

seamap

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the gulf of mexico
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INTRODUCTION

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

The SEAMAP Program began in March 1981 when the National Marine Fisheries Service (NMFS), Southeast Fisheries 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. The Subcommittee organized and successfully coordinated a number of surveys between 1982 through 1987 (Table 1). The data has been published in atlases for the surveys in 1982 (Stuntz et al. 1985); 1983 (Thompson and Bane 1986a); 1984 (Thompson and Bane 1986b); 1985 (Thompson et al. 1988); 1986 (Sanders et al. 1990a) and 1987 (Sanders et al. 1990b). Environmental assessment activities occurred with each of the surveys found in Table 1.

In January 1988, 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 1987. Overall survey objectives in 1982 to 1987 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 seventh in a series of SEAMAP environmental and biological atlases presents such data, in a summarized form, collected during the 1988 SEAMAP surveys. The area covered in the Gulf of Mexico for all SEAMAP survey activities during 1988 is shown in Figure 1.

MATERIALS AND METHODS

Methodology for the 1988 SEAMAP surveys is similar to that of the 1982 through 1987 surveys. Sampling was conducted within the U.S. Exclusive Economic Zone (EEZ) and state territorial waters. Environmental station locations and dates of sampling by vessel and by survey are listed in Table 2.

Vessels that participated in collecting plankton and environmental data during the March-May survey included the NOAA Ship OREGON II (April 19-May 26) and the Florida vessel HERNAN CORTEZ II (May 2-7). The Louisiana vessel PELICAN collected plankton samples off Louisiana during its trawl survey (March 28- 31).

Vessels that participated in the June-July Shrimp/Bottomfish Trawl Survey and concurrently sampled plankton and environmental data included the GCRL vessel TOMMY MUNRO (June 11-14 and July 8-11); NOAA Ship OREGON II (June 13-July 14); an Alabama vessel (June 15-16 and July 12); Louisiana small inshore vessels (July 5-14); and Louisiana vessel PELICAN (July 11-14). The TPWD vessels ARANSAS BAY, MATAGORDA BAY, LAGUNA MADRE, GALVESTON BAY and SABINE (June 2-23) took no plankton samples in conjunction with their summer survey.

Vessels that participated in collecting plankton and environmental data during the August-September plankton survey included the Florida vessel HERNAN CORTEZ II (August 26-September 2); NOAA Ship OREGON II (September 7-28); GCRL vessel TOMMY MUNRO (September 12-October 1); and an Alabama vessel (September 12).

Vessels that participated in the October-December Shrimp/Groundfish Trawl Survey and concurrently sampled plankton and environmental data included the Louisiana vessel PELICAN (October 3-12 and November 28-December 15); NOAA Ship OREGON II (October 20-November 21); Louisiana inshore vessels (November 3-14); and GCRL vessel TOMMY MUNRO (November 9-12). The TPWD vessels ARANSAS BAY, MATAGORDA BAY, LAGUNA MADRE, GALVESTON BAY and SABINE (November 2-December 6) did not sample plankton in conjunction with their fall survey.

PLANKTON SURVEYS

Plankton samples were taken at stations arranged in a systematic grid across the Gulf of Mexico. Such a grid was chosen because of the large survey area. Stations were set at minimum intervals of 30 miles (1/2 degree). The exceptions to this were with LDWF vessels, which collected samples at the end of a trawl station and during the summer and fall trawl surveys which sampled plankton stations opportunistically due to time constraints of trawling. Also, during the March-May Plankton Survey, the Oregon II cruise track was sampled twice to determine the variability between stations sampled over a period of time.

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

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

Samples were preserved initially in 10% buffered formalin. After a 48-hr period, the bongo and neuston samples were transferred to 95% ethyl alcohol for final preservation, and subsequently shipped to the NMFS Miami Laboratory. The Miami Laboratory curated and computerized the sample data.

The right bongo sample and the neuston sample from each station were transshipped to the Polish Sorting Center (PSC) in Szczecin, Poland, for sorting and identification. Plankton samples from Louisiana vessels were retained by LDWF for sorting and identification at their facilities. All ichthyoplankton components (eggs and larvae) were removed from each sample and the fish larvae identified to the lowest feasible taxon (families in most cases).

Sorted ichthyoplankton specimens from PSC 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 1987 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 are stored at the SEAMAP Invertebrate Plankton Archiving Center, managed in conjunction with GCRL, for use by researchers.

ENVIRONMENTAL SURVEYS

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

Vessel: Vessel code for each vessel.

Station: Station identifiers varied by state and vessel.

Cruise: Cruise numbers varied by state and vessels.

Date: Month/Day/Year.

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

Latitude/longitude: Recorded to seconds.

Barometric pressure: Recorded in millibars.

Wave height: Estimated visually in meters.

Wind speed and direction: Recorded in 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 data was recorded.

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

Water temperature: Temperatures were measured by a hand-held thermometer onboard ship, in situ electronic sensors, 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 MgCO₃ 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 opaque

material and frozen until analysis. Each of the three samples was analyzed separately in the laboratory. Values in the tables that follow, are the mean of the 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). Some of the values have been deleted from the data base because of analytical errors.

Dissolved oxygen: Dissolved oxygen values were measured by electronic probes (depending on the vessel) or by the 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 March Trawl Survey

Louisiana Department of Wildlife and Fisheries conducted a seasonal day/night trawl survey and concurrently took environmental samples at each trawl station and plankton samples opportunistically. The trawl survey was conducted as part of an effort to provide comparative information on critical life states of major Gulf species, especially shrimp, and associated environmental parameters in Louisiana and adjacent EEZ waters. Station locations for this survey can be found in Table 2. The LDWF sampled day and night stations with a 40-ft shrimp trawl to depths of 20 fm. A stratified random station selection design was maintained. All organisms captured were identified, counted, measured and weighed.

Summer Shrimp/Bottomfish Survey

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 (Figure 2). Trawl stations are made with a standard SEAMAP 40-ft net, 20-ft net for Texas and 16-ft net for both Louisiana and Alabama. All trawl data are summarized by 10-minute squares. 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 was sexed and measured to obtain length-frequency information. Estimated total numbers were derived from the total weights of those processed. Other species of fishes and invertebrates were identified, enumerated and weighed. Weights and individual measurements on selected species other than commercial shrimp were also recorded.

Fall Shrimp/Groundfish Survey

The survey design of the fall survey was modified from previous years to conform to the design employed during the SEAMAP Summer Shrimp/Bottomfish Survey. During the fall survey trawl stations were made with the standard SEAMAP 40-ft, 20-ft and 16-ft net and covered NMFS shrimp statistical zones 9 through 22 (Figure 2).

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

RESULTS

PLANKTON SURVEYS

Approximately 2,800 lots of identified ichthyoplankton samples taken during 1988 surveys were returned from the PSC and LDWF to the SEAMAP Archiving Center. The data will be verified and incorporated into the SEAMAP data system once space is available.

Plankton stations for the March-May offshore plankton survey in conjunction with environmental stations are shown in Figure 3, the June-July Shrimp/Bottomfish survey stations are shown in Figure 4, the August-September plankton survey stations in conjunction with environmental stations are shown in Figure 5, and the October-December Shrimp/Groundfish survey stations are shown in Figure 6.

ENVIRONMENTAL SURVEYS

Environmental data was collected in conjunction with each plankton station for the March-May (Figure 3) and August-September (Figure 5) plankton surveys. Environmental data stations for the Summer Shrimp/Bottomfish Survey are shown in Figure 7 and the Fall Shrimp/Groundfish Survey in Figure 8. Environmental sampling locations are summarized in Figures 7 and 8 by 10-minute squares. A complete listing of selected environmental parameters for all SEAMAP surveys is shown in Table 2. In Table 2 under statistical zone, the 99 codes are stations located outside the shrimp statistical zones.

Additional environmental information (Secchi readings, Forel-Ule, cloud cover, etc.) may be obtained from the SEAMAP Information System by contacting the SEAMAP Data Manager.

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

TRAWL SURVEYS

Louisiana March Survey

LDWF conducted their seasonal day/night trawl survey in March 1988. Trawl station data can be found in Table 2 and the plankton/environmental locations can be found in Figure 3. A species composition listing from the trawls is presented in Table 3, ranked in order of abundance within the categories of finfish, crustaceans and other invertebrates.

Tables 4a-5a present the biological data, from 40-ft nets, of the eight most abundant fish, six most abundant invertebrates and squids within NMFS statistical zones 14 and 15 by depth stratum. Tables 4b-5b list the total catch and environmental data from the 40-ft nets within NMFS statistical zones 14 and 15 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.

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

Summer Shrimp/Bottomfish Survey

Shrimp and bottomfish sampling was conducted during June and July from off Gulf Shores, Alabama to Brownsville, Texas (Figure 19). The June-July Shrimp/Bottomfish Survey consisted primarily of biological trawl data and concomitant environmental and plankton data. A species composition listing from the 40-ft trawls is presented in Table 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 Table 6, 7 and 8, are displayed in plots of number/hour and lb/hour in Figures 21-60. 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 some of the species were taken are shown. During this time frame, the state of Florida did not participate in any survey activities.

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

Tables 20a-25a present the biological data from the 20-ft nets of the eight most abundant fish, six most abundant invertebrates and squid within NMFS statistical zones 17, 18, 19, 20, 21, and 22, by depth stratum. Tables 20b-25b present the total catch and environmental data from the 20-ft nets within the NMFS statistical zones listed above, by depth stratum.

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 March Survey catch rates.

As in the Louisiana March Survey, discrepancies in the "b" tables may have occurred.

Fall Shrimp/Groundfish Survey

The Fall Shrimp/Groundfish sampling was conducted during October through December from off Gulf Shores, Alabama to Brownsville, Texas (Figure 20). The October-December Fall Shrimp/Groundfish Survey consisted of biological trawl data and concomitant environmental and plankton data. A species composition listing from the 40-ft trawls is presented in Table 33, 20-ft trawls in Table 34 and 16-ft trawls in Table 35. The species list for Tables 33 to 35 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 33 to 35 are displayed in plots of number/hour and lb/hour in Figures 61 to 100. 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 some of the species were taken are shown. During this time frame, the state of Florida did not participate in any survey activities.

Tables 36a-46a 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, 11 and 13-21), by depth stratum. Tables 36b-46b list the total catch and environmental data from the 40-ft nets within each NMFS statistical zone listed above.

Tables 47a-52a present the biological data from the 20-ft net used by TPWD of the eight most abundant finfish, six most abundant invertebrates and squid within each NMFS shrimp statistical zones 17 through 22 for Texas. Tables 47b-52b present the total catch and environmental data from the 20-ft nets taken by the Texas vessels within each NMFS statistical zones listed above.

Tables 53a-58a 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 11, 12, 13, 14, 16 and 17, inside 10 fm. Tables 53b-58b present the total catch and environmental data from the 16-ft nets for those NMFS statistical zones listed above, inside 5 fm.

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

As in the Louisiana March 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 installed a data communications terminal aboard the NOAA Ship OREGON II. The terminal was designed to operate through the International Maritime Satellite

(INMARSAT) system located in geostationary orbit above the equator. This enabled personnel aboard the vessel to transmit daily catch rates and environmental data to the NMFS computer system located at the NMFS Mississippi Laboratories in Pascagoula.

Summarized data were distributed weekly to over 300 individuals during the June-July Shrimp/Bottomfish Survey. The summarized data in the form of computer plots and data listings was sent to management agencies and industry members. These plots showed station locations, catches of brown, pink and white shrimp in lb/hr and count/lb, and total finfish catch in lb/hr.

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 Survey. In 1986, the SEAMAP Subcommittee renewed its commitment for the collection of baseline plankton data. These ichthyoplankton samples are and will be used by researchers studying taxonomy, age and growth, bioenergetics and other life history aspects, as well as spawning biomass and recruitment. Information on species' relative distributions within the Gulf of Mexico can be analyzed with respect to environmental data to assess population abundance as a function of environmental change. In the same way, satellite data can be related to species distribution and changing conditions in the Gulf.

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

Much use has already been made of SEAMAP data. For example, during the past SEAMAP surveys an area of very low dissolved bottom oxygen was found off Louisiana in the summers of 1982, 1985, 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). SEAMAP ichthyoplankton data were also used to estimate spawning stock sizes of bluefin tuna in 1987 and 1988. 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 Gulf Council in January 1989. These reports were subsequently summarized by Klima et al. (1989), who reported on size and abundance of commercial shrimp collected by SEAMAP in 1988, and Nance et al. (1989), 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 Gulf Council voted to continue the Texas Closure in 1989.

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 1984).

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

Table 1. List of SEAMAP survey activities from 1982 to 1987.

SEAMAP SURVEY ACTIVITIES

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

Table 2. Selected environmental parameters measured during 1988 SEAMAP surveys in the Gulf of Mexico, by individual vessel and survey.

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LUMCON PELICAN

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
36251	3/28/88	1759	2835.1	9113.5	15	28	13	28	19.8	18.5	18.7	29.7	35.3	1.270	7.2	5.2	3.9	ST/PN	
36252	3/28/88	1904	2835.1	9113.5	15	28	14	28	19.6	18.5	18.7	29.5	35.1	35.8	1.564	7.1	5.9	3.8	ST
36253	3/28/88	2129	2830.1	9107.8	15	34	17	34	19.8	18.7	18.9	31.8	34.1	36.1	1.634	7.6	7.0	5.0	ST
36254	3/29/88	0124	2835.0	9042.1	14	19	10	19	19.3	18.5	18.1	29.4	30.1	34.6	1.177	8.2	7.5	3.1	ST/PN
36255	3/29/88	0243	2832.0	9043.1	14	26	12	26	19.6	17.8	18.7	30.1	33.8	35.9	2.619	8.5	4.2	2.6	ST
36256	3/29/88	0356	2827.8	9043.8	14	36	18	36	19.6	18.5	18.9	33.9	34.3	37.2	0.487	7.5	7.9	3.1	ST
36257	3/29/88	0745	2830.0	9107.2	15	34	16	34	19.4	18.6	18.8	31.7	33.8	36.0	2.408	7.8	7.3	4.6	ST/PN
36258	3/29/88	1137	2835.1	9041.9	14	20	10	20	19.6	17.8	18.3	29.5	33.6	34.8	1.822	8.2	4.3	3.2	ST/PN
36259	3/29/88	1316	2827.7	9043.9	14	36	13	36	20.0	19.7	18.9	32.5	33.8	36.1	0.428	7.0	6.9	4.1	ST/PN
36260	3/29/88	1443	2832.2	9043.2	14	26	13	26	19.8	18.1	18.7	29.9	34.3	36.0	1.501	8.2	4.1	2.8	ST/PN
36261	3/29/88	1840	2838.1	9018.2	14	27	14	27	20.6	18.6	18.6	29.4	35.8	36.0	14.034	11.7	2.7	3.0	ST
36262	3/29/88	2113	2852.2	9015.2	14	22	11	22	19.5	17.1	18.8	27.1	30.5	35.7	10.269	9.4	6.5	2.5	ST
36263	3/29/88	2300	2854.2	9008.6	14	24	13	24	19.8	17.0	18.8	25.5	31.0	35.6	15.796	9.3	6.4	2.4	ST
36264	3/30/88	0022	2859.3	9007.5	14	18	9	18	19.9	17.3	18.5	23.1	28.3	34.8	43.305	12.4	8.2	1.4	ST
36265	3/30/88	0300	2859.4	9026.3	14	10	4	10	20.2	20.2	18.7	23.6	23.6	27.4	53.276	12.3	12.3	6.7	ST
36266	3/30/88	0647	2838.3	9018.7	14	27	13	27	19.6	18.6	18.6	30.2	35.8	36.1	18.564	10.6	2.7	3.1	ST/PN
36267	3/30/88	0915	2852.7	9015.6	14	20	11	20	19.9	17.4	18.8	26.8	31.9	35.6	15.058	10.0	6.5	2.1	ST/PN
36268	3/30/88	1134	2854.0	9008.4	14	24	12	24	20.3	17.2	18.8	26.1	31.3	35.7	7.745	8.8	6.5	2.1	ST
36269	3/30/88	1315	2859.7	9007.6	14	16	9	16	20.0	17.1	18.5	23.4	29.0	34.8		11.9	7.9	1.5	ST/PN
36270	3/30/88	1631	2859.8	9026.2	14	9	3	9	21.6	20.7	18.7	27.3	23.3	23.2	37.590	11.5	11.8	6.2	ST/PN
36271	3/30/88	2030	2906.7	9001.9	14	13	7	13	21.9	19.3	18.3	22.1	24.0	33.9	34.859	11.5	8.3	1.2	ST
36272	3/30/88	2208	2910.8	9000.4	14	7	4	7	21.0	21.0	19.6	17.5	18.0	23.7	17.110	9.8	10.3	4.4	ST
36273	3/31/88	0725	2911.2	9000.7	14	6	3	6	21.1	21.1	21.2	16.7	16.7	16.8	22.019	12.1	8.8	8.5	ST/PN
36274	3/31/88	0929	2907.4	9001.1	14	13	6	13	20.8	20.9	18.4	22.0	22.7	34.2	33.529	12.0	11.1	0.9	ST/PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
47504	4/19/88	2247	3000.9	8659.7	10	66	33	65	20.4	19.7	17.2	33.8	36.4	36.4	0.080	5.5	5.0	4.6	PN
47505	4/20/88	0247	2930.0	8630.3	9	206	100	200	20.8	18.9	14.9	35.2	36.4	36.1	0.168	6.7	6.0	4.6	PN
47506	4/20/88	0840	2859.9	8600.1	99	200	100	200	19.7	17.5	15.0	35.5	36.4	36.1	0.050	7.2	6.9	4.5	PN
47507	4/20/88	1301	2830.1	8530.0	8	197	98	196	20.4	17.8	15.5	36.0	36.1		0.070	6.2	5.9	4.5	PN
47508	4/20/88	1829	2759.7	8500.0	6	251	100	200	22.5	19.2	14.6	36.4	36.5	36.1	0.068	6.6	5.4	4.5	PN
47509	4/20/88	2117	2729.9	8500.0	5	401	100	200	22.1	15.1	10.4	36.4	36.4	36.1	0.069	6.7	6.2	4.6	PN
47510	4/21/88	0049	2700.0	8459.5	5	750	100	200		19.9	15.0	36.4	36.6	36.1	0.072	6.3	5.6	4.4	PN
47511	4/21/88	0332	2629.8	8500.0	99	1700	101	200	25.2	20.1	16.2	36.4	36.6	36.5	0.101	6.2	6.0	5.4	PN
47512	4/21/88	0706	2600.0	8500.0	99	1000	73	145	24.8	22.2	19.3	36.3	36.5	36.5	0.093	6.2	6.4	4.9	PN
47513	4/21/88	0955	2559.9	8430.0	99	215	100	200	22.8	19.1	14.9	36.5	36.4	36.0	0.066	6.4	6.0	4.5	PN
47514	4/21/88	1317	2600.0	8400.1	4	135	67	133		19.7	17.7	36.5	36.6	36.3		6.4	6.4	4.7	PN
47515	4/21/88	1654	2530.1	8400.2	3	131	66	131	23.4	19.9	18.2	36.6	36.4	36.4	0.053	6.3	5.5	4.9	PN
47516	4/21/88	2056	2500.0	8400.1	3	122	60	120	22.6	18.8	17.7	36.5	36.5	36.5	0.100	6.0	6.4	4.9	PN
47517	4/22/88	0005	2430.1	8400.0	2	2012	100	200		21.9	17.5	36.3	36.8	36.6	0.037	7.1	6.1	4.6	PN
47518	4/22/88	0435	2430.1	8429.9	99	1000	100	200	26.7	22.1	17.4	36.2	36.5	36.4	0.074	6.0	6.3	4.8	PN
47519	4/22/88	0858	2430.4	8459.5	99	3395	100	200	23.7	20.3	14.7	36.4	36.4	36.0	0.047	6.3	5.9	4.3	PN
47520	4/22/88	1225	2500.0	8500.0	99	3300	100	200		18.9	14.6	36.5	36.4	35.9		5.7	5.3	3.8	PN
47521	4/22/88	1533	2500.0	8529.9	99	3300	100	200	26.0	19.2	15.9	36.8	36.3	36.2	0.063	5.7	6.0	4.1	PN
47522	4/22/88	1834	2500.0	8600.0	99	3300	100	200	26.5	22.1	17.7	36.5	36.6	36.5	0.036	5.5	5.8	4.1	PN
47523	4/22/88	2210	2529.9	8604.2	99	3200	100	200	26.0	25.0	21.6	36.3	36.3	36.9	0.027				PN
47524	4/23/88	0113	2529.9	8628.0	99	3250	100	200		25.1	22.9	36.4	36.2	36.9	0.126	5.8	5.7	4.8	PN
47525	4/23/88	0600	2600.0	8600.1	99	3220	100	200	26.0	25.6	22.4	36.2	36.2	36.9	0.046	5.7	5.7	4.7	PN
47526	4/23/88	0916	2630.0	8600.0	99	3200	100	200	26.2	45.0	22.5	36.2	36.2	36.9	0.032	6.0	6.1	4.9	PN
47527	4/23/88	1255	2700.0	8600.1	99	3200	100	200		25.3	21.5	36.3	36.2	37.0	0.045	5.8	5.9	4.7	PN
47528	4/23/88	1623	2729.7	8559.7	99	3142	100	200	26.7	21.2	17.2	36.3	36.5	36.5	0.037	5.8	6.4	4.4	PN
47529	4/23/88	2017	2800.1	8600.0	99	1000	100	200	24.1	18.8	14.8	36.5	36.4	36.0	0.056	6.6	5.9	4.6	PN
47530	4/23/88	2326	2830.1	8600.0	99	335	100	200		18.5	15.1	36.3	36.3	36.0	0.131	7.4	6.6	4.8	PN
47531	4/24/88	0348	2900.1	8630.1	99	383	100	200	22.0	18.7	14.6	35.2	36.5	36.1	0.125	6.5	5.1	4.1	PN

