp.	toadfishes	1	0.4	1	0.3
Histrio histrio	sargassumfish	1	0.0	1	0.3
Paralichthys squamilentus	broad flounder	1	0.7	1	0.3
Paralichthys albigutta	gulf flounder	1	0.0	1	0.3
Bothus ocellatus	peacock flounder	1	0.1	1	0.3
Bothus spp.	left-eye flounders	1	0.0	1	0.3
Aluterus scriptus	scrawled filefish	1	0.3	1	0.3
Aluterus heudeloti	dotterel filefish	1	1.6	1	0.3
Canthidermis sufflamen	ocean triggerfish	1	0.1	1	0.3
Prionotus martis	barred searobin	1	0.0	1	0.3
Ogcocephalus vespertilio	longnose batfish	1	0.0	1	0.3
Sphyrna lewini	scalloped hammerhead	1	0.8	1	0.3
Rajidae	skates	1	0.0	1	0.3
Sphyrna tiburo	bonnethead	1	1.0	1	0.3
Gymnothorax saxicola	ocellated moray	1	0.2	1	0.3
Hemanthias vivanus	red barbier	1	0.3	1	0.3
Remora remora	remora	1	0.5	1	0.3
Syngnathus floridae	dusky pipefish	1	0.0	1	0.3
Syngnathus louisianae	chain pipefish	1	0.0	1	0.3
Hippocampus spp.	seahorses	1	0.0	1	0.3
Antigonia capros	deepbody boarfish	1	0.0	1	0.3
Conodon nobilis	barred grunt	1	0.3	1	0.3
Pogonias cromis	black drum	1	4.5	1	0.3
Hemipteronotus novacula	pearly razorfish	1	0.0	1	0.3
Scorpaena spp.	scorpionfishes	1	0.9	1	0.3
Crustaceans					
Penaeus aztecus	brown shrimp	20218	287.7	223	71.2
Trachypenaeus spp.	roughneck shrimps	18784	85.9	110	35.1

Table 6. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Sicyonia brevirostris	brown rock shrimp	13691	135.9	119	38.0
Portunus spinicarpus	longspine swimming crab	12799	61.2	120	38.3
Trachypenaeus similis	roughback shrimp	11246	38.6	14	4.5
Callinectes similis	lesser blue crab	9721	219.1	175	55.9
Squilla spp.	mantis shrimps	5546	71.0	135	43.1
Portunus gibbesii	irridescent swimming crab	4666	28.4	103	32.9
Squilla empusa	mantis shrimp	3540	24.4	34	10.9
Sicyonia dorsalis	lesser rock shrimp	1123	4.4	75	24.0
Penaeus duorarum	pink shrimp	827	18.0	52	16.6
Solenocera spp.	humpback shrimps	664	3.0	28	8.9
Callinectes sapidus	blue crab	655	36.1	49	15.7
Penaeus setiferus	white shrimp	513	19.8	51	16.3
Portunus spinimanus	blotched swimming crab	306	8.1	53	16.9
Parapenaeus spp.	penaeid shrimp	206	0.7	9	2.9
Ovalipes floridanus	Florida lady crab	180	1.3	20	6.4
Anasimus latus	stilt spider crab	126	1.4	16	5.1
Calappa sulcata	yellow box crab	116	21.6	35	11.2
Hepatus epheliticus	calico crab	79	4.7	18	5.8
Parapenaeus longirostris	deepwater rose shrimp	71	0.2	1	0.3
Portunus spp.	swimming crabs	61	1.3	3	1.0
Squilla deceptrix	mantis shrimp	44	1.0	4	1.3
Trachypenaeus constrictus	roughneck shrimp	34	0.0	1	0.3
Persephona aquilonaris	purse crab	30	1.1	5	1.6
Libinia dubia	longnose spider crab	23	8.5	6	1.9
Parthenope granulata	bladetooth elbow crab	23	0.3	8	2.6
Arenaeus cribrarius	speckled swimming crab	22	1.4	5	1.6
Scyllarus spp.	slipper lobsters	20	0.0	2	0.6
Sicyonia burkenroadi	spiny rock shrimp	18	0.0	2	0.6
Libinia emarginata	portly spider crab	16	2.2	6	1.9
Portunus sayi	sargassum swimming crab	16	0.9	6	1.9

Table 6. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Paguridae	right-handed hermit crabs	15	0.3	5	1.6
Parthenope spp.	elbow crabs	14	0.0	4	1.3
Parthenopidae	elbow crabs	13	0.1	5	1.6
Petrochirus diogenes	hermit crab	13	3.3	3	1.0
Stenorynchus seticornis	yellowline arrow crab	13	0.0	5	1.6
Ovalipes spp.	lady crabs	11	0.1	4	1.3
Leander tenuicornis	brown grass shrimp	9	0.0	1	0.3
Squilla chydaea	mantis shrimp	9	0.0	3	1.0
Xanthidae	mud crabs	8	0.3	5	1.6
Ovalipes guadulpensis	coarsehand lady crab	7	0.3	4	1.3
Calappa flammea	flame box crab	7	1.1	3	1.0
Libinia spp.	spider crab	7	0.4	4	1.3
Leiolambrus nitidus	white elbow crab	7	0.0	2	0.6
Scyllarides nodifer	ridged slipper lobster	6	1.2	3	1.0
Raninoides louisianensis	gulf frog crab	5	0.1	3	1.0
Acanthocarpus alexandri	gladiator box crab	4	0.0	2	0.6
Pyromaia spp.	pear crabs	4	0.0	1	0.3
Porcellana sayana	spotted porcelain crab	4	0.4	2	0.6
Solenocera atlantidis	dwarf humpback shrimp	4	0.0	1	0.3
Upogebia affinis	coastal mud shrimp	3	0.0	1	0.3
Porcellana sigsbeiana	striped porcelain crab	3	0.0	1	0.3
Calappidae	box crabs	3	0.1	2	0.6
Munida forceps	squat lobster	3	0.0	1	0.3
Parthenope pourtalesii	spinous elbow crab	3	0.1	2	0.6
Parthenope serrata	sawtooth elbow crab	2	0.0	2	0.6
Speocarcinus lobatus	gulf squareback crab	2	0.0	1	0.3
Podochela sidneyi	shortfinger neck crab	2	0.0	2	0.6
Metoporhaphis calcarata	false arrow crab	2	0.0	1	0.3
Dromiidae	sponge crabs	2	0.1	2	0.6
Xiphopenaeus kroyeri	seabob	2	0.0	1	0.3

Table 6. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Panulirus argus	Caribbean spiny lobster	1	1.8	1	0.3
Persephona mediterranea	mottled purse crab	1	0.0	1	0.3
Myropsis quinquespinosa	fivespine purse crab	1	0.0	1	0.3
Iliacantha liodactylus	purse crab	1	0.0	1	0.3
Pagurus longicarpus	longwrist hermit crab	1	0.0	1	0.3
Dromidia spp.	sponge crabs	1	0.0	1	0.3
Scyllarus chacei	chace slipper lobster	1	0.0	1	0.3
Menippe mercenaria	Florida stone crab	1	0.2	1	0.3
Hexapanopeus spp.	mud crab	1	0.0	1	0.3
Palicidae	stilt crabs	1	0.0	1	0.3
Hepatus spp.	box crabs	1	0.0	1	0.3
Others					
Loligo pealeii	longfin squid	15974	242.8	142	45.4
Loligo pleii	arrow squid	13493	246.0	92	29.4
Aurelia spp.	jellyfishes	5661	73.4	42	13.4
Loligo spp.	longfin squids	4209	83.0	32	10.2
Amusium papyraceum	paper scallop	2233	21.5	46	14.7
Lolliguncula brevis	Atlantic brief squid	1783	19.2	61	19.5
Argopecten gibbus	calico scallop	1376	9.3	8	2.6
Asteroidea	starfishes	1201	2.6	54	17.3
Mollusca	molluscs	1000	0.0	1	0.3
Renilla spp.	sea pansies	929	2.1	8	2.6
Astropecten spp.	sea stars	368	0.4	17	5.4
Renilla mulleri	short-stemmed sea pansy	342	1.0	14	4.5
Clypeaster ravenelii	cake urchin	138	22.3	1	0.3
Myopsida	squids	121	0.8	18	5.8
Alcyonidiidae	bryozoans	120	0.1	2	0.6
Ctenophora	comb jellies	119	0.5	1	0.3

Table 6. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Aequipecten glyptus	red-ribbed scallop	66	0.5	1	0.3
Tunicata	tunicates	21	0.2	3	1.0
Luidia spp.	sea stars	20	0.5	5	1.6
Lolliguncula sp.	brief squid	12	0.0	2	0.6
Bryozoa	moss animals	10	0.1	4	1.3
Echinoidea	echinoderms	9	0.1	3	1.0
Gorgonidae	gorgonians	8	0.1	3	1.0
Hydrozoa	hydroids	8	0.1	3	1.0
Pelecypoda	bivalve mollusks	8	0.1	3	1.0
Cyprae spp.	cowries	7	0.2	1	0.3
Dactylometra sp.	medusa	7	0.4	1	0.3
Ophiuroidea	brittlestars	6	0.0	3	1.0
Pectinidae	scallops	6	0.0	1	0.3
Busycon contrarium	lightning whelk	5	1.0	2	0.6
Scutellidae	sand dollars	5	0.3	3	1.0
Pyrosoma spp.	pelagic tunicate	3	0.0	2	0.6
Alyconiidae	soft corals	3	0.0	1	0.3
Rossia spp.	bob-tailed squids	3	0.0	1	0.3
Porifera	sponges	2	0.5	2	0.6
Octopus vulgaris	common Atlantic octopus	1	1.0	1	0.3
Octopus joubini	Joubin's octopus	1	0.0	1	0.3
Anthozoa	anthozoans	1	0.1	1	0.3
Cubomedusae	sea wasps	1	0.0	1	0.3
Holothuroidea	sea cucumbers	1	0.0	1	0.3
Luidia alternata	banded luidia	1	0.0	1	0.3
Astropectinidae	sea stars	1	0.0	1	0.3
Atrina seminuda	half-naked penshell	1	0.0	1	0.3
Nudibranchia	sea slugs	1	0.0	1	0.3
Polystira spp.	turret shells	1	0.0	1	0.3
Murex fulvescens	giant eastern murex	1	0.0	1	0.3
Tellina spp.	tellin shells	6	0.2	2	0.6

Table 7. SEAMAP Summer Shrimp and Bottomfish 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 lb) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Finfishes					
Micropogonias undulatus	Atlantic croaker	2664	54.3	46	57.5
Cynoscion nothus	silver seatrout	507	14.6	39	48.7
Peprilus burti	gulf butterfish	299	6.5	32	40.0
Syacium gunteri	shoal flounder	207	2.7	31	38.8
Leiostomus xanthurus	spot	188	5.6	20	25.0
Stenotomus caprinus	longspine porgy	147	0.8	10	12.5
Larimus fasciatus	banded drum	132	2.2	26	32.5
Chloroscombrus chrysurus	Atlantic bumper	99	2.0	21	26.3
Prionotus rubio	blackfin searobin	70	0.6	19	23.7
Stellifer lanceolatus	star drum	62	0.8	13	16.3
Cynoscion arenarius	sand seatrout	62	2.5	13	16.3
Polydactylus octonemus	Atlantic threadfin	32	0.5	18	22.5
Brevoortia patronus	gulf menhaden	28	1.0	9	11.3
Arius felis	hardhead catfish	25	1.8	8	10.0
Lagodon rhomboides	pinfish	24	0.7	12	15.0
Ancylopsetta quadrocellata	ocellated flounder	20	0.6	13	16.3
Menticirrhus americanus	southern kingfish	17	0.7	6	7.5
Trichiurus lepturus	Atlantic cutlassfish	14	0.8	9	11.3
Citharichthys spilopterus	bay whiff	12	0.1	8	10.0
Peprilus alepidotus	harvestfish	10	0.1	5	6.3
Prionotus tribulus	bighead searobin	10	0.1	7	8.8
Rhizoprionodon terraenovae	Atlantic sharpnose shark	10	1.5	5	6.3
Prionotus paralatus	Mexican searobin	9	0.0	1	1.3
Etropus crossotus	fringed flounder	8	0.0	5	6.3
Symphurus plagiusa	blackcheek tonguefish	7	0.2	4	5.0
Bairdiella chrysoura	silver perch	5	0.2	2	2.5
Synodus foetens	inshore lizardfish	5	0.2	5	6.3
Anchoa mitchilli	bay anchovy	4	0.0	4	5.0
Selene setapinnis	Atlantic moonfish	4	0.0	4	5.0
Diplectrum bivittatum	dwarf sand perch	4	0.1	3	3.7

Table 7. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Porichthys plectrodon	Atlantic midshipman	4	0.1	3	3.7
Lagocephalus laevigatus	smooth puffer	4	0.0	3	3.7
Paralichthys lethostigma	southern flounder	3	0.3	3	3.7
Prionotus salmonicolor	blackwing searobin	3	0.0	2	2.5
Lutjanus campechanus	red snapper	3	0.1	3	3.7
Chaetodipterus faber	Atlantic spadefish	3	0.1	2	2.5
Centropristis philadelphica	rock sea bass	2	0.0	2	2.5
Sphoeroides parvus	least puffer	2	0.0	2	2.5
Dorosoma petenense	threadfin shad	2	0.0	2	2.5
Harengula jaguana	scaled sardine	1	0.0	1	1.3
Rhinoptera bonasus	cownose ray	1	0.9	1	1.3
Anchoa hepsetus	striped anchovy	1	0.0	1	1.3
Opisthonema oglinum	Atlantic thread herring	1	0.0	1	1.3
Sphyrna tiburo	bonnethead	1	0.8	1	1.3
Antennarius scaber	splitlure frogfish	1	0.0	1	1.3
Trinectes maculatus	hogchoker	1	0.0	1	1.3
Serranus subligarius	belted sandfish	1	0.0	1	1.3
Synodus poeyi	offshore lizardfish	1	0.0	1	1.3
Hippocampus erectus	lined seahorse	1	0.0	1	1.3
Lutjanus synagris	lane snapper	1	0.0	1	1.3
Selene vomer	lookdown	1	0.0	1	1.3
Upeneus parvus	dwarf goatfish	1	0.0	1	1.3
Scomberomorus maculatus	Spanish mackerel	1	0.0	1	1.3
Ophidion welshi	crested cusk-eel	1	0.1	1	1.3
Crustaceans					
Callinectes similis	lesser blue crab	1204	6.7	51	63.8
Penaeus aztecus	brown shrimp	715	7.5	45	56.3
Trachypenaeus spp.	roughneck shrimps	88	0.4	17	21.3

Table 7. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Penaeus setiferus	white shrimp	77	2.5	20	25.0
Squilla empusa	mantis shrimp	77	1.1	24	30.0
Penaeus duorarum	pink shrimp	38	0.5	6	7.5
Xiphopenaeus kroyeri	seabob	22	0.1	10	12.5
Pagurus pollicaris	flatclaw hermit crab	22	0.2	13	16.3
Callinectes sapidus	blue crab	19	3.4	14	17.5
Portunus gibbesii	irridescent swimming crab	18	0.4	12	15.0
Sicyonia dorsalis	lesser rock shrimp	15	0.0	10	12.5
Persephona aquilonaris	purse crab	14	0.1	8	10.0
Ovalipes guadulpensis	coarsehand lady crab	12	0.1	9	11.3
Metoporhaphis calcarata	false arrow crab	12	0.0	6	7.5
Hepatus epheliticus	calico crab	10	0.3	6	7.5
Calappa sulcata	yellow box crab	10	0.7	5	6.3
Libinia dubia	longnose spider crab	9	0.1	6	7.5
Stenorynchus seticornis	yellowline arrow crab	6	0.0	3	3.7
Persephona crinita	pink purse crab	4	0.0	3	3.7
Squilla neglecta	mantis shrimp	3	0.0	3	3.7
Arenaeus cribrarius	speckled swimming crab	2	0.2	1	1.3
Sicyonia brevirostris	brown rock shrimp	2	0.0	2	2.5
Podochela sidneyi	shortfinger neck crab	2	0.0	2	2.5
Portunus spinimanus	blotched swimming crab	2	0.0	2	2.5
Speocarcinus lobatus	gulf squareback crab	1	0.0	1	1.3
Xanthidae	mud crabs	1	0.0	1	1.3
Squilla spp.	mantis shrimps	1	0.0	1	1.3
Others					
Renilla mulleri	short-stemmed sea pansy	2286	9.5	34	42.5
Dactylometra quinquecirrha	compass jellyfish	509	6.1	19	23.7
Lolliguncula brevis	Atlantic brief squid	160	3.0	36	45.0

Table 7. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Luidia clathrata	sea star	41	0.9	11	13.8
Stomolophus meleagris	many-mouthed sea jelly	21	10.2	3	3.7
Actinidae	sea anemones	17	0.0	9	11.3
Loligo pealeii	longfin squid	12	0.3	4	5.0
Brissopsis spp.	burrowing heart urchin	4	0.0	2	2.5
Lyropecten antillarum	Antillean scallop	4	0.1	3	3.7
Busycotypus spiratus	pearlwhelk	2	0.1	2	2.5
Neverita duplicata	shark eye	2	0.0	2	2.5
Thais haemastoma	rocksnail	1	0.0	1	1.3
Busycon contrarium	lightning whelk	1	0.1	1	1.3
Cantharus cancellarius	cancellate cantharus	1	0.0	1	1.3
Busycon perversum	perverse whelk	1	0.0	1	1.3
Chione clenchi	Clench venus	1	0.0	1	1.3
Strombus alatus	Florida fighting conch	1	0.0	1	1.3
Mellita quinquiesperforata	five-slotted sand dollar	1	0.0	1	1.3
Luidia alternata	banded luidia	1	0.0	1	1.3

Table 8. SEAMAP Summer Shrimp and Bottomfish Survey species composition list, 33 trawl stations, for those vessels that used a 16-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Finfishes					
Anchoa mitchilli	bay anchovy	3145	2.9	15	45.5
Chloroscombrus chrysurus	Atlantic bumper	426	0.7	18	54.5
Stellifer lanceolatus	star drum	357	1.9	9	27.3
Anchoa hepsetus	striped anchovy	268	0.3	4	12.1
Cynoscion arenarius	sand seatrout	177	0.6	9	27.3
Symphurus plagiusa	blackcheek tonguefish	113	1.0	12	36.4
Anchoa nasuta	longnose anchovy	102	0.1	2	6.1
Bagre marinus	gafftopsail catfish	73	0.4	4	12.1
Micropogonias undulatus	Atlantic croaker	67	1.5	9	27.3
Arius felis	hardhead catfish	42	1.5	6	18.2
Diplectrum bivittatum	dwarf sand perch	37	0.4	6	18.2
Etropus crossotus	fringed flounder	34	0.5	9	27.3
Peprilus burti	gulf butterfish	31	0.1	3	9.1
Prionotus tribulus	bighead searobin	25	0.1	2	6.1
Caranx latus	horse eye jack	22	0.1	1	3.0
Peprilus alepidotus	harvestfish	21	0.0	7	21.2
Chaetodipterus faber	Atlantic spadefish	20	0.0	8	24.2
Sphoeroides parvus	least puffer	16	0.0	7	21.2
Synodus foetens	inshore lizardfish	15	0.3	3	9.1
Ophidion welshi	crested cusk-eel	11	0.2	4	12.1
Prionotus rubio	blackfin searobin	8	0.0	3	9.1
Citharichthys spilopterus	bay whiff	8	0.0	5	15.2
Stenotomus caprinus	longspine porgy	6	0.3	3	9.1
Leiostomus xanthurus	spot	6	0.1	3	9.1
Menticirrhus americanus	southern kingfish	5	0.0	3	9.1
Selene setapinnis	Atlantic moonfish	4	0.0	3	9.1
Dorosoma cepedianum	gizzard shad	4	0.1	1	3.0
Syngnathus louisianae	chain pipefish	3	0.1	1	3.0
Caranx hippos	crevalle jack	3	0.0	2	6.1
Centropristis philadelphica	rock sea bass	3	0.0	3	9.1

Table 8. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Lagodon rhomboides	pinfish	3	0.1	1	3.0
Ophidion grayi	blotched cusk-eel	3	0.0	1	3.0
Porichthys plectrodon	Atlantic midshipman	3	0.1	1	3.0
Scomberomorus maculatus	Spanish mackerel	2	0.0	1	3.0
Trichiurus lepturus	Atlantic cutlassfish	2	0.0	1	3.0
Polydactylus octonemus	Atlantic threadfin	2	0.0	2	6.1
Lutjanus synagris	lane snapper	2	0.0	1	3.0
Pristipomoides aquilonaris	wenchman	1	0.2	1	3.0
Larimus fasciatus	banded drum	1	0.0	1	3.0
Selene vomer	lookdown	1	0.0	1	3.0
Lutjanus campechanus	red snapper	1	0.0	1	3.0
Trachurus lathami	rough scad	1	0.0	1	3.0
Serraniculus pumilio	pygmy sea bass	1	0.0	1	3.0
Decapterus punctatus	round scad	1	0.0	1	3.0
Prionotus scitulus	leopard searobin	1	0.2	1	3.0
Hildebrandia flava	yellow conger	1	0.1	1	3.0
Brevoortia patronus	gulf menhaden	1	0.0	1	3.0
Chilomycterus schoepfi	striped burrfish	1	0.0	1	3.0
Crustaceans					
Trachypenaeus spp.	roughneck shrimps	371	0.8	9	27.3
Callinectes sapidus	blue crab	169	3.8	11	33.3
Penaeus aztecus	brown shrimp	167	1.6	12	36.4
Callinectes similis	lesser blue crab	108	1.2	9	27.3
Xiphopenaeus kroyeri	seabob	84	0.5	5	15.2
Portunus gibbesii	irridescent swimming crab	76	0.5	8	24.2
Squilla empusa	mantis shrimp	48	0.5	8	24.2
Squilla spp.	mantis shrimps	43	0.1	1	3.0
Penaeus setiferus	white shrimp	24	0.3	6	18.2

Table 8. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Portunus sayi	sargassum swimming crab	22	0.1	3	9.1
Hepatus epheliticus	calico crab	13	0.2	3	9.1
Pagurus pollicaris	flatclaw hermit crab	11	0.4	3	9.1
Sicyonia brevirostris	brown rock shrimp	11	0.3	2	6.1
Parapenaeus spp.	penaeid shrimp	10	0.1	1	3.0
Libinia dubia	longnose spider crab	6	0.1	3	9.1
Palaemonetes vulgaris	marsh grass shrimp	5	0.0	1	3.0
Sicyonia dorsalis	lesser rock shrimp	3	0.0	1	3.0
Portunus spinicarpus	longspine swimming crab	3	0.0	2	6.1
Persephona crinita	pink purse crab	2	0.0	2	6.1
Persephona mediterranea	mottled purse crab	1	0.0	1	3.0
Petrochirus diogenes	giant hermit crab	1	0.0	1	3.0
Libinia spp.	spider crab	1	0.0	1	3.0
Menippe mercenaria	Florida stone crab	1	0.0	1	3.0
Ovalipes floridanus	Florida lady crab	1	0.0	1	3.0
Portunus spinimanus	blotched swimming crab	1	0.0	1	3.0
Porcellana sayana	spotted porcelain crab	1	0.0	1	3.0
Majidae	spider crabs	1	0.0	1	3.0
Albunea paretii	beach mole crab	1	0.0	1	3.0
Others					
Chrysaora quinquecirrha	sea nettle	1444	44.1	10	30.3
Mellita quinquiesperforata	five-slotted sand dollar	1100	2.0	1	3.0
Mellita sexiesperforata	six-slotted sand dollar	492	0.7	1	3.0
Lolliguncula brevis	Atlantic brief squid	189	0.7	13	39.4
Luidia clathrata	sea star	58	2.1	6	18.2
Stomolophus spp.	many-mouthed sea jellys	28	0.5	1	3.0
Mellita spp.	sand dollars	18	0.0	1	3.0
Loligo pealeii	longfin squid	8	0.0	2	6.1

Table 9a
Statistical Zone 10
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 10 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 40 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	74.6	50.36	0.7	0.51	3	66.2	28.50	0.9	0.37	14
Portunus gibbesii	996.0	0.00	4.6	0.00	1	74.5	74.55	0.6	0.58	3	27.9	23.65	0.2	0.15	14
Portunus spinicarpus	0.0	0.00	0.0	0.00	1	5.0	5.00	0.0	0.00	3	24.8	10.72	0.1	0.05	14
Penaeus duorarum	0.0	0.00	0.0	0.00	1	65.5	65.45	2.1	2.07	3	6.6	5.07	0.3	0.24	14
Squilla spp.	102.0	0.00	1.1	0.00	1	10.8	8.38	0.1	0.08	3	1.1	0.64	0.0	0.01	14
Solenocera spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	14
Stenotomus caprinus	1428.0	0.00	16.9	0.00	1	1959.9	1816.52	24.1	23.54	3	1529.2	701.00	25.8	17.74	14
Trachurus lathami	6.0	0.00	0.0	0.00	1	127.3	127.27	1.8	1.82	3	494.5	372.09	3.8	3.34	14
Prionotus salmonicolor	120.0	0.00	1.1	0.00	1	29.1	29.09	0.4	0.41	3	22.5	11.46	1.6	0.88	14
Syacium gunteri	0.0	0.00	0.0	0.00	1	1.2	1.18	0.0	0.00	3	19.8	7.61	1.2	0.44	14
Syacium papillosum	0.0	0.00	0.0	0.00	1	13.3	13.33	0.5	0.53	3	15.0	4.45	2.0	0.62	14
Etropus microstomus	96.0	0.00	1.1	0.00	1	29.1	29.09	0.3	0.33	3	31.9	12.92	0.3	0.13	14
Saurida brasiliensis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3	56.6	36.91	0.3	0.18	14
Centropristis philadelphica	6.0	0.00	0.0	0.00	1	21.8	21.82	0.3	0.33	3	22.9	8.41	0.7	0.22	14
Squid	222.0	0.00	3.5	0.00	1	596.7	229.15	9.7	4.45	3	441.2	186.11	4.0	0.95	14

Table 9a (cont'd.)
Statistical Zone 10
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 10 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 40 fm.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	6.8	3.68	0.1	0.06	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Portunus gibbesii	1.1	1.09	0.0	0.05	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Portunus spinicarpus	11.6	6.52	0.1	0.06	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Penaeus duorarum	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Squilla spp.	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Solenocera spp.	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	1101.7	756.70	46.1	31.64	5	188.6	0.00	7.4	0.00	1	0.0	0.00	0.0	0.00	0
Trachurus lathami	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Prionotus salmonicolor	46.4	28.39	3.1	2.15	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Syacium gunteri	27.5	22.34	1.9	1.59	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Syacium papillosum	43.1	23.59	4.9	2.71	5	2.9	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	0
Etropus microstomus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Saurida brasiliensis	0.8	0.75	0.0	0.00	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Centropristis philadelphica	1.4	1.41	0.1	0.12	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Squid	58.0	19.43	1.2	0.37	5	631.4	0.00	6.0	0.00	1	0.0	0.00	0.0	0.00	0

Table 9b
Statistical Zone 10
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 40 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	57.3	0.00	1	70.2	35.54	3	57.4	21.89	14	71.8	32.14	5	16.9	0.00	1	0.0	0.00	0
Total finfish kg	40.9	0.00	1	56.2	32.81	3	49.6	21.91	14	66.6	33.41	5	10.4	0.00	1	0.0	0.00	0
Total crustacean kg	13.6	0.00	1	5.4	3.49	3	2.9	0.50	14	0.9	0.46	5	0.0	0.00	1	0.0	0.00	0
Total others kg	2.7	0.00	1	10.4	4.50	3	5.4	0.80	14	4.8	3.15	5	6.5	0.00	1	0.0	0.00	0
Surface temperature	0.0	0.00	0	29.1	0.57	4	29.6	0.37	13	28.2	0.50	5	28.3	0.84	3	0.0	0.00	0
Midwater temperature	0.0	0.00	0	29.3	0.66	4	28.4	0.20	13	24.1	1.44	5	23.6	1.21	3	0.0	0.00	0
Bottom temperature	0.0	0.00	0	28.4	0.20	4	26.4	0.51	13	21.9	1.28	5	20.9	1.57	3	0.0	0.00	0
Surface salinity	0.0	0.00	0	32.2	1.30	2	32.1	2.05	5	33.5	0.18	3	34.5	0.69	2	0.0	0.00	0
Midwater salinity	0.0	0.00	0	33.8	0.36	2	34.4	0.22	5	35.8	0.04	3	36.4	0.14	2	0.0	0.00	0
Bottom salinity	0.0	0.00	0	34.1	0.13	2	34.7	0.30	5	36.3	0.01	3	36.4	0.05	2	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.8	0.00	1	0.2	0.04	5	0.2	0.01	3	0.1	0.04	2	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	6.1	0.19	4	5.5	0.18	14	5.8	0.30	5	5.9	0.45	3	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	5.7	0.33	3	5.3	0.21	14	5.9	0.39	5	5.8	0.62	3	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	5.3	0.52	3	5.1	0.22	14	5.2	0.30	5	5.1	0.54	3	0.0	0.00	0

Table 10a
Statistical Zone 11
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 11 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	3	2.1	1.41	0.0	0.02	20	42.0	28.11	0.3	0.18	27
Trachypenaeus spp.	221.0	217.18	0.9	0.89	3	57.8	24.97	0.2	0.09	20	265.3	113.35	1.1	0.46	27
Callinectes similis	668.2	349.16	10.1	5.17	3	138.6	43.64	3.3	0.91	20	63.6	16.89	1.7	0.45	27
Sicyonia brevirostris	1.5	1.54	0.1	0.07	3	15.4	8.53	0.1	0.04	20	72.0	41.23	0.5	0.28	27
Portunus gibbesii	241.6	143.28	3.0	1.60	3	89.1	40.16	0.6	0.21	20	72.6	28.27	0.4	0.17	27
Penaeus aztecus	2.2	1.34	0.1	0.06	3	102.3	46.08	1.7	0.72	20	38.5	12.62	0.9	0.25	27
Stenotomus caprinus	3.2	3.23	0.1	0.06	3	518.7	176.60	5.3	1.86	20	1166.2	301.02	15.6	6.07	27
Anchoa hepsetus	63.8	62.73	7.3	7.34	3	249.8	107.57	2.4	0.87	20	460.6	197.45	5.8	2.73	27
Peprilus burti	9.4	4.03	0.4	0.05	3	137.6	49.35	4.1	1.95	20	441.4	225.52	9.2	4.11	27
Micropogonias undulatus	5.3	4.33	0.3	0.18	3	185.3	98.67	6.9	3.18	20	18.4	16.11	1.2	1.03	27
Trachurus lathami	0.0	0.00	0.0	0.00	3	5.7	2.21	0.1	0.03	20	349.7	247.21	3.2	2.17	27
Chloroscombrus chrysurus	226.3	211.66	14.9	13.95	3	205.8	58.58	8.3	2.56	20	31.2	12.28	2.1	0.84	27
Centropristis philadelphica	1.4	1.38	0.0	0.03	3	11.7	4.47	0.1	0.06	20	20.0	7.80	0.6	0.23	27
Dibranchus atlanticus	0.0	0.00	0.0	0.00	3	0.4	0.28	0.0	0.00	20	6.9	4.76	0.0	0.03	27
Squid	15.4	6.51	0.3	0.05	3	427.9	159.60	6.1	2.36	20	461.2	132.81	5.0	1.37	27

Table 10a (cont'd.)
Statistical Zone 11
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 11 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus spinicarpus	1251.7	994.89	3.6	2.70	5	24.9	12.00	0.3	0.14	6	489.2	391.97	6.1	4.54	5
Trachypenaeus spp.	62.6	59.12	0.4	0.38	5	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	5
Callinectes similis	17.0	9.66	0.6	0.34	5	4.0	1.97	0.1	0.05	6	0.0	0.00	0.0	0.00	5
Sicyonia brevirostris	173.8	103.27	2.2	1.19	5	8.7	8.67	0.2	0.20	6	16.5	7.14	0.5	0.24	5
Portunus gibbesii	3.2	3.23	0.0	0.00	5	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	5
Penaeus aztecus	53.9	31.84	1.7	0.90	5	14.1	4.55	0.7	0.24	6	0.6	0.59	0.0	0.04	5
Stenotomus caprinus	1526.3	546.85	48.8	16.38	5	527.4	202.50	20.9	8.36	6	1587.8	549.96	60.7	20.60	5
Anchoa hepsetus	50.9	50.88	0.9	0.89	5	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	5
Peprilus burti	163.9	154.09	4.6	4.17	5	319.3	316.55	13.1	12.97	6	1257.6	1144.34	40.5	33.79	5
Micropogonias undulatus	3.4	3.36	0.2	0.22	5	305.0	238.82	19.8	15.12	6	251.3	214.70	15.4	12.54	5
Trachurus lathami	13.9	13.92	0.1	0.13	5	0.8	0.83	0.0	0.04	6	6.3	5.93	0.3	0.32	5
Chloroscombrus chrysurus	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	5
Centropristis philadelphica	139.6	67.95	4.5	1.81	5	51.4	25.75	4.2	2.14	6	157.7	70.31	11.2	4.97	5
Dibranchus atlanticus	83.0	83.00	0.7	0.72	5	329.9	327.23	2.7	2.68	6	10.0	6.19	0.1	0.09	5
Squid	328.8	293.08	4.5	3.34	5	395.9	221.64	7.1	4.04	6	491.3	224.00	7.5	3.20	5

Table 10b
Statistical Zone 11
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	90.8	14.54	3	67.8	8.91	20	77.0	13.31	27	110.7	28.75	5	101.0	22.79	6	212.9	57.50	5
Total finfish kg	66.9	4.41	3	52.0	8.57	20	63.8	13.04	27	94.1	23.90	5	83.8	15.43	6	195.6	53.67	5
Total crustacean kg	23.3	10.87	3	9.4	2.41	20	7.6	1.56	27	12.1	6.97	5	2.5	1.28	6	9.8	5.18	5
Total others kg	0.6	0.30	3	6.4	2.32	20	6.0	1.45	27	4.4	3.27	5	14.8	9.29	6	7.9	3.29	5
Surface temperature	27.7	0.00	1	29.0	0.27	17	29.2	0.29	32	28.7	0.36	11	28.7	0.62	6	29.1	0.48	5
Midwater temperature	28.0	0.00	1	28.8	0.18	17	28.0	0.17	32	25.6	0.52	11	24.7	0.40	6	23.1	0.70	5
Bottom temperature	28.0	0.00	1	27.9	0.15	17	26.0	0.31	32	23.3	0.53	11	22.0	0.96	6	22.4	0.98	5
Surface salinity	0.0	0.00	0	32.0	0.54	3	31.1	1.29	9	34.0	0.00	1	29.4	0.00	2	32.3	0.00	1
Midwater salinity	0.0	0.00	0	32.3	0.62	3	33.1	0.34	9	35.8	0.00	1	35.9	0.00	2	36.0	0.00	1
Bottom salinity	0.0	0.00	0	32.7	0.36	3	34.4	0.11	9	36.3	0.00	1	36.2	0.00	2	36.3	0.00	1
Surface chlorophyll	0.0	0.00	0	0.9	0.40	3	1.0	0.42	8	0.2	0.00	1	3.5	0.00	1	0.4	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	5.6	0.00	1	5.9	0.12	17	5.7	0.11	32	6.0	0.25	11	6.3	0.22	6	5.4	0.25	5
Midwater oxygen	5.9	0.00	1	5.6	0.12	17	5.4	0.16	31	5.5	0.22	11	6.0	0.17	6	4.9	0.32	5
Bottom oxygen	5.8	0.00	1	4.8	0.23	17	4.7	0.16	32	4.8	0.20	11	5.3	0.10	6	4.5	0.17	5

Table 11a
Statistical Zone 13
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 13 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm or above 30 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	0	3090.9	2963.39	11.1	10.68	2	0.0	0.00	0.0	0.00	4
Squilla spp.	0.0	0.00	0.0	0.00	0	485.0	435.00	3.3	3.19	2	238.1	146.12	2.8	1.56	4
Trachypenaeus spp.	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	644.3	518.86	2.4	1.86	4
Penaeus aztecus	0.0	0.00	0.0	0.00	0	331.4	231.43	3.5	2.60	2	199.2	173.73	3.2	2.81	4
Callinectes similis	0.0	0.00	0.0	0.00	0	243.6	193.57	0.6	0.20	2	236.2	166.73	4.4	2.59	4
Solenocera spp.	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
Prionotus rubio	0.0	0.00	0.0	0.00	0	1955.7	1135.71	30.0	24.55	2	137.9	83.08	1.6	1.01	4
Peprilus burti	0.0	0.00	0.0	0.00	0	59.3	10.71	2.6	0.37	2	46.5	44.52	1.2	1.05	4
Trachurus lathami	0.0	0.00	0.0	0.00	0	1.3	1.25	0.0	0.00	2	521.2	517.19	6.2	6.14	4
Trichiurus lepturus	0.0	0.00	0.0	0.00	0	131.6	105.89	1.5	1.23	2	96.1	49.64	1.3	0.73	4
Steindachneria argentea	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	6.8	6.82	0.1	0.06	4
Anchoa mitchilli	0.0	0.00	0.0	0.00	0	5.0	5.00	0.0	0.00	2	197.7	197.73	1.1	1.08	4
Etrumeus teres	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	120.7	120.68	0.9	0.87	4
Anchoa hepsetus	0.0	0.00	0.0	0.00	0	31.3	31.25	0.2	0.17	2	251.6	85.93	2.8	1.57	4
Squid	0.0	0.00	0.0	0.00	0	46.3	46.25	0.6	0.63	2	336.4	217.91	4.3	2.80	4

Table 11a (cont'd.)
Statistical Zone 13
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 13 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm or above 30 fm.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	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	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla spp.	7.5	7.50	0.1	0.11	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus spp.	27.9	27.93	0.3	0.28	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus aztecus	14.7	0.26	0.3	0.13	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	39.2	4.22	0.9	0.29	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Solenocera spp.	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Prionotus rubio	9.3	9.31	0.1	0.09	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus burti	1130.0	1130.00	48.3	48.30	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachurus lathami	103.8	103.75	1.0	1.02	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trichiurus lepturus	279.8	249.83	25.5	25.02	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Steindachneria argentea	415.9	415.86	1.4	1.41	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	32.5	32.50	0.1	0.11	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etrumeus teres	155.0	155.00	1.4	1.36	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	94.9	57.63	0.9	0.45	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 11b
Statistical Zone 13
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 6 fm or above 30 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	95.0	53.00	2	53.9	14.97	4	84.7	25.49	2	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	73.2	34.58	2	33.7	9.21	4	82.1	24.73	2	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	21.3	18.99	2	14.3	6.93	4	2.1	0.20	2	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.6	0.57	2	6.9	2.52	4	1.0	0.10	2	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	29.0	0.07	2	30.9	0.54	3	30.6	0.69	2	30.7	0.00	2	0.0	0.00	0
Midwater temperature	0.0	0.00	0	28.5	0.52	2	28.0	0.09	3	27.3	0.14	2	24.9	0.00	2	0.0	0.00	0
Bottom temperature	0.0	0.00	0	26.9	0.08	2	24.6	0.66	3	22.7	0.20	2	21.0	0.00	2	0.0	0.00	0
Surface salinity	0.0	0.00	0	26.9	0.10	2	25.8	2.33	3	25.0	3.86	2	25.7	0.70	2	0.0	0.00	0
Midwater salinity	0.0	0.00	0	29.8	1.80	2	32.7	0.49	3	35.7	0.16	2	36.6	0.36	2	0.0	0.00	0
Bottom salinity	0.0	0.00	0	35.4	0.06	2	36.9	0.09	3	36.9	0.29	2	36.5	0.18	2	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	3.5	0.08	2	1.9	0.84	3	0.7	0.08	2	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	2.9	0.80	2	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	1.2	0.15	2	0.6	0.06	2	0.7	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	4.2	0.00	2	7.1	0.36	3	7.7	1.05	2	7.0	0.00	2	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	4.1	0.10	2	5.5	0.40	3	6.0	0.15	2	6.4	0.00	2	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	1.6	0.10	2	4.1	0.68	3	4.5	0.55	2	5.1	0.00	2	0.0	0.00	0

Table 12a
Statistical Zone 14
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 14 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	2	110.9	61.25	0.4	0.21	15	1656.6	1397.76	5.0	4.04	16
Callinectes similis	17.4	17.42	0.0	0.04	2	201.1	95.91	4.5	2.21	15	334.4	186.78	7.4	3.90	16
Squilla spp.	35.0	25.00	0.2	0.18	2	71.6	37.66	0.4	0.26	15	341.9	284.30	2.3	1.67	16
Portunus gibbesii	1.0	1.00	0.0	0.00	2	75.5	38.90	0.2	0.07	15	118.3	96.85	0.4	0.22	16
Penaeus aztecus	18.9	11.13	0.3	0.18	2	47.9	24.21	0.6	0.27	15	111.2	32.95	1.7	0.54	16
Trachypenaeus spp.	0.0	0.00	0.0	0.00	2	7.5	6.70	0.0	0.03	15	157.1	75.46	0.7	0.34	16
Micropogonias undulatus	365.9	179.90	10.3	5.15	2	187.1	70.14	9.1	3.31	15	134.1	97.79	3.9	2.38	16
Arius felis	669.4	625.42	74.6	72.64	2	401.5	265.18	39.3	26.34	15	0.0	0.00	0.0	0.00	16
Stenotomus caprinus	0.0	0.00	0.0	0.00	2	57.4	36.50	0.6	0.46	15	350.7	173.03	2.1	0.91	16
Leiostomus xanthurus	418.2	191.77	10.0	2.22	2	286.0	170.90	15.8	9.20	15	1.4	0.59	0.1	0.05	16
Chloroscombrus chrysurus	47.4	47.42	1.8	1.80	2	208.9	125.64	8.7	3.62	15	82.7	32.74	4.6	1.84	16
Prionotus salmonicolor	0.0	0.00	0.0	0.00	2	38.2	26.61	0.2	0.14	15	267.7	259.84	3.0	2.87	16
Anchoa hepsetus	3.0	3.00	0.0	0.00	2	13.0	12.97	0.0	0.04	15	200.9	177.56	1.0	0.81	16
Prionotus rubio	130.4	24.42	0.7	0.32	2	44.6	21.96	0.3	0.14	15	85.1	45.35	0.9	0.52	16
Squid	125.8	114.19	1.1	1.00	2	22.9	12.11	0.3	0.12	15	76.2	21.84	1.0	0.31	16

Table 12a (cont'd.)
Statistical Zone 14
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 14 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	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	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Callinectes similis	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Squilla spp.	15.0	15.00	0.1	0.14	2	0.0	0.00	0.0	0.00	0	10.6	0.00	0.2	0.00	1
Portunus gibbesii	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Penaeus aztecus	19.4	16.57	0.6	0.48	2	0.0	0.00	0.0	0.00	0	3.5	0.00	0.2	0.00	1
Trachypenaeus spp.	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Micropogonias undulatus	47.1	42.86	3.1	2.67	2	0.0	0.00	0.0	0.00	0	24.7	0.00	2.2	0.00	1
Arius felis	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Stenotomus caprinus	34.9	19.14	1.7	0.74	2	0.0	0.00	0.0	0.00	0	264.7	0.00	16.4	0.00	1
Leiostomus xanthurus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Prionotus salmonicolor	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	60.0	0.00	5.6	0.00	1
Anchoa hepsetus	1.4	1.43	0.0	0.03	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Prionotus rubio	53.1	48.86	2.1	1.75	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Squid	94.0	16.00	0.9	0.38	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1

Table 12b
Statistical Zone 14
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	114.9	80.38	2	92.0	26.21	15	48.7	14.94	16	39.3	1.62	2	0.0	0.00	0	43.3	0.00	1
Total finfish kg	107.8	80.50	2	83.7	26.64	15	27.8	5.91	16	34.5	1.82	2	0.0	0.00	0	41.7	0.00	1
Total crustacean kg	5.8	1.25	2	7.8	2.90	15	19.1	9.58	16	4.4	3.77	2	0.0	0.00	0	1.6	0.00	1
Total others kg	0.9	0.91	2	0.7	0.21	15	2.4	0.81	16	2.0	0.71	2	0.0	0.00	0	0.0	0.00	1
Surface temperature	29.4	0.08	3	29.4	0.16	9	29.6	0.09	21	0.0	0.00	0	30.0	1.05	2	30.0	0.05	4
Midwater temperature	29.4	0.08	3	29.3	0.18	9	28.7	0.19	21	0.0	0.00	0	24.7	0.20	2	21.4	0.66	4
Bottom temperature	29.3	0.06	3	28.7	0.26	9	25.4	0.38	21	0.0	0.00	0	20.7	0.17	2	18.1	1.06	4
Surface salinity	28.5	0.48	3	29.5	0.47	9	30.4	0.42	21	0.0	0.00	0	30.6	4.83	2	34.1	1.35	4
Midwater salinity	28.5	0.48	3	30.2	0.55	9	32.1	0.54	21	0.0	0.00	0	36.4	0.02	2	37.0	0.17	4
Bottom salinity	28.5	0.51	3	31.9	0.65	9	35.8	0.11	21	0.0	0.00	0	36.5	0.04	2	36.6	0.17	4
Surface chlorophyll	5.5	2.65	3	0.8	0.27	8	0.8	0.25	21	0.0	0.00	0	2.6	2.48	2	0.1	0.03	4
Midwater chlorophyll	8.5	3.24	2	0.7	0.19	6	0.9	0.16	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	6.5	2.65	3	3.1	0.82	9	7.0	1.60	20	0.0	0.00	0	0.2	0.00	1	0.0	0.00	0
Surface oxygen	5.8	0.72	3	6.2	0.35	9	6.3	0.12	21	0.0	0.00	0	7.9	2.15	2	6.4	0.09	4
Midwater oxygen	5.9	0.75	3	6.1	0.34	9	5.9	0.15	21	0.0	0.00	0	6.2	0.00	2	6.7	0.38	4
Bottom oxygen	5.7	0.72	3	5.3	0.50	9	3.1	0.30	21	0.0	0.00	0	5.5	0.55	2	4.8	0.17	4

Table 13a
Statistical Zone 15
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 15 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Squilla spp.	16.3	10.68	0.1	0.07	6	198.8	85.70	2.2	1.36	3	494.4	410.92	3.0	2.24	7
Callinectes similis	15.7	14.88	0.4	0.32	6	442.9	204.98	9.5	4.33	3	363.3	189.65	11.6	6.18	7
Portunus spinicarpus	0.0	0.00	0.0	0.00	6	161.3	161.25	0.9	0.91	3	8.7	4.95	0.1	0.04	7
Trachypenaeus similis	46.6	38.54	0.1	0.05	6	0.0	0.00	0.0	0.00	3	275.1	225.00	2.6	2.44	7
Trachypenaeus spp.	0.5	0.50	0.0	0.02	6	379.7	211.60	1.5	0.89	3	101.1	64.93	0.5	0.33	7
Penaeus aztecus	14.3	9.88	0.2	0.14	6	6.3	2.13	0.1	0.02	3	74.6	33.49	1.5	0.74	7
Stenotomus caprinus	1.1	1.11	0.0	0.00	6	680.2	381.18	4.5	1.71	3	1177.3	635.88	4.6	1.87	7
Peprilus burti	3.7	1.58	0.1	0.05	6	111.4	98.05	3.7	3.51	3	45.6	23.38	0.6	0.34	7
Prionotus rubio	16.1	10.63	0.1	0.07	6	359.9	280.48	4.1	3.58	3	234.7	178.89	2.1	1.39	7
Trachurus lathami	0.0	0.00	0.0	0.00	6	0.7	0.71	0.0	0.03	3	32.2	18.16	0.3	0.18	7
Prionotus stearnsi	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	3	16.2	15.64	0.1	0.06	7
Micropogonias undulatus	10.3	10.33	0.2	0.18	6	138.3	137.12	6.1	6.06	3	20.4	14.56	1.3	0.90	7
Centropristis philadelphica	2.8	2.18	0.0	0.00	6	36.8	33.60	0.2	0.15	3	145.9	128.66	0.5	0.40	7
Prionotus paralatus	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	3	31.4	23.04	0.1	0.06	7
Squid	45.5	29.40	1.0	0.62	6	13.6	13.57	0.2	0.19	3	187.1	75.89	2.9	1.06	7

Table 13a (cont'd.)
Statistical Zone 15
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 15 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Squilla spp.	128.7	55.98	2.0	0.78	4	7.5	7.50	0.1	0.06	2	6.8	6.80	0.1	0.13	5
Callinectes similis	31.8	11.86	0.8	0.30	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	5
Portunus spinicarpus	340.8	246.30	1.7	1.23	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	5
Trachypenaeus similis	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	5
Trachypenaeus spp.	15.7	10.35	0.1	0.06	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	5
Penaeus aztecus	69.1	33.65	2.3	1.05	4	18.6	7.67	0.9	0.38	2	9.1	4.76	0.5	0.23	5
Stenotomus caprinus	274.0	214.37	11.7	11.36	4	206.6	27.90	11.1	0.33	2	320.7	106.29	18.0	5.65	5
Peprilus burti	164.8	161.57	3.6	3.52	4	71.6	69.11	5.4	5.27	2	326.9	127.57	30.9	11.83	5
Prionotus rubio	63.3	25.34	2.2	0.71	4	1.3	1.25	0.1	0.14	2	4.8	4.80	0.1	0.09	5
Trachurus lathami	134.3	134.25	1.8	1.82	4	152.8	135.25	3.3	2.95	2	23.0	12.31	1.3	0.68	5
Prionotus stearnsi	128.9	74.59	1.1	0.66	4	27.9	7.14	0.4	0.00	2	70.1	35.33	0.5	0.24	5
Micropogonias undulatus	12.0	11.31	1.1	1.01	4	1.6	1.64	0.1	0.15	2	111.7	108.43	10.5	10.11	5
Centropristis philadelphica	91.1	46.87	3.9	1.72	4	4.8	1.49	0.6	0.07	2	8.3	5.46	0.7	0.49	5
Prionotus paralatus	167.3	59.09	1.6	0.47	4	7.6	7.64	0.2	0.20	2	11.6	7.36	0.4	0.27	5
Squid	150.2	139.96	3.3	3.03	4	125.7	33.01	2.3	0.16	2	70.1	39.71	1.1	0.55	5

Table 13b
Statistical Zone 15
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	14.6	2.66	6	69.1	42.24	3	57.1	17.63	7	62.8	25.23	4	31.9	9.21	2	75.0	25.63	5
Total finfish kg	10.2	2.75	6	47.5	36.86	3	22.7	5.37	7	49.4	24.25	4	27.2	8.48	2	72.9	25.11	5
Total crustacean kg	3.1	0.82	6	15.2	7.81	3	20.8	10.98	7	10.3	2.79	4	1.3	0.36	2	1.2	0.28	5
Total others kg	1.4	0.93	6	6.4	4.18	3	14.2	11.50	7	3.9	3.03	4	3.4	1.10	2	1.8	0.36	5
Surface temperature	29.4	0.18	3	29.5	0.20	6	29.3	0.30	7	29.1	0.26	3	28.7	0.07	3	29.5	0.22	6
Midwater temperature	29.4	0.18	3	29.3	0.15	6	28.3	0.42	7	27.1	0.56	3	24.8	1.02	3	21.5	0.37	6
Bottom temperature	29.4	0.19	3	27.7	0.59	6	24.6	0.66	7	20.8	0.44	3	20.2	0.09	3	18.9	0.63	6
Surface salinity	28.5	0.63	3	28.5	0.72	6	32.4	0.33	7	33.1	0.26	3	33.8	0.76	3	35.2	0.14	6
Midwater salinity	28.5	0.63	3	28.8	0.66	6	33.4	0.36	7	35.6	0.06	3	36.3	0.21	3	36.7	0.15	6
Bottom salinity	28.6	0.73	3	32.4	1.19	6	35.0	0.95	7	36.4	0.09	3	36.5	0.02	3	36.5	0.06	6
Surface chlorophyll	3.8	1.69	3	0.9	0.38	6	0.6	0.34	7	0.1	0.01	3	0.1	0.00	2	0.2	0.07	6
Midwater chlorophyll	3.6	1.55	3	0.8	0.00	1	0.4	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	3.7	1.23	3	2.2	0.83	6	9.7	4.43	5	1.5	0.81	2	0.0	0.00	0	0.0	0.00	0
Surface oxygen	3.8	0.26	3	6.7	0.17	6	6.0	0.44	7	6.5	0.12	3	6.4	0.03	3	6.1	0.17	6
Midwater oxygen	4.0	0.20	3	5.8	0.69	6	6.0	0.44	7	5.6	0.57	3	7.0	0.30	3	6.6	0.28	6
Bottom oxygen	4.0	0.17	3	4.1	0.83	6	4.4	0.54	7	4.3	0.36	3	4.5	0.10	3	4.8	0.24	6

Table 14a
Statistical Zone 16
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 16 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	7	51.1	28.41	0.6	0.35	11
Trachypenaeus spp.	0.0	0.00	0.0	0.00	0	81.7	48.40	0.3	0.16	7	126.9	78.58	0.9	0.52	11
Squilla spp.	0.0	0.00	0.0	0.00	0	134.0	84.29	0.9	0.42	7	85.8	43.28	1.2	0.75	11
Penaeus aztecus	0.0	0.00	0.0	0.00	0	96.7	34.22	1.1	0.45	7	69.6	35.19	1.5	0.67	11
Callinectes similis	0.0	0.00	0.0	0.00	0	123.5	67.12	2.7	1.58	7	69.9	27.49	1.7	0.58	11
Portunus spinicarpus	0.0	0.00	0.0	0.00	0	5.2	5.24	0.0	0.00	7	13.8	11.14	0.1	0.04	11
Micropogonias undulatus	0.0	0.00	0.0	0.00	0	1584.1	1145.89	50.7	36.49	7	0.9	0.73	0.1	0.05	11
Stenotomus caprinus	0.0	0.00	0.0	0.00	0	69.7	55.20	0.9	0.71	7	285.0	111.57	2.4	0.92	11
Peprilus burti	0.0	0.00	0.0	0.00	0	192.3	120.18	8.4	5.03	7	180.9	115.92	6.0	3.89	11
Prionotus paralatus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	7	16.4	13.56	0.2	0.11	11
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	0	88.4	44.96	3.6	1.94	7	117.2	55.67	6.0	2.90	11
Leiostomus xanthurus	0.0	0.00	0.0	0.00	0	88.0	86.33	8.8	8.63	7	0.1	0.09	0.0	0.01	11
Etrumeus teres	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	7	366.8	304.31	1.7	1.39	11
Prionotus rubio	0.0	0.00	0.0	0.00	0	66.5	41.99	0.8	0.54	7	20.6	10.51	0.4	0.23	11
Squid	0.0	0.00	0.0	0.00	0	127.9	82.41	1.9	1.29	7	150.8	37.84	2.4	0.62	11

Table 14a (cont'd.)
Statistical Zone 16
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 16 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	343.6	212.81	3.8	2.39	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Trachypenaeus spp.	149.4	149.37	1.2	1.18	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Squilla spp.	114.8	87.77	1.9	1.36	5	0.0	0.00	0.0	0.00	4	2.4	2.44	0.0	0.02	3
Penaeus aztecus	105.9	66.11	3.5	2.03	5	8.4	5.32	0.4	0.28	4	2.6	1.33	0.1	0.05	3
Callinectes similis	49.4	34.15	0.9	0.54	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Portunus spinicarpus	36.7	25.44	0.2	0.14	5	2.5	2.50	0.0	0.03	4	20.5	20.49	0.1	0.11	3
Micropogonias undulatus	0.0	0.00	0.0	0.00	5	853.8	853.78	67.6	67.57	4	2.6	2.61	0.3	0.30	3
Stenotomus caprinus	910.5	372.09	12.5	1.21	5	532.8	88.57	24.3	3.10	4	231.6	93.92	11.3	4.34	3
Peprilus burti	129.0	56.03	3.8	1.60	5	96.4	48.05	6.1	2.98	4	408.2	225.22	21.9	10.50	3
Prionotus paralatus	205.1	113.80	1.5	0.78	5	5.1	2.94	0.2	0.13	4	2.4	2.44	0.0	0.04	3
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Leiostomus xanthurus	0.0	0.00	0.0	0.00	5	159.3	159.32	15.8	15.83	4	0.0	0.00	0.0	0.00	3
Etrumeus teres	0.4	0.40	0.0	0.04	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Prionotus rubio	37.0	29.42	0.6	0.37	5	6.5	6.49	0.4	0.39	4	24.0	22.09	0.9	0.71	3
Squid	241.8	97.69	6.6	3.38	5	415.7	177.96	12.2	5.68	4	342.9	161.22	6.1	3.33	3

Table 14b
Statistical Zone 16
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 6 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	93.9	55.63	7	33.4	5.13	11	49.9	6.87	5	142.0	74.20	4	54.9	9.20	3
Total finfish kg	0.0	0.00	0	86.1	53.70	7	24.2	4.59	11	30.8	3.47	5	126.5	77.64	4	48.2	9.20	3
Total crustacean kg	0.0	0.00	0	6.1	2.62	7	6.3	2.46	11	11.9	6.98	5	1.0	0.48	4	0.6	0.06	3
Total others kg	0.0	0.00	0	2.7	1.35	7	3.0	0.56	11	7.2	3.36	5	14.5	5.91	4	6.1	3.32	3
Surface temperature	0.0	0.00	0	29.1	0.20	10	29.2	0.08	12	28.9	0.11	7	28.9	0.35	3	28.9	0.13	8
Midwater temperature	0.0	0.00	0	29.2	0.10	10	28.6	0.17	12	24.9	1.08	7	22.0	0.13	3	20.8	0.19	8
Bottom temperature	0.0	0.00	0	27.2	0.30	10	24.4	0.47	12	20.3	0.21	7	19.9	0.01	3	19.1	0.26	8
Surface salinity	0.0	0.00	0	27.1	0.25	10	30.3	0.44	12	33.3	0.52	7	34.1	0.91	3	33.8	0.42	8
Midwater salinity	0.0	0.00	0	28.3	0.18	3	32.0	0.61	11	35.7	0.42	7	36.3	0.21	3	36.4	0.11	8
Bottom salinity	0.0	0.00	0	31.8	0.89	10	35.4	0.19	12	36.4	0.03	7	36.4	0.08	3	36.5	0.05	8
Surface chlorophyll	0.0	0.00	0	1.0	0.18	10	0.2	0.03	9	0.2	0.02	5	0.0	0.00	1	0.1	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	3.1	0.38	10	2.1	0.30	9	0.8	0.09	3	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	7.1	0.19	10	6.6	0.03	12	6.5	0.05	7	6.5	0.03	3	6.5	0.13	8
Midwater oxygen	0.0	0.00	0	6.8	0.36	10	6.5	0.04	12	6.0	0.24	7	7.3	0.27	3	6.9	0.08	8
Bottom oxygen	0.0	0.00	0	4.7	0.79	10	4.2	0.37	12	4.9	0.38	7	5.1	0.27	3	5.0	0.16	8

Table 15a
Statistical Zone 17
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 17 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	0.0	0.00	0.0	0.00	2	1.9	1.95	0.0	0.03	5	1262.0	584.66	11.3	4.95	10
Penaeus aztecus	337.5	19.00	3.6	0.06	2	5.6	3.57	0.2	0.14	5	28.4	10.43	1.1	0.42	10
Squilla spp.	9.2	9.23	0.0	0.00	2	70.7	42.64	0.6	0.38	5	29.0	14.63	0.7	0.40	10
Portunus gibbesii	0.0	0.00	0.0	0.00	2	43.6	43.60	0.2	0.22	5	3.4	2.05	0.1	0.03	10
Trachypenaeus spp.	36.9	36.92	0.2	0.21	2	48.6	48.65	0.3	0.25	5	9.3	4.17	0.1	0.02	10
Portunus spinicarpus	0.0	0.00	0.0	0.00	2	6.8	6.81	0.0	0.04	5	30.4	15.61	0.2	0.08	10
Stenotomus caprinus	0.0	0.00	0.0	0.00	2	70.5	67.55	0.7	0.61	5	824.1	334.87	8.2	3.48	10
Peprilus burti	1097.2	815.70	34.0	26.83	2	166.5	133.21	4.9	3.80	5	16.8	14.52	0.5	0.47	10
Arius felis	777.1	533.62	43.7	10.46	2	271.2	220.63	39.6	32.16	5	0.0	0.00	0.0	0.00	10
Prionotus paralatus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	5	79.5	33.14	0.8	0.36	10
Trachurus lathami	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	5	61.0	32.55	0.9	0.41	10
Chloroscombrus chrysurus	200.5	131.27	6.4	0.70	2	137.1	50.00	3.4	1.18	5	11.8	10.14	0.5	0.50	10
Pristipomoides aquilonaris	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	5	10.8	5.81	0.4	0.22	10
Cynoscion nothus	414.8	111.31	12.4	2.16	2	16.1	14.30	0.9	0.73	5	0.0	0.00	0.0	0.00	10
Squid	282.5	176.33	5.3	2.20	2	59.5	35.14	0.6	0.37	5	204.9	67.84	3.2	1.15	10

Table 15a (cont'd.)
Statistical Zone 17
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 17 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	92.8	87.19	1.0	0.91	2	22.2	15.58	0.1	0.12	2	0.0	0.00	0.0	0.00	2
Penaeus aztecus	29.5	29.50	1.5	1.48	2	46.6	19.93	2.0	1.42	2	14.0	4.95	0.8	0.38	2
Squilla spp.	3.5	3.50	0.1	0.09	2	4.6	4.57	0.0	0.03	2	8.6	1.36	0.1	0.03	2
Portunus gibbesii	83.4	79.63	0.7	0.42	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Trachypenaeus spp.	8.5	8.50	0.1	0.09	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Portunus spinicarpus	5.6	5.63	0.1	0.09	2	39.6	30.43	0.1	0.05	2	16.1	2.09	0.2	0.12	2
Stenotomus caprinus	458.4	441.56	20.1	19.89	2	658.6	335.29	32.3	15.65	2	231.6	46.59	13.5	1.11	2
Peprilus burti	7.5	7.50	0.3	0.30	2	16.7	16.67	2.0	2.05	2	147.7	48.68	14.4	5.09	2
Arius felis	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Prionotus paralatus	62.6	51.38	0.7	0.55	2	77.8	57.83	1.6	1.33	2	94.6	43.59	3.0	0.77	2
Trachurus lathami	261.6	261.56	4.0	4.05	2	9.3	4.06	0.0	0.03	2	122.6	84.64	5.8	3.62	2
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Pristipomoides aquilonaris	49.7	40.31	1.2	0.99	2	29.3	0.65	1.6	0.26	2	112.3	71.32	7.4	0.60	2
Cynoscion nothus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Squid	139.1	97.13	5.9	4.65	2	27.2	12.83	0.9	0.20	2	1.5	1.50	0.2	0.16	2

Table 15b
Statistical Zone 17
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	179.4	15.73	2	61.1	31.19	5	39.9	8.25	10	46.1	17.98	2	57.2	19.30	2	60.2	9.26	2
Total finfish kg	163.8	14.56	2	53.7	31.06	5	21.7	4.69	10	34.9	18.72	2	52.1	17.26	2	58.6	9.98	2
Total crustacean kg	8.5	2.04	2	1.9	0.93	5	13.9	5.33	10	3.6	2.76	2	2.8	1.32	2	1.3	0.50	2
Total others kg	7.2	0.86	2	5.6	3.12	5	4.3	1.29	10	7.6	3.49	2	2.2	0.72	2	0.6	0.19	2
Surface temperature	28.3	0.20	3	29.0	0.08	3	28.9	0.09	13	28.4	0.04	5	29.0	0.09	4	29.9	0.00	1
Midwater temperature	29.0	0.13	3	29.1	0.07	3	27.8	0.23	13	25.5	0.46	5	22.4	0.53	4	22.1	0.00	1
Bottom temperature	28.6	0.12	3	28.8	0.19	3	22.4	0.42	13	20.3	0.05	5	19.7	0.01	4	19.2	0.00	1
Surface salinity	25.9	0.99	3	28.8	0.50	3	30.0	0.48	13	31.4	0.24	5	31.3	0.27	4	30.6	0.00	1
Midwater salinity	24.7	0.00	1	29.4	0.00	1	31.6	0.54	13	35.8	0.06	5	36.4	0.00	2	36.9	0.00	1
Bottom salinity	27.0	0.65	3	30.8	1.54	3	35.4	0.13	13	36.2	0.04	5	36.3	0.08	4	36.7	0.00	1
Surface chlorophyll	4.1	0.70	3	1.6	0.80	3	0.3	0.08	12	0.2	0.01	5	0.1	0.02	4	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	3.2	0.00	1	4.1	0.79	3	1.4	0.34	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.1	0.27	3	7.1	0.23	3	6.6	0.07	13	6.7	0.07	5	7.0	0.35	4	6.4	0.00	1
Midwater oxygen	7.1	0.31	3	7.5	0.33	3	6.3	0.16	13	6.5	0.17	5	7.4	0.46	4	6.5	0.00	1
Bottom oxygen	5.3	0.90	3	3.6	1.55	3	4.8	0.23	13	6.4	0.15	5	6.9	0.38	4	4.7	0.00	1

Table 16a
Statistical Zone 18
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 18 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 40 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	49.1	0.00	0.7	0.00	1	145.3	118.29	2.0	1.39	5	3.7	3.67	0.2	0.17	3
Portunus spinicarpus	0.0	0.00	0.0	0.00	1	1.5	1.53	0.0	0.01	5	14.2	13.39	0.1	0.05	3
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	5.7	4.66	0.0	0.04	5	35.7	14.24	0.9	0.76	3
Trachypenaeus spp.	0.0	0.00	0.0	0.00	1	41.8	40.31	0.1	0.14	5	2.0	2.04	0.0	0.02	3
Callinectes similis	0.0	0.00	0.0	0.00	1	19.6	12.52	0.2	0.14	5	7.7	6.04	0.1	0.03	3
Penaeus setiferus	120.0	0.00	4.7	0.00	1	25.1	21.17	1.1	0.97	5	0.0	0.00	0.0	0.00	3
Peprilus burti	3976.4	0.00	130.2	0.00	1	1440.2	1406.39	15.0	13.92	5	1.7	1.71	0.0	0.03	3
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	227.1	199.49	2.0	1.71	5	497.8	233.09	2.9	1.40	3
Micropogonias undulatus	414.5	0.00	11.4	0.00	1	934.1	624.71	26.8	18.92	5	0.0	0.00	0.0	0.00	3
Chloroscombrus chrysurus	780.0	0.00	27.0	0.00	1	692.4	391.27	21.7	12.05	5	0.0	0.00	0.0	0.00	3
Trachurus lathami	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	87.8	75.61	1.1	0.97	3
Cynoscion nothus	349.1	0.00	12.1	0.00	1	59.6	50.05	2.1	1.62	5	0.0	0.00	0.0	0.00	3
Decapterus punctatus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	0.6	0.57	0.0	0.03	3
Prionotus paralatus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	0.8	0.82	0.0	0.02	3
Squid	0.0	0.00	0.0	0.00	1	21.3	4.69	0.4	0.17	5	76.3	11.75	1.3	0.67	3

Table 16a (cont'd.)
Statistical Zone 18
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 18 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 40 fm.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	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	4	19.7	9.03	0.9	0.42	3	0.0	0.00	0.0	0.00	0
Portunus spinicarpus	78.3	73.29	0.4	0.33	4	18.7	9.83	0.1	0.07	3	0.0	0.00	0.0	0.00	0
Sicyonia brevirostris	25.3	14.85	0.2	0.09	4	5.4	2.91	0.1	0.09	3	0.0	0.00	0.0	0.00	0
Trachypenaeus spp.	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Callinectes similis	0.8	0.83	0.0	0.01	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Penaeus setiferus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Peprilus burti	177.0	177.00	12.5	12.55	4	111.4	111.43	7.9	7.86	3	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	169.6	168.48	8.1	8.11	4	639.1	62.28	35.0	5.25	3	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	0.0	0.00	0.0	0.00	4	3.7	1.90	0.3	0.16	3	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Trachurus lathami	394.6	296.50	7.7	5.95	4	19.3	19.29	0.1	0.10	3	0.0	0.00	0.0	0.00	0
Cynoscion nothus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Decapterus punctatus	61.6	60.56	1.1	1.09	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Prionotus paralatus	18.1	16.56	0.1	0.04	4	37.7	22.11	1.2	0.78	3	0.0	0.00	0.0	0.00	0
Squid	28.9	8.36	1.8	0.83	4	168.7	130.90	3.2	2.32	3	0.0	0.00	0.0	0.00	0

Table 16b
Statistical Zone 18
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 40 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	238.0	0.00	1	86.6	48.86	5	9.3	1.46	3	36.8	28.69	4	62.4	5.36	3	0.0	0.00	0
Total finfish kg	233.1	0.00	1	82.8	48.40	5	6.1	1.58	3	33.6	27.99	4	58.1	5.31	3	0.0	0.00	0
Total crustacean kg	5.0	0.00	1	4.4	1.48	5	1.5	0.91	3	1.3	0.48	4	1.5	0.26	3	0.0	0.00	0
Total others kg	0.0	0.00	1	1.1	0.56	5	1.6	0.63	3	2.1	0.78	4	3.2	2.35	3	0.0	0.00	0
Surface temperature	0.0	0.00	0	28.1	0.11	8	28.2	0.12	5	28.2	0.18	3	28.3	0.21	4	27.8	0.00	1
Midwater temperature	0.0	0.00	0	27.6	0.08	8	25.8	0.69	5	25.2	0.82	3	23.0	1.43	4	20.7	0.00	1
Bottom temperature	0.0	0.00	0	26.4	0.47	8	21.3	0.71	5	20.0	0.27	3	19.7	0.25	4	19.3	0.00	1
Surface salinity	0.0	0.00	0	28.9	0.56	6	29.4	0.91	4	31.3	0.76	3	31.9	1.60	4	34.5	0.00	1
Midwater salinity	0.0	0.00	0	28.9	0.54	6	32.8	1.18	4	34.8	0.25	3	35.3	0.56	4	36.3	0.00	1
Bottom salinity	0.0	0.00	0	31.7	0.66	6	35.3	0.44	4	36.1	0.07	3	36.3	0.07	4	36.3	0.00	1
Surface chlorophyll	0.0	0.00	0	1.4	0.61	6	0.3	0.07	4	0.0	0.04	2	0.1	0.02	4	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	0.0	0.00	0	6.7	0.08	8	6.4	0.04	5	6.3	0.26	3	6.4	0.09	4	6.1	0.00	1
Midwater oxygen	0.0	0.00	0	6.6	0.08	8	6.4	0.09	5	6.3	0.23	3	6.7	0.15	4	6.9	0.00	1
Bottom oxygen	0.0	0.00	0	5.3	0.10	8	6.3	0.09	5	6.1	0.18	3	6.4	0.14	4	5.8	0.00	1

Table 17a
Statistical Zone 19
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 19 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 30 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	16.4	0.00	0.0	0.00	1	3.4	2.20	0.0	0.00	4	406.8	162.40	1.6	0.61	18
Portunus spinicarpus	0.0	0.00	0.0	0.00	1	161.0	153.10	0.2	0.17	4	4.5	3.06	0.0	0.04	18
Penaeus aztecus	289.1	0.00	3.2	0.00	1	556.3	215.25	6.0	2.81	4	340.7	138.40	4.3	1.61	18
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	1.2	1.15	0.0	0.00	4	0.0	0.00	0.0	0.00	18
Squilla spp.	1134.5	0.00	1.7	0.00	1	70.5	34.73	0.5	0.40	4	81.2	35.69	1.1	0.46	18
Callinectes similis	92.7	0.00	0.5	0.00	1	15.5	11.11	0.4	0.33	4	53.1	27.27	1.0	0.50	18
Micropogonias undulatus	6305.5	0.00	200.3	0.00	1	2644.3	1041.49	72.7	27.66	4	0.9	0.91	0.0	0.01	18
Trachurus lathami	0.0	0.00	0.0	0.00	1	142.5	142.50	2.3	2.34	4	203.7	116.38	2.7	1.77	18
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	242.4	69.68	1.0	0.31	18
Etrumeus teres	0.0	0.00	0.0	0.00	1	1.1	1.07	0.0	0.05	4	201.7	83.90	1.1	0.48	18
Peprilus burti	16.4	0.00	0.2	0.00	1	577.9	351.34	13.8	7.63	4	26.2	11.05	0.4	0.18	18
Pristipomoides aquilonaris	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	2.8	1.91	0.1	0.06	18
Anchoviella perfasciata	0.0	0.00	0.0	0.00	1	160.7	160.71	0.7	0.73	4	65.2	42.87	0.5	0.29	18
Anchoa mitchilli	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	130.8	113.28	0.5	0.41	18
Squid	16.4	0.00	0.2	0.00	1	193.0	189.96	3.1	3.12	4	377.2	77.48	7.5	1.69	18