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
47532	4/24/88	0704	2859.9	8659.9	99	686	100	200	23.0	19.2	14.8	33.5	36.4	36.1	0.430	6.7	6.2	4.2	PN
47533	4/24/88	1010	2829.9	8700.0	99	860	100	200	22.9	19.8	14.6	33.9	36.6	35.9	0.134				PN
47534	4/24/88	1405	2800.0	8700.0	99	2850	100	200		19.2	14.7	36.7	36.5	36.0	0.056	5.9	5.6	4.1	PN
47535	4/24/88	1834	2730.0	8700.0	99	3065	100	200	25.9	21.1	16.5	36.3	36.5	36.4	0.119	6.8	6.8	5.5	PN
47536	4/24/88	2307	2700.1	8659.9	99	2950	100	200	26.3	25.8	20.0	36.3	36.2	36.8	0.036	6.7	6.4	5.6	PN
47537	4/25/88	0240	2630.0	8700.0	99	2965	100	200		24.9	23.7	36.3	36.4	36.8		6.6	6.7	5.9	PN
47539	4/25/88	0902	2600.2	8730.0	99	3150	100	200	26.1	25.9	22.3	36.2	36.2	36.9	0.049	6.7	6.6	5.4	PN
47540	4/25/88	1229	2559.9	8759.9	99	3020	100	200		25.6	20.7	36.3	36.2	36.9	0.037	6.4	6.6	5.6	PN
47541	4/25/88	1520	2629.5	8759.9	99	2500	100	187	27.1	20.8	19.0	36.3	36.5	36.5	0.075	6.6	7.2	6.2	PN
47542	4/25/88	1850	2700.0	8800.0	99	2754	100	200	25.2	17.7	13.0	36.6	36.5	35.7	0.062	6.8	5.2	4.7	PN
47543	4/25/88	2152	2659.8	8830.0	99	2560	100	200	24.2	16.7	11.1		36.5	35.5	0.048	6.8	5.1	4.5	PN
47544	4/26/88	0108	2659.9	8859.9	99	2380	100	200		17.2	12.2	36.2	36.4	35.7	0.068	6.8	5.2	4.6	PN
47545	4/26/88	0406	2630.0	8859.9	99	2869	100	200	24.3	19.5	14.1	36.6	36.5	35.9	0.072	6.9	5.3	4.7	PN
47546	4/26/88	0730	2600.0	8900.0	99	3114	100	200	23.3	19.6	15.4	36.7	36.4	36.1	0.079	7.3	7.4	4.5	PN
47547	4/26/88	1021	2600.0	8930.1	99	2930	100	200	23.3	19.4	15.3	36.6	36.4	36.2	0.137	6.9	6.8	4.8	PN
47548	4/26/88	1400	2600.1	8959.9	99	3100	100	200		18.9	14.5	36.6	36.4	36.1	0.122	7.0	6.5	4.7	PN
47549	4/26/88	1819	2630.0	9000.0	99	2745	100	200	24.3	19.5	14.3	36.6	36.4	36.0	0.043	7.1	6.9	4.5	PN
47550	4/26/88	2238	2659.9	9000.0	99	2450	100	200	23.9	19.5	14.5	36.4	36.6	35.9	0.094	7.0	5.8	4.7	PN
47551	4/27/88	0154	2700.1	9029.9	99	1450	100	200		19.0	14.6	36.5	36.5	36.0	0.055	6.5	6.1	4.0	PN
47552	4/27/88	0556	2700.0	9100.0	99	1665	160	200	23.3	18.3	14.7	36.6	36.4	36.0	0.069	6.7	5.1	4.3	PN
47553	4/27/88	0937	2630.0	9100.0	99	2105	100	200	23.1	19.4	14.5	36.6	36.4	36.0	0.062	6.5	6.2	3.2	PN
47554	4/27/88	1535	2600.0	9100.0	99	2750	100	200	23.7	18.9	13.1	36.6	36.4	35.8	0.048	6.6	6.0	3.7	PN
47555	4/27/88	1857	2559.9	9130.0	99	2342	100	200	23.5	19.6	14.5	36.4	36.5		0.056	6.8	6.7	3.8	PN
47556	4/27/88	2251	2559.9	9159.9	99	2200	100	200	24.2	20.1	15.9	36.8	36.4	36.2	0.027	6.1		3.3	PN
47557	4/28/88	0250	2629.9	9200.2	99	1850	100	200		19.3	15.3	36.4	36.5	36.1	0.053	6.5	3.9	3.1	PN
47558	4/28/88	0715	2700.0	9200.0	99	1500	100	200	23.5	19.6	14.7	36.8	36.5	36.0	0.075	6.5	4.1	3.1	PN
47559	4/28/88	1053	2659.9	9229.9	99	1445	100	200	23.6	19.7	15.4	36.0	36.3	36.1	0.049	6.6	6.0	3.3	PN
47560	4/28/88	1452	2700.0	9300.0	99	1225	100	200		20.7	16.1	36.9	36.7	37.3	0.034	6.3	6.2	4.8	PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
47561	4/28/88	1910	2630.0	9300.0	99	1683	100	200	24.5	20.9	17.7	37.0	36.5	36.4	0.048	6.3	6.7	3.6	PN	
47564	4/29/88	0655	2600.0	9400.0	99	2287	100	200	23.7	20.8	17.5	36.3	36.5	36.4	0.047	6.6	6.3	3.7	PN	
47565	4/29/88	1035	2630.1	9359.8	99	1460	100	200	23.7	21.5	15.8	36.2	36.5	36.2	0.093	6.7	6.5	3.7	PN	
47566	4/29/88	1532	2700.0	9400.1	99	990	100	200	22.7	18.5	12.2	35.9	36.7	35.6	0.133	6.9	5.6	3.4	PN	
47567	5/ 1/88	1311	2900.0	8800.2	11	1370	100	200		17.0	13.3	35.0	36.5	35.8	1.196	7.1	4.9	4.1	PN	
47568	5/ 1/88	1730	2930.0	8800.0	11	45	22	45	22.3	21.4	19.6	35.8	35.5	36.1	0.536	7.3	7.2	4.8	PN	
47569	5/ 4/88	0815	2930.2	8559.9	9	55	28	55	21.0	19.9	18.2	35.5	35.4	36.2	0.143	7.1	7.4	6.0	PN	
47570	5/ 4/88	1639	2849.9	8600.0	99	273	100	200	21.3	17.1	14.3	35.3	36.1	36.1	0.080	7.0	6.3	4.7	PN	
47574	5/ 5/88	1200	2829.8	8600.0	99	337	100	200	21.5	18.0	15.5	36.1	36.5	36.0		5.4	5.8	4.4	PN	
47580	5/ 6/88	1420	2800.0	8600.0	99	990	100	200	24.2	19.5	15.8	36.6	36.5	36.2		7.1	7.2	5.2	PN	
47591	5/13/88	0811	3000.0	8700.0	10	70	35	56	22.3	19.7	16.4	33.4	35.5	36.3	0.156	7.1	5.2	5.0	PN	
47592	5/13/88	1439	2929.9	8630.0	9	207	100	200	21.3	17.1	13.3	34.8	36.4	35.8	0.206	6.6	4.9	4.1	PN	
47593	5/14/88	0218	2900.0	8600.0	99	243	100	200	22.2	17.5	14.0	34.8	36.4	36.1	0.137	7.0	5.8	4.4	PN	
47594	5/14/88	0635	2831.7	8531.4	8	196	95	196	21.0	17.2	14.4	35.4	36.3	36.0	0.106	6.8	5.2	4.6	PN	
47595	5/14/88	1135	2800.2	8500.0	6	252	126	252	24.0	17.6	15.5	36.8	36.4	36.2	0.068	6.5	6.1	4.2	PN	
47596	5/14/88	1446	2729.9	8500.1	5	405	100	200	25.4	20.6	16.8	36.6	36.6	36.3	0.075	6.5	6.4	4.3	PN	
47597	5/14/88	1755	2700.0	8500.0	5	825	100	200	25.7	22.3	18.4	36.3	36.6	36.4	0.071	6.5	6.1	6.2	PN	
47598	5/14/88	2036	2630.3	8500.0	99	1800	100	200	25.9	23.2	18.5	36.5	36.4	36.6	0.056	8.2	8.3	8.0	PN	
47599	5/14/88	2336	2600.1	8500.1	99	3294	100	200	25.6	21.4	17.3	36.6	36.7	36.4	0.056	8.2	8.7	6.6	PN	
47600	5/15/88	0246	2600.0	8430.0	99	216	100	200	23.9	18.8	14.8	36.6	36.5	36.2	0.069	6.4	6.0	4.7	PN	
47601	5/15/88	0650	2600.1	8400.0	4	135	67	135	23.7	20.1	18.0	36.5	36.4		0.049	6.8	6.6	6.3	PN	
47602	5/15/88	1147	2530.1	8359.8	3	139	67	138	23.8	18.1	16.7	36.5	36.5	36.3	0.098	6.4	5.8	4.2	PN	
47603	5/15/88	1603	2459.9	8359.7	3	122	60	120	26.0	22.4	19.2	36.3	36.5	36.5	0.231	6.3	6.8	6.1	PN	
47604	5/15/88	1930	2430.0	8400.3	2	1925	100	200	27.0	24.9	19.2		36.6	36.7	0.062	8.1	7.1	6.5	PN	
47605	5/16/88	0001	2430.2	8429.8	99	3422	100	200	27.1	23.9	19.1	36.5	36.9	36.7	0.027	8.2	7.0	6.7	PN	
47606	5/16/88	0342	2430.2	8500.0	99	3400	100	200	27.4	23.8	18.2	36.5	37.0	37.2	0.064	6.5	5.4	5.3	PN	
47607	5/16/88	0732	2500.0	8459.9	99	3350	100	200	27.1	22.2	17.7	36.2	36.5			6.4	5.2	5.5	PN	
47608	5/16/88	1107	2500.3	8530.0	99	3303	100	200	27.2	22.4	17.3	36.3	37.0	36.5	0.089	6.3	5.4	5.4	PN	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
47609	5/16/88	1451	2459.9	8600.3	99	3300	100	200	27.2	22.4	17.4	36.5	36.9	36.5	0.063	7.9	7.0	6.7	PN
47610	5/16/88	1902	2529.9	8559.9	99	3100	100	200	26.3	25.6	21.5	36.3	36.2	36.8	0.047	6.6	6.6	5.8	PN
47611	5/16/88	2225	2530.2	8628.0	99	3257	100	200	26.2	25.4	22.6	36.3	36.3	36.3		6.6	6.5	6.4	PN
47612	5/17/88	0349	2600.0	8600.0	99	3240	100	200	25.6	25.6	23.1	36.2	36.3	37.0	0.027	7.3	7.3	6.0	PN
47613	5/17/88	0735	2630.0	8600.0	99	3200	100	200	26.0	25.7	23.1		36.2	36.9	0.019	6.6	6.6	5.4	PN
47614	5/17/88	1224	2659.9	8559.9	99	3203	100	200	25.9	25.2	20.0	36.3	36.5	36.8	0.047	6.6	6.2	5.3	PN
47615	5/17/88	1613	2730.0	8559.9	99	3240	100	200	23.7	19.8	15.8	35.1	36.5	36.2	0.080	6.9	6.5	4.8	PN
47616	5/17/88	2017	2800.0	8600.0	99	1000	100	200	24.8	18.8	14.2	36.0		35.9	0.075	7.2			PN
47617	5/18/88	2358	2829.9	8559.8	99	337	100	200	26.3	19.6	14.7	36.5	36.5	36.0	0.062	7.2	6.9	4.5	PN
47618	5/18/88	0508	2900.0	8630.0	99	380	100	200	24.1	19.0	14.7	34.7	36.4	36.0	0.070	8.3	6.6	5.5	PN
47619	5/18/88	0859	2900.1	8700.0	99	700	100	200	23.6	17.7	14.8	35.6	36.2	36.0	0.125	7.2	5.8	4.5	PN
47620	5/18/88	1236	2830.0	8700.2	99	871	100	200	24.7	18.9	14.3	36.6	36.6	35.9	0.062	6.8	5.0	4.2	PN
47621	5/18/88	1640	2759.9	8700.1	99	2870	100	200	24.9	17.2	12.1	36.5	36.3	35.6		6.8	4.8	4.4	PN
47622	5/18/88	1512	2729.9	8659.9	99	3055	100	200	24.6	19.0	13.0	36.4	36.5	35.7	0.068	6.6	4.8	4.6	PN
47623	5/19/88	0017	2700.0	8659.8	99	2946	100	200	26.2	21.6	18.2	36.4	36.6	36.5	0.122	6.6	6.9	4.9	PN
47624	5/19/88	0402	2630.0	8700.0	99	880	100	200	26.1	25.4	22.6	36.3	36.2	36.9		6.8	6.8	5.4	PN
47626	5/19/88	1055	2600.0	8729.9	99	3148	100	200	26.2	25.8	23.9	36.2	36.2	36.8	0.067	6.3	6.5	5.2	PN
47627	5/19/88	1432	2600.0	8800.0	99	3040	100	200	26.2	25.7	22.9		36.2	37.0	0.131	6.6	6.6	5.4	PN
47628	5/19/88	1738	2629.9	8800.0	99	2710	100	200	26.3	24.9	22.3	36.3	36.3	36.9	0.027	6.5	6.6	5.3	PN
47629	5/19/88	2145	2700.3	8758.8	99	2745	100	200	26.5	28.1	25.4	36.3	36.5	36.7	0.056	6.7	6.3	5.8	PN
47630	5/20/88	0208	2700.0	8829.9	99	2560	100	200	26.4	22.8	18.9	36.4	36.8	36.8		6.5	5.7	5.0	PN
47631	5/20/88	0626	2700.0	8900.0	99	2345	100	200	26.9	21.7	18.4	36.4	36.5	36.5		6.6	6.6	5.2	PN
47632	5/20/88	1031	2630.3	8900.0	99	2892	100	200	27.1	21.6	17.8	36.3	36.6	36.6	0.041	6.5	6.5	5.3	PN
47633	5/20/88	1600	2600.3	8900.1	99	3110	100	200	27.3	22.0	17.8	36.4	36.6	36.8	0.035	6.5	6.6	5.4	PN
47634	5/20/88	1920	2600.0	8930.0	99	3110	102	200	26.7	20.2	15.3	36.4	36.5	36.1		6.6	6.3	4.7	PN
47635	5/20/88	2316	2559.9	8959.9	99	2910	100	200	26.0	20.1	15.3	36.4	36.6	36.2	0.034	6.5	6.0	4.1	PN
47636	5/21/88	0249	2630.1	8959.9	99	2750	100	200	26.3	20.8	15.5	36.6	36.6	36.2		6.6	6.8	4.7	PN
47637	5/21/88	0637	2700.1	8959.9	99	2290	100	200	24.9	19.2	14.8	36.3	36.4	36.2	0.056	6.5	5.2	4.5	PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
47638	5/21/88	1003	2659.9	9029.9	99	1538	100	200	24.6	19.0	14.8	36.3	36.5	36.0	0.079	6.9	6.2	4.8	PN
47639	5/21/88	1353	2700.0	9100.0	99	1650	100	200	24.6	19.4	14.6	36.6	36.4	36.4	0.143	6.7	6.8	4.2	PN
47640	5/21/88	1755	2629.9	9059.9	99	2140	100	200	24.8	19.3	14.5	36.4	36.4	35.9	0.064	6.9	6.7	4.0	PN
47641	5/21/88	2231	2600.1	9100.1	99	3203	100	200	25.0	19.0	13.9	36.3	36.5	35.9	0.080	6.7	6.3	4.3	PN
47642	5/22/88	0141	2600.1	9130.0	99	2380	100	200	24.8	19.1	14.4	36.4	36.4	36.0	0.053	6.9	6.7	4.1	PN
47643	5/22/88	0519	2600.0	9200.0	99	2210	100	200	25.1	19.5	15.2	36.5	36.4	36.1	0.089	7.0	7.0	4.3	PN
47644	5/22/88	0930	2630.2	9200.2	99	1812	100	200	25.0	19.6	15.3	36.2	36.6	36.2	0.062	6.9	6.6	5.1	PN
47645	5/22/88	1415	2700.0	9159.8	99	1630	100	200	24.3	19.5	14.9	36.2	36.5	36.0	0.093	6.8	5.6	4.8	PN
47646	5/22/88	1659	2659.9	9229.9	99	1372	100	200	25.2	19.8	14.8	36.2	36.4	36.0	0.178	6.5	5.3	4.0	PN
47647	5/22/88	2020	2700.0	9258.3	99	1170	100	200	25.2	18.5	13.2	35.3	36.3	35.7	0.094	6.6	5.3	4.0	PN
47648	5/22/88	2317	2629.9	9259.8	99	1867	100	200	25.3	19.1	13.0	35.3	36.4	35.7	0.066	7.0	6.6	3.9	PN
47650	5/23/88	0500	2559.7	9329.9	99	3100	100	200	25.4	21.6	17.0	36.5	36.4	36.2	0.040	6.8	6.7	4.6	PN
47651	5/23/88	0920	2600.0	9400.2	99	3166	100	200	25.3	21.9	18.2	36.6	36.5	36.4	0.134	6.7	6.8	4.7	PN
47652	5/23/88	1227	2630.0	9359.9	99	1555	100	200	25.2	22.0	17.1	36.6	36.5	36.4	0.040	6.9	6.7	4.8	PN
47653	5/23/88	1619	2700.6	9359.9	99	980	100	200	26.1	21.0	16.3	36.6	36.5	36.3	0.047	6.6	5.5	4.2	PN
47654	5/23/88	2022	2730.0	9329.9	99	549	100	200	25.5	18.8	14.8	35.7	36.4	36.0	0.089	7.0	6.5	4.3	PN
47655	5/24/88	0058	2759.9	9259.9	17	104	52	103	25.1	20.6	18.5	35.7	36.2	36.4	0.061	6.6	7.4	5.0	PN
47656	5/24/88	0348	2759.9	9230.0	16	104	52	103	24.7	20.6	18.5	36.0	36.5	36.4	0.072	6.9	7.4	5.7	PN
47657	5/24/88	0718	2800.0	9159.9	16	118	59	118	24.6	19.2	17.6	35.9	36.3	36.3	0.106	7.1	7.1	5.1	PN
47658	5/24/88	1036	2759.9	9130.0	15	165	82	164	24.5	18.8	15.5	35.8	36.4	36.0		6.7	6.9	4.5	PN
47659	5/24/88	1428	2800.2	9100.1	15	145	72	144	24.4	19.6	16.5	36.2	36.4	36.3	0.125	6.8	7.1	4.7	PN
47660	5/24/88	1742	2800.0	9030.0	14	308	100	200	24.5	18.3	13.8	36.3	36.5	35.9	0.098	6.9	5.4	4.7	PN
47661	5/24/88	2134	2759.9	9000.0	14	549	100	200	24.6	18.5	14.6	36.3	36.5	36.1	0.078	6.9	6.1	4.9	PN
47662	5/25/88	0124	2800.1	8929.9	99	980	100	200	24.7	19.9	16.6	36.4	36.6	36.3	0.083	7.0	6.3	5.1	PN
47663	5/25/88	0522	2800.1	8859.9	99	1280	100	200	24.1	20.5	16.8	35.7	36.5	36.3	0.101	6.6	6.1	4.7	PN
47664	5/25/88	0904	2800.0	8830.0	99	2105	100	200	24.3	19.4	15.1	36.0	36.5		0.061	6.6	5.8	4.4	PN
47665	5/25/88	1315	2800.1	8759.9	99	2415	100	200	24.4	15.8	11.9	35.0	36.1	35.8	0.424	6.7	4.3	4.0	PN
47666	5/25/88	1922	2830.0	8800.0	99	2250	100	200	24.6	18.6	14.5		36.5	36.0	0.116	6.6	4.9	4.3	PN

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
 SEAMAP ENVIRONMENTAL DATA
 OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
47667	5/26/88	0024	2900.0	8800.1	11	1534	100	200	24.4	18.3	15.4	35.7	36.5	36.1	0.075	6.6	5.4	4.5	PN
47668	5/26/88	0401	2930.0	8800.0	11	42	21	41	22.9	22.6	20.2	35.6	36.1	36.4	0.467	7.8	7.7	6.5	PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
HERNAN CORTEZ II

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00001	5/ 2/88	1415	2929.6	8430.0	7	21	8	16	20.7	20.2	20.1	35.4	36.0	35.7	0.470	6.7	7.3	7.3	PN
00002	5/ 2/88	1812	2924.5	8500.1	8	13	4	8	20.6	20.1	19.9	36.0	35.6	35.6	1.043	6.7	7.5	6.3	PN
00003	5/ 2/88	2145	2900.0	8500.0	8	36	16	31	19.7	19.3	18.4	35.1	35.9	36.3	0.590	7.1	7.5	6.5	PN
00004	5/ 3/88	0140	2900.0	8429.5	7	29	12	24	19.7	19.8	19.2	36.2	36.1	36.1	0.510	6.9	7.5	7.1	PN
00005	5/ 3/88	0910	2830.1	8459.6	8	67			22.0			36.8			0.357	6.8			PN
00006	5/ 3/88	1350	2800.0	8459.6	6	238			22.5			36.4			0.187	6.8			PN
00007	5/ 3/88	2015	2729.6	8429.6	5	125	60	120	22.1	18.9	18.0	36.5	36.6	36.7	0.205	6.8	6.4	5.4	PN
00008	5/ 4/88	0043	2700.0	8429.6	5	165	80	160	22.0	19.1	17.1		36.6	36.5	0.230	6.6	6.3	4.9	PN
00009	5/ 4/88	0455	2630.1	8430.1	99	188	92	183	22.7	19.7	16.8	36.7	36.4	36.2	0.160	6.4	6.0	4.8	PN
00010	5/ 4/88	0945	2559.6	8429.6	99	195			25.0						0.130	6.1			PN
00011	5/ 4/88	1400	2529.5	8430.1	99	387	100	200	24.2	18.2	14.7	36.4	36.6	36.1	0.133	6.3	5.0	5.0	PN
00012	5/ 4/88	1832	2500.0	8430.0	99	1031	100	200	26.2	18.8	15.9	36.3	36.4	36.1	0.137	5.8	5.5	4.8	PN
00013	5/ 5/88	0255	2430.1	8329.6	2	439	100	200	26.8	25.0	12.6	36.3	36.6	35.7	0.120	6.1	5.4	4.9	PN
00014	5/ 6/88	1415	2559.4	8359.6	3	122	58	116	26.2	20.3	19.1	36.7	36.6	36.5	0.110	6.2	6.2	5.3	PN
00015	5/ 6/88	1910	2630.1	8359.6	4	113	54	108	22.6	20.7	18.8	36.4	36.5	36.4	0.145	6.2	6.6	5.6	PN
00016	5/ 7/88	0033	2659.5	8400.0	5	73	34	68	21.6	21.3	19.0	36.4	36.4	36.4	0.220	6.4	6.3	6.0	PN
00017	5/ 7/88	0506	2730.0	8400.1	5	55	25	50	20.5	20.0	18.6	36.1	36.1	36.3	0.270	6.5	6.7	7.1	PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
ARANSAS BAY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX		
31001	6/ 2/88	0808	2749.6	9702.3	20	6	3	6	26.9	26.9	26.9				0.174	5.8	6.0	6.0	ST	
31002	6/ 2/88	0847	2750.6	9700.6	20	12	6	12	26.1	26.0	26.0				0.116	6.4	6.4	6.3	ST	
31003	6/ 2/88	0925	2751.5	9658.6	20	13	7	13	26.0	25.9	26.1				0.099	6.5	6.6	6.5	ST	
31004	6/ 2/88	1008	2753.6	9656.6	20	13	7	13	26.0	25.8	25.9				0.105	6.5	6.6	6.2	ST	
31005	6/ 2/88	1047	2755.5	9654.6	20	14	7	14	26.2	25.8	25.9				0.097	6.5	6.8	6.0	ST	
31006	6/ 2/88	1138	2758.4	9651.6	20	14	7	14	26.6	25.9	25.9				0.103	6.3	6.4	6.3	ST	
31007	6/ 2/88	1230	2753.5	9652.6	20	18	9	18	26.2	25.5	25.8				0.146	6.3	6.1	6.2	ST	
31008	6/ 2/88	1313	2751.7	9655.4	20	17	8	17	26.4	25.6	25.7				0.079	6.5	6.4	5.8	ST	
31009	6/23/88	0738	2745.4	9706.1	20	5	2	5	31.8	31.7	31.2				1.871	5.4	5.5	5.2	ST	
31010	6/23/88	0905	2738.7	9708.4	20	14	7	14	31.3	31.1	31.1				0.162	5.4	5.3	5.3	ST	
31011	6/23/88	0935	2738.4	9707.5	20	15	7	15	31.6	31.4	31.5				0.093	5.6	5.4	5.5	ST	
31012	6/23/88	1017	2739.4	9704.5	20	17	8	17	31.8	31.4	31.5				0.178	5.6	5.4	5.6	ST	
31013	6/23/88	1047	2739.3	9703.7	20	19	9	19	31.5	30.8	30.8				0.145	5.5	5.3	5.4	ST	
31014	6/23/88	1140	2743.5	9702.6	20	16	8	16	31.6	31.4	31.6				0.232	5.7	5.5	5.4	ST	
31015	6/23/88	1234	2745.4	9701.7	20	16	8	16	31.7	31.3	31.5				0.181	5.7	5.6	5.8	ST	
31016	6/23/88	1420	2748.4	9701.7	20	10	5	10	32.0	31.4	31.8				0.194	5.7	5.7	5.9	ST	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
MATAGORDA BAY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
32001	6/ 3/88	1020	2823.5	9615.4	19	15	7	14	26.6	26.2	25.3				0.523	7.5			ST	
32002	6/ 3/88	1126	2820.7	9612.5	19	19	10	18	25.1	25.7	25.1				0.110	7.6	7.8		ST	
32003	6/ 3/88	1232	2822.6	9611.6	19	18	9	17	25.6	25.3	25.8				0.238	7.4	7.5		ST	
32004	6/ 3/88	1333	2824.6	9607.5	19	17	8	16	25.4	25.3	24.9					7.5	7.6		ST	
32005	6/ 3/88	1435	2827.4	9603.5	19	15	8	14	25.1	24.9	25.0				0.123	7.5	7.7		ST	
32006	6/ 3/88	1534	2830.6	9607.3	19	10	5	9	27.0	25.6	25.3				0.698	7.3	7.5	7.6	ST	
32007	6/ 3/88	1712	2825.4	9612.6	19	13	6	12	27.3	26.1	24.7				0.623	7.2	7.4	7.7	ST	
32008	6/ 3/88	1825	2827.0	9616.5	19	3	1	2	26.1	26.0	26.1				0.536	7.6	7.6	7.4	ST	
32009	6/22/88	0753	2824.6	9617.4	19	10	5	9	27.7	27.8	28.3				0.598	6.1	9.9	14.1	ST	
32010	6/22/88	0920	2819.4	9619.7	19	16	8	15	27.5	27.8	28.5				0.336	6.1	9.0	10.0	ST	
32011	6/22/88	1018	2818.5	9619.4	19	18	9	17	27.5	27.6	30.0				0.319	10.0	11.0	8.0	ST	
32012	6/22/88	1126	2817.5	9616.6	19	21	10	20	27.5	27.3	29.0				0.424	11.0	10.0	10.0	ST	
32013	6/22/88	1225	2816.5	9615.5	19	12	6	11	27.4	29.2	29.2				0.199	12.0	9.0	9.0	ST	
32014	6/22/88	1332	2815.4	9619.5	19	21	10	20	27.9	26.8	28.1				0.344	11.0	9.0	8.0	ST	
32015	6/22/88	1436	2811.4	9620.4	19	23	13	22	27.8	27.7	27.8				0.224	9.0	9.0	9.0	ST	
32016	6/22/88	1605	2818.4	9626.7	19	4	2	3	29.2	29.2	29.2				0.374	6.4	6.4	6.5	ST	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LAGUNA MADRE

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
33001	6/14/88	0820	2603.4	9707.6	21	14	7	14	27.6	28.1	28.1				0.071	2.3	2.3	2.5	ST
33002	6/14/88	0900	2603.2	9706.6	21	17	9	17	27.6	27.6	27.5				0.030	2.3	4.3	4.5	ST
33003	6/14/88	0938	2603.1	9705.9	21	19	10	19	27.4	27.3	27.2					3.5	4.8	5.4	ST
33004	6/14/88	1135	2559.2	9702.7	22	24	12	24	27.8	27.5	27.2				0.029	5.3	5.6	5.8	ST
33005	6/14/88	1230	2602.3	9659.6	21	30	15	30	27.2	27.0	26.9				0.016	7.5	7.0	6.9	ST
33006	6/14/88	1340	2609.3	9701.6	21	24	12	24	27.4	27.3	27.3				0.022	7.1	6.7	6.7	ST
33007	6/14/88	1417	2609.4	9702.5	21	23	12	23	27.7	27.5	27.4					7.1	6.8	6.8	ST
33008	6/14/88	1550	2607.2	9709.5	21	8	4	8	28.3	28.3	28.3				0.093	7.8	7.5	7.4	ST
33009	6/22/88	0824	2609.2	9708.6	21	15	7	15	27.9	28.2	28.2				0.056	7.2	7.2	7.1	ST
33010	6/23/88	0842	2613.4	9701.6	21	25	12	25	27.5	27.6	27.0					7.8	7.3	7.1	ST
33011	6/23/88	0926	2617.4	9702.4	21	22	11	22	27.6	27.7	27.0					7.9	7.5	7.3	ST
33012	6/23/88	1015	2619.7	9706.5	21	18	9	18	27.5	27.6	27.6					7.9	7.5	7.1	ST
33013	6/23/88	1058	2618.4	9707.5	21	17	8	17	28.0	27.8	27.8				0.022	7.2	7.1	6.9	ST
33014	6/23/88	1135	2617.3	9708.5	21	16	8	16	28.1	28.0	28.0					7.7	7.4	7.2	ST
33015	6/23/88	1210	2619.2	9709.6	21	16	8	16	28.5	28.1	28.1				0.034	8.1	7.6	7.3	ST
33016	6/23/88	1255	2615.8	9710.5	21	9	5	9	29.2	28.9	28.9				0.045	8.0	7.5	7.5	ST

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
GALVESTON BAY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
34001	6/ 3/88	0852	2922.6	9437.8	18	10	5	10	26.4	26.4	26.4				3.140	7.9	8.1	8.2	ST
34002	6/ 3/88	0921	2923.8	9437.5	18	9	4	9	26.4	26.1	25.7				3.535	7.9	7.3	7.1	ST
34003	6/ 3/88	1009	2921.3	9431.8	18	13	6	12	26.4	25.9	25.5				3.215	8.0	7.7	7.1	ST
34004	6/ 3/88	1104	2928.4	9430.3	18	8	4	8	26.6	26.2	25.9				1.944	8.3	8.1	7.3	ST
34005	6/ 3/88	1138	2927.6	9433.8	18	7	3	7	26.6	26.2	26.1				2.916	8.1	7.7	6.7	ST
34006	6/ 3/88	1205	2926.7	9434.4	18	8	4	8	26.8	26.3	25.9				1.741	8.1	7.9	6.9	ST
34007	6/ 3/88	1225	2926.4	9436.9	18	7	3	7	26.9	26.3	26.1				1.645	7.9	7.7	5.7	ST
34008	6/ 3/88	1302	2925.6	9435.2	18	9	4	8	27.3	26.4	25.9				1.591	8.1	8.2	7.0	ST
34009	6/21/88	0820	2921.2	9436.8	18	11	5	10	27.5	27.5	27.2	29.9	30.0	30.1	0.854	6.6	6.6	5.1	ST
34010	6/21/88	0902	2918.5	9436.5	18	13	6	12	27.5	27.2	26.8	29.7	29.9	30.4	0.673	6.5	6.1	4.9	ST
34011	6/21/88	0951	2913.1	9437.9	18	16	8	16	27.3	27.2	26.6	30.8	30.9	31.1	0.652	6.6	6.6	5.0	ST
34012	6/21/88	1029	2912.7	9441.4	18	16	8	16	27.4	27.3	26.5	30.9	31.2	31.1	0.657	6.6	6.5	4.4	ST
34013	6/21/88	1115	2912.5	9447.0	18	13	7	13	27.6	27.4	27.4	30.4	30.3	30.7	0.801	6.6	7.4	6.2	ST
34014	6/21/88	1152	2913.7	9450.5	18	10	5	9	28.1	27.7	27.7	30.4	30.4	30.4	1.794	6.6	6.2	6.2	ST
34015	6/21/88	1232	2914.4	9447.9	18	10	5	10	27.9	27.6	27.5	30.3	30.3	30.3	0.972	6.6	6.5	6.4	ST
34016	6/21/88	1301	2915.8	9447.4	18	9	4	8	28.1	27.9	27.7	30.2	30.2	30.3	0.844	6.7	6.7	6.4	ST

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
SABINE

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
40001	6/ 2/88	0906	2936.6	9351.6	17	7	4	7	22.4	22.0	23.7				3.476	10.4	9.0	9.2	ST
40002	6/ 2/88	0949	2935.2	9350.6	17	10	5	10	22.9	25.6	25.2				1.981	9.9	8.0	8.4	ST
40003	6/ 2/88	1033	2935.7	9353.4	17	8	4	8	26.4	25.9	25.8				2.168	8.9	8.2	8.6	ST
40004	6/ 2/88	1120	2933.5	9356.5	17	11	6	11	25.3	24.8	25.2				1.925	8.8	8.5	7.3	ST
40005	6/ 2/88	1203	2937.8	9356.5	17	6	3	6	26.2	25.3	25.8				2.037	9.0	9.1	8.8	ST
40006	6/ 2/88	1250	2937.6	9300.6	17	6	3	6	23.2	22.3	20.4				1.327	8.9	8.4	9.3	ST
40007	6/ 2/88	1333	2939.6	9357.0	17	4	2	4	26.5	26.2	24.8				1.607	9.1	9.3	8.6	ST
40008	6/ 2/88	1410	2940.8	9358.8	17	3	2	3	25.2	25.4	25.6				1.738	9.2	9.3	10.0	ST
40009	6/16/88	0830	2937.3	9349.5	17	7	4	7	26.3	26.6	26.2				0.339	7.2	6.9	8.1	ST
40010	6/16/88	0910	2939.4	9349.4	17	7	4	7	25.9	25.1	24.8				0.247	7.6	7.8	7.9	ST
40011	6/16/88	0954	2939.5	9347.6	17	7	4	7	25.9	25.5	26.4				0.123	8.3	8.4	9.8	ST
40012	6/16/88	1043	2936.4	9343.6	17	10	5	10	24.1	26.8	26.8				0.056	9.1	7.7	7.9	ST
40013	6/16/88	1145	2939.5	9337.6	17	8	4	8	26.9	25.7	25.1				0.083	7.9	8.0	7.9	ST
40014	6/16/88	1226	2940.5	9337.5	17	8	4	8	27.6	27.1	26.8				0.090	7.9	7.6	7.1	ST
40015	6/16/88	1418	2943.5	9338.6	17	4	2	4	28.9	27.3	27.1				0.120	7.7	7.6	7.2	ST
40016	6/16/88	1455	2944.2	9338.6	17	2	1	2	29.4	27.7	26.5				0.157	8.2	8.6	8.7	ST

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₂ , ³ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
17001	6/11/88	1102	3002.8	8829.2	11	19	9	18	24.7	24.7	23.8				6.8	6.7	6.2	ST	
17002	6/11/88	1239	3000.1	8821.2	11	25	12	24	24.7	24.3	19.8				6.5	6.3	4.6	ST	
17003	6/11/88	1500	2954.6	8834.6	11	24	12	23	24.5	24.8	22.9				6.8	6.7	5.8	ST	
17004	6/11/88	1718	2955.2	8844.1	11	14	7	13	25.3	25.0	24.3				6.8	6.6	6.4	ST	
17005	6/11/88	2041	2944.3	8843.8	11	15	7	14	24.9	24.7	24.5				6.4	6.5	6.6	ST	
17006	6/11/88	2231	2945.5	8834.2	11	27	13	26	24.1	22.8	19.5				7.0	6.8	5.5	ST	
17007	6/12/88	1037	2939.6	8850.4	11	12	6	12	25.0	25.0	25.0				6.4	6.3	6.3	ST	
17008	6/12/88	1245	2943.1	8846.6	11	13	6	12	25.2	25.1	25.0				6.7	6.5	6.5	ST	
17009	6/12/88	1521	2941.2	8835.7	11	24	12	23	24.3	24.3	19.7				6.7	6.5	4.2	ST	
17010	6/12/88	1724	2937.0	8830.0	11	41	20	40	24.3	19.9	18.9				6.5	4.6	3.7	ST	
17011	6/12/88	2035	2938.5	8834.7	11	24	12	23	24.3	23.5	19.7				6.7	6.6	5.3	ST	
17012	6/12/88	2203	2941.3	8834.3	11	24	12	23	24.0	24.0	19.5				6.8	6.2	5.0	ST	
17013	6/13/88	1026	2952.9	8809.6	11	34	17	33	24.2	24.0	19.5				6.7	6.5	4.7	ST	
17014	6/13/88	1246	2957.6	8802.9	11	29	14	28	24.2	24.3	19.5				6.7	6.5	4.2	ST	
17015	6/13/88	1417	3000.0	8800.0	11	19	9	18	24.5	24.5	24.0				5.8	6.0	6.0	PN	
17016	6/13/88	1732	3000.0	8830.0	11	25	12	24	25.0	25.0	24.3				6.4	6.4	6.2	PN	
17017	6/13/88	2032	3008.9	8828.6	11	11	5	10	24.7	24.5	24.7				6.4	6.2	6.3	ST	
17018	6/14/88	0002	3007.0	8850.6	11	12	6	11	25.2	25.2	25.2				6.4	6.3	6.2	ST	
17026	7/ 8/88	0352	2934.9	8840.5	11	20	10	19	27.1	26.4	24.2				6.2	5.8	4.3	ST	
17019	7/ 8/88	0845	3002.4	8848.0	11	11	5	10	27.0	27.0	27.0				7.2	7.1	7.4	ST	
17020	7/ 8/88	1211	3000.4	8830.0	11	24	12	23	26.8	26.4	23.5				7.7	7.9	7.6	PN	
17021	7/ 8/88	1500	2945.7	8838.8	11	20	10	19	27.7	27.2	23.4				7.7	7.4	4.5	ST	
17022	7/ 8/88	1642	2946.6	8843.0	11	16	8	15	27.8	27.5	27.4				7.7	7.7	7.4	ST	
17023	7/ 8/88	2000	2950.0	8844.5	11	12	6	11	27.0	27.0	27.0				6.1	6.2	6.0	ST	
17024	7/ 8/88	2229	2936.6	8848.8	11	12	5	10	27.2	27.0	27.0				6.1	6.1	6.1	ST	
17025	7/ 9/88	0118	2936.8	8847.2	11	14	7	13	27.3	27.0	27.0				6.2	6.1	6.3	ST	
17027	7/ 9/88	0655	2930.2	8830.0	11	50	25	49	26.0	21.0	20.0				6.0	6.3	5.8	PN	
17028	7/ 9/88	1128	2930.0	8800.0	11	42	20	40	27.0	27.0	23.0				6.0	6.0	6.3	PN	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
17029	7/ 9/88	1445	2928.8	8743.0	99	67	33	65	27.2	20.4	19.5					5.7	4.5	4.7	ST
17030	7/ 9/88	1842	2932.2	8748.5	10	43	21	42	27.0	25.0	21.0					6.3	6.1	6.0	ST
17031	7/ 9/88	2211	2942.3	8731.6	10	39	20	38	27.2	23.0	20.0					6.3	6.5	5.0	ST
17032	7/10/88	0030	2942.7	8735.3	10	35	17	34	26.9	23.2	20.8					6.2	6.4	5.1	ST
17033	7/10/88	0451	2945.9	8800.2	11	32	16	31	27.1	26.1	20.4					6.4	6.3	5.3	ST
17034	7/10/88	0816	2948.5	8814.2	11	35	17	34	27.0	24.0	21.0					6.0	6.7	6.0	ST
17035	7/10/88	1114	2952.3	8811.1	11	34	17	33	27.0	27.0	20.0					6.2	5.4	6.0	ST
17036	7/10/88	1313	2956.7	8803.3	11	31	15	30	27.4	26.1	21.2					5.7	5.6	4.3	ST
17037	7/10/88	1428	3000.0	8830.0	11	21	10	20	28.1	27.2	26.8					5.5	5.6	5.6	PN
17038	7/10/88	1600	3003.9	8754.1	10	15	7	14	28.3	27.6	27.4					5.7	5.5	5.6	ST
17039	7/10/88	1721	3008.5	8748.3	10	13	6	12	28.1	27.5	27.4					5.7	5.7	5.7	ST
17040	7/10/88	1900	3012.4	8738.1	10	8	4	7	27.5	27.0	27.0					5.4	5.4	5.4	ST
17041	7/10/88	2120	3004.5	8748.0	10	22	11	21	27.5	27.0	25.0					6.2	6.1	6.0	ST
17042	7/11/88	0053	3001.2	8808.2	11	23	11	21	27.5	26.9	24.7					6.3	6.1	5.7	ST
17043	7/11/88	0306	2959.4	8813.0	11	29	14	28	27.3	26.1	21.4					6.2	6.3	4.0	ST
17044	7/11/88	0914	3004.2	8813.4	11	19	9	18	27.0	27.0	27.0					5.3	5.3	5.3	ST
17045	7/11/88	1643	3000.4	8824.3	11	26	13	25	28.4	27.0	22.8					5.6	5.5	4.9	ST
17046	7/11/88	2000	3003.9	8828.3	11	16	8	15	28.0	27.5	27.0					5.3	5.2	5.1	ST
17047	7/11/88	2218	3011.4	8836.6	11	10	5	9	27.0	27.0	27.0					5.6	5.6	4.4	ST