Table 17a (cont'd)
Statistical Zone 19
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 19 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 30 fm.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	836.4	836.40	4.1	4.08	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus spinicarpus	460.5	435.22	2.1	1.97	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus aztecus	24.8	22.62	0.7	0.57	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sicyonia brevirostris	174.9	149.23	1.5	1.29	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla spp.	42.2	42.20	0.8	0.75	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	11.0	11.00	0.0	0.05	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachurus lathami	319.3	203.89	5.2	3.27	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	140.1	66.83	3.3	1.29	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etrumeus teres	0.9	0.95	0.0	0.01	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus burti	5.4	5.39	0.3	0.31	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Pristipomoides aquilonaris	131.4	111.93	3.9	3.22	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoviella perfasciata	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	188.5	38.61	5.4	2.29	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 17b
Statistical Zone 19
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 30 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	247.9	0.00	1	151.5	31.36	4	27.5	3.45	18	36.3	15.97	5	0.0	0.00	0	0.0	0.00	0
Total finfish kg	235.5	0.00	1	132.1	27.85	4	10.9	2.27	18	20.8	7.52	5	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	9.9	0.00	1	8.5	3.49	4	8.7	2.81	18	10.1	9.52	5	0.0	0.00	0	0.0	0.00	0
Total others kg	2.5	0.00	1	11.5	6.56	4	8.5	1.80	18	5.5	2.25	5	0.0	0.00	0	0.0	0.00	0
Surface temperature	28.3	0.00	1	28.4	0.30	6	28.4	0.13	22	28.7	0.11	8	0.0	0.00	0	28.6	0.00	1
Midwater temperature	28.1	0.00	1	28.0	0.13	6	27.3	0.08	22	26.6	0.15	8	0.0	0.00	0	26.6	0.00	1
Bottom temperature	25.7	0.00	1	24.5	0.14	6	21.9	0.19	22	20.9	0.30	8	0.0	0.00	0	20.6	0.00	1
Surface salinity	32.1	0.00	1	30.6	1.31	6	31.8	0.78	18	30.9	0.59	8	0.0	0.00	0	30.7	0.00	1
Midwater salinity	31.9	0.00	1	31.7	0.87	5	32.4	0.44	13	34.1	0.52	8	0.0	0.00	0	36.4	0.00	1
Bottom salinity	32.6	0.00	1	34.3	0.46	6	35.4	0.30	19	36.2	0.08	8	0.0	0.00	0	36.4	0.00	1
Surface chlorophyll	0.3	0.00	1	1.7	0.93	5	0.1	0.01	19	0.1	0.02	6	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	6.1	0.00	1	6.7	0.14	6	6.5	0.08	22	6.7	0.08	8	0.0	0.00	0	6.7	0.00	1
Midwater oxygen	6.2	0.00	1	6.7	0.14	6	6.6	0.04	22	6.8	0.29	8	0.0	0.00	0	6.5	0.00	1
Bottom oxygen	4.6	0.00	1	5.1	0.39	6	6.5	0.09	22	6.4	0.14	8	0.0	0.00	0	6.2	0.00	1

Table 18a
Statistical Zone 20
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 20 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	36.0	0.00	0.0	0.00	1	0.9	0.94	0.0	0.00	4	345.2	168.23	1.3	0.69	9
Penaeus aztecus	18.0	0.00	0.0	0.00	1	37.9	36.70	0.3	0.32	4	500.7	240.47	8.1	3.89	9
Portunus spinicarpus	0.0	0.00	0.0	0.00	1	3.0	3.00	0.0	0.00	4	2.4	2.02	0.0	0.01	9
Squilla spp.	30.0	0.00	0.0	0.00	1	1.4	1.36	0.0	0.00	4	70.4	35.18	0.9	0.52	9
Callinectes similis	168.0	0.00	1.6	0.00	1	13.5	8.61	0.2	0.12	4	56.1	20.82	1.1	0.52	9
Sicyonia dorsalis	0.0	0.00	0.0	0.00	1	1.4	1.36	0.0	0.00	4	12.5	7.19	0.0	0.01	9
Stenotomus caprinus	6.0	0.00	0.0	0.00	1	191.9	118.05	1.4	0.76	4	425.8	210.29	1.7	0.82	9
Trachurus lathami	0.0	0.00	0.0	0.00	1	0.9	0.94	0.0	0.00	4	67.6	34.16	0.8	0.45	9
Serranus atrobranchus	12.0	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	4	45.1	29.76	0.2	0.14	9
Peprilus burti	0.0	0.00	0.0	0.00	1	16.0	16.00	0.4	0.36	4	20.8	12.73	0.3	0.21	9
Chloroscombrus chrysurus	414.0	0.00	6.8	0.00	1	582.7	239.68	11.3	5.42	4	47.0	39.19	1.8	1.68	9
Pristipomoides aquilonaris	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	11.7	8.50	0.2	0.12	9
Prionotus stearnsi	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	0.8	0.56	0.0	0.00	9
Prionotus paralatus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	2.6	1.34	0.0	0.02	9
Squid	228.0	0.00	4.6	0.00	1	434.5	102.25	7.8	2.99	4	408.5	127.05	5.8	1.85	9

Table 18a (cont'd.)
Statistical Zone 20
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 20 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	351.0	210.33	1.4	0.89	6	26.0	11.94	0.1	0.07	3	0.0	0.00	0.0	0.00	5
Penaeus aztecus	31.0	14.68	0.8	0.36	6	14.9	6.06	0.6	0.28	3	9.9	2.81	0.4	0.12	5
Portunus spinicarpus	144.0	62.65	0.8	0.35	6	29.5	10.77	0.2	0.08	3	0.6	0.59	0.0	0.00	5
Squilla spp.	8.7	6.58	0.2	0.14	6	5.2	0.99	0.1	0.03	3	1.0	0.96	0.0	0.04	5
Callinectes similis	7.3	4.74	0.2	0.10	6	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	5
Sicyonia dorsalis	20.1	13.30	0.1	0.05	6	2.3	1.39	0.0	0.02	3	0.0	0.00	0.0	0.00	5
Stenotomus caprinus	16.5	6.75	0.5	0.31	6	47.4	45.59	2.6	2.53	3	215.9	46.12	10.7	2.10	5
Trachurus lathami	51.1	36.48	0.7	0.47	6	152.8	152.76	3.3	3.26	3	202.2	120.35	4.2	2.32	5
Serranus atrobranchus	16.2	11.88	0.3	0.24	6	108.0	21.47	2.1	0.36	3	128.4	57.96	2.8	1.29	5
Peprilus burti	13.9	11.70	0.5	0.39	6	10.1	8.94	0.4	0.29	3	189.0	186.15	10.7	10.62	5
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	5
Pristipomoides aquilonaris	38.1	19.13	0.5	0.25	6	60.8	18.83	2.3	0.57	3	77.5	19.88	9.7	3.12	5
Prionotus stearnsi	34.0	18.30	0.3	0.15	6	147.5	37.36	1.9	0.07	3	8.2	3.26	0.1	0.05	5
Prionotus paralatus	30.9	14.20	0.2	0.06	6	53.3	29.34	0.3	0.12	3	52.6	14.65	2.3	0.84	5
Squid	235.8	69.27	7.4	1.96	6	403.1	164.75	9.4	6.91	3	194.0	76.43	4.9	2.66	5

Table 18b
Statistical Zone 20
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	84.5	0.00	1	30.3	8.24	4	26.8	4.41	9	19.8	3.28	6	36.0	12.19	3	59.0	17.39	5
Total finfish kg	79.1	0.00	1	19.4	6.60	4	9.3	1.68	9	8.5	1.84	6	25.4	6.86	3	53.7	16.90	5
Total crustacean kg	2.7	0.00	1	2.2	0.25	4	11.6	4.80	9	3.9	1.60	6	1.2	0.37	3	0.9	0.47	5
Total others kg	5.5	0.00	1	9.2	2.46	4	6.3	1.84	9	7.6	1.99	6	9.4	6.81	3	5.6	2.50	5
Surface temperature	29.3	0.00	1	28.3	0.36	4	28.3	0.20	10	28.5	0.13	9	29.2	0.26	3	28.8	0.06	7
Midwater temperature	29.3	0.00	1	27.0	0.29	4	25.5	0.53	10	24.8	0.74	9	23.8	0.56	3	22.9	0.58	7
Bottom temperature	28.0	0.00	1	24.3	0.44	4	22.1	0.18	10	21.0	0.08	9	21.0	0.28	3	19.5	0.96	7
Surface salinity	35.3	0.00	1	34.3	0.90	3	35.0	0.47	9	34.6	0.41	9	34.8	0.20	3	33.3	0.50	7
Midwater salinity	35.3	0.00	1	35.5	0.32	3	35.7	0.12	8	35.2	0.56	6	36.5	0.01	3	36.6	0.03	5
Bottom salinity	35.9	0.00	1	36.2	0.07	3	36.4	0.03	10	36.4	0.03	9	36.5	0.02	3	36.4	0.09	6
Surface chlorophyll	0.2	0.00	1	0.2	0.10	3	0.2	0.11	8	0.1	0.01	9	0.1	0.01	3	0.1	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	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	7.4	0.00	1	6.4	0.11	4	6.5	0.06	10	6.6	0.06	9	6.5	0.27	3	6.3	0.06	7
Midwater oxygen	6.6	0.00	1	6.6	0.15	4	6.6	0.05	10	6.6	0.08	9	6.9	0.47	3	6.5	0.28	7
Bottom oxygen	5.7	0.00	1	6.8	0.00	4	6.7	0.10	10	6.2	0.11	9	6.2	0.12	3	5.6	0.25	7

Table 19a
Statistical Zone 21
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 21 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 30 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	12.0	0.00	0.0	0.00	1	531.4	496.11	4.4	4.12	6	2249.6	1143.69	20.7	10.58	10
Trachypenaeus spp.	0.0	0.00	0.0	0.00	1	7.5	7.50	0.0	0.04	6	48.2	39.46	0.1	0.07	10
Penaeus duorarum	0.0	0.00	0.0	0.00	1	207.4	134.72	2.9	1.84	6	103.0	90.79	1.1	0.94	10
Callinectes similis	12.0	0.00	0.8	0.00	1	42.9	42.94	0.5	0.53	6	70.6	31.24	2.0	1.11	10
Portunus spinicarpus	0.0	0.00	0.0	0.00	1	12.2	11.57	0.1	0.08	6	0.0	0.00	0.0	0.00	10
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	42.3	38.66	0.3	0.26	6	24.3	17.03	0.2	0.14	10
Stenotomus caprinus	6.0	0.00	0.0	0.00	1	1634.1	1077.64	11.8	7.81	6	1002.8	339.35	8.1	3.26	10
Trachurus lathami	0.0	0.00	0.0	0.00	1	171.4	92.37	3.0	1.70	6	191.1	89.02	2.3	0.96	10
Chloroscombrus chrysurus	4524.0	0.00	79.1	0.00	1	191.1	95.88	3.0	1.42	6	1.8	1.40	0.0	0.03	10
Anchoa spp.	0.0	0.00	0.0	0.00	1	466.1	466.11	1.3	1.26	6	0.6	0.57	0.0	0.00	10
Etrumeus teres	180.0	0.00	0.8	0.00	1	3.9	3.89	0.0	0.00	6	172.5	100.41	0.7	0.37	10
Peprilus burti	0.0	0.00	0.0	0.00	1	5.9	3.56	0.1	0.11	6	187.0	167.90	4.8	4.24	10
Sardinella aurita	0.0	0.00	0.0	0.00	1	2.1	1.36	0.2	0.10	6	120.9	76.51	0.7	0.51	10
Upeneus parvus	0.0	0.00	0.0	0.00	1	112.6	29.18	1.2	0.53	6	50.3	23.08	0.5	0.20	10
Squid	144.0	0.00	1.1	0.00	1	615.5	159.36	10.5	3.15	6	474.4	116.66	7.7	2.38	10

Table 19a (cont'd.)
Statistical Zone 21
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 21 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 30 fm.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	66.9	61.68	1.7	1.63	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus spp.	264.9	263.63	1.4	1.33	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus duorarum	1.4	1.43	0.0	0.03	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	21.4	21.43	1.0	0.97	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus spinicarpus	239.2	237.92	0.8	0.72	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sicyonia brevirostris	100.0	100.00	0.8	0.84	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	115.5	95.93	0.8	0.72	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachurus lathami	218.5	218.48	4.6	4.57	2	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	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa spp.	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etrumeus teres	8.5	8.48	0.2	0.18	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus burti	24.1	24.13	0.7	0.74	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sardinella aurita	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Upeneus parvus	4.2	2.92	0.1	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	209.4	192.30	4.7	4.41	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 19b
Statistical Zone 21
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 30 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	48.1	11.52	6	53.3	12.83	10	26.0	0.06	2	0.0	0.00	0	0.0	0.00	0
Total finfish kg	90.0	0.00	1	26.7	10.16	6	19.7	5.23	10	15.4	1.16	2	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.7	0.00	1	11.2	5.36	6	26.1	12.09	10	6.1	5.55	2	0.0	0.00	0	0.0	0.00	0
Total others kg	2.7	0.00	1	11.6	3.01	6	8.1	2.28	10	4.8	4.12	2	0.0	0.00	0	0.0	0.00	0
Surface temperature	27.6	0.00	1	27.5	0.04	4	28.1	0.16	12	28.2	0.69	2	0.0	0.00	0	0.0	0.00	0
Midwater temperature	27.3	0.00	1	26.8	0.23	4	25.7	0.70	12	24.6	1.42	2	0.0	0.00	0	0.0	0.00	0
Bottom temperature	26.6	0.00	1	24.4	1.00	4	22.4	0.25	12	20.9	0.50	2	0.0	0.00	0	0.0	0.00	0
Surface salinity	36.3	0.05	2	36.2	0.12	4	36.1	0.05	11	35.4	0.50	2	0.0	0.00	0	0.0	0.00	0
Midwater salinity	36.1	0.00	1	36.1	0.08	4	36.1	0.05	11	35.8	0.16	2	0.0	0.00	0	0.0	0.00	0
Bottom salinity	36.1	0.06	2	36.3	0.07	4	36.3	0.04	11	36.4	0.06	2	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.1	0.04	2	0.2	0.06	3	0.1	0.01	11	0.1	0.02	2	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	6.2	0.00	2	6.3	0.02	4	6.2	0.05	12	6.2	0.05	2	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.3	0.00	2	6.3	0.04	4	6.3	0.06	12	6.2	0.10	2	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.2	0.20	2	5.8	0.13	4	6.3	0.10	12	5.8	0.65	2	0.0	0.00	0	0.0	0.00	0

Table 20a
Statistical Zone 17
20-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 17 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 10 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	30.6	9.65	0.1	0.06	10	13.5	4.50	0.1	0.07	4	0.0	0.00	0.0	0.00	0
Penaeus aztecus	8.4	4.75	0.1	0.06	10	42.0	34.21	0.3	0.26	4	0.0	0.00	0.0	0.00	0
Pagurus pollicaris	1.8	0.92	0.1	0.04	10	4.5	4.50	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Libiaia dubia	2.4	1.83	0.0	0.03	10	3.0	3.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Squilla spp.	2.4	1.33	0.0	0.03	10	1.5	1.50	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Penaeus setiferus	0.0	0.00	0.0	0.00	10	4.5	2.87	0.1	0.14	4	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	25.8	20.36	0.5	0.41	10	33.0	23.56	0.6	0.45	4	0.0	0.00	0.0	0.00	0
Cynoscion nothus	11.4	7.97	0.3	0.22	10	46.5	19.03	1.3	0.58	4	0.0	0.00	0.0	0.00	0
Larimus fasciatus	5.4	5.40	0.1	0.08	10	9.0	9.00	0.1	0.14	4	0.0	0.00	0.0	0.00	0
Peprilus burti	4.8	3.07	0.1	0.08	10	4.5	2.87	0.1	0.14	4	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	1.8	1.28	0.0	0.03	10	10.5	8.62	0.2	0.13	4	0.0	0.00	0.0	0.00	0
Peprilus alepidotus	1.8	1.80	0.0	0.00	10	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Brevoortia patronus	1.8	1.28	0.1	0.04	10	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	1.2	0.80	0.0	0.00	10	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Squid	0.6	0.60	0.0	0.00	10	7.5	7.50	0.1	0.07	4	0.0	0.00	0.0	0.00	0

Table 20b
Statistical Zone 17
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 10 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	3.3	0.55	10	4.1	0.79	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	2.5	0.76	10	4.1	0.79	4	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	0.00	10	2.7	0.00	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	1.6	0.45	10	1.4	0.79	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	28.5	0.13	9	28.6	0.26	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	28.2	0.18	9	27.6	0.30	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	27.9	0.18	9	27.4	0.16	5	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	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 salinity	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 salinity	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 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	9.0	0.60	9	10.9	0.56	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.5	0.83	9	8.1	0.86	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.1	0.79	9	7.3	0.32	5	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 shrimp statistical zone 18 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 10 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	110.3	24.08	1.0	0.29	8	139.8	67.02	1.5	0.65	10	0.0	0.00	0.0	0.00	0
Callinectes similis	9.8	4.38	0.0	0.03	8	23.4	5.10	0.2	0.06	10	0.0	0.00	0.0	0.00	0
Trachypenaeus spp.	1.5	1.50	0.0	0.00	8	29.4	19.50	0.1	0.06	10	0.0	0.00	0.0	0.00	0
Penaeus setiferus	16.5	7.59	0.5	0.27	8	16.2	9.17	0.5	0.29	10	0.0	0.00	0.0	0.00	0
Squilla spp.	2.3	1.58	0.0	0.00	8	19.8	10.62	0.2	0.12	10	0.0	0.00	0.0	0.00	0
Penaeus duorarum	11.3	11.25	0.1	0.10	8	0.0	0.00	0.0	0.00	10	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	495.0	216.40	10.3	4.56	8	471.0	164.56	9.8	3.10	10	0.0	0.00	0.0	0.00	0
Cynoscion nothus	166.5	49.17	4.6	1.40	8	99.6	27.40	3.1	0.81	10	0.0	0.00	0.0	0.00	0
Peprilus burti	24.8	10.04	0.5	0.25	8	121.2	28.73	2.7	0.56	10	0.0	0.00	0.0	0.00	0
Leiostomus xanthurus	42.0	26.64	1.3	0.93	8	17.4	11.68	0.5	0.42	10	0.0	0.00	0.0	0.00	0
Larimus fasciatus	33.0	15.71	0.6	0.28	8	5.4	2.44	0.1	0.06	10	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	34.5	24.55	0.4	0.30	8	3.6	2.04	0.1	0.04	10	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	28.5	21.83	1.1	1.01	8	6.0	4.73	0.3	0.24	10	0.0	0.00	0.0	0.00	0
Prionotus rubio	0.0	0.00	0.0	0.00	8	15.6	7.70	0.1	0.06	10	0.0	0.00	0.0	0.00	0
Squid	11.3	6.75	0.3	0.15	8	24.6	3.74	0.6	0.09	10	0.0	0.00	0.0	0.00	0

Table 21b
Statistical Zone 18
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 10 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	35.5	10.74	8	22.6	5.09	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	21.8	6.86	8	18.5	4.43	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	3.4	0.45	8	3.8	1.01	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	11.9	8.58	8	2.7	0.00	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	28.0	0.25	8	27.9	0.16	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	27.4	0.25	8	27.1	0.04	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	27.5	0.33	8	27.0	0.03	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	25.9	1.51	6	29.1	1.21	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	28.0	1.35	6	31.4	0.73	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	29.7	0.96	6	32.4	0.19	10	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	0.48	8	6.8	0.10	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	5.9	0.67	8	5.5	0.15	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.7	0.73	8	5.3	0.12	10	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 shrimp statistical zone 19 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	6.0	3.46	0.2	0.09	3	242.4	211.00	1.3	1.01	10	958.5	924.50	4.4	4.18	4
Penaeus aztecus	0.0	0.00	0.0	0.00	3	42.6	15.96	0.6	0.13	10	88.5	45.19	1.0	0.32	4
Squilla spp.	0.0	0.00	0.0	0.00	3	10.2	4.90	0.2	0.07	10	15.0	5.20	0.2	0.07	4
Trachypenaeus spp.	0.0	0.00	0.0	0.00	3	9.6	4.66	0.1	0.04	10	10.5	5.12	0.0	0.00	4
Penaeus setiferus	0.0	0.00	0.0	0.00	3	6.0	4.73	0.2	0.16	10	19.5	9.91	0.7	0.32	4
Portunus gibbesii	8.0	8.00	0.1	0.09	3	3.6	1.83	0.1	0.04	10	1.5	1.50	0.3	0.27	4
Micropogonias undulatus	4.0	2.00	0.1	0.09	3	124.2	60.92	2.6	1.12	10	939.0	347.01	16.1	7.03	4
Leiostomus xanthurus	148.0	97.02	4.5	2.69	3	1.2	0.80	0.1	0.06	10	1.5	1.50	0.1	0.07	4
Peprilus burti	32.0	20.30	0.5	0.33	3	2.4	1.60	0.1	0.04	10	45.0	27.98	1.0	0.60	4
Syacium gunteri	0.0	0.00	0.0	0.00	3	20.4	14.09	0.3	0.19	10	22.5	7.09	0.2	0.07	4
Cynoscion nothus	20.0	11.14	0.4	0.09	3	3.0	1.34	0.1	0.08	10	43.5	33.89	1.0	0.78	4
Larimus fasciatus	20.0	10.00	0.3	0.16	3	5.4	3.63	0.1	0.07	10	33.0	11.09	0.5	0.17	4
Chloroscombrus chrysurus	2.0	2.00	0.1	0.09	3	12.0	6.26	0.4	0.13	10	0.0	0.00	0.0	0.00	4
Cynoscion arenarius	12.0	12.00	0.3	0.27	3	0.0	0.00	0.0	0.00	10	10.5	3.77	0.5	0.23	4
Squid	12.0	3.46	0.1	0.09	3	16.8	14.19	0.3	0.24	10	16.5	11.32	0.3	0.26	4

Table 22b
Statistical Zone 19
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	10.0	2.41	3	9.8	2.45	10	28.0	6.53	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	9.1	1.82	3	4.6	1.08	10	20.5	7.43	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.7	0.00	3	4.1	1.42	10	8.2	5.45	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.7	0.00	3	3.5	0.42	10	2.7	0.00	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	26.8	0.00	1	26.8	0.03	3	26.7	0.05	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	26.8	0.00	1	26.8	0.03	3	26.7	0.02	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	26.8	0.00	1	26.9	0.03	3	26.6	0.04	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	31.5	0.00	1	31.6	0.18	3	31.9	0.21	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	31.6	0.00	1	31.7	0.12	3	31.9	0.19	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	31.7	0.00	1	31.7	0.15	3	32.4	0.31	4	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	6.9	0.20	2	6.8	0.26	11	6.7	0.07	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.1	0.15	2	6.9	0.24	11	6.8	0.09	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	7.2	0.10	2	6.7	0.23	11	6.9	0.19	4	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 shrimp statistical zone 20 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm or above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	78.0	33.06	0.8	0.34	12	8.0	8.00	0.1	0.09	3
Callinectes similis	0.0	0.00	0.0	0.00	0	6.0	2.34	0.1	0.05	12	36.0	9.17	0.5	0.09	3
Penaeus duorarum	0.0	0.00	0.0	0.00	0	11.0	5.81	0.2	0.08	12	2.0	2.00	0.0	0.00	3
Squilla spp.	0.0	0.00	0.0	0.00	0	6.5	3.17	0.1	0.05	12	0.0	0.00	0.0	0.00	3
Trachypenaeus spp.	0.0	0.00	0.0	0.00	0	5.5	4.98	0.0	0.02	12	2.0	2.00	0.0	0.00	3
Xiphopenaeus kroyeri	0.0	0.00	0.0	0.00	0	3.0	2.02	0.0	0.02	12	0.0	0.00	0.0	0.00	3
Micropogonias undulatus	0.0	0.00	0.0	0.00	0	153.0	70.94	3.8	1.75	12	26.0	23.07	0.6	0.64	3
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	0	27.0	10.59	0.4	0.16	12	8.0	5.29	0.1	0.09	3
Syacium gunteri	0.0	0.00	0.0	0.00	0	6.0	2.09	0.0	0.03	12	82.0	25.53	0.9	0.24	3
Prionotus rubio	0.0	0.00	0.0	0.00	0	4.0	1.86	0.0	0.02	12	44.0	32.00	0.5	0.33	3
Cynoscion nothus	0.0	0.00	0.0	0.00	0	12.0	8.02	0.4	0.28	12	2.0	2.00	0.1	0.09	3
Leiostomus xanthurus	0.0	0.00	0.0	0.00	0	12.0	8.22	0.3	0.19	12	0.0	0.00	0.0	0.00	3
Larimus fasciatus	0.0	0.00	0.0	0.00	0	11.5	4.76	0.2	0.09	12	0.0	0.00	0.0	0.00	3
Lagodon rhomboides	0.0	0.00	0.0	0.00	0	8.0	2.70	0.2	0.06	12	2.0	2.00	0.1	0.09	3
Squid	0.0	0.00	0.0	0.00	0	26.5	9.06	0.5	0.15	12	24.0	6.93	0.4	0.09	3

Table 23b
Statistical Zone 20
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 6 fm or above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	11.1	3.30	12	5.5	1.57	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	7.3	2.05	12	3.6	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	2.7	0.58	12	2.7	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	0	4.1	0.71	12	2.7	0.00	3	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	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	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 temperature	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 salinity	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 salinity	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 salinity	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 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	7.5	0.31	10	8.0	0.15	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	7.3	0.34	10	7.8	0.19	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	7.6	0.28	10	8.1	0.18	5	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 shrimp statistical zone 21 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	2	8.0	8.00	0.3	0.27	6	6.9	5.14	0.2	0.16	7
Sicyonia dorsalis	0.0	0.00	0.0	0.00	2	9.0	4.58	0.0	0.00	6	4.3	1.11	0.0	0.00	7
Metoporhaphis albidus	0.0	0.00	0.0	0.00	2	10.0	5.51	0.0	0.00	6	0.0	0.00	0.0	0.00	7
Calappa sulcata	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	7.7	4.08	0.6	0.58	7
Ovalipes guadulpensis	0.0	0.00	0.0	0.00	2	4.0	2.97	0.0	0.00	6	0.0	0.00	0.0	0.00	7
Penaeus aztecus	0.0	0.00	0.0	0.00	2	1.0	1.00	0.0	0.00	6	1.7	1.11	0.0	0.00	7
Stenotomus caprinus	0.0	0.00	0.0	0.00	2	106.0	74.69	0.6	0.45	6	32.6	21.02	0.2	0.12	7
Syacium gunteri	0.0	0.00	0.0	0.00	2	21.0	11.97	0.2	0.18	6	58.3	29.93	0.9	0.59	7
Etropus crossotus	6.0	0.00	0.0	0.00	2	5.0	3.92	0.0	0.00	6	0.9	0.86	0.0	0.00	7
Ancylopsetta quadrocellata	0.0	0.00	0.0	0.00	2	4.0	4.00	0.1	0.14	6	3.4	1.78	0.1	0.05	7
Diplectrum bivittatum	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	2.6	1.78	0.1	0.08	7
Synodus foetens	0.0	0.00	0.0	0.00	2	2.0	1.26	0.0	0.00	6	0.0	0.00	0.0	0.00	7
Prionotus rubio	0.0	0.00	0.0	0.00	2	1.0	1.00	0.0	0.00	6	0.9	0.86	0.0	0.00	7
Sphoeroides parvus	0.0	0.00	0.0	0.00	2	2.0	1.26	0.0	0.00	6	0.0	0.00	0.0	0.00	7

Table 24b
Statistical Zone 21
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	2.7	0.00	2	3.6	0.91	6	3.9	1.17	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	2.7	0.00	2	2.7	0.70	6	2.7	0.60	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	2	2.7	0.00	6	2.7	0.60	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.7	0.00	2	1.8	0.57	6	1.2	0.55	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	26.9	0.10	2	26.9	0.27	5	27.4	0.27	8	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	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	27.0	0.05	2	26.3	0.27	5	25.9	0.28	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	35.5	0.00	2	35.3	0.18	5	34.7	0.18	8	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	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	35.5	0.00	2	35.4	0.10	5	34.8	0.18	8	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	8.9	0.05	2	8.2	0.21	5	7.1	0.54	8	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	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	8.3	0.35	2	7.9	0.02	5	7.8	0.29	8	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 shrimp statistical zone 22 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 11 fm or above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Calappa sulcata	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
Syacium gunteri	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	66.0	0.00	1.4	0.00	1
Stenotomus caprinus	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
Diplectrum bivittatum	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
Ancylopsetta quadrocellata	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 the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 11 or above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	2.7	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	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	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	27.8	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	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	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
Surface salinity	0.0	0.00	0	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
Midwater salinity	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 salinity	0.0	0.00	0	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
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	0.0	0.00	0	7.6	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	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	0.0	0.00	0	8.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 26a
Statistical Zone 10
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 10 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 10 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	5	20.0	20.00	0.2	0.15	2	0.0	0.00	0.0	0.00	0
Squilla spp.	0.0	0.00	0.0	0.00	5	17.7	5.67	0.1	0.08	2	0.0	0.00	0.0	0.00	0
Portunus spinicarpus	1.2	1.20	0.0	0.00	5	3.3	3.33	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Sicyonia brevirostris	0.0	0.00	0.0	0.00	5	5.0	5.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Portunus sayi	2.4	2.40	0.0	0.00	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Portunus gibbesii	1.2	1.20	0.0	0.00	5	3.0	3.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	386.4	215.69	0.3	0.26	5	21.0	21.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Peprilus alepidotus	10.8	7.91	0.0	0.00	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Diplectrum bivittatum	1.2	1.20	0.0	0.00	5	5.0	5.00	0.2	0.15	2	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	0.0	0.00	0.0	0.00	5	5.0	5.00	0.2	0.15	2	0.0	0.00	0.0	0.00	0
Etropus crossotus	0.0	0.00	0.0	0.00	5	3.3	3.33	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Symphurus plagiusa	0.0	0.00	0.0	0.00	5	1.7	1.67	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Ophidion welshi	0.0	0.00	0.0	0.00	5	1.7	1.67	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Peprilus burti	0.0	0.00	0.0	0.00	5	3.0	3.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Squid	2.4	2.40	0.0	0.00	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0

Table 26b
Statistical Zone 10
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 10 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	47.5	17.26	5	3.5	1.97	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	2.7	0.00	5	2.1	0.61	2	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	0.00	5	2.1	0.61	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	46.9	17.45	5	3.5	1.97	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	26.5	0.22	5	26.3	0.75	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	25.6	0.19	5	24.8	0.25	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	25.0	0.22	5	24.5	0.50	2	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	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 salinity	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 salinity	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 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	5.8	0.20	5	7.1	0.30	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.4	0.27	5	6.8	0.40	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	7.0	0.17	5	6.6	0.10	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 27a
Statistical Zone 11
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 11 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	33.8	22.88	0.3	0.22	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus sayi	7.6	6.68	0.0	0.03	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus gibbesii	10.5	7.24	0.2	0.24	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Parapenaeus spp.	3.8	3.75	0.1	0.05	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla spp.	4.3	2.35	0.2	0.11	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Pagurus pollicaris	5.6	5.21	0.2	0.17	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	110.2	109.80	0.1	0.10	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa nasuta	44.9	44.51	0.1	0.06	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	35.0	21.95	0.2	0.12	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Diplectrum bivittatum	13.0	7.20	0.2	0.10	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	7.7	4.18	0.1	0.08	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etropus crossotus	6.1	2.59	0.2	0.09	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus plagiusa	4.6	3.67	0.2	0.20	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Prionotus rubio	3.4	2.23	0.0	0.00	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	20.6	10.24	0.2	0.16	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 27b
Statistical Zone 11
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	8.9	3.43	8	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
Total finfish kg	2.1	0.81	8	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
Total crustacean kg	2.1	0.96	8	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
Total others kg	5.1	2.06	8	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 temperature	27.7	0.81	5	26.3	0.83	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	25.5	0.50	2	24.8	0.17	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	27.2	0.94	5	24.0	0.50	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	28.2	0.09	3	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 salinity	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 salinity	30.6	1.20	3	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 chlorophyll	2.4	0.21	3	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	6.5	0.38	5	6.0	0.20	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	5.8	0.15	2	6.0	0.23	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.2	0.68	5	5.0	0.92	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 28a
Statistical Zone 12
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 12 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes sapidus	2.0	2.00	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 28b
Statistical Zone 12
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	3	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
Total finfish kg	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	0.0	0.00	0
Total crustacean kg	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	0.0	0.00	0
Total others kg	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	0.0	0.00	0
Surface temperature	30.5	0.48	3	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 temperature	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 temperature	28.9	0.32	3	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 salinity	25.3	0.69	3	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 salinity	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 salinity	31.2	1.35	3	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 chlorophyll	17.9	12.80	3	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	10.1	2.37	3	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 oxygen	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 oxygen	8.2	1.37	3	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

Table 29a
Statistical Zone 13
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 13 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	74.0	43.31	0.7	0.40	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes sapidus	8.0	8.00	1.5	1.45	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	6.0	3.46	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla spp.	4.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	2012.0	1994.00	2.1	2.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius felis	38.0	38.00	1.4	1.36	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	34.0	34.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus plagiusa	16.0	16.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	12.0	6.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	8.0	8.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Citharichthys spilopterus	6.0	6.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chaetodipterus faber	4.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	180.0	174.03	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 29b
Statistical Zone 13
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	6.4	5.06	3	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
Total finfish kg	3.6	3.64	3	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
Total crustacean kg	2.7	1.57	3	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
Total others kg	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	0.0	0.00	0
Surface temperature	29.9	0.22	3	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 temperature	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 temperature	29.4	0.09	3	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 salinity	21.3	2.00	3	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 salinity	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 salinity	25.6	2.87	3	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 chlorophyll	12.1	1.89	3	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	8.3	0.29	3	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 oxygen	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 oxygen	4.4	1.52	3	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

Table 30a
Statistical Zone 14
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 14 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes sapidus	39.0	22.11	1.7	0.93	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus aztecus	26.0	21.56	0.2	0.15	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	22.0	10.92	0.7	0.73	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus gibbesii	21.0	19.82	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus setiferus	9.0	6.15	0.1	0.09	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Xiphopenaeus kroyeri	5.0	5.00	0.1	0.09	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	1945.0	1774.02	1.4	0.99	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	22.0	13.21	0.4	0.26	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	17.0	15.83	0.2	0.13	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius felis	10.0	10.00	0.2	0.23	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	7.0	4.75	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	7.0	3.92	0.3	0.17	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chaetodipterus faber	6.0	4.90	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Lagodon rhomboides	3.0	3.00	0.1	0.09	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	9.0	7.86	0.1	0.09	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 30b
Statistical Zone 14
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	5.5	3.23	6	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
Total finfish kg	2.7	1.41	6	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
Total crustacean kg	2.3	1.78	6	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
Total others kg	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	0.0	0.00	0
Surface temperature	30.5	0.29	6	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 temperature	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 temperature	30.3	0.33	6	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 salinity	24.3	1.93	6	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 salinity	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 salinity	24.9	2.07	6	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 chlorophyll	7.5	2.72	6	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	7.6	0.21	6	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 oxygen	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 oxygen	5.9	0.87	6	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

Table 31a
Statistical Zone 16
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 16 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	152.0	120.52	0.3	0.16	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus aztecus	138.0	60.10	1.2	0.78	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus gibbesii	68.0	65.02	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla spp.	58.0	38.94	0.4	0.24	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus spp.	38.0	22.54	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Xiphopenaeus kroyeri	24.0	24.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	172.0	87.73	0.2	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	70.0	33.65	1.0	0.40	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus burti	56.0	56.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Prionotus tribulus	50.0	41.33	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etropus crossotus	38.0	29.46	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus plagiusa	28.0	25.06	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	26.0	14.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Synodus foetens	22.0	22.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	54.0	45.30	0.2	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 31b
Statistical Zone 16
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	6.4	0.91	3	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
Total finfish kg	2.7	0.00	3	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
Total crustacean kg	3.6	0.91	3	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
Total others kg	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	0.0	0.00	0
Surface temperature	29.4	0.23	3	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 temperature	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 temperature	28.9	0.28	3	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 salinity	17.6	5.87	3	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 salinity	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 salinity	20.0	5.64	3	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 chlorophyll	14.9	7.34	3	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	7.6	0.43	3	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 oxygen	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 oxygen	6.7	0.44	3	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

Table 32a
Statistical Zone 17
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 17 during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	530.0	497.37	0.4	0.36	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes sapidus	224.0	67.02	1.5	0.48	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Xiphopenaeus kroyeri	134.0	59.03	0.5	0.42	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla spp.	86.0	86.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus aztecus	64.0	40.15	0.5	0.33	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus setiferus	18.0	18.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	600.0	346.46	1.9	0.88	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	286.0	111.73	0.7	0.48	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	186.0	98.65	0.3	0.16	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus plagiusa	160.0	24.58	0.9	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Bagre marinus	140.0	75.29	0.8	0.47	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	96.0	70.74	1.4	0.98	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Caranx latus	44.0	44.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus alepidotus	22.0	10.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	64.0	23.58	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 32b
Statistical Zone 17
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1987 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	12.7	0.91	3	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
Total finfish kg	8.2	1.57	3	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
Total crustacean kg	3.6	0.91	3	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
Total others kg	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	0.0	0.00	0
Surface temperature	29.9	0.10	3	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 temperature	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 temperature	29.9	0.10	3	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 salinity	23.4	0.87	3	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 salinity	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 salinity	23.4	0.87	3	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 chlorophyll	8.3	1.98	3	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	6.7	0.40	3	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 oxygen	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 oxygen	5.1	1.13	3	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

Table 33. SEAMAP Louisiana September-October Trawl Survey species composition list, 24 trawl stations, using a 40-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Finfishes					
Chloroscombrus chrysurus	Atlantic bumper	4043	104.5	18	75.0
Micropogonias undulatus	Atlantic croaker	3919	236.3	16	66.7
Prionotus rubio	blackfin searobin	1371	28.0	15	62.5
Leiostomus xanthurus	spot	875	101.0	7	29.2
Stenotomus caprinus	longspine porgy	715	15.9	12	50.0
Arius felis	hardhead catfish	607	94.3	15	62.5
Sphoeroides parvus	least puffer	472	2.0	14	58.3
Cynoscion nothus	silver seatrout	348	32.9	15	62.5
Etropus crossotus	fringed flounder	304	3.7	12	50.0
Centropristis philadelphica	rock sea bass	285	4.4	10	41.7
Syacium gunteri	shoal flounder	245	5.3	12	50.0
Halieutichthys aculeatus	pancake batfish	242	1.0	9	37.5
Harengula jaguana	scaled sardine	233	4.2	1	4.2
Diplectrum bivittatum	dwarf sand perch	160	2.3	6	25.0
Lutjanus synagris	lane snapper	122	2.5	11	45.8
Anchoa hepsetus	striped anchovy	103	0.7	6	25.0
Selene setapinnis	Atlantic moonfish	99	0.5	4	16.7
Citharichthys spilopterus	bay whiff	87	1.1	9	37.5
Balistes capriscus	gray triggerfish	80	3.9	6	25.0
Synodus foetens	inshore lizardfish	77	4.7	9	37.5
Trachurus lathami	rough scad	69	1.8	3	12.5
Prionotus tribulus	bighead searobin	68	3.0	8	33.3
Larimus fasciatus	banded drum	58	5.0	2	8.3
Porichthys plectrodon	Atlantic midshipman	49	0.8	9	37.5
Menticirrhus americanus	southern kingfish	41	4.4	3	12.5
Lutjanus campechanus	red snapper	37	0.5	5	20.8
Trichiurus lepturus	Atlantic cutlassfish	34	1.5	5	20.8
Clupea harengus harengus	Atlantic herring	31	0.5	1	4.2

Table 33. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Opisthonema oglinum	Atlantic thread herring	27	1.4	2	8.3
Symphurus plagiusa	blackcheek tonguefish	27	0.3	6	25.0
Rhizoprionodon terraenovae	Atlantic sharpnose shark	26	17.3	2	8.3
Ophidion welshi	crested cusk-eel	26	0.6	4	16.7
Stellifer lanceolatus	star drum	22	0.7	2	8.3
Caranx hippos	crevalle jack	21	1.4	5	20.8
Scorpaena calcarata	smoothhead scorpionfish	17	0.1	1	4.2
Cyclopsetta chittendeni	Mexican flounder	17	0.1	5	20.8
Lepophidium graellsi	blackedge cusk-eel	16	0.4	5	20.8
Chaetodipterus faber	Atlantic spadefish	15	0.8	2	8.3
Peprilus burti	gulf butterfish	15	1.2	3	12.5
Cynoscion arenarius	sand seatrout	13	2.3	4	16.7
Brotula barbata	bearded brotula	12	0.4	3	12.5
Echeneis naucrates	sharksucker	11	1.2	2	8.3
Scomberomorus maculatus	Spanish mackerel	10	1.5	1	4.2
Hemicaranx amblyrhynchus	bluntnose jack	10	0.3	1	4.2
Selene vomer	lookdown	10	0.0	1	4.2
Brevoortia patronus	gulf menhaden	9	0.9	1	4.2
Prionotus salmonicolor	blackwing searobin	9	0.9	2	8.3
Caranx crysos	blue runner	8	0.8	5	20.8
Eucinostomus argenteus	spotfin mojarra	5	0.0	1	4.2
Bollmannia communis	ragged goby	5	0.0	2	8.3
Rachycentron canadum	cobia	5	4.2	1	4.2
Polydactylus octonemus	Atlantic threadfin	5	0.3	1	4.2
Gymnachirus texae	fringed sole	5	0.0	2	8.3
Monacanthus hispidus	planehead filefish	4	0.0	1	4.2
Pristipomoides aquilonaris	wenchman	4	0.0	2	8.3
Pristigenys alta	short bigeye	3	0.0	1	4.2
Saurida brasiliensis	largescale lizardfish	3	0.0	1	4.2
Sphyraena guachancho	guaguanche	2	0.1	1	4.2

Table 33. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Gobionellus hastatus	sharptail goby	2	0.0	1	4.2
Ancylopsetta quadrocellata	ocellated flounder	2	2.2	2	8.3
Paralichthys lethostigma	southern flounder	1	0.2	1	4.2
Ogcocephalus declivirostris	thicktailed batfish	1	0.0	1	4.2
Selar crumenophthalmus	bigeye scad	1	0.0	1	4.2
Serraniculus pumilio	pygmy sea bass	1	0.0	1	4.2
Myrophis punctatus	speckled worm eel	1	0.1	1	4.2
Crustaceans					
Callinectes similis	lesser blue crab	6191	131.3	19	79.2
Trachypenaeus similis	roughback shrimp	1958	7.1	13	54.2
Squilla empusa	mantis shrimp	1160	8.7	17	70.8
Portunus gibbesii	irridescent swimming crab	1089	6.0	20	83.3
Trachypenaeus constrictus	roughneck shrimp	1016	1.7	9	37.5
Penaeus aztecus	brown shrimp	429	5.3	17	70.8
Portunus spinicarpus	longspine swimming crab	91	0.5	3	12.5
Penaeus setiferus	white shrimp	90	4.0	10	41.7
Penaeus duorarum	pink shrimp	73	2.0	9	37.5
Hepatus epheliticus	calico crab	61	2.1	7	29.2
Ovalipes floridanus	Florida lady crab	32	0.5	1	4.2
Callinectes sapidus	blue crab	30	4.4	6	25.0
Libinia dubia	longnose spider crab	14	1.0	2	8.3
Calappa sulcata	yellow box crab	9	0.1	5	20.8
Persephona crinita	pink purse crab	5	0.0	1	4.2
Persephona punctata	purse crab	4	0.6	1	4.2
Persephona aquilonaris	purse crab	4	0.0	2	8.3
Sicyonia dorsalis	lesser rock shrimp	3	0.0	2	8.3
Porcellana sayana	spotted porcelain crab	3	0.0	1	4.2
Portunus sayi	sargassum swimming crab	2	0.0	2	8.3

Table 33. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Others					
Loligo pealeii	longfin squid	48	0.5	6	25.0
Lolliguncula brevis	Atlantic brief squid	44	0.5	9	37.5
Caretta caretta	green turtle	1	15.9	1	4.2

Table 34a
Statistical Zone 13
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 13 during Louisiana September-October 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	41.3	41.25	0.1	0.09	2	470.2	403.18	0.8	0.58	6	934.9	826.83	4.8	4.12	4
Squilla spp.	0.0	0.00	0.0	0.00	2	394.5	372.43	2.4	2.18	6	116.5	45.21	0.8	0.38	4
Penaeus aztecus	27.4	21.38	0.3	0.26	2	138.9	76.82	1.5	0.83	6	63.0	37.07	0.9	0.51	4
Portunus gibbesii	3.4	0.38	0.0	0.00	2	145.7	117.23	0.8	0.58	6	79.2	36.14	0.5	0.23	4
Callinectes similis	112.9	85.88	0.6	0.38	2	27.4	11.67	0.5	0.20	6	35.2	26.73	0.7	0.53	4
Portunus spinicarpus	0.0	0.00	0.0	0.00	2	12.1	7.86	0.1	0.05	6	63.0	63.00	0.3	0.27	4
Prionotus rubio	0.0	0.00	0.0	0.00	2	118.7	65.33	2.1	1.01	6	295.3	66.76	6.0	1.30	4
Chloroscombrus chrysurus	123.0	123.00	5.2	5.18	2	66.0	46.90	4.3	3.26	6	229.1	135.29	14.1	8.34	4
Sphoeroides parvus	0.0	0.00	0.0	0.00	2	185.7	182.87	0.6	0.57	6	66.1	26.58	0.3	0.08	4
Harengula jaguana	349.5	349.50	6.3	6.27	2	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	4
Micropogonias undulatus	7.5	7.50	0.5	0.48	2	27.1	20.96	2.4	1.85	6	138.7	60.49	10.4	4.25	4
Halieutichthys aculeatus	0.0	0.00	0.0	0.00	2	54.1	35.24	0.2	0.13	6	20.6	17.30	0.0	0.05	4
Cynoscion nothus	16.5	16.50	1.8	1.77	2	16.3	8.68	1.5	0.80	6	80.2	29.27	7.2	2.36	4
Centropristis philadelphica	0.0	0.00	0.0	0.00	2	51.7	50.48	0.7	0.66	6	39.3	24.32	0.3	0.20	4
Squid	1.5	1.50	0.0	0.00	2	28.6	13.87	0.3	0.14	6	15.8	9.26	0.1	0.08	4

Table 34b
Statistical Zone 13
40-ft trawls

Summary of the mean total catch and environmental data (X) the standard error of the mean (SEM) and the number of samples taken (n) during Louisiana September-October trawl survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	21.6	16.53	2	26.5	12.36	6	55.9	6.61	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	20.1	16.70	2	19.5	8.42	6	46.8	6.85	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	1.5	0.17	2	6.9	4.33	6	9.1	4.93	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	2	0.8	0.30	6	0.0	0.00	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	25.6	0.58	2	26.9	0.11	7	27.3	0.06	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	25.6	0.60	2	26.9	0.11	7	27.3	0.05	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	26.1	0.15	2	26.6	0.52	7	23.9	0.30	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	26.9	0.16	2	28.9	0.17	7	29.4	0.06	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	26.9	0.14	2	28.9	0.16	7	29.4	0.07	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	27.4	0.66	2	35.6	0.28	7	36.3	0.03	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	2.8	0.00	2	1.7	0.28	7	1.0	0.05	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	2.6	0.00	2	1.6	0.23	7	0.7	0.07	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	2.2	0.00	2	2.0	0.83	7	0.5	0.10	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	5.3	0.05	2	6.3	0.19	7	6.2	0.03	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	5.5	0.35	2	6.1	0.15	7	6.1	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	4.7	0.60	2	1.9	0.68	7	3.5	0.20	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 35a
Statistical Zone 14
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 14 during Louisiana September-October 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm or above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	2254.3	1943.71	65.3	52.58	2	3013.0	2552.05	31.5	18.61	2
Portunus gibbesii	0.0	0.00	0.0	0.00	0	191.0	191.00	0.9	0.86	2	34.1	4.09	0.6	0.26	2
Squilla spp.	0.0	0.00	0.0	0.00	0	147.8	130.18	1.4	1.37	2	53.5	1.02	0.4	0.04	2
Penaeus setiferus	0.0	0.00	0.0	0.00	0	41.9	10.12	2.4	0.02	2	0.0	0.00	0.0	0.00	2
Trachypenaeus similis	0.0	0.00	0.0	0.00	0	35.0	35.00	0.1	0.09	2	5.0	5.00	0.0	0.00	2
Penaeus duorarum	0.0	0.00	0.0	0.00	0	35.0	35.00	1.2	1.23	2	4.1	4.09	0.1	0.12	2
Micropogonias undulatus	0.0	0.00	0.0	0.00	0	3171.2	1505.24	186.7	96.49	2	0.0	0.00	0.0	0.00	2
Leiostomus xanthurus	0.0	0.00	0.0	0.00	0	805.5	512.53	93.6	60.74	2	16.4	16.36	1.8	1.80	2
Stenotomus caprinus	0.0	0.00	0.0	0.00	0	379.1	140.88	8.9	0.25	2	180.1	147.39	2.9	2.25	2
Prionotus rubio	0.0	0.00	0.0	0.00	0	434.0	434.00	7.0	6.95	2	122.5	62.50	2.2	0.91	2
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	0	315.5	141.53	5.4	1.92	2	55.3	17.16	0.9	0.08	2
Cynoscion nothus	0.0	0.00	0.0	0.00	0	172.3	138.29	17.3	15.58	2	0.0	0.00	0.0	0.00	2
Etropus crossotus	0.0	0.00	0.0	0.00	0	87.0	87.00	0.9	0.86	2	107.5	107.50	1.8	1.82	2
Syacium gunteri	0.0	0.00	0.0	0.00	0	25.8	8.18	1.1	0.37	2	103.4	81.59	1.9	1.69	2
Squid	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	5.0	5.00	0.2	0.17	2

Table 35b
Statistical Zone 14
40-ft trawls

Summary of the mean total catch and environmental data (X) the standard error of the mean (SEM) and the number of samples taken (n) during Louisiana September-October trawl survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 6 fm or above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	441.4	15.03	2	47.5	25.21	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	355.2	57.91	2	13.4	5.94	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	72.2	56.93	2	34.1	19.27	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	14.0	14.04	2	0.6	0.57	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	27.5	0.14	2	27.5	0.02	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	27.5	0.08	2	27.9	0.04	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	27.7	0.02	2	26.5	0.18	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	31.8	0.03	2	31.8	0.20	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	31.9	0.16	2	32.3	0.02	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	31.8	0.01	2	35.8	0.01	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	1.0	0.35	2	0.8	0.32	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.9	0.05	2	0.8	0.20	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	1.3	0.76	2	19.1	3.03	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	5.9	0.10	2	6.0	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	5.8	0.00	2	5.5	0.40	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	5.5	0.15	2	1.6	0.20	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 36a
Statistical Zone 15
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 15 during Louisiana September-October 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	53.5	35.40	1.2	1.04	4	577.0	545.00	13.5	11.86	2	674.0	492.00	22.3	8.05	2
Trachypenaeus constrictus	58.5	40.11	0.1	0.04	4	825.0	825.00	1.3	1.32	2	19.0	11.00	0.0	0.05	2
Portunus gibbesii	43.0	37.17	0.2	0.13	4	381.0	371.00	2.0	1.86	2	79.0	61.00	0.5	0.32	2
Squilla spp.	1.5	1.50	0.0	0.02	4	169.0	169.00	1.6	1.59	2	46.0	24.00	0.5	0.27	2
Trachypenaeus similis	6.0	5.35	0.0	0.00	4	32.0	32.00	0.0	0.05	2	109.0	109.00	0.4	0.41	2
Penaeus aztecus	9.5	6.95	0.1	0.09	4	0.0	0.00	0.0	0.00	2	28.0	22.00	0.5	0.41	2
Chloroscombrus chrysurus	205.5	89.27	10.2	4.32	4	2631.0	2419.00	46.7	44.09	2	135.0	33.00	2.5	1.59	2
Arius felis	169.5	92.00	24.3	12.85	4	145.0	25.00	22.7	1.09	2	49.0	37.00	10.6	8.00	2
Prionotus rubio	0.0	0.00	0.0	0.00	4	69.0	59.00	2.8	1.95	2	182.0	44.00	5.2	2.59	2
Micropogonias undulatus	1.5	0.50	0.1	0.02	4	63.0	53.00	4.6	3.86	2	154.0	80.00	9.3	4.73	2
Centropristis philadelphica	3.5	2.06	0.0	0.02	4	143.0	133.00	2.7	2.55	2	10.0	6.00	0.1	0.05	2
Stenotomus caprinus	1.5	1.50	0.0	0.02	4	5.0	5.00	0.1	0.09	2	114.0	12.00	2.5	0.14	2
Balistes capriscus	10.0	6.27	0.6	0.40	4	48.0	6.00	2.2	0.27	2	2.0	2.00	0.1	0.09	2
Lutjanus synagris	15.0	8.27	0.5	0.27	4	37.0	37.00	0.8	0.82	2	0.0	0.00	0.0	0.00	2
Squid	1.5	1.50	0.0	0.02	4	5.0	5.00	0.0	0.05	2	0.0	0.00	0.0	0.00	2

Table 36b
Statistical Zone 15
40-ft trawls

Summary of the mean total catch and environmental data (X) the standard error of the mean (SEM) and the number of samples taken (n) during Louisiana September-October trawl survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	41.8	14.39	4	117.3	24.55	2	60.0	26.36	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	38.2	12.07	4	98.2	41.82	2	33.2	13.18	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	4.1	2.15	4	19.1	17.27	2	26.8	13.18	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.2	0.23	4	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	26.5	0.46	3	27.4	0.14	3	27.8	0.00	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	26.5	0.49	3	27.5	0.07	3	27.8	0.01	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	26.7	0.61	3	27.5	0.07	3	28.3	0.00	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	30.0	0.24	3	30.6	0.24	3	33.6	0.75	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	30.1	0.33	3	30.8	0.24	3	33.8	0.89	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	30.3	0.53	3	31.0	0.21	3	35.5	0.77	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	3.2	1.48	3	1.8	0.37	3	0.4	0.02	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	3.0	1.44	3	1.8	0.29	3	0.4	0.10	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	3.2	1.60	3	1.5	0.38	3	2.8	0.06	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.8	0.61	3	6.1	0.23	3	6.2	0.00	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.4	0.58	3	5.6	0.12	3	5.9	0.10	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.3	0.57	3	5.7	0.12	3	4.3	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 37. SEAMAP Fall Shrimp and Groundfish Survey species composition list, 208 trawl stations, for those vessels that used a 40-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Finfishes					
Stenotomus caprinus	longspine porgy	37649	1405.1	122	58.7
Chloroscombrus chrysurus	Atlantic bumper	18580	281.3	111	53.4
Peprilus burti	gulf butterfish	8398	566.4	103	49.5
Micropogonias undulatus	Atlantic croaker	8222	576.0	137	65.9
Trachurus lathami	rough scad	5075	151.9	71	34.1
Leiostomus xanthurus	spot	4878	554.6	108	51.9
Arius felis	hardhead catfish	4571	536.0	65	31.3
Lagodon rhomboides	pinfish	3220	203.2	87	41.8
Centropristis philadelphica	rock sea bass	2886	114.1	120	57.7
Anchoa hepsetus	striped anchovy	2504	29.5	38	18.3
Prionotus rubio	blackfin searobin	1990	65.4	75	36.1
Sphoeroides parvus	least puffer	1859	14.2	76	36.5
Cynoscion nothus	silver seatrout	1747	54.8	73	35.1
Diplectrum bivittatum	dwarf sand perch	1584	30.3	75	36.1
Scomber japonicus	chub mackerel	1577	102.5	13	6.3
Serranus atrobranchus	blackear bass	1527	24.1	52	25.0
Synodus foetens	inshore lizardfish	1447	157.0	144	69.2
Etrumeus teres	round herring	1297	23.1	33	15.9
Etropus crossotus	fringed flounder	1038	18.9	59	28.4
Cynoscion arenarius	sand seatrout	1016	97.8	97	46.6
Steindachneria argentea	luminous hake	964	8.5	8	3.8
Syacium gunteri	shoal flounder	943	20.4	45	21.6
Halieutichthys aculeatus	pancake batfish	809	7.3	53	25.5
Prionotus paralatus	Mexican searobin	732	16.7	43	20.7
Cynoscion spp.	seatrouts	668	2.3	20	9.6
Decapterus punctatus	round scad	641	28.5	11	5.3
Trichiurus lepturus	Atlantic cutlassfish	608	25.8	35	16.8
Bellator militaris	horned searobin	534	4.8	20	9.6

Table 37. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Mullus auratus	red goatfish	512	25.3	7	3.4
Harengula jaguana	scaled sardine	463	20.4	36	17.3
Larimus fasciatus	banded drum	404	24.2	21	10.1
Syacium spp.	lefteye flounders	382	5.8	31	14.9
Prionotus salmonicolor	blackwing searobin	372	14.9	29	13.9
Pristipomoides aquilonaris	wenchman	366	15.3	30	14.4
Chaetodipterus faber	Atlantic spadefish	351	16.8	30	14.4
Lutjanus campechanus	red snapper	338	36.1	77	37.0
Citharichthys spilopterus	bay whiff	306	4.5	33	15.9
Prionotus stearnsi	shortwing searobin	304	3.1	25	12.0
Upeneus parvus	dwarf goatfish	304	9.4	35	16.8
Anchoa mitchilli	bay anchovy	286	0.7	11	5.3
Porichthys plectrodon	Atlantic midshipman	272	5.2	56	26.9
Hemanthias leptus	longtail bass	254	2.4	4	1.9
Scorpaena calcarata	smoothhead scorpionfish	233	3.4	25	12.0
Syacium papillosum	dusky flounder	228	16.0	24	11.5
Symphurus plagiusa	blackcheek tonguefish	217	5.2	31	14.9
Opisthonema oglinum	Atlantic thread herring	211	10.7	22	10.6
Trichopsetta ventralis	sash flounder	198	5.3	29	13.9
Eucinostomus gula	silver jenny	193	6.0	48	23.1
Lepophidium jeannae	mottled cusk-eel	192	10.0	18	8.7
Balistes capriscus	gray triggerfish	179	12.2	48	23.1
Cyclopsetta chittendeni	Mexican flounder	171	16.3	31	14.9
Menticirrhus americanus	southern kingfish	161	12.1	20	9.6
Saurida brasiliensis	largescale lizardfish	157	1.4	34	16.3
Diplectrum formosum	sand perch	152	11.0	22	10.6
Stellifer lanceolatus	star drum	129	0.7	10	4.8
Lepophidium graellsi	blackedge cusk-eel	127	4.6	20	9.6
Lepophidium spp.	cusk-eels	124	6.4	11	5.3
Lutjanus synagris	lane snapper	122	5.4	31	14.9

Table 37. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Prionotus roseus	bluespotted searobin	115	3.4	11	5.3
Hildebrandia flava	yellow conger	105	10.4	7	3.4
Caranx crysos	blue runner	101	9.7	32	15.4
Brevoortia patronus	gulf menhaden	100	12.8	16	7.7
Bollmannia communis	ragged goby	95	0.5	9	4.3
Prionotus tribulus	bighead searobin	93	5.6	22	10.6
Rhizoprionodon terraenovae	Atlantic sharpnose shark	89	100.6	20	9.6
Pontinus longispinis	longspine scorpionfish	82	5.0	4	1.9
Sphyraena guachancho	guaguanche	82	12.2	12	5.8
Peprilus alepidotus	harvestfish	80	1.2	14	6.7
Brotula barbata	bearded brotula	80	10.0	21	10.1
Orthopristis chrysoptera	pigfish	75	5.8	26	12.5
Selene setapinnis	Atlantic moonfish	68	4.4	27	13.0
Prionotus scitulus	leopard searobin	66	2.1	14	6.7
Haemulon aurolineatum	tomtate	61	6.2	6	2.9
Gymnachirus texae	fringed sole	57	1.5	21	10.1
Synodus poeyi	offshore lizardfish	53	1.0	13	6.3
Paralichthys lethostigma	southern flounder	47	22.5	21	10.1
Selar crumenophthalmus	bigeye scad	46	2.7	16	7.7
Peristedion miniatum	armored searobin	44	1.1	1	0.5
Ophidion grayi	blotched cusk-eel	43	4.7	6	2.9
Symphurus diomedianus	spottedfin tonguefish	37	0.6	4	1.9
Hoplunnis tenuis	spotted pike conger	35	0.8	6	2.9
Peristedion gracile	slender searobin	33	1.6	1	0.5
Urophycis cirrata	gulf hake	32	2.1	4	1.9
Centropristis ocyura	bank sea bass	29	1.9	6	2.9
Lagocephalus laevigatus	smooth puffer	28	5.6	12	5.8
Rhomboplites aurorubens	vermilion snapper	26	3.7	8	3.8
Hoplunnis spp.	pike-congers	25	0.3	5	2.4
Trachinocephalus myops	snakefish	25	1.3	9	4.3

Table 37. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Ophidion holbrooki	bank cusk-eel	25	3.0	4	1.9
Kathetostoma albigutta	lancer stargazer	23	0.8	4	1.9
Ancylopsetta dilecta	three-eye flounder	21	1.4	10	4.8
Citharichthys macrops	spotted whiff	20	0.6	9	4.3
Hemicaranx amblyrhynchus	bluntnose jack	20	0.3	14	6.7
Centropristis striata	black sea bass	19	0.7	6	2.9
Ogcocephalus spp.	batfishes	19	0.5	6	2.9
Sardinella aurita	Spanish sardine	18	0.6	5	2.4
Prionotus ophryas	bandtail searobin	18	0.4	9	4.3
Urophycis floridana	southern hake	17	1.8	4	1.9
Ancylopsetta quadrocellata	ocellated flounder	17	2.2	7	3.4
Symphurus civitatus	offshore tonguefish	15	0.4	1	0.5
Monacanthus hispidus	planehead filefish	15	1.0	10	4.8
Prionotus martis	barred searobin	14	0.7	4	1.9
Anchoviella perfasciata	flat anchovy	13	0.1	2	1.0
Hoplunnis macrurus	freckled pike-conger	12	0.3	5	2.4
Ophidion welshi	crested cusk-eel	12	0.5	7	3.4
Archosargus probatocephalus	sheepshead	12	10.0	3	1.4
Antennarius radiosus	singlespot frogfish	12	0.3	4	1.9
Ogcocephalus radiatus	polka-dot batfish	12	0.3	3	1.4
Ogcocephalus nasutus	shortnose batfish	11	0.4	5	2.4
Equetus umbrosus	cubbyu	11	0.5	4	1.9
Bothidae	lefteye founders	11	0.5	2	1.0
Echeneis naucrates	sharksucker	11	5.5	8	3.8
Caulolatilus intermedius	anchor tilefish	10	2.2	5	2.4
Sphoeroides dorsalis	marbled puffer	10	0.4	2	1.0
Achirus lineatus	lined sole	10	0.0	4	1.9
Aluterus schoepfi	orange filefish	9	4.0	6	2.9
Priacanthus arenatus	bigeye	9	1.8	3	1.4
Lactophrys quadricornis	scrawled cowfish	8	0.3	5	2.4

Table 37. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Raja texana	roundel skate	7	2.0	4	1.9
Scomberomorus maculatus	Spanish mackerel	7	2.7	7	3.4
Astroscopus y-graecum	southern stargazer	6	0.5	4	1.9
Decodon puellaris	red hogfish	6	0.6	3	1.4
Synagrops spp.	temperate basses	6	0.2	2	1.0
Pikea mexicana	yellowtail bass	6	0.2	2	1.0
Sphyrna tiburo	bonnethead	6	16.5	5	2.4
Paralichthys squamilentus	broad flounder	6	1.4	2	1.0
Narcine brasiliensis	lesser electric ray	5	1.8	2	1.0
Equetus acuminatus	high-hat	5	0.5	2	1.0
Pogonias cromis	black drum	5	10.6	2	1.0
Pagrus pagrus	red porgy	4	2.1	2	1.0
Gymnothorax nigromarginatus	blackedge moray	4	0.6	3	1.4
Serraniculus pumilio	pygmy sea bass	4	0.0	3	1.4
Selene vomer	lookdown	4	0.0	3	1.4
Raja eglanteria	clearnose skate	4	4.0	2	1.0
Dorosoma petenense	threadfin shad	3	0.0	1	0.5
Ogcocephalus parvus	roughback batfish	3	0.0	2	1.0
Pomatomus saltatrix	bluefish	3	1.2	3	1.4
Rachycentron canadum	cobia	3	0.8	2	1.0
Echeneis neucratoides	whitefin sharksucker	3	1.5	3	1.4
Bagre marinus	gafftopsail catfish	3	0.3	2	1.0
Epinephelus flavolimbatus	yellowedge grouper	3	0.0	2	1.0
Equetus spp.	drums	3	0.0	1	0.5
Gobionellus hastatus	sharptail goby	3	0.0	1	0.5
Gobiidae	gobies	3	0.0	1	0.5
Neomerinthe hemingwayi	spinycheek scorpionfish	2	2.0	1	0.5
Scorpaena brasiliensis	barbfish	2	0.4	1	0.5
Calamus arctifrons	grass porgy	2	0.3	1	0.5
Sciaenops ocellatus	red drum	2	10.9	2	1.0

Table 37. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Sphyraena spp.	barracudas	2	0.0	2	1.0
Urophycis regia	spotted hake	2	0.1	1	0.5
Synodus spp.	lizardfishes	2	0.0	1	0.5
Rypticus maculatus	whitespotted soapfish	2	0.0	1	0.5
Sphoeroides spengleri	bandtail puffer	2	0.1	1	0.5
Chilomycterus schoepfi	striped burrfish	2	0.3	2	1.0
Paralichthys albigutta	gulf flounder	2	0.5	2	1.0
Bothus spp.	left-eye flounders	2	0.0	1	0.5
Anchoa nasuta	longnose anchovy	2	0.0	1	0.5
Scyliorhinus retifer	chain dogfish	2	0.1	1	0.5
Sphyrna lewini	scalloped hammerhead	1	2.0	1	0.5
Anchoa spp.	anchovies	1	0.0	1	0.5
Rhinoptera bonasus	cownose ray	1	2.5	1	0.5
Raja olseni	spreadfin skate	1	0.5	1	0.5
Dasyatis centroura	roughtail stingray	1	136.4	1	0.5
Engyophrys senta	spiny flounder	1	0.0	1	0.5
Serranus phoebe	tattler	1	0.0	1	0.5
Lutjanus vivanus	silk snapper	1	0.1	1	0.5
Bairdiella chrysoura	silver perch	1	0.0	1	0.5
Gymnothorax ocellatus	ocellated moray	1	0.1	1	0.5
Congridae	conger eel	1	0.0	1	0.5
Paraconger spp.	conger eel	1	0.0	1	0.5
Bregmaceros atlanticus	antenna codlet	1	0.0	1	0.5
Fistularia tabacaria	bluespotted cornetfish	1	0.0	1	0.5
Urophycis spp.	hakes	1	0.0	1	0.5
Ophichthus rex	giant snake eel	1	1.8	1	0.5
Mugil cephalus	striped mullet	1	0.3	1	0.5
Sparidae	porgies	1	0.0	1	0.5
Hemipteronotus novacula	pearly razorfish	1	0.0	1	0.5
Prionotus spp.	searobins	1	0.0	1	0.5

Table 37. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Scomberomorus cavalla	king mackerel	1	1.7	1	0.5
Crustaceans					
Penaeus aztecus	brown shrimp	4582	97.2	150	72.1
Callinectes similis	lesser blue crab	4529	133.7	127	61.1
Portunus gibbesii	irridescent swimming crab	2964	20.1	113	54.3
Trachypenaeus similis	roughback shrimp	2121	6.2	16	7.7
Sicyonia brevirostris	brown rock shrimp	2114	32.8	62	29.8
Portunus spinicarpus	longspine swimming crab	1785	12.3	49	23.6
Penaeus setiferus	white shrimp	1703	31.5	66	31.7
Trachypenaeus spp.	roughneck shrimps	1668	6.0	54	26.0
Squilla empusa	mantis shrimp	1266	12.2	32	15.4
Sicyonia dorsalis	lesser rock shrimp	1151	5.9	55	26.4
Squilla spp.	mantis shrimps	1027	13.4	72	34.6
Solenocera spp.	humpback shrimps	732	5.0	23	11.1
Penaeus duorarum	pink shrimp	457	10.5	41	19.7
Callinectes spp.	swimming crab	269	0.8	1	0.5
Portunus spinimanus	blotched swimming crab	223	5.3	27	13.0
Parapenaeus spp.	penaeid shrimp	186	3.7	13	6.3
Trachypenaeus constrictus	roughneck shrimp	33	0.0	2	1.0
Anasimus latus	stilt spider crab	29	0.5	9	4.3
Raninoides louisianensis	gulf frog crab	26	0.3	8	3.8
Calappa sulcata	yellow box crab	16	4.9	12	5.8
Paguridae	right-handed hermit crabs	16	0.6	2	1.0
Hepatus epheliticus	calico crab	14	2.0	8	3.8
Libinia dubia	longnose spider crab	11	3.4	5	2.4
Parthenope granulata	bladetooth elbow crab	10	0.1	3	1.4
Parthenope serrata	sawtooth elbow crab	9	0.1	3	1.4
Stenorynchus seticornis	yellowline arrow crab	8	0.2	2	1.0

Table 37. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Libinia emarginata	portly spider crab	8	1.1	3	1.4
Callinectes sapidus	blue crab	7	1.1	5	2.4
Sicyonia stimpsoni	eyespot rock shrimp	7	0.0	2	1.0
Squilla chydaea	mantis shrimp	7	0.0	3	1.4
Xiphopenaeus kroyeri	seabob	6	0.0	1	0.5
Speocarcinus lobatus	gulf squareback crab	6	0.0	2	1.0
Arenaeus cribrarius	speckled swimming crab	5	0.0	2	1.0
Ovalipes floridanus	Florida lady crab	4	0.2	2	1.0
Plesionika spp.	pandalid shrimps	4	0.0	1	0.5
Calappa spp.	box crabs	3	0.1	3	1.4
Parthenope spp.	elbow crabs	2	0.0	1	0.5
Porcellana sigsbeiana	striped porcelain crab	2	0.0	1	0.5
Axiidae	lobster shrimps	2	0.0	1	0.5
Scyllarides nodifer	ridged slipper lobster	2	0.6	2	1.0
Hexapanopeus angustifrons	smooth mud crab	2	0.0	2	1.0
Menippe mercenaria	Florida stone crab	2	0.6	1	0.5
Xanthidae	mud crabs	2	0.0	1	0.5
Leucosiidae	purse crabs	2	0.0	1	0.5
Petrochirus diogenes	hermit crab	1	0.1	1	0.5
Persephona spp.	purse crab	1	0.0	1	0.5
Myropsis quinquespinosa	fivespine purse crab	1	0.0	1	0.5
Persephona aquilonaris	purse crab	1	0.0	1	0.5
Portunus sayi	sargassum swimming crab	1	0.0	1	0.5
Calappa flammea	flame box crab	1	0.3	1	0.5
Others					
Aurelia spp.	jellyfishes	1978	415.8	36	17.3
Lolliguncula brevis	Atlantic brief squid	1872	15.0	48	23.1
Loligo pealeii	longfin squid	1234	39.2	89	42.8

Table 37. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Amusium papyraceum	paper scallop	852	9.5	23	11.1
Aplysia spp.	sea hare	835	47.7	11	5.3
Asteroidea	starfishes	727	9.7	47	22.6
Loligo pleii	arrow squid	425	6.2	37	17.8
Argopecten gibbus	calico scallop	335	8.5	5	2.4
Bryozoa	moss animals	56	0.0	1	0.5
Pectinidae	scallops	53	0.9	3	1.4
Myopsida	squids	53	3.5	12	5.8
Ophiuroidea	brittlestars	22	0.0	2	1.0
Luidia spp.	sea stars	11	0.1	2	1.0
Clypeaster spp.	cake urchins	9	0.5	3	1.4
Renilla spp.	sea pansies	7	0.0	3	1.4
Spatangidae	heart urchins	6	0.2	1	0.5
Scutellidae	sand dollars	5	0.8	3	1.4
Echinoidea	echinoderms	5	0.0	1	0.5
Illex spp.	shortfin squids	4	1.0	2	1.0
Tellina spp.	tellin shells	3	0.0	1	0.5
Pelecypoda	bivalve mollusks	3	0.1	2	1.0
Astropecten spp.	sea stars	3	0.0	2	1.0
Polychaeta	bristleworms	3	0.0	1	0.5
Ctenophora	comb jellies	2	0.1	1	0.5
Renilla mulleri	short-stemmed sea pansy	2	0.0	1	0.5
Echinodermata	echinoderms	2	0.5	1	0.5
Cubomedusae	sea wasps	2	0.0	1	0.5
Illex coindetii	Caribbean shortfin squid	2	0.1	2	1.0
Octopus vulgaris	common Atlantic octopus	1	0.3	1	0.5
Chrysaora quinquecirrha	sea nettle	1	0.0	1	0.5
Tunicata	tunicates	1	0.1	1	0.5
Anthozoa	anthozoans	1	0.0	1	0.5
Gastropoda	snails	1	0.0	1	0.5

Table 37. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Scaphella dubia	dubious volute	1	0.0	1	0.5
Busycon candelabrum	splendid whelk	1	0.2	1	0.5
Placopecten magellanicus	sea scallop	1	0.0	1	0.5

Table 38. SEAMAP Fall Shrimp and Groundfish Survey species composition list, 85 trawl stations, for those vessels that used a 20-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Finfishes					
Chloroscombrus chrysurus	Atlantic bumper	441	2.2	28	32.9
Peprilus burti	gulf butterfish	291	1.4	23	27.1
Cynoscion nothus	silver seatrout	287	1.5	27	31.8
Stellifer lanceolatus	star drum	241	1.9	29	34.1
Cynoscion arenarius	sand seatrout	198	2.9	30	35.3
Syacium gunteri	shoal flounder	173	2.2	31	36.5
Anchoa nasuta	longnose anchovy	106	0.1	3	3.5
Arius felis	hardhead catfish	88	2.2	17	20.0
Hemicaranx amblyrhynchus	bluntnose jack	65	0.7	18	21.2
Brevoortia patronus	gulf menhaden	55	1.3	14	16.5
Symphurus plagiusa	blackcheek tonguefish	54	0.9	28	32.9
Etropus crossotus	fringed flounder	39	0.5	22	25.9
Peprilus alepidotus	harvestfish	35	0.2	12	14.1
Anchoa hepsetus	striped anchovy	34	0.3	4	4.7
Lagodon rhomboides	pinfish	33	0.6	8	9.4
Citharichthys spilopterus	bay whiff	33	0.5	15	17.6
Prionotus salmonicolor	blackwing searobin	31	0.1	10	11.8
Harengula jaguana	scaled sardine	29	0.5	10	11.8
Menticirrhus americanus	southern kingfish	24	1.7	11	12.9
Selene setapinnis	Atlantic moonfish	24	0.1	8	9.4
Sphoeroides parvus	least puffer	20	0.1	12	14.1
Trachurus lathami	rough scad	16	0.4	2	2.4
Anchoa mitchilli	bay anchovy	16	0.0	9	10.6
Micropogonias undulatus	Atlantic croaker	12	0.5	10	11.8
Chaetodipterus faber	Atlantic spadefish	11	0.1	8	9.4
Larimus fasciatus	banded drum	10	0.0	6	7.1
Menticirrhus littoralis	gulf kingfish	8	0.3	4	4.7
Centropristis philadelphica	rock sea bass	8	0.2	6	7.1