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION LAT LONG		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
							MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
47732	6/13/88	2131	3004.7	8806.0	11	23	11	23	25.3	25.3	23.2	34.2	34.2	35.1	0.358	5.9	5.9	3.5	ST	
47734	6/14/88	0003	3007.6	8803.8	11	21	10	20	25.3	25.3	24.5	34.0	34.0	34.3	0.393	6.2	6.2	4.9	ST	
47736	6/14/88	0208	3009.5	8801.6	11	16	8	16	25.2	25.2	25.3	33.6	33.7	33.7	0.991	6.7	6.8	6.7	ST	
47738	6/14/88	0518	3006.6	8745.9	10	15	7	15	25.1	25.1	25.1	34.5	34.5	34.5	0.000	6.8	6.8	6.6	ST	
47740	6/14/88	0818	3004.4	8744.1	10	16	8	16	25.0	25.0	25.0	34.6	34.7	34.7	0.409	6.7	6.6	6.5	ST	
47742	6/14/88	1049	3000.0	8730.6	10	31	15	31	25.0	24.9	21.7	34.9	35.3	36.3	0.254	6.6	6.3	6.7	PN	
47743	6/14/88	1441	2953.3	8754.3	10	32	16	32	25.1	24.9	19.7	35.4	35.4	36.5	0.101	6.6	4.6	6.8	ST	
47745	6/14/88	1539	2952.7	8751.6	10	31	15	31	25.2	25.1	20.0	35.6	35.7	36.6	0.395	8.0	8.2	7.9	ST	
47747	6/14/88	2049	2950.6	8751.5	10	34	17	34	25.4	24.9	20.1	35.4	35.7	36.4	0.210	6.7	6.7	5.8	ST	
47749	6/14/88	2321	2945.4	8758.6	10	34	17	34	25.3	23.2	19.9	35.0	36.0	36.4	0.151	6.6	6.4	4.9	ST	
47751	6/15/88	0008	2944.3	8757.3	10	36	18	36	25.2	23.7	19.8	35.0	36.0	36.4	0.785	6.5	5.7	4.5	ST	
47753	6/15/88	0557	2935.0	8756.7	10	40	20	40	25.3	23.4	20.2	34.6	36.4	36.6		6.4	6.6	5.2	ST	
47757	6/15/88	1009	2933.2	8744.9	10	47	23	47	25.4	24.9	20.6	35.9	36.0	36.4	0.109	6.6	6.4	6.0	ST	
47759	6/15/88	1254	2927.2	8738.7	99	84	42	84	25.8	22.3	18.5	36.1	36.5	36.6	0.182	6.2	6.4	4.2	ST	
47761	6/15/88	1552	2928.8	8746.1	99	63	31	63	26.0	23.8	19.7	36.0	36.4	36.7	0.152	6.2	6.8	4.8	ST	
47763	6/15/88	2129	2928.7	8753.2	99	56	28	56	24.9	23.4	20.3	35.8			0.210	6.7			ST	
47765	6/15/88	2341	2925.2	8801.2	11	63	31	62	25.3	21.5	19.4				0.224				ST	
47767	6/16/88	0152	2932.3	8806.5	11	48	24	48	25.8	22.9	20.3	35.2	36.2	36.5	0.280	6.6	6.8	5.6	ST	
47769	6/16/88	0603	2918.0	8808.3	11	91	45	91	25.9	21.7	18.9	35.6	36.5	36.5	0.218	6.7	6.9	4.6	ST	
47771	6/16/88	0949	2919.2	8812.0	11	81	40	81	26.0	22.1	19.6	35.8	36.3	36.5	0.094	6.6	6.8	4.0	ST	
47773	6/16/88	1259	2923.3	8822.8	11	54	27	54	26.5	22.0	19.6	35.3	36.4	36.5		6.4	6.6	4.2	ST	
47777	6/16/88	1742	2930.7	8837.2	11	34	17	34	26.1	25.1	20.3	34.8	35.1	36.5	1.178	6.6	6.6	3.8	ST	
47779	6/16/88	2029	2927.1	8840.7	11	37	18	37	25.9	25.1	20.0	34.9	35.2	36.4	0.953	6.8	6.7	3.4	ST	
47781	6/16/88	2142	2927.4	8843.2	11	30	15	30	25.8	25.5	25.1	34.9	35.2	35.4	0.249	6.8	6.7	5.8	ST	
47783	6/17/88	0035	2919.8	8849.0	11	46	23	46	26.7	25.0	19.7	33.9	35.2	36.6	0.477	6.8	6.4	3.8	ST	
47785	6/17/88	0317	2920.9	8852.2	11	28	14	28	26.7	25.9	23.8	33.5	33.9	35.6	0.692	7.4	6.4	5.6	ST	
47787	6/17/88	0746	2922.6	8857.7	11	17	8	17	27.2	26.8	25.3	33.1	33.2	34.6	1.402	7.2	7.0	5.0	ST	
47791	6/17/88	2050	2911.9	8839.3	11	72	36	72	26.8	20.9	19.2	34.5	36.4	36.5	0.254	6.7	6.4	5.2	ST	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
47793	6/17/88	2314	2910.0	8837.2	11	81	40	81	26.2	20.7	19.1	34.6	36.6	36.6	0.000	6.8	6.5	5.3	ST
47795	6/18/88	0124	2907.3	8841.1	11	90	45	90	26.3	20.5	18.5	33.4	36.7	36.6	0.542	7.4	6.8	5.0	ST
47797	6/19/88	0413	2758.0	9407.0	99	96	45	96	27.0	22.5	19.2	35.1	36.4	36.6	0.062	7.0	7.7	6.2	ST
47799	6/19/88	0740	2758.4	9407.0	99	88	44	88	27.0	22.2	19.7	36.3	34.9	36.6	0.224	7.3	7.9	6.6	ST
47801	6/19/88	1218	2800.8	9434.8	18	80	40	80	27.4	22.9	19.7	34.0	36.2	36.3	0.053	7.0	7.6	6.4	ST
47803	6/19/88	1728	2757.9	9512.0	99	82	41	82	27.8	23.5	19.8	36.5	36.7	36.4	0.062	6.9	7.3	6.4	ST
47805	6/19/88	2038	2800.0	9509.7	19	83	41	83	27.5	23.7	19.8	36.5	36.9	36.5	0.140	6.9	7.6	6.5	ST
47807	6/20/88	2353	2807.1	9459.9	19	54	27	54	26.4	23.6	20.2	32.7	36.1	36.5		7.1	7.4	6.8	ST
47809	6/20/88	0119	2804.0	9459.9	19	72	36	72	27.2	25.9	20.2	36.3	36.8	36.5	0.098	8.8	8.8	8.2	ST
47811	6/20/88	0512	2818.3	9520.1	19	37	18	37	26.9	24.6	21.5	33.3	33.8	35.9	0.112	8.8	7.0	6.9	ST
47813	6/20/88	0931	2819.2	9501.6	19	40	20	40	27.1	26.2	20.5	33.5	34.6	36.0	0.069	7.4	7.6	7.4	ST
47815	6/20/88	1112	2815.6	9501.3	19	45	22	45	27.3	25.2	19.9	34.0	34.8	36.4	0.070	7.0	7.3	6.2	ST
47821	6/20/88	1913	2841.5	9440.6	18	28	14	28	27.3	27.0	26.0	33.0	33.8	34.5	0.168	7.0	6.9	6.8	ST
47823	6/20/88	2124	2837.9	9440.0	18	30	15	30	27.1	26.8	25.0	33.9	33.9	34.9	0.177	7.4	7.3	6.8	ST
47825	6/21/88	0141	2851.0	9412.7	18	24	12	24	26.9	26.9	26.1	33.5	33.6	34.2	0.150	7.0	6.8	6.4	ST
47827	6/21/88	0351	2852.3	9421.8	18	24	12	24	26.6	26.8	26.5	27.4	33.6	33.9	0.133	7.4	7.1	6.6	ST
47829	6/22/88	1510	2913.5	9435.8	18	12	6	11	28.6	28.0	27.9	30.1	34.0	30.2	0.077	7.2	6.8	6.2	ST
47831	6/22/88	1815	2900.0	9430.0	18	17	8	17	28.4	27.8	26.6	31.0	31.3	32.6	0.467	7.0	7.0	5.9	PN
47832	6/22/88	2203	2830.0	9431.6	18	35	17	35	27.6	27.3	22.1	34.0	34.1	36.1	0.087	6.9	7.0	7.6	PN
47833	6/22/88	2317	2832.7	9431.6	18	35	17	35	27.6	27.3	22.1	34.0	34.1	36.1		6.9	7.0	7.6	ST
47835	6/23/88	0213	2820.8	9422.0	18	46	23	46	27.5	25.9	21.2	33.8	34.8	36.1	0.056	6.7	6.8	6.8	ST
47841	6/23/88	1006	2839.0	9401.2	18	30	15	30	27.2	26.9	24.0	33.5	33.8	35.2	0.112	7.0	7.0	5.8	ST
47843	6/23/88	1404	2833.6	9427.2	18	35	17	35	27.8	27.4	22.7	33.9	34.0	35.9	0.075	6.7	6.8	7.5	ST
47845	6/23/88	1844	2839.7	9508.6	19	27	13	27	28.0	26.3	25.1	32.1	33.4	34.5	0.212	6.8	6.3	5.4	ST
47847	6/23/88	2112	2843.9	9508.8	19	21	10	21	28.0	27.9	26.2	32.3	32.3	33.8	0.280	6.8	6.5	6.2	ST
47849	6/24/88	0028	2831.3	9500.0	19	32	16	32	27.6	27.6	23.7	33.8	33.9	35.2	0.081	6.9	7.0	5.8	PN
47851	6/24/88	0406	2818.5	9508.0	19	45	22	45	27.0	24.4	19.7	34.8	36.0	36.3	0.080	7.0	7.4	5.6	ST
47855	6/24/88	0902	2828.9	9528.4	19	27	13	27	27.7	27.7	24.3	32.3	33.8	34.2	0.138	7.3	7.4	4.4	PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
47856	6/24/88	1122	2835.9	9526.6	19	18	9	18	27.7	27.7	27.7	31.7	31.8	31.8	0.255	7.7	7.7	7.1	ST	
47858	6/24/88	1505	2846.1	9532.4	19	9	4	8	28.3	28.3	28.3	31.2	31.2	31.2	0.125				ST	
47860	6/24/88	1732	2831.5	9533.3	19	24	12	24	27.8	27.8	25.5	32.8	32.8	33.7	0.000	7.8	7.6	4.9	ST	
47862	6/24/88	1942	2832.5	9538.5	19	18	9	18	27.8	27.9	27.9	31.7	31.7	31.8	0.262	7.7	7.7	7.6	ST	
47864	6/24/88	2155	2837.1	9534.5	19	17	8	17	27.8	27.8	27.8	31.7	31.8	31.8	0.841	6.9	6.8	6.7	ST	
47866	6/25/88	0020	2835.9	9546.7	19	14	7	14	28.1	28.1	28.1	31.6	31.6	31.6	0.083	4.1	4.1	4.1	ST	
47868	6/25/88	0353	2826.0	9600.7	19	17	9	17	27.7	27.7	27.7	32.1	32.1	32.2	1.059	7.0	6.9	6.9	ST	
47870	6/25/88	0603	2830.0	9607.6	19	11	5	11	28.1	28.1	28.1	31.4	31.5	31.5	0.343	7.0	6.7	6.7	ST	
47872	6/25/88	0848	2829.5	9550.5	19	18	9	18	27.8	27.8	27.8	31.7	31.8	31.8	0.675	7.0	6.9	6.8	ST	
47874	6/25/88	1128	2814.2	9551.3	19	28	14	28	27.7	27.6	26.9	32.3	32.4	33.2	0.312	7.0	7.0	6.4	ST	
47876	6/25/88	1228	2812.1	9549.8	19	36	18	36	27.6	27.0	22.3	32.4	33.1	35.3	0.353	7.0	6.4	4.7	ST	
47878	6/25/88	1341	2809.1	9548.3	19	41	20	41	28.1	25.1	20.7	32.5	34.5	35.9	0.371	6.9	6.3	5.9	ST	
47880	6/25/88	1735	2754.2	9606.3	20	52	26	52	28.6	25.5	19.5	32.6	33.9	36.4	0.215	7.0	6.5	5.9	ST	
47882	6/25/88	2214	2743.4	9541.3	20	84	42	84	27.6	24.5	22.1	33.7	37.0	36.7		7.0	7.8	7.5	ST	
47884	6/26/88	0045	2748.8	9534.6	20	73	36	73	27.4	21.7	20.6	33.8	35.4	36.5	0.129	6.7	5.5	6.2	ST	
47886	6/26/88	0443	2811.8	9550.3	19	32	16	32	27.6	27.2	22.9	32.4	32.9	35.4	0.274	6.5	6.0	4.1	ST	
47888	6/26/88	0604	2815.7	9554.6	19	24	12	24	28.1	27.6	27.5	32.2	32.3	32.8	0.299	6.5	6.1	6.1	ST	
47890	6/26/88	1011	2819.4	9622.0	19	11	5	11	28.6	28.4	27.9	31.3	31.4	31.8	1.973	6.9	6.8	6.3	ST	
47892	6/26/88	1401	2803.0	9647.1	19	11	5	11	29.4	29.3	28.2	31.8	31.9	32.3	0.164	7.3	7.3	7.0	ST	
47894	6/26/88	1456	2800.4	9646.5	19	18	9	18	29.1	28.1	28.0	32.0	32.4	32.8	0.735	7.6	7.2	7.0	ST	
47896	6/26/88	1720	2759.4	9639.1	20	20	10	20	28.5	28.0	28.0	32.7	32.9	32.9	0.375	7.7	7.4	7.1	ST	
47898	6/26/88	1903	2800.0	9630.0	19	25	12	25	28.1	28.0	27.4	33.0	33.0	33.3		7.6	7.5	7.3	PN	
47899	6/26/88	2215	2800.0	9600.0	19	46	23	46	28.0	25.5	19.6	32.6	33.8	36.4	0.195	7.1	5.8	5.6	PN	
47900	6/27/88	0042	2806.5	9617.5	19	27	13	27	28.1	28.0	27.0	32.8	32.8	33.2	0.249	7.0	6.9	5.6	ST	
47902	6/27/88	0356	2808.7	9640.8	19	11	6	11	29.0	29.0	28.3	31.8	31.8	32.2	1.604	6.6	6.6	6.2	ST	
47904	6/27/88	0628	2757.6	9646.2	20	20	10	20	28.3	28.3	28.2	32.8	32.8	32.9	0.393	6.9	6.8	6.5	ST	
47906	6/27/88	0842	2751.3	9644.4	20	24	12	24	28.1	28.1	27.6	32.9	32.8	33.0	0.421	7.2	7.2	6.4	ST	
47908	6/27/88	1140	2758.7	9657.2	20	8	4	8	29.5	29.5	29.5	32.4	32.3	32.3	0.212	6.9	6.8	6.7	ST	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
47910	6/27/88	1236	2752.4	9656.7	20	16	8	16	28.9	28.5	28.3	32.4	32.4	32.8	0.685	6.6	6.6	6.0	ST
47912	6/27/88	1502	2744.3	9702.3	20	14	7	14	29.2	29.1	28.5	32.4	32.4	33.0	0.984	7.3	7.2	6.8	ST
47914	6/27/88	1642	2744.7	9706.2	20	8	4	8	30.0	29.9	29.6	32.5	32.5	32.5	0.467	7.1	7.1	7.0	ST
47916	6/27/88	1956	2723.5	9712.2	20	21	10	21	29.4	29.4	27.8	33.1	33.1	34.4	0.935	7.0	6.9	6.1	ST
47918	6/27/88	2328	2737.3	9710.8	20	8	4	8	30.0	30.1	30.1	33.0	33.1	33.1	2.601	7.0	6.9	6.9	ST
47920	6/28/88	0055	2736.4	9701.5	20	22	11	22	28.2	28.5	27.8	33.9	34.2	34.9	0.324	6.6	6.7	6.5	PN
47921	6/28/88	0221	2736.4	9701.0	20	22	11	22	28.2	28.5	27.8	33.9	34.2	34.9		6.6	6.7	6.5	ST
47923	6/28/88	0557	2733.2	9623.5	20	91	45	91	28.2	22.6	19.7	34.5	36.7	36.5	0.143	6.5	7.0	5.1	ST
47925	6/28/88	0841	2730.0	9630.0	20	80	40	80	28.0	22.4	19.8	32.8	36.5		0.224	6.9	7.6		PN
47926	6/28/88	0955	2728.3	9628.2	99	80	40	80	28.0	22.4	19.8					6.9	7.6		ST
47928	6/28/88	1400	2725.1	9652.5	20	40	20	40	29.0	27.3	22.4	33.4	35.0	36.2	0.245	7.4	7.4	7.1	ST
47930	6/28/88	1656	2721.1	9702.1	20	29	15	29	29.1	28.1	25.7	33.2	33.2	36.5	0.299	7.1	7.0	6.6	ST
47932	6/28/88	1938	2718.1	9715.2	20	17	8	17	29.2	29.2	25.9	33.5	33.6	35.7	0.411	7.3	7.3	4.9	ST
47934	6/28/88	2153	2714.0	9715.5	20	18	9	18	29.1	29.1	25.5	33.7	33.7	35.6	0.592	7.3	5.5		ST
47936	6/28/88	2314	2712.1	9714.7	20	23	11	23	28.9	28.9	26.1	33.7	33.7	36.2	0.463	7.1	7.1	6.7	ST
47938	6/29/88	0227	2715.2	9654.1	20	44	22	44	28.6	27.4	23.0	33.8	35.6	37.1	0.137	6.8	7.0	6.9	ST
47940	6/29/88	0616	2702.1	9638.3	20	88	44	88	28.4	21.3	19.6	33.6	36.9	36.5	0.119	6.7	6.7	5.5	ST
47945	6/29/88	1148	2659.9	9653.0	20	53	26	53	28.7	26.3	20.7	34.0	36.5	36.1	0.143	7.0	7.3	6.5	ST
47947	6/29/88	1500	2709.1	9701.8	20	36	18	36	28.9	27.3	24.1	33.4	35.9		0.148	7.2	7.1	7.2	ST
47949	6/29/88	1800	2704.0	9721.0	20	11	5	11	28.1	28.1	25.4	34.5	34.4	35.5	1.034	7.0	6.8	6.2	ST
47951	6/29/88	2018	2702.0	9704.2	20	35	17	35	28.8	27.3	22.5	33.3	35.6	36.2	0.168	7.2	7.3	7.4	ST
47953	6/29/88	2124	2702.0	9702.8	20	35	17	35	28.8	27.3	22.5	33.3	35.6	36.2		7.2	7.3	7.4	PN
47954	6/29/88	2256	2702.6	9709.1	20	24	12	24	28.4	28.4	24.6	33.6	33.7	36.2	0.093	7.1	7.0	7.2	ST
47956	6/30/88	0129	2658.5	9653.0	21	54	27	54	28.6	26.3	21.3	33.7	37.1	36.5	0.122	7.0	7.5	7.0	ST
47958	6/30/88	0434	2648.9	9700.0	21	39	20	39	28.2	26.6	21.1	33.8	36.2	36.5	0.094	7.0	7.0	6.8	ST
47960	6/30/88	0632	2646.1	9703.5	21	35	17	35	28.2	27.2	21.1	33.9	34.2	36.4	0.137	7.1	7.0	6.8	ST
47962	6/30/88	0852	2654.7	9710.0	21	28	14	28	28.1	28.1	22.2	33.9	35.4	35.9	0.193	7.2	7.2	6.7	ST
47964	6/30/88	1234	2649.5	9638.6	21	92	46	92	28.7	21.8	19.5	33.7	36.7	36.5	0.140	6.6	6.8	5.2	ST