Table 38. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Ophidion welshi	crested cusk-eel	7	0.3	4	4.7
Prionotus rubio	blackfin searobin	7	0.0	3	3.5
Lutjanus campechanus	red snapper	6	0.0	5	5.9
Dorosoma petenense	threadfin shad	6	0.1	3	3.5
Monacanthus hispidus	planehead filefish	5	0.0	4	4.7
Selar crumenophthalmus	bigeye scad	4	0.0	2	2.4
Synodus foetens	inshore lizardfish	3	0.1	3	3.5
Halieutichthys aculeatus	pancake batfish	3	0.0	2	2.4
Ogcocephalus pantostictus	spotted batfish	3	0.0	3	3.5
Prionotus tribulus	bighead searobin	3	0.0	3	3.5
Gymnachirus texae	fringed sole	3	0.0	3	3.5
Symphurus civitatus	offshore tonguefish	2	0.0	2	2.4
Selene vomer	lookdown	2	0.0	2	2.4
Leiostomus xanthurus	spot	2	0.1	1	1.2
Bairdiella chrysoura	silver perch	1	0.0	1	1.2
Orthopristis chrysoptera	pigfish	1	0.0	1	1.2
Scomberomorus maculatus	Spanish mackerel	1	0.0	1	1.2
Upeneus parvus	dwarf goatfish	1	0.0	1	1.2
Stenotomus caprinus	longspine porgy	1	0.0	1	1.2
Trachinotus carolinus	Florida pompano	1	0.0	1	1.2
Conodon nobilis	barred grunt	1	0.0	1	1.2
Eucinostomus argenteus	spotfin mojarra	1	0.0	1	1.2
Hippocampus erectus	lined seahorse	1	0.0	1	1.2
Caranx hippos	crevalle jack	1	0.0	1	1.2
Etrumeus teres	round herring	1	0.0	1	1.2
Alosa chrysochloris	skipjack herring	1	0.0	1	1.2
Engraulidae	anchovies	1	0.0	1	1.2
Achirus lineatus	lined sole	1	0.0	1	1.2
Ancylopsetta quadrocellata	ocellated flounder	1	0.1	1	1.2
Prionotus ophryas	bandtail searobin	1	0.0	1	1.2

Table 38. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Scorpaena calcarata	smoothhead scorpionfish	1	0.0	1	1.2
Gobiidae	gobies	1	0.0	1	1.2
Symphurus urospilus	spottail tonguefish	1	0.0	1	1.2
Opsanus beta	gulf toadfish	1	0.0	1	1.2
Crustaceans					
Penaeus setiferus	white shrimp	745	6.3	44	51.8
Trachypenaeus spp.	roughneck shrimps	403	1.1	25	29.4
Portunus gibbesii	irridescent swimming crab	369	1.9	58	68.2
Penaeus aztecus	brown shrimp	163	1.2	14	16.5
Xiphopenaeus kroyeri	seabob	145	0.6	11	12.9
Squilla empusa	mantis shrimp	139	1.5	35	41.2
Callinectes similis	lesser blue crab	85	0.8	31	36.5
Pagurus pollicaris	flatclaw hermit crab	73	1.2	28	32.9
Penaeus duorarum	pink shrimp	66	0.5	6	7.1
Sicyonia dorsalis	lesser rock shrimp	40	0.0	19	22.4
Portunus spinimanus	blotched swimming crab	19	0.0	11	12.9
Hepatus epheliticus	calico crab	9	0.3	9	10.6
Persephona aquilonaris	purse crab	9	0.0	7	8.2
Sicyonia brevirostris	brown rock shrimp	8	0.0	4	4.7
Calappa sulcata	yellow box crab	5	0.4	5	5.9
Porcellana sayana	spotted porcelain crab	4	0.0	4	4.7
Libinia dubia	longnose spider crab	4	0.1	4	4.7
Xanthidae	mud crabs	4	0.0	2	2.4
Persephona crinita	pink purse crab	3	0.0	3	3.5
Parthenope serrata	sawtooth elbow crab	3	0.0	2	2.4
Sicyonia typica	kinglet rock shrimp	3	0.0	3	3.5
Trachypenaeus constrictus	roughneck shrimp	2	0.0	1	1.2
Calappa flammea	flame box crab	2	0.0	2	2.4

Table 38. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Portunus spinicarpus	longspine swimming crab	2	0.0	1	1.2
Porcellana sigsbeiana	striped porcelain crab	1	0.0	1	1.2
Metoporhaphis calcarata	false arrow crab	1	0.0	1	1.2
Arenaeus cribrarius	speckled swimming crab	1	0.0	1	1.2
Others					
Aurelia aurita	moon jellyfish	687	234.6	23	27.1
Chrysaora quinquecirrha	sea nettle	608	1.6	5	5.9
Lolliguncula brevis	Atlantic brief squid	537	5.0	53	62.4
Dactylometra quinquecirrha	compass jellyfish	162	4.2	18	21.2
Actiniaria spp.	sea anemones	161	0.0	18	21.2
Renilla mulleri	short-stemmed sea pansy	82	0.0	17	20.0
Loligo pealeii	longfin squid	57	0.8	6	7.1
Luidia clathrata	sea star	33	0.6	16	18.8
Neverita duplicata	shark eye	16	0.4	11	12.9
Asteroidea	starfishes	9	0.1	5	5.9
Ophiuroidea	brittlestars	8	0.0	2	2.4
Holothuriidae	sea cucumbers	8	0.0	2	2.4
Cantharus cancellarius	cancellate cantharus	8	0.4	2	2.4
Thais haemastoma	rocksnail	6	0.2	3	3.5
Chione clenchi	Clench venus	5	0.0	2	2.4
Beroe ovata	comb jelly	5	0.0	2	2.4
Luidia alternata	banded luidia	4	0.0	3	3.5
Astropecten antillensis	beaded sea star	3	0.0	3	3.5
Gorgonidae	gorgonians	3	0.0	3	3.5
Busycon perversum	perverse whelk	3	0.2	3	3.5
Calliactris tricolor	common sea anemone	2	0.0	1	1.2
Busycotypus spiratus	pearlwhelk	1	0.0	1	1.2
Tonna galea	giant tun	1	0.0	1	1.2

Table 38. SEAMAP Fall Shrimp and Groundfish Survey species composition list, 85 trawl stations, for those vessels that used a 20-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Finfishes					
Chloroscombrus chrysurus	Atlantic bumper	441	2.2	28	32.9
Peprilus burti	gulf butterfish	291	1.4	23	27.1
Cynoscion nothus	silver seatrout	287	1.5	27	31.8
Stellifer lanceolatus	star drum	241	1.9	29	34.1
Cynoscion arenarius	sand seatrout	198	2.9	30	35.3
Syacium gunteri	shoal flounder	173	2.2	31	36.5
Anchoa nasuta	longnose anchovy	106	0.1	3	3.5
Arius felis	hardhead catfish	88	2.2	17	20.0
Hemicaranx amblyrhynchus	bluntnose jack	65	0.7	18	21.2
Brevoortia patronus	gulf menhaden	55	1.3	14	16.5
Symphurus plagiusa	blackcheek tonguefish	54	0.9	28	32.9
Etropus crossotus	fringed flounder	39	0.5	22	25.9
Peprilus alepidotus	harvestfish	35	0.2	12	14.1
Anchoa hepsetus	striped anchovy	34	0.3	4	4.7
Lagodon rhomboides	pinfish	33	0.6	8	9.4
Citharichthys spilopterus	bay whiff	33	0.5	15	17.6
Prionotus salmonicolor	blackwing searobin	31	0.1	10	11.8
Harengula jaguana	scaled sardine	29	0.5	10	11.8
Menticirrhus americanus	southern kingfish	24	1.7	11	12.9
Selene setapinnis	Atlantic moonfish	24	0.1	8	9.4
Sphoeroides parvus	least puffer	20	0.1	12	14.1
Trachurus lathami	rough scad	16	0.4	2	2.4
Anchoa mitchilli	bay anchovy	16	0.0	9	10.6
Micropogonias undulatus	Atlantic croaker	12	0.5	10	11.8
Chaetodipterus faber	Atlantic spadefish	11	0.1	8	9.4
Larimus fasciatus	banded drum	10	0.0	6	7.1
Menticirrhus littoralis	gulf kingfish	8	0.3	4	4.7
Centropristis philadelphica	rock sea bass	8	0.2	6	7.1

Table 38. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Ophidion welshi	crested cusk-eel	7	0.3	4	4.7
Prionotus rubio	blackfin searobin	7	0.0	3	3.5
Lutjanus campechanus	red snapper	6	0.0	5	5.9
Dorosoma petenense	threadfin shad	6	0.1	3	3.5
Monacanthus hispidus	planehead filefish	5	0.0	4	4.7
Selar crumenophthalmus	bigeye scad	4	0.0	2	2.4
Synodus foetens	inshore lizardfish	3	0.1	3	3.5
Halieutichthys aculeatus	pancake batfish	3	0.0	2	2.4
Ogcocephalus pantostictus	spotted batfish	3	0.0	3	3.5
Prionotus tribulus	bighead searobin	3	0.0	3	3.5
Gymnachirus texae	fringed sole	3	0.0	3	3.5
Symphurus civitatus	offshore tonguefish	2	0.0	2	2.4
Selene vomer	lookdown	2	0.0	2	2.4
Leiostomus xanthurus	spot	2	0.1	1	1.2
Bairdiella chrysoura	silver perch	1	0.0	1	1.2
Orthopristis chrysoptera	pigfish	1	0.0	1	1.2
Scomberomorus maculatus	Spanish mackerel	1	0.0	1	1.2
Upeneus parvus	dwarf goatfish	1	0.0	1	1.2
Stenotomus caprinus	longspine porgy	1	0.0	1	1.2
Trachinotus carolinus	Florida pompano	1	0.0	1	1.2
Conodon nobilis	barred grunt	1	0.0	1	1.2
Eucinostomus argenteus	spotfin mojarra	1	0.0	1	1.2
Hippocampus erectus	lined seahorse	1	0.0	1	1.2
Caranx hippos	crevalle jack	1	0.0	1	1.2
Etrumeus teres	round herring	1	0.0	1	1.2
Alosa chrysochloris	skipjack herring	1	0.0	1	1.2
Engraulidae	anchovies	1	0.0	1	1.2
Achirus lineatus	lined sole	1	0.0	1	1.2
Ancylopsetta quadrocellata	ocellated flounder	1	0.1	1	1.2
Prionotus ophryas	bandtail searobin	1	0.0	1	1.2

Table 38. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Scorpaena calcarata	smoothhead scorpionfish	1	0.0	1	1.2
Gobiidae	gobies	1	0.0	1	1.2
Symphurus urospilus	spottail tonguefish	1	0.0	1	1.2
Opsanus beta	gulf toadfish	1	0.0	1	1.2
Crustaceans					
Penaeus setiferus	white shrimp	745	6.3	44	51.8
Trachypenaeus spp.	roughneck shrimps	403	1.1	25	29.4
Portunus gibbesii	irridescent swimming crab	369	1.9	58	68.2
Penaeus aztecus	brown shrimp	163	1.2	14	16.5
Xiphopenaeus kroyeri	seabob	145	0.6	11	12.9
Squilla empusa	mantis shrimp	139	1.5	35	41.2
Callinectes similis	lesser blue crab	85	0.8	31	36.5
Pagurus pollicaris	flatclaw hermit crab	73	1.2	28	32.9
Penaeus duorarum	pink shrimp	66	0.5	6	7.1
Sicyonia dorsalis	lesser rock shrimp	40	0.0	19	22.4
Portunus spinimanus	blotched swimming crab	19	0.0	11	12.9
Hepatus epheliticus	calico crab	9	0.3	9	10.6
Persephona aquilonaris	purse crab	9	0.0	7	8.2
Sicyonia brevirostris	brown rock shrimp	8	0.0	4	4.7
Calappa sulcata	yellow box crab	5	0.4	5	5.9
Porcellana sayana	spotted porcelain crab	4	0.0	4	4.7
Libinia dubia	longnose spider crab	4	0.1	4	4.7
Xanthidae	mud crabs	4	0.0	2	2.4
Persephona crinita	pink purse crab	3	0.0	3	3.5
Parthenope serrata	sawtooth elbow crab	3	0.0	2	2.4
Sicyonia typica	kinglet rock shrimp	3	0.0	3	3.5
Trachypenaeus constrictus	roughneck shrimp	2	0.0	1	1.2
Calappa flammea	flame box crab	2	0.0	2	2.4

Table 38. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Portunus spinicarpus	longspine swimming crab	2	0.0	1	1.2
Porcellana sigsbeiana	striped porcelain crab	1	0.0	1	1.2
Metoporhaphis calcarata	false arrow crab	1	0.0	1	1.2
Arenaeus cribrarius	speckled swimming crab	1	0.0	1	1.2
Others					
Aurelia aurita	moon jellyfish	687	234.6	23	27.1
Chrysaora quinquecirrha	sea nettle	608	1.6	5	5.9
Lolliguncula brevis	Atlantic brief squid	537	5.0	53	62.4
Dactylometra quinquecirrha	compass jellyfish	162	4.2	18	21.2
Actiniaria spp.	sea anemones	161	0.0	18	21.2
Renilla mulleri	short-stemmed sea pansy	82	0.0	17	20.0
Loligo pealeii	longfin squid	57	0.8	6	7.1
Luidia clathrata	sea star	33	0.6	16	18.8
Neverita duplicata	shark eye	16	0.4	11	12.9
Asteroidea	starfishes	9	0.1	5	5.9
Ophiuroidea	brittlestars	8	0.0	2	2.4
Holothuriidae	sea cucumbers	8	0.0	2	2.4
Cantharus cancellarius	cancellate cantharus	8	0.4	2	2.4
Thais haemastoma	rocksnail	6	0.2	3	3.5
Chione clenchi	Clench venus	5	0.0	2	2.4
Beroe ovata	comb jelly	5	0.0	2	2.4
Luidia alternata	banded luidia	4	0.0	3	3.5
Astropecten antillensis	beaded sea star	3	0.0	3	3.5
Gorgonidae	gorgonians	3	0.0	3	3.5
Busycon perversum	perverse whelk	3	0.2	3	3.5
Calliactris tricolor	common sea anemone	2	0.0	1	1.2
Busycotypus spiratus	pearlwhelk	1	0.0	1	1.2
Tonna galea	giant tun	1	0.0	1	1.2

Table 40a
Statistical Zone 10
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 10 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm or above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus duorarum	0.0	0.00	0.0	0.00	0	57.0	57.00	3.0	3.00	2	1.0	1.03	0.0	0.05	9
Trachypenaeus spp.	0.0	0.00	0.0	0.00	0	60.0	60.00	0.1	0.14	2	0.0	0.00	0.0	0.00	9
Sicyonia brevirostris	0.0	0.00	0.0	0.00	0	15.0	15.00	0.3	0.27	2	5.0	4.18	0.2	0.16	9
Portunus gibbesii	0.0	0.00	0.0	0.00	0	9.0	9.00	0.1	0.14	2	5.3	3.12	0.1	0.03	9
Portunus spinicarpus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	4.0	3.06	0.0	0.03	9
Parthenope granulata	0.0	0.00	0.0	0.00	0	9.0	9.00	0.0	0.00	2	1.9	1.85	0.0	0.02	9
Stenotomus caprinus	0.0	0.00	0.0	0.00	0	373.3	295.29	13.3	11.08	2	393.3	237.03	19.2	11.46	9
Diplectrum bivittatum	0.0	0.00	0.0	0.00	0	447.9	392.14	5.9	3.60	2	0.3	0.33	0.0	0.02	9
Diplectrum formosum	0.0	0.00	0.0	0.00	0	144.4	48.43	11.9	0.74	2	24.1	7.75	2.4	0.66	9
Arius felis	0.0	0.00	0.0	0.00	0	168.0	168.00	31.4	31.36	2	18.2	7.91	4.3	1.68	9
Micropogonias undulatus	0.0	0.00	0.0	0.00	0	9.0	9.00	1.4	1.36	2	11.0	8.62	1.2	0.87	9
Etropus crossotus	0.0	0.00	0.0	0.00	0	102.0	102.00	1.5	1.50	2	20.7	18.32	0.4	0.32	9
Syacium papillosum	0.0	0.00	0.0	0.00	0	13.3	4.71	1.7	1.07	2	28.5	9.86	3.1	0.81	9
Prionotus salmonicolor	0.0	0.00	0.0	0.00	0	44.1	39.86	1.5	1.27	2	22.0	9.10	1.7	0.74	9
Squid	0.0	0.00	0.0	0.00	0	164.1	20.14	3.4	1.81	2	31.1	17.54	1.2	0.56	9

Table 40b
Statistical Zone 10
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 6 fm or above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	107.3	37.21	2	70.1	16.48	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	90.2	29.81	2	47.9	14.55	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	4.1	4.09	2	1.5	0.35	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	13.1	3.31	2	21.0	7.51	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	18.2	0.00	1	22.0	0.56	9	23.3	0.20	2	23.9	0.00	1	0.0	0.00	0
Midwater temperature	0.0	0.00	0	18.2	0.00	1	21.9	0.55	9	23.2	0.10	2	24.0	0.00	1	0.0	0.00	0
Bottom temperature	0.0	0.00	0	19.0	0.00	1	21.9	0.50	9	22.9	0.57	2	19.4	0.00	1	0.0	0.00	0
Surface salinity	0.0	0.00	0	0.0	0.00	0	35.2	0.00	1	35.0	0.06	2	35.3	0.00	1	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	35.2	0.00	1	35.0	0.04	2	35.4	0.00	1	0.0	0.00	0
Bottom salinity	0.0	0.00	0	0.0	0.00	0	35.3	0.00	1	17.8	17.84	2	36.5	0.00	1	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.3	0.00	1	0.4	0.10	2	0.7	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	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	6.6	0.08	9	6.9	0.05	2	6.9	0.00	1	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	6.6	0.00	1	6.5	0.06	9	7.0	0.05	2	6.7	0.00	1	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	6.4	0.00	1	6.4	0.06	9	4.8	0.00	1	4.6	0.00	1	0.0	0.00	0

Table 41a
Statistical Zone 11
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 11 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	0.0	0.00	0.0	0.00	2	15.1	15.07	0.2	0.23	7	52.1	28.53	0.8	0.45	10
Callinectes similis	65.5	12.98	2.0	0.11	2	111.8	39.76	2.8	0.95	7	45.6	26.65	1.9	1.04	10
Portunus gibbesii	34.5	6.78	0.4	0.04	2	31.9	9.72	0.5	0.14	7	49.4	35.75	0.5	0.31	10
Sicyonia dorsalis	0.0	0.00	0.0	0.00	2	19.2	10.96	0.0	0.02	7	39.5	36.69	0.2	0.19	10
Portunus spinicarpus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	7	6.5	4.10	0.1	0.06	10
Penaeus aztecus	9.2	9.23	0.3	0.31	2	9.5	3.50	0.2	0.07	7	17.1	11.44	0.6	0.42	10
Stenotomus caprinus	0.0	0.00	0.0	0.00	2	140.6	129.51	5.6	5.31	7	415.1	218.20	8.8	4.36	10
Chloroscombrus chrysurus	432.0	375.72	2.1	1.91	2	287.0	173.47	1.9	1.07	7	1310.9	1212.36	22.2	18.24	10
Lagodon rhomboides	11.5	11.54	0.1	0.10	2	39.5	38.08	0.7	0.65	7	12.3	4.14	0.9	0.42	10
Micropogonias undulatus	37.5	22.50	2.2	1.36	2	314.2	204.39	19.0	10.91	7	27.3	21.05	1.8	0.99	10
Anchoa hepsetus	581.8	295.67	6.1	2.37	2	355.5	221.85	2.3	1.39	7	0.6	0.60	0.0	0.03	10
Arius felis	908.8	905.05	48.0	47.47	2	351.4	206.62	48.8	30.20	7	6.5	3.09	1.8	0.89	10
Trachurus lathami	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	7	0.6	0.60	0.0	0.00	10
Diplectrum bivittatum	18.5	18.46	0.3	0.31	2	126.6	58.75	2.1	0.85	7	93.6	61.67	2.3	1.34	10
Squid	49.2	44.57	0.2	0.17	2	120.7	75.56	0.8	0.37	7	14.9	5.05	1.1	0.52	10

Table 41a (cont'd.)
Statistical Zone 11
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 11 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	78.1	38.45	1.4	0.65	6	57.7	57.69	1.0	1.00	2	0.0	0.00	0.0	0.00	2
Callinectes similis	1.7	1.31	0.1	0.05	6	0.0	0.00	0.0	0.00	2	2.0	2.00	0.1	0.09	2
Portunus gibbesii	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Sicyonia dorsalis	0.0	0.00	0.0	0.00	6	92.7	92.73	1.5	1.55	2	0.0	0.00	0.0	0.00	2
Portunus spinicarpus	16.4	15.92	0.1	0.14	6	219.3	67.03	1.7	0.49	2	46.0	46.00	0.5	0.45	2
Penaeus aztecus	29.7	13.43	1.1	0.49	6	36.1	16.99	1.7	0.94	2	0.0	0.00	0.0	0.00	2
Stenotomus caprinus	1772.7	1261.50	77.4	57.80	6	504.4	201.71	20.6	7.37	2	140.0	136.00	6.1	5.73	2
Chloroscombrus chrysurus	51.3	49.28	3.6	3.51	6	0.0	0.00	0.0	0.00	2	20.0	20.00	0.3	0.27	2
Lagodon rhomboides	330.9	268.64	22.8	18.60	6	15.0	15.00	1.1	1.05	2	2.0	2.00	0.2	0.18	2
Micropogonias undulatus	54.3	37.89	4.4	2.98	6	433.8	433.85	30.7	30.68	2	4.0	4.00	0.3	0.27	2
Anchoa hepsetus	0.4	0.41	0.0	0.01	6	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Arius felis	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Trachurus lathami	186.4	153.25	7.8	6.42	6	0.0	0.00	0.0	0.00	2	2.0	2.00	0.1	0.09	2
Diplectrum bivittatum	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
Squid	0.0	0.00	0.0	0.00	6	4.1	4.09	0.2	0.25	2	4.0	4.00	0.3	0.27	2

Table 41b
Statistical Zone 11
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	76.3	55.86	2	118.0	31.53	7	85.1	37.33	10	140.4	60.42	6	97.1	54.97	2	57.3	4.55	2
Total finfish kg	68.5	53.17	2	110.4	31.46	7	74.3	37.69	10	136.3	61.59	6	90.3	55.55	2	55.5	2.73	2
Total crustacean kg	5.9	2.49	2	5.2	1.27	7	7.5	2.45	10	3.2	0.93	6	6.2	0.05	2	1.8	0.00	2
Total others kg	1.9	0.20	2	2.4	1.24	7	4.0	1.29	10	1.1	0.78	6	0.6	0.62	2	0.9	0.91	2
Surface temperature	0.0	0.00	0	21.8	1.06	4	22.3	0.51	14	24.0	0.07	8	23.2	1.03	2	24.0	0.10	4
Midwater temperature	0.0	0.00	0	21.7	1.29	4	22.4	0.50	14	24.2	0.05	8	23.9	0.13	2	23.8	0.36	4
Bottom temperature	0.0	0.00	0	21.6	1.27	4	22.3	0.50	14	23.5	0.33	8	20.2	0.31	2	19.1	0.33	4
Surface salinity	0.0	0.00	0	35.0	0.35	2	35.2	0.15	7	35.3	0.05	8	34.8	0.91	2	35.4	0.09	3
Midwater salinity	0.0	0.00	0	35.0	0.36	2	35.3	0.15	7	35.5	0.08	8	35.3	0.46	2	36.0	0.13	3
Bottom salinity	0.0	0.00	0	35.1	0.29	2	35.3	0.16	7	35.9	0.11	8	35.9	0.73	2	36.5	0.02	3
Surface chlorophyll	0.0	0.00	0	1.1	0.00	1	0.4	0.10	5	0.4	0.17	5	0.7	0.37	2	0.3	0.05	2
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	0.47	4	7.0	0.37	14	7.2	0.30	8	6.8	0.05	2	6.9	0.05	4
Midwater oxygen	0.0	0.00	0	6.5	0.66	4	6.5	0.07	13	6.6	0.08	8	6.7	0.15	2	6.8	0.12	3
Bottom oxygen	0.0	0.00	0	6.4	0.61	4	7.0	0.44	12	5.9	0.29	6	5.7	0.80	2	5.0	0.14	4

Table 42a
Statistical Zone 13
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 13 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus spinicarpus	90.0	90.00	0.3	0.27	5	1.0	0.96	0.0	0.02	5	158.8	156.54	1.3	1.20	7
Trachypenaeus similis	171.9	84.32	0.4	0.19	5	240.4	150.25	0.5	0.28	5	0.0	0.00	0.0	0.00	7
Squilla spp.	63.7	23.34	0.6	0.20	5	182.8	86.59	1.5	0.85	5	106.7	45.01	1.3	0.57	7
Trachypenaeus spp.	15.6	15.60	0.0	0.03	5	39.8	39.84	0.1	0.11	5	146.4	87.23	0.6	0.32	7
Penaeus aztecus	60.8	37.60	1.4	1.20	5	95.0	53.66	1.0	0.61	5	61.4	33.86	0.8	0.34	7
Solenocera spp.	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
Chloroscombrus chrysurus	164.4	79.89	0.7	0.37	5	593.4	305.29	3.6	1.89	5	20.8	8.09	1.0	0.61	7
Cynoscion nothus	306.4	126.99	1.0	0.43	5	48.0	28.70	0.2	0.13	5	62.7	41.19	2.7	2.02	7
Sphoeroides parvus	182.0	71.67	1.4	0.64	5	135.5	30.08	0.8	0.18	5	3.9	3.04	0.1	0.06	7
Arius felis	0.8	0.80	0.2	0.20	5	294.5	278.01	58.5	55.44	5	4.3	4.29	1.1	1.09	7
Leiostomus xanthurus	29.8	27.84	3.1	3.01	5	30.3	25.01	3.3	3.16	5	380.1	208.14	46.0	26.00	7
Steindachneria argentea	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
Serranus atrobranchus	0.0	0.00	0.0	0.00	5	0.5	0.48	0.0	0.02	5	35.9	21.48	0.6	0.38	7
Trichiurus lepturus	0.0	0.00	0.0	0.00	5	7.2	4.45	0.0	0.03	5	90.4	75.28	0.8	0.56	7
Squid	352.1	80.85	2.8	0.62	5	235.6	89.84	1.8	0.73	5	55.0	28.05	0.4	0.15	7

Table 42a (cont'd.)
Statistical Zone 13
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 13 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus spinicarpus	240.0	240.00	2.8	2.81	2	28.6	0.00	0.3	0.00	1	301.1	250.31	1.4	1.11	3
Trachypenaeus similis	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Squilla spp.	305.6	305.63	5.1	5.11	2	62.9	0.00	0.5	0.00	1	21.2	10.66	0.4	0.20	3
Trachypenaeus spp.	150.0	150.00	0.5	0.51	2	8.6	0.00	0.1	0.00	1	78.0	78.05	0.3	0.31	3
Penaeus aztecus	26.3	26.25	0.3	0.34	2	37.1	0.00	1.3	0.00	1	9.8	9.76	0.3	0.33	3
Solenocera spp.	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Chloroscombrus chrysurus	8.4	8.40	0.3	0.33	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Cynoscion nothus	64.7	47.85	1.6	1.05	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Sphoeroides parvus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Arius felis	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Leiostomus xanthurus	157.3	116.47	18.4	12.76	2	20.0	0.00	2.6	0.00	1	0.0	0.00	0.0	0.00	3
Steindachneria argentea	55.2	55.20	0.3	0.27	2	0.0	0.00	0.0	0.00	1	1033.2	983.60	9.5	8.90	3
Serranus atrobranchus	221.3	221.25	3.0	2.98	2	250.0	0.00	4.2	0.00	1	95.8	63.40	2.6	1.52	3
Trichiurus lepturus	278.2	259.43	7.2	7.06	2	2.9	0.00	0.1	0.00	1	24.3	14.84	2.0	1.51	3
Squid	0.0	0.00	0.0	0.00	2	2.9	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3

Table 42b
Statistical Zone 13
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	23.5	5.31	5	83.9	52.79	5	88.4	27.93	7	72.6	27.92	2	46.8	0.00	1	69.3	25.15	3
Total finfish kg	16.8	4.24	5	75.8	52.34	5	79.6	27.33	7	55.9	12.27	2	43.5	0.00	1	63.9	25.18	3
Total crustacean kg	3.8	1.49	5	6.1	1.81	5	7.5	3.06	7	16.7	15.65	2	4.5	0.00	1	4.4	1.79	3
Total others kg	3.6	0.25	5	2.3	0.70	5	1.9	0.40	7	0.9	0.85	2	0.6	0.00	1	1.0	0.76	3
Surface temperature	19.3	0.65	5	19.6	0.62	5	22.6	0.39	5	22.1	0.28	4	22.9	0.00	1	22.7	0.22	4
Midwater temperature	19.7	0.68	5	19.7	0.65	5	23.0	0.22	5	23.6	0.25	4	24.1	0.00	1	24.7	0.30	4
Bottom temperature	19.9	0.64	5	21.8	0.29	5	23.9	0.26	5	24.5	0.08	4	21.8	0.00	1	19.6	0.28	4
Surface salinity	33.1	0.69	5	33.2	0.49	5	33.0	0.55	5	31.3	0.54	4	33.2	0.00	1	33.9	0.17	3
Midwater salinity	33.9	0.43	5	33.5	0.25	5	33.5	0.43	5	33.6	0.17	4	35.1	0.00	1	35.6	0.09	3
Bottom salinity	34.6	0.45	5	35.2	0.60	5	34.3	0.58	5	34.9	0.36	4	36.6	0.00	1	36.9	0.31	3
Surface chlorophyll	5.6	0.95	5	3.9	2.63	5	1.5	0.47	5	2.1	0.70	3	1.1	0.00	1	0.8	0.05	3
Midwater chlorophyll	0.0	0.00	0	1.8	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	7.6	0.70	5	4.3	0.77	5	0.9	0.21	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.4	0.30	5	7.2	0.13	5	7.0	0.04	5	7.1	0.03	3	7.6	0.00	1	7.0	0.09	4
Midwater oxygen	6.8	0.30	5	7.1	0.19	5	6.9	0.07	5	6.7	0.15	3	7.2	0.00	1	6.7	0.09	4
Bottom oxygen	6.4	0.35	5	4.5	0.35	5	6.1	0.29	5	6.2	0.35	2	5.2	0.00	1	5.4	0.37	4

Table 43a
Statistical Zone 14
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 14 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm or above 40 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	158.1	109.74	2.2	1.46	9	55.1	32.67	0.7	0.36	8
Callinectes similis	0.0	0.00	0.0	0.00	0	55.4	36.01	1.8	1.11	9	262.3	220.02	9.6	7.95	8
Trachypenaeus similis	0.0	0.00	0.0	0.00	0	87.6	68.27	0.3	0.23	9	73.0	73.00	0.3	0.26	8
Squilla spp.	0.0	0.00	0.0	0.00	0	52.6	30.92	0.2	0.09	9	38.1	28.42	0.3	0.21	8
Portunus gibbesii	0.0	0.00	0.0	0.00	0	49.7	20.53	0.3	0.13	9	32.9	17.54	0.2	0.13	8
Penaeus setiferus	0.0	0.00	0.0	0.00	0	21.7	10.22	0.4	0.19	9	13.6	7.44	0.5	0.26	8
Peprilus burti	0.0	0.00	0.0	0.00	0	4.2	4.17	0.5	0.45	9	17.2	7.82	1.1	0.52	8
Micropogonias undulatus	0.0	0.00	0.0	0.00	0	325.6	216.61	22.8	14.50	9	289.5	145.37	18.7	8.90	8
Arius felis	0.0	0.00	0.0	0.00	0	145.1	98.08	12.7	8.54	9	176.9	171.90	14.4	13.85	8
Stenotomus caprinus	0.0	0.00	0.0	0.00	0	23.2	23.19	0.7	0.70	9	34.3	29.49	0.9	0.78	8
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	0	211.6	127.90	5.2	3.51	9	14.0	6.12	0.3	0.17	8
Trachurus lathami	0.0	0.00	0.0	0.00	0	9.1	6.66	0.3	0.27	9	82.5	49.28	2.5	1.33	8
Leiostomus xanthurus	0.0	0.00	0.0	0.00	0	41.7	36.18	4.9	4.10	9	24.9	11.83	2.3	1.15	8
Centropristis philadelphica	0.0	0.00	0.0	0.00	0	22.4	9.12	0.9	0.45	9	23.8	20.12	0.5	0.40	8
Squid	0.0	0.00	0.0	0.00	0	14.4	10.00	0.2	0.12	9	19.6	8.76	0.2	0.09	8

Table 43a (cont'd.)
Statistical Zone 14
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 14 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm or above 40 fm.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	80.5	25.39	2.8	0.80	5	18.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	0
Callinectes similis	53.8	30.24	3.3	1.87	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Trachypenaeus similis	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Squilla spp.	9.0	8.27	0.2	0.19	5	30.0	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	0
Portunus gibbesii	3.6	2.91	0.0	0.03	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Penaeus setiferus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Peprilus burti	748.2	667.72	52.6	46.66	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	360.9	155.93	29.4	11.23	5	3.0	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	0
Arius felis	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	237.2	79.12	6.4	2.15	5	87.0	0.00	10.0	0.00	1	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	1.8	1.80	0.2	0.20	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Trachurus lathami	87.8	62.48	2.2	1.20	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Leiostomus xanthurus	118.9	100.78	14.7	12.96	5	102.0	0.00	13.4	0.00	1	0.0	0.00	0.0	0.00	0
Centropristis philadelphica	90.6	39.93	6.1	2.61	5	138.0	0.00	10.4	0.00	1	0.0	0.00	0.0	0.00	0
Squid	11.2	11.20	0.1	0.05	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0

Table 43b
Statistical Zone 14
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 6 fm or above 40 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	63.4	18.13	9	70.2	17.03	8	134.8	29.29	5	66.8	0.00	1	0.0	0.00	0
Total finfish kg	0.0	0.00	0	57.0	17.11	9	57.6	13.80	8	127.5	30.49	5	62.7	0.00	1	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	5.6	1.93	9	12.4	7.91	8	7.3	2.66	5	2.7	0.00	1	0.0	0.00	0
Total others kg	0.0	0.00	0	0.9	0.50	9	0.7	0.30	8	0.1	0.09	5	1.4	0.00	1	0.0	0.00	0
Surface temperature	0.0	0.00	0	21.1	0.74	11	21.4	0.69	8	24.1	0.04	2	24.3	0.08	2	24.3	0.00	1
Midwater temperature	0.0	0.00	0	21.5	0.59	11	21.4	0.65	8	24.1	0.04	2	24.3	0.08	2	24.3	0.00	1
Bottom temperature	0.0	0.00	0	21.7	0.49	11	21.9	0.57	8	24.1	0.01	2	23.3	0.95	2	20.3	0.00	1
Surface salinity	0.0	0.00	0	33.6	0.21	11	34.2	0.54	8	35.6	0.03	2	35.7	0.06	2	35.8	0.00	1
Midwater salinity	0.0	0.00	0	34.0	0.34	11	34.3	0.54	8	35.6	0.06	2	35.7	0.07	2	35.8	0.00	1
Bottom salinity	0.0	0.00	0	34.3	0.24	11	34.9	0.42	8	35.7	0.02	2	36.0	0.20	2	36.7	0.00	1
Surface chlorophyll	0.0	0.00	0	1.2	0.40	10	0.9	0.14	8	0.5	0.22	2	0.3	0.06	2	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	1.5	0.00	1	0.8	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	1.0	0.15	10	0.9	0.12	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	11	7.0	0.14	8	7.0	0.20	2	6.9	0.10	2	6.8	0.00	1
Midwater oxygen	0.0	0.00	0	7.1	0.17	11	6.8	0.15	8	6.9	0.10	2	6.8	0.10	2	6.7	0.00	1
Bottom oxygen	0.0	0.00	0	6.7	0.18	11	6.2	0.12	8	6.9	0.05	2	4.5	0.35	2	5.6	0.00	1

Table 44a
Statistical Zone 15
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 15 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	10.1	5.43	0.2	0.11	3	370.4	284.38	11.0	8.63	3	287.5	83.04	7.9	2.51	15
Portunus gibbesii	87.5	54.05	0.4	0.19	3	640.8	536.39	3.5	3.02	3	138.5	34.79	1.1	0.29	15
Penaeus aztecus	20.9	12.12	0.3	0.26	3	130.1	40.43	1.6	0.45	3	70.4	12.99	1.3	0.26	15
Squilla spp.	136.6	116.45	1.7	1.50	3	105.8	62.39	1.2	0.71	3	39.5	14.84	0.5	0.20	15
Trachypenaeus similis	104.3	91.92	0.3	0.30	3	138.0	138.00	0.5	0.55	3	22.3	12.04	0.1	0.08	15
Trachypenaeus spp.	0.0	0.00	0.0	0.00	3	27.5	27.50	0.1	0.11	3	44.0	32.00	0.2	0.14	15
Stenotomus caprinus	1.4	1.38	0.0	0.03	3	172.5	172.50	2.5	2.50	3	306.3	89.87	6.5	1.95	15
Chloroscombrus chrysurus	45.7	24.34	0.4	0.24	3	1836.9	1830.13	17.7	17.75	3	62.0	27.89	1.5	0.63	15
Micropogonias undulatus	11.7	4.04	0.5	0.22	3	2.5	2.50	0.2	0.17	3	367.9	107.88	21.2	6.25	15
Centropristis philadelphica	104.2	67.14	2.6	1.68	3	147.0	122.39	3.8	3.39	3	84.0	23.31	1.6	0.41	15
Prionotus rubio	11.2	8.99	0.3	0.16	3	52.7	36.65	1.6	1.17	3	112.9	34.12	2.4	0.60	15
Peprilus burti	50.2	41.27	2.1	1.71	3	345.5	328.81	23.4	22.51	3	70.7	42.97	4.8	2.82	15
Syacium gunteri	7.7	5.60	0.1	0.08	3	116.0	108.59	1.7	1.47	3	69.9	38.93	1.4	0.86	15
Trachurus lathami	0.0	0.00	0.0	0.00	3	10.5	10.48	0.5	0.48	3	2.7	2.01	0.1	0.12	15
Squid	153.5	73.11	1.6	0.60	3	12.7	6.45	0.8	0.43	3	24.5	10.07	0.4	0.15	15

Table 44a (cont'd.)
Statistical Zone 15
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 15 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	12.2	0.00	0.6	0.00	1	6.6	6.56	0.6	0.55	2	2.0	0.00	0.0	0.00	1
Portunus gibbesii	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Penaeus aztecus	55.1	0.00	2.6	0.00	1	26.3	13.08	1.4	0.41	2	6.0	0.00	0.4	0.00	1
Squilla spp.	14.7	0.00	0.1	0.00	1	3.8	3.75	0.2	0.17	2	0.0	0.00	0.0	0.00	1
Trachypenaeus similis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Trachypenaeus spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Stenotomus caprinus	411.4	0.00	13.2	0.00	1	447.5	174.98	17.6	1.10	2	111.0	0.00	6.3	0.00	1
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Micropogonias undulatus	60.0	0.00	6.8	0.00	1	12.3	8.28	2.2	1.66	2	0.0	0.00	0.0	0.00	1
Centropristis philadelphica	63.7	0.00	2.3	0.00	1	35.8	31.72	1.8	1.46	2	2.0	0.00	0.1	0.00	1
Prionotus rubio	55.1	0.00	1.9	0.00	1	25.5	21.40	1.7	1.40	2	0.0	0.00	0.0	0.00	1
Peprilus burti	0.0	0.00	0.0	0.00	1	46.2	44.32	4.2	3.87	2	106.0	0.00	8.2	0.00	1
Syacium gunteri	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Trachurus lathami	9.8	0.00	0.4	0.00	1	226.2	224.32	9.0	8.86	2	41.0	0.00	1.3	0.00	1
Squid	1.2	0.00	0.1	0.00	1	5.6	5.59	0.6	0.65	2	30.0	0.00	3.2	0.00	1

Table 44b
Statistical Zone 15
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	106.3	81.94	3	109.0	33.53	3	69.0	11.40	15	38.4	0.00	1	55.8	8.03	2	35.0	0.00	1
Total finfish kg	98.9	84.21	3	87.3	40.25	3	57.1	10.05	15	32.8	0.00	1	51.4	9.63	2	30.9	0.00	1
Total crustacean kg	5.7	2.79	3	20.8	7.39	3	11.6	3.00	15	5.0	0.00	1	2.6	1.67	2	0.9	0.00	1
Total others kg	2.6	0.37	3	0.9	0.44	3	0.7	0.24	15	1.7	0.00	1	1.8	0.07	2	3.6	0.00	1
Surface temperature	18.1	2.03	3	22.2	0.47	3	20.9	0.82	15	23.7	0.00	1	24.1	0.00	1	24.4	0.19	2
Midwater temperature	18.9	1.44	3	22.1	0.50	3	22.1	0.42	15	23.7	0.00	1	24.0	0.00	1	24.4	0.29	2
Bottom temperature	19.5	0.96	3	22.2	0.46	3	22.2	0.39	15	22.7	0.00	1	23.8	0.00	1	20.3	0.74	2
Surface salinity	28.5	1.84	3	32.8	0.78	3	32.8	0.79	15	35.7	0.00	1	35.8	0.00	1	36.0	0.10	2
Midwater salinity	31.5	1.50	3	32.9	0.73	3	35.3	0.20	15	35.7	0.00	1	35.9	0.00	1	36.1	0.15	2
Bottom salinity	33.0	0.39	3	33.0	0.68	3	35.5	0.21	15	35.7	0.00	1	35.9	0.00	1	36.5	0.01	2
Surface chlorophyll	3.1	0.36	3	0.9	0.20	3	1.8	0.42	11	0.5	0.00	1	1.0	0.00	1	0.2	0.01	2
Midwater chlorophyll	2.1	0.08	2	0.0	0.00	0	0.8	0.09	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	2.3	0.81	3	0.9	0.52	3	0.6	0.07	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.8	0.23	3	7.3	0.12	3	7.3	0.13	15	6.6	0.00	1	6.8	0.00	1	7.0	0.00	2
Midwater oxygen	7.2	0.35	3	7.2	0.12	3	6.8	0.12	15	6.4	0.00	1	6.7	0.00	1	6.9	0.05	2
Bottom oxygen	7.0	0.12	3	7.0	0.19	3	6.6	0.10	15	6.5	0.00	1	6.8	0.00	1	4.8	0.05	2

Table 45a
Statistical Zone 16
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 16 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 40 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	44.0	0.00	0.3	0.00	1	102.2	36.77	1.4	0.15	2	81.0	32.97	1.7	0.57	9
Sicyonia brevirostris	2.0	0.00	0.1	0.00	1	0.5	0.50	0.0	0.00	2	1.4	0.95	0.0	0.01	9
Portunus gibbesii	40.0	0.00	0.1	0.00	1	277.6	240.59	0.8	0.70	2	28.2	15.26	0.1	0.03	9
Callinectes similis	2.0	0.00	0.1	0.00	1	0.5	0.50	0.0	0.02	2	67.3	54.81	1.4	1.15	9
Squilla spp.	12.0	0.00	0.2	0.00	1	2.0	2.00	0.0	0.02	2	10.6	9.30	0.1	0.05	9
Trachypenaeus spp.	24.0	0.00	0.1	0.00	1	2.0	2.00	0.0	0.00	2	10.7	10.15	0.0	0.04	9
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	346.4	346.36	5.7	5.70	2	760.3	464.88	20.5	13.10	9
Chloroscombrus chrysurus	28.0	0.00	0.4	0.00	1	47.4	15.36	0.5	0.32	2	974.9	530.00	14.8	7.16	9
Peprilus burti	32.0	0.00	2.5	0.00	1	13.3	11.27	0.5	0.39	2	134.3	84.26	8.7	5.40	9
Trachurus lathami	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	39.1	16.01	1.1	0.48	9
Scomber japonicus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	9
Micropogonias undulatus	0.0	0.00	0.0	0.00	1	109.7	105.73	8.7	8.52	2	162.8	53.84	11.5	3.72	9
Arius felis	0.0	0.00	0.0	0.00	1	346.4	346.36	20.1	20.08	2	77.8	71.16	6.1	4.88	9
Prionotus rubio	0.0	0.00	0.0	0.00	1	334.1	334.09	7.2	7.19	2	31.5	28.33	0.7	0.60	9
Squid	38.0	0.00	1.2	0.00	1	8.0	8.00	0.0	0.05	2	4.0	2.84	0.2	0.16	9

Table 45a (cont'd.)
Statistical Zone 16
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 16 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 40 fm.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	24.8	9.60	1.0	0.41	4	21.3	6.24	1.0	0.24	4	0.0	0.00	0.0	0.00	0
Sicyonia brevirostris	120.9	73.30	1.7	1.02	4	1.8	1.07	0.0	0.01	4	0.0	0.00	0.0	0.00	0
Portunus gibbesii	0.3	0.25	0.0	0.00	4	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Callinectes similis	28.0	12.72	0.8	0.39	4	4.2	1.40	0.1	0.08	4	0.0	0.00	0.0	0.00	0
Squilla spp.	3.0	3.00	0.0	0.01	4	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Trachypenaeus spp.	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	710.4	235.18	23.8	8.11	4	156.3	59.80	6.2	3.16	4	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	32.0	22.62	1.5	1.14	4	0.3	0.25	0.0	0.01	4	0.0	0.00	0.0	0.00	0
Peprilus burti	36.9	18.87	3.2	1.86	4	150.2	77.00	9.7	4.77	4	0.0	0.00	0.0	0.00	0
Trachurus lathami	90.0	34.88	3.0	1.43	4	245.8	113.77	5.5	2.23	4	0.0	0.00	0.0	0.00	0
Scomber japonicus	0.0	0.00	0.0	0.00	4	332.8	289.87	21.6	18.79	4	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	26.7	18.40	2.5	1.57	4	0.3	0.25	0.0	0.03	4	0.0	0.00	0.0	0.00	0
Arius felis	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Prionotus rubio	22.9	18.36	0.8	0.67	4	1.0	1.00	0.1	0.09	4	0.0	0.00	0.0	0.00	0
Squid	22.3	10.05	0.8	0.48	4	10.0	4.88	0.5	0.34	4	0.0	0.00	0.0	0.00	0

Table 45b
Statistical Zone 16
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 40 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	8.2	0.00	1	62.8	58.70	2	83.2	19.08	9	54.6	14.72	4	57.8	21.12	4	0.0	0.00	0
Total finfish kg	5.5	0.00	1	60.4	58.60	2	79.7	19.25	9	50.2	12.75	4	55.5	20.07	4	0.0	0.00	0
Total crustacean kg	1.8	0.00	1	2.4	0.10	2	3.5	1.49	9	3.3	1.78	4	1.3	0.38	4	0.0	0.00	0
Total others kg	0.9	0.00	1	0.2	0.23	2	0.3	0.17	9	1.5	0.47	4	1.4	0.93	4	0.0	0.00	0
Surface temperature	19.3	0.00	1	21.0	1.19	2	22.8	0.22	9	23.8	0.17	4	24.4	0.04	3	24.7	0.00	1
Midwater temperature	19.3	0.00	1	21.1	1.27	2	22.8	0.22	9	23.8	0.17	4	24.4	0.05	3	24.7	0.00	1
Bottom temperature	19.4	0.00	1	21.4	1.57	2	22.9	0.24	9	23.8	0.18	4	22.7	0.81	3	21.3	0.00	1
Surface salinity	29.4	0.00	1	31.9	0.82	2	34.8	0.18	9	35.5	0.19	4	36.1	0.05	3	36.3	0.00	1
Midwater salinity	29.7	0.00	1	32.1	0.99	2	34.9	0.18	9	35.7	0.11	4	36.2	0.06	3	36.4	0.00	1
Bottom salinity	29.8	0.00	1	32.5	1.37	2	35.0	0.18	9	35.7	0.11	4	36.3	0.16	3	36.5	0.00	1
Surface chlorophyll	2.1	0.00	1	0.8	0.00	1	0.8	0.10	9	0.7	0.16	4	2.5	0.00	1	0.2	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	2.6	0.00	1	4.4	3.25	2	0.8	0.08	8	0.5	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	8.0	0.00	1	8.2	0.90	2	7.5	0.22	9	6.9	0.20	4	7.4	0.32	3	7.2	0.00	1
Midwater oxygen	8.2	0.00	1	8.0	0.90	2	7.2	0.14	9	6.7	0.20	4	7.1	0.18	3	7.5	0.00	1
Bottom oxygen	8.2	0.00	1	7.7	0.90	2	7.0	0.17	8	6.7	0.12	3	5.7	2.00	2	6.1	0.00	1

Table 46a
Statistical Zone 17
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 17 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	1	37.7	22.14	0.7	0.45	6	27.3	22.44	0.5	0.45	6
Portunus spinicarpus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	5.2	3.27	0.0	0.01	6
Sicyonia dorsalis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	1.0	1.00	0.0	0.00	6
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	9.8	9.25	0.1	0.06	6	3.9	2.18	0.0	0.02	6
Portunus spinimanus	4.0	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Portunus gibbesii	0.0	0.00	0.0	0.00	1	22.5	14.13	0.1	0.06	6	1.0	1.00	0.0	0.00	6
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	49.2	30.89	2.6	1.66	6
Peprilus burti	13.3	0.00	0.3	0.00	1	6.3	2.34	0.4	0.14	6	63.7	61.35	3.6	3.45	6
Anchoa hepsetus	66.7	0.00	1.0	0.00	1	54.3	48.60	0.9	0.84	6	0.0	0.00	0.0	0.00	6
Chloroscombrus chrysurus	4.0	0.00	0.1	0.00	1	34.7	26.72	0.3	0.19	6	47.6	28.13	0.8	0.57	6
Prionotus paralatus	0.0	0.00	0.0	0.00	1	0.3	0.33	0.0	0.02	6	0.0	0.00	0.0	0.00	6
Trachurus lathami	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	2.2	1.97	0.1	0.06	6
Leiostomus xanthurus	1.3	0.00	0.1	0.00	1	4.7	3.86	0.7	0.62	6	113.7	112.95	14.5	14.31	6
Decapterus punctatus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Squid	50.7	0.00	0.7	0.00	1	12.6	6.35	0.1	0.07	6	9.4	5.37	0.1	0.09	6

Table 46a (cont'd.)
Statistical Zone 17
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 17 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	13.1	8.25	0.7	0.46	4	0.0	0.00	0.0	0.00	1	4.5	0.50	0.3	0.07	2
Portunus spinicarpus	15.0	10.16	0.1	0.06	4	104.0	0.00	0.7	0.00	1	42.2	12.83	1.0	0.79	2
Sicyonia dorsalis	0.0	0.00	0.0	0.00	4	161.0	0.00	1.1	0.00	1	0.0	0.00	0.0	0.00	2
Sicyonia brevirostris	18.8	11.72	0.2	0.15	4	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Portunus spinimanus	0.0	0.00	0.0	0.00	4	74.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	2
Portunus gibbesii	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Stenotomus caprinus	228.5	62.39	10.5	4.10	4	305.0	0.00	14.0	0.00	1	37.8	32.83	1.9	1.67	2
Peprilus burti	169.4	120.09	11.8	8.49	4	0.0	0.00	0.0	0.00	1	50.0	50.00	2.4	2.39	2
Anchoa hepsetus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Chloroscombrus chrysurus	5.0	5.00	0.3	0.32	4	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Prionotus paralatus	3.6	2.17	0.1	0.05	4	264.0	0.00	4.0	0.00	1	7.2	2.17	0.2	0.02	2
Trachurus lathami	43.3	40.28	1.0	0.95	4	0.0	0.00	0.0	0.00	1	92.5	92.50	4.2	4.20	2
Leiostomus xanthurus	2.0	0.94	0.2	0.09	4	22.0	0.00	3.2	0.00	1	0.0	0.00	0.0	0.00	2
Decapterus punctatus	48.8	48.75	2.6	2.57	4	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Squid	1.7	1.67	0.0	0.03	4	11.0	0.00	0.9	0.00	1	42.0	38.00	3.8	3.45	2

Table 46b
Statistical Zone 17
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	8.5	0.00	1	16.3	3.33	6	36.5	15.81	6	29.8	13.55	4	50.5	0.00	1	25.8	1.52	2
Total finfish kg	3.0	0.00	1	13.8	3.79	6	35.8	15.78	6	28.9	14.05	4	40.0	0.00	1	20.6	2.42	2
Total crustacean kg	0.6	0.00	1	1.3	0.60	6	1.6	0.32	6	1.1	0.47	4	5.5	0.00	1	1.4	0.83	2
Total others kg	5.5	0.00	1	1.7	0.85	6	0.9	0.37	6	0.3	0.16	4	5.5	0.00	1	3.7	3.11	2
Surface temperature	0.0	0.00	0	20.0	0.74	5	22.7	0.30	5	23.9	0.27	2	24.4	0.00	1	24.4	0.07	2
Midwater temperature	0.0	0.00	0	20.0	0.75	5	22.7	0.30	5	24.2	0.06	2	24.6	0.00	1	24.9	0.04	2
Bottom temperature	0.0	0.00	0	20.0	0.69	5	22.8	0.38	5	24.4	0.23	2	23.3	0.00	1	21.0	0.15	2
Surface salinity	0.0	0.00	0	31.4	0.93	5	34.6	0.27	5	35.7	0.28	2	36.2	0.00	1	36.1	0.00	2
Midwater salinity	0.0	0.00	0	31.6	0.88	5	34.7	0.30	5	35.8	0.17	2	36.3	0.00	1	36.3	0.06	2
Bottom salinity	0.0	0.00	0	31.6	0.85	5	34.9	0.35	5	36.2	0.18	2	36.7	0.00	1	36.5	0.06	2
Surface chlorophyll	0.0	0.00	0	1.2	0.40	5	0.7	0.21	5	0.5	0.16	2	0.0	0.00	0	0.2	0.11	2
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	1.6	0.54	3	0.5	0.04	4	0.8	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	8.0	0.16	5	8.9	1.52	5	7.1	0.05	2	7.7	0.00	1	7.1	0.25	2
Midwater oxygen	0.0	0.00	0	8.0	0.19	5	9.1	1.48	5	7.5	0.55	2	7.8	0.00	1	7.3	0.25	2
Bottom oxygen	0.0	0.00	0	7.9	0.24	5	9.0	1.27	5	7.8	0.70	2	6.2	0.00	1	5.9	0.40	2

Table 47a
Statistical Zone 18
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 18 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm or above 30 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	0.0	0.00	0.0	0.00	0	3.2	3.16	0.0	0.04	2	46.0	24.06	0.6	0.35	9
Penaeus aztecus	0.0	0.00	0.0	0.00	0	205.3	205.26	1.9	1.94	2	5.1	1.88	0.2	0.07	9
Sicyonia dorsalis	0.0	0.00	0.0	0.00	0	0.8	0.79	0.0	0.00	2	0.0	0.00	0.0	0.00	9
Portunus gibbesii	0.0	0.00	0.0	0.00	0	24.2	13.65	0.1	0.07	2	1.3	1.13	0.0	0.00	9
Squilla spp.	0.0	0.00	0.0	0.00	0	8.7	8.68	0.1	0.07	2	0.7	0.37	0.0	0.00	9
Callinectes similis	0.0	0.00	0.0	0.00	0	2.6	0.98	0.0	0.04	2	2.1	1.16	0.1	0.04	9
Stenotomus caprinus	0.0	0.00	0.0	0.00	0	1.6	1.58	0.0	0.04	2	652.1	152.92	20.5	4.75	9
Lagodon rhomboides	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	6.1	3.33	0.4	0.19	9
Peprilus burti	0.0	0.00	0.0	0.00	0	2.4	2.37	0.2	0.22	2	144.0	96.40	9.5	6.30	9
Micropogonias undulatus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	132.9	76.43	9.5	5.49	9
Diplectrum bivittatum	0.0	0.00	0.0	0.00	0	0.8	0.79	0.0	0.04	2	26.4	7.35	0.4	0.15	9
Synodus foetens	0.0	0.00	0.0	0.00	0	4.7	4.74	0.4	0.36	2	10.3	4.19	1.5	0.72	9
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	0	20.5	20.53	0.1	0.11	2	15.9	8.18	0.3	0.16	9
Leiostomus xanthurus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	21.9	9.38	2.4	0.91	9
Squid	0.0	0.00	0.0	0.00	0	28.4	28.42	0.4	0.36	2	4.8	1.90	0.4	0.27	9

Table 47a (cont'd.)
Statistical Zone 18
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 18 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm or above 30 fm.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	95.2	66.96	1.5	1.12	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus aztecus	15.1	7.32	0.8	0.39	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sicyonia dorsalis	53.3	53.25	0.8	0.78	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus gibbesii	1.9	1.45	0.0	0.00	5	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	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	1.7	1.02	0.1	0.04	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	301.0	50.82	14.0	3.11	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Lagodon rhomboides	114.8	51.75	6.7	2.72	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus burti	6.6	4.35	0.5	0.37	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	1.5	0.62	0.2	0.06	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Diplectrum bivittatum	2.7	2.18	0.0	0.03	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Synodus foetens	7.7	3.67	0.9	0.47	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	0.6	0.60	0.0	0.05	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Leiostomus xanthurus	1.3	0.69	0.1	0.06	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	3.5	1.86	0.4	0.23	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 47b
Statistical Zone 18
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 6 fm or above 30 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	6.5	4.94	2	55.6	18.09	9	28.5	2.59	5	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	3.7	2.07	2	53.2	18.05	9	24.8	2.41	5	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	3.7	2.07	2	1.5	0.28	9	3.2	1.27	5	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.4	0.36	2	1.3	0.64	9	0.7	0.30	5	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	19.9	0.00	1	22.3	0.24	8	23.0	0.25	3	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	20.0	0.00	1	22.3	0.20	8	23.0	0.25	3	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	21.2	0.00	1	22.5	0.19	8	23.3	0.08	3	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	31.2	0.00	1	35.2	0.19	8	35.6	0.33	3	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	31.2	0.00	1	35.4	0.16	8	35.8	0.20	3	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	32.1	0.00	1	35.5	0.14	8	35.9	0.14	3	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.4	0.00	1	0.4	0.04	8	0.4	0.02	2	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	7.2	0.00	1	0.5	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	8.0	0.00	1	7.1	0.06	8	6.8	0.07	3	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	8.2	0.00	1	7.1	0.09	6	6.8	0.09	3	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	6.1	0.00	1	7.1	0.10	7	6.8	0.09	3	0.0	0.00	0	0.0	0.00	0

Table 48a
Statistical Zone 19
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 19 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 30 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	1	30.9	19.19	0.3	0.17	5	58.1	26.92	1.4	0.65	6
Penaeus setiferus	115.0	0.00	1.4	0.00	1	129.0	24.23	2.0	0.15	5	4.8	4.26	0.2	0.15	6
Callinectes similis	55.0	0.00	0.5	0.00	1	30.6	26.90	0.2	0.10	5	8.9	3.86	0.2	0.09	6
Trachypenaeus spp.	20.0	0.00	0.0	0.00	1	30.8	14.99	0.1	0.05	5	8.9	7.17	0.0	0.04	6
Portunus gibbesii	30.0	0.00	0.0	0.00	1	20.6	9.91	0.1	0.05	5	8.6	2.96	0.1	0.02	6
Squilla spp.	110.0	0.00	2.5	0.00	1	16.3	4.40	0.2	0.07	5	1.2	0.57	0.0	0.02	6
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	542.3	206.23	8.3	3.39	6
Trachurus lathami	0.0	0.00	0.0	0.00	1	1.2	1.20	0.1	0.05	5	93.2	47.02	2.4	1.22	6
Larimus fasciatus	0.0	0.00	0.0	0.00	1	0.2	0.24	0.0	0.01	5	57.3	31.35	3.1	1.68	6
Peprilus burti	5.0	0.00	0.0	0.00	1	9.3	8.21	0.1	0.10	5	36.4	20.72	2.8	1.82	6
Lagodon rhomboides	5.0	0.00	0.2	0.00	1	1.1	1.09	0.0	0.02	5	6.9	3.60	0.5	0.40	6
Diplectrum bivittatum	0.0	0.00	0.0	0.00	1	1.9	1.86	0.0	0.03	5	37.1	15.79	0.7	0.25	6
Micropogonias undulatus	0.0	0.00	0.0	0.00	1	2.1	0.88	0.1	0.05	5	27.2	6.31	1.7	0.35	6
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	1.1	0.70	0.0	0.03	6
Squid	5.0	0.00	0.2	0.00	1	7.1	5.78	0.0	0.02	5	26.8	13.79	0.3	0.14	6

Table 48a (cont'd.)
Statistical Zone 19
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 19 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 30 fm.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	32.8	30.27	1.1	0.98	3	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	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	7.4	2.00	0.2	0.10	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus 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
Portunus gibbesii	0.4	0.44	0.0	0.02	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla spp.	1.3	1.33	0.0	0.02	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	44.8	35.29	1.1	0.89	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachurus lathami	18.8	11.18	0.3	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Larimus fasciatus	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
Peprilus burti	51.6	41.36	3.5	2.75	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Lagodon rhomboides	71.7	17.63	3.0	0.52	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Diplectrum bivittatum	1.9	1.85	0.0	0.03	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	23.4	9.79	1.8	0.68	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	55.2	34.19	1.4	0.89	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	19.8	9.34	2.4	1.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 48b
Statistical Zone 19
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 30 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	88.6	0.00	1	32.1	9.71	5	29.8	7.49	6	18.1	2.18	3	0.0	0.00	0	0.0	0.00	0
Total finfish kg	15.9	0.00	1	2.7	0.20	5	25.9	7.68	6	14.1	1.74	3	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	4.5	0.00	1	2.8	0.28	5	2.3	0.63	6	1.4	0.82	3	0.0	0.00	0	0.0	0.00	0
Total others kg	68.2	0.00	1	26.1	10.30	5	2.0	1.24	6	2.7	1.15	3	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	19.8	0.20	5	19.4	1.78	6	22.8	0.14	3	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	19.8	0.20	5	21.1	0.26	6	22.8	0.14	3	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	20.0	0.28	5	21.6	0.24	6	23.0	0.11	3	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	31.2	0.08	4	33.8	0.34	5	35.2	0.12	3	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	31.1	0.12	4	33.8	0.33	5	35.3	0.12	3	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	31.1	0.12	4	34.6	0.20	5	35.4	0.04	3	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	2.2	0.54	4	1.0	0.35	6	0.8	0.21	3	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	2.3	0.00	1	1.9	0.22	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	7.7	0.15	5	7.7	0.42	5	7.2	0.47	3	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	7.7	0.19	5	7.6	0.32	5	7.2	0.47	3	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	7.6	0.14	5	7.1	0.25	4	6.9	0.50	3	0.0	0.00	0	0.0	0.00	0

Table 49a
Statistical Zone 20
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 20 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 40 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	652.0	0.00	7.5	0.00	1	67.4	44.94	0.8	0.53	4	3.4	1.37	0.1	0.04	8
Penaeus aztecus	2.0	0.00	0.0	0.00	1	11.9	10.13	0.1	0.12	4	46.4	11.21	0.7	0.17	8
Trachypenaeus spp.	192.0	0.00	0.2	0.00	1	23.5	15.52	0.0	0.03	4	35.8	11.82	0.1	0.05	8
Penaeus duorarum	22.0	0.00	0.2	0.00	1	87.1	51.75	1.0	0.60	4	1.8	0.95	0.0	0.01	8
Portunus gibbesii	74.0	0.00	0.2	0.00	1	24.6	14.23	0.4	0.31	4	8.8	4.29	0.1	0.04	8
Solenocera spp.	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	8
Chloroscombrus chrysurus	16.0	0.00	0.1	0.00	1	307.5	300.51	2.4	2.34	4	32.5	24.68	0.4	0.29	8
Cynoscion spp.	562.0	0.00	1.3	0.00	1	136.9	103.13	0.5	0.33	4	5.0	2.92	0.0	0.02	8
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	0.4	0.38	0.0	0.01	8
Trachurus lathami	0.0	0.00	0.0	0.00	1	2.5	1.47	0.0	0.03	4	29.4	20.33	0.6	0.42	8
Arius felis	422.0	0.00	11.4	0.00	1	3.4	1.58	0.6	0.21	4	0.2	0.24	0.1	0.05	8
Etrumeus teres	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	21.8	20.77	0.3	0.23	8
Diplectrum bivittatum	0.0	0.00	0.0	0.00	1	0.4	0.38	0.0	0.00	4	19.6	8.15	0.3	0.10	8
Peprilus burti	0.0	0.00	0.0	0.00	1	3.2	2.66	0.2	0.15	4	13.0	8.34	0.7	0.40	8
Squid	14.0	0.00	0.1	0.00	1	40.2	16.15	0.5	0.31	4	51.4	24.63	0.6	0.29	8

Table 49a (cont'd.)
Statistical Zone 20
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 20 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 40 fm.