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, ₃ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
47968	6/30/88	1617	2644.9	9646.2	21	63	32	63	28.5	24.4	20.5	33.5	36.8	36.8	0.094	6.6	7.3	5.8	ST	
47970	6/30/88	1844	2636.6	9651.2	21	44	22	44	28.7	27.2	21.7	33.4	35.7	36.6	0.143	6.7	6.7	6.7	ST	
47972	6/30/88	2203	2646.4	9705.1	21	32	16	32	28.6	26.6	21.1	33.7	34.8	36.6	0.107	7.0	7.0	6.6	ST	
47974	6/30/88	2339	2645.0	9708.6	21	26	13	26	28.3	28.3	21.3	34.1	34.2	36.1	0.096	7.3	7.3	6.4	ST	
47976	7/ 1/88	0126	2646.2	9718.7	21	16	8	16	26.4	26.1	23.0	35.0	35.0	35.9	0.810	6.7	6.6	6.6	ST	
47978	7/ 1/88	0342	2636.5	9716.1	21	14	7	14	26.1	24.8	21.9	34.8	35.0	36.0	0.935	6.5	6.5	6.0	ST	
47980	7/ 1/88	0600	2630.4	9704.7	21	24	12	24	28.3	28.3	21.6	34.4	34.4	36.1	0.112	6.7	6.7	6.4	ST	
47982	7/ 1/88	0959	2626.6	9629.3	99	73	36	73	28.5	22.0	20.1	33.5	36.1	36.3	0.150	6.9	7.2	6.0	ST	
47984	7/ 1/88	1420	2615.4	9700.9	21	26	13	26	28.7	28.3	21.7	34.9	35.0	36.3	0.178	6.8	6.8	6.6	ST	
47986	7/ 1/88	1512	2614.0	9701.9	21	26	13	26	28.8	28.5	21.6	34.9	34.9	36.4	0.137	6.9	6.9	6.7	ST	
47988	7/ 1/88	1707	2622.4	9658.6	21	31	15	31	29.1	28.1	21.7	34.9	35.0	36.3	0.293	7.0	7.1	6.9	ST	
47990	7/ 1/88	1830	2629.4	9656.9	21	36	18	36	28.7	28.4	21.0	34.4	34.7	36.3	0.129	6.9	7.1	7.1	PN	
47993	7/ 1/88	2323	2628.5	9700.6	21	33	16	33	28.4	28.4	21.4	34.4	34.5	36.3	0.150	7.0	6.9	6.8	ST	
47995	7/ 2/88	0139	2619.3	9710.2	21	16	8	16	25.4	25.3	23.9	36.0	36.0	36.1	0.299	6.8	6.8	6.7	ST	
47997	7/ 2/88	0405	2607.5	9707.6	21	15	7	15	25.6	22.7	22.7	35.4	36.5	36.1	1.153	5.6	5.6	5.5	ST	
47999	7/ 2/88	0550	2600.0	9700.0	21	26	13	26	28.2	26.4	23.4	35.6	36.1	36.6	0.206	5.5	5.5	5.4	PN	
48000	7/ 2/88	2349	2606.1	9628.2	99	64	32	64	28.8	27.1	20.4	34.4	36.9	36.4	0.106	6.3	6.5	5.9	ST	
48002	7/ 3/88	0157	2612.4	9624.1	99	70	35	70	28.7	26.7	19.9	34.4	36.6	36.3	0.084	6.1	6.1	5.3	ST	
48004	7/ 3/88	0917	2730.6	9559.8	20	209	104	209	28.9	21.5	15.4	33.9	36.7	36.2	0.096	6.3	6.5	4.5	PN	
48005	7/ 3/88	1333	2800.0	9530.1	19	55	27	55	29.3	26.1	20.9	33.3	36.3	36.5	0.101	6.3	6.4	5.8	PN	
48006	7/ 4/88	0120	2935.7	9405.4	18	8	4	8	29.0	28.9	28.4	31.7	31.8	31.9	1.391	6.0	5.8	5.2	ST	
48008	7/ 4/88	0530	2926.0	9430.0	18	10	5	10	28.5	28.6	28.1	32.5	32.5	32.9	0.633	5.9	5.3		PN	
48009	7/ 5/88	1835	2930.0	9400.0	18	11	5	10	29.3	29.2	29.1	31.6	31.7	31.7	1.415	6.0	5.5	5.5	PN	
48010	7/ 5/88	2102	2935.4	9355.3	17	8	4	8	29.1	29.1	29.1	31.5	31.5	31.5	3.380	6.0	6.0	5.7	ST	
48012	7/ 6/88	0005	2919.2	9351.9	17	13	6	13	29.3	29.4	28.6	31.4	31.4	32.0	0.654	5.9	5.9	4.9	ST	
48014	7/ 6/88	0208	2907.7	9352.7	17	17	8	17	29.7	29.8	27.8	30.6	30.6	33.2	0.794	6.2	5.0	6.0	ST	
48018	7/ 6/88	0528	2900.4	9400.0	18	20	10	19	29.6	29.5	27.3	31.0	31.5	33.9	0.237	6.1	6.0	5.1	PN	
48019	7/ 6/88	0809	2856.6	9356.4	17	20	10	20	29.3	29.3	26.0	31.3	31.4	35.1		6.2	6.2	4.6	ST	

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
48021	7/ 6/88	1145	2831.8	9359.3	17	40	20	40	28.6	28.6	22.0	34.2	34.5	36.1		6.1	6.0	5.7	PN
48022	7/ 6/88	1429	2830.8	9341.0	17	39	20	39	28.8	27.4	20.5	33.1	34.2	36.2	0.187	6.2	6.2	5.3	ST
48024	7/ 6/88	1650	2830.0	9330.0	17	42	21	42	28.8	27.3	20.2	33.1	34.4	36.8	0.280	6.0	6.0	5.5	PN
48025	7/ 6/88	2045	2827.9	9322.4	17	44	22	44	28.1	26.6	20.6	34.5	35.7	36.3	0.212	6.2	6.0	5.8	ST
48029	7/ 7/88	0108	2829.6	9314.4	17	39	20	39	28.2	28.3	21.7	35.3	35.7	36.1	0.143	6.0	6.0	6.2	ST
48033	7/ 7/88	0558	2840.8	9331.4	17	30	15	30	28.6	28.4	22.2	33.3	33.9	36.3	0.312	6.0		5.1	ST
48035	7/ 7/88	0818	2847.5	9325.8	17	27	13	27	28.5	28.6	25.1	33.7	33.8	35.1	0.304	6.2	6.2	5.7	ST
48037	7/ 7/88	1007	2842.6	9321.6	17	32	16	32	28.3	28.0	22.5	33.8	34.3	35.8	0.249	6.6	6.6	6.2	ST
48039	7/ 7/88	1229	2839.4	9315.5	17	34	17	34	27.9	27.9	22.4	34.7	34.7	36.1	0.255	6.5	6.5	6.2	ST
48041	7/ 7/88	1543	2836.0	9249.2	16	37	18	37	28.0	27.6	21.9	32.9	35.2	36.4	0.361	6.5	6.5	6.2	ST
48043	7/ 7/88	2050	2806.8	9227.0	16	78	39	78	28.1	23.7	19.2	35.8	37.0	36.5	0.100	6.5	7.4	5.3	ST
48045	7/ 7/88	2325	2809.8	9242.5	16	73	36	73	28.1	23.2	19.2	35.2	36.4	36.5	0.196	6.2	7.0	4.5	ST
48049	7/ 8/88	0440	2814.6	9259.9	17	63	32	63	28.1	25.4	19.6	35.1	36.0	36.6	0.143	6.2	6.6	4.8	ST
48055	7/ 8/88	1343	2800.0	9242.9	16	90	45	90	28.4	21.9	18.6	35.0	36.2	36.5	0.094	7.0	7.4	5.2	ST
48061	7/ 8/88	2016	2806.8	9400.0	18	71	35	71	28.2	25.3	19.6	34.4	36.6	36.5	0.272	7.2	7.4	6.0	ST
48063	7/ 8/88	2337	2759.4	9342.7	99	92	46	92	28.2	21.2	18.6	34.7	36.3	36.5	0.131	6.8	7.0	5.2	ST
48067	7/ 9/88	0718	2816.6	9302.3	17	68	34	68	27.6	23.8	19.5	35.1	36.0	36.3	0.168	7.0	7.8	5.2	ST
48069	7/ 9/88	1207	2806.8	9250.9	16	82	41	82	27.9	22.1	19.1	35.5	36.3	36.5	0.138	6.7	7.5	6.1	ST
48071	7/ 9/88	1501	2810.3	9239.7	16	73	36	73	28.3	22.8	19.3	35.7	36.2	36.5	0.092	6.5	7.0	6.4	ST
48073	7/ 9/88	1905	2827.0	9255.5	16	49	25	49	28.0	24.9	20.7	31.1	35.5	36.4	0.270	7.3	7.4	6.4	ST
48075	7/10/88	0118	2835.8	9346.4	17	33	17	33	28.0	27.8	23.0	33.6	35.1	35.9	0.224	6.8	6.7	6.2	ST
48077	7/10/88	0250	2838.6	9352.3	17	28	14	28	27.9	27.5	25.1	33.7	34.7	35.4		6.8	6.8	6.1	ST
48081	7/10/88	1204	2910.7	9316.0	17	18	9	18	27.8	27.8	27.9	31.8	31.9	32.3	1.145	6.8	6.6	6.1	ST
48083	7/10/88	1441	2917.2	9315.4	17	17	9	17	27.8	27.8	27.8	31.9	31.8	32.1	1.415	7.2	7.1	6.5	ST
48085	7/10/88	1937	2921.8	9343.7	17	13	6	13	28.2	28.0	27.9	30.1	30.2	30.9	1.423	6.6	6.5	6.0	ST
48087	7/10/88	2255	2922.6	9318.5	17	13	6	13	27.8	27.7	27.7	31.2	32.0	32.1	1.237	7.2	6.9	6.5	ST
48089	7/11/88	0518	2907.5	9255.7	16	22	11	22	27.6	27.7	27.0	31.3	32.6	33.7	0.903	7.0	6.2	4.4	ST
48091	7/11/88	0955	2936.0	9312.9	17	10	5	10	28.1	28.1	27.9	29.6	29.6	29.6	2.881	6.7	6.8	6.9	ST

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY,PPT			CL ₃ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
48093	7/11/88	1223	2938.3	9303.9	17	9	4	9	27.9	28.1	27.6	30.0	29.8	29.9	5.835	6.9	6.7	6.3	ST	
48095	7/11/88	1708	2909.1	9240.0	16	19	10	19	28.4	27.5	27.5	31.0	31.9	32.8	2.866	7.4	6.3	5.6	ST	
48097	7/11/88	2022	2853.2	9240.6	16	27	13	27	28.2	27.8	24.8	32.5	34.7	35.7	0.332	7.3	7.1	2.6	ST	
48099	7/11/88	2236	2853.4	9237.5	16	26	13	26	28.2	27.9	25.4	32.3	34.4	35.6	0.298	7.3	7.2	2.7	ST	
48101	7/12/88	0159	2911.6	9243.1	16	20	10	20	27.9	27.8	27.5	31.1	31.4	32.4	1.776	7.2	7.1	6.8	ST	
48103	7/12/88	0535	2907.3	9220.2	16	16	8	16	28.1	28.1	27.5	31.6	31.7	33.5	0.966	7.1	7.0	5.8	ST	
48105	7/12/88	0921	2905.7	9204.8	16	14	7	14	27.8	27.8	27.6	31.8	31.8	33.5	2.430	7.4	7.2	7.1	ST	
48107	7/12/88	1228	2901.4	9206.5	16	24	12	24	28.3	27.8	26.6	33.1	34.1	35.5	0.318	6.9	6.6	3.8	ST	
48109	7/12/88	1500	2848.7	9218.7	16	33	16	33	28.3	28.0	25.0	34.8	34.9	35.9	0.405	6.8	6.8	5.2	ST	
48111	7/12/88	1800	2849.0	9200.0	16	30	15	30	28.5	28.4	26.0	34.6	34.6	35.8	0.212	6.9	6.9	5.5	ST	
48112	7/12/88	2108	2853.6	9213.9	16	26	13	26	28.2	28.2	26.7	34.1	34.4	35.5		7.3	7.2	4.2	ST	
48114	7/12/88	2251	2841.7	9210.1	16	35	17	35	28.3	28.0	24.9	34.8	35.0	35.9	0.187	6.6	6.8	5.8	ST	
48116	7/13/88	0208	2834.3	9159.3	15	45	22	45	28.3	28.0	21.5	35.1	36.2	36.4	0.233	6.8	7.0	6.9	ST	
48118	7/13/88	0554	2839.4	9141.8	15	32	16	32	28.3	27.8	25.2	34.9	35.3	36.2		7.0	7.0	5.5	ST	
48120	7/13/88	1053	2829.4	9108.4	15	35	17	35	28.2	27.7	22.8	34.9	35.5	36.4	0.199	7.0	6.9	7.5	ST	
48122	7/13/88	1453	2814.0	9047.1	14	71	36	71	28.7	23.5	19.6	35.4	36.5	36.6	0.112	7.2	7.8	6.1	ST	
48124	7/13/88	1920	2832.8	9016.6	14	50	25	50	28.7	27.6	20.4	36.2	36.3	36.7	0.140	7.2	7.2	6.1	ST	
48126	7/13/88	2304	2827.2	9020.8	14	44	22	44	28.8	27.4	21.1	36.1	36.4	36.7	0.160	7.1	7.2	2.9	ST	
48128	7/14/88	0220	2827.4	9002.5	14	62	31	62	28.5	27.1	19.8	36.1	36.6	36.7	0.055	6.9	7.4	6.2	ST	
48130	7/14/88	0615	2841.6	8940.9	13	101	51	99	27.7	20.6	17.9	39.5	36.6	36.5	0.133	6.7	5.6	5.2	ST	
48132	7/14/88	1018	2848.7	8949.6	13	53	26	53	28.9	22.9	19.7	34.2	36.3	36.5	0.162	7.5	7.0	3.8	ST	
48134	7/14/88	1235	2854.0	8953.9	13	46	23	46	29.4	26.4	20.3	34.8	36.5	36.6	0.162	6.7	6.8	2.6	ST	
48136	7/14/88	1602	2901.7	8943.9	13	34	17	34	29.0	27.5	22.9	35.1	36.2	37.1	0.193	6.9	6.9	5.8	ST	
48138	7/14/88	1802	2906.3	8952.5	13	24	12	24	29.3	27.8	26.4	34.9	35.9	36.6	0.231	6.9	7.1	7.0	ST	

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
ALABAMA INSHORE VESSELS

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
23008	6/15/88	1800	3013.3	8816.4	11	9	9		27.5		27.5					7.0		6.6	ST
23007	6/15/88	1844	3014.0	8810.5	11	9	9		27.0		27.0					6.8		6.6	ST
23006	6/15/88	2052	3014.0	8810.2	11	9	9		26.0		26.5					7.0		6.4	ST
23001	6/16/88	1654	3013.0	8736.0	10	11	11		22.5		26.5					7.4		7.4	ST
23002	6/16/88	1745	3015.5	8735.1	10	9	9		27.5		26.5					7.6		6.2	ST
23003	6/16/88	2023	3016.0	8734.1	10	8	8		28.0		27.5					7.2		7.0	ST
23004	6/16/88	2049	3015.5	8734.2	10	8	8		28.0		27.5					8.2		7.0	ST
23009	7/12/88	1215	3012.8	8820.0	11	4	4		29.0		29.0	33.0	33.0			6.0		7.4	ST
23010	7/12/88	1330	3009.0	8804.0	11	10	10		29.5		28.5	34.0	34.0			3.2		5.6	ST
23011	7/12/88	1510	3013.4	8755.5	10	6	6		29.0		28.5	32.0	34.0			6.8		6.4	ST
23012	7/12/88	1440	3013.3	8752.5	10	5	5		30.0		29.0	32.0	34.0			7.2		6.6	ST

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LOUISIANA INSHORE VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION LAT LONG		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE, °C SUR MID MAX			SALINITY, PPT* SUR MID MAX			CL ₃ MG/M *	DISSOLVED OXYGEN, PPM			GEAR
							MID	MAX								SUR	MID	MAX	
36299	7/ 5/88	1427	2924.8	8904.3	12	10	10		28.2	19.9					9.9	11.1	ST/PN		
36300	7/ 5/88	1602	2926.9	8909.6	12	6	6		29.3	24.8					8.6	8.8	ST/PN		
36301	7/ 5/88	1646	2927.4	8912.2	12	2	2		29.5	29.5					8.5	7.6	ST/PN		
36302	7/ 6/88	1058	3003.2	8851.7	11	2	2		27.2	27.1					6.1	5.4	ST/PN		
36303	7/ 6/88	1129	3003.3	8851.4	11	5	5		27.4	24.8					6.0	3.2	ST/PN		
36304	7/ 6/88	1201	3003.7	8850.8	11	9	9		27.9	27.8					6.6	4.7	ST/PN		
36305	7/13/88	0945	2916.3	8956.0	13	2	2		30.6	30.7					6.9	7.2	ST/PN		
36306	7/13/88	1025	2915.1	8954.2	13	5	5		31.7	30.8							ST/PN		
36307	7/13/88	1035	2900.5	9035.7	14	10	10		29.0	28.8					4.2	3.0	ST/PN		
36308	7/13/88	1106	2913.9	8952.7	13	9	9		32.4	32.3					7.5	6.7	ST/PN		
36309	7/13/88	1123	2902.0	9035.7	14	3	3		29.9	29.6					8.0	7.8	ST/PN		
36310	7/13/88	1157	2904.5	9035.7	14	2	2		30.0	29.0					8.4	8.3	ST/PN		
36311	7/14/88	0652	2919.3	9206.8	16	6	6		28.8	28.7					6.3	6.5	ST/PN		
36312	7/14/88	0811	2909.5	9209.5	16	9	9		28.9	28.5					5.8	5.2	ST/PN		
36313	7/14/88	0839	2856.2	9058.0	14	9	9		29.9	31.1					6.1	5.9	ST/PN		
36314	7/14/88	0847	2940.0	9322.0	17	9	9		29.0	29.5					6.1	5.0	ST/PN		
36315	7/14/88	0913	2901.0	9058.9	14	5	5		30.0	29.9					5.8	6.2	ST/PN		
36316	7/14/88	0924	2944.0	9322.0	17	6	6		29.6	29.6							ST/PN		
36317	7/14/88	0948	2945.0	9322.0	17	2	2		28.9	30.0					5.1	5.6	ST/PN		
36318	7/14/88	1004	2909.5	9058.3	14	2	2		30.6	30.6					6.2	5.6	ST/PN		
36319	7/14/88	1447	2934.0	9201.8	16	2	2		30.4	30.4					7.1	7.0	ST/PN		

*Salinity and chlorophyll data for these stations are available from the Louisiana Department of Wildlife and Fisheries.