	21-30 FM					31-40 FM					Over 40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	1.0	0.98	0.0	0.01	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Penaeus aztecus	20.1	7.08	0.5	0.20	4	6.5	4.77	0.3	0.17	2	0.0	0.00	0.0	0.00	0
Trachypenaeus spp.	5.3	4.91	0.0	0.02	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Penaeus duorarum	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	0
Portunus gibbesii	0.8	0.55	0.0	0.01	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Solenocera spp.	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	0
Chloroscombrus chrysurus	3.9	3.91	0.1	0.10	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Cynoscion spp.	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	0
Stenotomus caprinus	80.2	61.81	2.8	2.29	4	158.1	70.66	8.2	2.12	2	0.0	0.00	0.0	0.00	0
Trachurus lathami	26.4	26.41	0.6	0.64	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Arius felis	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	0
Etrumeus teres	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	0
Diplectrum bivittatum	9.3	7.66	0.1	0.07	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Peprilus burti	14.3	14.35	0.8	0.83	4	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Squid	6.6	3.48	0.6	0.42	4	2.8	2.81	0.2	0.17	2	0.0	0.00	0.0	0.00	0

Table 49b
Statistical Zone 20
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 40 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	28.2	0.00	1	36.9	17.63	4	10.2	1.46	8	19.1	10.18	4	22.9	7.52	2	0.0	0.00	0
Total finfish kg	17.3	0.00	1	5.3	2.97	4	4.9	1.12	8	8.5	2.66	4	22.0	8.38	2	0.0	0.00	0
Total crustacean kg	8.2	0.00	1	3.1	1.24	4	1.3	0.32	8	1.0	0.16	4	0.8	0.04	2	0.0	0.00	0
Total others kg	2.7	0.00	1	29.0	17.39	4	4.3	1.51	8	9.8	9.37	4	0.8	0.04	2	0.0	0.00	0
Surface temperature	0.0	0.00	0	19.9	0.22	4	21.2	0.19	9	23.2	0.35	3	23.0	0.00	1	24.4	0.00	1
Midwater temperature	0.0	0.00	0	19.8	0.19	4	21.5	0.20	9	23.3	0.31	3	23.8	0.00	1	24.3	0.00	1
Bottom temperature	0.0	0.00	0	19.8	0.17	4	21.9	0.27	9	23.5	0.37	3	23.9	0.00	1	21.8	0.00	1
Surface salinity	0.0	0.00	0	31.6	0.16	4	33.4	0.22	9	35.5	0.37	3	35.5	0.00	1	36.4	0.00	1
Midwater salinity	0.0	0.00	0	31.7	0.13	4	33.7	0.24	9	35.6	0.35	3	36.1	0.00	1	36.4	0.00	1
Bottom salinity	0.0	0.00	0	31.7	0.14	4	34.1	0.33	9	35.8	0.36	3	36.3	0.00	1	36.5	0.00	1
Surface chlorophyll	0.0	0.00	0	1.6	0.13	3	0.9	0.13	8	0.6	0.10	2	0.4	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	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	7.4	0.06	4	6.9	0.22	9	6.7	0.12	3	6.5	0.00	1	6.7	0.00	1
Midwater oxygen	0.0	0.00	0	7.3	0.03	4	6.9	0.06	9	6.5	0.09	3	6.4	0.00	1	6.5	0.00	1
Bottom oxygen	0.0	0.00	0	7.1	0.15	4	6.8	0.06	9	6.5	0.09	3	6.4	0.00	1	6.0	0.00	1

Table 50a
Statistical Zone 21
40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 21 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm or above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus duorarum	0.0	0.00	0.0	0.00	0	9.5	7.95	0.2	0.18	3	0.0	0.00	0.0	0.00	1
Portunus gibbesii	0.0	0.00	0.0	0.00	0	10.4	5.45	0.1	0.07	3	2.1	0.00	0.0	0.00	1
Penaeus setiferus	0.0	0.00	0.0	0.00	0	12.7	12.14	0.2	0.20	3	0.0	0.00	0.0	0.00	1
Arenaeus cribrarius	0.0	0.00	0.0	0.00	0	4.6	4.62	0.1	0.07	3	0.0	0.00	0.0	0.00	1
Parapenaeus spp.	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	2.1	0.00	0.0	0.00	1
Sicyonia brevirostris	0.0	0.00	0.0	0.00	0	1.1	1.05	0.0	0.00	3	0.0	0.00	0.0	0.00	1
Trachurus lathami	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	53.7	0.00	1.3	0.00	1
Peprilus burti	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	52.6	0.00	2.0	0.00	1
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	0	39.2	38.12	0.7	0.69	3	11.6	0.00	0.3	0.00	1
Anchoa hepsetus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	22.1	0.00	0.7	0.00	1
Harengula jaguana	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	6.3	0.00	0.3	0.00	1
Orthopristis chrysoptera	0.0	0.00	0.0	0.00	0	4.8	2.23	0.3	0.15	3	0.0	0.00	0.0	0.00	1
Saurida brasiliensis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	4.2	0.00	0.0	0.00	1
Etropus crossotus	0.0	0.00	0.0	0.00	0	2.9	1.04	0.1	0.06	3	0.0	0.00	0.0	0.00	1
Squid	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	53.7	0.00	0.9	0.00	1

Table 50b
Statistical Zone 21
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 6 fm or above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	123.8	18.11	3	10.5	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	2.3	0.92	3	9.6	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	1.3	0.47	3	0.5	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	121.2	18.02	3	1.0	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	20.9	0.07	3	24.1	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	20.9	0.07	3	21.2	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	21.3	0.13	3	21.7	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	32.5	0.09	3	32.9	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	32.5	0.10	3	33.0	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	33.2	0.20	3	33.6	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	0.9	0.04	3	1.1	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	7.2	0.07	3	7.2	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	7.4	0.07	3	7.1	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	7.2	0.00	3	6.9	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 51a
Statistical Zone 11
20-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 11 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 10 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	1	3.0	3.00	0.1	0.07	4	0.0	0.00	0.0	0.00	0
Porcellana sigsbeiana	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	0
Chloroscombrus chrysurus	60.0	0.00	0.2	0.00	1	73.0	40.21	0.5	0.25	4	0.0	0.00	0.0	0.00	0
Anchoa nasuta	333.3	0.00	0.2	0.00	1	2.9	1.72	0.0	0.03	4	0.0	0.00	0.0	0.00	0
Peprilus burti	26.7	0.00	0.2	0.00	1	26.9	12.54	0.2	0.05	4	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	63.3	0.00	0.3	0.00	1	9.6	4.39	0.2	0.07	4	0.0	0.00	0.0	0.00	0
Trachurus lathami	0.0	0.00	0.0	0.00	1	7.0	6.26	0.2	0.13	4	0.0	0.00	0.0	0.00	0
Harengula jaguana	0.0	0.00	0.0	0.00	1	1.3	1.29	0.0	0.02	4	0.0	0.00	0.0	0.00	0
Arius felis	0.0	0.00	0.0	0.00	1	0.9	0.86	0.3	0.29	4	0.0	0.00	0.0	0.00	0
Halieutichthys aculeatus	0.0	0.00	0.0	0.00	1	0.9	0.86	0.0	0.02	4	0.0	0.00	0.0	0.00	0
Squid	53.3	0.00	0.3	0.00	1	34.7	18.27	0.3	0.21	4	0.0	0.00	0.0	0.00	0

Table 51b
Statistical Zone 11
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 10 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	3.0	0.00	1	3.6	0.50	4	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	0.00	1	2.6	0.59	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	1.5	0.00	1	0.7	0.68	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	1.5	0.00	1	2.3	0.53	4	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	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 temperature	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 temperature	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 salinity	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 salinity	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 salinity	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 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	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 oxygen	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 oxygen	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

Table 52a
Statistical Zone 17
20-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 17 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 10 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	273.8	110.56	1.8	0.63	8	25.2	20.99	0.2	0.16	5	0.0	0.00	0.0	0.00	0
Xiphopenaeus kroyeri	71.3	33.40	0.3	0.15	8	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Portunus gibbesii	59.3	14.00	0.3	0.09	8	16.8	6.95	0.1	0.07	5	0.0	0.00	0.0	0.00	0
Squilla spp.	48.8	22.75	0.6	0.20	8	18.0	13.94	0.2	0.16	5	0.0	0.00	0.0	0.00	0
Pagurus pollicaris	15.8	6.20	0.2	0.11	8	28.8	21.42	0.6	0.40	5	0.0	0.00	0.0	0.00	0
Trachypenaeus spp.	30.8	10.48	0.0	0.00	8	2.4	2.40	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	72.8	29.86	0.5	0.22	8	1.2	1.20	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	23.3	7.81	0.4	0.15	8	3.6	1.47	0.2	0.11	5	0.0	0.00	0.0	0.00	0
Citharichthys spilopterus	8.3	4.93	0.1	0.07	8	16.8	6.95	0.3	0.16	5	0.0	0.00	0.0	0.00	0
Symphurus plagiusa	8.3	3.19	0.1	0.05	8	4.8	2.24	0.1	0.07	5	0.0	0.00	0.0	0.00	0
Brevoortia patronus	9.8	8.09	0.1	0.14	8	1.2	1.20	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	2.3	1.10	0.0	0.00	8	8.4	3.60	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Peprilus burti	2.3	1.10	0.0	0.00	8	7.2	4.41	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Arius felis	4.5	2.95	0.0	0.03	8	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Squid	5.3	3.09	0.0	0.03	8	54.0	20.87	0.5	0.25	5	0.0	0.00	0.0	0.00	0

Table 52b
Statistical Zone 17
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 10 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	5.1	0.80	8	3.3	0.55	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	2.7	0.00	8	2.7	0.00	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	3.8	0.50	8	2.7	0.00	5	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	0.00	8	2.7	0.00	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	18.2	0.66	7	20.0	0.77	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	18.2	0.66	7	20.0	0.78	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	18.1	0.63	7	19.8	0.68	6	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	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 salinity	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 salinity	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 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	10.2	0.28	7	9.0	0.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	10.4	0.28	7	9.2	0.54	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	10.6	0.28	7	9.2	0.57	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 53a
Statistical Zone 18
20-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 18 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 10 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	117.3	41.69	0.9	0.29	9	25.2	8.85	0.3	0.12	10	0.0	0.00	0.0	0.00	0
Portunus gibbesii	43.3	14.52	0.2	0.08	9	6.6	1.66	0.0	0.00	10	0.0	0.00	0.0	0.00	0
Xiphopenaeus kroyeri	32.7	16.22	0.2	0.08	9	0.0	0.00	0.0	0.00	10	0.0	0.00	0.0	0.00	0
Pagurus pollicaris	7.3	2.40	0.1	0.07	9	6.0	2.00	0.1	0.06	10	0.0	0.00	0.0	0.00	0
Squilla spp.	8.0	3.74	0.1	0.04	9	5.4	1.89	0.0	0.03	10	0.0	0.00	0.0	0.00	0
Sicyonia dorsalis	0.0	0.00	0.0	0.00	9	6.6	3.63	0.0	0.00	10	0.0	0.00	0.0	0.00	0
Peprilus burti	102.7	68.27	0.4	0.24	9	37.8	18.37	0.1	0.06	10	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	85.3	75.72	0.3	0.17	9	3.0	1.34	0.2	0.08	10	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	67.3	22.56	0.5	0.15	9	12.0	5.87	0.1	0.06	10	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	27.3	23.07	0.1	0.09	9	1.2	0.80	0.0	0.00	10	0.0	0.00	0.0	0.00	0
Brevoortia patronus	21.3	7.49	0.5	0.16	9	4.8	4.18	0.2	0.16	10	0.0	0.00	0.0	0.00	0
Arius felis	21.3	10.78	0.2	0.10	9	1.2	1.20	0.0	0.03	10	0.0	0.00	0.0	0.00	0
Hemicaranx amblyrhynchus	11.3	7.71	0.1	0.09	9	0.6	0.60	0.0	0.00	10	0.0	0.00	0.0	0.00	0
Cynoscion nothus	1.3	1.33	0.0	0.00	9	8.4	4.21	0.0	0.00	10	0.0	0.00	0.0	0.00	0
Squid	48.0	26.10	0.5	0.27	9	61.2	16.14	0.4	0.11	10	0.0	0.00	0.0	0.00	0

Table 53b
Statistical Zone 18
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 10 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	5.5	0.64	9	4.6	1.00	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	3.0	0.30	9	2.7	0.00	10	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	0.00	9	2.7	0.00	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	3.0	0.30	9	4.1	0.73	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	20.0	1.03	8	18.3	0.79	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	20.0	0.86	8	18.7	0.71	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	20.2	0.67	8	19.7	0.48	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	29.0	0.54	5	29.7	0.12	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	29.4	0.55	5	30.2	0.23	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	30.4	0.61	5	32.6	0.39	11	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	8.0	0.11	8	8.0	0.14	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.9	0.15	8	7.8	0.15	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	7.4	0.25	8	7.2	0.08	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 54a
Statistical Zone 19
20-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 19 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus gibbesii	60.0	0.00	0.3	0.00	1	33.3	14.67	0.1	0.07	9	27.0	13.30	0.1	0.09	6
Penaeus setiferus	204.0	0.00	1.6	0.00	1	28.7	11.78	0.4	0.18	9	4.0	2.97	0.1	0.09	6
Trachypenaeus spp.	0.0	0.00	0.0	0.00	1	30.0	10.05	0.1	0.06	9	2.0	2.00	0.0	0.00	6
Squilla spp.	0.0	0.00	0.0	0.00	1	13.3	4.56	0.2	0.07	9	2.0	2.00	0.0	0.00	6
Callinectes similis	0.0	0.00	0.0	0.00	1	8.0	3.87	0.0	0.00	9	5.0	3.26	0.3	0.32	6
Sicyonia dorsalis	0.0	0.00	0.0	0.00	1	2.7	1.76	0.0	0.00	9	10.0	4.82	0.0	0.00	6
Syacium gunteri	0.0	0.00	0.0	0.00	1	20.7	6.17	0.2	0.09	9	68.0	31.74	0.6	0.36	6
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	1	3.3	2.03	0.0	0.00	9	44.0	23.98	0.5	0.25	6
Cynoscion nothus	108.0	0.00	0.3	0.00	1	16.0	4.47	0.0	0.03	9	2.0	1.26	0.0	0.05	6
Cynoscion arenarius	12.0	0.00	0.5	0.00	1	8.7	2.85	0.3	0.14	9	14.0	4.56	0.7	0.36	6
Lagodon rhomboides	0.0	0.00	0.0	0.00	1	5.3	4.63	0.1	0.09	9	17.0	14.73	0.3	0.27	6
Arius felis	48.0	0.00	1.4	0.00	1	8.7	8.67	0.1	0.06	9	0.0	0.00	0.0	0.00	6
Harengula jaguana	0.0	0.00	0.0	0.00	1	10.0	6.08	0.2	0.13	9	4.0	4.00	0.1	0.09	6
Symphurus plagiusa	0.0	0.00	0.0	0.00	1	10.0	3.00	0.2	0.06	9	3.0	1.34	0.1	0.06	6
Squid	30.0	0.00	0.3	0.00	1	66.0	46.63	0.7	0.48	9	126.0	37.73	1.7	0.29	6

Table 54b
Statistical Zone 19
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	10.9	0.00	1	50.3	43.86	9	5.9	0.84	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	2.7	0.00	1	2.7	0.00	9	3.2	0.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.7	0.00	1	2.7	0.00	9	2.7	0.00	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	5.5	0.00	1	49.4	43.98	9	3.2	0.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	22.6	0.00	1	21.0	0.97	8	23.5	0.30	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	22.6	0.00	1	21.0	0.83	8	23.3	0.25	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	22.5	0.00	1	21.2	0.83	8	23.5	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	31.6	0.00	1	32.5	0.29	8	32.9	0.90	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	31.6	0.00	1	32.7	0.27	8	33.6	0.30	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	31.7	0.00	1	33.0	0.23	8	33.8	0.10	2	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	9.4	0.00	1	9.4	0.07	8	9.3	0.15	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	9.2	0.00	1	9.4	0.07	8	9.4	0.15	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	9.1	0.00	1	9.6	0.10	8	9.5	0.10	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 55a
Statistical Zone 20
20-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 20 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	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	4	114.0	66.43	0.4	0.20	9	274.0	91.02	0.9	0.33	3
Penaeus aztecus	0.0	0.00	0.0	0.00	4	37.3	15.58	0.3	0.11	9	202.0	38.63	1.5	0.40	3
Portunus gibbesii	1.5	1.50	0.0	0.00	4	21.3	10.30	0.1	0.07	9	94.0	58.10	0.7	0.45	3
Penaeus duorarum	0.0	0.00	0.0	0.00	4	40.7	32.83	0.3	0.24	9	8.0	8.00	0.1	0.09	3
Penaeus setiferus	4.5	4.50	0.1	0.07	4	28.0	13.38	0.3	0.16	9	30.0	12.00	0.5	0.09	3
Callinectes similis	0.0	0.00	0.0	0.00	4	5.3	3.07	0.0	0.03	9	36.0	15.87	0.3	0.16	3
Cynoscion nothus	48.0	48.00	0.3	0.34	4	68.0	32.63	0.2	0.13	9	172.0	59.73	1.4	0.57	3
Chloroscombrus chrysurus	237.0	159.73	0.7	0.42	4	13.3	7.86	0.1	0.06	9	0.0	0.00	0.0	0.00	3
Hemicaranx amblynchus	36.0	17.15	0.4	0.18	4	10.0	5.20	0.1	0.06	9	0.0	0.00	0.0	0.00	3
Syacium gunteri	0.0	0.00	0.0	0.00	4	10.0	6.16	0.1	0.07	9	46.0	17.78	0.6	0.18	3
Prionotus salmonicolor	3.0	3.00	0.0	0.00	4	12.7	6.20	0.1	0.04	9	16.0	2.00	0.0	0.00	3
Arius felis	16.5	5.12	0.4	0.08	4	9.3	9.33	0.3	0.33	9	0.0	0.00	0.0	0.00	3
Selene setapinnis	25.5	9.29	0.1	0.08	4	2.0	2.00	0.0	0.00	9	0.0	0.00	0.0	0.00	3
Menticirrhus americanus	1.5	1.50	0.1	0.07	4	10.7	4.98	0.8	0.41	9	4.0	2.00	0.4	0.18	3
Squid	9.0	3.00	0.1	0.07	4	16.0	5.74	0.1	0.04	9	68.0	30.27	0.4	0.18	3

Table 55b
Statistical Zone 20
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	82.5	78.87	4	74.8	28.84	9	16.4	8.18	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	4.1	0.79	4	3.0	0.30	9	3.6	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	1.4	0.79	4	2.1	0.61	9	3.6	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	80.5	77.73	4	70.9	29.47	9	10.0	7.27	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	22.1	0.75	4	22.5	0.49	8	21.7	0.53	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	22.1	0.78	4	22.4	0.46	8	21.8	0.52	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	22.0	0.86	4	22.4	0.46	8	21.8	0.52	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	34.8	0.48	4	34.5	0.27	8	35.5	0.50	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	34.8	0.48	4	34.5	0.27	8	35.5	0.50	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	34.8	0.48	4	34.5	0.27	8	35.5	0.50	4	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	8.2	0.14	4	8.0	0.07	8	8.1	0.05	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	8.2	0.14	4	8.1	0.07	8	8.2	0.06	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	8.4	0.13	4	8.2	0.08	8	8.5	0.13	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 56a
Statistical Zone 21
20-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 21 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus gibbesii	0.0	0.00	0.0	0.00	1	2.0	1.26	0.0	0.05	6	24.9	7.46	0.1	0.06	7
Portunus spinimanus	0.0	0.00	0.0	0.00	1	10.0	4.82	0.0	0.05	6	5.1	2.42	0.0	0.00	7
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	2.0	2.00	0.0	0.00	6	1.7	1.11	0.0	0.00	7
Persephona aquilonaris	0.0	0.00	0.0	0.00	1	1.0	1.00	0.0	0.00	6	1.7	1.71	0.0	0.00	7
Sicyonia typica	0.0	0.00	0.0	0.00	1	2.0	1.26	0.0	0.00	6	0.9	0.86	0.0	0.00	7
Parthenope serrata	0.0	0.00	0.0	0.00	1	2.0	2.00	0.0	0.00	6	0.9	0.86	0.0	0.00	7
Syacium gunteri	0.0	0.00	0.0	0.00	1	3.0	1.34	0.1	0.06	6	22.3	6.51	0.4	0.13	7
Etropus crossotus	0.0	0.00	0.0	0.00	1	5.0	3.92	0.0	0.05	6	9.4	3.17	0.1	0.05	7
Chloroscombrus chrysurus	12.0	0.00	0.0	0.00	1	5.0	2.86	0.0	0.05	6	0.0	0.00	0.0	0.00	7
Cynoscion nothus	42.0	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	7
Lutjanus campechanus	0.0	0.00	0.0	0.00	1	2.0	2.00	0.0	0.00	6	2.6	1.21	0.0	0.04	7
Sphoeroides parvus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	2.6	2.57	0.0	0.00	7
Ogcocephalus pantostictus	0.0	0.00	0.0	0.00	1	1.0	1.00	0.0	0.00	6	1.7	1.11	0.0	0.00	7
Symphurus civitatus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	1.7	1.11	0.0	0.00	7
Squid	18.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	7

Table 56b
Statistical Zone 21
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	2.7	0.00	1	2.7	0.00	6	2.7	0.00	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	2.7	0.00	1	2.7	0.00	6	2.7	0.00	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.7	0.00	1	2.3	0.45	6	2.7	0.00	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.7	0.00	1	0.9	0.57	6	1.9	0.50	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	19.5	0.00	1	24.4	0.59	5	23.2	0.66	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	19.7	0.00	1	24.2	0.55	5	23.2	0.65	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	19.7	0.00	1	24.2	0.54	5	23.2	0.64	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	33.5	0.00	1	35.2	0.30	5	34.8	0.28	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	33.5	0.00	1	35.2	0.30	5	34.8	0.28	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	33.5	0.00	1	35.2	0.30	5	34.8	0.28	8	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	9.3	0.00	1	8.2	0.02	5	8.3	0.08	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	8.6	0.00	1	8.3	0.00	5	8.3	0.06	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	8.5	0.00	1	8.6	0.06	5	8.6	0.12	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 57a
Statistical Zone 22
20-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 22 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken below 6 fm or above 20 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus gibbesii	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	12.0	0.00	0.3	0.00	1
Syacium gunteri	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
Etropus crossotus	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

Table 57b
Statistical Zone 22
20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken below 6 fm or above 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	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	2.7	0.00	1	2.7	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	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	2.7	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	20.3	0.00	1	21.1	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	20.1	0.00	1	21.0	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	19.8	0.00	1	21.0	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	33.5	0.00	1	34.0	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	33.5	0.00	1	34.0	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	33.5	0.00	1	34.0	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	8.5	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	8.2	0.00	1	8.1	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	8.2	0.00	1	8.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 58a
Statistical Zone 10
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 10 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 10 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus gibbesii	0.0	0.00	0.0	0.00	3	1.2	1.18	0.1	0.05	3	0.0	0.00	0.0	0.00	0
Callinectes similis	0.0	0.00	0.0	0.00	3	0.5	0.47	0.0	0.02	3	0.0	0.00	0.0	0.00	0
Peprilus burti	22.0	5.29	0.3	0.00	3	70.4	46.20	0.2	0.06	3	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	16.0	10.58	0.2	0.09	3	14.4	7.47	0.1	0.08	3	0.0	0.00	0.0	0.00	0
Trachurus lathami	2.0	2.00	0.1	0.09	3	20.9	13.73	0.2	0.06	3	0.0	0.00	0.0	0.00	0
Anchoa nasuta	6.0	6.00	0.1	0.09	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Monacanthus hispidus	0.0	0.00	0.0	0.00	3	2.4	2.35	0.1	0.05	3	0.0	0.00	0.0	0.00	0

Table 58b
Statistical Zone 10
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 10 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	5.5	1.57	3	7.5	4.56	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	2.7	0.00	3	1.7	0.60	3	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	3	0.7	0.47	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	4.5	1.82	3	6.9	4.74	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	15.8	1.59	3	14.8	0.44	3	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	15.0	0.00	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	14.7	0.17	3	14.7	0.33	3	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	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 salinity	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 salinity	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 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	7.5	0.07	3	7.4	0.00	3	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	7.2	0.20	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	7.3	0.07	3	7.3	0.10	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 59a
Statistical Zone 11
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 11 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus spp.	22.8	14.25	0.1	0.07	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Acetes americanus	3.6	3.60	0.1	0.05	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla spp.	2.4	1.47	0.1	0.07	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cirolana spp.	1.2	1.20	0.1	0.05	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Pagurus pollicaris	1.2	1.20	0.1	0.05	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	1.2	1.20	0.1	0.05	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	472.8	283.33	1.6	0.95	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	250.8	126.95	0.2	0.10	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius felis	217.2	217.20	5.1	5.07	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Lagodon rhomboides	39.6	20.04	0.6	0.30	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	37.2	15.46	0.2	0.05	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus triacanthus	28.8	24.55	0.2	0.11	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa nasuta	19.2	19.20	0.1	0.05	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Harengula jaguana	4.8	3.50	0.1	0.07	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	30.0	27.10	0.2	0.11	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 59b
Statistical Zone 11
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	9.8	5.82	5	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
Total finfish kg	9.3	5.89	5	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
Total crustacean kg	1.1	0.67	5	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
Total others kg	2.2	0.55	5	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 temperature	16.9	0.13	4	18.0	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	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 temperature	16.3	0.25	2	17.0	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	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 salinity	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 salinity	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 chlorophyll	2.3	0.45	2	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	7.8	0.25	4	8.1	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	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 oxygen	7.7	0.33	4	7.8	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 60a
Statistical Zone 12
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 12 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Anchoa mitchilli	20.0	20.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Selene setapinnis	2.0	2.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 60b
Statistical Zone 12
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	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	0.0	0.00	0
Total finfish kg	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	0.0	0.00	0
Total crustacean kg	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	0.0	0.00	0
Total others kg	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	0.0	0.00	0
Surface temperature	15.8	0.30	2	16.2	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	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 temperature	16.1	0.60	2	16.6	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	29.8	0.95	2	32.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	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 salinity	31.9	1.20	2	32.6	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	2.8	0.50	2	2.5	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	8.1	0.50	2	3.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	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 oxygen	8.1	0.10	2	3.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 61a
Statistical Zone 13
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 13 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	96.0	48.12	0.4	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	32.0	17.44	0.2	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus similis	18.0	15.10	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus gibbesii	8.0	5.29	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus aztecus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla spp.	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	504.0	409.01	0.5	0.42	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	52.0	46.13	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etropus crossotus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trichiurus lepturus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Brevoortia patronus	4.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Lutjanus synagris	2.0	2.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	64.0	52.46	0.6	0.40	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 61b
Statistical Zone 13
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	2.7	0.00	3	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
Total finfish kg	2.7	0.00	3	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
Total crustacean kg	2.7	0.00	3	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
Total others kg	1.8	0.91	3	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 temperature	16.8	0.84	3	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 temperature	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 temperature	17.4	0.87	3	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 salinity	28.9	0.67	3	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 salinity	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 salinity	29.6	0.50	3	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 chlorophyll	3.7	0.18	3	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	7.6	0.19	3	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 oxygen	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 oxygen	7.5	0.21	3	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

Table 62a
Statistical Zone 14
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 14 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	57.0	54.64	0.3	0.27	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Xiphopenaeus kroyeri	14.0	14.00	0.1	0.09	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus gibbesii	5.0	3.92	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus similis	1.0	1.00	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	390.0	374.45	0.7	0.58	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etropus crossotus	6.0	4.90	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sphoeroides parvus	5.0	3.92	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	4.0	4.00	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Larimus fasciatus	4.0	2.97	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	1.0	1.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	17.0	11.32	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 62b
Statistical Zone 14
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	2.3	0.45	6	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
Total finfish kg	2.3	0.45	6	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
Total crustacean kg	1.4	0.61	6	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
Total others kg	1.8	0.57	6	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 temperature	16.7	0.70	5	18.5	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	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 temperature	16.8	0.63	5	19.2	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	30.1	1.53	5	32.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	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 salinity	30.2	1.53	5	32.6	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	6.1	0.87	5	3.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater 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	8.5	0.15	5	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
Midwater oxygen	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 oxygen	8.5	0.13	5	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

Table 63a
Statistical Zone 16
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 16 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	57.5	55.25	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Palaemonetes vulgaris	22.0	22.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus aztecus	16.0	16.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes sapidus	6.0	6.00	0.6	0.64	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	6.0	6.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Menippe mercenaria	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	2765.5	2669.55	1.3	1.33	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	726.2	726.15	0.5	0.49	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus burti	24.0	21.07	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	17.2	5.23	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius felis	7.7	7.69	0.6	0.56	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Syacium gunteri	8.2	5.44	0.1	0.07	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sphoeroides parvus	9.1	1.73	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	7.5	5.40	0.1	0.07	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	104.3	62.76	0.3	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 63b
Statistical Zone 16
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	4.6	1.89	3	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
Total finfish kg	4.6	1.89	3	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
Total crustacean kg	1.6	0.82	3	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
Total others kg	0.7	0.70	3	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 temperature	16.5	0.94	3	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 temperature	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 temperature	16.3	1.04	3	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 salinity	27.0	1.89	3	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 salinity	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 salinity	27.1	1.88	3	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 chlorophyll	5.2	1.83	3	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	7.5	0.25	3	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 oxygen	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 oxygen	7.5	0.38	3	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

Table 64a
Statistical Zone 17
16-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 17 during the October-December 1987 SEAMAP Shrimp and 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 in kg per hour, the SEM of weight and the number (N) of samples taken. No trawl samples were taken above 5 fm.

	0-5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	132.0	81.90	0.5	0.33	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus gibbesii	100.0	74.65	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Xiphopenaeus kroyeri	18.0	18.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus similis	12.0	12.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus spp.	8.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus aztecus	8.0	8.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	268.0	199.91	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus burti	94.0	94.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus plagiusa	46.0	37.36	0.4	0.36	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	20.0	12.17	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	18.0	12.49	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Menticirrhus americanus	8.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius felis	8.0	8.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Larimus fasciatus	6.0	3.46	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	110.0	98.24	0.5	0.55	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 64b
Statistical Zone 17
16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the October-December 1987 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No trawl samples were taken above 5 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	2.7	0.00	3	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
Total finfish kg	2.7	0.00	3	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
Total crustacean kg	1.8	0.91	3	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
Total others kg	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	0.0	0.00	0
Surface temperature	16.5	0.81	3	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 temperature	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 temperature	16.5	0.81	3	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 salinity	26.5	1.16	3	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 salinity	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 salinity	26.5	1.16	3	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 chlorophyll	5.9	1.36	3	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	7.4	0.78	3	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 oxygen	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 oxygen	7.2	0.57	3	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

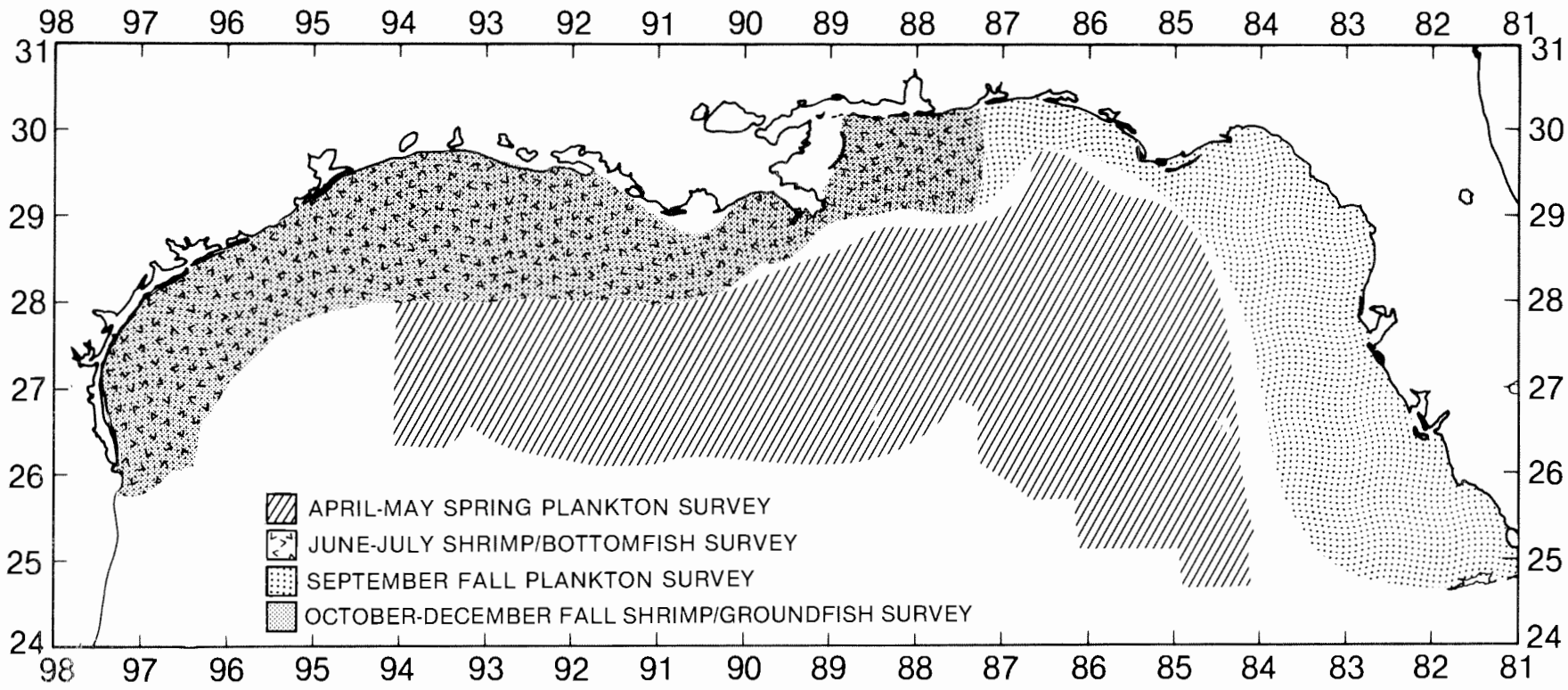

Figure 1. 1987 SEAMAP Surveys, Gulf of Mexico.

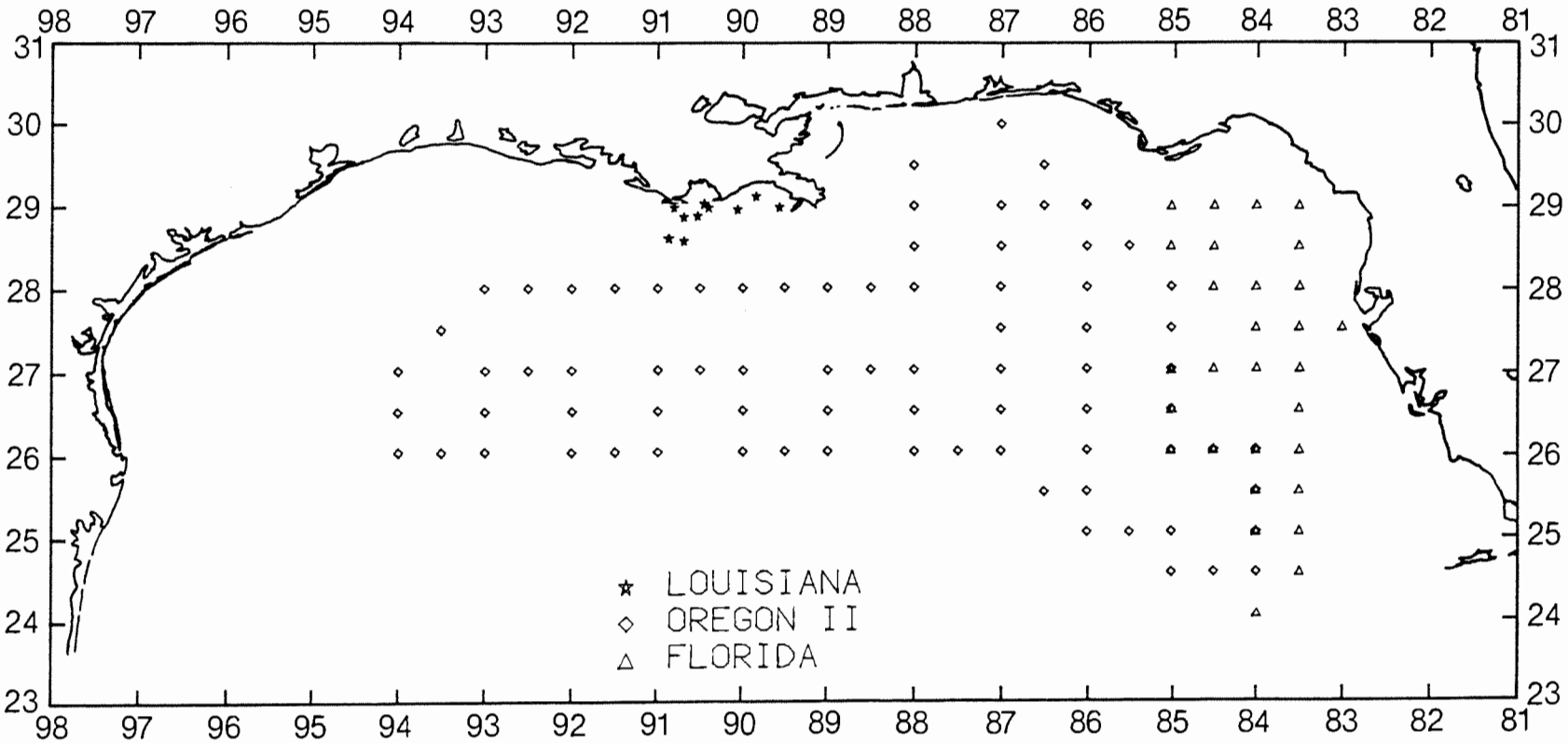

Figure 2. Locations of plankton and environmental stations during SEAMAP offshore plankton survey, April-May 1987.

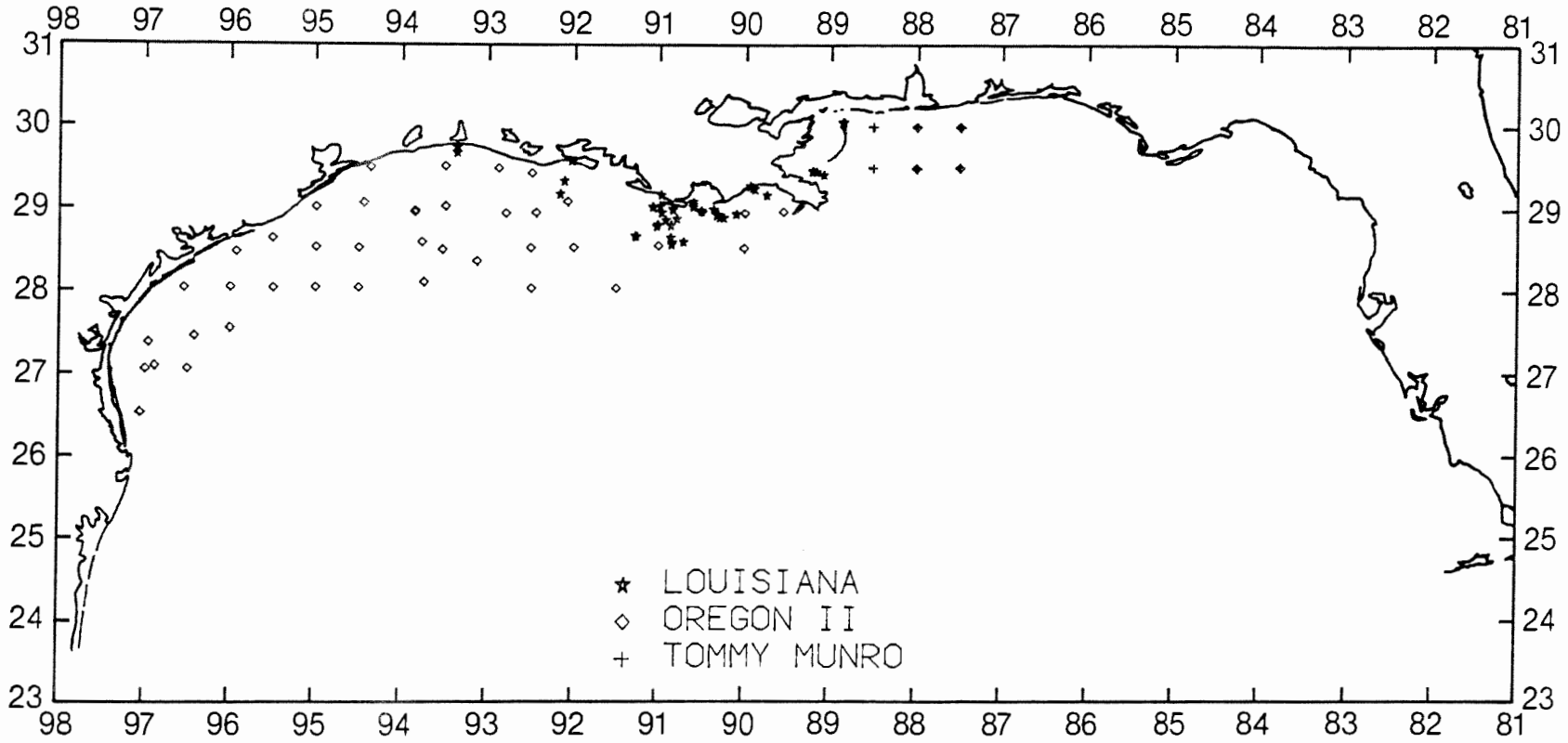

Figure 3. Locations of plankton stations during SEAMAP Summer Shrimp/Bottomfish Survey, June-July 1987.

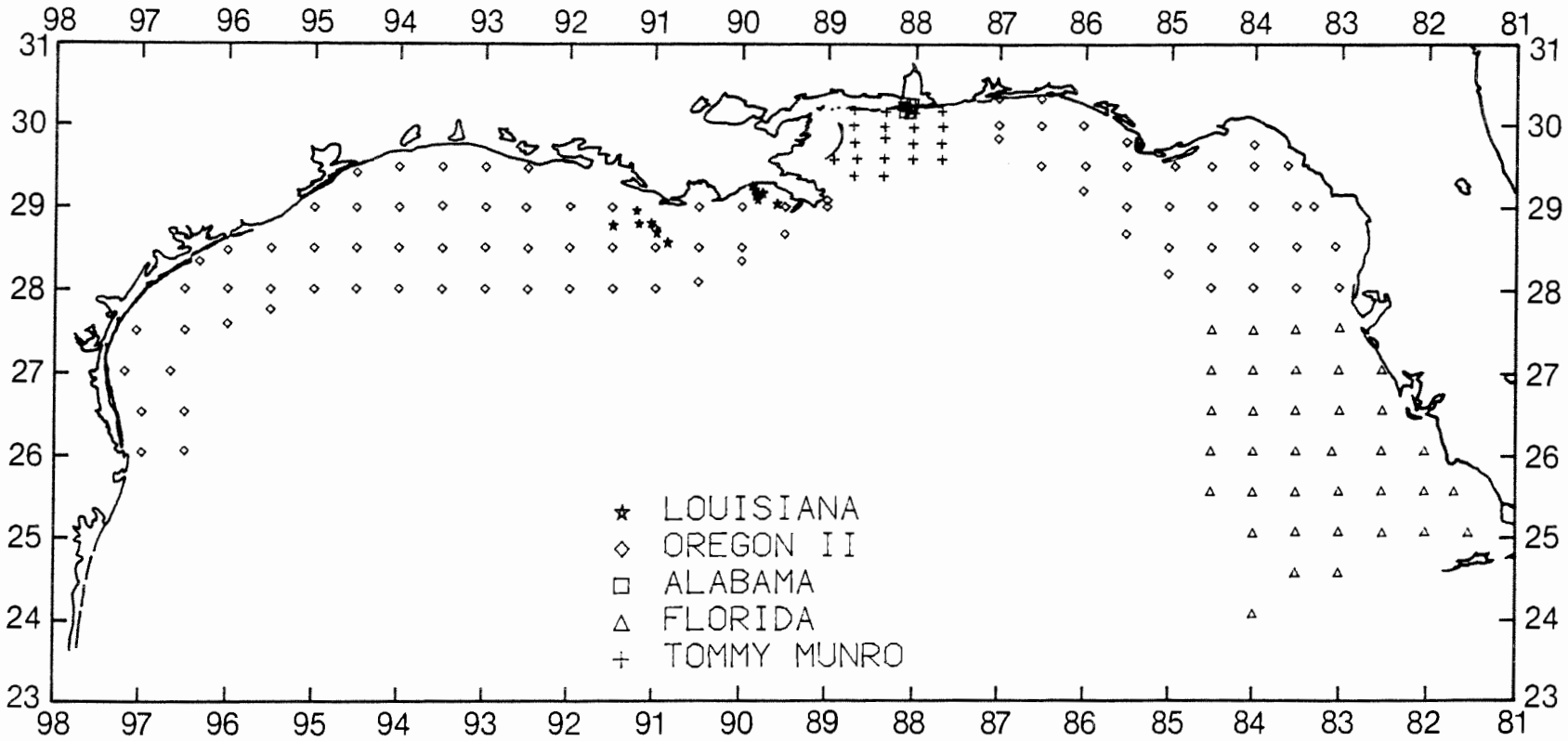

Figure 4. Locations of plankton and environmental stations during SEAMAP September Plankton Survey, September 1987.

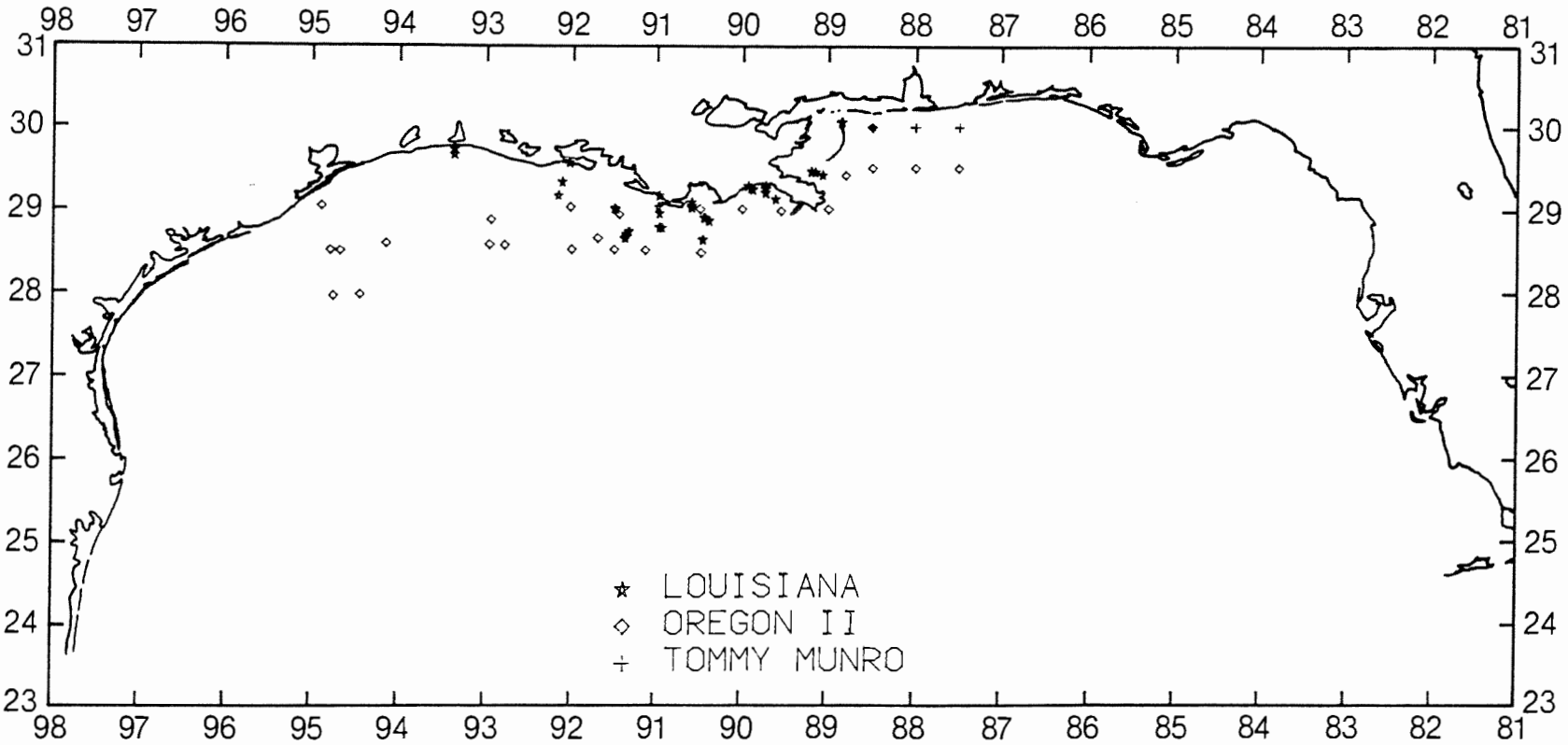

Figure 5. Locations of plankton stations during SEAMAP Fall Shrimp/Groundfish Survey, October-December 1987.

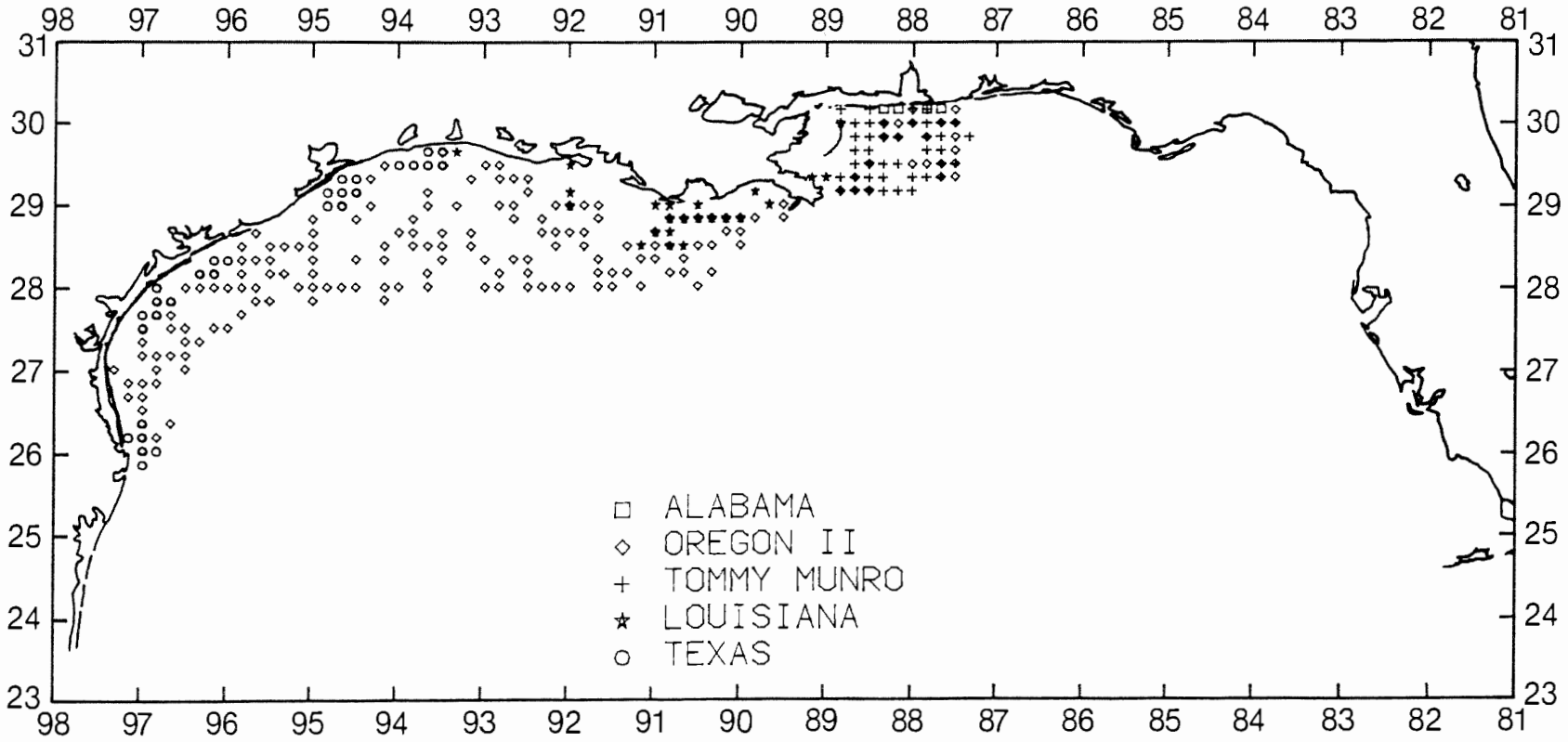

Figure 6. Locations of SEAMAP Summer Shrimp/Groundfish environmental stations, summarized by 10-minute squares, June-July 1987.

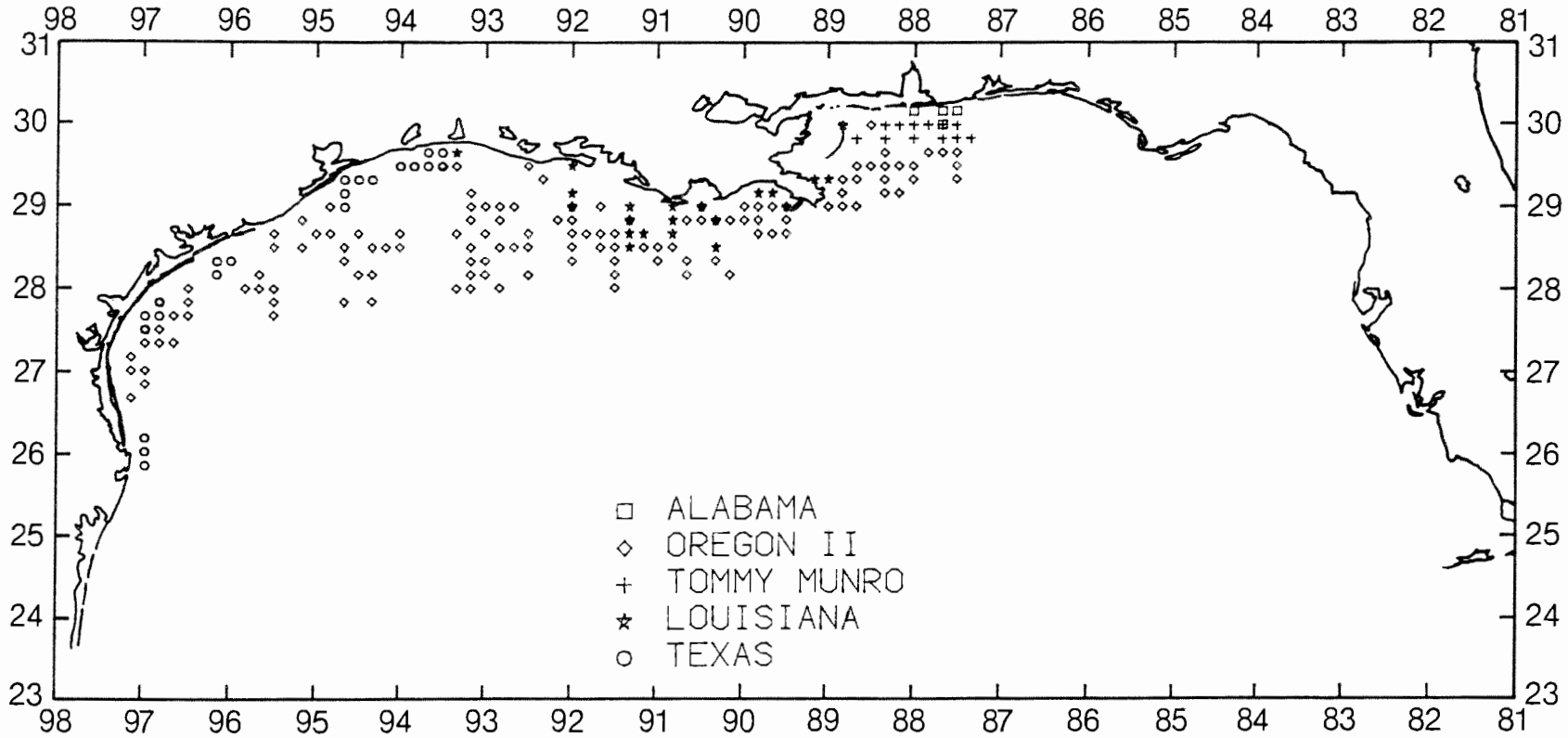

Figure 7. Locations of SEAMAP Fall Shrimp/Groundfish Survey environmental stations, summarized by 10-minute squares, October-December 1987.

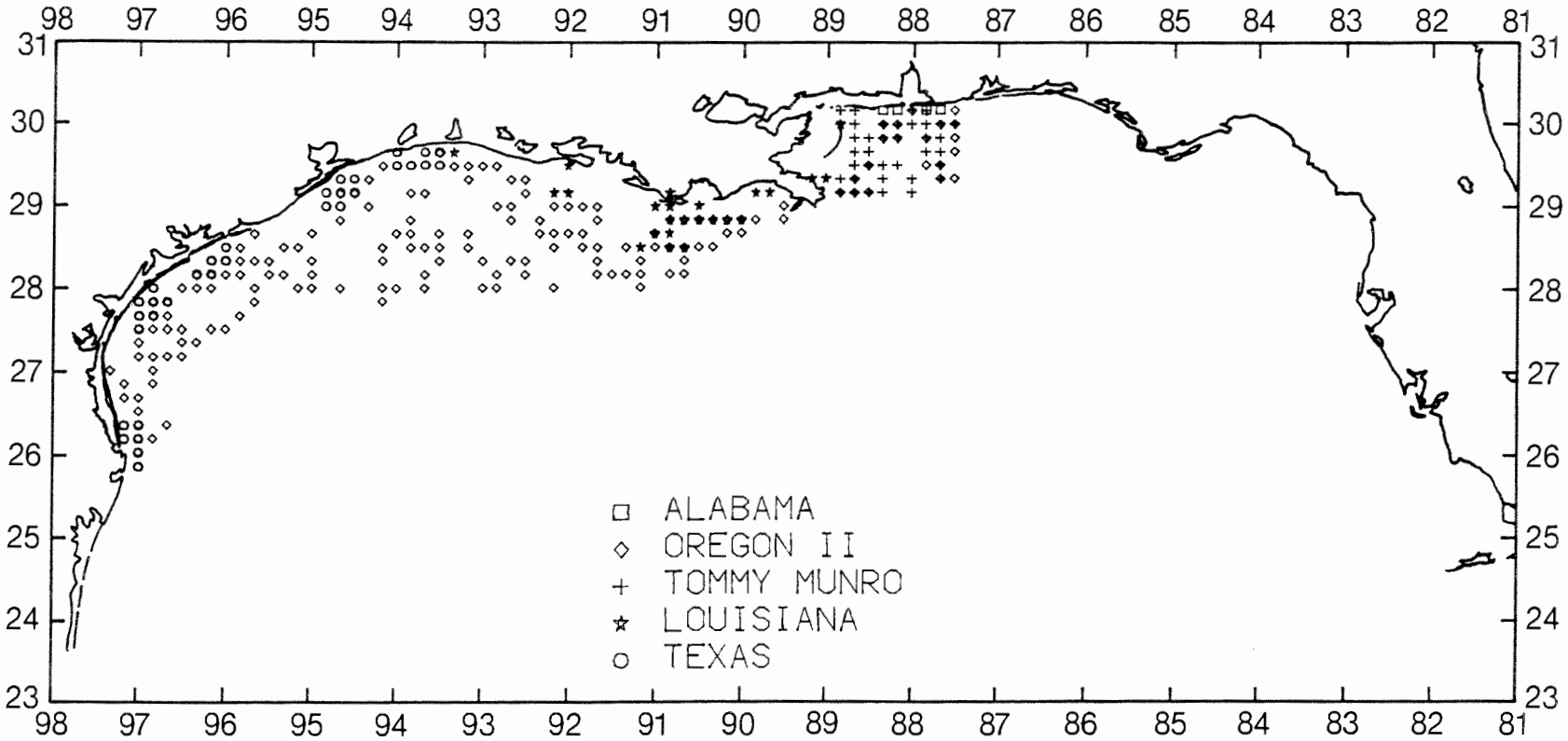

Figure 8. Locations of SEAMAP Summer Shrimp/Bottomfish trawl stations, summarized by 10-minute squares, June-July 1987.

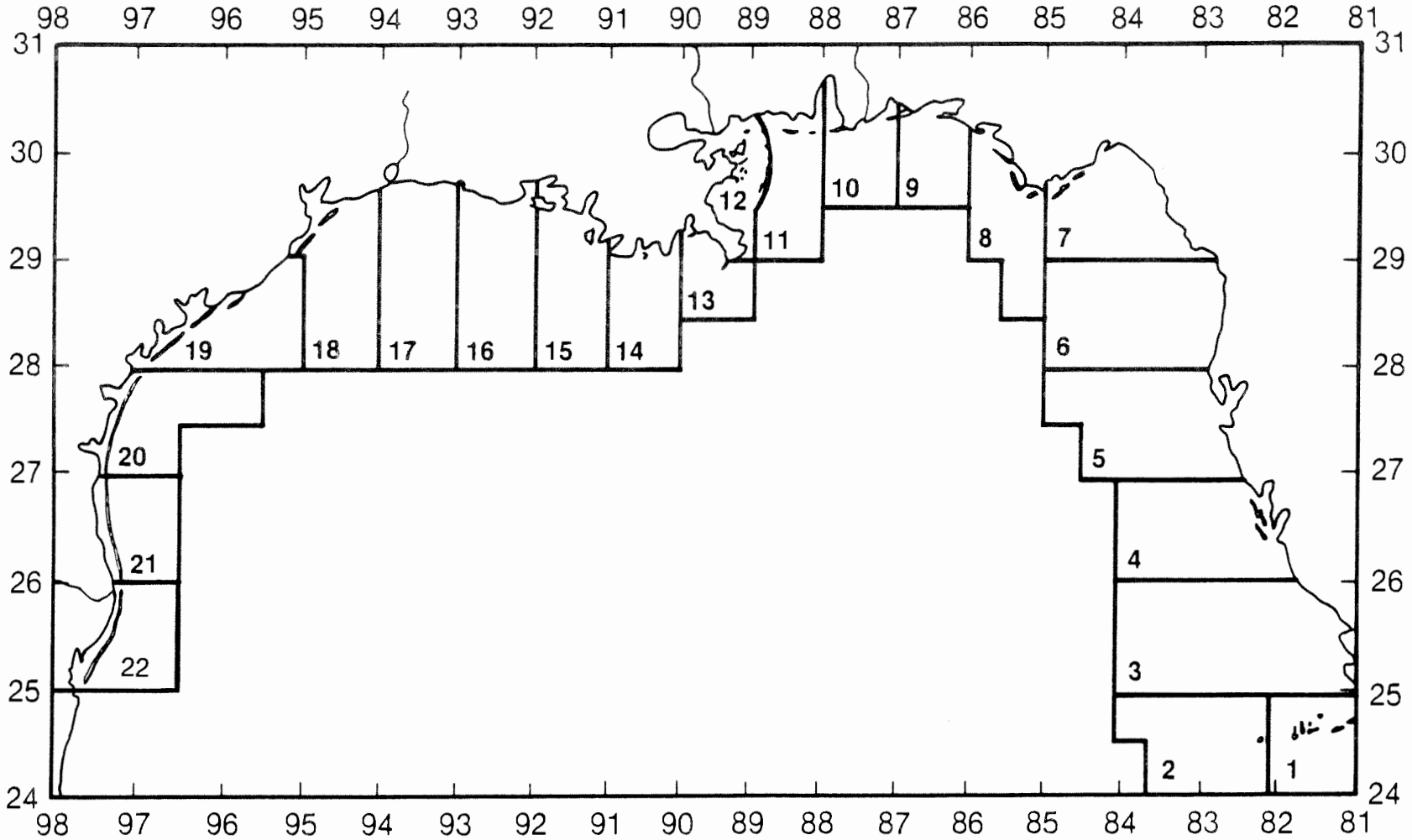

Figure 9. Statistical zones for shrimp in the Gulf of Mexico.

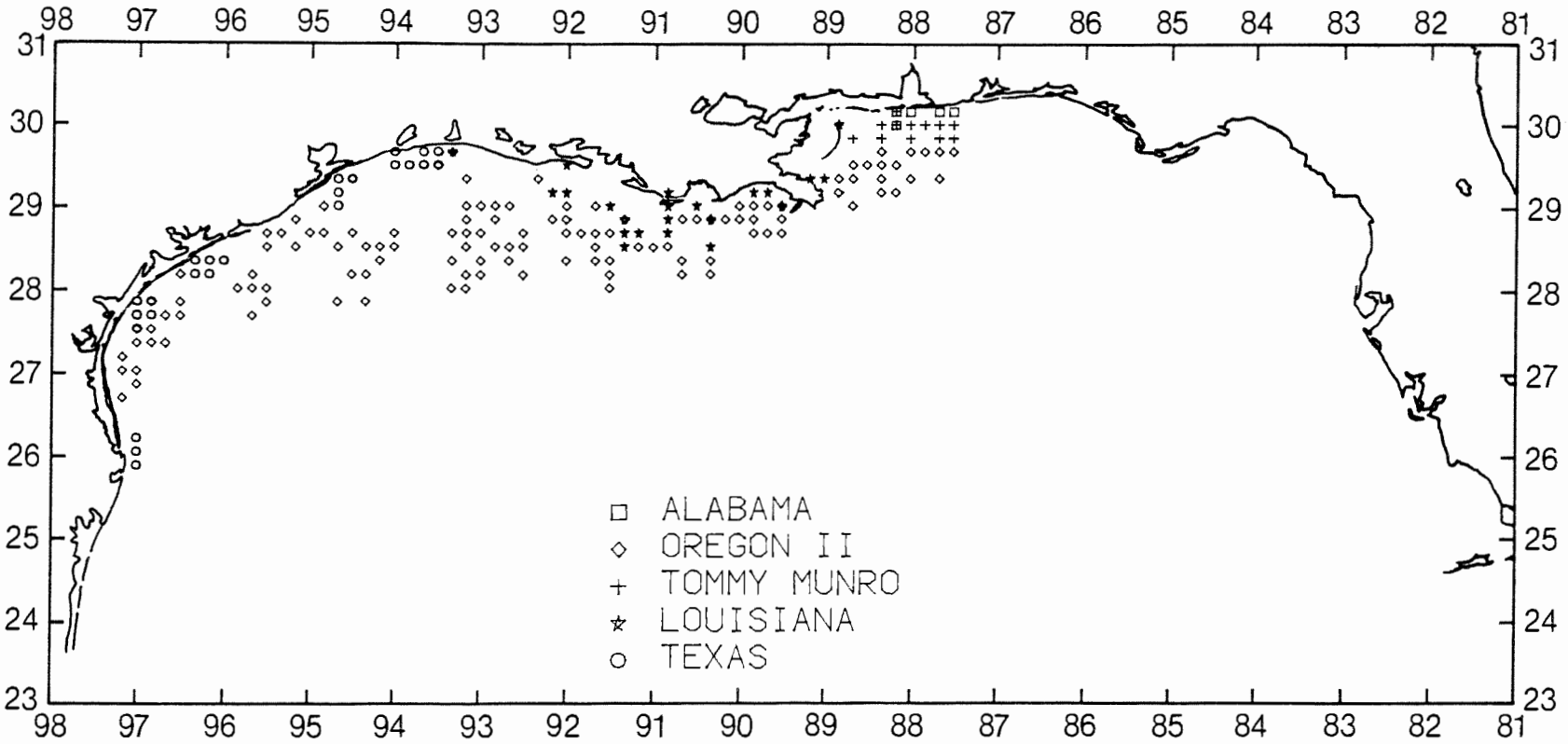

Figure 10. Locations of SEAMAP Fall Shrimp/Groundfish trawl stations, summarized by 10-minute squares, October-December 1987.

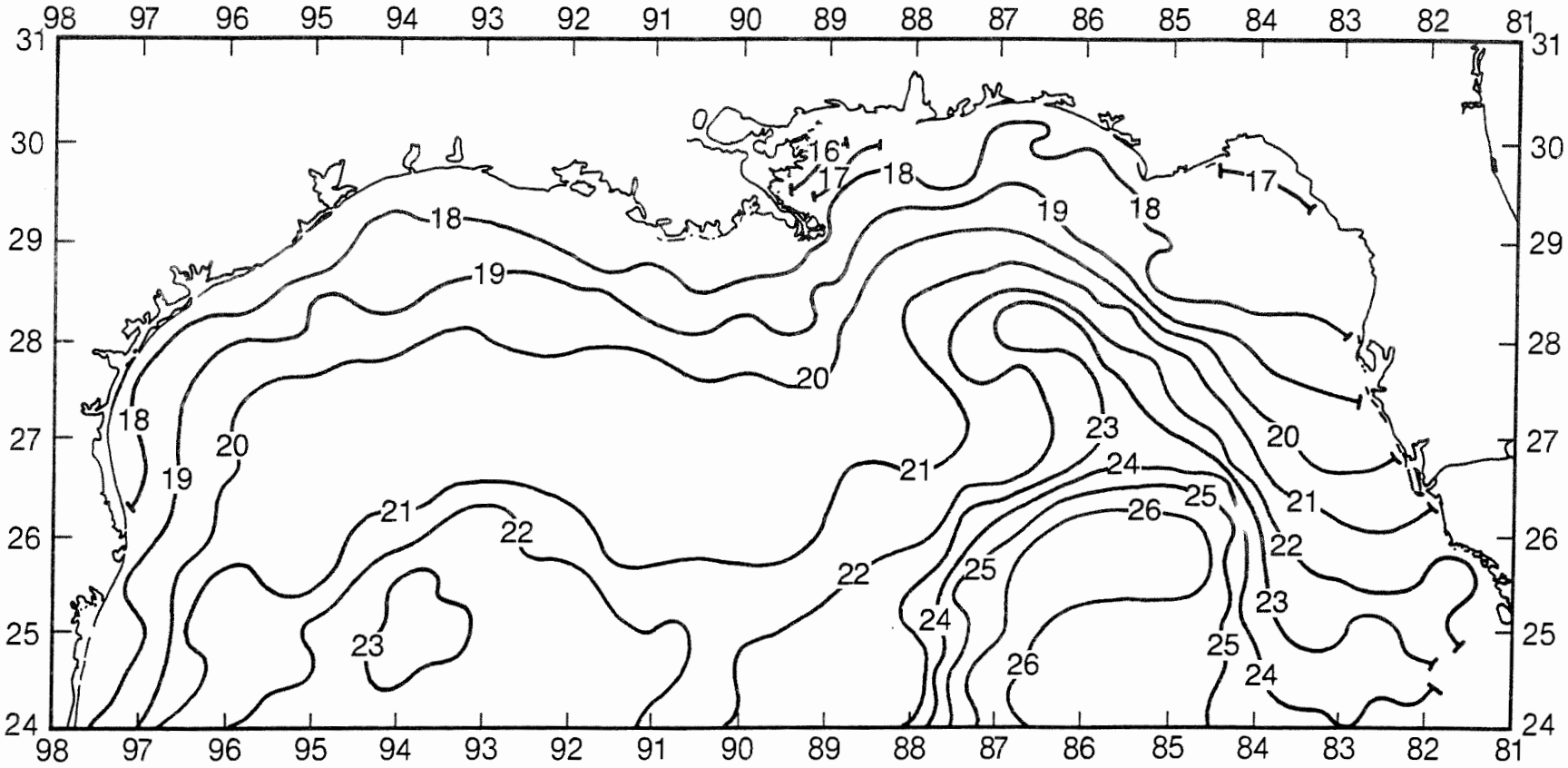

Figure 11. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, April 11, 1987 (modified from NWS/NESS Sea Surface Thermal Analysis).

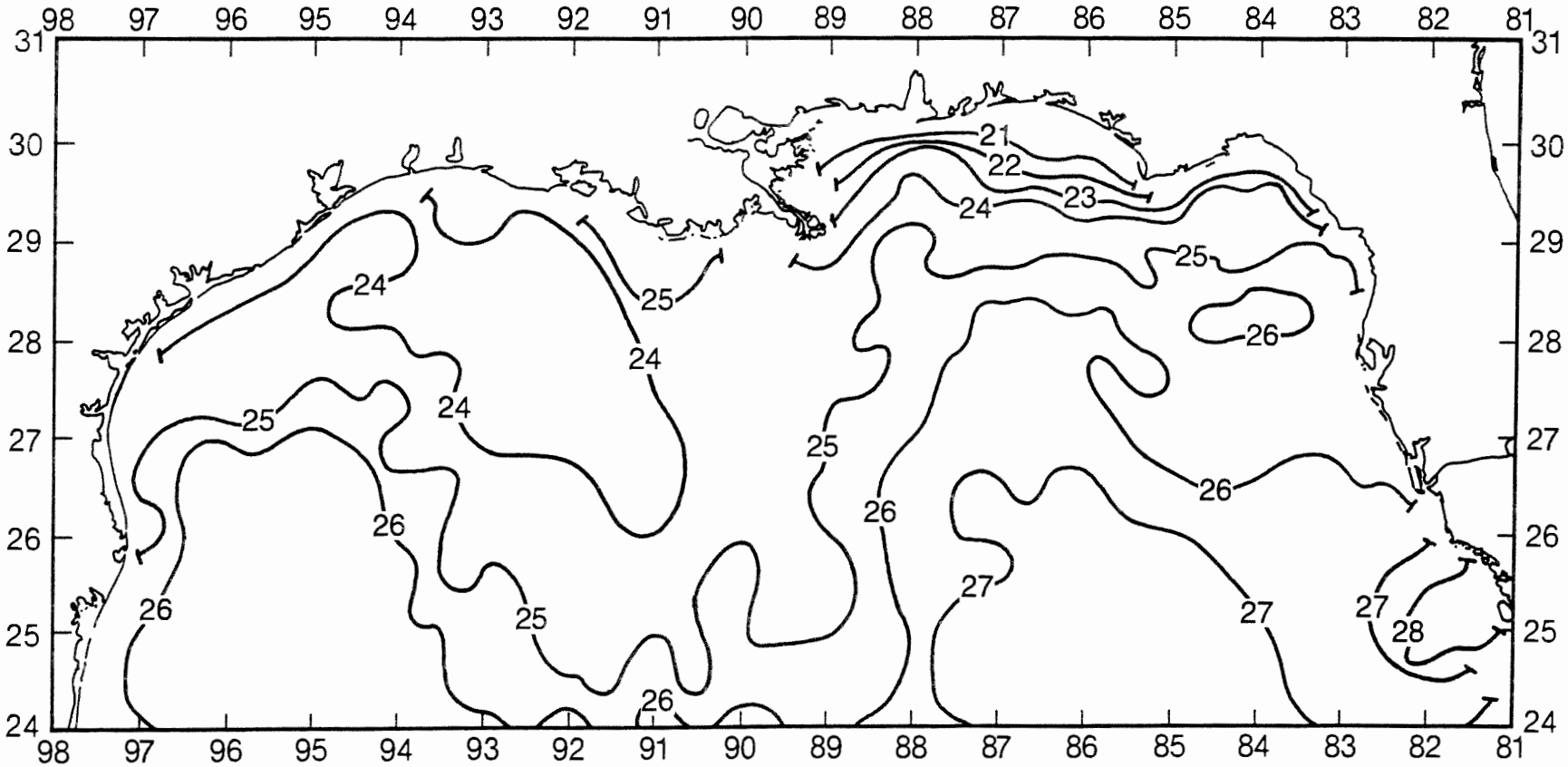

Figure 12. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, May 9, 1987 (modified from NWS/NESS Sea Surface Thermal Analysis).

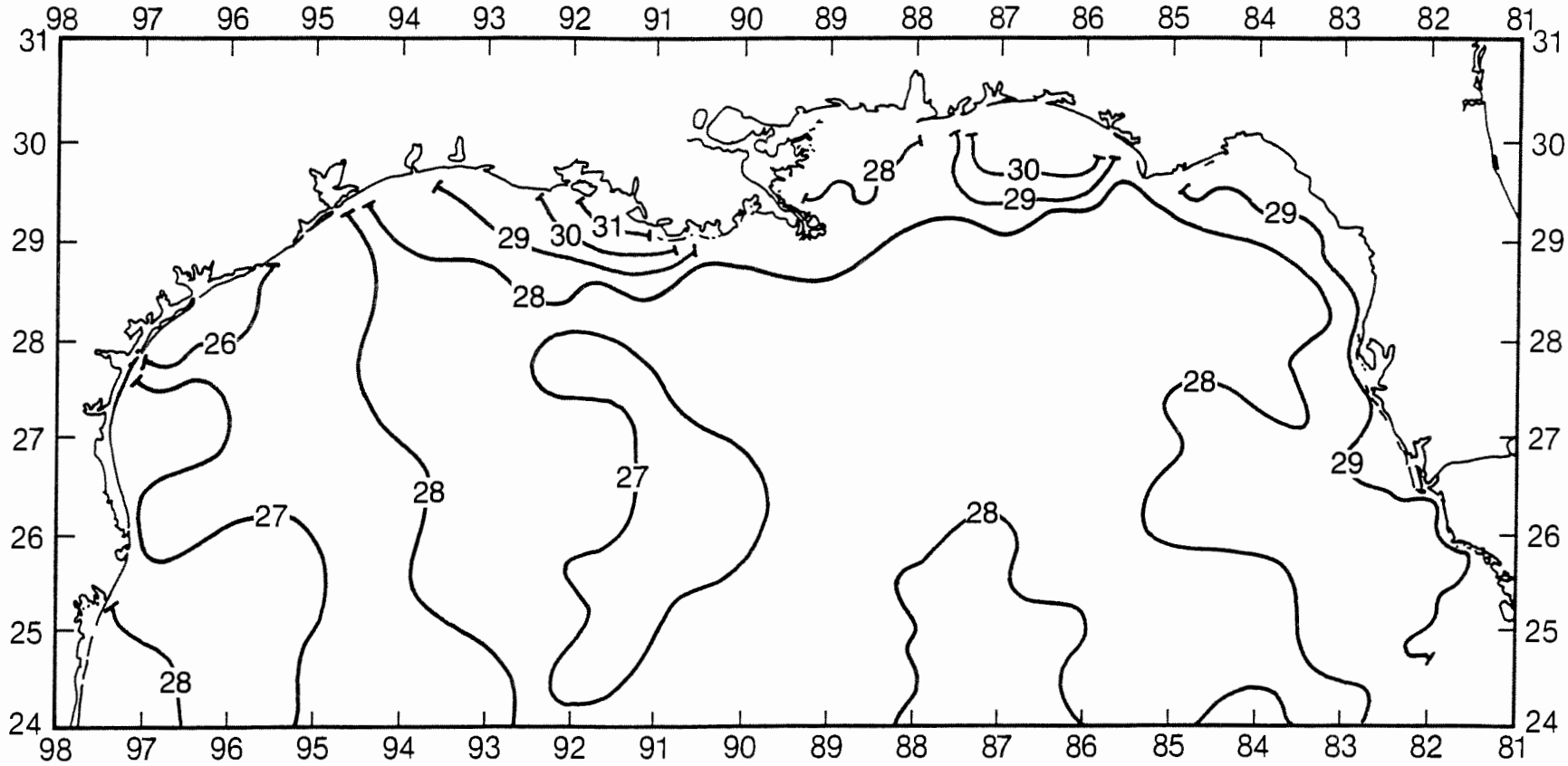

Figure 13. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, June 13, 1987 (modified from NWS/NESS Sea Surface Thermal Analysis).

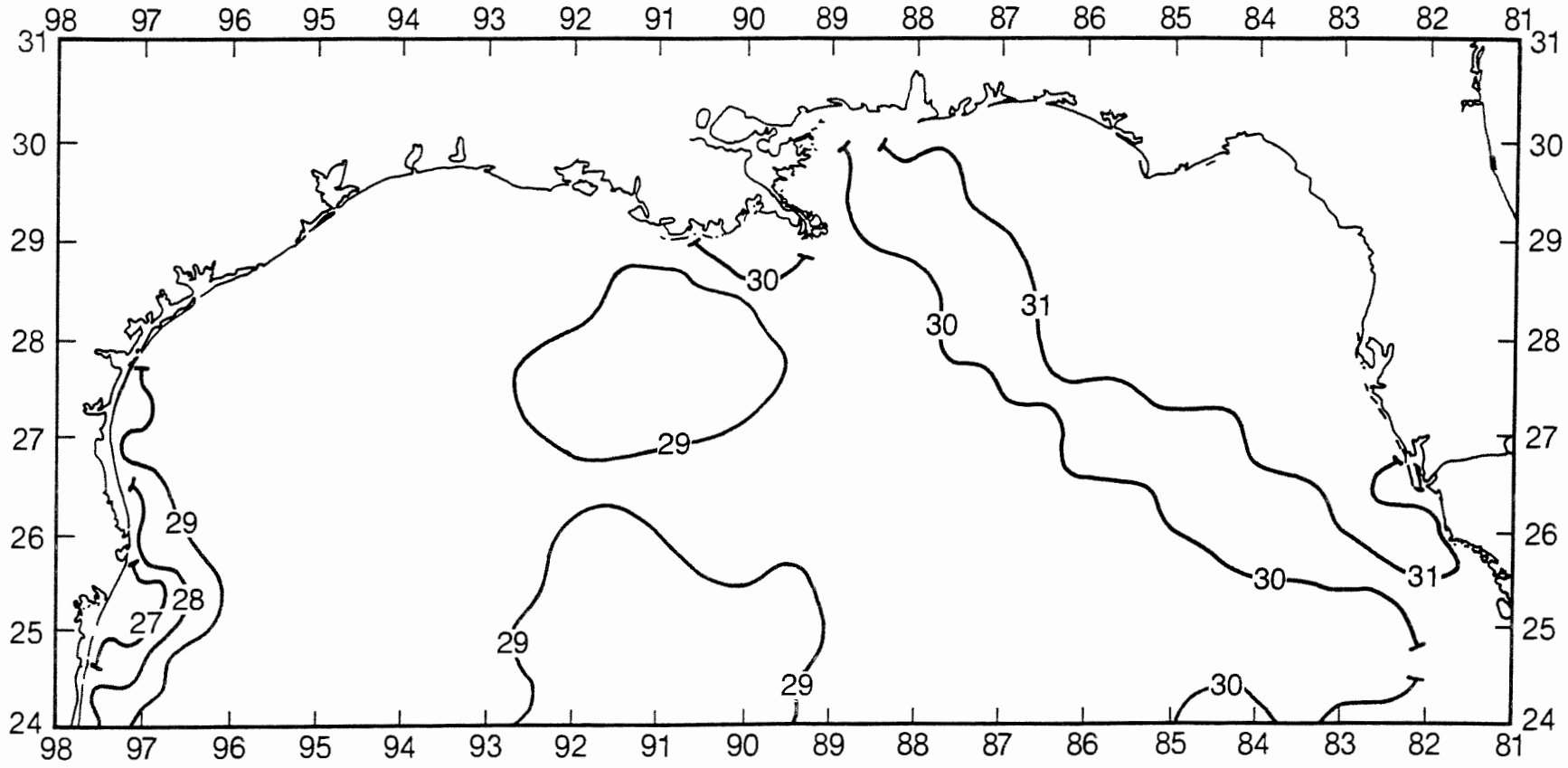

Figure 14. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, July 11, 1987 (modified from NWS/NESS Sea Surface Thermal Analysis).

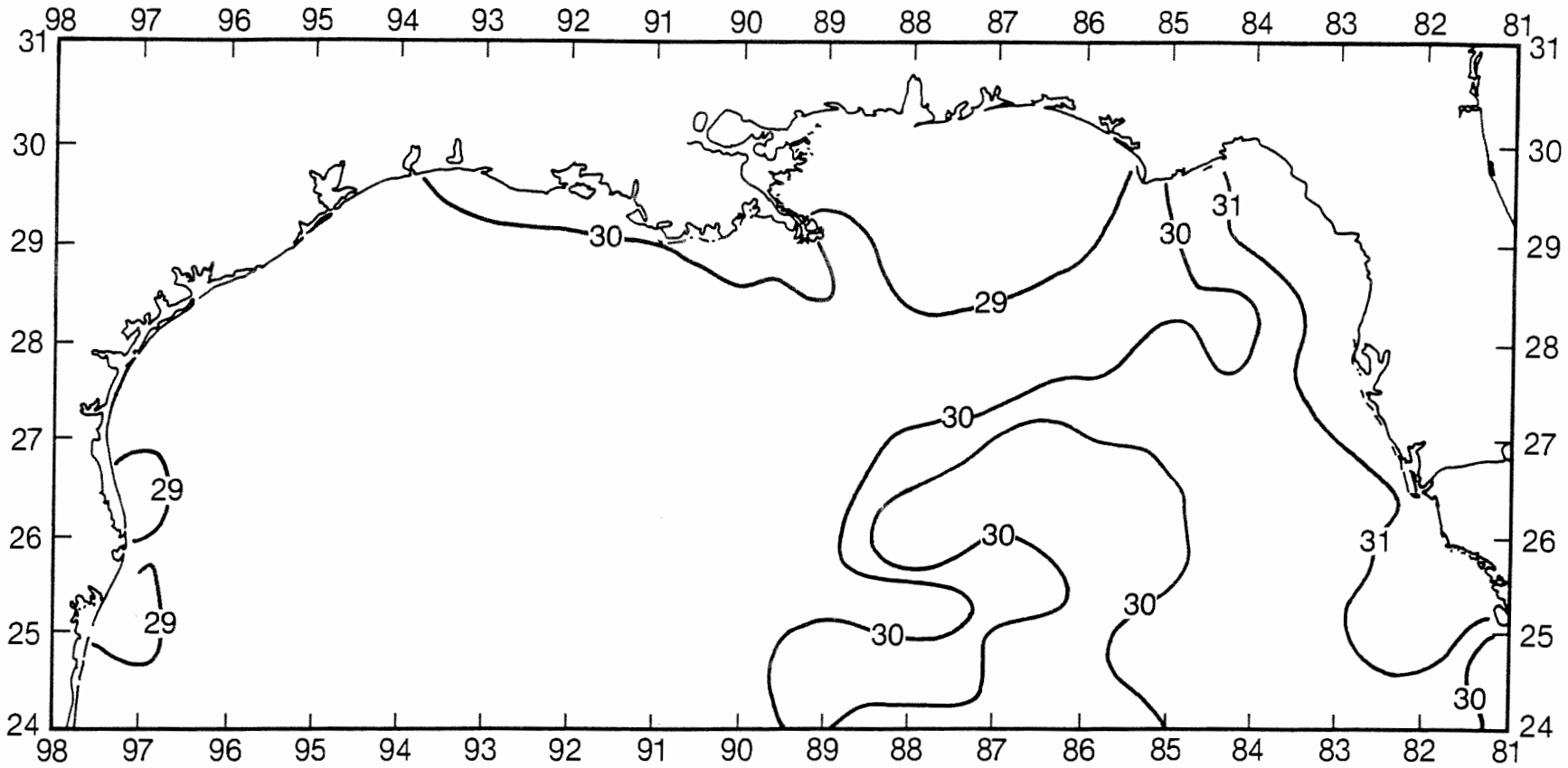

Figure 15. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, August 15, 1987 (modified from NWS/NESS Sea Surface Thermal Analysis).

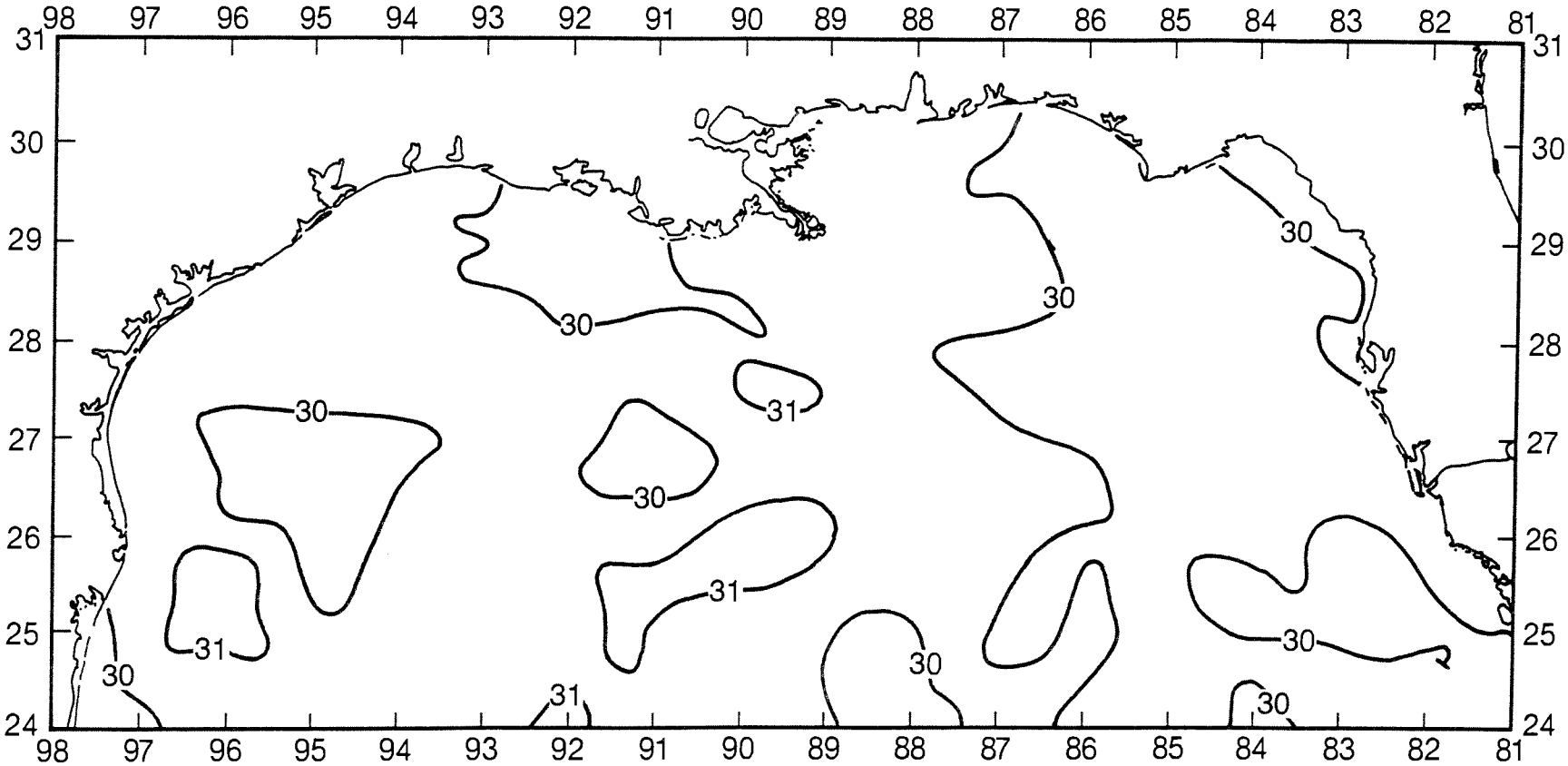

Figure 16. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, September 12, 1987 (modified from NWS/NESS Sea Surface Thermal Analysis).

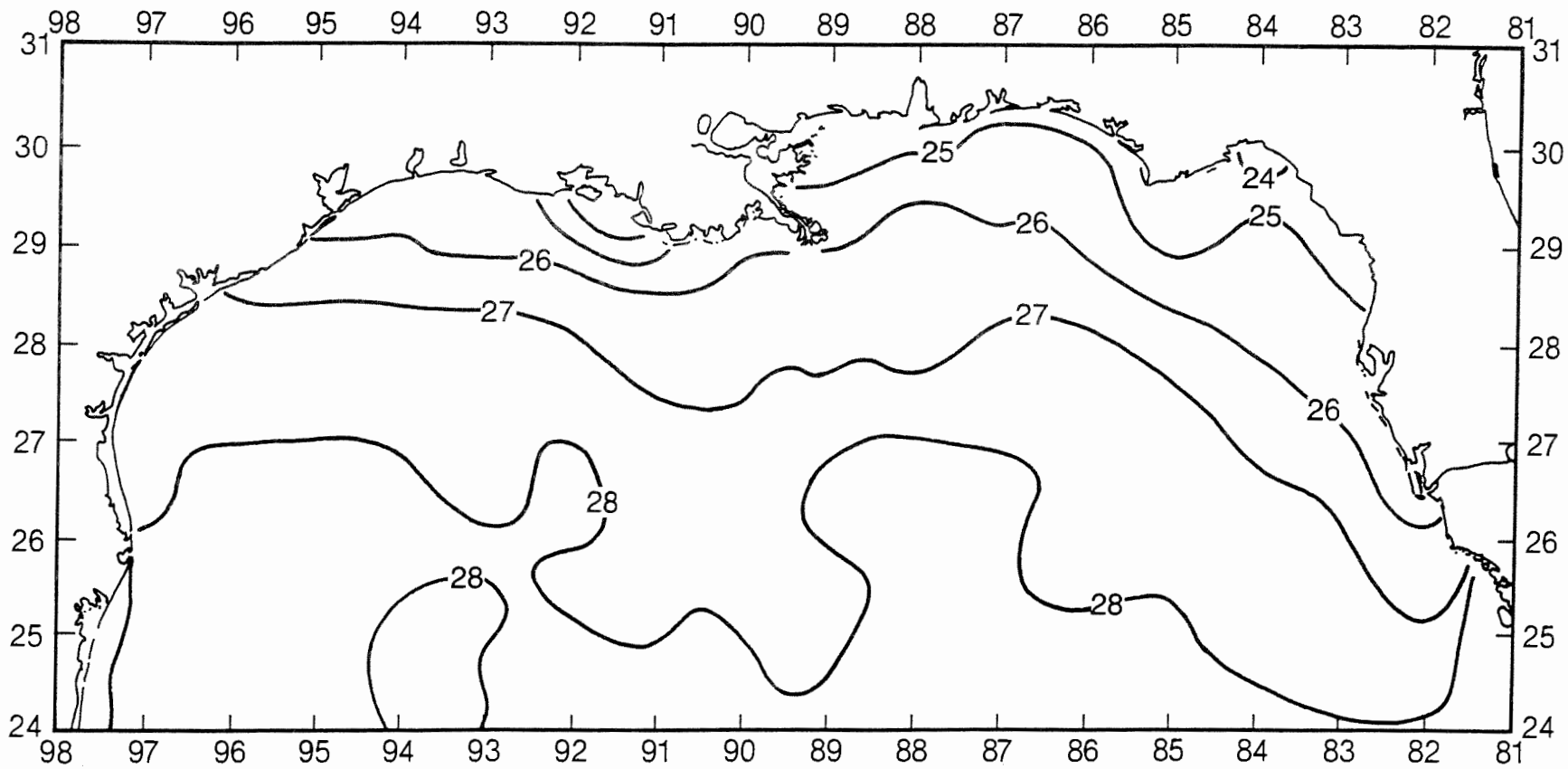

Figure 17. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, October 10, 1987 (modified from NWS/NESS Sea Surface Thermal Analysis).

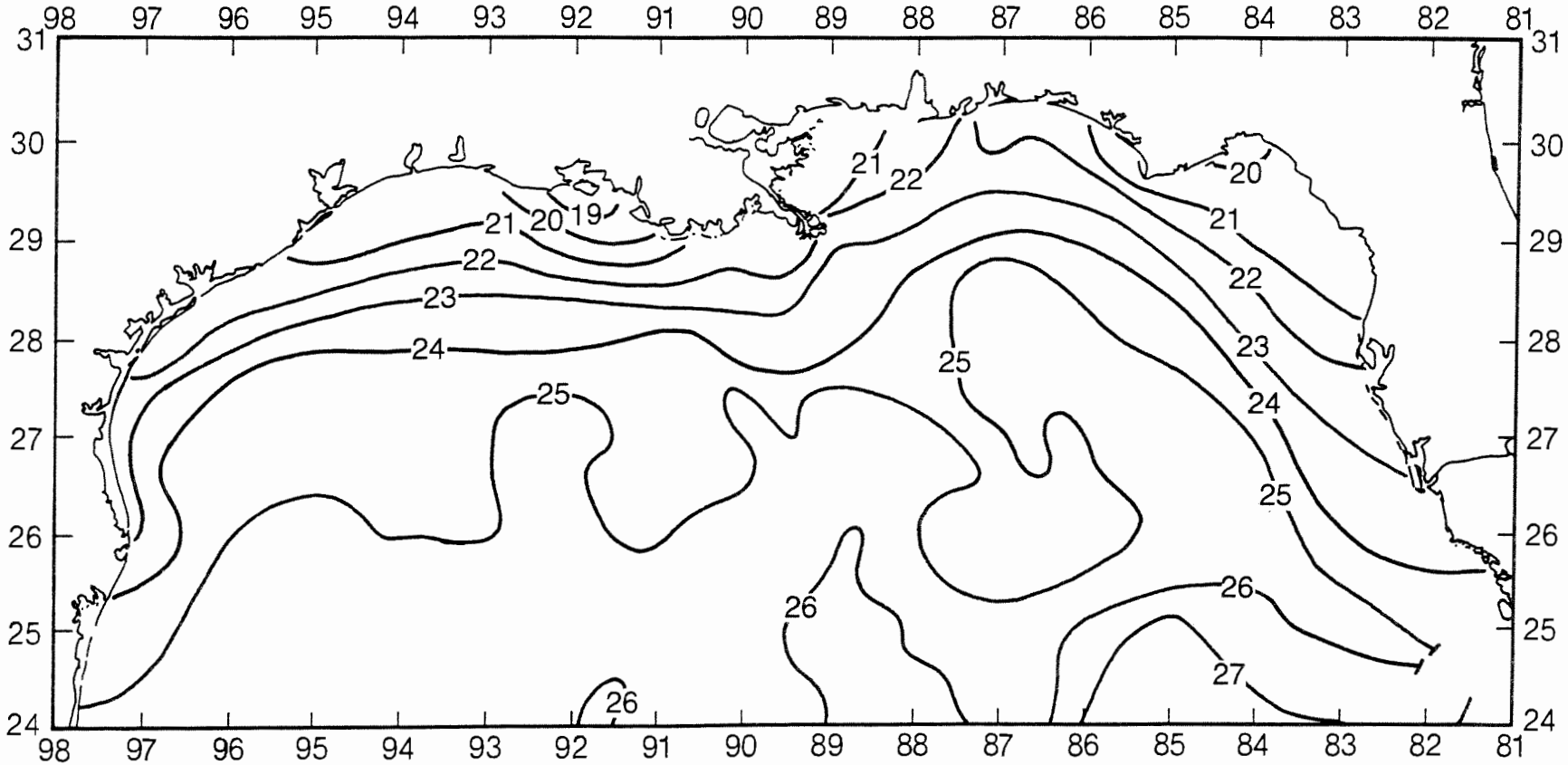

Figure 18. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, November 21, 1987 (modified from NWS/NESS Sea Surface Thermal Analysis).

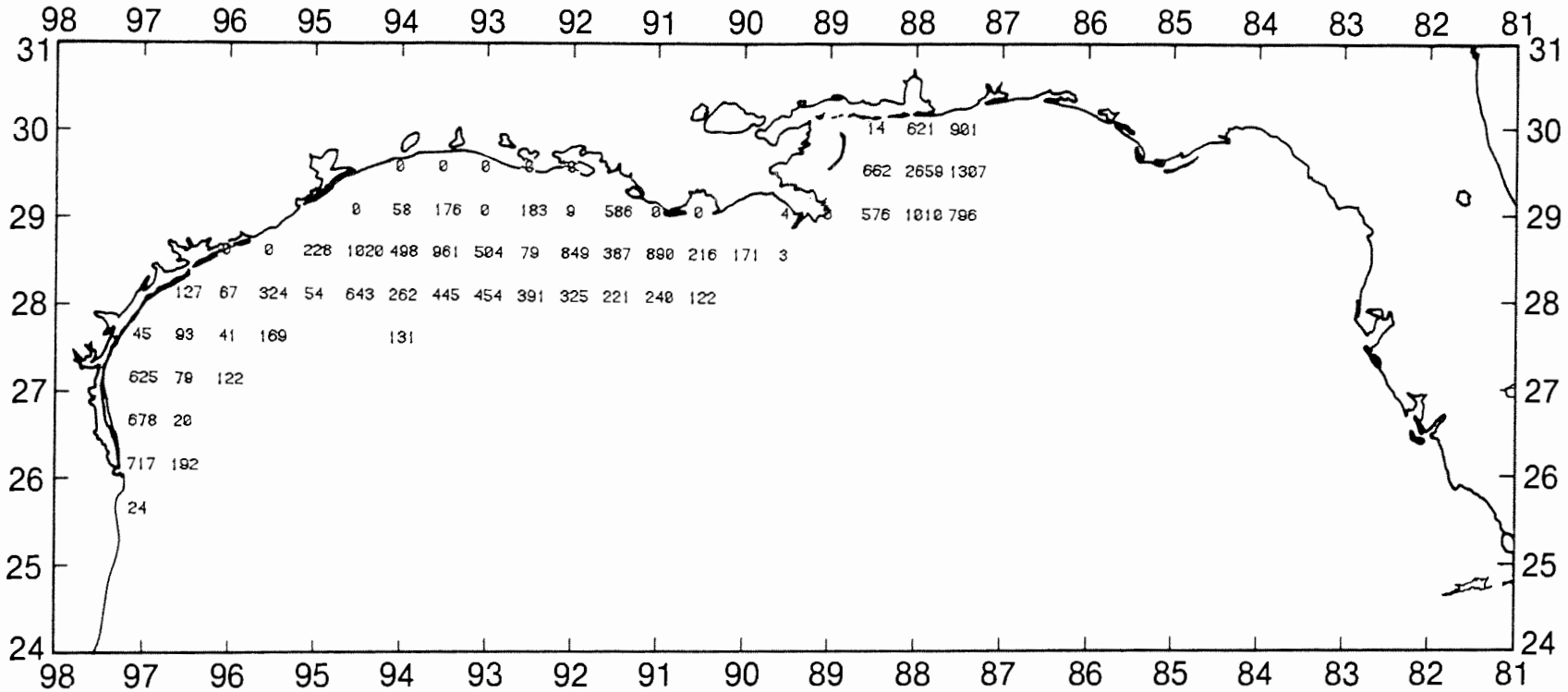

Figure 19. Longspine porgy, Stenotomus caprinus, number/hour for June-July 1987.

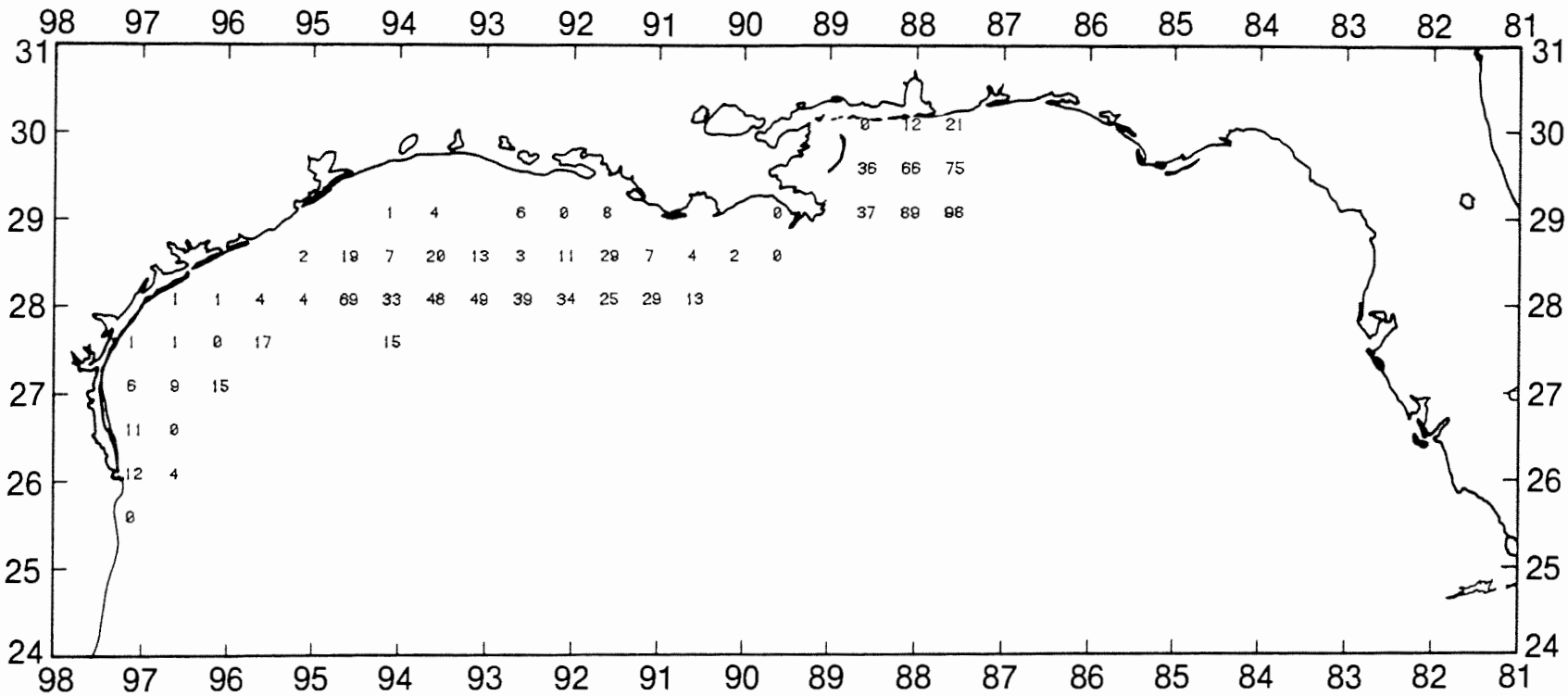

Figure 20. Longspine porgy, Stenotomus caprinus, lb/hour for June-July 1987.

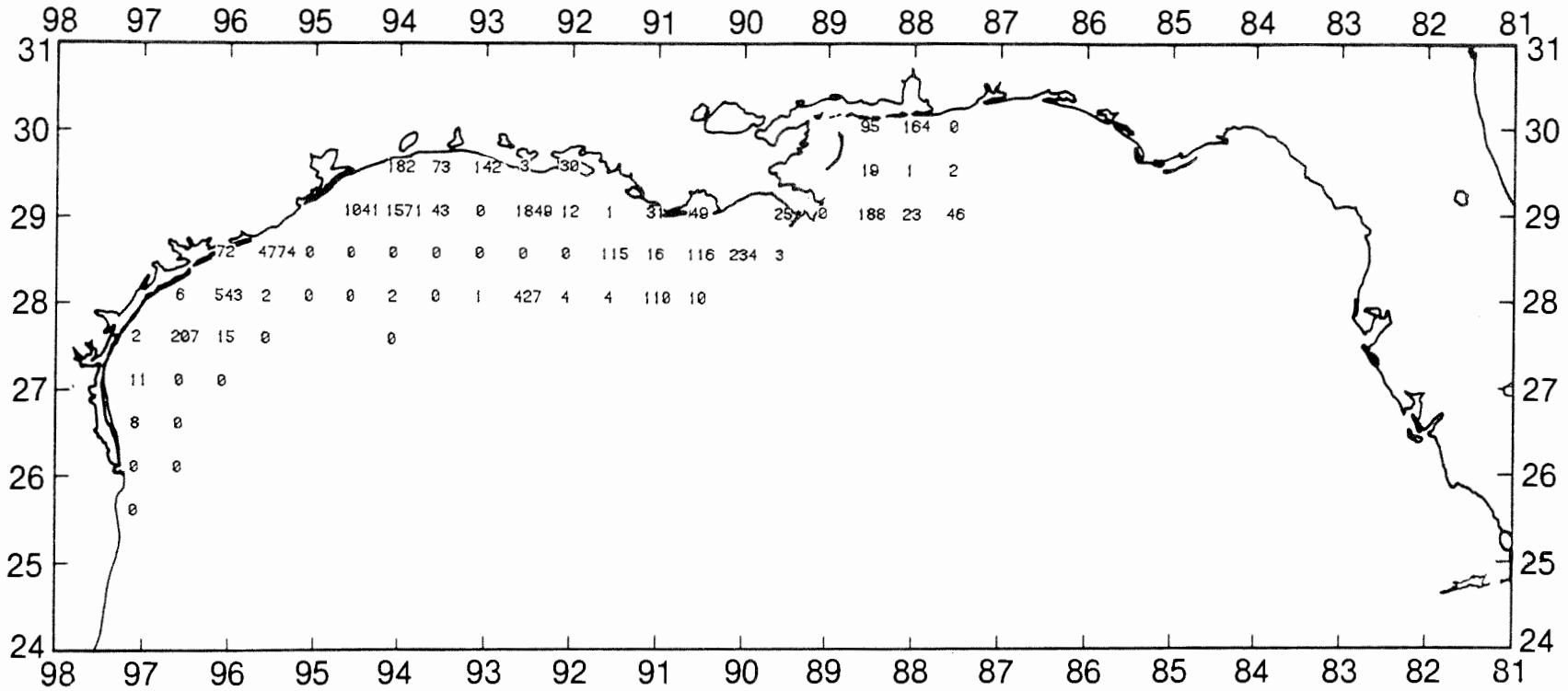

Figure 21. Atlantic croaker, Micropogonias undulatus, number/hour for June-July 1987.

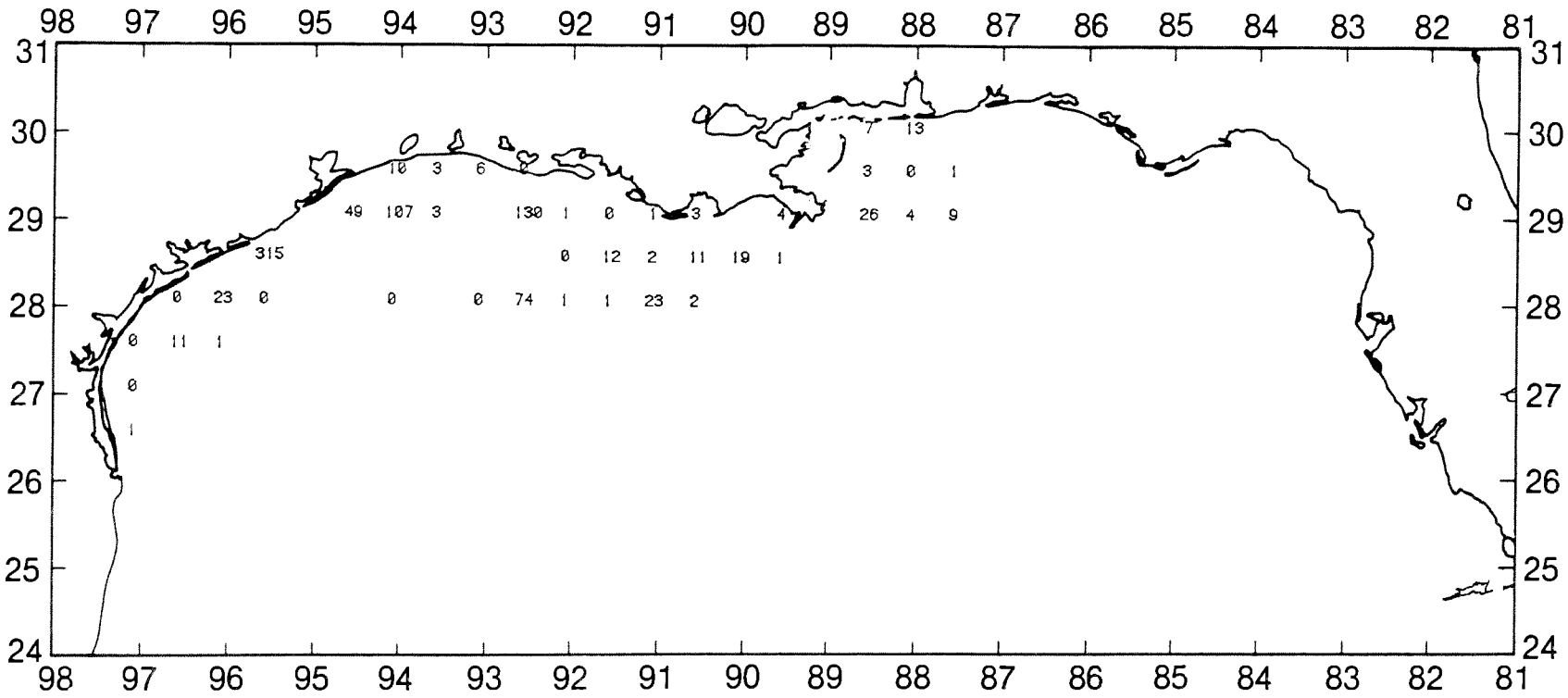

Figure 22. Atlantic croaker, Micropogonias undulatus, lb/hour for June-July 1987.

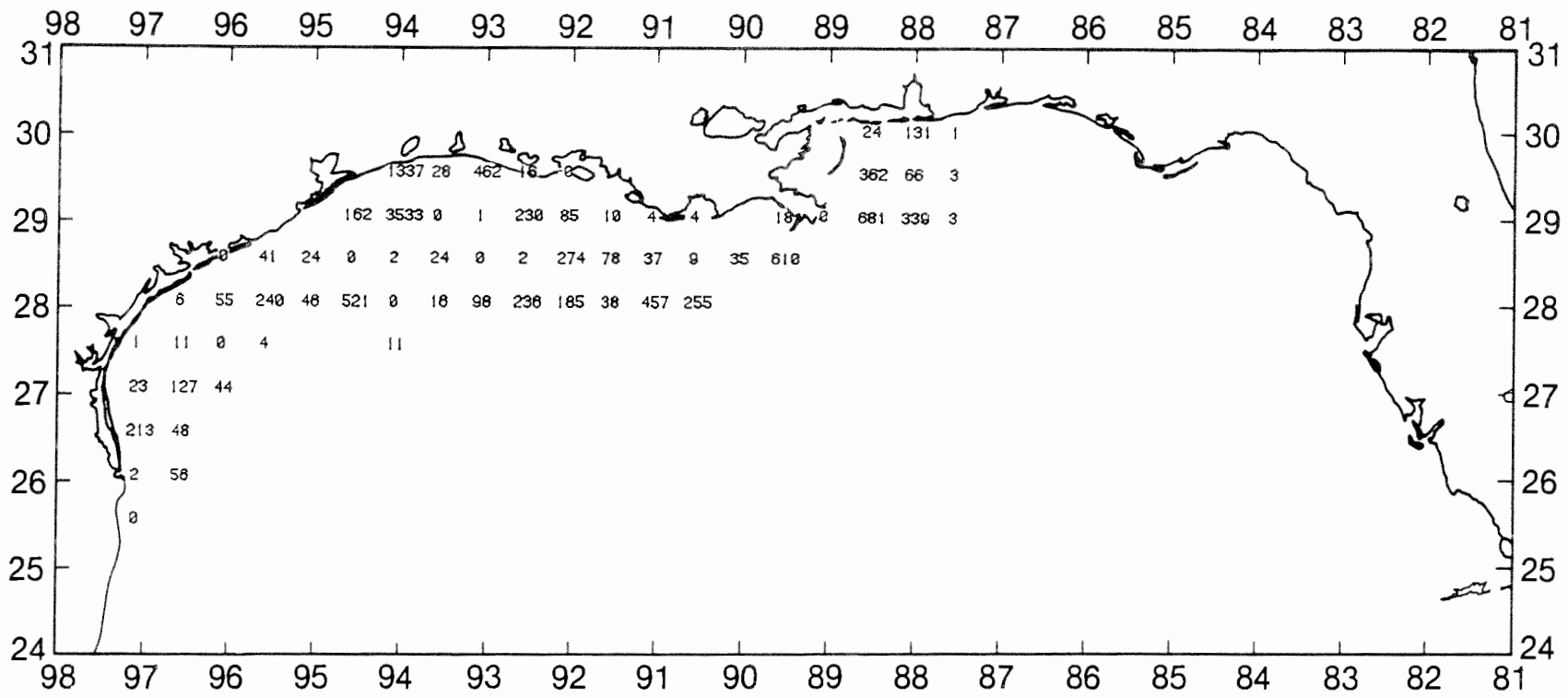

Figure 23. Gulf butterfish, Peprilus burti, number/hour for June-July 1987.

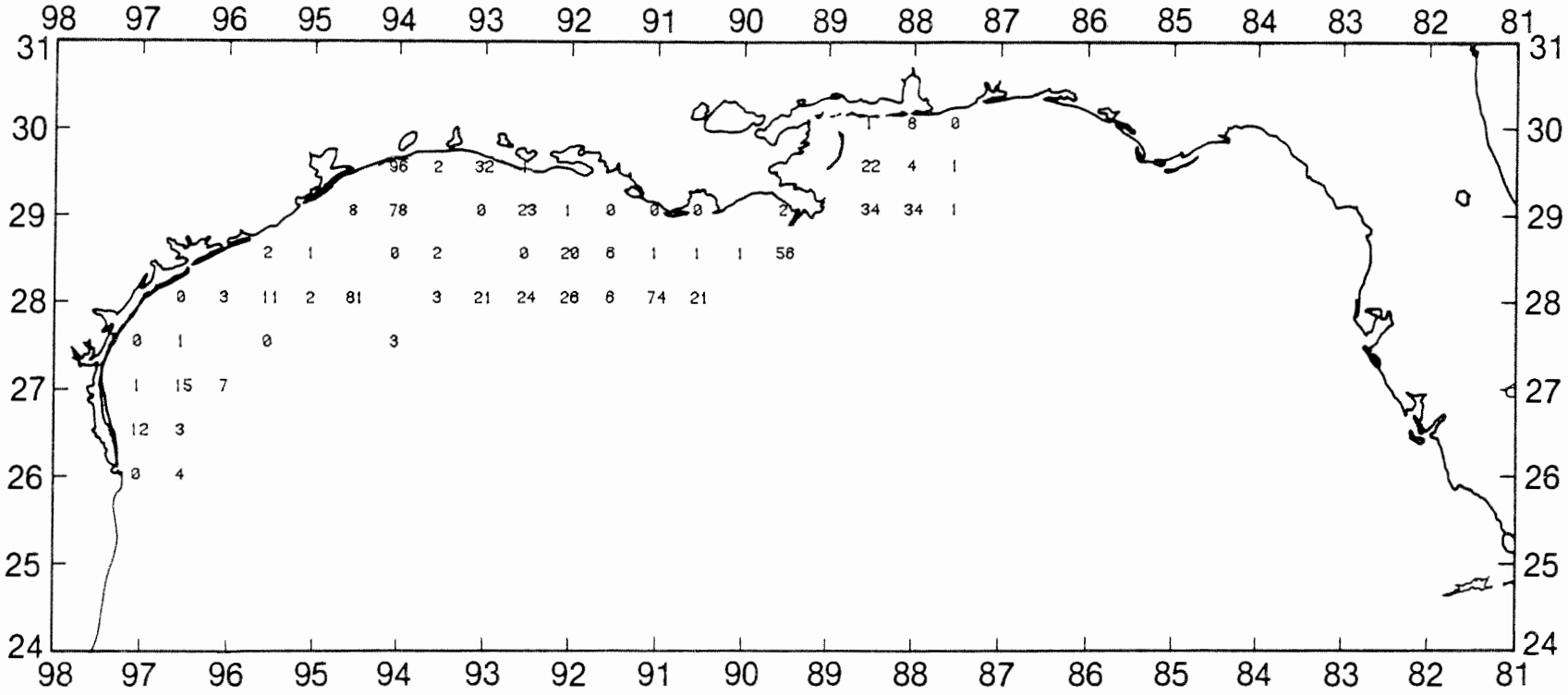

Figure 24. Gulf butterfish, Peprilus burti, lb/hour for June-July 1987.

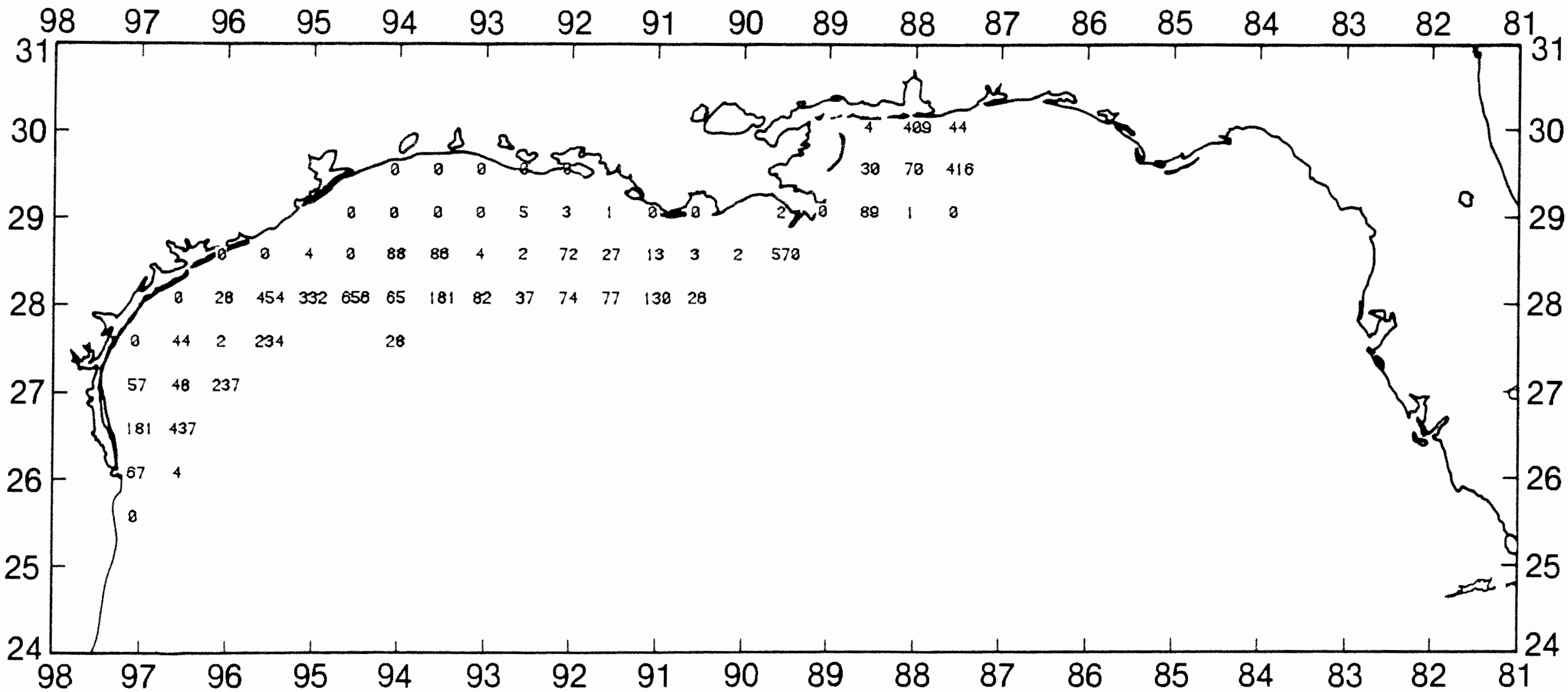

Figure 25. Rough scad, <u>Trachurus</u> <u>lathami</u>, number/hour for June-July 1987.

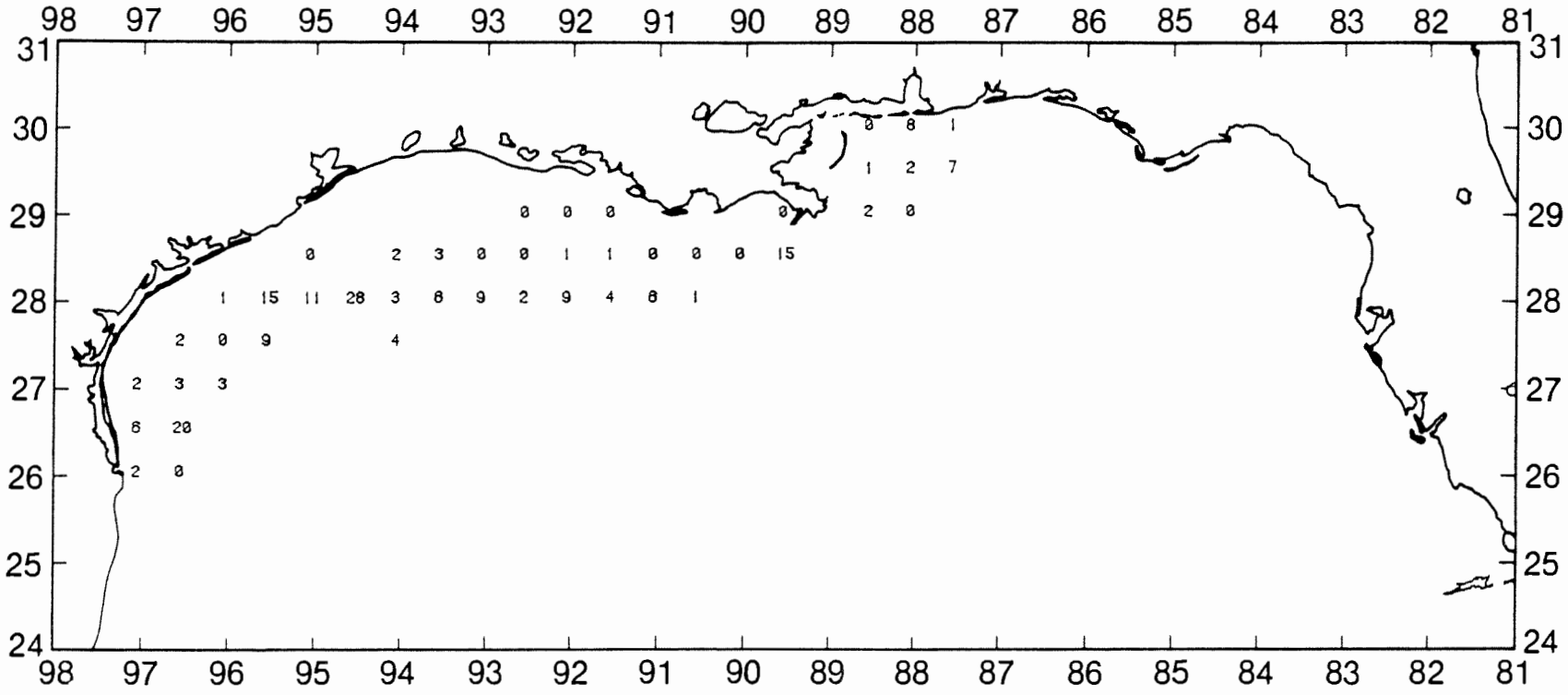

Figure 26. Rough scad, Trachurus lathami, lb/hour for June-July 1987.

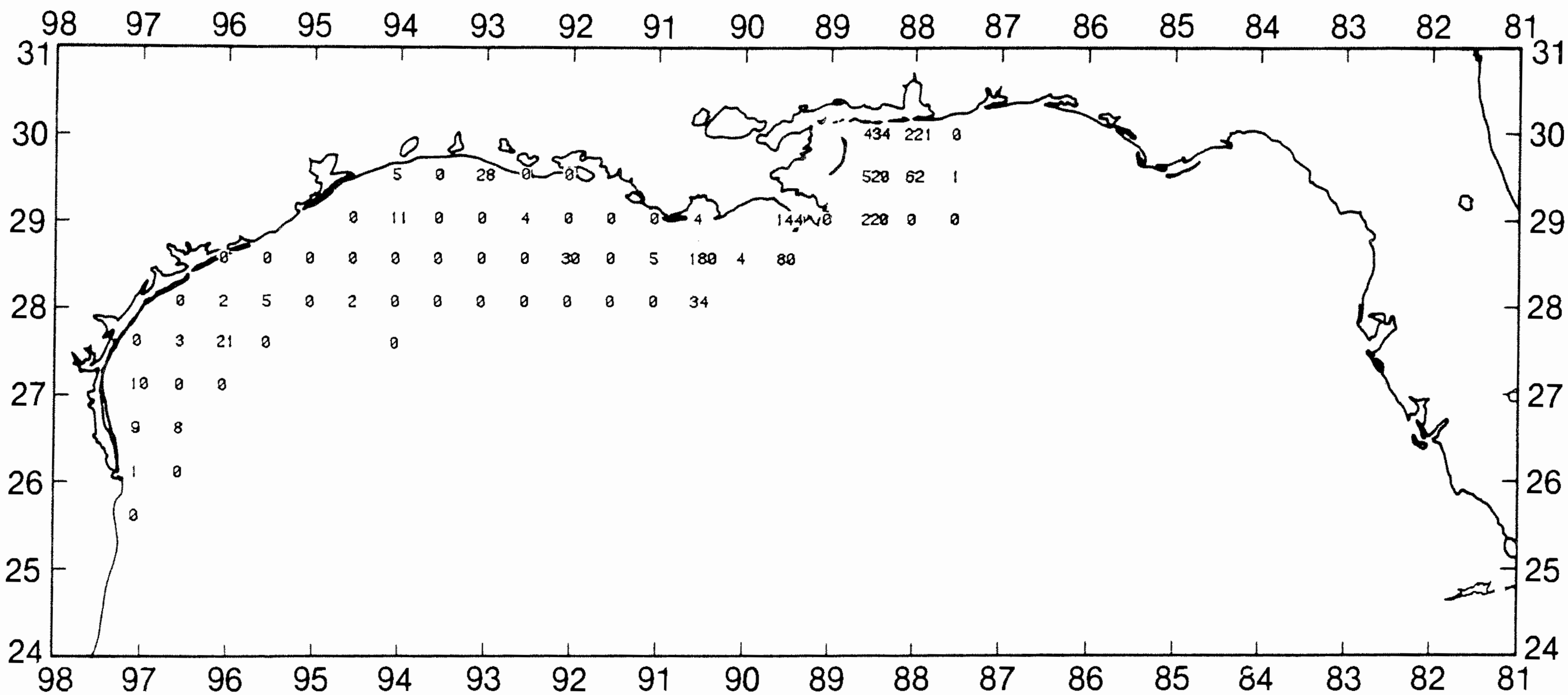

Figure 27. Striped anchovy, Anchoa hepsetus, number/hour for June-July 1987.

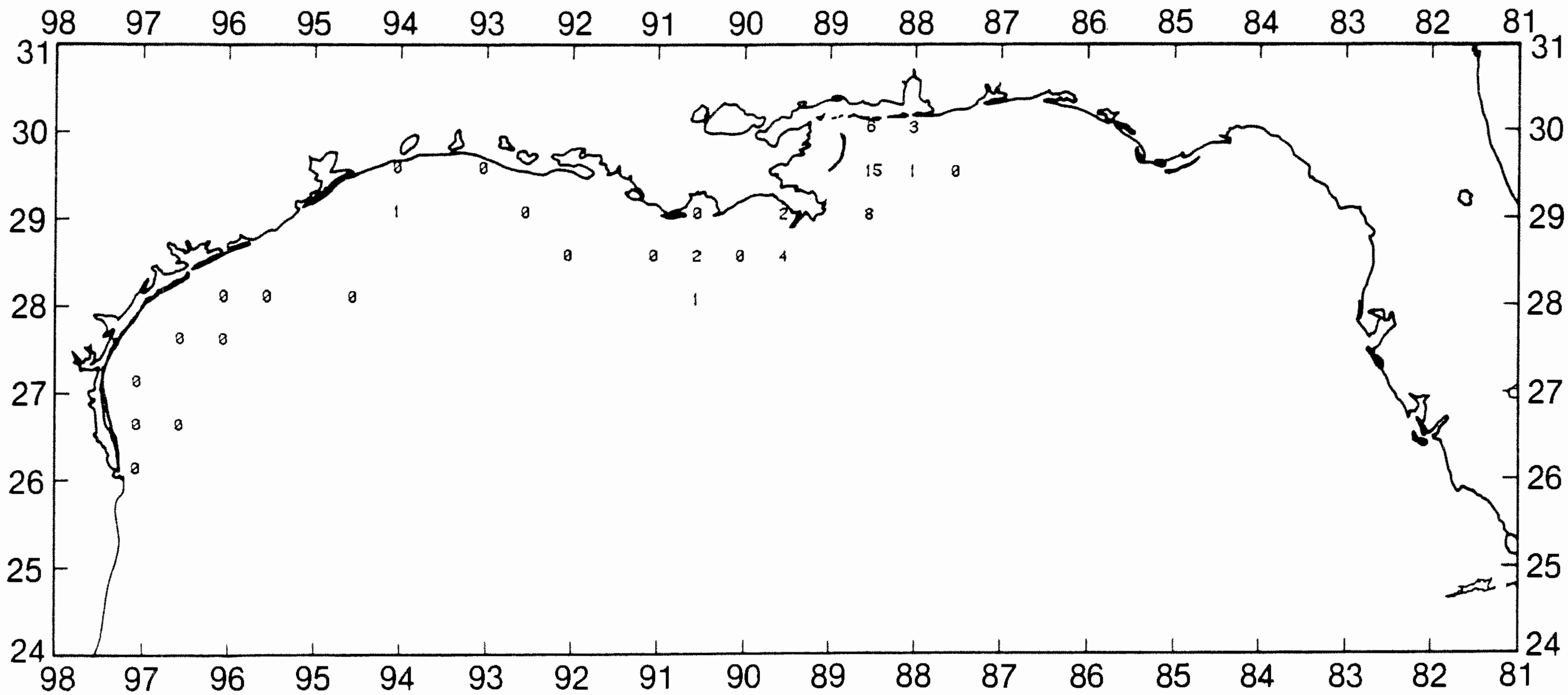

Figure 28. Striped anchovy, Anchoa hepsetus, lb/hour for June-July 1987.

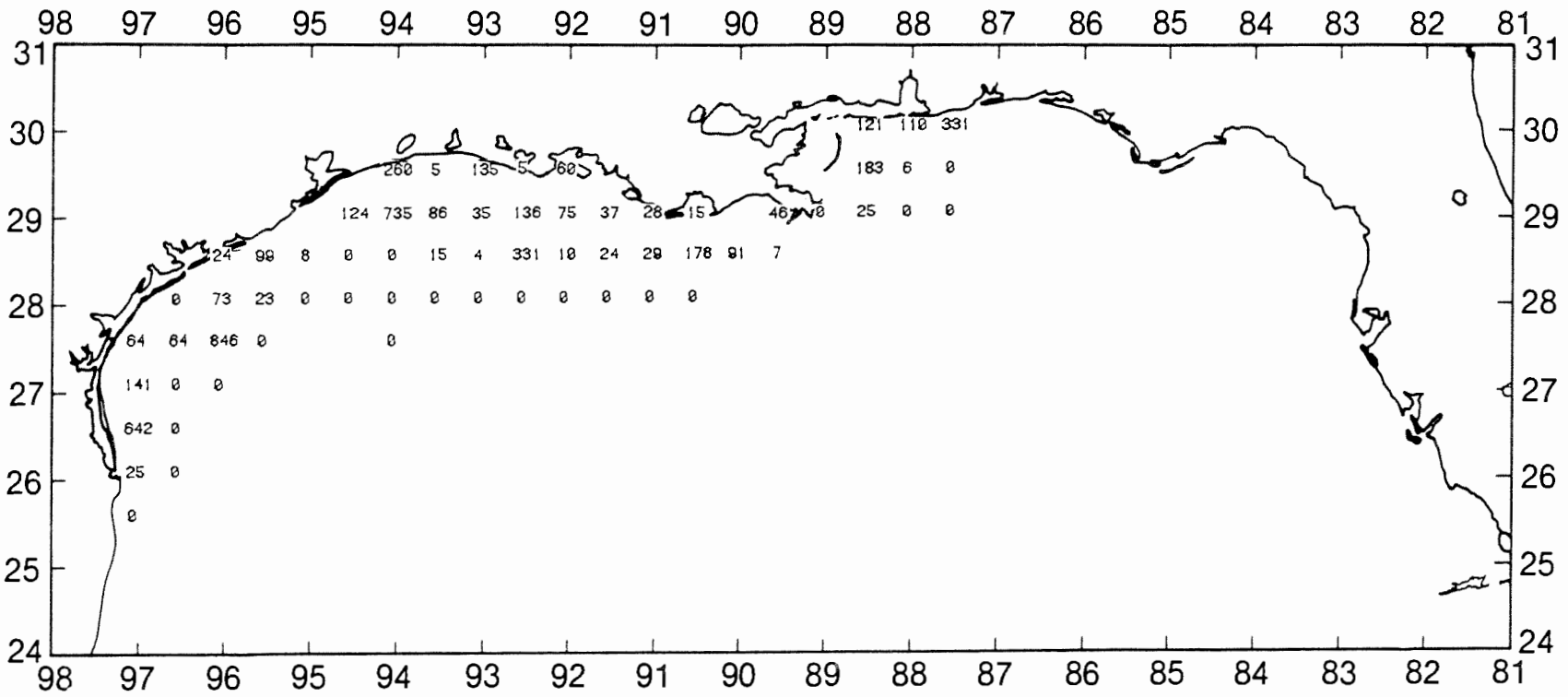

Figure 29. Atlantic bumper, Chloroscombrus chrysurus, number/hour for June-July 1987.

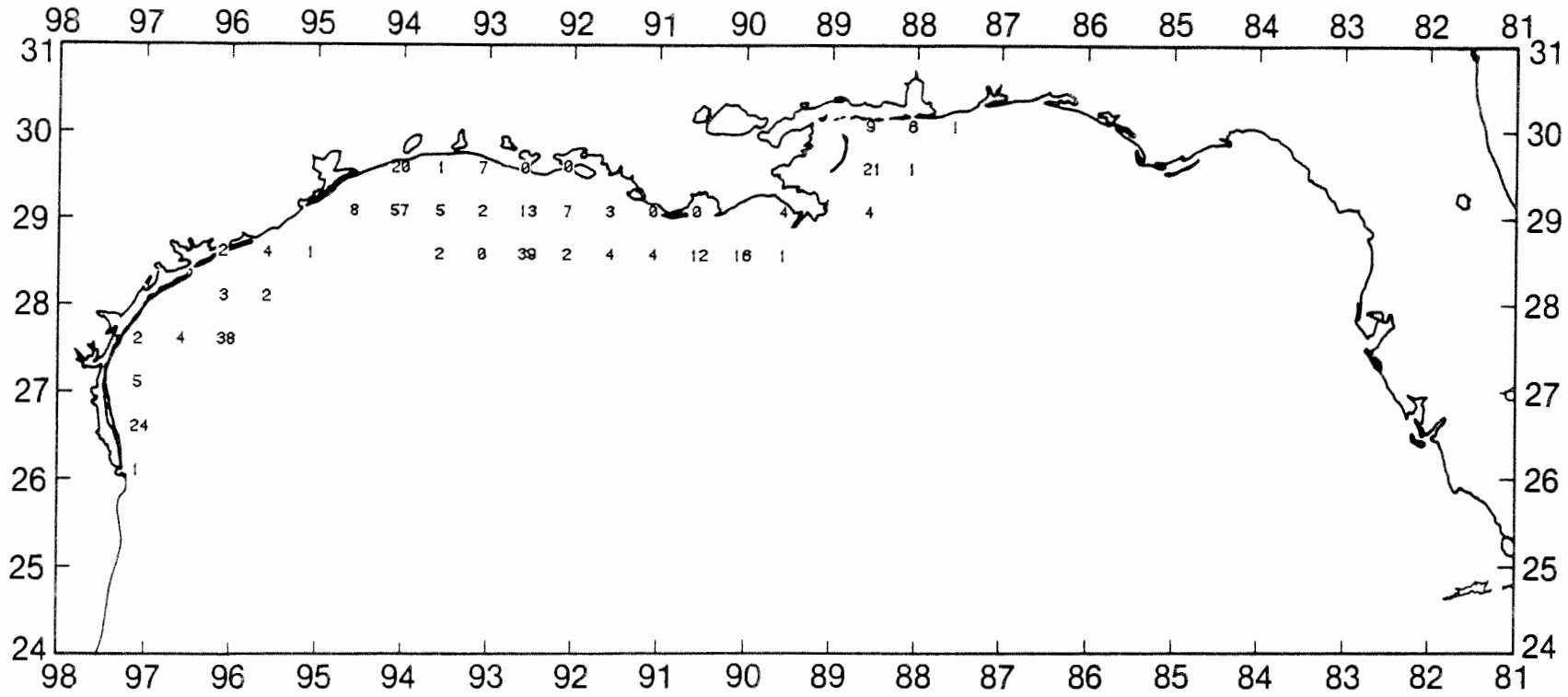

Figure 30. Atlantic bumper, Chloroscombrus chrysurus, lb/hour for June-July 1987.

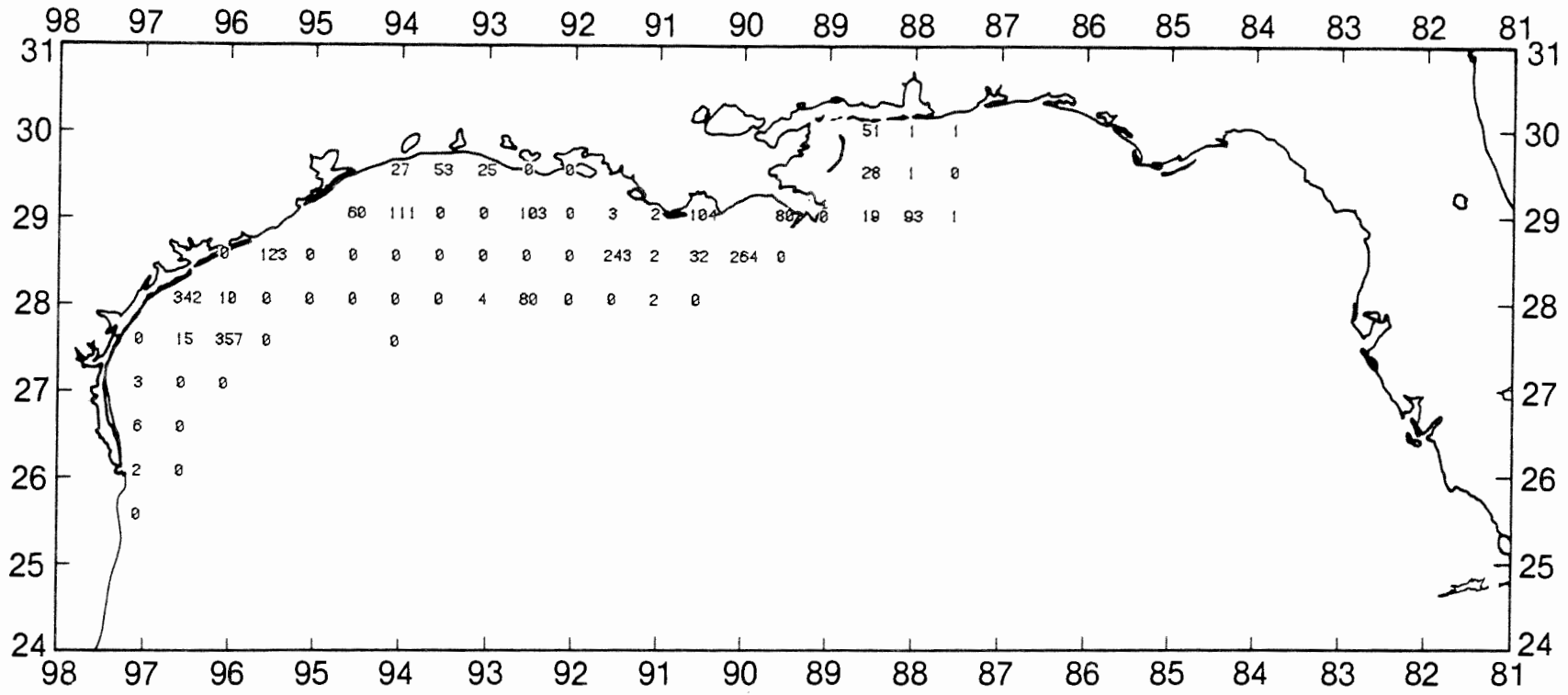

Figure 31. Spot, Leiostomus xanthurus, number/hour for June-July 1987.

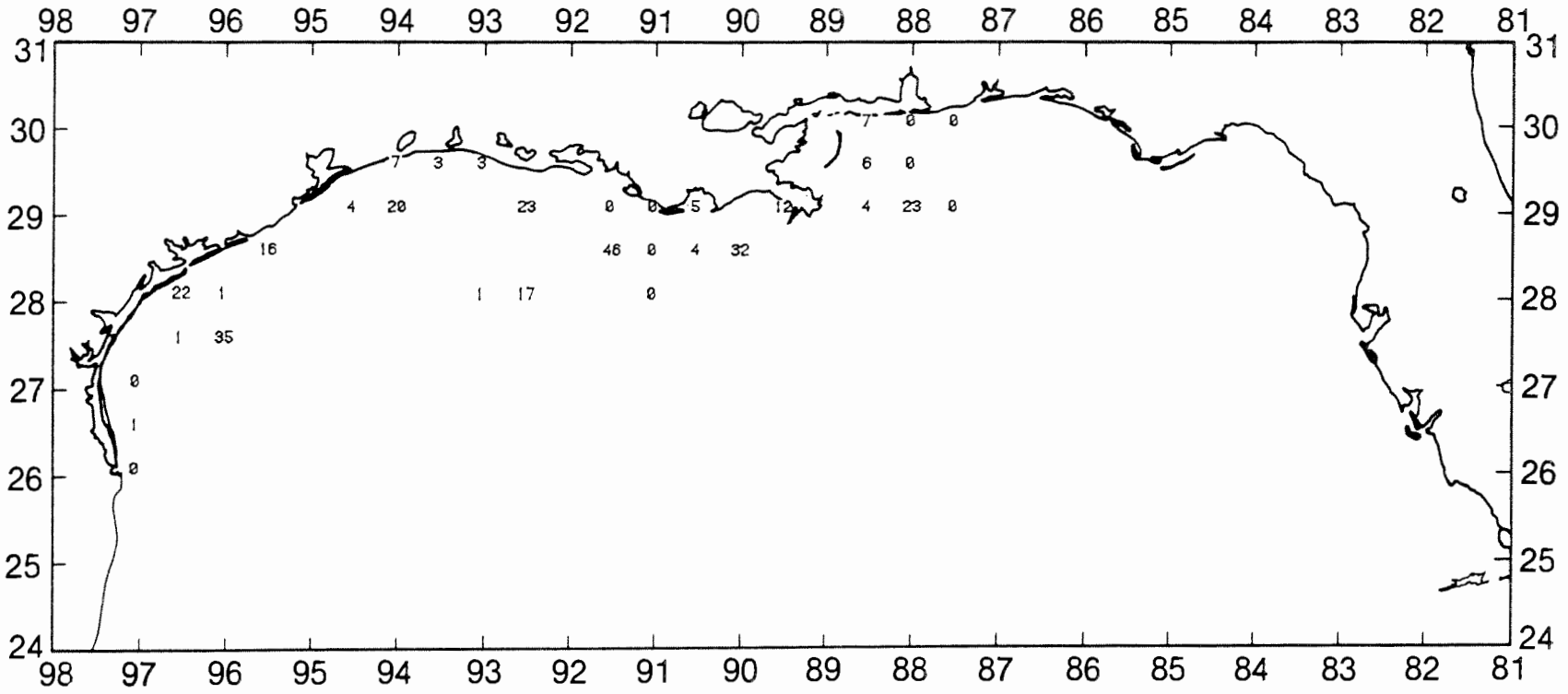

Figure 32. Spot, Leiostomus xanthurus, lb/hour for June-July 1987.

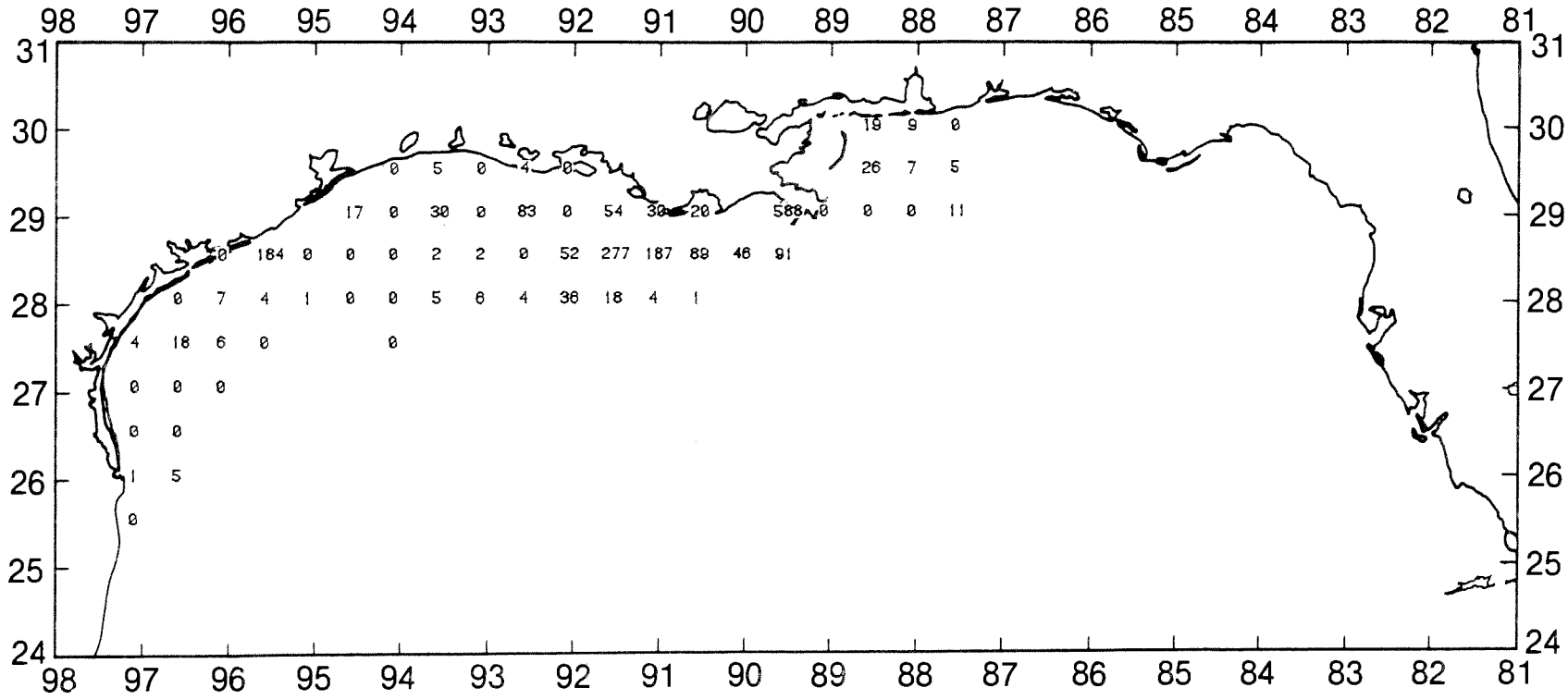

Figure 33. Blackfin searobin, Prinotus rubio, number/hour for June-July 1987.

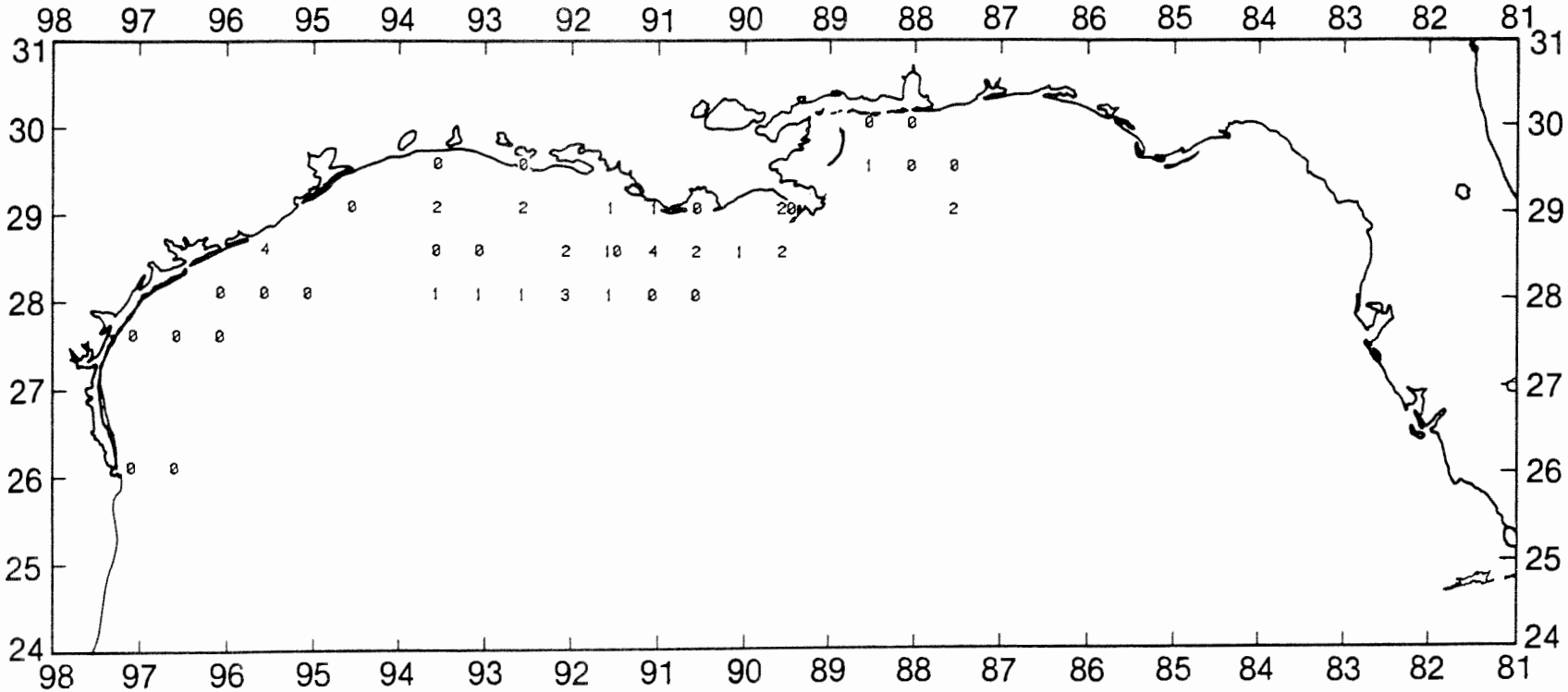

Figure 34. Blackfin searobin, Prinotus rubio, lb/hour for June-July 1987.