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LUMCON PELICAN

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
36275	7/11/88	1557	2902.7	9002.0	14	18	8	18	28.5	27.9	27.0	34.3	34.3	35.7	0.685	6.7	6.6	5.5	ST/PN
36276	7/11/88	1844	2910.2	8951.4	13	16	8	14	28.8	28.0	27.8	33.6	34.6	34.9	2.609	7.7	6.9	6.9	ST
36277	7/11/88	2127	2910.3	8951.5	13	16	6	13	28.8	28.8	27.9	33.5	33.5	34.9	2.518	8.2	7.9	6.8	ST
36278	7/12/88	0056	2902.8	9001.7	14	17	7	17	28.5	28.5	27.2	34.2	34.3	35.6	0.743	6.9	6.7	5.7	ST
36279	7/12/88	0328	2904.4	8946.3	13	28	13	28	28.3	27.7	25.1	33.8	34.7	36.0	0.154	7.3	6.8	2.9	ST
36280	7/12/88	0523	2908.9	8938.5	13	16	7	14	28.3	28.1	27.3	33.6	34.1	35.1	0.530	7.1	7.1	3.8	ST
36281	7/12/88	0654	2908.7	8939.0	13	16	7	14	28.3	28.3	27.9	33.1	33.9	34.5	1.015	7.0	6.9	5.1	ST/PN
36282	7/12/88	1336	2904.5	8946.6	13	29	14	27	28.4	27.7	24.9	33.8	34.9	36.1	0.245	7.3	6.5	3.2	ST/PN
36283	7/12/88	2131	2837.0	9026.6	14	26	10	20	28.7	27.9	26.1	34.7	35.5	35.9	0.126	7.0	6.5	4.2	ST
36284	7/13/88	0028	2832.9	9032.7	14	33	14	29	28.4	27.6	24.0	34.5	35.8	36.0	0.137	5.9	6.5	4.0	ST
36285	7/13/88	0155	2838.1	9035.2	14	19	9	19	28.7	27.6	26.8	33.6	35.5	35.7	0.103	6.4	6.5	4.0	ST
36286	7/13/88	0504	2852.2	9053.4	14	8	4	8	28.6	28.6	28.6	33.5	33.5	33.6	0.569	7.0	6.8	6.3	ST
36287	7/13/88	0715	2852.2	9053.3	14	9	4	7	28.7	28.7	28.6	34.6	34.6	33.6	0.676	7.0	6.7	6.5	ST/PN
36288	7/13/88	1044	2837.1	9035.3	14	20	12	20	28.4	27.3	27.0	33.9	35.7	35.8	0.231	6.8	6.4	5.1	ST/PN
36289	7/13/88	1250	2837.2	9026.3	14	27	9	24	28.9	27.7	25.6	34.6	35.6	37.0	0.211	6.5	6.4	3.6	ST/PN
36290	7/13/88	1447	2833.5	9032.3	14	31	13	29	29.4	27.5	24.7	34.6	35.7	36.0	0.260	6.5	6.4	3.9	ST/PN
36291	7/13/88	1844	2827.0	9055.8	14	36	17	36	28.7	27.8	22.5	35.0	35.4	36.2		6.9	6.5	6.1	ST/PN
36292	7/13/88	2107	2828.4	9056.1	14	36	17	36	28.5	27.8	22.4	34.9	35.3	36.2	0.735	7.0	6.5	6.2	ST
36293	7/13/88	2259	2829.2	9101.5	15	35	16	35	28.5	27.8	22.5	34.9	35.3	36.2	0.048	7.0	6.4	7.4	ST
36294	7/14/88	0107	2834.6	9108.6	15	27	14	27	28.3	28.0	24.1	35.1	36.3	36.0	0.150	6.5	6.4	5.4	ST
36295	7/14/88	0407	2848.8	9115.2	15	11	5	11	28.7	28.7	27.7	33.5	33.5	34.7	0.531	6.7	6.3	3.8	ST
36296	7/14/88	0705	2848.5	9115.3	15	11	5	11	28.5	28.5	27.8	33.5	33.5	34.7	0.952	6.9	6.1	3.9	ST/PN
36297	7/14/88	1025	2834.1	9108.2	15	27	14	27	28.3	28.0	24.2	35.2	35.3	36.1	0.125	6.3	6.1	4.9	ST/PN
36298	7/14/88	1254	2828.2	9001.7	14	33	17	33	28.9	27.7	22.4	34.8	35.4	36.1	0.043	6.4	6.3	7.3	ST/PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
HERNAN CORTEZ II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
00018	8/26/88	2007	2735.3	8253.3	5	15	5	10	30.4	30.3	30.5	36.1	35.8	35.7	0.547	5.8	6.0	6.0	PN
00019	8/27/88	0035	2730.0	8330.0	5	37	16	32	29.9	29.6	19.6	35.1	35.3	36.4	0.063	5.9	6.1	5.5	PN
00020	8/27/88	0425	2730.0	8359.6	5	47	21	42	29.4	25.9	20.0	35.2	36.2	36.4	0.220	6.2	6.8	5.6	PN
00021	8/27/88	0810	2730.0	8429.6	5	124	60	119	28.9	21.7	20.8	34.6	36.4	36.5	0.207	6.3	6.2	3.8	PN
00022	8/27/88	1720	2700.1	8359.5	5	75	35	70	29.3	25.9	20.0	35.7	36.4	36.5	0.233	6.1	6.7	5.6	PN
00023	8/27/88	2142	2700.1	8329.6	5	49	22	44	29.3	25.0	19.6	35.1	36.1	36.4	0.310	5.9	7.4	5.1	PN
00024	8/28/88	0202	2700.0	8300.0	5	29	12	24	29.5	29.5	20.4	35.4	35.4	36.4	0.253	6.2	6.0	5.8	PN
00025	8/28/88	0550	2702.3	8229.0	5	9	2	4	30.2	30.1	30.2	35.4	35.5	35.4		5.9	5.8	5.9	PN
00026	8/28/88	1000	2630.1	8230.1	4	21	8	16	30.4	30.0	30.0	35.9	35.9	36.0	0.467	6.0	5.6	5.9	PN
00027	8/28/88	1400	2629.6	8259.5	4	35	15	30	30.3	29.6	20.1				0.150	6.0	5.9	5.4	PN
00028	8/28/88	1810	2629.6	8330.0	4	54	25	50	29.7	27.8	20.4	35.5	36.1		0.147	6.1	6.4	5.8	PN
00029	8/28/88	2200	2630.4	8400.4	4	117	56	112	29.3	21.9	18.4	35.8	36.4	36.5	0.187	5.8	6.5	4.6	PN
00030	8/29/88	0130	2629.4	8430.1	99	186	90	180	29.4	21.3	16.0	36.0	36.6	36.2	0.067	5.9	5.9	4.5	PN
00031	8/29/88	0655	2600.0	8429.6	99	203	99	198	29.3	19.5	15.0	36.3	36.5	35.8	0.123	5.9	5.2	4.3	PN
00032	8/29/88	1012	2600.1	8400.1	4	128	62	124	29.6	21.4	17.6	36.2	36.5	36.4	0.100	5.9	6.2	4.6	PN
00033	8/29/88	1525	2559.6	8330.1	4	58	27	54	29.4	28.6	20.2	35.2	36.2	36.9	0.183	6.0	6.2	6.5	PN
00034	8/29/88	1932	2559.6	8300.1	4	42	19	38	29.8	28.5	20.3	35.3	36.0	36.4	0.290	6.2	6.8	5.1	PN
00035	8/29/88	2312	2600.1	8230.0	4	26	11	22	29.8	30.0	21.6	35.6	36.0	36.3	0.190	6.0	5.9	4.8	PN
00036	8/30/88	0310	2529.6	8230.1	3	29	12	24	29.7	29.8	20.9	36.2	35.7	36.3	0.147	6.0	5.9	5.3	PN
00037	8/30/88	0654	2530.4	8259.5	3	46	20	40	29.5	26.3	20.2	35.6	36.2	36.5	0.137	6.0	8.2	5.5	PN
00038	8/30/88	1050	2529.4	8329.5	3	66	30	60	29.6	27.0	20.8	35.7	36.5	36.5	0.260	5.9	6.4	5.6	PN
00039	8/30/88	1505	2529.6	8359.6	3	128	61	122	30.1	23.9	18.5	36.2	36.7	36.5	0.123	5.9	6.2	4.6	PN
00040	8/30/88	1820	2530.1	8430.1	99	427	100	200	29.5	18.3	14.0	36.2	36.3	35.8	0.240	5.9	4.6	4.3	PN
00041	8/30/88	2315	2559.6	8429.6	99	2039	100	200	29.3	20.5	17.0	36.2	36.7	36.3	0.095	5.7	4.9	5.1	PN
00042	8/31/88	0400	2500.1	8400.1	3	110	52	104	29.5	23.7	19.5	36.8	36.6	37.7	0.125	5.6	6.5	4.7	PN
00043	8/31/88	0818	2430.0	8400.0	2	1371	100	200	29.5	25.6	19.0	35.9	37.9	36.7	0.137	5.9	5.7	4.8	PN
00044	8/31/88	1230	2400.0	8400.1	2	1830	100	200	29.7	25.9	20.0	36.3	36.8	36.9	0.187	6.0	5.7	5.0	PN
00045	8/31/88	1805	2429.5	8330.1	2	183	89	178	29.6	23.8	15.2	36.9	37.0	36.1	0.187	5.9	5.5	4.3	PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
HERNAN CORTEZ II

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
00046	8/31/88	2305	2500.0	8329.6	3	62	29	58	29.6	27.6		35.8	36.3	36.4		5.9	6.5	6.4	PN
00047	9/ 1/88	1815	2459.6	8259.5	3	46	21	42	29.6	29.5	19.8	35.7	36.5	36.8	0.330	6.0	5.9	4.7	PN
00048	9/ 1/88	2255	2459.6	8230.0	3	27	11	22	29.5	29.5	20.7	36.9	36.2	36.5	0.373	5.9	5.8	6.3	PN
00049	9/ 2/88	0345	2500.1	8200.1	3	17	6	12	28.8	28.8	26.5	35.9	36.0	36.5	0.303	5.9	5.8	5.9	PN
00050	9/ 2/88	0630	2500.0	8144.6	3	9	2	4	28.7	28.7	28.7	36.1	36.4	36.0	0.600	5.7	5.9	5.7	PN
00051	9/ 2/88	1045	2530.0	8145.3	3	9	2	4	30.0	29.8	29.8	35.7	35.8	35.7	2.963	5.8	5.8	5.6	PN
00052	9/ 2/88	1255	2530.1	8159.4	3	14	5	10	29.2	29.2	29.2	37.3	36.1	36.1	1.357	6.0	5.9	6.0	PN
00053	9/ 2/88	1703	2600.0	8200.0	4	15	5	10	29.9	29.8	29.7	36.0	36.7	36.1	0.900	5.8	5.8	5.7	PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
48495	9/ 7/88	1428	2809.6	8459.8	6	176	87	175	28.7	19.2	15.8	35.2	36.5	36.1	0.108	7.3	4.6	5.7	PN	
48496	9/ 7/88	1837	2800.0	8429.9	6	78	38	75	28.0	20.7	18.3	27.0	36.4	36.3	0.118	6.8	6.6	6.4	PN	
48497	9/ 7/88	2204	2759.9	8400.1	6	47	23	45	28.5	23.1	19.6	34.9	36.5	36.5	0.066	7.3	8.1	7.0	PN	
48498	9/ 8/88	0250	2800.1	8330.0	6	29	14	28	28.5	28.5	28.5			35.2		7.2	7.4	7.2	PN	
48499	9/ 8/88	1820	2859.9	8529.8	8	73	36	73	26.8	23.9	19.6	33.8	36.0	36.4		7.6	8.0	6.8	PN	
48500	9/ 8/88	2102	2911.8	8600.6	99	192	93	187	28.0	18.7	14.9	33.8	36.4	36.0	0.187	8.1	6.5	6.3	PN	
48501	9/ 8/88	2348	2930.0	8600.1	9	59	28	59	28.1	26.9	22.0	35.7	34.9	36.1	0.312	7.3	7.0	6.1	PN	
48502	9/ 9/88	0255	3000.0	8600.0	9	31	15	30	27.0	27.8	25.5		34.9	35.2	0.449	7.4	7.3	7.0	PN	
48503	9/ 9/88	0627	3018.0	8630.1	9	25	12	24	27.3		27.5	34.2	34.1	34.1	0.280	8.0	7.7	7.8	PN	
48504	9/18/88	0342	2929.8	8630.0	9	210	100	200	28.1	18.6	15.5	34.5	36.4	36.0	0.110	7.5	6.5	5.8	PN	
48505	9/18/88	0700	3000.0	8630.0	9	57	28	56	28.2	28.1	23.2	34.3	34.6	36.1	0.312	7.4	6.7	6.1	PN	
48506	9/18/88	1047	3018.4	8700.0	10	20	10	20	27.9	27.8	27.6	33.5	33.7	33.8	0.676	6.8	6.7	6.3	PN	
48507	9/18/88	1320	3000.0	8700.0	10	71	35	70	28.8	27.7	20.7	33.8	35.3	36.7	0.203	7.7	7.1	6.7	PN	
48508	9/18/88	1513	2948.0	8700.0	10	192	96	192	29.4	19.3	15.6	33.8	36.6	36.2	0.040	8.1	6.7	6.2	PN	
48509	9/18/88	1848	3010.0	8730.0	10	26	13	25	28.6	27.7	27.6	33.4	33.9	34.0	0.467	7.2	6.5	6.6	PN	
48510	9/18/88	2034	2959.9	8730.1	10	27	13	26	28.8	27.7	27.7	34.1	34.0	34.1	0.399	7.7	7.1	6.7	PN	
48511	9/18/88	2344	2929.8	8730.1	10	70	35	70	28.2	25.4	19.9	35.1	36.3	36.6	0.107	7.1	7.6	6.4	PN	
48512	9/19/88	0358	2915.0	8800.0	11	244	100	200	28.3	19.1	15.1	34.7	36.8	36.1	2.350	7.2	5.8		PN	
48513	9/19/88	0653	2913.0	8830.0	11	120	60	120	28.0	22.7	18.2	34.3	36.3	36.3	1.101	7.1	5.8	5.0	PN	
48514	9/19/88	1004	2905.3	8856.7	11	53	26	52	28.3	27.6	23.2	31.6	33.9	36.0	0.922	7.8	6.8	5.8	PN	
48515	9/19/88	1116	2859.9	8900.1	13	71	35	70	28.4	27.8	21.5	31.2	34.7	36.3	0.910	7.9	7.2	5.5	PN	
48516	9/19/88	1520	2835.0	8930.2	13	187	93	186	28.9	20.2	16.3	36.6	36.6	36.3	0.080	7.1	7.4	5.4	PN	
48517	9/19/88	1808	2900.0	8930.0	13	14	7	13	28.4	28.1	27.6	31.4	31.4	33.0	0.779	8.5	8.4	5.3	PN	
48518	9/19/88	2331	2855.6	9029.9	14	14	7	14	28.4	27.9	27.8	32.8	32.8	27.0	0.547	7.3	7.0	7.0	PN	
48519	9/20/88	0230	2830.0	9030.0	14	38	19	38	28.2	28.3	28.4	33.7	35.9	36.1	0.237	7.3	7.1	6.9	PN	
48520	9/20/88	0527	2805.0	9030.0	14	140	70	139	28.3	22.4	18.3	36.0	36.6	36.6	0.114	8.6	8.4	6.7	PN	
48521	9/20/88	1124	2800.1	9130.1	15	164	82	163	28.7	20.8	17.6	36.4	36.4	36.3	0.178	8.1	6.8	6.3	PN	
48522	9/20/88	1526	2830.2	9129.9	15	45	23	45	28.3	28.2	27.9	36.1	36.3	36.2	0.196	7.3	7.3	7.1	PN	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
48523	9/20/88	1752	2853.0	9130.0	15	16	8	16	28.2	28.1	28.1	34.6	34.7	35.0	0.160	7.8	7.9	7.3	PN
48524	9/20/88	2322	2915.0	9230.0	16	13	6	12	28.6	28.3	28.1	33.4	33.4	34.4	0.847	7.5	7.1	5.5	PN
48525	9/21/88	0133	2859.9	9230.0	16	24	12	23	27.5	27.8	27.6	35.4	34.0	34.7	0.125	7.3	6.4	5.5	PN
48526	9/21/88	0445	2830.0	9230.0	16	50	25	50	28.1	28.0	25.1	34.5	24.8	36.4	0.140	7.1	7.4	4.1	PN
48527	9/21/88	0745	2800.0	9230.0	16	106	52	105	28.2	23.5	19.8	36.3	36.5	36.4	0.070	7.8	7.8	5.9	PN
48528	9/21/88	1305	2800.0	9329.9	17	94	47	93	28.7	28.3	20.9	36.5	36.8	36.6	0.071	6.4	6.4	5.4	PN
48529	9/21/88	1633	2830.0	9330.0	17	43	21	43	28.5	28.1	28.0	36.2	36.2	36.3	0.093	7.3	8.4	7.0	PN
48530	9/21/88	1925	2900.0	9328.9	17	23	11	22	28.5	28.2	28.0	34.1	34.4	35.4	0.140	7.5	7.4	6.4	PN
48531	9/21/88	2135	2920.0	9329.8	17	15	7	14	28.6	28.2	27.8	31.4	32.4	33.4	0.411	7.8	7.5	6.0	PN
48532	9/22/88	0225	2920.0	9420.0	18	14	7	14	28.7	28.1	27.8	28.8	30.9	33.0	0.523	8.5	7.7	4.6	PN
48533	9/22/88	0508	2900.0	9428.4	18	18	8	16	28.4	28.4	28.0	35.4	35.4	35.5	0.452	7.3	7.4	6.6	PN
48534	9/22/88	0814	2829.9	9430.1	18	36	18	35	28.0	28.0	27.9	36.1	36.1	36.2	0.319	7.3	7.2	7.2	PN
48535	9/22/88	1118	2800.0	9430.0	18	69	34	68	27.9	26.1	22.0	36.5	36.6	36.7	0.100	7.3	7.9	7.3	PN
48536	9/22/88	1644	2745.0	9530.0	20	106	53	106	28.4	26.3	21.4	36.1	36.4	36.5	0.141	8.1	7.9	7.0	PN
48537	9/22/88	1837	2800.0	9530.0	19	54	26	53	28.2	28.0	27.7	36.3	36.3	36.4	0.166	7.7	7.8	6.3	PN
48538	9/22/88	2142	2829.9	9529.9	19	26	13	26	28.6	27.9	27.5	29.5	30.0	35.8	0.337	8.4	8.5	6.7	PN
48539	9/23/88	0035	2827.1	9559.9	19	18	9	18	28.4	28.3	27.6	31.3	31.3	34.6	0.381	7.6	7.9	5.8	PN
48540	9/23/88	0312	2820.0	9620.0	19	16	8	16	28.4	28.4	27.8	31.5	31.5	34.9	0.561	5.7	5.8	4.4	PN
48541	9/23/88	0557	2800.0	9630.0	19	27	13	25	28.1	28.0	28.0	31.9	31.8	34.5	0.436	7.9	7.8	6.4	PN
48542	9/23/88	1205	2800.0	9600.0	19	45	23	45	27.9	27.6	26.8	35.5	36.2	36.2	0.267	7.9	7.4	6.8	PN
48543	9/23/88	1456	2735.0	9600.0	20	142	71	142	28.4	21.7	19.7	35.7	36.5	36.5	0.089	7.6	8.0	6.7	PN
48544	9/23/88	1751	2730.0	9630.0	20	73	32	73	28.4	28.2	22.1	34.1	36.5	36.5	0.228	7.8	7.8	7.2	PN
48545	9/23/88	2055	2730.0	9700.0	20	28	14	28	28.2	28.2	27.4	34.1	34.2	36.0	0.467	7.9	7.8	6.5	PN
48546	9/24/88	0130	2700.0	9640.1	20	88	44	88	28.4	27.9	21.1	34.9	36.2	36.5	0.773	7.8	7.3	6.7	PN
48547	9/24/88	0313	2701.0	9711.9	20	27	14	27	28.2	28.1	27.3	35.1	35.0	35.8	1.221	7.4	7.6	6.2	PN
48548	9/24/88	0647	2630.0	9700.0	21	35	17	34	28.3	28.3	28.3				0.995	7.4	7.6	5.7	PN
48549	9/24/88	0945	2600.1	9700.0	21	28	12	25	28.0	28.0	27.9	36.3	36.3	36.3	0.673	7.4	7.4	7.1	PN
48550	9/24/88	1224	2603.0	9629.9	21	62	31	62	28.2	28.0	24.4	33.9	36.4	36.6	0.174	8.3	7.5	7.2	PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
48551	9/24/88	1507	2629.9	9630.2	21	84	41	84	28.2	25.5	21.0	34.4	36.6	36.5	0.168	7.7	8.4	7.6	PN
48552	9/25/88	0107	2800.0	9500.0	19	80	40	79	28.1	27.9	27.5	36.2	36.6	36.5	0.112	8.3	7.8	7.4	PN
48553	9/25/88	0445	2830.0	9500.0	19	35	17	34	28.2	28.2	27.7	31.8	35.9	36.0	0.150	8.0	7.7	7.4	PN
48554	9/25/88	0741	2900.0	9459.9	19	17	8	16	27.9	27.9	27.9	32.5	32.5	35.4	1.919	8.1	7.9	7.6	PN
48555	9/25/88	1318	2927.1	9404.9	18	14	7	14	28.6	28.6	27.7	31.2	31.2	33.8	0.835	4.2	4.3	3.0	PN
48556	9/25/88	1606	2900.0	9400.0	18	17	8	16	28.4	28.4	28.4	32.9	34.7	35.2	0.249	7.6	7.7	7.4	PN
48557	9/25/88	1824	2830.0	9400.0	18	41	20	40	28.2	28.2	27.9	36.1	36.1	36.1	0.182	7.9	7.7	6.5	PN
48558	9/25/88	2157	2800.1	9400.1	18	82	41	82	28.3	26.0	21.5				0.091	8.0	8.4	7.6	PN
48559	9/26/88	0243	2800.0	9300.0	17	108	54	108	28.2	22.1	19.3	36.2	36.5	36.4	0.061	8.4	5.2	7.2	PN
48560	9/26/88	0601	2830.0	9300.0	17	45	22	44	28.2	28.2	27.3	34.7	34.9	36.3	0.123	8.0	8.2	7.5	PN
48561	9/26/88	0856	2900.0	9259.9	17	24	12	24	27.9	28.2	28.0	33.6	33.9	35.0	0.114	8.0	7.9	7.2	PN
48562	9/26/88	1145	2929.9	9259.9	17	13	7	13	28.5	28.5	28.5	27.7	27.7	32.2	0.984	8.4	8.3	3.8	PN
48563	9/26/88	1028	2900.0	9200.0	16	20	9	18	28.9	28.3	28.0	33.3	33.8	34.8	0.383	7.9	8.2	7.8	PN
48564	9/26/88	2008	2830.0	9159.9	16	50	25	49	28.5	28.0	25.0	35.3	35.7	36.0	0.114	8.2	8.0	5.2	PN
48565	9/26/88	2305	2759.9	9200.0	16	120	60	120	28.3	24.1	18.7	36.2	36.5	36.4	0.076	8.2	9.6	6.2	PN
48566	9/27/88	0400	2800.0	9100.0	15	152	75	150	28.5	23.1	15.5	36.3	36.4	36.0	0.110	8.0	9.3	6.2	PN
48567	9/27/88	0700	2830.0	9100.0	15	34	16	32				34.3	32.8	36.1	0.935	7.9	7.9	7.0	PN
48568	9/27/88	0819	2841.4	9100.0	15	15	7	14	28.4	28.4	28.5	33.3	33.3	35.5	0.343	8.3	8.3	7.6	PN
48569	9/27/88	1313	2900.0	9000.0	14	25	12	25	28.4	28.3	27.1	31.6	31.9	35.5	0.511	8.4	8.4	6.0	PN
48570	9/27/88	1627	2830.0	9000.0	14	91	45	90	28.6	27.5	17.5	34.5	36.2	36.3	0.187	8.2	8.3	5.8	PN
48571	9/27/88	1745	2820.0	9000.0	14	111	55	110	28.5	25.4	16.2	35.9	36.3	36.1	0.299	8.0	8.4	6.1	PN
48572	9/28/88	1446	2800.0	8500.0	6	40	20	40	28.6	28.3	21.0	34.9	34.9	36.3	0.142	8.4	8.3	6.5	PN
48573	9/28/88	1757	2900.0	8430.0	7	35	17	33	28.7	28.7	24.2	34.9	34.9	35.8	0.174	8.8	8.8	7.6	PN
48574	9/28/88	2055	2900.0	8400.0	7	30	15	30	28.9	28.9	28.9	34.8	34.7	34.7	0.374	8.6	8.4	8.2	PN
48575	9/28/88	2352	2900.0	8330.0	7	19	9	19	29.0	29.0	29.0	34.9	34.8	34.8	0.374	9.0	9.4	9.2	PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
ALABAMA INSHORE VESSELS