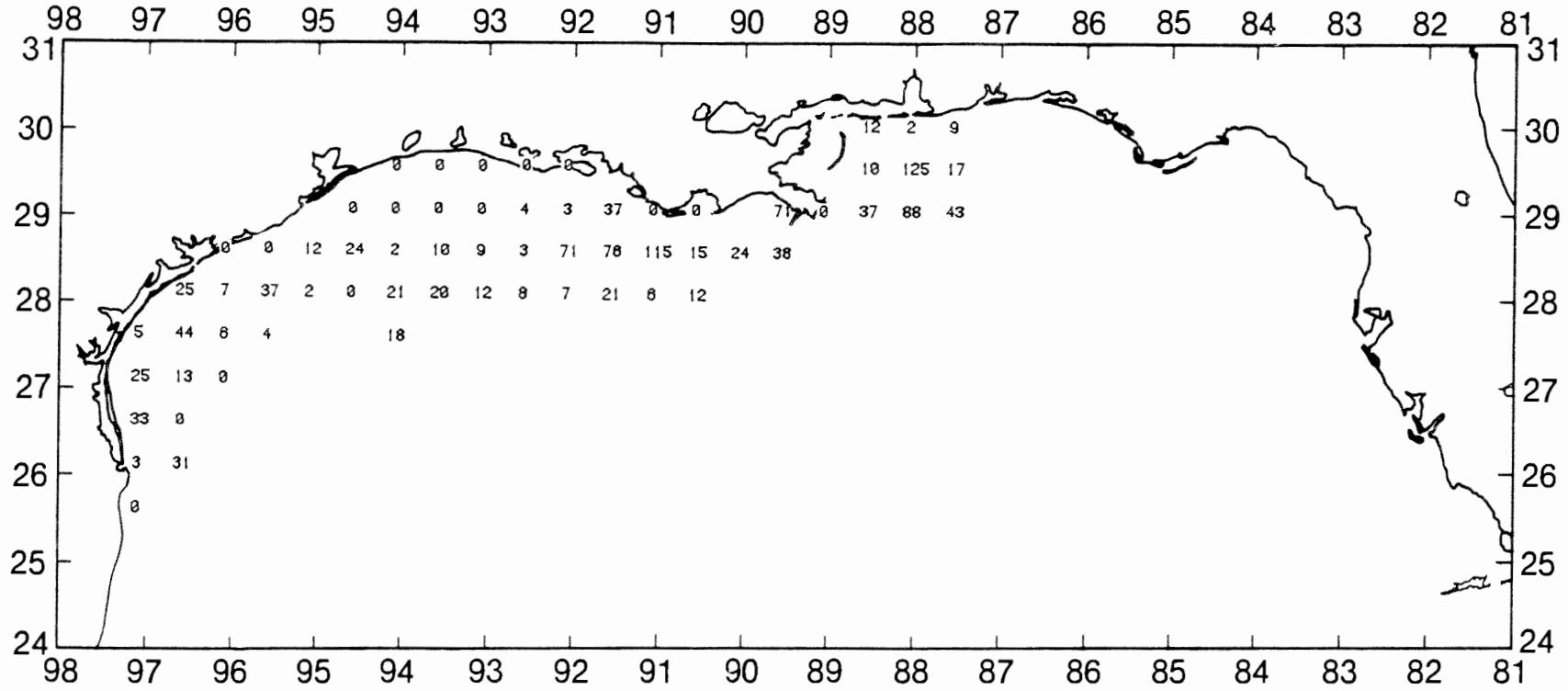

Figure 35. Rock sea bass, Centropristis philadelphica, number/hour for June-July 1987.

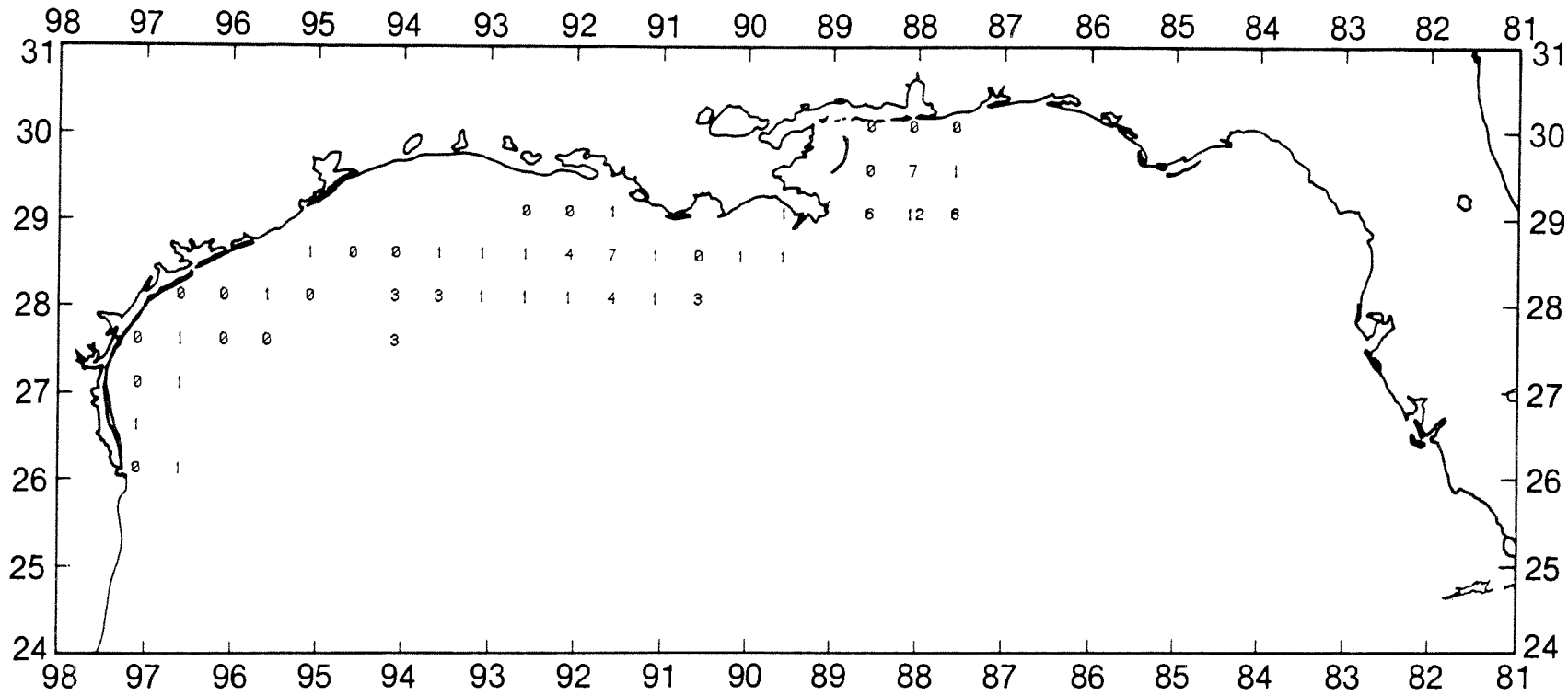

Figure 36. Rock sea bass, Centropristis philadelphica, lb/hour for June-July 1987.

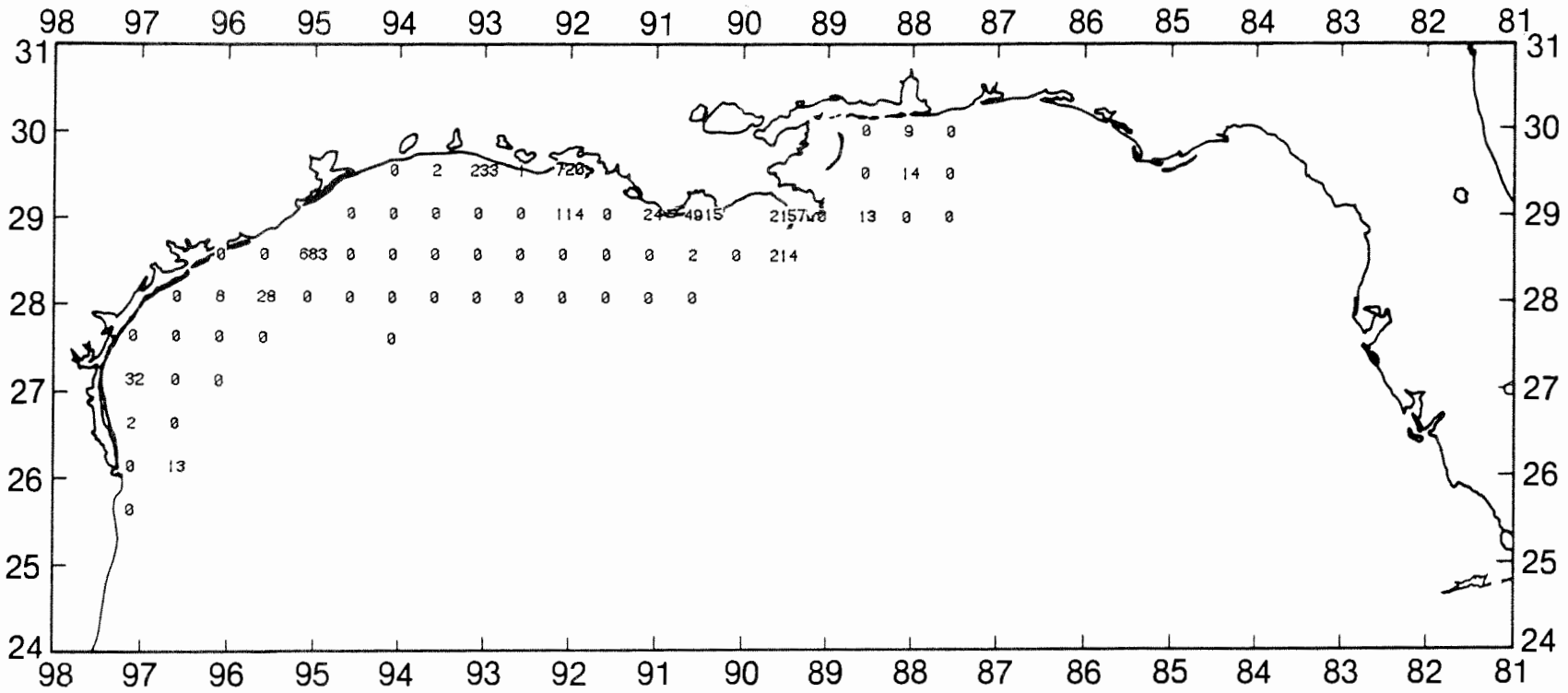

Figure 37. Bay anchovy, Anchoa mitchilli, number/hour for June-July 1987.

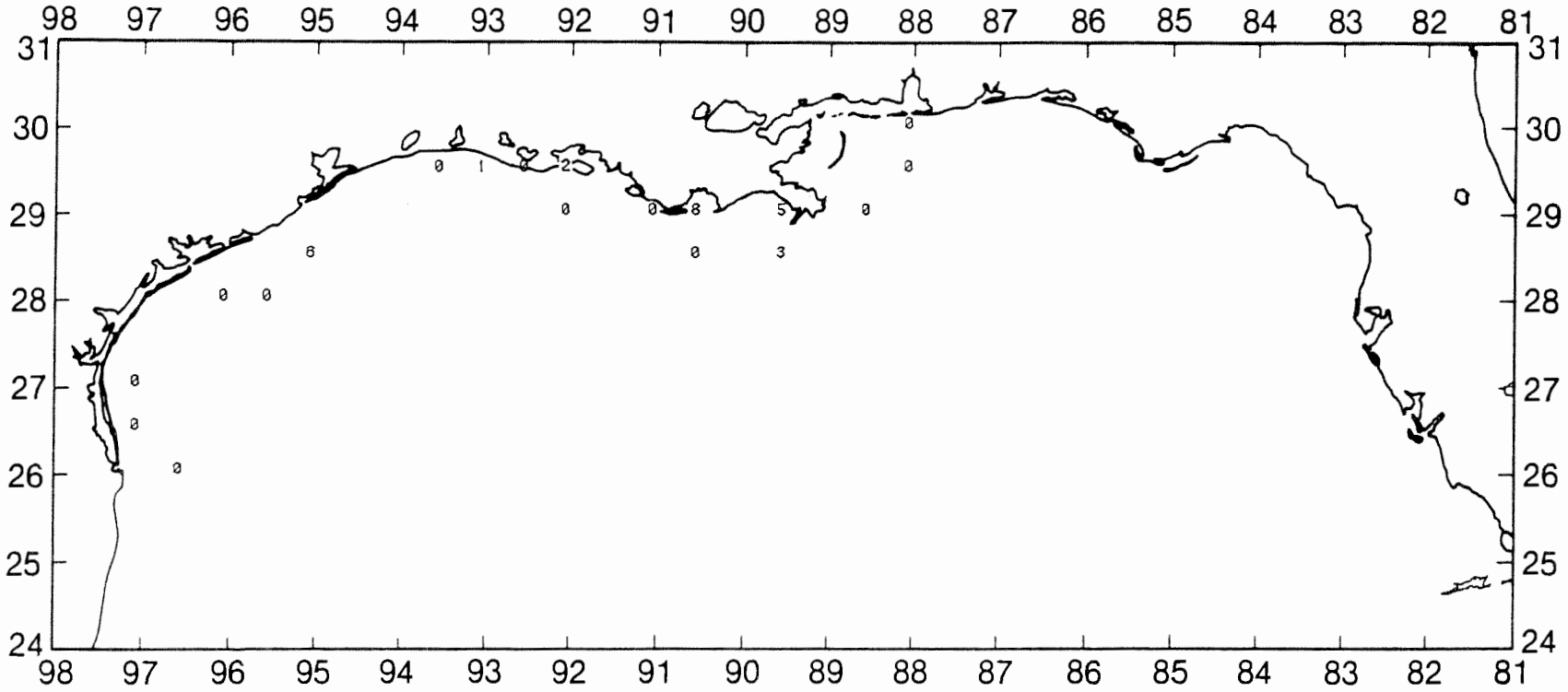

Figure 38. Bay anchovy, Anchoa mitchilli, lb/hour for June-July 1987.

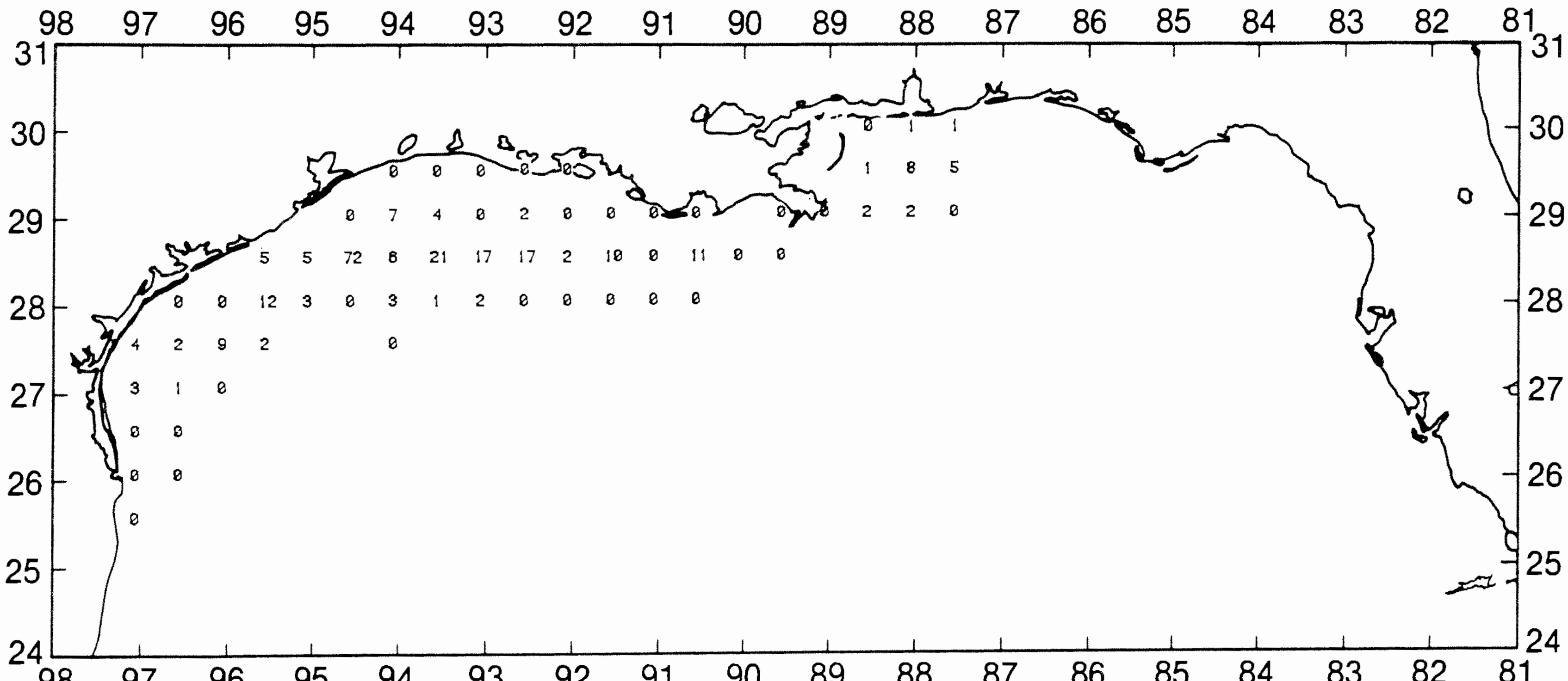

Figure 39. Red snapper, Lutjanus campechanus, number/hour for June-July 1987.

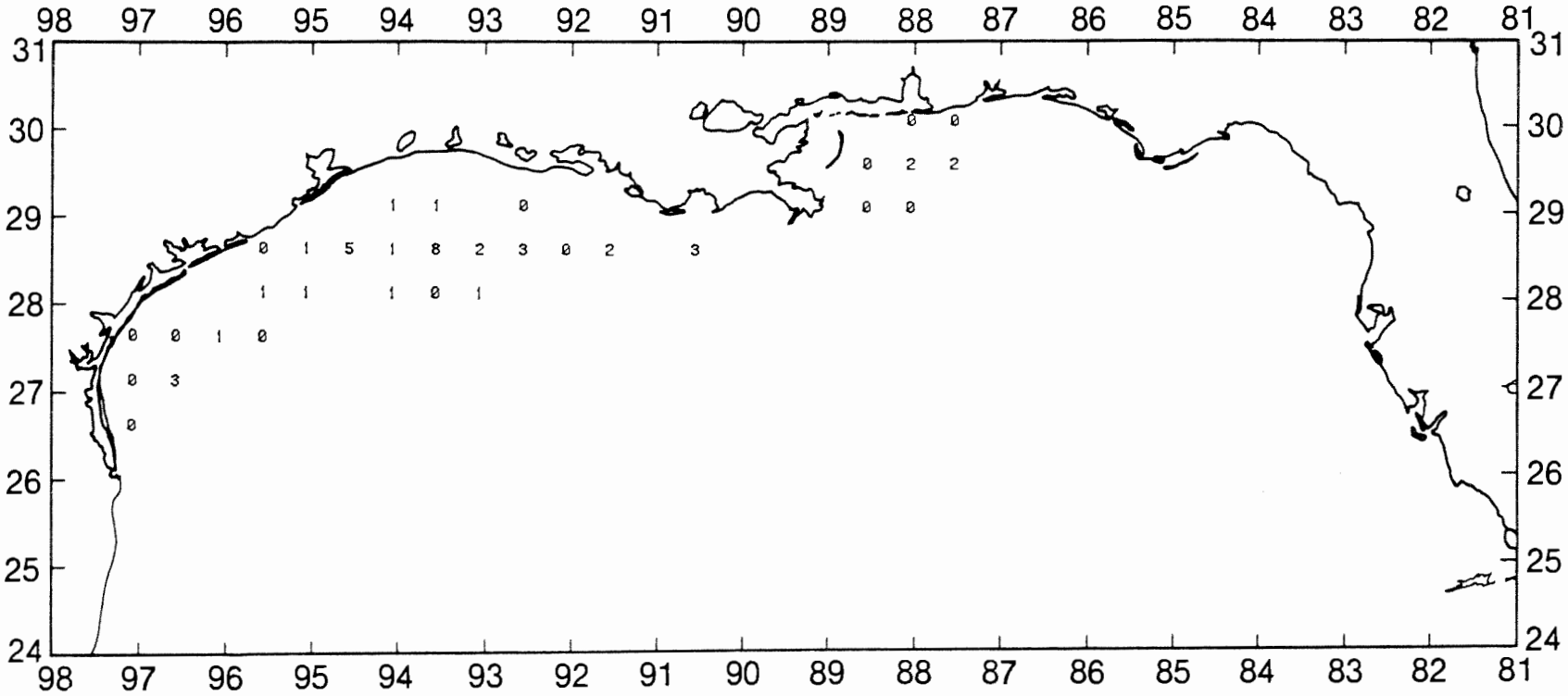

Figure 40. Red snapper, Lutjanus campechanus, lb/hour for June-July 1987.

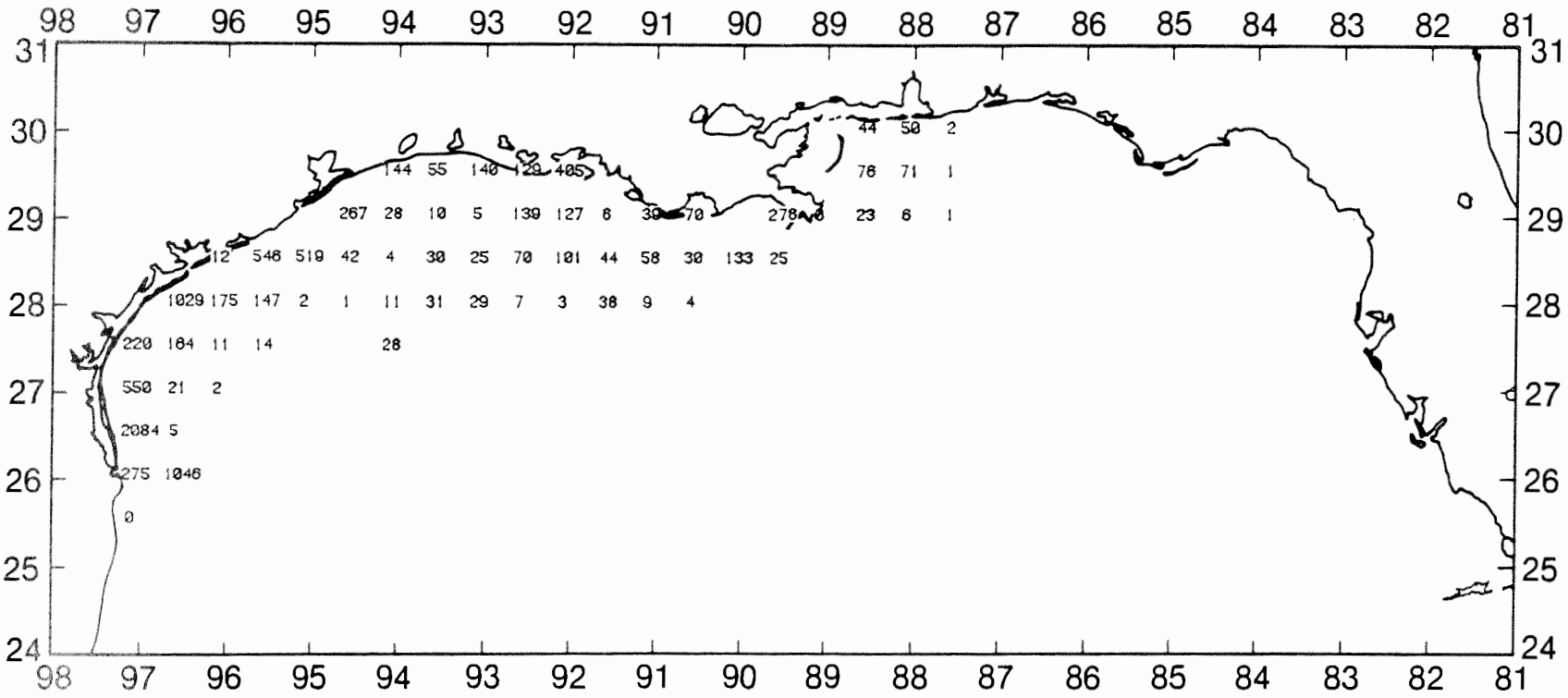

Figure 41. Brown shrimp, Penaeus aztecus, number/hour for June-July 1987.

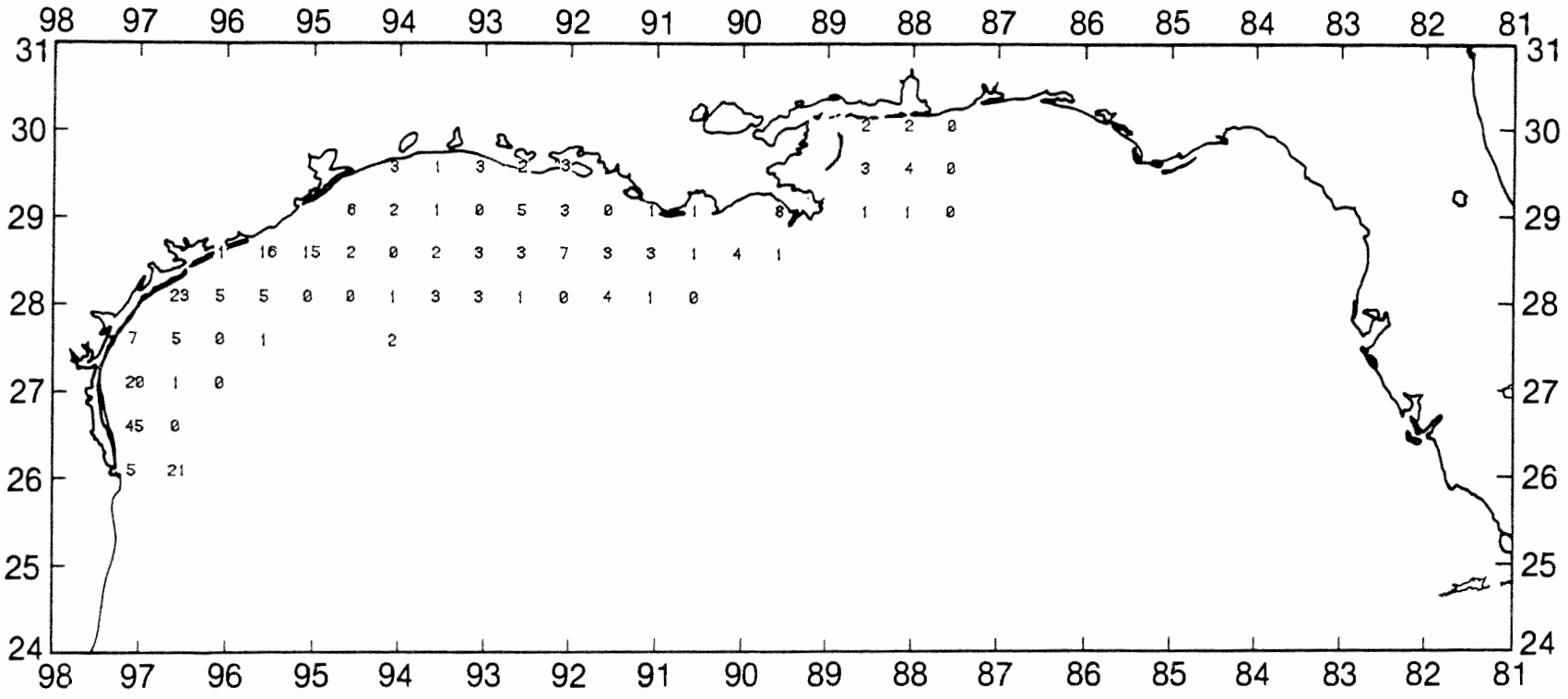

Figure 42. Brown shrimp, Penaeus aztecus, lb/hour for June-July 1987.

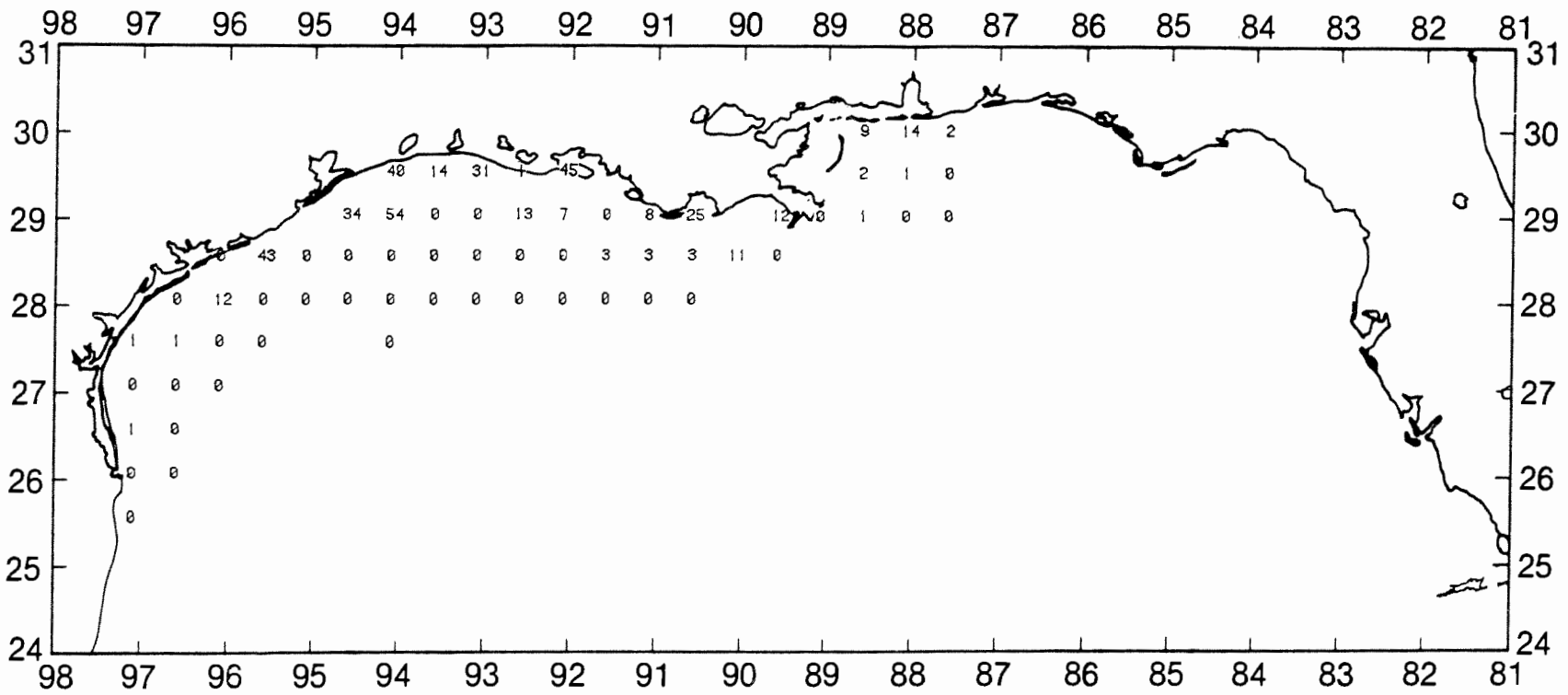

Figure 43. White shrimp, Penaeus setiferus, number/hour for June-July 1987.

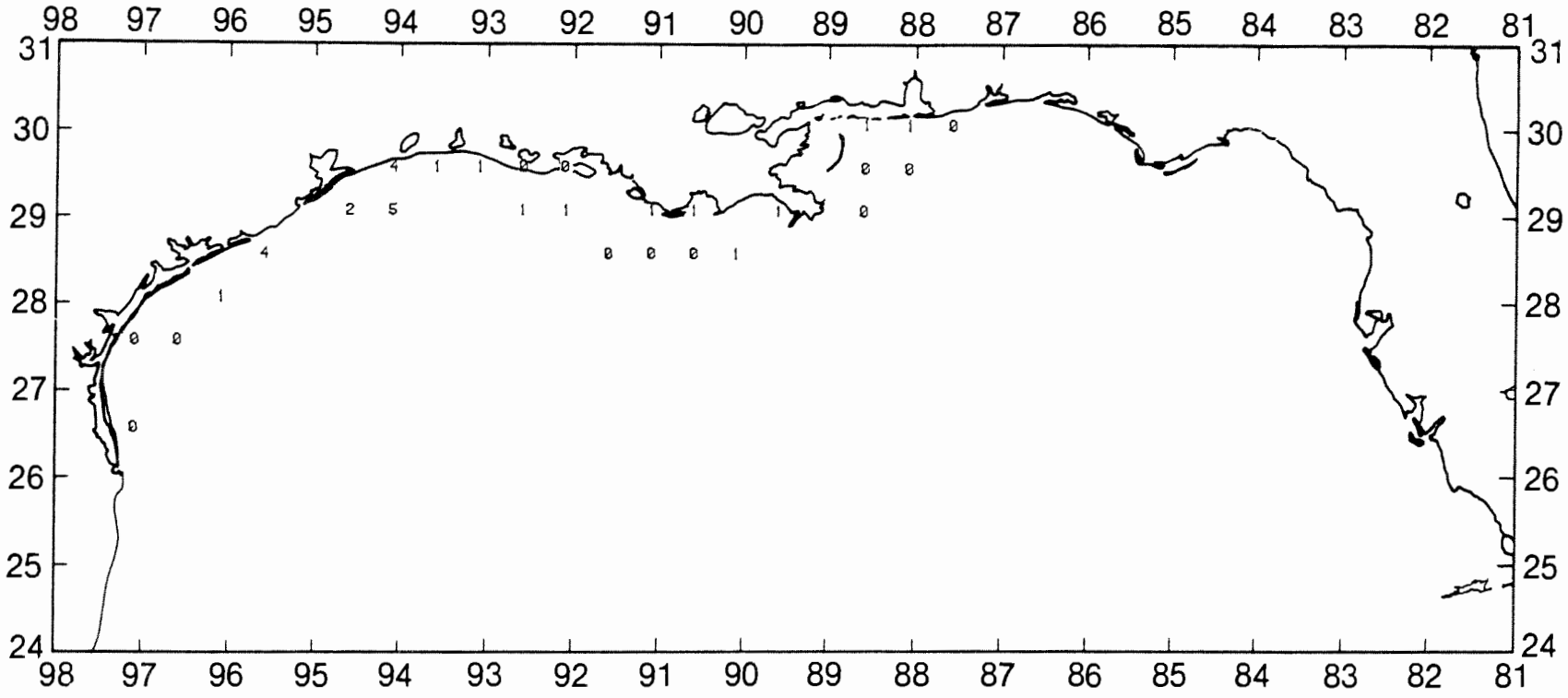

Figure 44. White shrimp, Penaeus setiferus, lb/hour for June-July 1987.

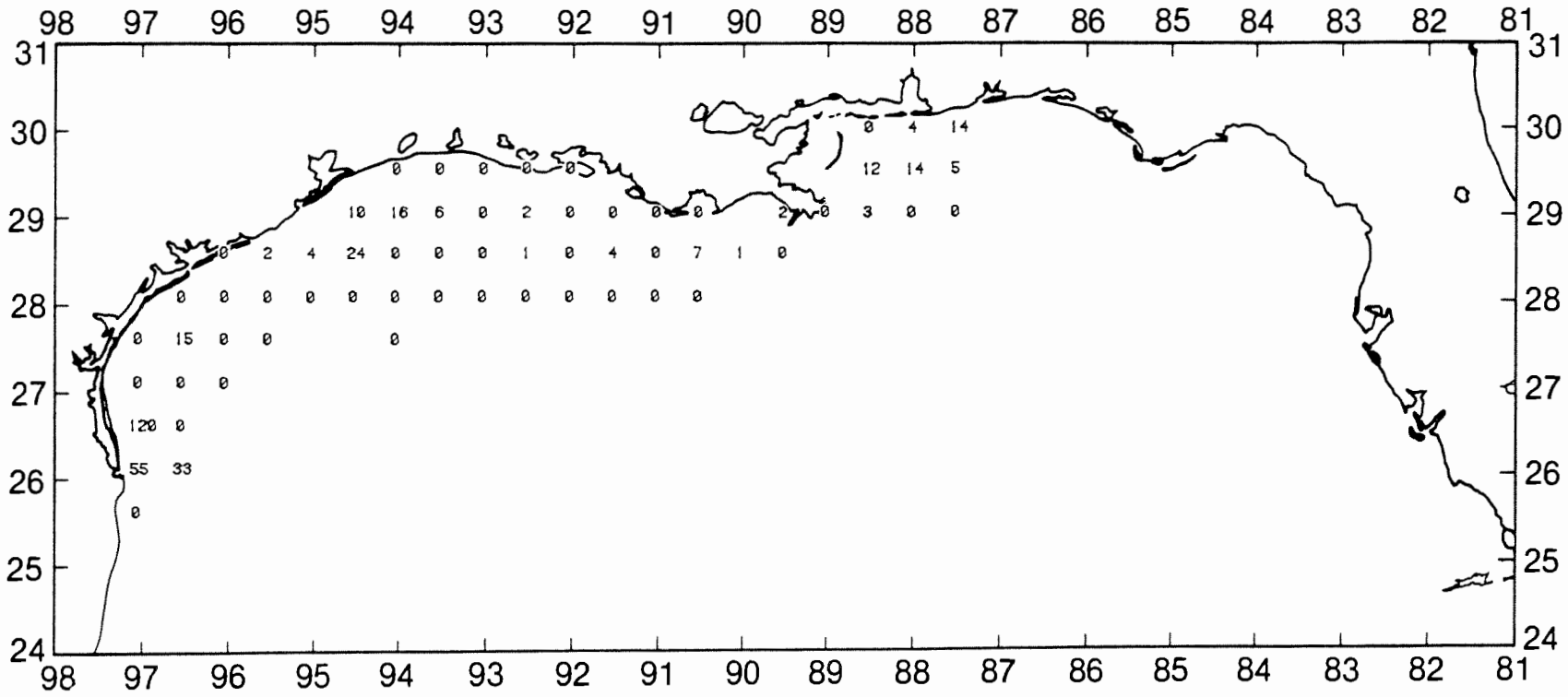

Figure 45. Pink shrimp, Penaeus duorarum, number/hour for June-July 1987.

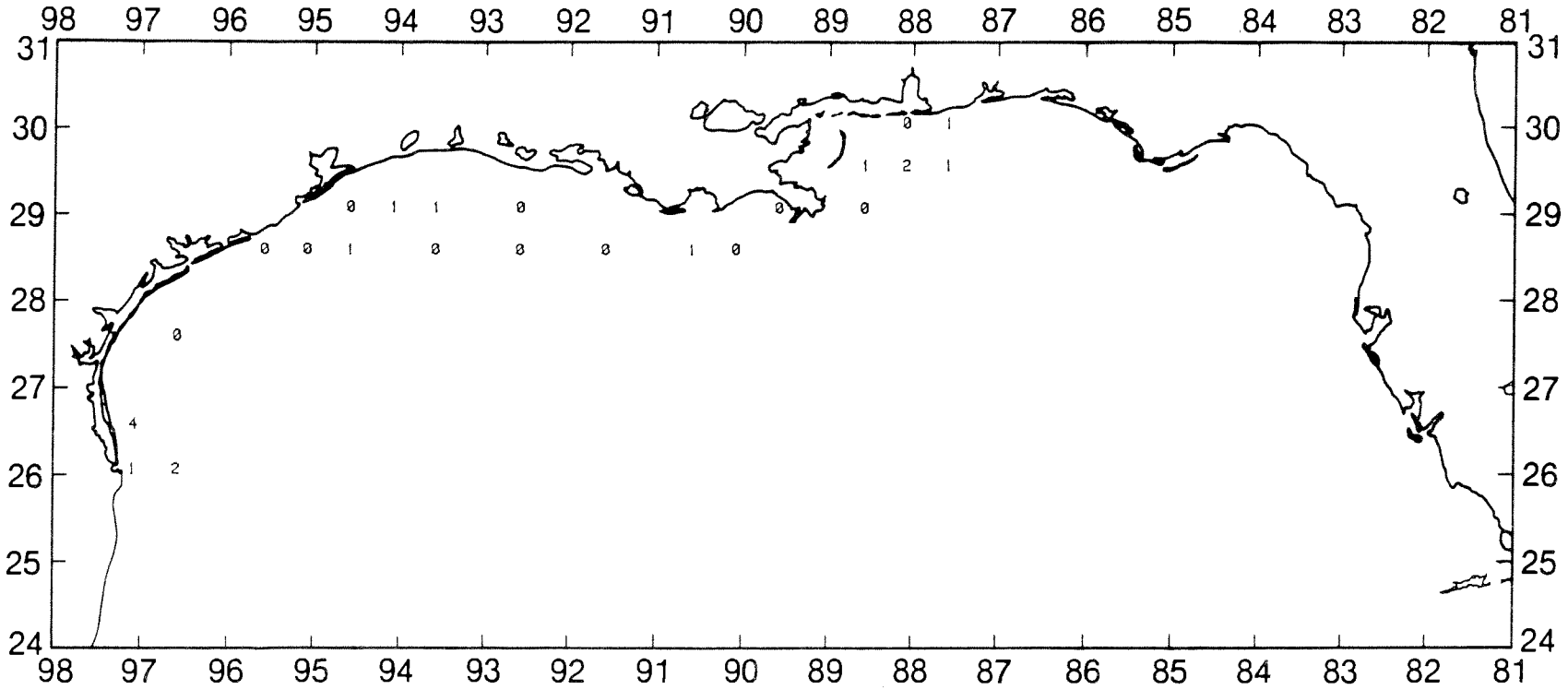

Figure 46. Pink shrimp, Penaeus duorarum, lb/hour for June-July 1987.

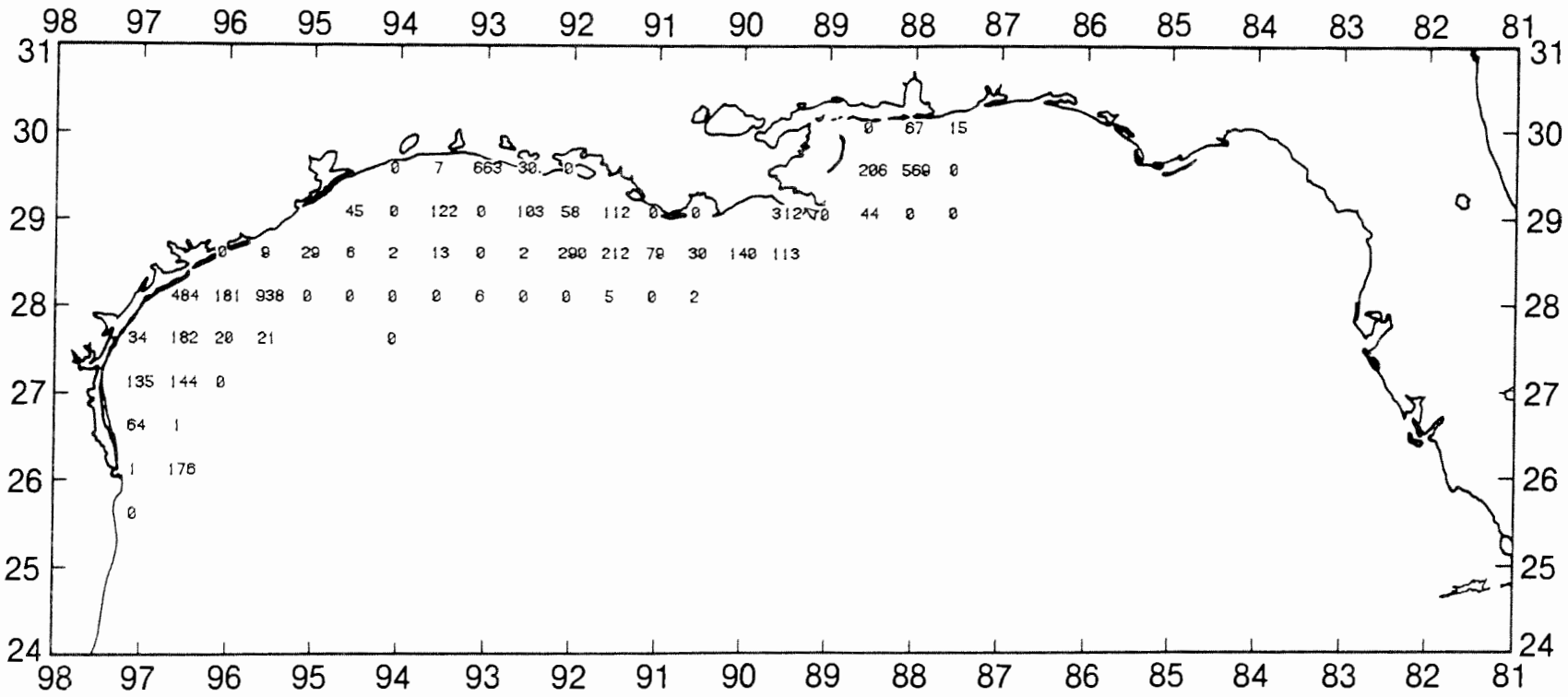

Figure 47. Roughneck shrimp, Trachypenaeus spp, number/hour for June-July 1987.

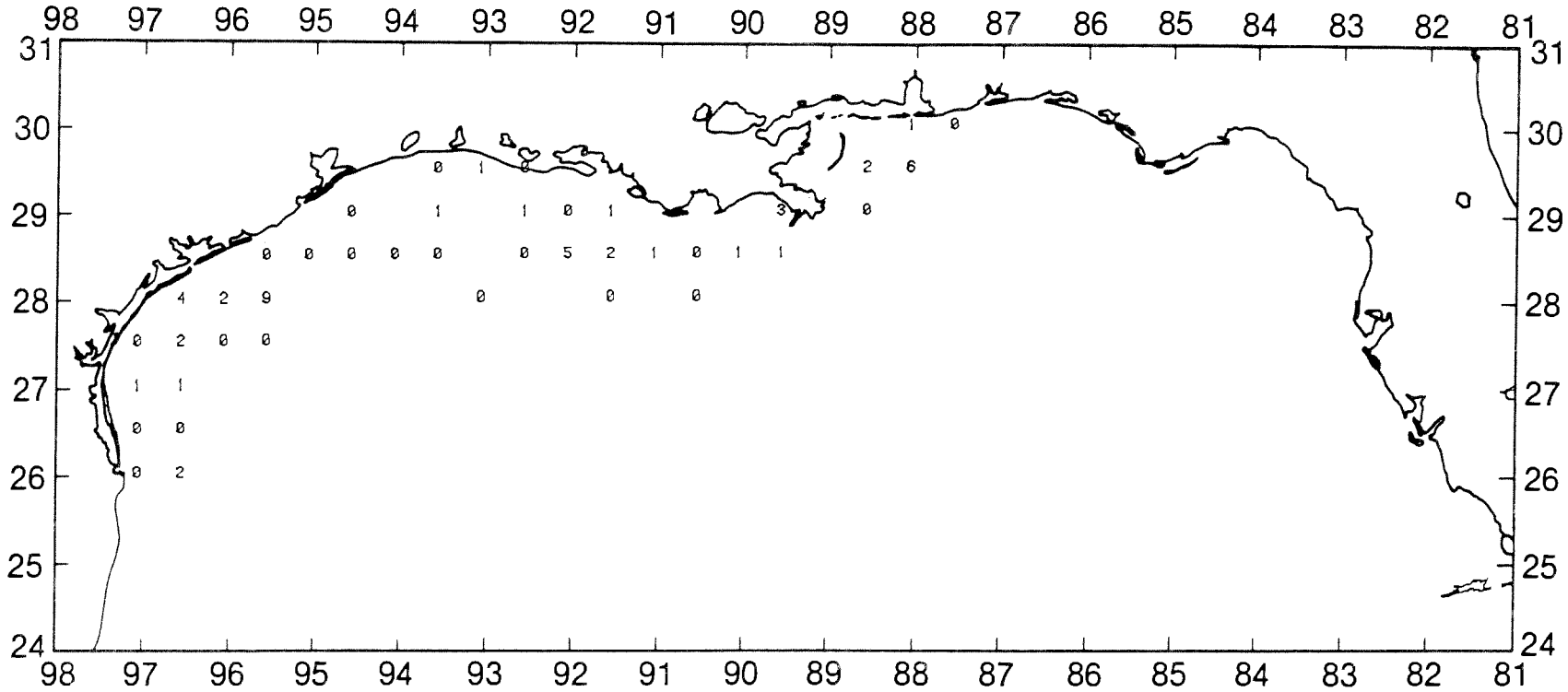

Figure 48. Roughneck shrimp, Trachypenaeus spp, lb/hour for June-July 1987.

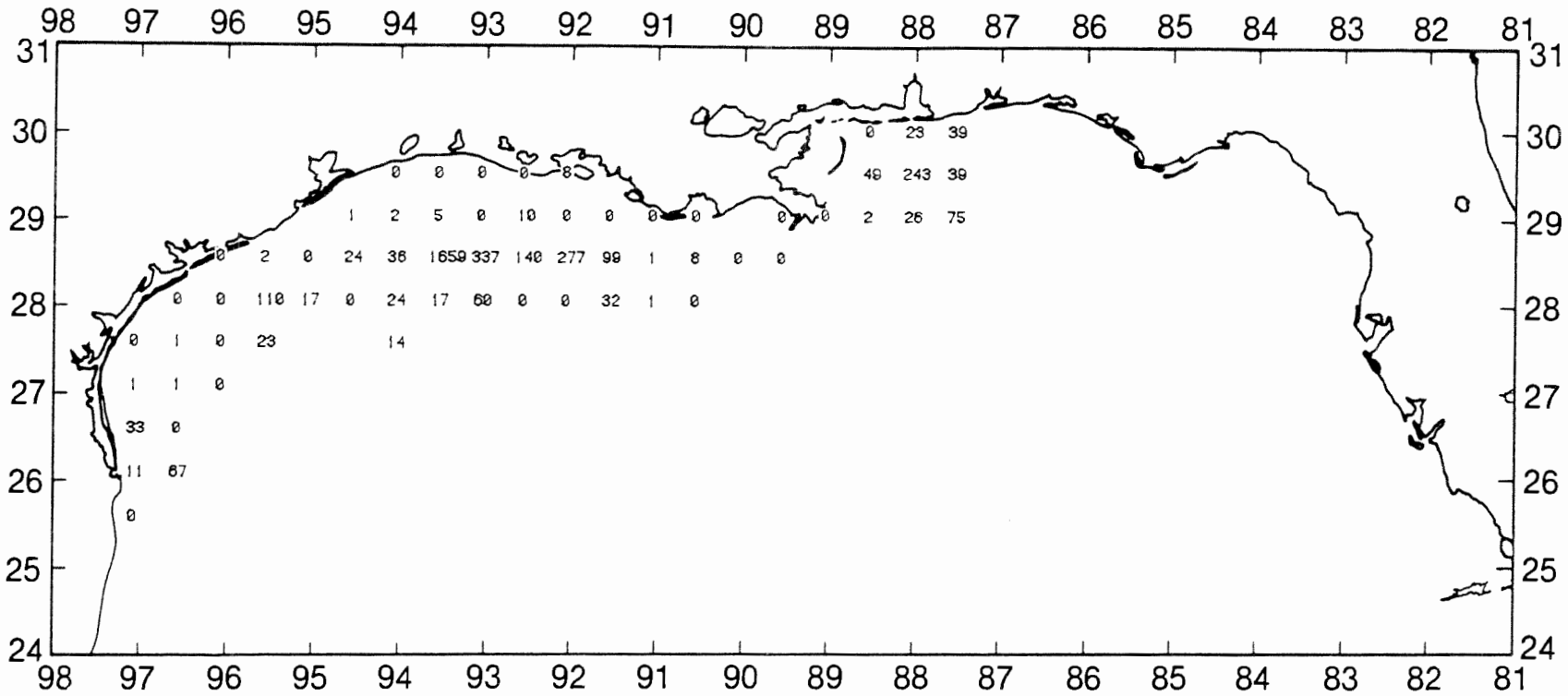

Figure 49. Brown rock shrimp, Sicyonia brevirostris, number/hour for June-July 1987.

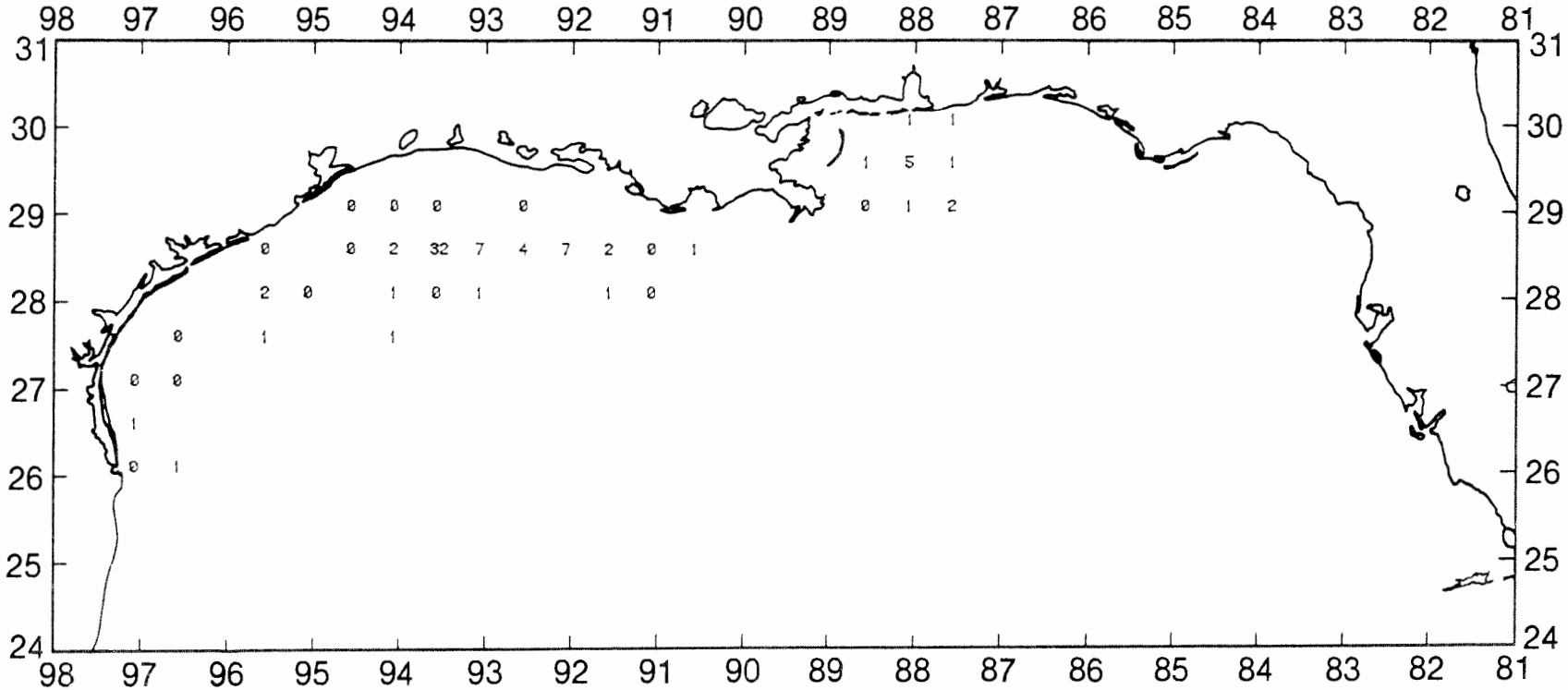

Figure 50. Brown rock shrimp, Sicyonia brevirostris, lb/hour for June-July 1987.

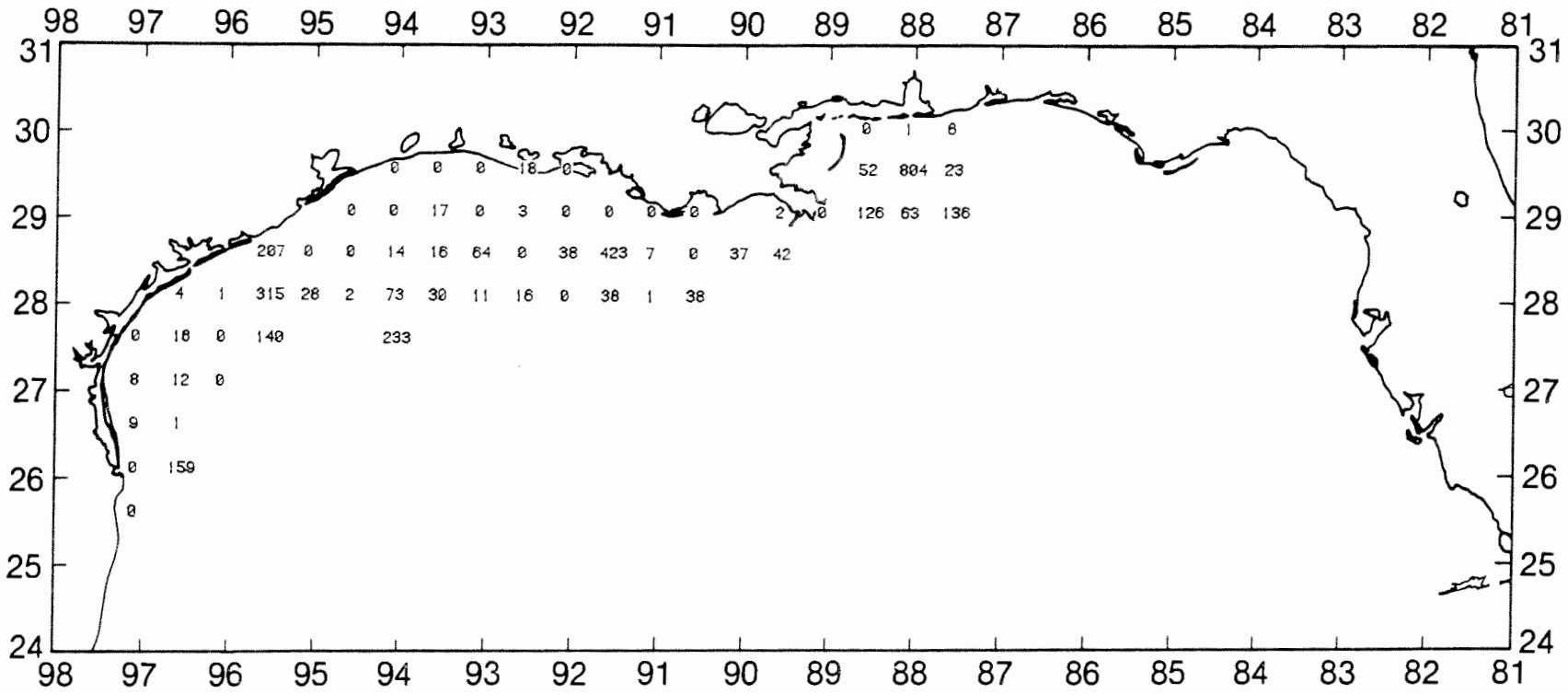

Figure 51. Longspine swimming crab, Portunus spinicarpus, number/hour for June-July 1987.

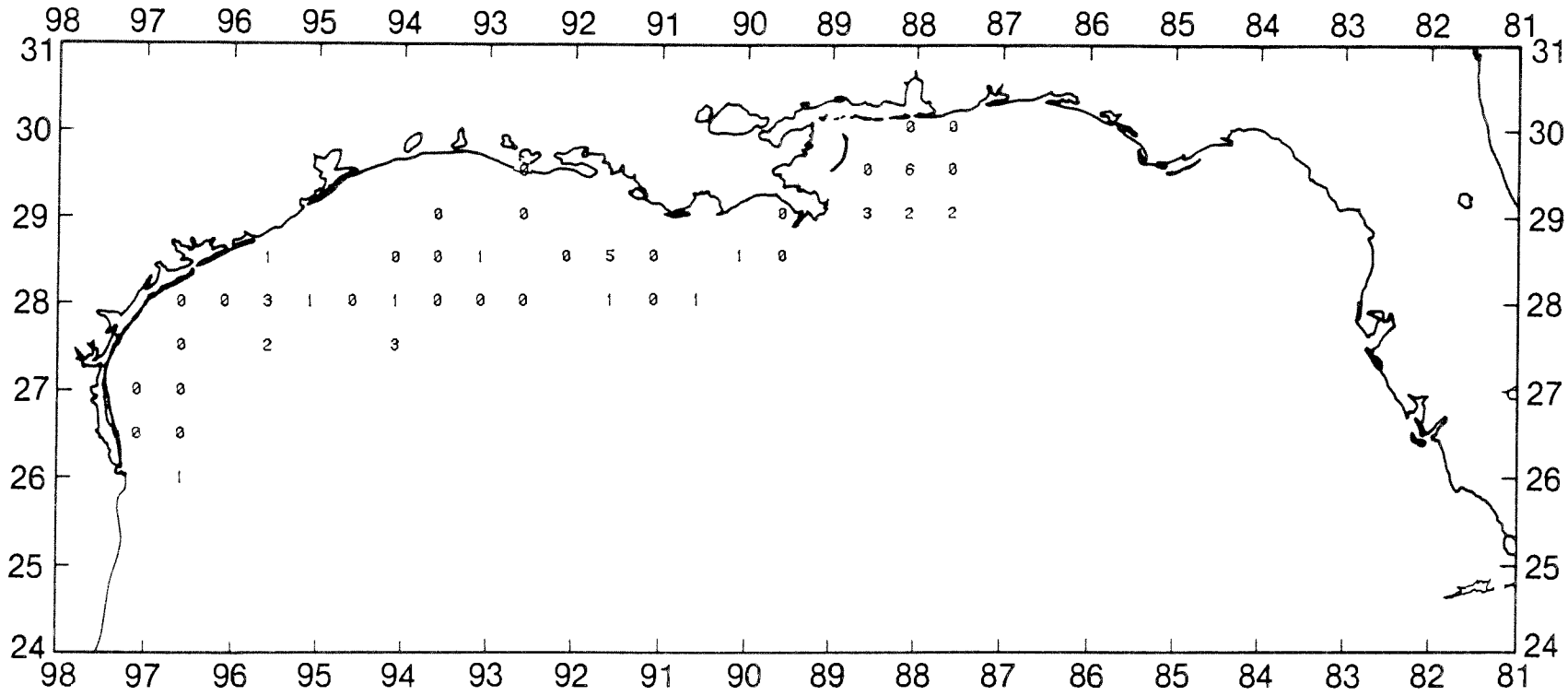

Figure 52. Longspine swimming crab, Portunus spinicarpus, lb/hour for June-July 1987.

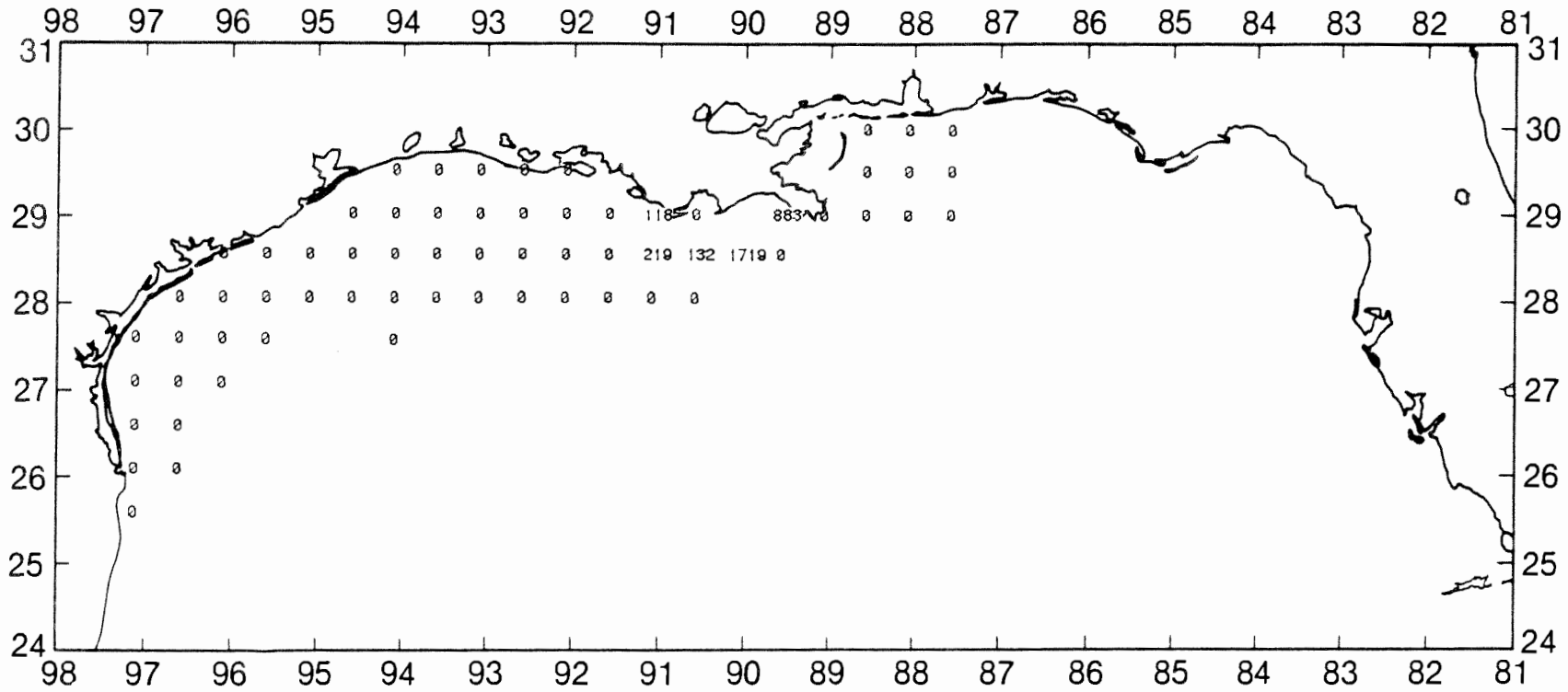

Figure 53. Roughback shrimp, Trachypenaeus similis, number/hour for June-July 1987.

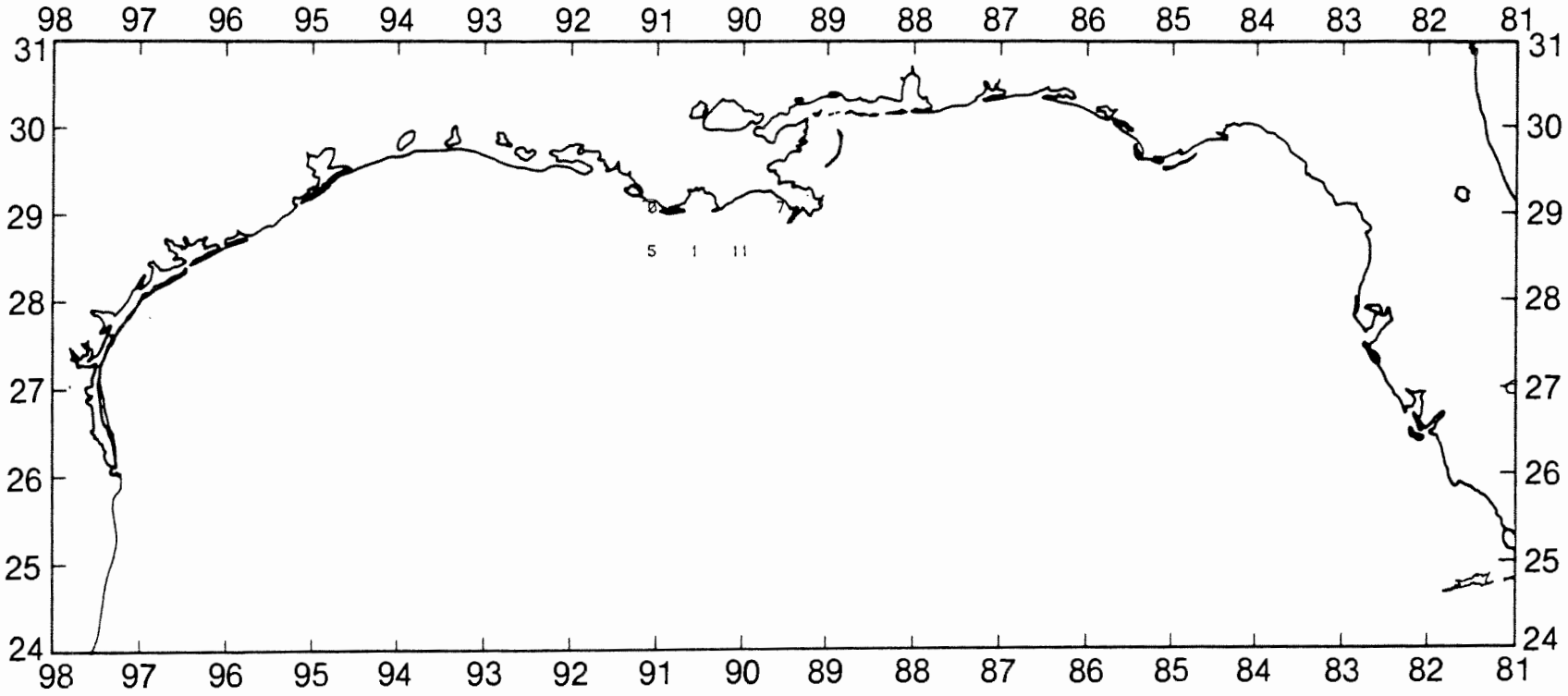

Figure 54. Roughback shrimp, Trachypenaeus similis, lb/hour for June-July 1987.

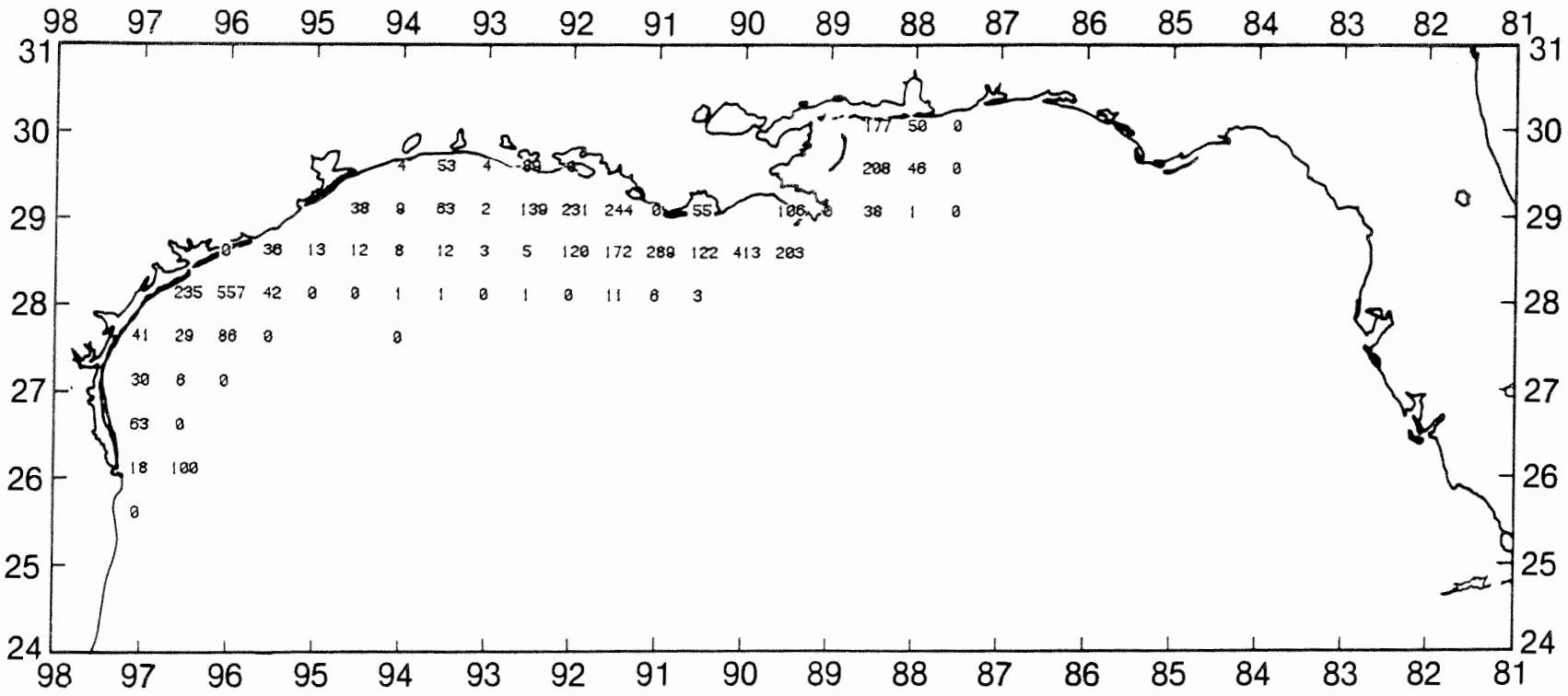

Figure 55. Lesser blue crab, Callinectes similis, number/hour for June-July 1987.

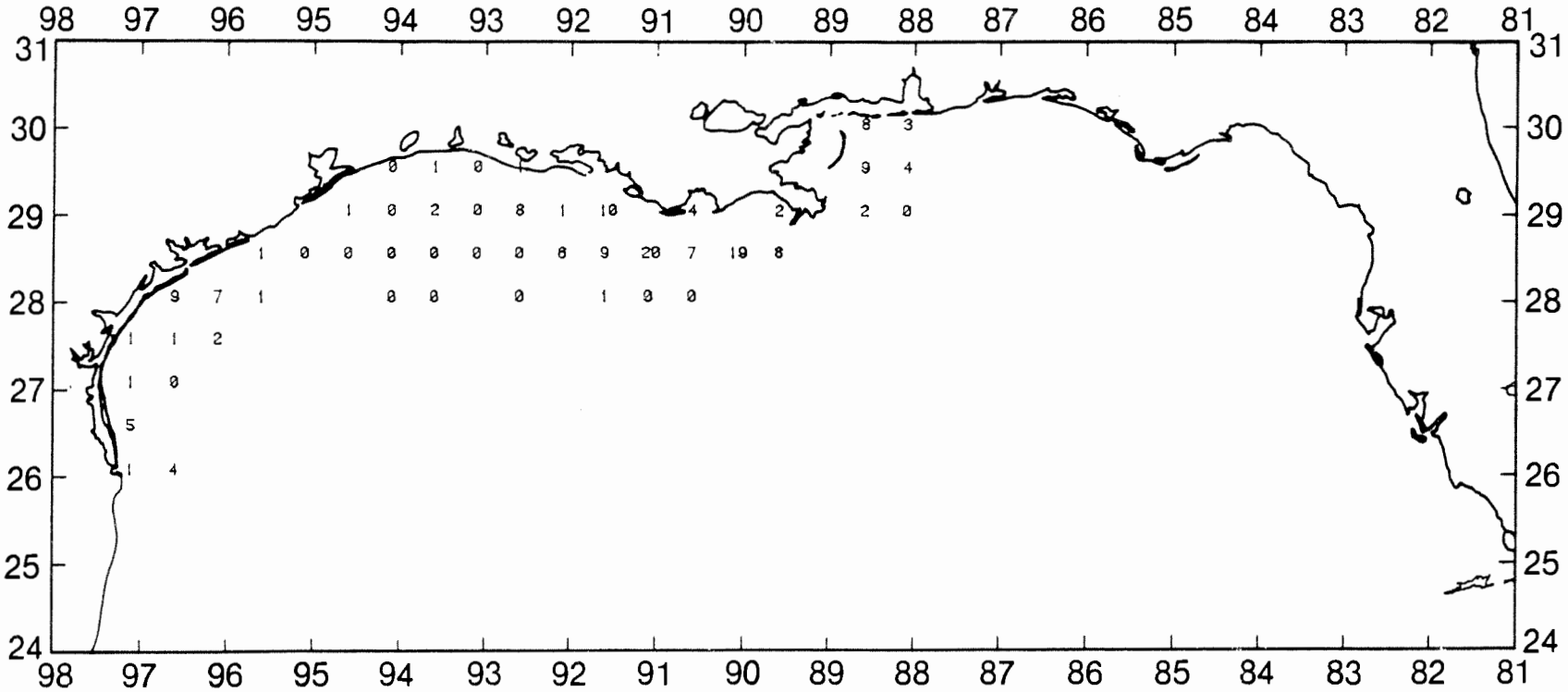

Figure 56. Lesser blue crab, Callinectes similis, lb/hour for June-July 1987.

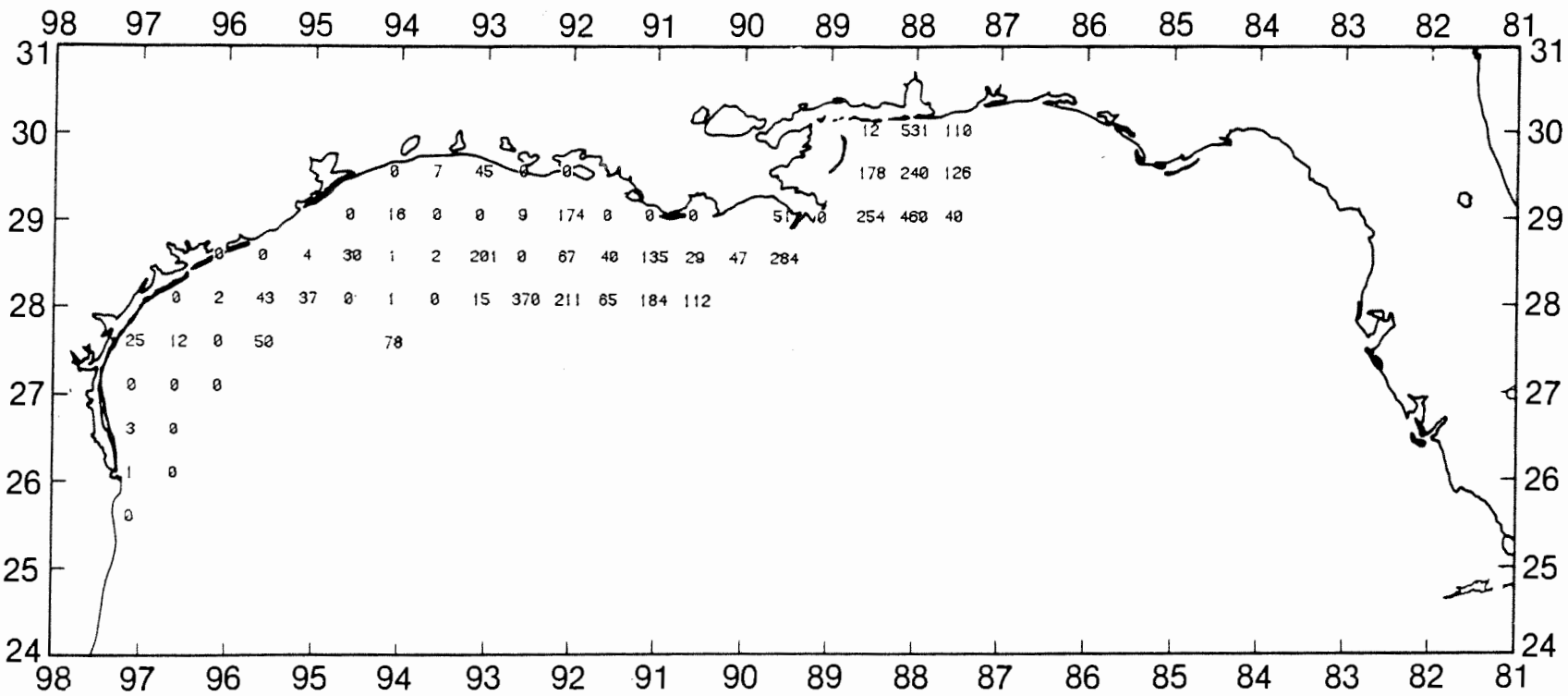

Figure 57.Longfin squid, Loligo pealeii, number/hour for June-July 1987.

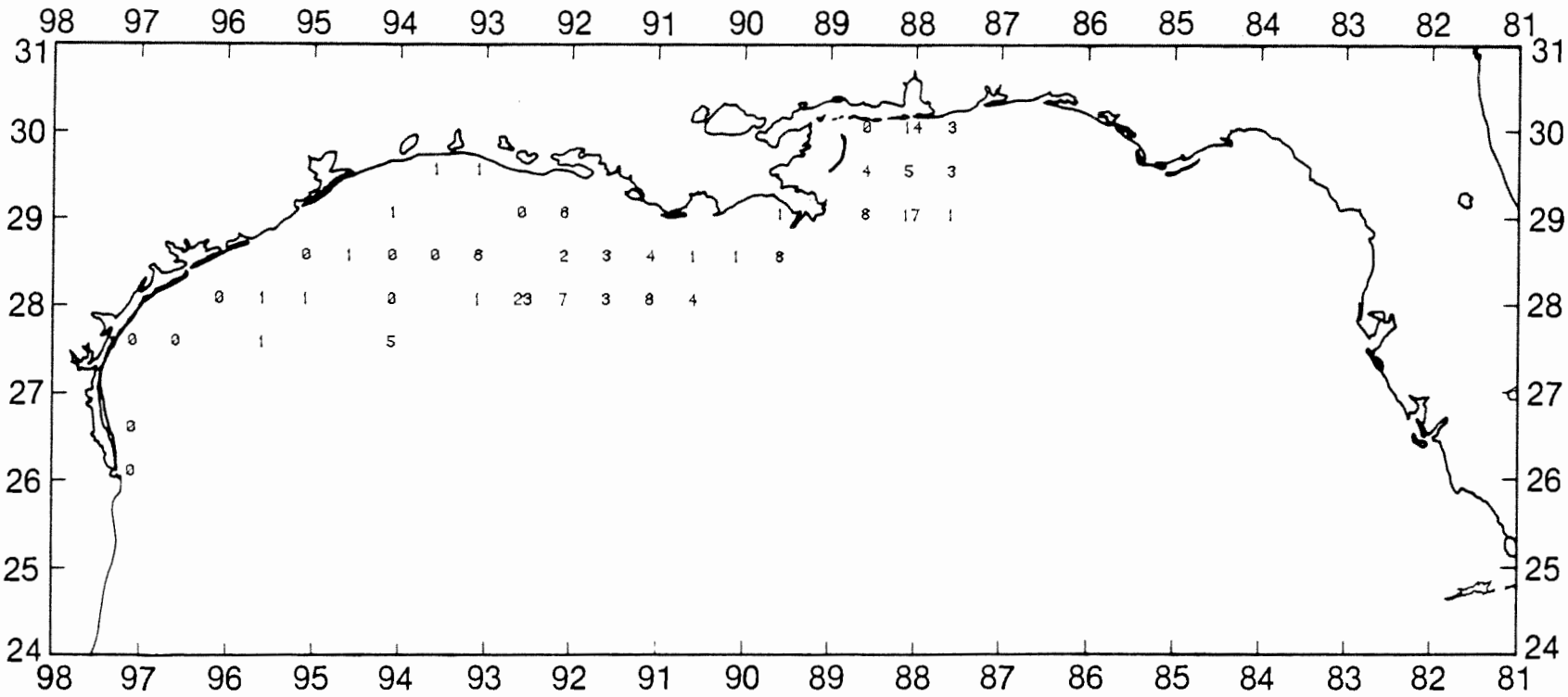

Figure 58. Longfin squid, Loligo pealeii, number/hour for June-July 1987.

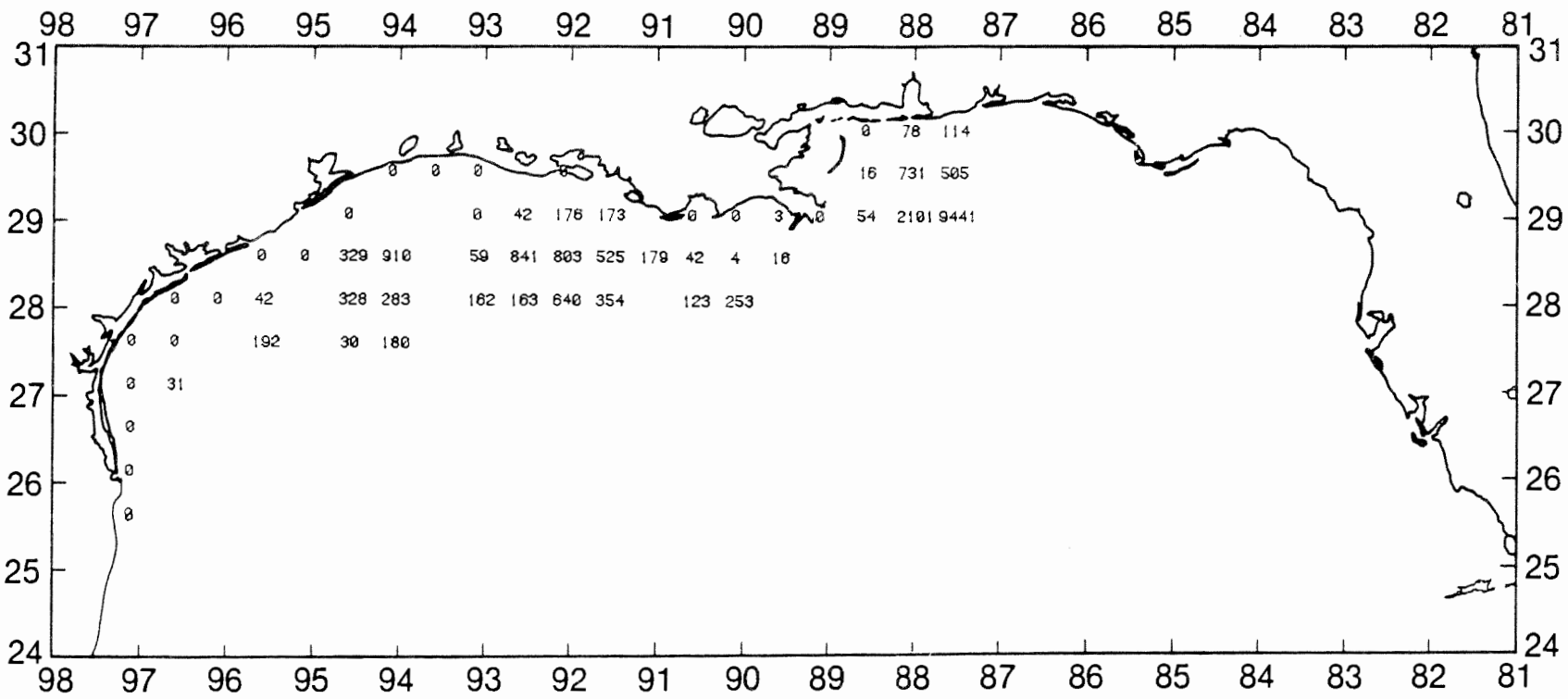

Figure 59. Longspine porgy, Stenotomus caprinus, number/hour for October-December 1987.

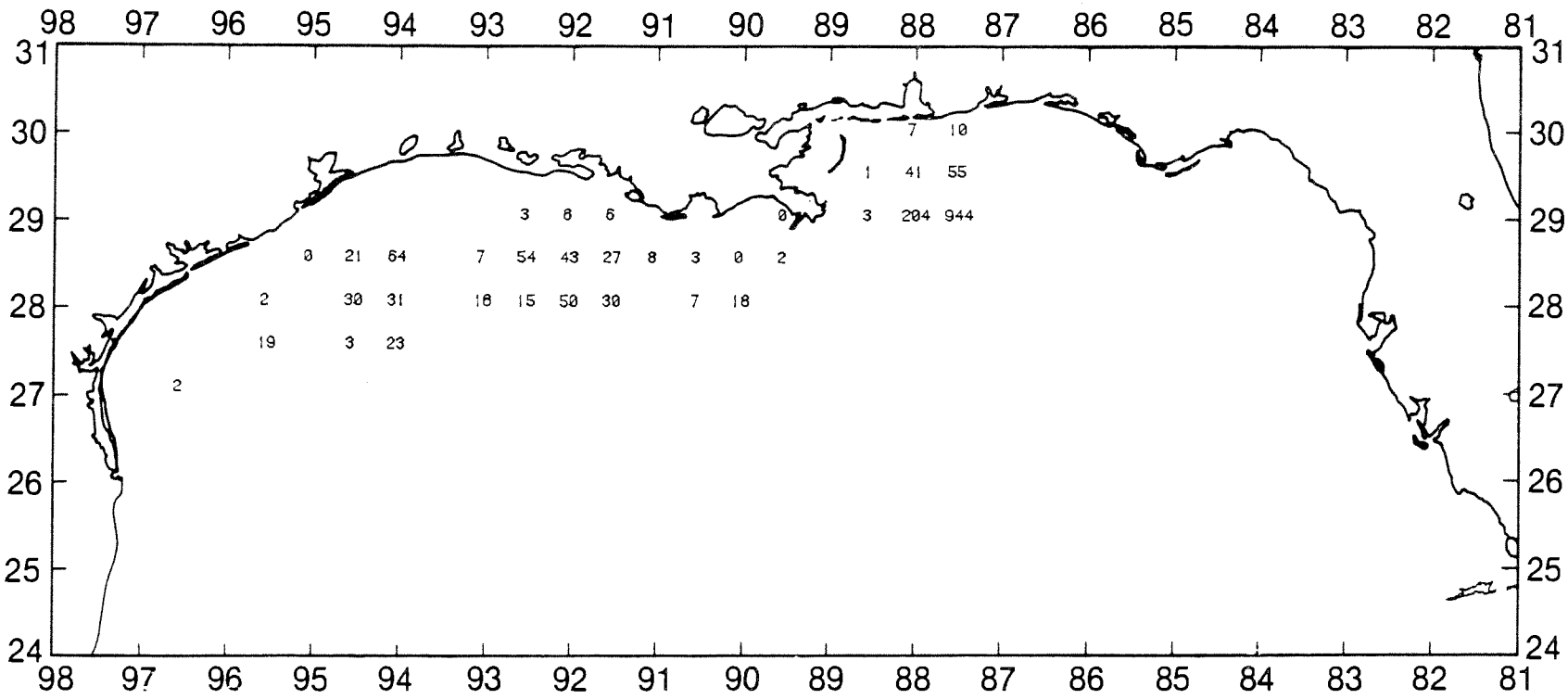

Figure 60. Longspine porgy, Stenotomus caprinus, lb/hour for October-December 1987.

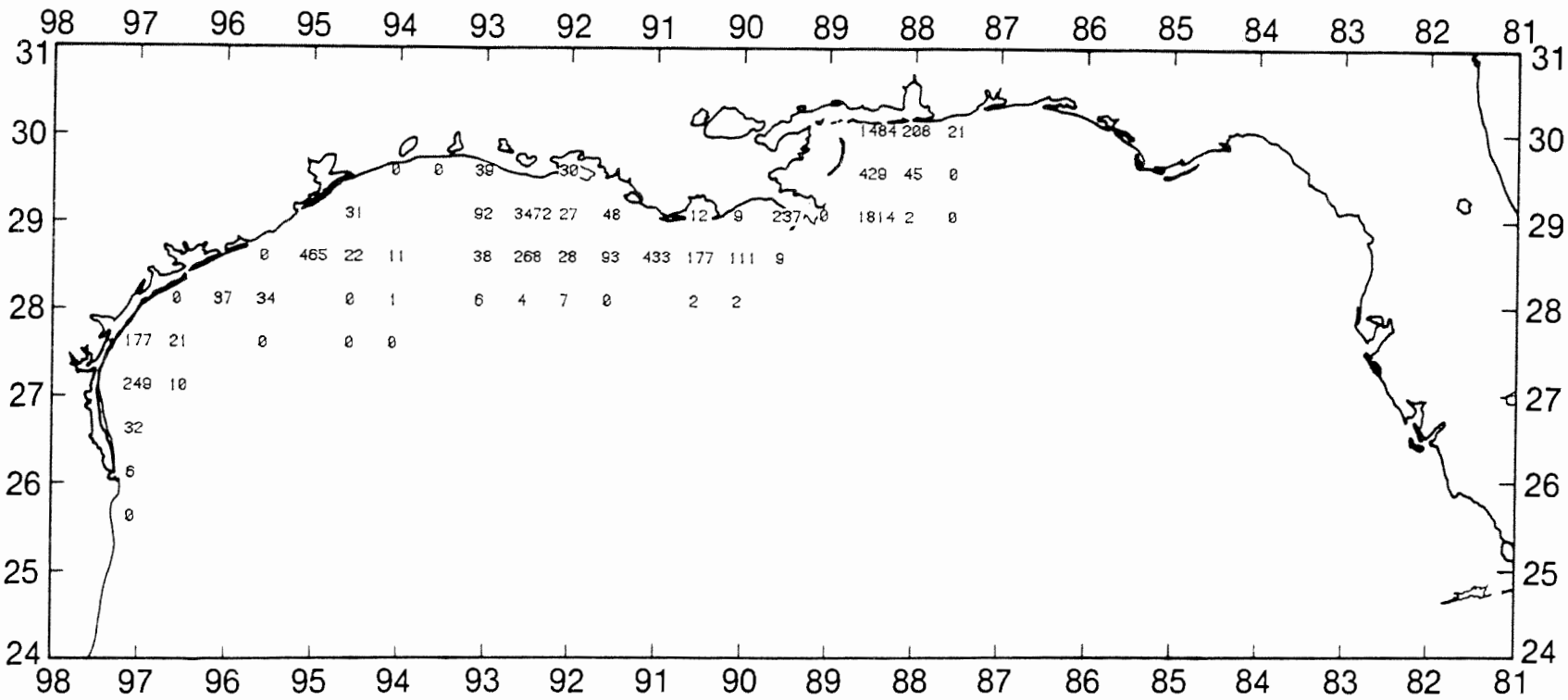

Figure 61. Atlantic bumper, Chloroscombrus chrysurus, number/hour for October-December 1987.

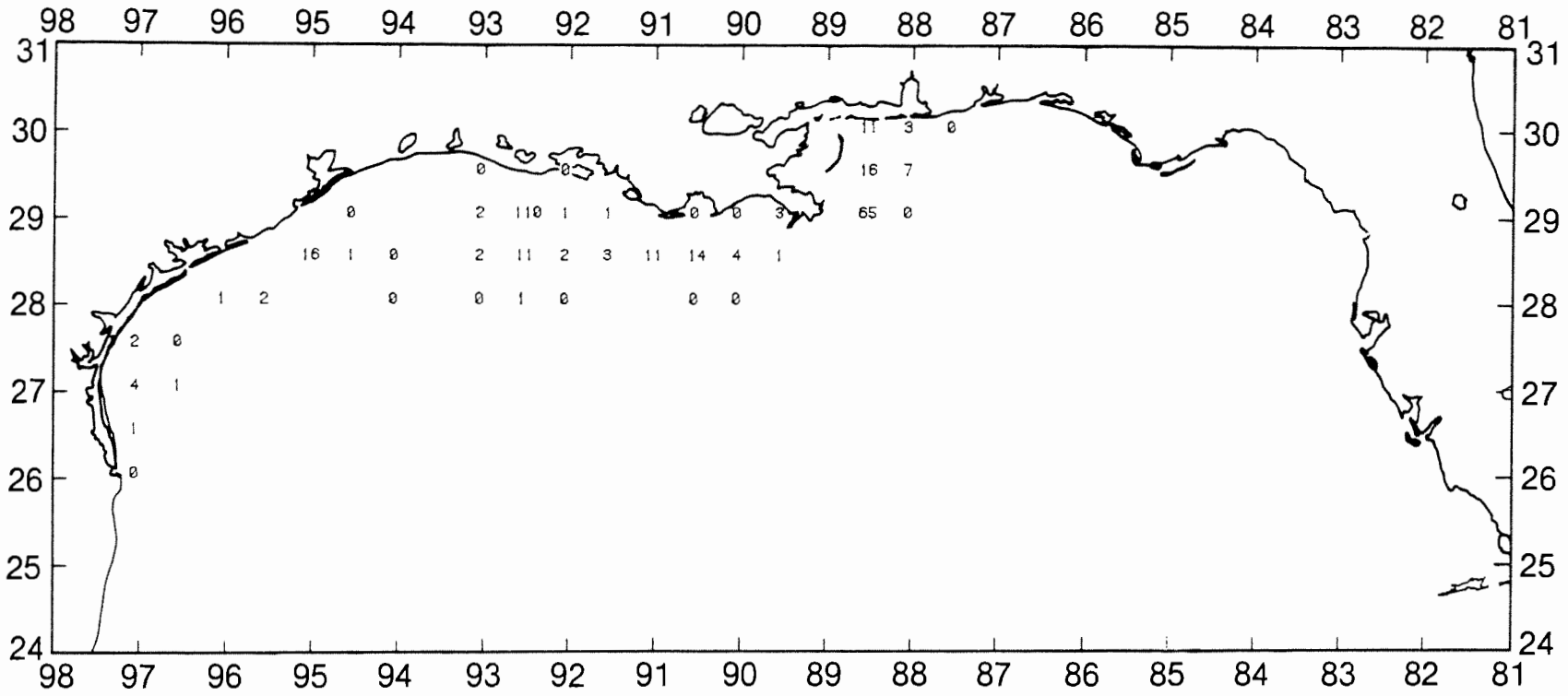

Figure 62. Atlantic bumper, Chloroscombrus chrysurus, lb/hour for October-December 1987.

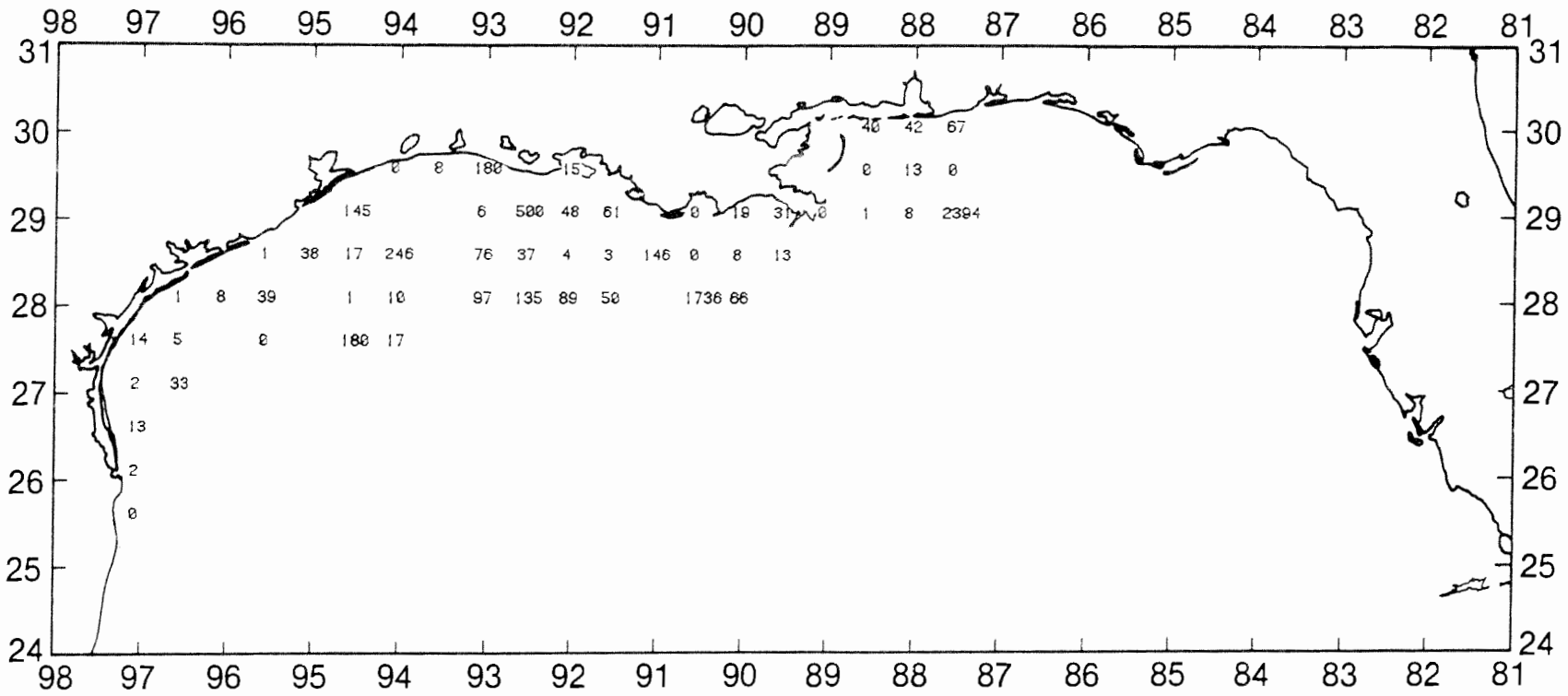

Figure 63. Gulf butterfish, Peprilus burti, number/hour for October-December 1987.

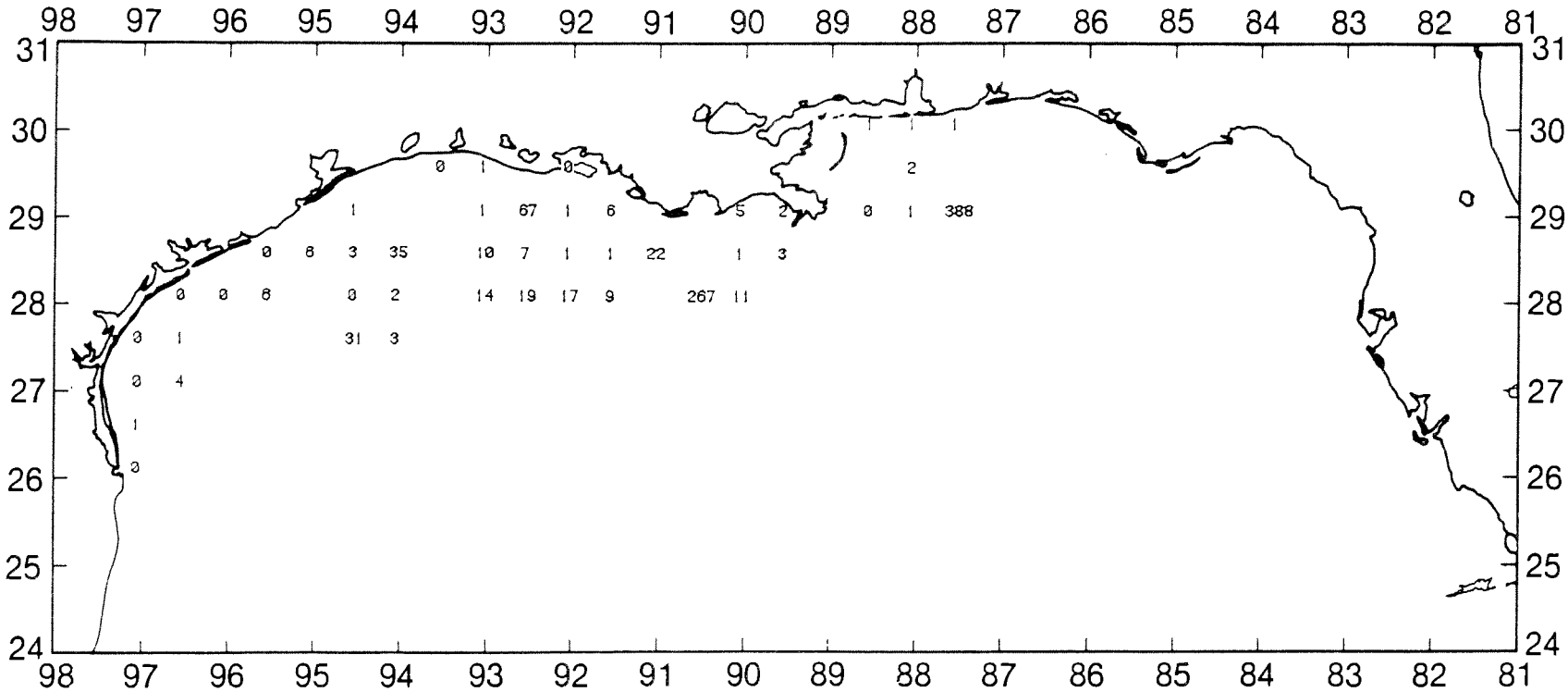

Figure 64. Gulf butterfish, Peprilus burti, lb/hour for October-December 1987.

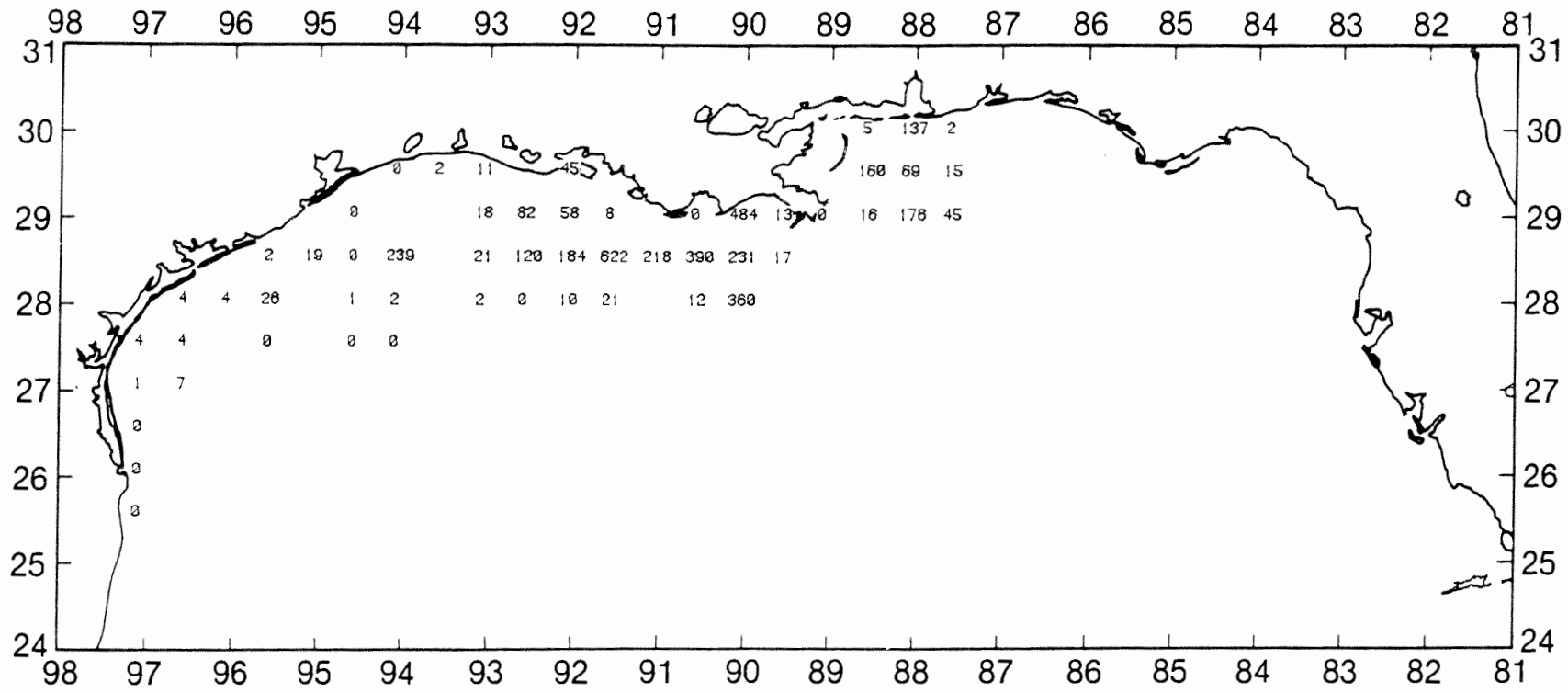

Figure 65. Atlantic croaker, Micropogonias undulatus, number/hour for October-December 1987.

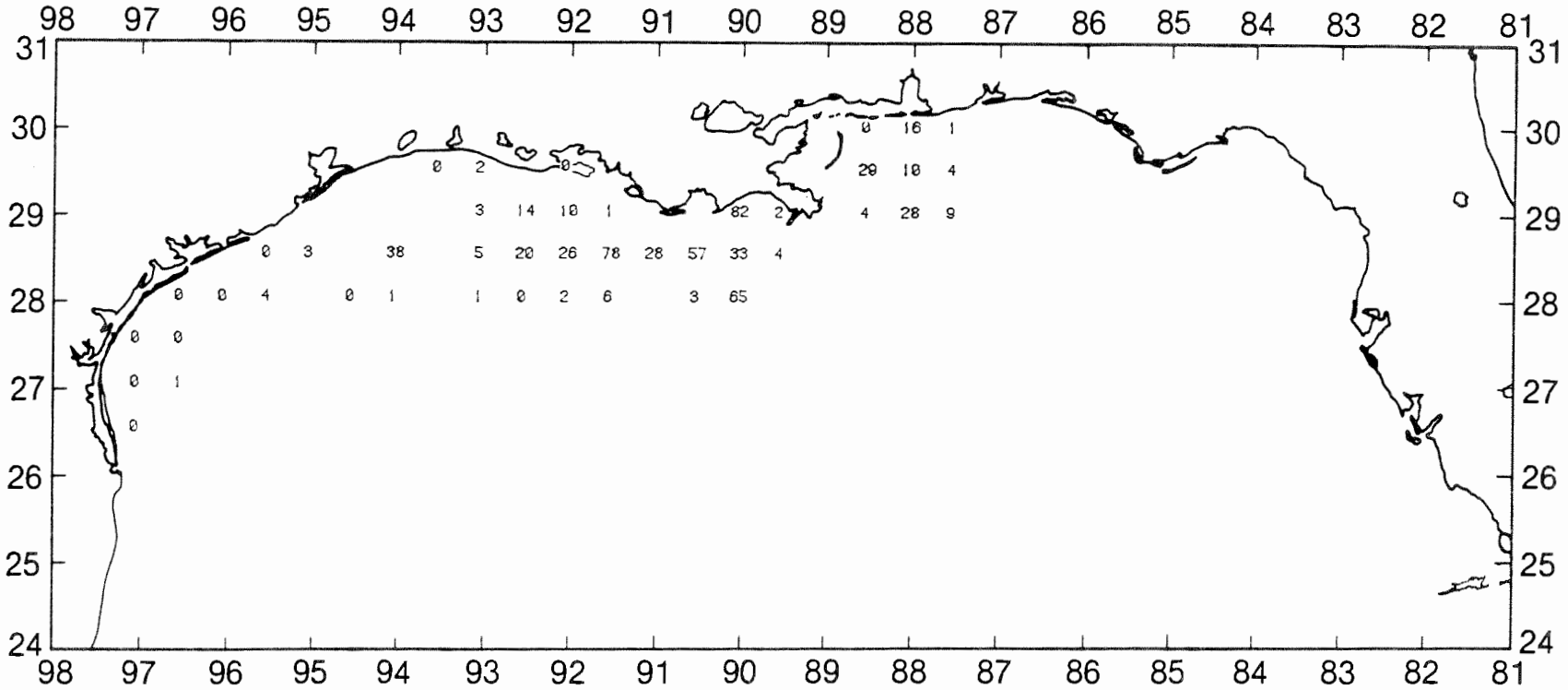

Figure 66. Atlantic croaker, Micropogonias undulatus, lb/hour for October-December 1987.

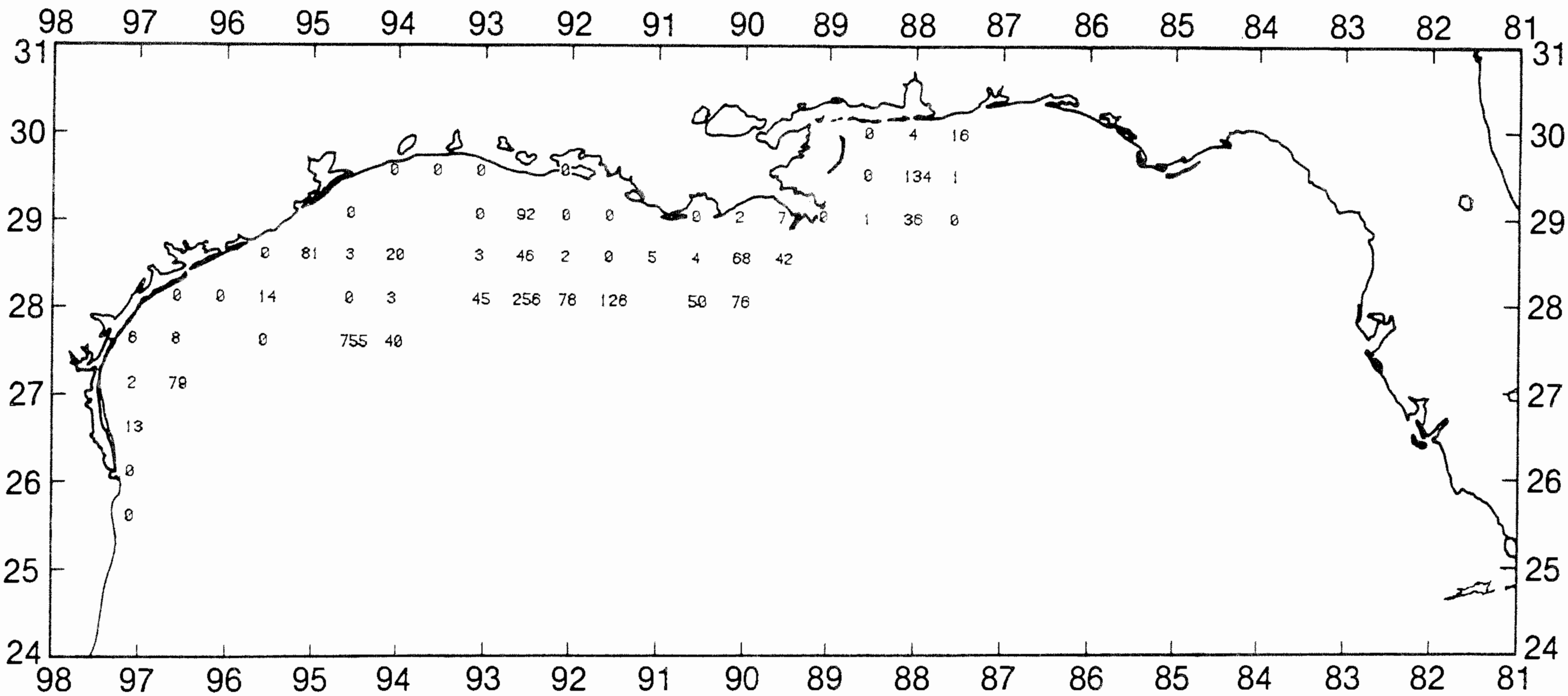

Figure 67. Rough scad, Trachurus lathami, number/hour for October-December 1987.

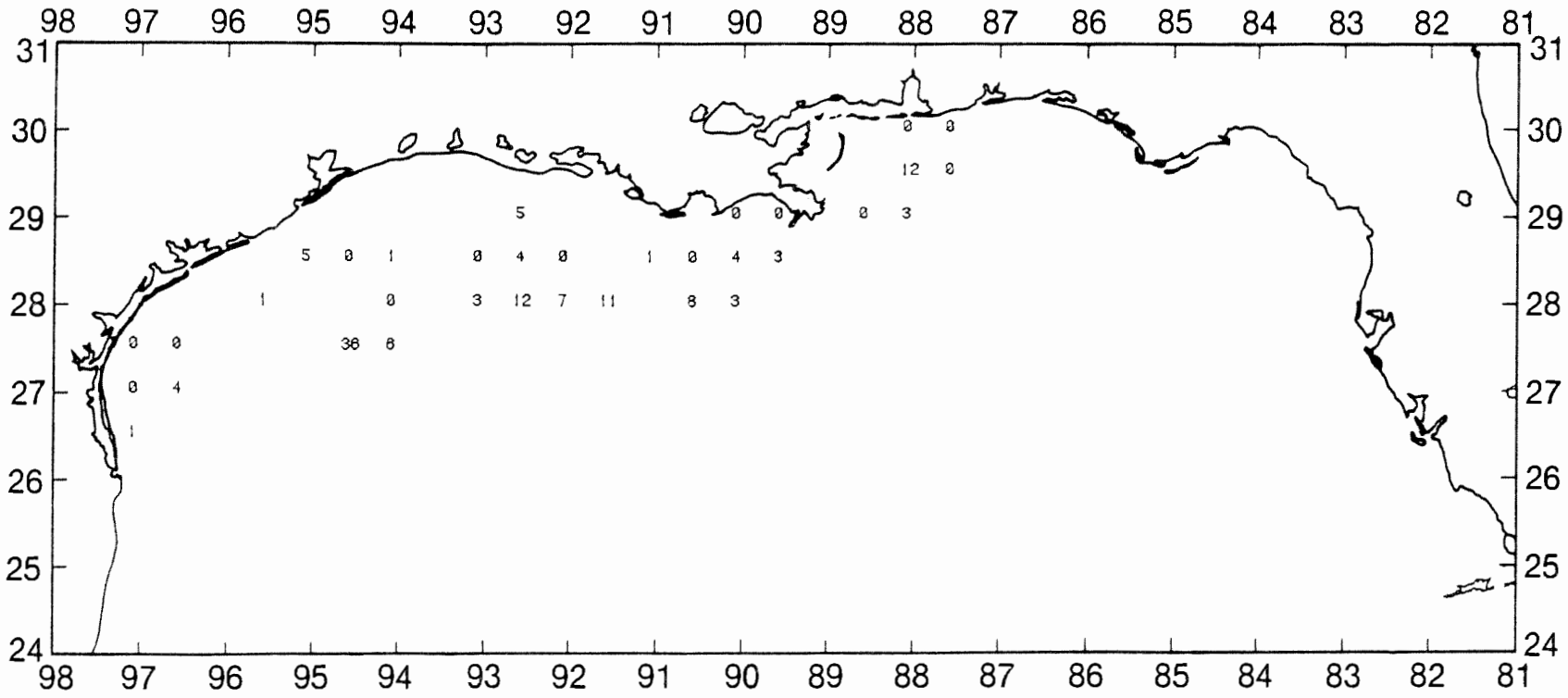

Figure 68. Rough scad, Trachurus lathami, lb/hour for October-December 1987.

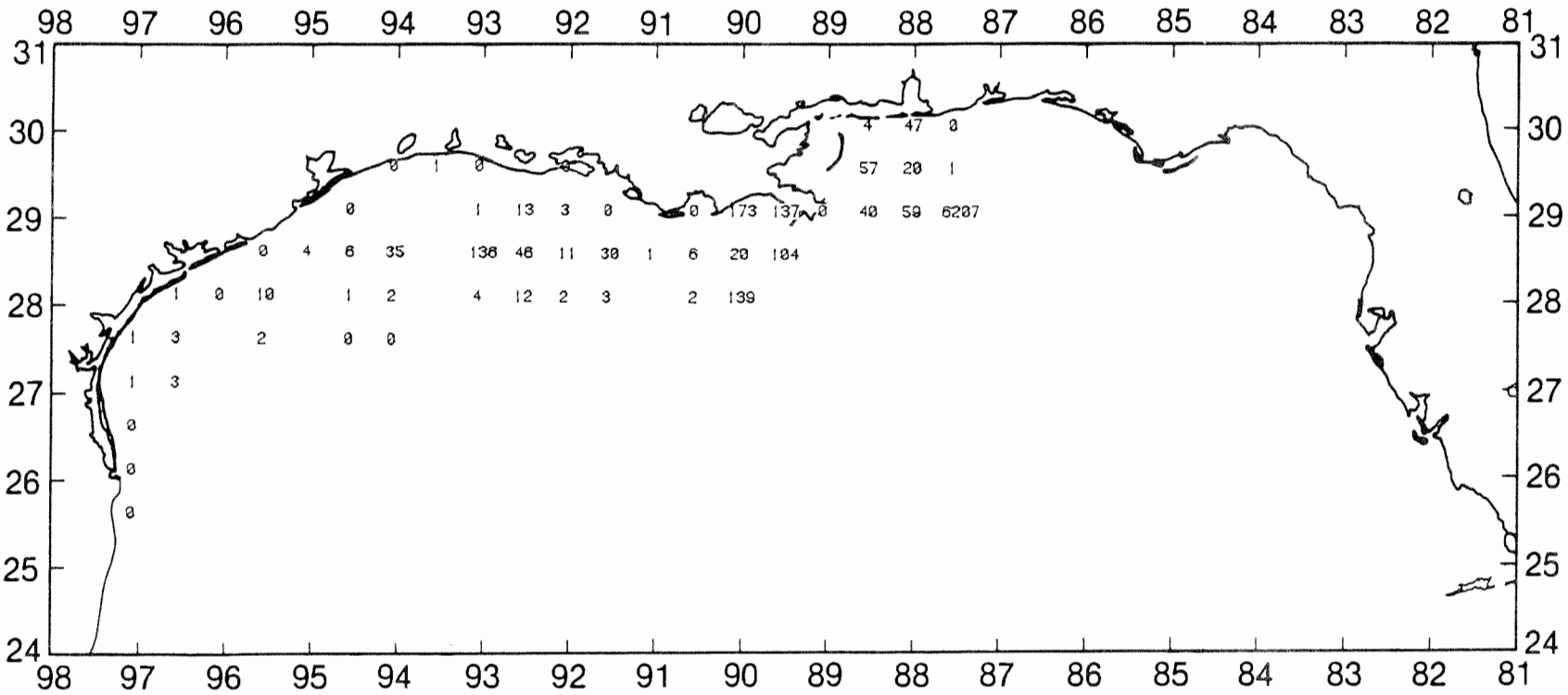

Figure 69. Spot, Leiostomus xanthurus, number/hour for October-December 1987.

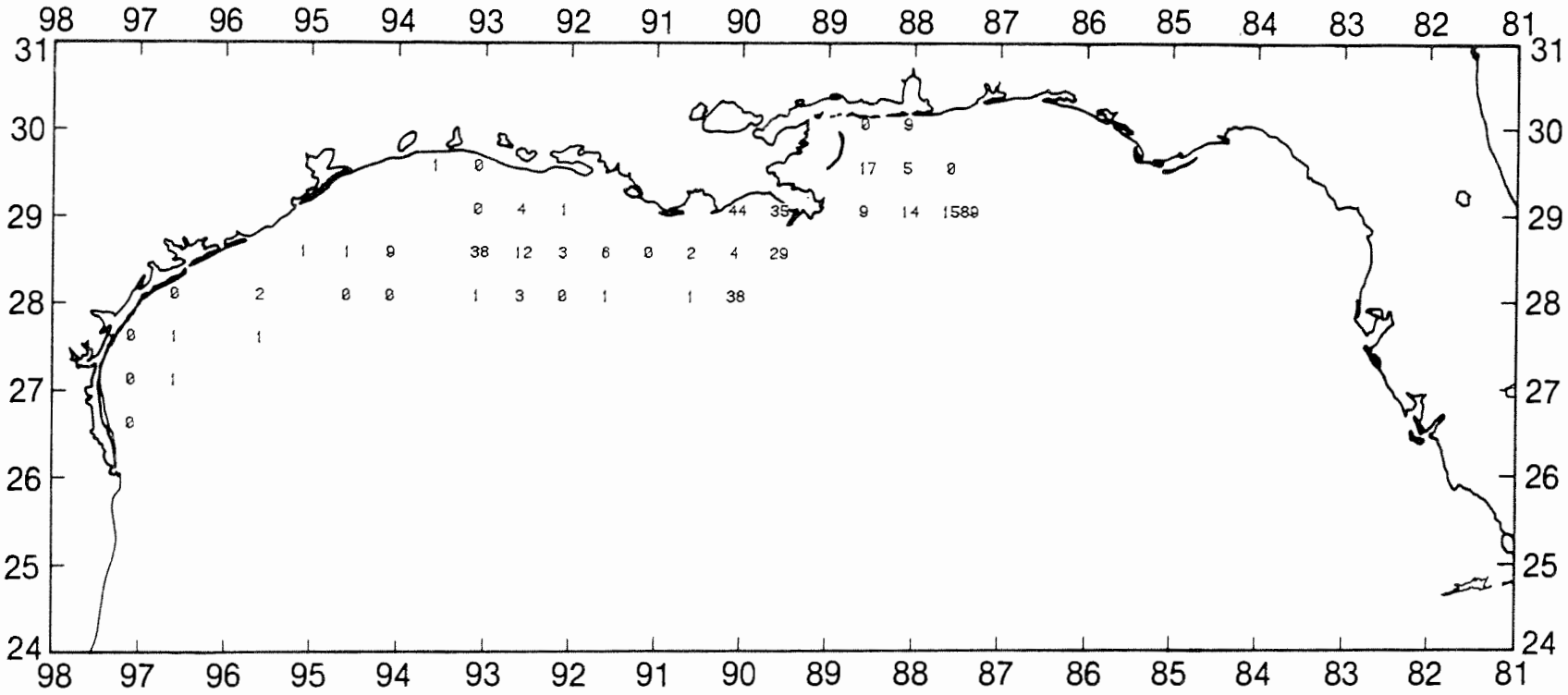

Figure 70. Spot, Leiostomus xanthurus, lb/hour for October-December 1987.

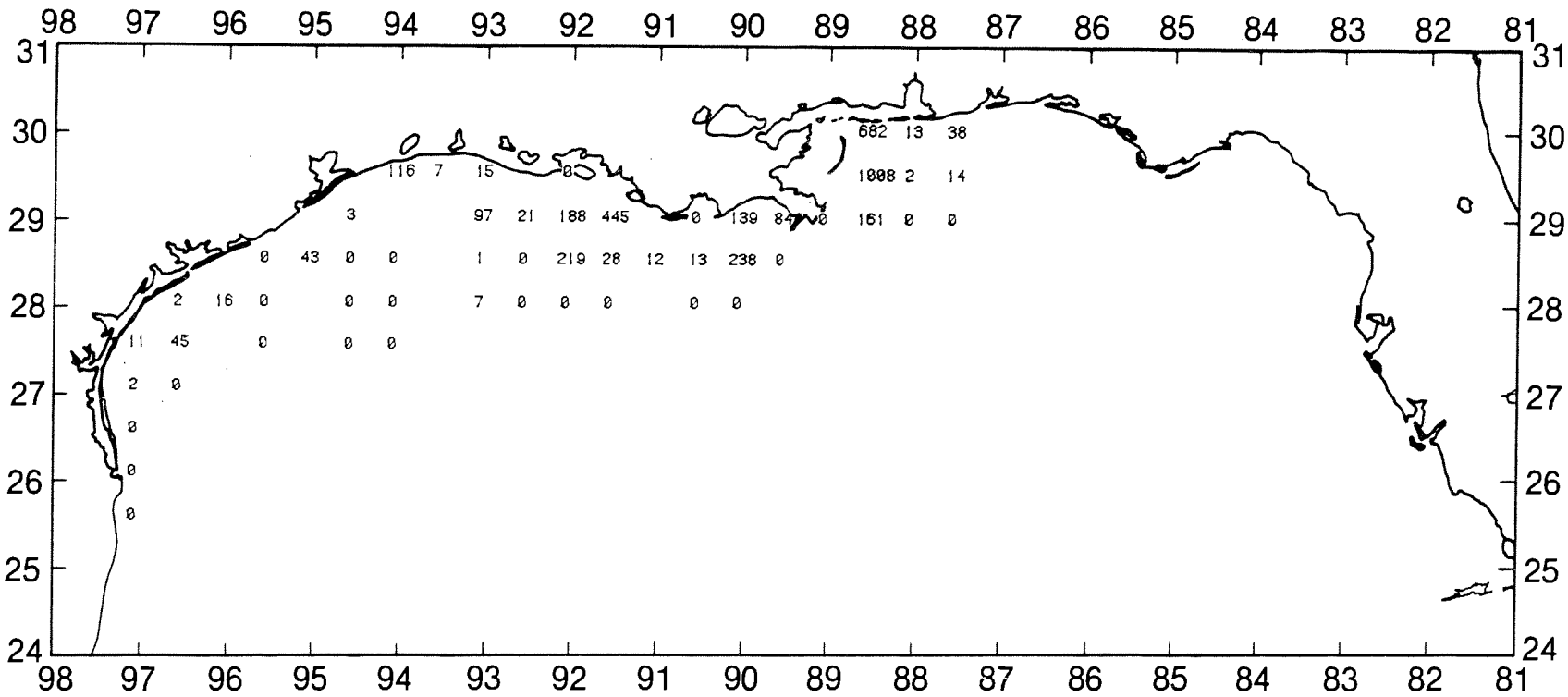

Figure 71. Hardhead catfish, Arius felis, number/hour for October-December 1987.

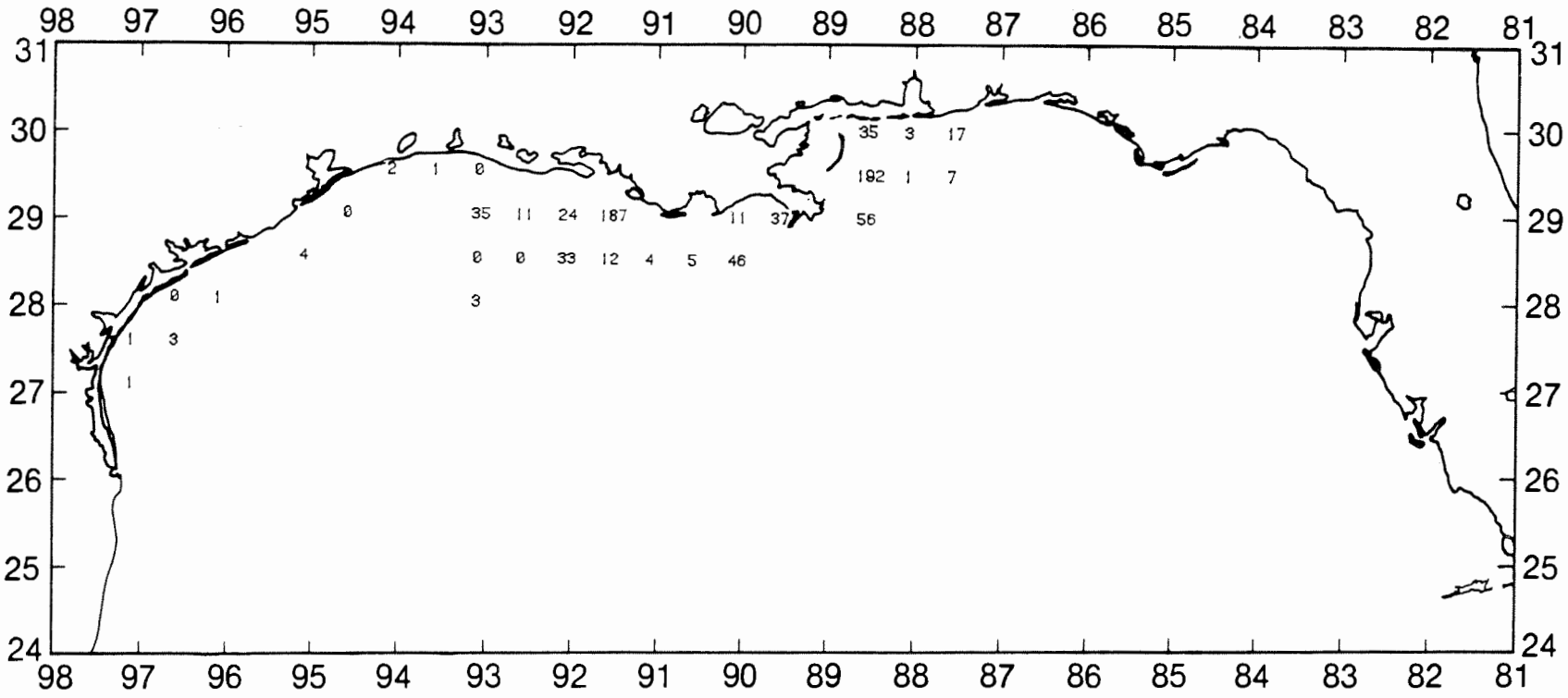

Figure 72. Hardhead catfish, Arius felis, lb/hour for October-December 1987.

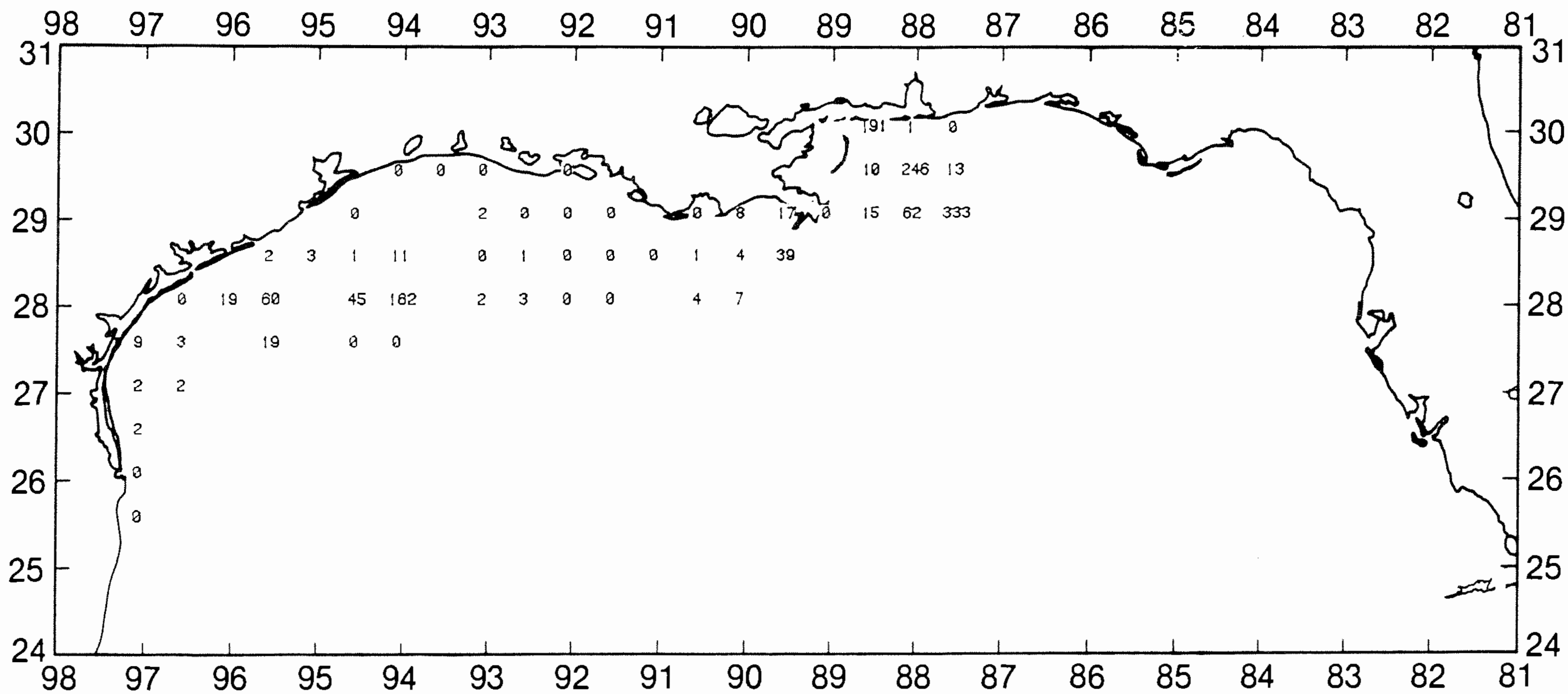

Figure 73. Pinfish, Lagodon rhomboides, number/hour for October-December 1987.

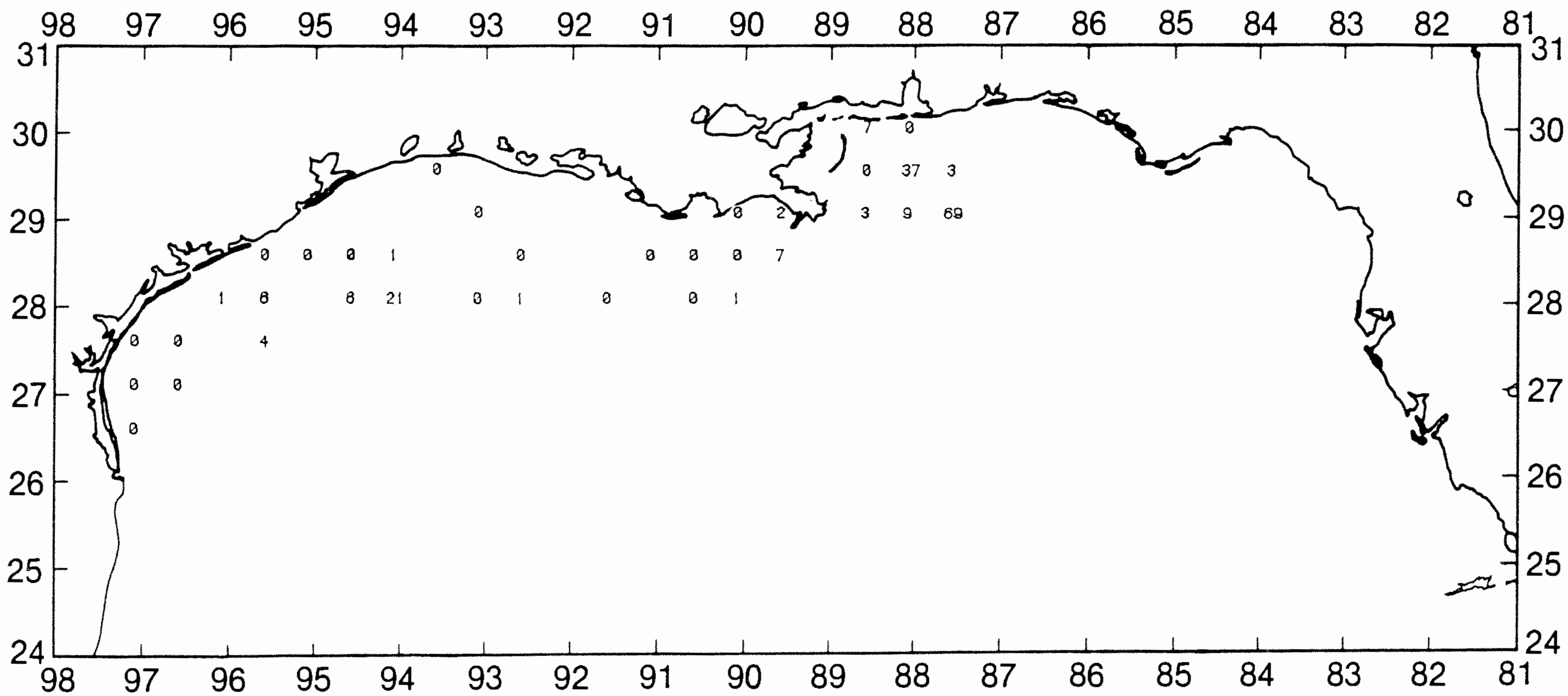

Figure 74. Pinfish, Lagodon rhomboides, lb/hour for October-December 1987.

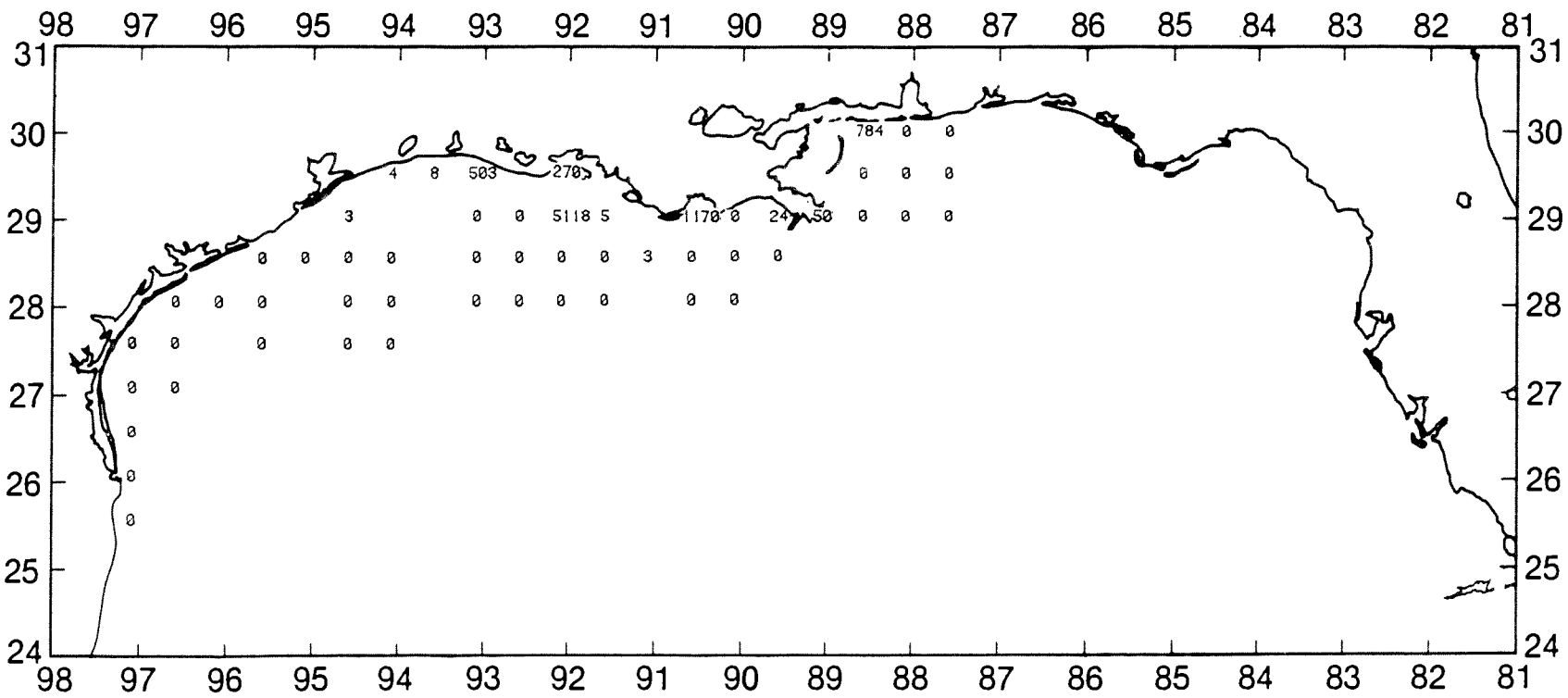

Figure 75. Bay anchovy, Anchoa mitchilli, number/hour for October-December 1987.

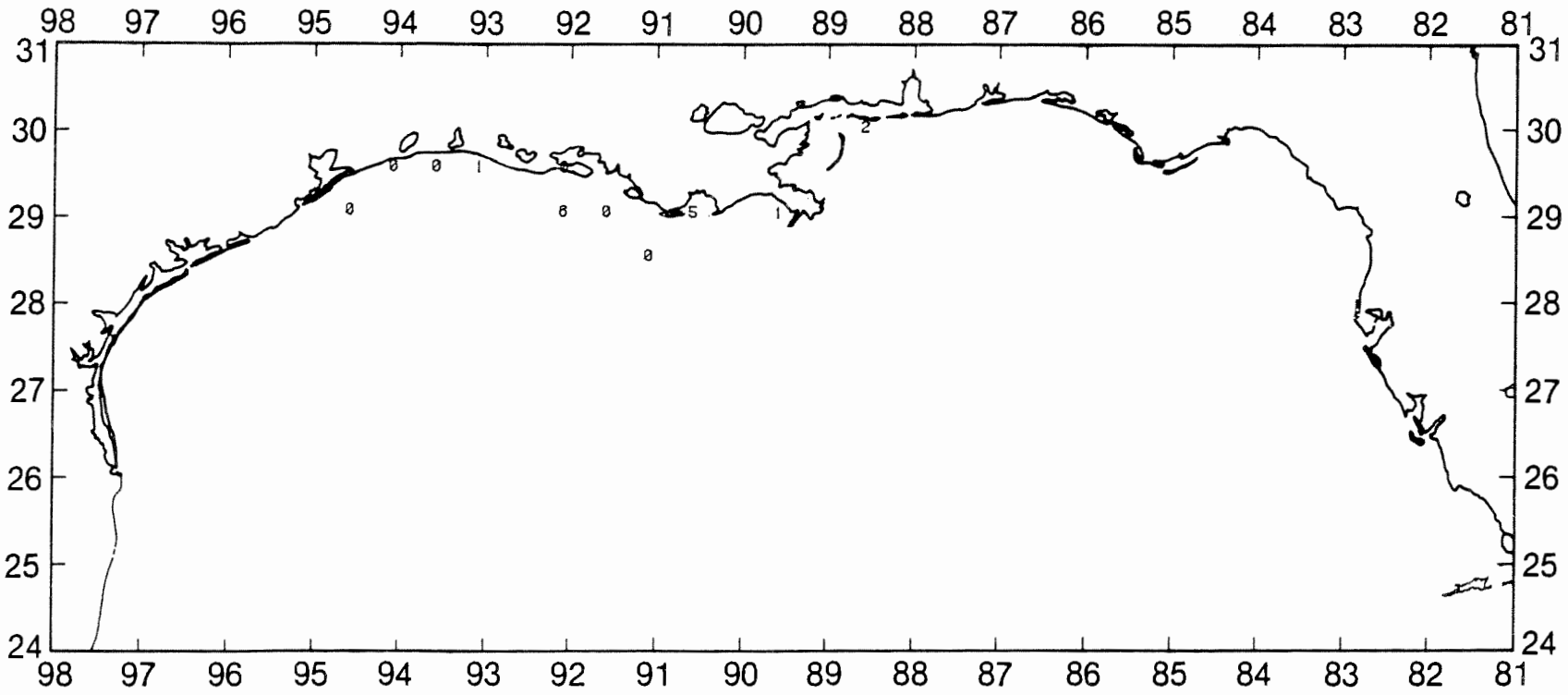

Figure 76. Bay anchovy, Anchoa mitchilli, lb/hour for October-December 1987.

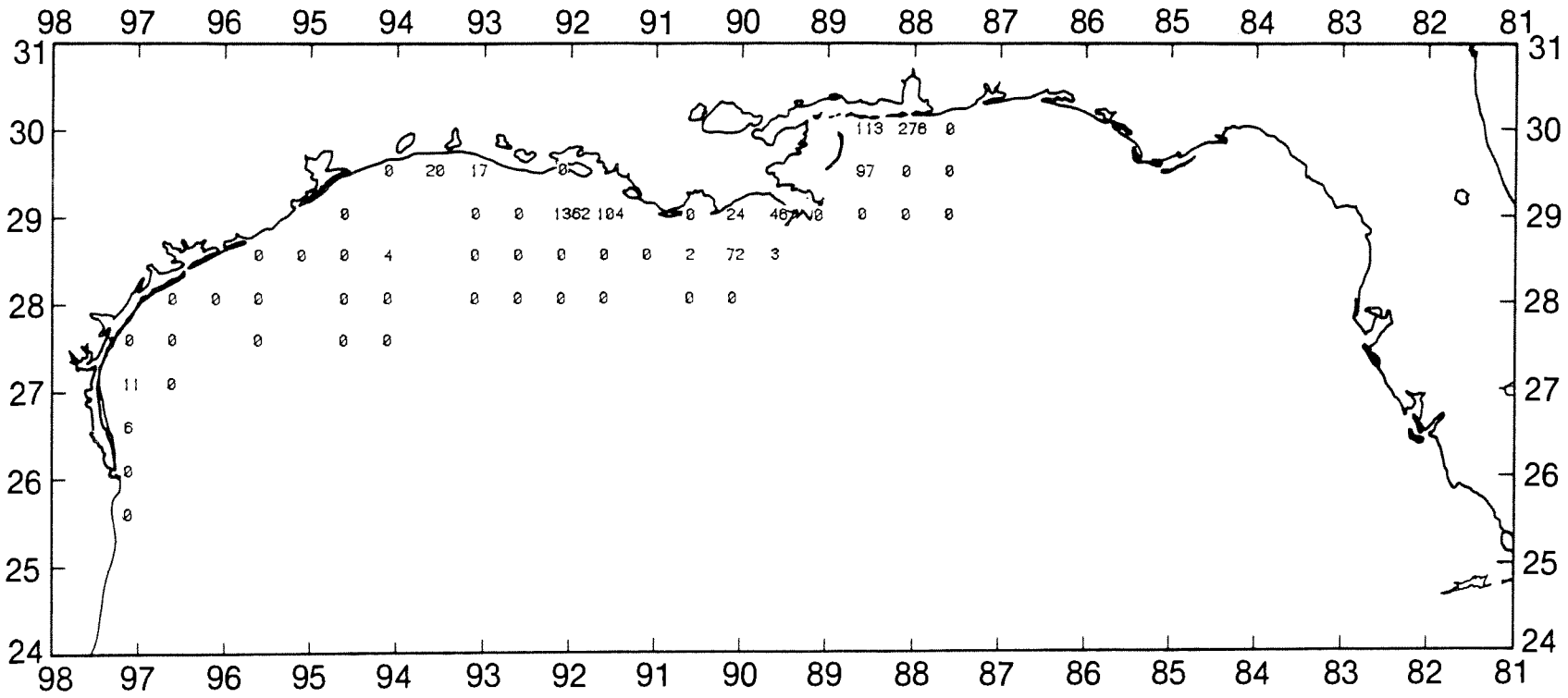

Figure 77. Striped anchovy, Anchoa hepsetus, number/hour for October-December 1987.