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₂ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
AL21	9/12/88	0000	3011.7	8800.8	11	8	8	27.5	27.5						6.6	6.0	PN		
AL22	9/12/88	0049	3011.9	8802.5	11	13	13	28.0	27.5						7.0	6.0	PN		
AL11	9/12/88	0136	3016.2	8759.8	11	5	5	26.5	26.5						7.6		PN		
AL12	9/12/88	0201	3016.8	8802.0	11	13	13	26.5	26.5						7.8		PN		
AL13	9/12/88	0241	3017.1	8806.2	11	4	4	27.0	26.0						7.6	8.8	PN		
AL23	9/12/88	2058	3013.3	8805.1	11	5	5	28.5	27.5						7.4	5.4	PN		
AL24	9/12/88	2130	3014.2	8807.7	11	4	4	28.5	28.0						7.8	7.4	PN		
AL33	9/12/88	2206	3008.5	8806.9	11	15	15	28.0	27.5						7.2	5.4	PN		
AL32	9/12/88	2256	3007.9	8803.7	11	15	15	27.5	27.5						6.0	6.0	PN		
AL31	9/12/88	2330	3007.9	8801.7	11	18	18	28.0	28.0						7.0	6.6	PN		

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION LAT LONG		STAT ZONE	SAMPLE DEPTHS			TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M	DISSOLVED OXYGEN, PPM			GEAR
						DEPTH (M)	MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	SUR	MID	
00024	9/12/88	1540	3009.1	8900.1	12	8	4	8	26.0	26.0	26.0					8.0	7.0	7.8	PN
00025	9/12/88	1745	3002.1	8858.1	11	8	4	7	26.2	25.0	25.0					6.7	6.0	6.0	PN
00026	9/12/88	1910	2954.9	8857.9	11	5	3	5	25.5	25.5	25.5					7.3	7.3	6.9	PN
00027	9/12/88	2043	2948.9	8901.6	12	4	2	4	25.5	26.5	26.5					7.2	7.0	7.0	PN
00028	9/12/88	2255	2935.9	8910.0	12	5	2	4	26.0	26.0	26.0					6.9	6.9	6.9	PN
00029	9/13/88	0110	2926.5	8917.5	12	6	3	5	27.0	26.0	26.0					7.2	6.8	6.7	PN
00030	9/13/88	0300	2921.9	8905.0	12	9	4	8	25.0	25.0	25.0					7.4	6.2	5.2	PN
00005	9/13/88	0600	2934.0	8855.1	11	10	5	9	26.0	26.0	26.0					6.6	6.5	6.8	PN
00006	9/13/88	0821	2922.9	8840.9	11	52	25	49	26.5	25.0	23.0					6.6	7.2	6.9	PN
00004	9/13/88	1105	2934.9	8841.1	11	15	8	15	25.5	25.5	25.5					7.3	7.3	7.0	PN
00003	9/13/88	1315	2946.7	8841.0	11	18	9	17	26.0	26.0	26.0					7.8	7.4	7.4	PN
00002	9/13/88	1510	2958.4	8841.0	11	18	9	17	26.0	26.0	26.0					7.3	7.0	6.4	PN
00001	9/13/88	1705	3010.2	8841.2	11	13	6	12	26.0	26.0	26.0					7.0	7.0	6.6	PN
00011	9/13/88	1949	3010.1	8819.9	11	12	6	12	27.0	27.0	27.0					7.2	7.2	7.2	PN
00010	9/13/88	2159	2958.5	8820.4	11	30	15	29	27.0	27.0	26.5					7.1	6.9	7.0	PN
00031	9/29/88	1710	2959.3	8830.1	11	24	12	24	27.0	27.0	26.5					5.9	5.6	5.0	PN
00009	9/29/88	2010	2946.5	8820.0	11	36	18	35	26.0	25.0	21.5					5.9	5.4	6.2	PN
00008	9/29/88	2225	2934.8	8820.0	11	41	20	40	27.0	27.1	26.7					5.7	5.8	5.7	PN
00032	9/30/88	0625	2930.4	8830.2	11	49	25	49	26.8	27.0	21.5					5.6	5.7	5.9	PN
00007	9/30/88	0845	2923.0	8820.1	11	55	27	55	27.0	27.5	24.5					5.8	5.6	5.8	PN
00033	9/30/88	1150	2930.0	8800.0	11	44	22	44	27.0	27.5	27.0					6.0	5.6	5.6	PN
00015	9/30/88	1320	2934.9	8800.1	11	41	21	41	26.5	27.5	26.5					5.9	5.8	5.8	PN
00016	9/30/88	1601	2934.7	8740.1	10	45	23	45	27.0	27.0	21.0					5.8	5.9	5.9	PN
00023	9/30/88	1840	2934.8	8720.1	10	110	55	108	27.0	20.0	18.0					6.0	5.8	5.6	PN
00022	9/30/88	2100	2946.6	8720.1	10	86	44	85	27.0	22.0	18.0					5.7	5.9	5.4	PN
00017	10/ 1/88	0602	2946.7	8740.3	10	37	18	36	26.5	26.5	24.5					5.9	5.9	5.2	PN
00014	10/ 1/88	0840	2946.6	8800.0	11	33	16	33	26.0	27.0	26.0					5.9	5.8	5.2	PN
00013	10/ 1/88	1109	3000.0	8759.8	11	23	11	23	26.5	26.5	26.5					6.0	6.0	5.8	PN

Table 2 (cont'd.)

NMPS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
TOMMY MUNRO

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00018	10/	1/88	1357	2958.6 8740.0	10	26	13	26	26.5	26.5	26.0					6.0	5.8	5.5	PN
00021	10/	1/88	1616	2958.6 8720.0	10	27	13	26	26.0	27.0	27.0					6.0	5.8	5.4	PN
00020	10/	1/88	1755	3010.4 8720.1	10	21	10	21	26.5	26.5	26.5					6.2	6.0	5.7	PN
00019	10/	1/88	2015	3010.4 8740.0	10	11	5	11	26.0	26.0	26.0					6.0	6.0	6.0	PN
00012	10/	1/88	2230	3010.4 8800.1	11	11	5	11	26.0	26.0	26.0					6.3	6.0	6.0	PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LUMCON PELICAN

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
36320	10/ 3/88	1310	2859.0	9036.9	14	9	4	9	27.5	27.5	27.5	32.0	31.4	29.6	3.390	7.6	6.2	6.7	ST/PN
36321	10/ 3/88	1509	2856.6	9031.7	14	12	6	12	27.8	27.7	27.8	32.4	32.6	32.7	3.364	6.7	6.3	6.4	ST/PN
36322	10/ 3/88	1745	2852.2	9039.6	14	15	8	15	27.8	27.8	28.5	30.4	30.5	31.7	1.425	6.4	6.3	3.7	ST/PN
36323	10/ 3/88	1937	2852.3	9039.7	14	14	8	14	27.7	27.7	27.9	29.9	30.0	30.0		6.4	6.2	4.3	ST
36324	10/ 3/88	2146	2853.5	9031.4	14	16	7	16	27.8	27.8	27.8	29.2	27.1	27.9		6.4	6.3	6.3	ST
36325	10/ 4/88	0054	2859.0	9036.9	14	9	5	9	27.2	27.2	27.2	26.9	28.9	29.1	4.543	6.3	6.3	6.5	ST
36326	10/ 4/88	0623	2856.3	9126.1	15	12	6	12	26.8	26.8	26.8	28.4	33.6	33.6	1.992	6.2	5.9	6.0	ST
36327	10/ 4/88	0754	2856.2	9126.1	15	12	6	12	26.8	26.8	26.8	28.4	33.6	33.6	1.992	6.3	6.1	6.1	ST/PN
36328	10/ 4/88	1027	2839.2	9122.5	15	14	7	14	27.4	27.4	27.5	34.3	34.3	34.3	0.374	6.3	6.1	6.1	ST/PN
36329	10/ 4/88	2249	2911.3	9000.3	14	7	4	7	26.0	26.0	26.0	30.1	30.1	30.1	4.405	6.0	5.6	5.7	ST/PN
36330	10/ 5/88	0107	2909.4	8948.2	13	18	8	18	26.4	26.4	28.1	29.7	30.5	35.3	0.444	6.0	5.9	4.1	ST
36331	10/ 5/88	0322	2902.5	8940.2	13	28	15	28	26.9	27.0	28.0	32.4	35.4	34.6	0.250	6.1	6.1	5.3	ST
36332	10/ 5/88	0741	2908.8	8948.5	13	18	9	18	26.5	26.5	28.0	28.5	32.2	36.0	0.490	5.9	5.8	4.4	ST/PN
36333	10/ 5/88	1018	2911.2	9000.2	14	7	3	7	24.7	24.7	24.9	26.6	26.3	26.9	4.898	6.5	6.2	5.9	ST/PN
36334	10/11/88	1703	2834.6	9051.9	14	21	11	21	25.5	25.5	25.7	33.4	34.0	34.2	0.500	6.2	5.8	5.1	ST/PN
36335	10/11/88	1928	2834.7	9051.9	14	22	11	22	25.1	25.6	25.7	33.3	34.0	34.4		6.2	5.1	5.1	ST
36336	10/11/88	2223	2830.4	9108.5	15	34	17	34	24.9	26.2	26.6	33.0	34.6	35.7	0.275	6.2	5.6	5.2	ST
36337	10/12/88	0044	2835.6	9120.5	15	30	14	30	25.4	25.4	26.4	28.7	28.6	28.9	0.264	6.5	6.1	5.8	ST
36338	10/12/88	0842	2835.3	9120.8	15	30	15	30	25.2	25.2	26.4	28.6	28.2	29.5	0.466	6.3	6.0	5.4	ST/PN
36339	10/12/88	1114	2830.6	9110.3	15	34	17	34	24.7	25.6	26.4	28.2	28.8	29.8	0.356	6.6	5.9	4.7	ST/PN