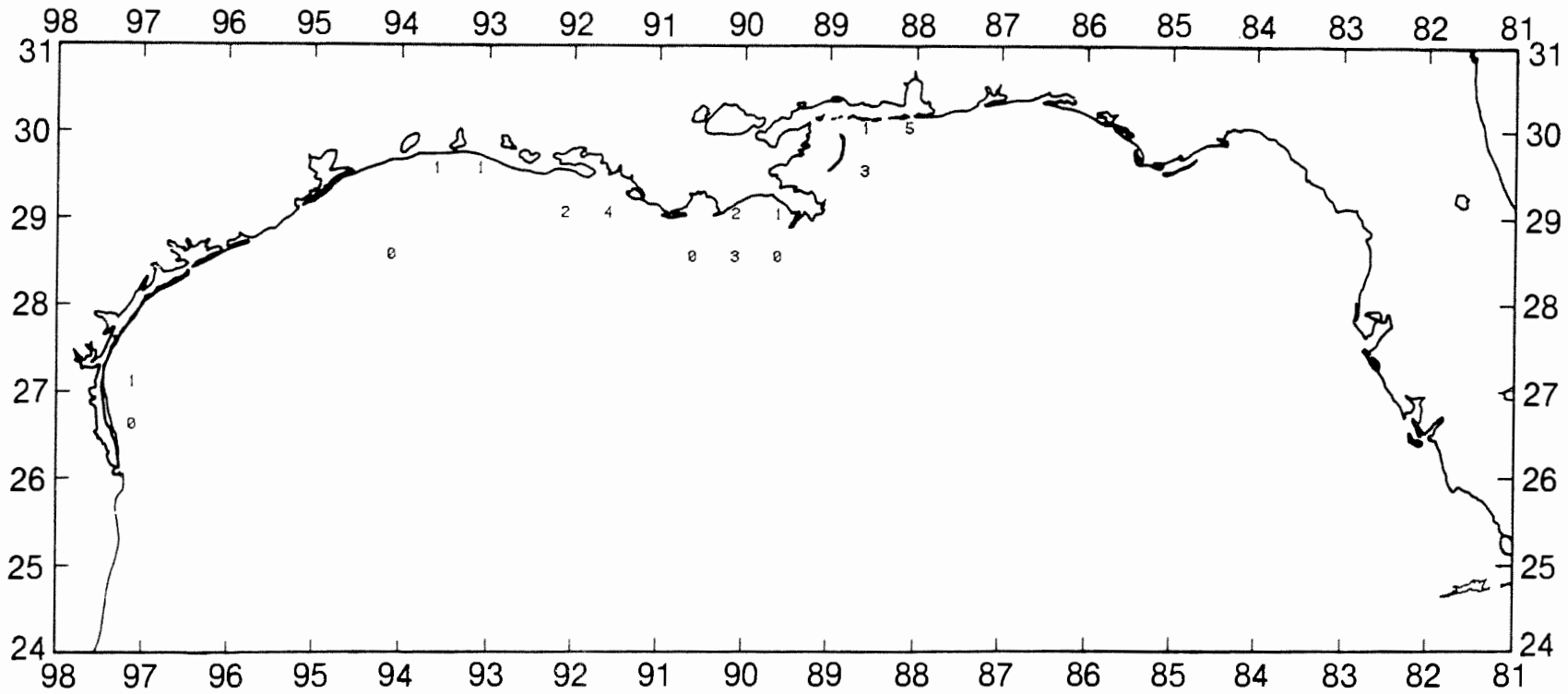

Figure 78. Striped anchovy, Anchoa hepsetus, lb/hour for October-December 1987.

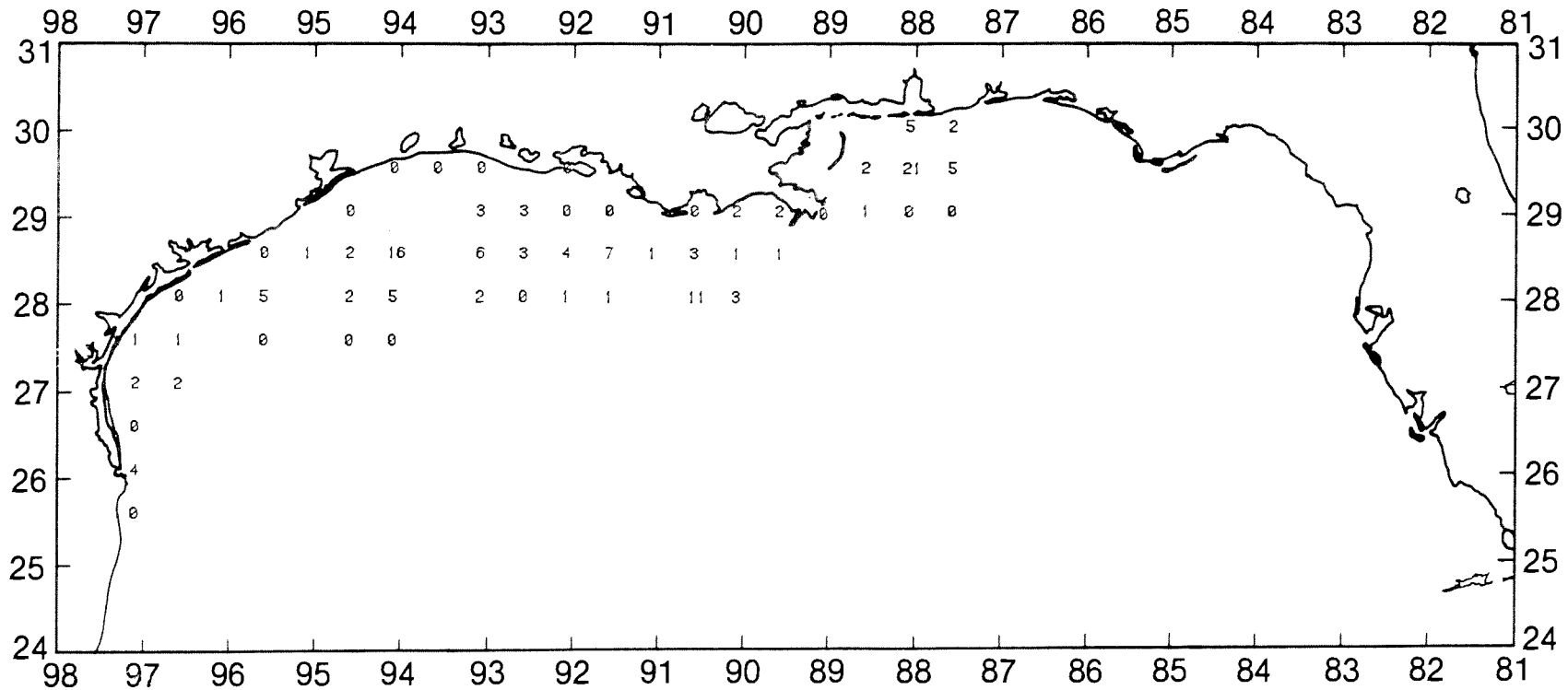

Figure 79. Red snapper, Lutjanus campechanus, number/hour for October-December 1987.

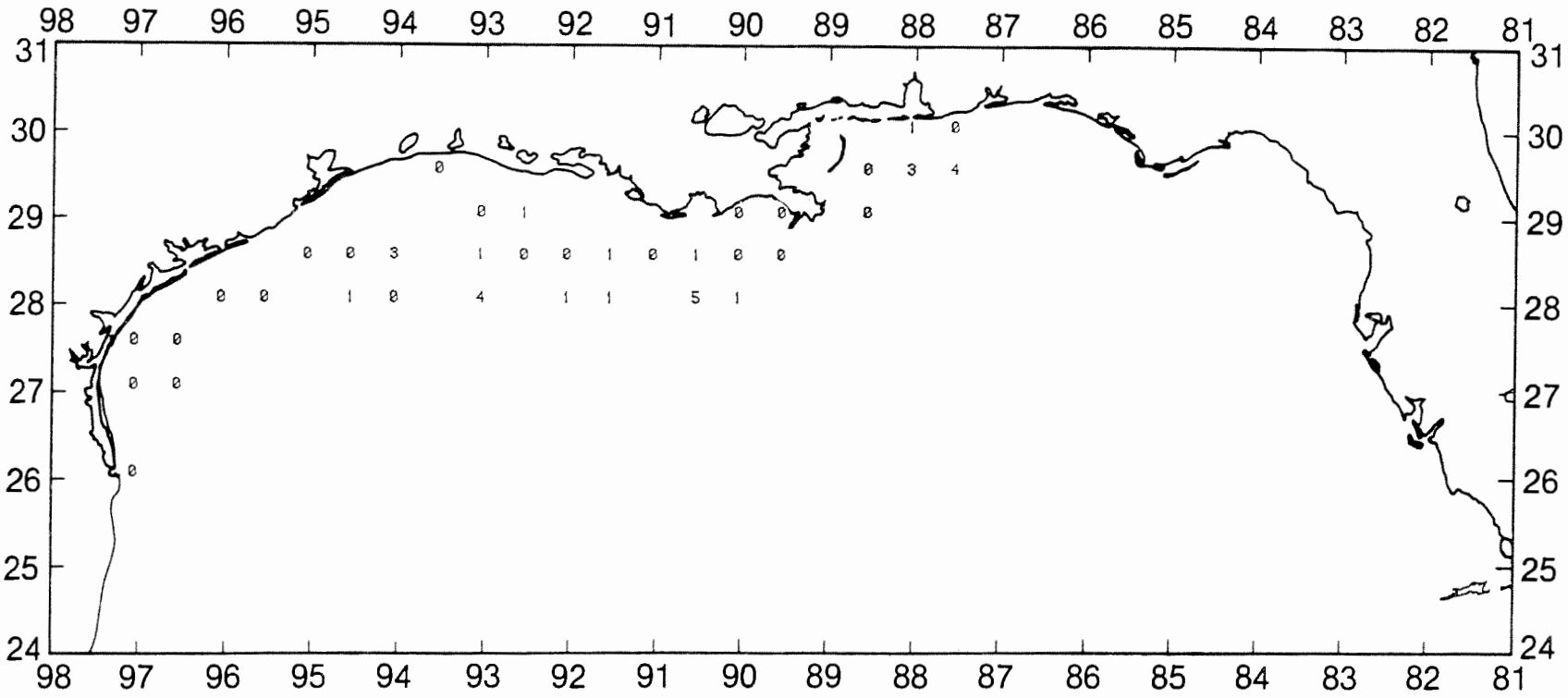

Figure 80. Red snapper, Lutjanus campechanus, lb/hour for October-December 1987.

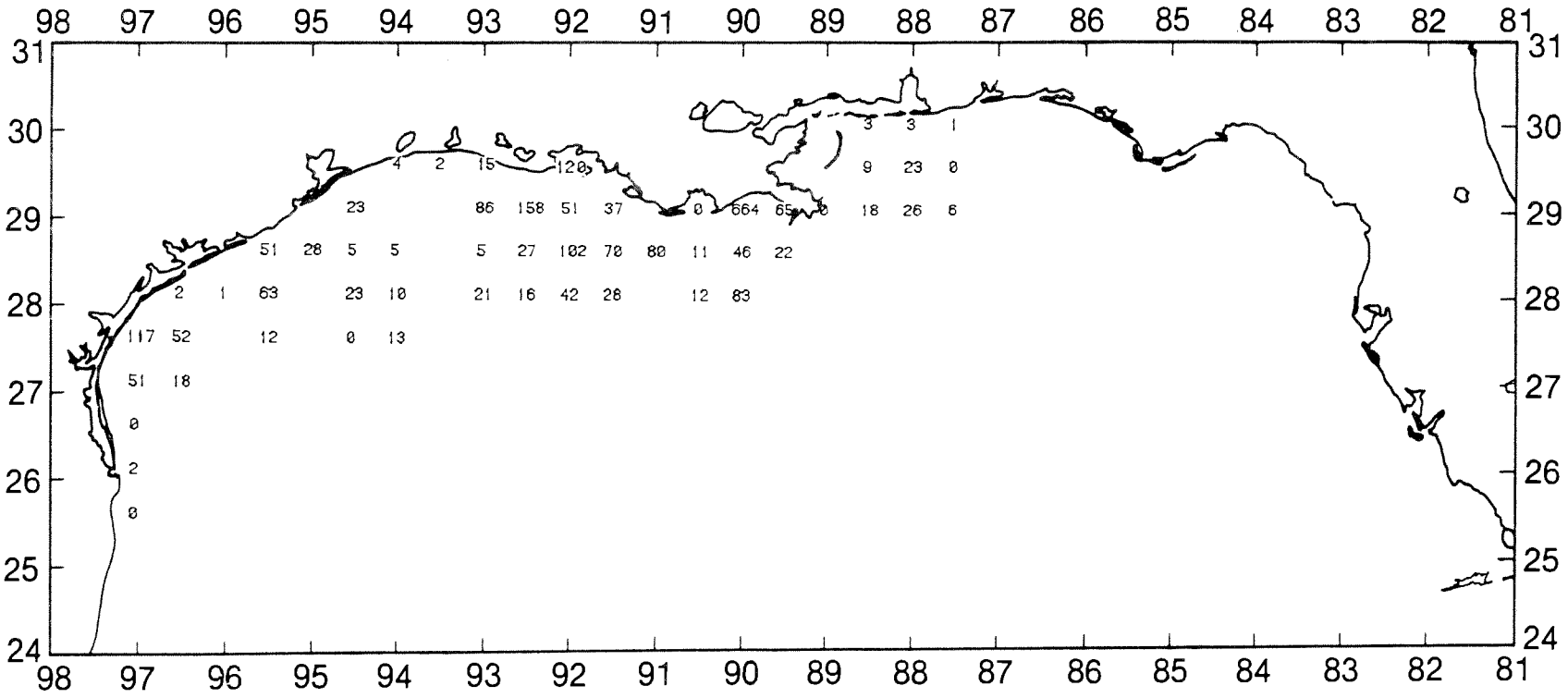

Figure 81. Brown shrimp, Penaeus aztecus, number/hour for October-December 1987.

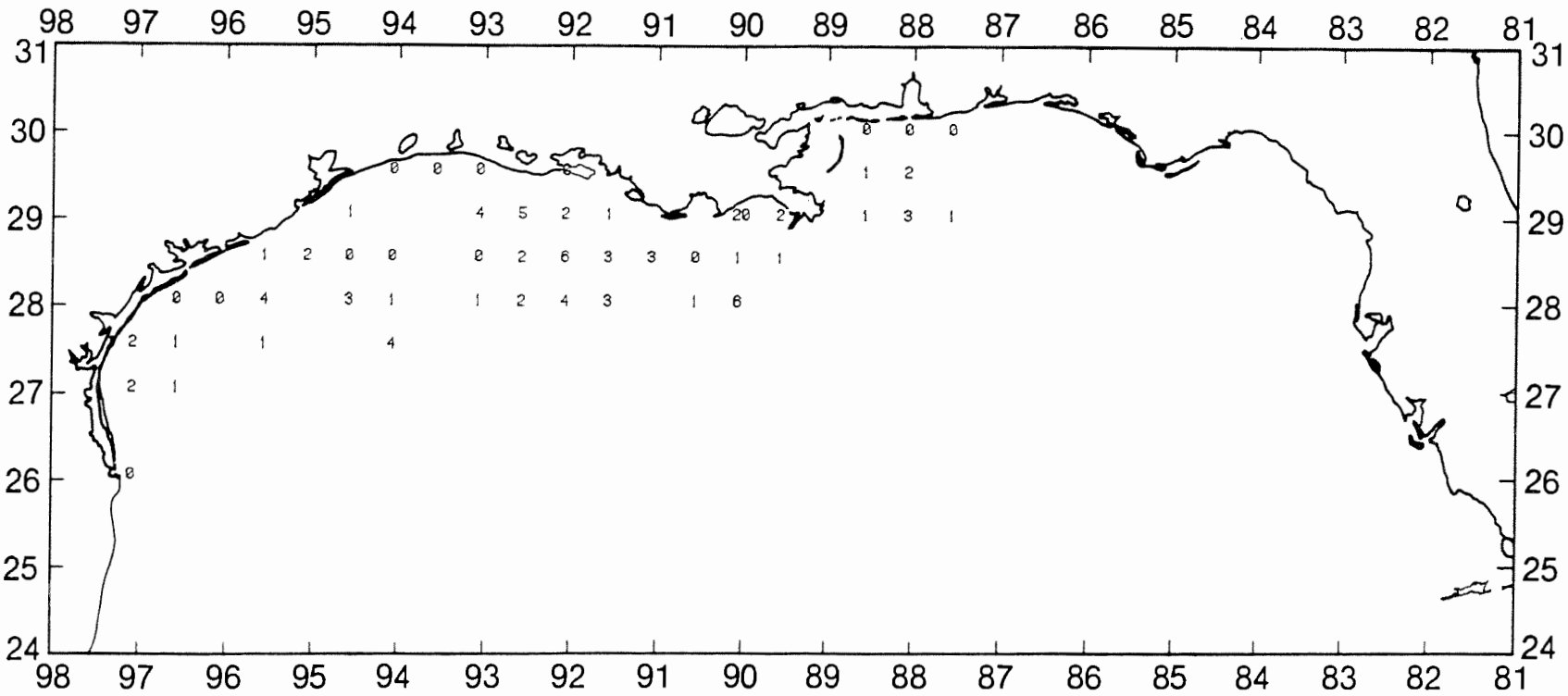

Figure 82. Brown shrimp, Penaeus aztecus, lb/hour for October-December 1987.

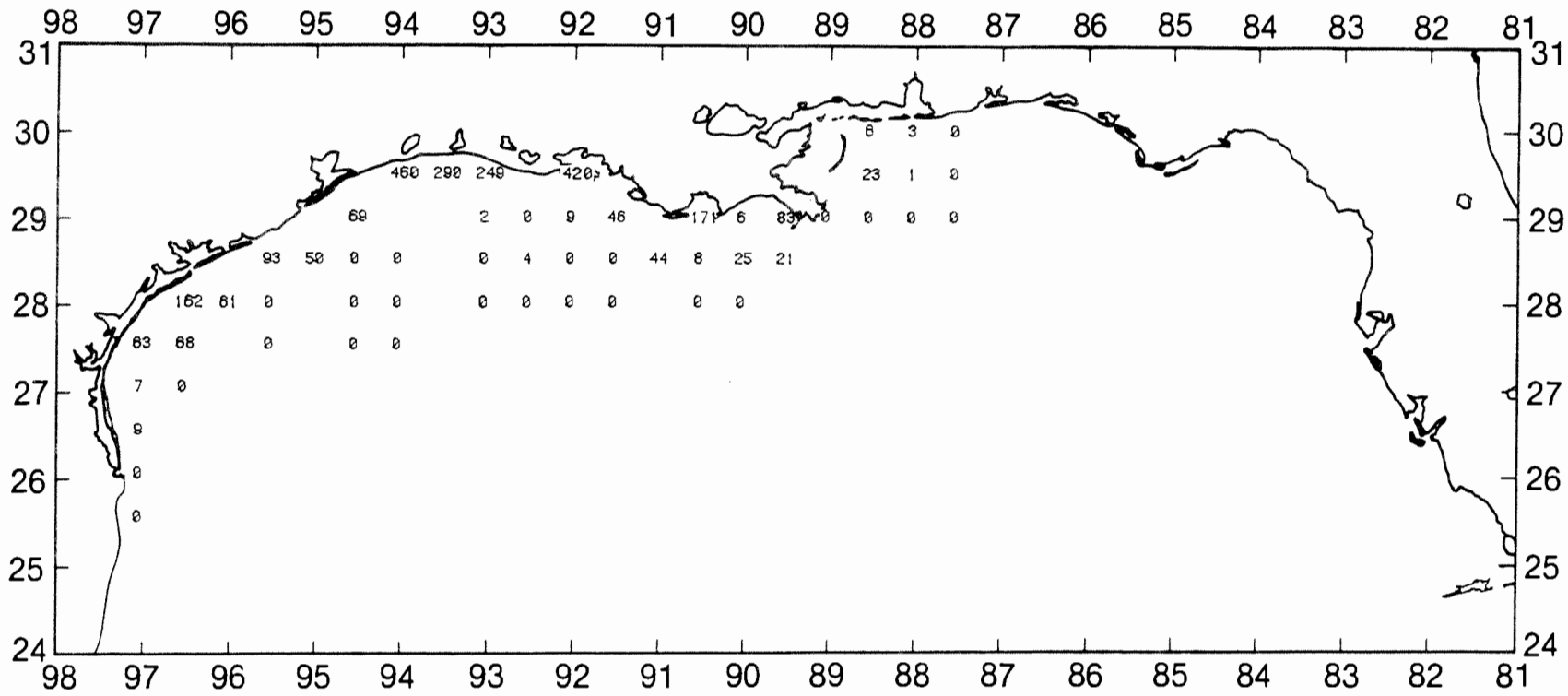

Figure 83. White shrimp, Penaeus setiferus, number/hour for October-December 1987.

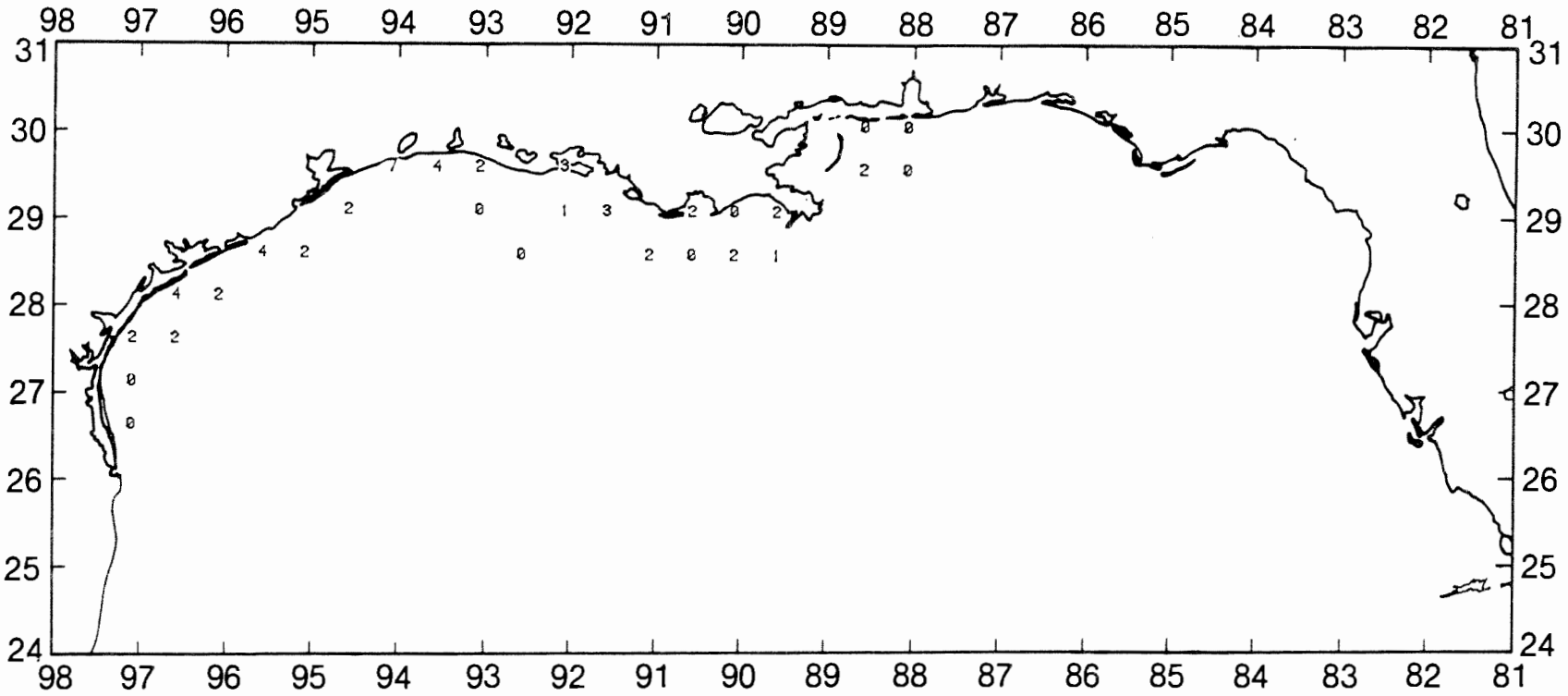

Figure 84. White shrimp, Penaeus setiferus, lb/hour for October-December 1987.

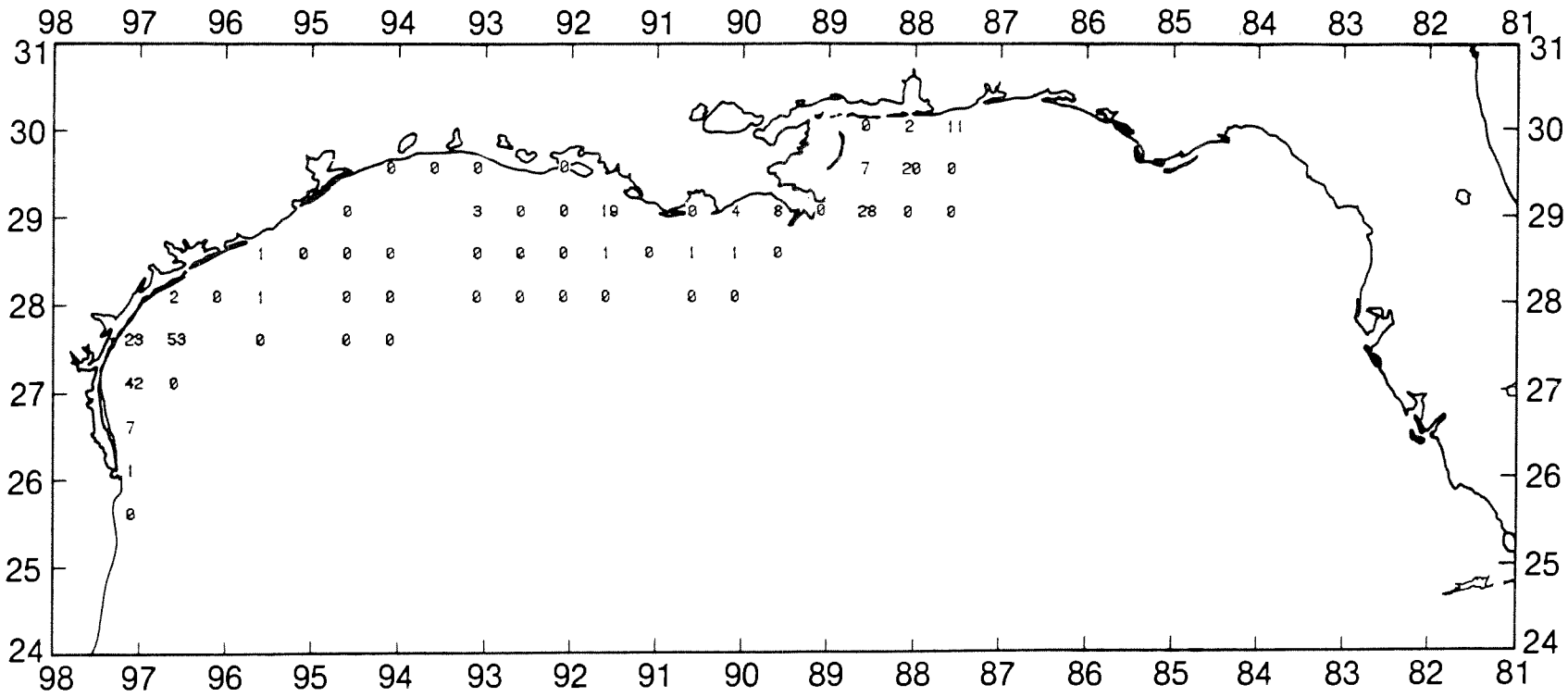

Figure 85. Pink shrimp, Penaeus duorarum, number/hour for October-December 1987.

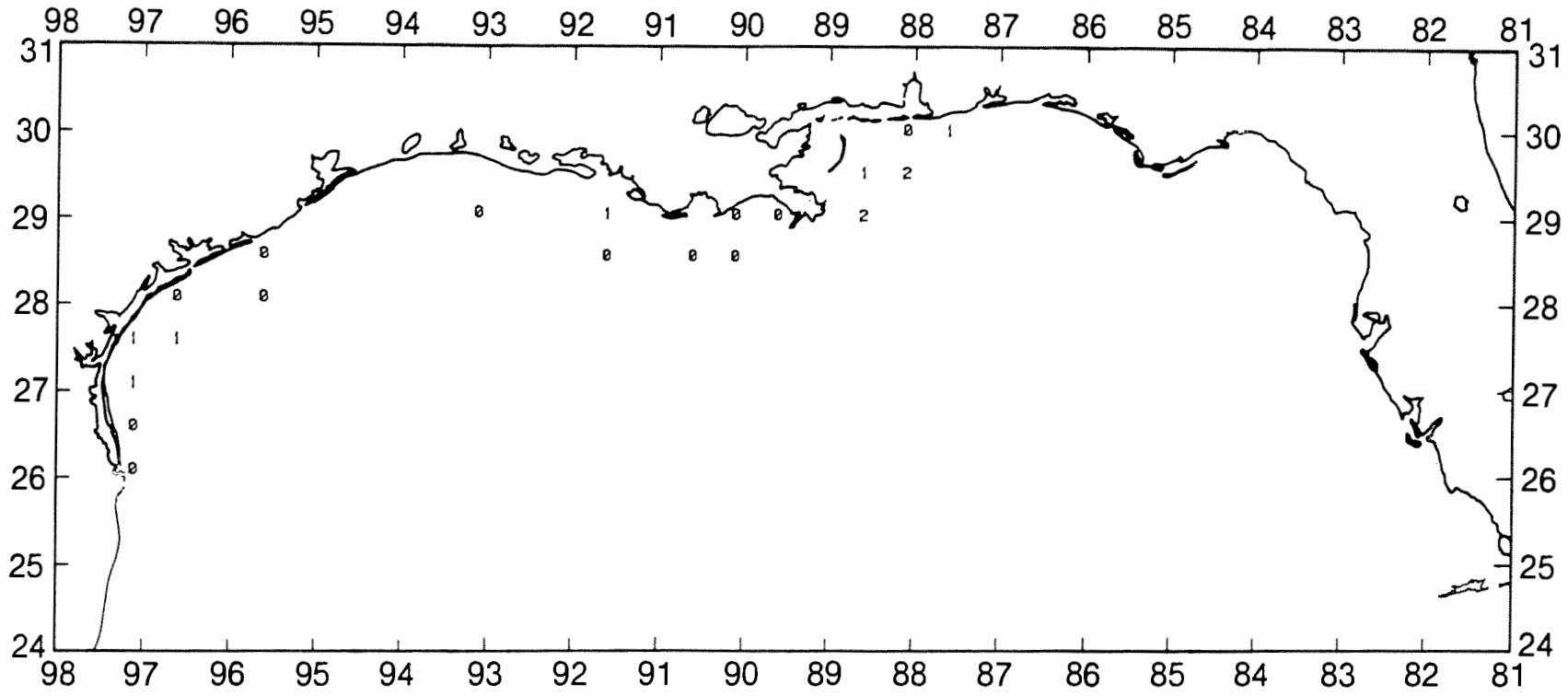

Figure 86. Pink shrimp, Penaeus duorarum, lb/hour for October-December 1987.

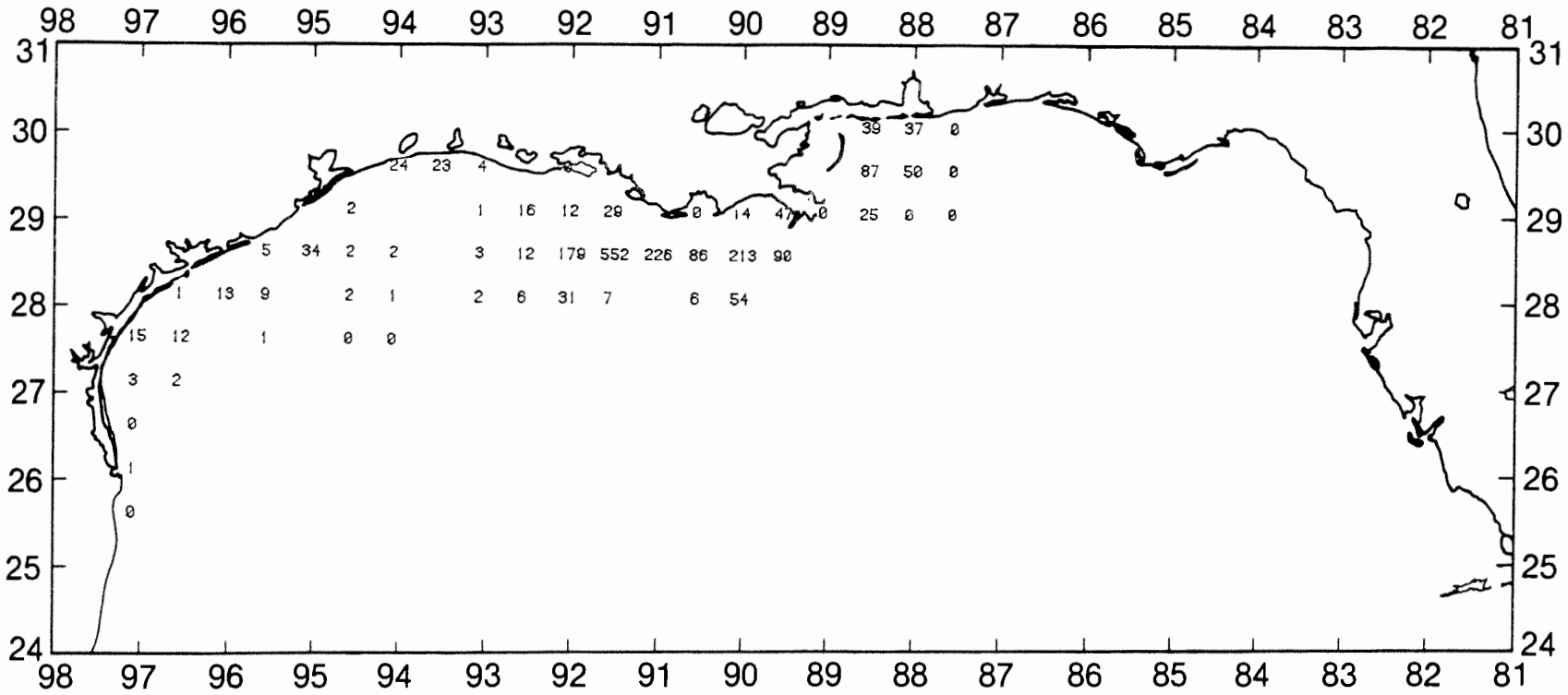

Figure 87. Lesser blue crab, Callinectes similis, number/hour for October-December 1987.

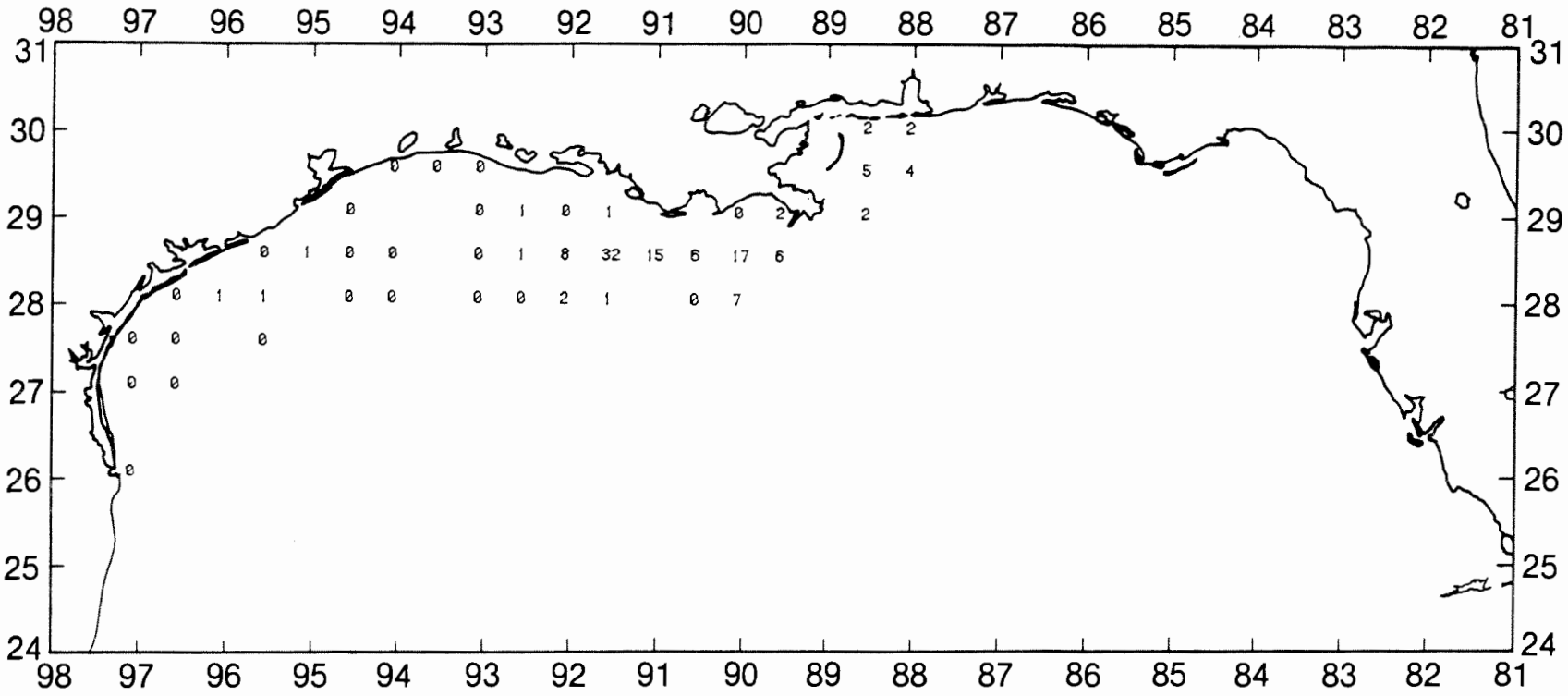

Figure 88. Lesser blue crab, Callinectes similis, lb/hour for October-December 1987.

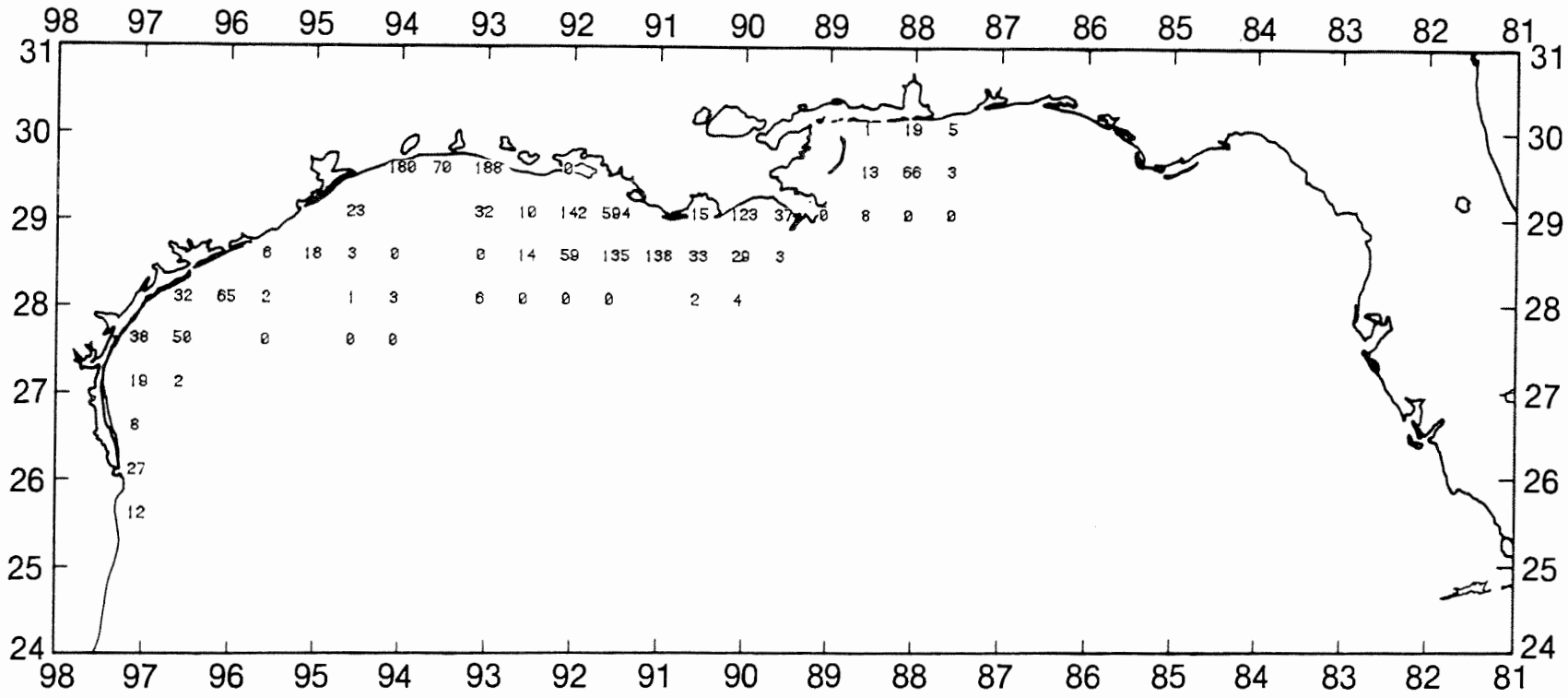

Figure 89. Iridescent swimming crab, Portunus gibbesii, number/hour for October-December 1987.

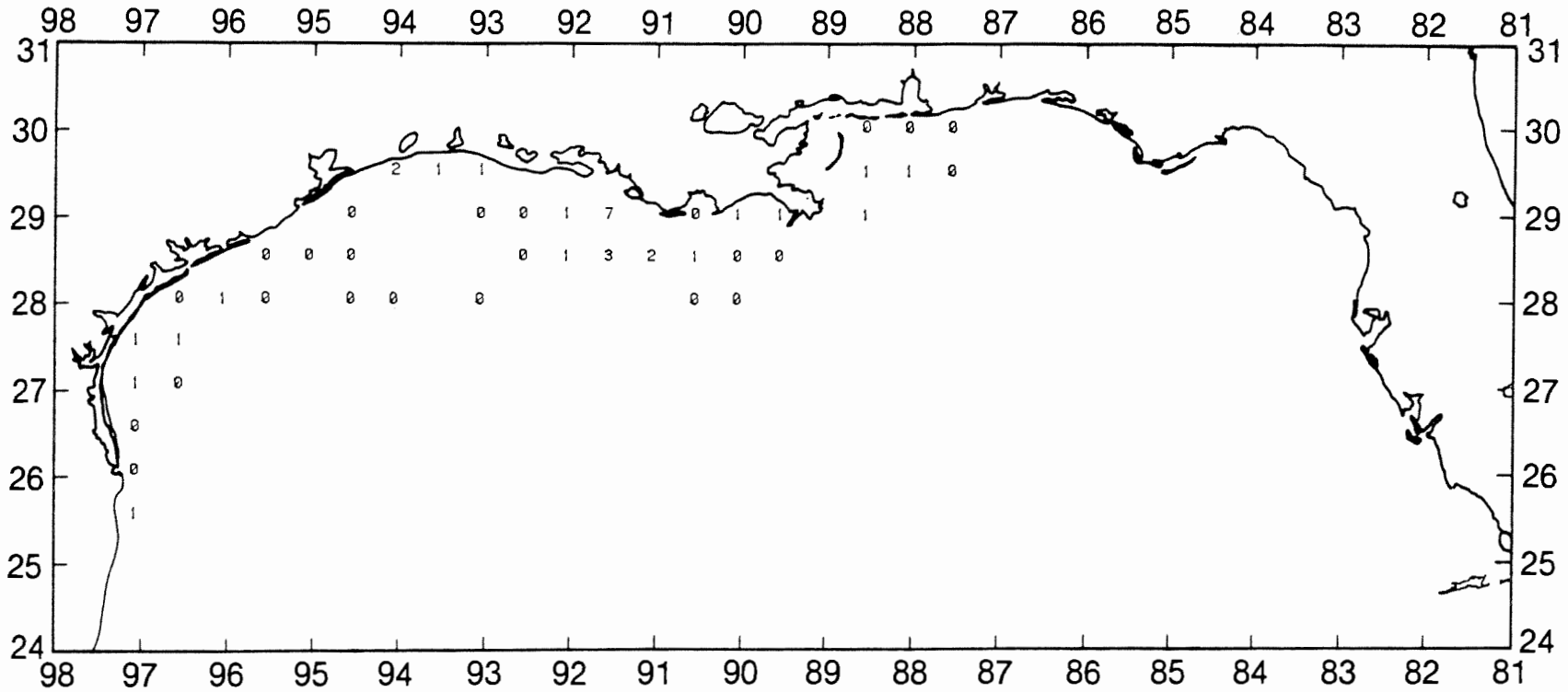

Figure 90. Iridescent swimming crab, Portunus gibbesii, lb/hour for October-December 1987.

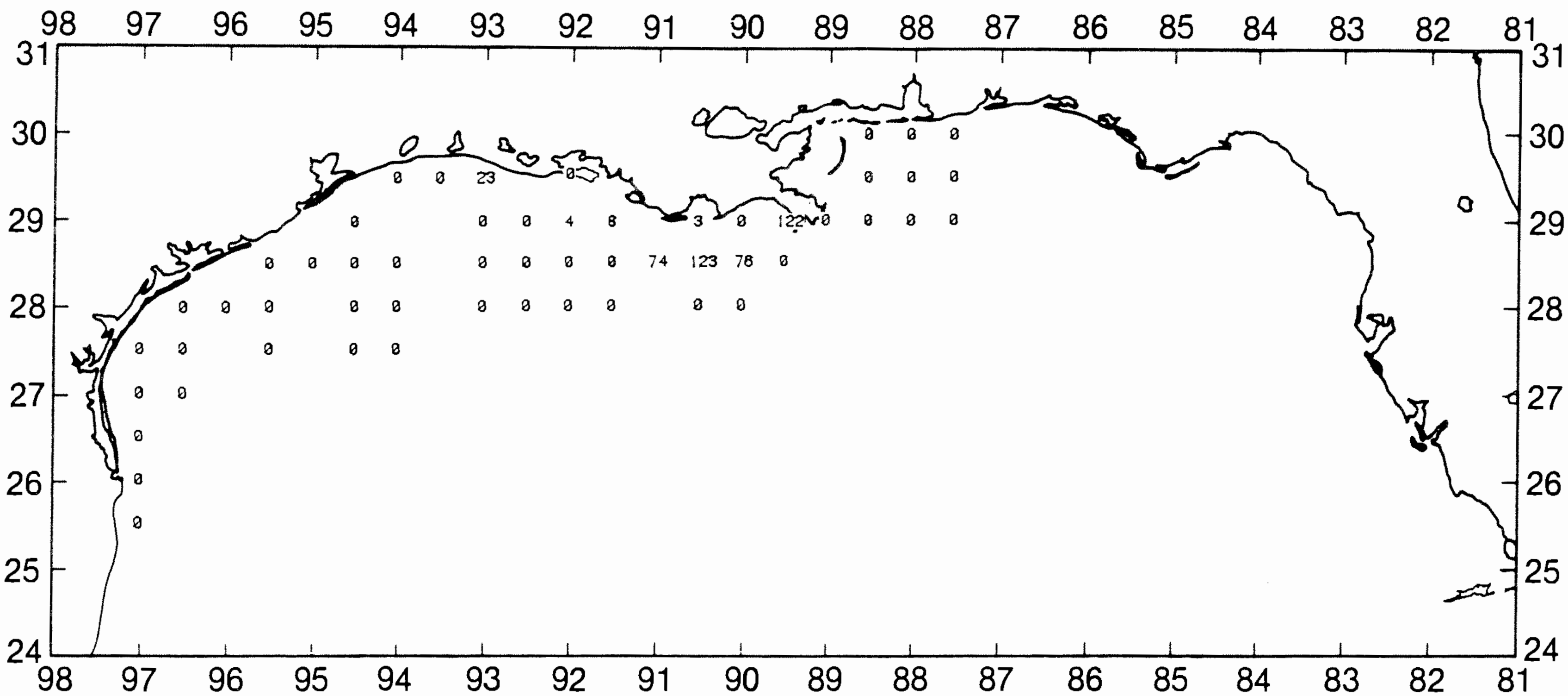

Figure 91. Roughback shrimp, <u>Trachypenaeus</u> <u>similis</u>, number/hour for October-December 1987.

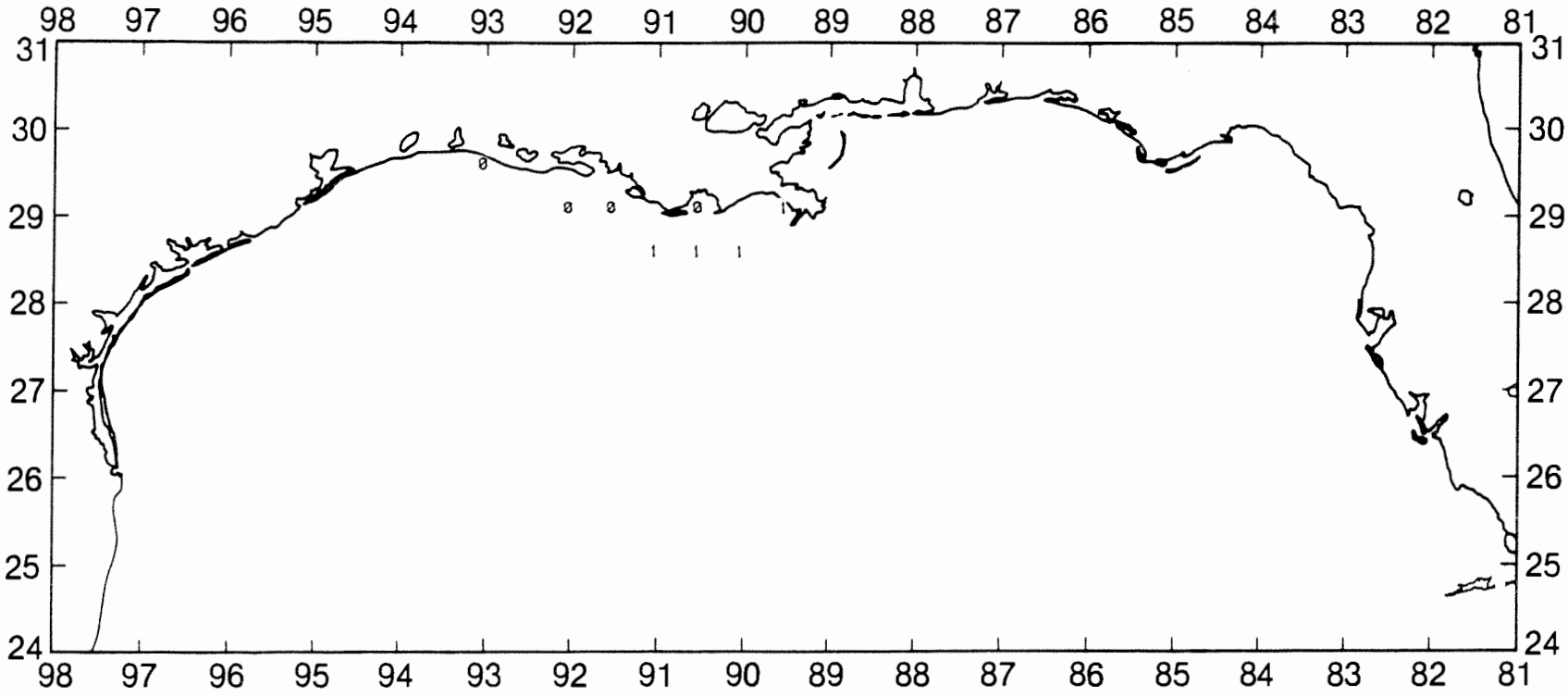

Figure 92. Roughback shrimp, Trachypenaeus similis, lb/hour for October-December 1987.

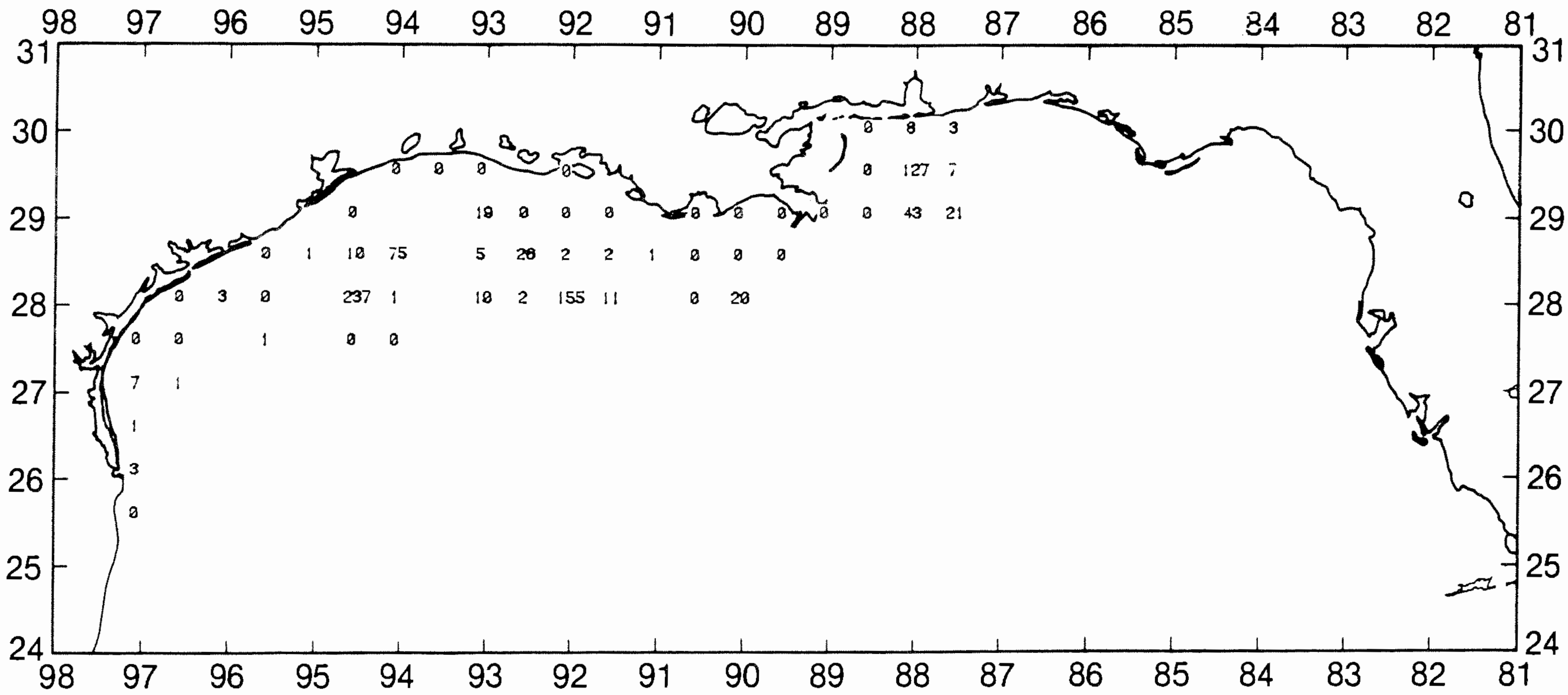

Figure 93. Brown rock shrimp, Sicyonia brevirostris, number/hour for October-December 1987.

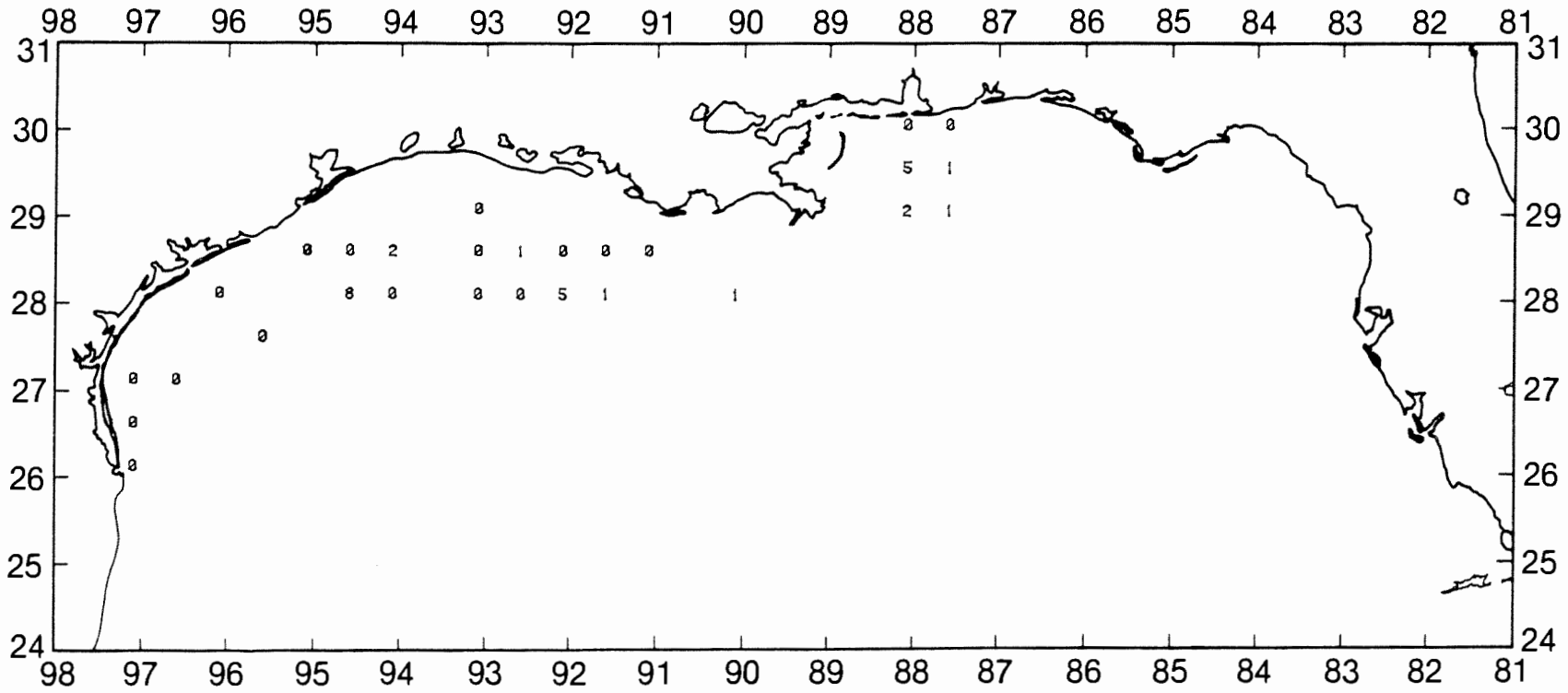

Figure 94. Brown rock shrimp, Sicyonia brevirostris, lb/hour for October-December 1987.

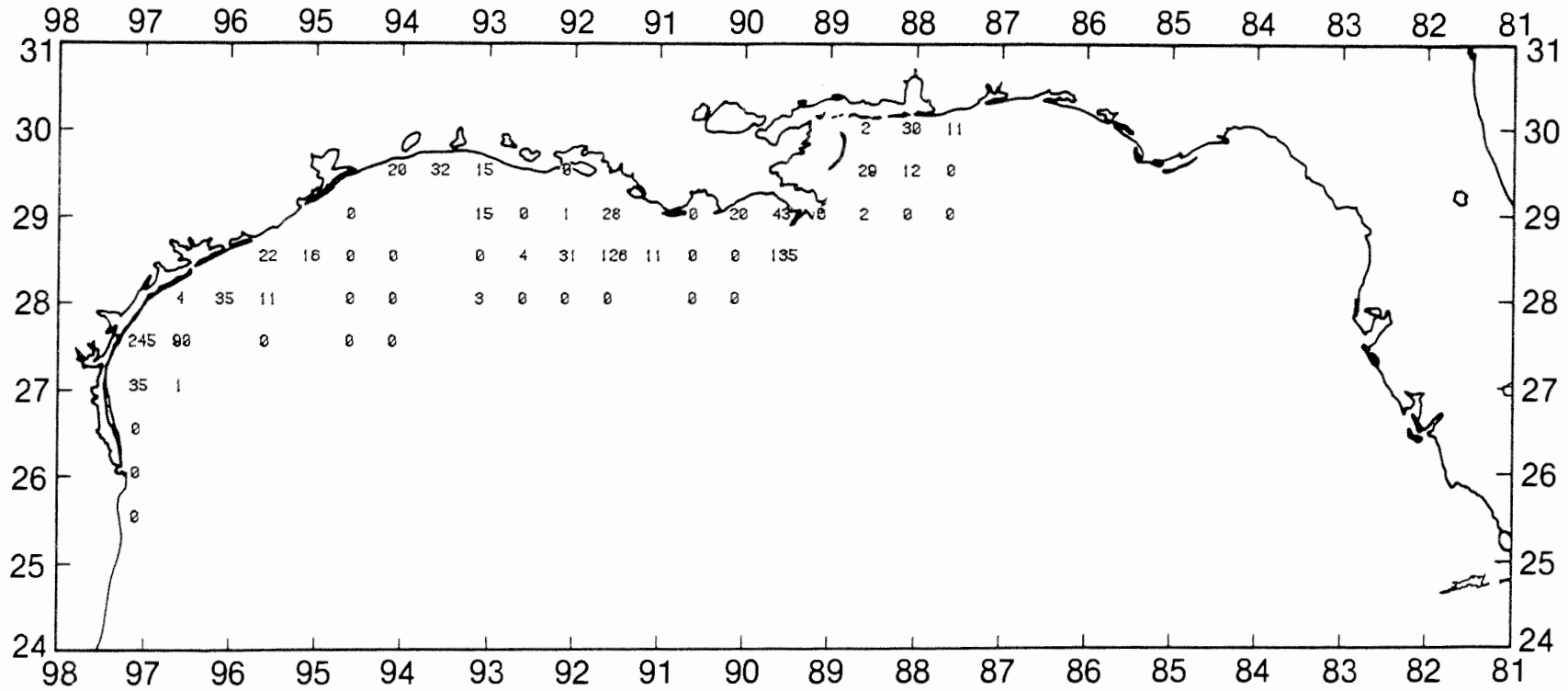

Figure 95. Roughneck shrimp, Trachypenaeus spp, number/hour for October-December 1987.

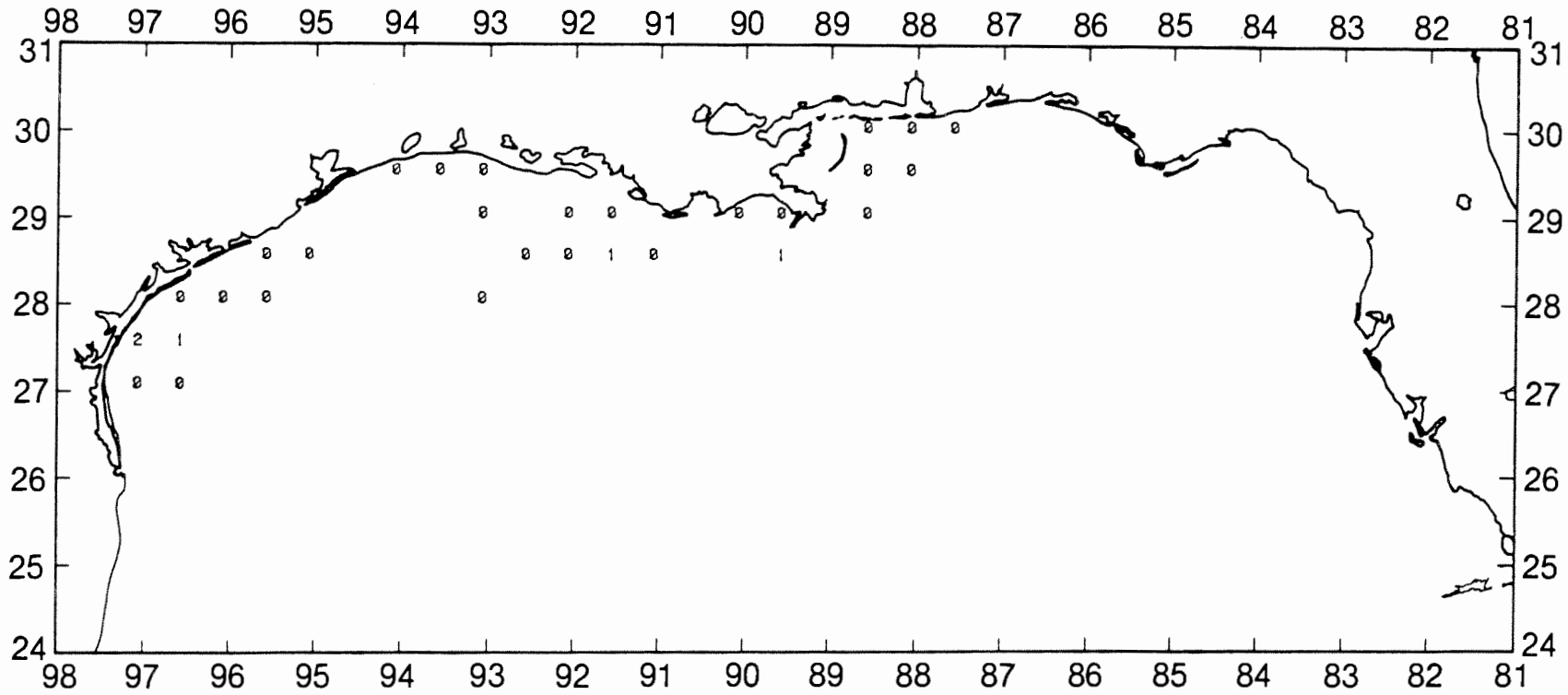

Figure 96. Roughneck shrimp, Trachypenaeus spp, lb/hour for October-December 1987.

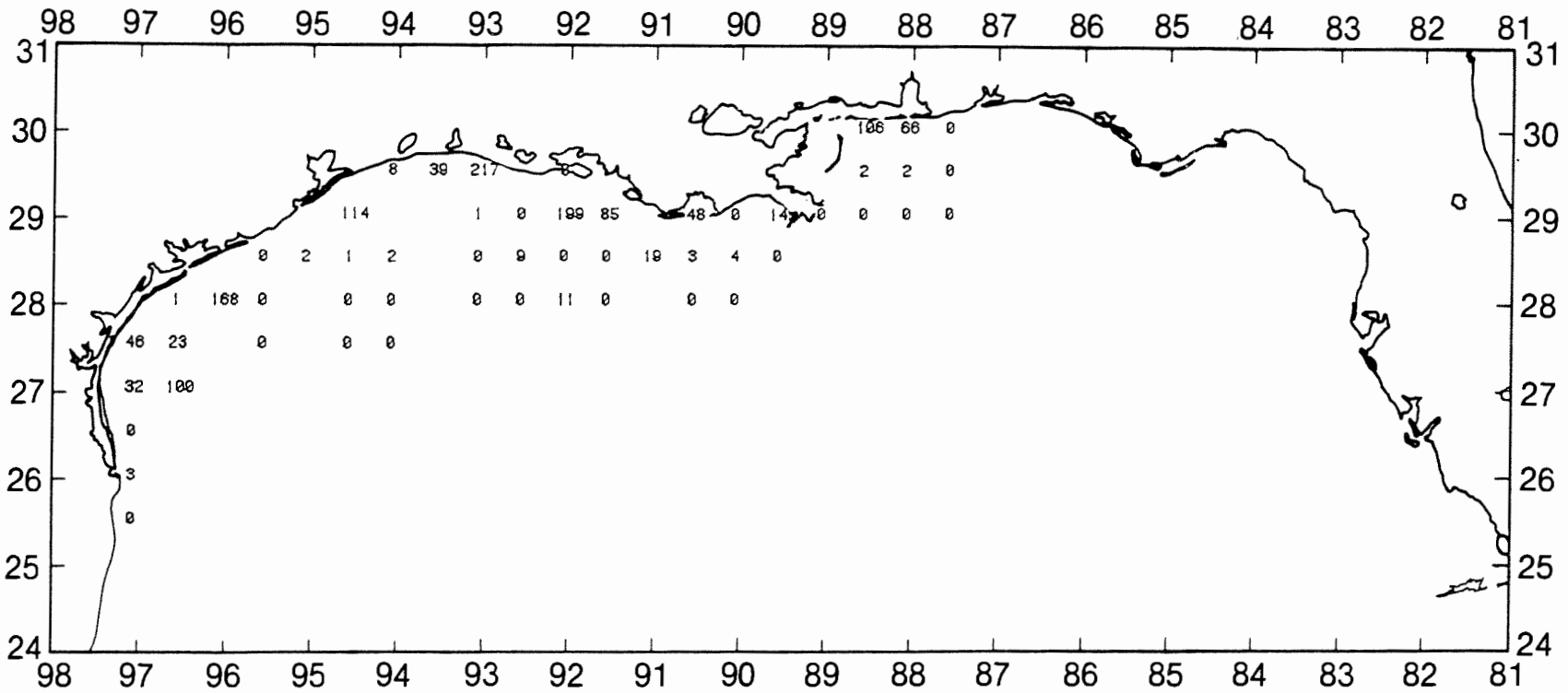

Figure 97. Atlantic brief squid, Lolliguncula brevis, number/hour for October-December 1987.

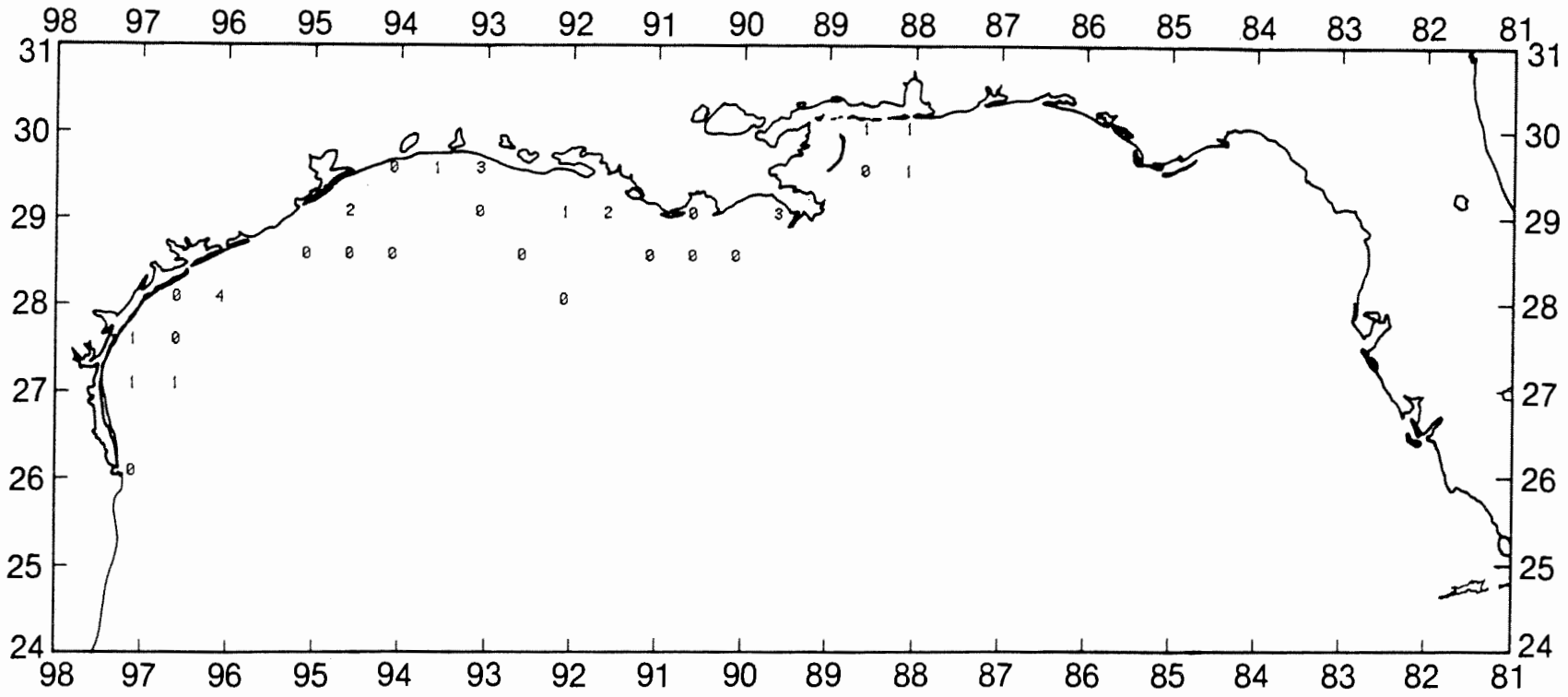

Figure 98. Atlantic brief squid, Lolliguncula brevis, lb/hour for October-December 1987.

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