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
48738	10/20/88	1343	2600.0	9707.8	21	14	7	13	26.3	26.3	26.2	36.1	36.1	36.1	0.548	6.2	6.4	6.4	ST	
48740	10/20/88	1713	2604.9	9703.0	21	21		20	26.7		26.7	36.2		36.2	0.355	6.2		6.4	ST/PN	
48742	10/20/88	1944	2611.9	9654.1	21	36	18	36	26.9	29.9	26.7	36.3	36.3	36.6	0.187	5.9	6.1	5.8	ST	
48744	10/20/88	2133	2616.7	9649.5	21	40	20	40	26.8	26.9	26.4	36.2	36.2	36.6	0.100	6.0	5.9	5.9	ST	
48748	10/21/88	0137	2622.6	9642.0	21	45	22	44	26.6	26.8	26.7	34.0	36.1	36.6	0.137	6.1	6.2	6.2	ST	
48752	10/21/88	0619	2616.9	9621.2	99	97	48	97	26.7	26.6		36.5	36.6		0.117	6.3	6.2	6.0	ST	
48754	10/21/88	1123	2637.9	9643.3	21	67	33	66	26.4	26.9	23.6	35.5	36.4	36.5	0.150	5.5	5.3	5.1	ST/PN	
48756	10/21/88	1524	2634.2	9705.2	21	28	14	27	27.2	26.7	26.9	35.9	36.0	36.2	0.262	6.5	6.5	6.7	ST	
48758	10/21/88	1758	2627.1	9706.0	21	19	10	19	27.2	26.7	26.6	36.1	36.2	36.1		7.1	7.3	6.8	ST/PN	
48760	10/21/88	2013	2615.1	9702.1	21	22	11	21	27.1	26.7	26.7	36.4	36.4	36.4	0.237	6.2	6.1	6.4	ST	
48762	10/21/88	2207	2607.0	9708.0	21	13	6	13	26.1	26.1	26.2	35.6	35.8	36.2	0.997	4.4	4.4	4.4	ST	
48764	10/22/88	0039	2622.0	9706.6	21	18	9	17	26.7	26.8	26.7	36.2	36.2	36.3	0.243	7.1	7.1	6.9	ST	
48766	10/22/88	0153	2623.9	9711.2	21	17	8	16	26.4	26.4	26.4	35.9	36.0	36.1		6.7	6.8	6.8	ST	
48768	10/22/88	0443	2634.4	9715.5	21	11	5	11	26.1	26.1	26.2	34.8	35.8	35.8	0.542	8.1	8.2	8.4	ST	
48770	10/22/88	0730	2632.9	9714.9	21	13	6	12	26.1	26.1	26.1	35.8	35.9	35.9	0.430	8.4	9.1	8.4	ST	
48772	10/22/88	0930	2639.6	9717.0	21	19	10	19	26.5	26.5	26.5	35.9	35.8	35.9	0.346	6.7	6.7	6.8	ST	
48774	10/22/88	1157	2656.1	9709.9	21	29	14	29	26.7	26.5	26.5	35.8	35.9	36.2	0.249	6.7	6.7	5.9	ST	
48776	10/22/88	1512	2656.8	9700.7	21	40	20	39	26.8	26.5	25.9	35.7	35.7	36.6	0.125	6.6	6.6	6.6	ST/PN	
48778	10/22/88	1900	2647.0	9651.3	21	53	26	53	26.6	26.7	25.7	35.6	36.3	36.8	0.131	7.2	7.8	7.1	ST	
48780	10/22/88	2304	2659.2	9714.9	21	25	12	25	26.3	26.3	26.5	35.7	35.7	36.2	0.231	6.8	7.0	6.3	ST	
48782	10/23/88	0107	2701.0	9721.7	20	13	7	12	25.9	25.9	25.9	33.5	35.5	35.5	0.449	6.8	6.8	6.8	ST	
48784	10/23/88	0300	2702.9	9706.2	20	32	16	31	26.5	26.5	26.7	35.8	35.8	36.2	0.243	6.6	6.8	6.3	ST	
48786	10/23/88	0744	2708.7	9639.2	20	84	42	84	26.2	26.5	21.4	35.0	36.6	36.7		8.4	8.7	8.5	ST	
48788	10/23/88	1143	2709.7	9659.5	20	41	20	41	24.9	26.6	26.7	35.1	35.6	36.4	0.133	6.9	6.8	5.9	ST	
48790	10/23/88	1348	2713.8	9710.7	20	27	14	27	26.4	26.3	26.3	22.1	35.8	35.8		7.0	6.9	6.4	ST	
48792	10/23/88	1511	2715.1	9718.5	20	18	9	18	26.4	26.1	26.1	35.5	35.5	35.5		8.3	8.4	8.1	ST	
48794	10/23/88	1752	2717.6	9700.3	20	34	17	34	26.5	26.4	26.6	35.2	35.3	35.3	0.181	7.8	7.9	6.2	ST	
48796	10/23/88	1910	2715.6	9703.4	20	33	17	33	26.5	26.5	26.8	35.2	35.3	36.1		7.1	6.1	5.7	ST	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
48798	10/23/88	2100	2721.6	9712.9	20	21	10	21	26.0	25.9	25.8	35.3	35.3	35.4	0.335	6.3	7.4	7.3	ST	
48800	10/23/88	2156	2723.9	9712.4	20	22	11	22	26.1	26.1	26.1	35.2	35.2	35.4	0.217	7.4	7.5	6.8	ST	
48802	10/24/88	0025	2733.0	9657.3	20	28	15	28	26.0	26.0	26.0	35.0	35.0	35.1	0.280	7.0	7.0	7.0	ST	
48804	10/24/88	0214	2738.5	9657.0	20	25	12	25	26.2	26.2	26.5	34.9	34.9	35.1	0.137	6.8		7.0	ST	
48806	10/24/88	0319	2740.2	9652.9	20	30	15	30	26.1	26.1	27.0	34.7	34.7	36.1	0.138	7.8	8.3	7.9	ST/PN	
48808	10/24/88	0743	2727.2	9711.8	20	17	9	17	26.2	26.2	26.2	35.2	35.3	35.3	0.299	7.2	8.3	8.3	ST	
48810	10/24/88	1036	2741.0	9649.6	20	47	23	47	26.2	26.5	26.5	34.9	35.5	36.4	0.187	7.3	8.0	7.9	ST	
48812	10/24/88	1359	2719.7	9630.7	20	93	46	92	26.3	26.4	21.2	35.1	36.7	36.8	0.274	6.9	6.9	6.9	ST	
48818	10/24/88	2126	2728.9	9632.9	20	70	35	70	26.2	27.0	23.3	34.8	36.3	36.9	0.126	7.2	7.7	6.8	ST/PN	
48820	10/24/88	2237	2727.0	9628.9	99	93	46	93	25.9	26.3	20.8	34.1	36.7	37.0	0.237	7.0	7.0	7.0	ST	
48822	10/25/88	0236	2737.9	9623.0	20	62	31	61	25.9	26.7	24.0	34.0	35.7	36.8	0.187	9.2	9.1	8.1	ST	
48824	10/25/88	0735	2736.0	9621.5	20	84	42	84	25.9	26.6	21.3	34.6	36.7	36.7	0.374	7.3	7.0	7.2	ST	
48828	10/25/88	1719	2738.5	9627.5	20	53	26	53	26.0	26.2	26.3		34.9	36.7	0.318	6.3		8.2	ST	
48830	10/25/88	0336	2750.1	9636.1	20	34	17	34	26.0	26.0	26.4	34.3	34.4	35.1		8.0	8.1	6.5	ST	
48830	10/25/88	0336	2750.1	9636.1	20	34	17	34	26.0	26.0	26.4	34.3	34.4	35.1		8.0	8.1	6.5	ST	
48832	10/25/88	2304	2800.0	9630.2	19	27	13	27	25.7	25.7	25.9	33.7	33.7	34.2	0.162	7.9	8.6	6.8	ST/PN	
48833	10/26/88	0147	2758.4	9653.8	20	13	7	13	25.8	25.8	25.8	33.9	34.0	34.0	0.430	7.2	7.0	6.7	ST	
48835	10/26/88	0737	2803.5	9649.4	19	11	5	11	25.7	25.7	25.7	34.0	34.0	34.0	0.458	7.0	7.4	7.5	ST	
48837	10/26/88	0957	2751.4	9656.2	20	16	8	16	26.0	25.6	23.6		33.8	33.8	0.481	4.9	4.7	4.7	ST	
48839	10/26/88	1153	2743.2	9648.0	20	30	15	30		24.0	26.0		34.4	34.5	0.212	4.7	4.8	4.7	ST	
48841	10/26/88	1322	2746.1	9641.0	20	36	18	35	26.2	26.0	26.7	34.2	34.4	35.1	0.168	6.6	6.7	6.6	ST	
48843	10/20/88	1540	2754.8	9632.6	20	30	15	30	26.1	25.8	26.1	33.7		34.6	0.156	6.9	6.9	7.0	ST	
48845	10/26/88	1950	2809.9	9558.6	19	33	16	33	25.8	26.1	26.7	31.2	35.0	35.7	0.193	8.3	8.4	7.8	ST	
48847	10/26/88	2208	2820.0	9554.5	19	24	12	24	25.4	25.0	25.7	33.8	32.4	34.5	0.349	5.2	6.2	7.0	ST	
48849	10/27/88	0148	2835.7	9553.6	19	13	6	13		25.5	25.2		32.1	32.1	0.455	7.2	7.1	7.2	ST/PN	
48851	10/27/88	0313	2838.3	9549.2	19	13	6	13	25.4	25.4	25.2		32.0	32.0		8.0	7.9	7.2	ST	
48853	10/27/88	0735	2841.7	9539.6	19	11	5	11	25.0	25.4	25.4			31.8	0.598	8.3	8.5	8.4	ST	
48855	10/27/88	0948	2828.2	9540.6	19	23	11	23	24.9	24.8	25.2	33.0	33.1	33.6	0.368	6.9	6.7	6.5	ST	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL ₂ , MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
48857	10/27/88	1318	2809.7	9601.0	19	30	15	29	25.7	25.9	26.6				0.212	6.6	6.7	5.5	ST	
48859	10/27/88	1434	2804.0	9552.2	19	46	23	45	26.4	26.3	26.6				0.280	8.5	8.3	7.4	ST/PN	
48861	10/27/88	1812	2815.3	9540.6	19	35	17	35	25.7	26.2	26.3	32.6			0.383	7.3	7.2	6.6	ST	
48863	10/27/88	2123	2758.5	9534.9	20	56	27	55	26.2	26.8	25.4	35.5	36.4		0.159	6.7	6.6	5.8	ST	
48867	10/28/88	0259	2820.7	9516.0	19	35	17	34	25.6	25.8	26.0	35.3	35.7		0.137	6.7	6.8	6.5	ST	
48869	10/28/88	0400	2816.8	9514.0	19	46	23	46	25.8	26.0	26.0	34.9	35.7	35.9	0.181	8.2	8.2	7.3	ST	
48871	10/28/88	0751	2815.2	9505.1	19	46	23	46	25.8	26.0	26.1	35.8	35.6		0.224	8.2	7.5	7.8	ST	
48875	10/28/88	1312	2759.9	9529.2	19	54	27	53	27.2	26.9	24.5	35.3	36.2	36.5	0.137	6.6	6.4	6.6	ST	
48883	10/28/88	1713	2751.7	9522.3	99	142	71	142	26.1	21.0	17.2	34.3	36.4		0.150	6.2	6.3	6.0	ST	
48885	10/29/88	0104	2757.6	9448.0	99	89	44	88	26.4	26.6	21.0	36.3	36.4	36.5	0.066	6.5	6.5	5.8	ST	
48887	10/29/88	0415	2801.6	9429.0	18	86	43	86	26.7	26.5	20.6	35.0	36.3	36.4	0.094	6.8	6.4	5.9	ST	
48889	10/29/88	0839	2807.7	9401.2	18	64	32	64	26.6	26.4	22.2				0.131	7.1	7.2	6.7	ST	
48893	10/29/88	1500	2831.8	9422.0	18	37	19	36	25.8	25.8	25.8	36.1	36.0	36.1	0.380	6.5	6.5	6.2	ST/PN	
48895	10/29/88	1825	2827.0	9439.6	18	36	18	36				35.5	35.9	35.4	0.234	6.5	6.2	6.0	ST	
48897	10/29/88	2104	2817.4	9430.1	18	48	23	47	26.1	26.0	26.0	36.2	36.2	36.0	0.268	7.0	6.9	6.8	ST	
48901	10/30/88	0133	2801.7	9418.0	18	71	35	70	26.3	26.2	22.2				0.174	6.6	6.6	6.4	ST	
48903	10/30/88	0403	2757.7	9407.4	99	82	41	82	26.3	26.2	20.5	36.3	36.3	36.5	0.110	6.8	6.6	6.2	ST	
48905	10/30/88	1203	2823.7	9527.9	19	30	15	29	24.7	25.1	25.8	32.7	34.7		0.361	6.9	7.2	6.3	ST	
48907	10/30/88	1533	2834.0	9530.9	19	20	10	19	25.3	24.4	24.8	33.0	33.1	34.1	0.492	7.2	7.2	7.2	ST/PN	
48909	10/30/88	1732	2838.5	9523.0	19	19	10	19	24.3	24.4	24.5	32.8	32.6	33.1	0.888	7.8	7.5	7.5	ST	
48911	10/30/88	2018	2838.7	9523.9	19	21	10	20	24.6	24.7	24.9				1.024	7.2	7.1	7.3	ST	
48913	10/30/88	2306	2840.9	9455.6	18	28	13	26	25.1	25.1	25.2	35.2	35.2	35.3	0.287	6.9	6.8	6.9	ST	
48915	10/31/88	0039	2836.9	9500.6	19	32	16	32	25.2	25.4	25.4	35.8	35.6	35.6	0.517	6.9	6.8	6.8	ST	
48917	10/31/88	0417	2822.9	9500.0	19	38	19	38	25.6	25.9	26.0	35.9	35.8	36.1	0.623	6.6	6.6	6.3	ST/PN	
48919	10/31/88	0853	2845.8	9524.8	19	13	6	12	23.9	23.9	24.0	30.8	30.5	30.8	1.121	7.8	7.5	7.6	ST	
48921	10/31/88	1103	2849.6	9516.1	19	19	9	18	23.8	24.2	24.5	32.0	32.5	33.0	1.210	10.3	10.2	10.0	ST	
48923	10/31/88	1147	2850.3	9514.9	19	16	8	16	23.6	23.7	24.3	30.6	30.5	32.1	1.308	7.3	6.6	6.8	ST	
48925	10/31/88	1536	2904.4	9505.4	19	12	6	12	23.6	23.6	23.7	29.9	30.0	30.0	1.321	7.1	7.3	7.2	ST/PN	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
48927	10/31/88	1847	2908.3	9454.2	18	15	7	15	23.2	23.3	24.1	29.8	29.7	30.2	1.732	7.1	7.0	6.7	ST	
48929	10/31/88	2139	2858.4	9435.1	18	19	9	18	24.6	24.7	24.7	34.7	34.8	34.8	0.545	7.1	6.9	6.9	ST	
48931	11/ 1/88	0036	2835.7	9430.5	18	32	16	32	25.3	25.3	25.5	35.9	35.8	35.8	0.424	7.0	6.9	7.0	ST	
48933	11/ 2/88	1952	2857.0	9424.5	18	16	8	16	23.9	24.1	24.1	34.5	34.6	34.9	0.405	7.2			ST/PN	
48935	11/ 2/88	2243	2844.0	9426.0	18	25	12	24	24.9	24.9	24.9	36.0	35.9	35.9	0.517	7.2	7.0	6.8	ST	
48937	11/ 3/88	0215	2856.3	9408.1	18	20	10	20	24.2	24.3	24.3	35.6	35.6	35.7	0.366	6.5	6.3		ST	
48939	11/ 3/88	0648	2847.9	9412.6	18	24	12	24	24.7	24.8	24.8	36.1	36.1	36.1	0.436	6.5	6.6	6.6	ST	
48941	11/ 3/88	0812	2844.9	9412.0	18	29	14	28	25.0	25.0	25.0	36.0	36.0	35.9	0.405	7.0	6.2	6.3	ST	
48943	11/ 3/88	1133	2844.6	9356.9	17	26	13	25	24.7	24.7	24.7	35.9	35.8	35.7	0.243	6.7	6.5	6.5	ST	
48945	11/ 3/88	1411	2835.2	9346.1	17	36	18	36	25.3	25.3	25.4	36.2	36.0	36.0	0.382	6.9	6.8	6.8	ST	
48947	11/ 3/88	1648	2844.8	9342.1	17	22	11	22	24.8	24.7	24.7	35.7	35.6	35.7	0.280	6.6	6.6	6.6	ST	
48949	11/ 3/88	1954	2848.3	9349.9	17	23	11	22	24.7	24.7	24.8	35.7	35.7	35.6	0.291	6.6	6.5	6.5	ST	
48951	11/ 3/88	2343	2856.7	9347.3	17	22	11	20	24.5	24.5	24.6	35.9	35.7	35.8	0.579	6.6	6.6	6.8	ST/PN	
48953	11/ 4/88	0247	2908.5	9356.0	17	19	9	18	23.6	23.9	24.0	34.7	34.7	35.3	0.343	5.9	6.4	6.6	ST	
48955	11/ 4/88	0520	2915.5	9348.7	17	17	8	17	23.5		23.6	34.6	34.7		0.397	7.3	7.5	7.5	ST	
48957	11/ 4/88	0853	2923.2	9324.8	17	14	6	12	23.0	23.0	23.0	34.6	34.6	34.6	0.897	6.9	6.5	6.7	ST	
48959	11/ 4/88	1120	2929.1	9329.4	17	11	5	10	22.9	22.9	22.8	34.2	34.2	34.2	0.804	7.0	7.1	7.2	ST/PN	
48961	11/ 4/88	1417	2942.2	9324.8	17	11	5	11	22.4	22.3	22.4	30.9	31.4	32.5	0.757	5.9	7.0	6.6	ST	
48963	11/ 4/88	2033	2919.7	9229.4	16	15	7	14	22.6	22.6	23.2	30.8	33.0	31.3	1.299	6.5	6.7	6.1	ST	
48965	11/ 4/88	2322	2911.5	9231.4	16	18	8	16	23.6	23.6	23.7				0.710	7.0	6.9	7.0	ST/PN	
48967	11/ 5/88	0231	2910.2	9241.0	16	21	10	21	23.6	23.6	23.8	34.0	34.2	34.2	0.654	6.4	6.9	7.0	ST	
48969	11/ 5/88	0659	2932.1	9306.0	17	13	6	12	22.8	22.8	22.8	33.9	34.0	34.0	0.727	6.8	7.2	7.0	ST	
48973	11/ 5/88	1119	2920.3	9255.2	16	17	8	16	23.5	23.5	23.5	34.6	34.5	34.5	0.916	6.5	7.2	7.1	ST/PN	
48975	11/ 5/88	1508	2906.1	9304.0	17	21	10	21	24.1	24.1	24.1	35.3	35.3	35.3	0.602	6.6	6.7	6.9	ST/PN	
48977	11/ 5/88	1914	2848.6	9333.7	17	23	12	23	24.5	24.5	24.5	35.5	35.9	35.9	0.573	6.6	6.5	6.5	ST	
48979	11/ 5/88	2203	2840.7	9316.6	17	33	16	32	24.8	24.8	24.8	35.9	35.9	36.0	0.386	6.0	6.0	6.5	ST	
48981	11/ 6/88	0131	2828.5	9329.3	17	46	23	46	25.1	25.1	25.3	36.0	36.2	36.2	0.287	5.7	5.9	5.9	ST	
48985	11/ 6/88	0533	2828.7	9338.1	17	38	19	38	25.0	25.2	25.2	36.3	36.3	36.4	0.312	7.7	7.5	7.0	ST	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
48987	11/	6/88	0817	2841.5 9339.5	17	27	13	27	24.3	24.3	24.3	36.2	36.2	36.0	0.330	6.0	6.0	6.0	ST
48989	11/	6/88	1037	2836.3 9328.4	17	36	18	35	24.8	24.8	24.8	36.2	36.2	36.2		6.0	6.0	6.2	ST/PN
48991	11/	6/88	1435	2841.3 9308.8	17	30	15	30	24.4	24.4	24.4	35.9	35.9	35.9	0.405	7.1	7.0	7.2	ST
48993	11/	6/88	1510	2841.3 9307.0	17	34	17	34	24.8	24.8	24.8	35.9	36.1	36.1	0.411	7.3	7.3	7.3	ST
48995	11/	6/88	1645	2834.4 9307.6	17	44	22	44	24.9	24.9	25.0	35.7	36.3	36.3	0.347	7.7	7.5	7.2	ST
48997	11/	6/88	1955	2839.8 9309.7	17	34	17	34	24.7	24.7	24.8	35.3	36.1	36.1	0.374	7.3	7.3	7.2	ST
48999	11/	7/88	0104	2808.6 9318.3	17	72	36	71	25.5	25.5	22.2	36.6	36.5	36.6	0.128	6.9	6.6	6.0	ST
49001	11/	7/88	0449	2802.4 9324.6	17	116	56	115	25.5	25.6	19.1	36.5	36.6	36.7	0.102	6.6	6.6	6.3	ST
49005	11/	7/88	0931	2808.6 9318.8	17	73	36	72	25.5	29.5	20.5	36.6	36.6	36.7	0.287	6.5	6.5	5.5	ST
49007	11/	7/88	1513	2813.3 9308.2	17	57	28	57	25.2	25.2	22.9	36.5	36.4	36.5	0.205	6.7	6.9	6.9	ST
49009	11/	7/88	2308	2806.9 9254.2	16	82	41	81	25.4	25.4	20.0	36.5	36.5	36.5	0.118	6.4	6.4	5.2	ST/PN
49011	11/	8/88	0509	2834.0 9251.9	16	40	20	40	24.7	24.7	24.7	36.2	36.2	36.2	0.312	7.3	7.3	7.3	ST/PN
49017	11/	8/88	1502	2814.0 9249.9	16	63	31	63	25.5	25.3	21.2	36.4	36.5	36.6	0.125	6.5	6.3	5.7	ST
49019	11/	8/88	1905	2826.2 9230.6	16	55	27	54	25.2	25.1	25.0	36.4	36.4	36.6	0.353	7.3	7.4	7.3	ST
49020	11/	8/88	2226	2846.5 9222.4	16	35	17	34	24.0	24.0	24.7	35.3	35.4	36.1		7.8	7.5	7.3	ST/PN
49022	11/	9/88	0100	2850.6 9233.0	16	30	15	30	24.0	23.8	24.0	35.2	35.2	35.3	0.268	6.6	6.5	6.8	ST
49024	11/	9/88	0628	2907.9 9253.0	16	21	10	20	23.4	23.4	23.2	35.3	35.2	35.3	0.405	6.7	6.6	6.5	ST
49026	11/	9/88	0853	2911.0 9239.7	16	19	9	18	23.4	23.4	23.0	34.8	34.6	34.6	0.486	6.3	6.8	6.7	ST
49030	11/	9/88	2317	2850.1 9113.9	15	9	4	8	23.0	23.0	23.0	34.0	33.9	33.7		6.3	6.0	5.5	ST
49032	11/10/88	0117	2840.8 9111.2	15	17	8	17	17	24.0	24.1	24.8	34.8	34.8	35.6	0.436	6.5	6.6	5.5	ST
49034	11/10/88	0357	2834.1 9123.4	15	34	17	34	34	24.0	24.0	25.1	35.1	35.0	36.2	0.168	6.7	6.9	6.4	ST/PN
49036	11/10/88	0633	2842.7 9133.3	15	26	13	26	26	23.7	23.7	25.0	34.9	34.9	36.1	0.179	6.9	7.0	6.5	ST
49038	11/10/88	0840	2839.9 9143.9	15	33	16	32	32	24.1	24.4	24.7	35.5	35.7	36.0	0.224	6.8	6.7	6.5	ST
49040	11/10/88	1001	2835.7 9147.3	15	39	19	38	38	24.3	24.5	24.8	35.6	35.9	36.1	0.126	6.5	6.6	6.4	ST
49042	11/10/88	1257	2831.8 9151.0	15	44	22	44	44	24.6	24.6	24.9	36.0	36.2	36.4	0.212	7.5	7.2	6.7	ST/PN
49046	11/10/88	1628	2838.1 9158.2	15	34	17	33	33	24.5	24.4	24.5	35.6	35.7	35.9	0.418	6.6	6.5	6.5	ST
49048	11/10/88	1920	2845.8 9148.8	15	28	14	28	28	24.0	24.1	24.4	34.7	35.3	35.7	0.395	6.8	6.7	6.7	ST
49050	11/10/88	2114	2844.4 9144.1	15	27	13	26	26	23.8	24.0	24.6	34.6	35.1	35.9	0.156	6.8	6.8	6.5	ST

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX		
49052	11/11/88	0638	2803.6	9209.7	16	87	44	86	25.3	25.4	20.9	36.6	36.6	36.7	0.075	6.9	6.8	6.5	ST	
49054	11/11/88	1029	2807.6	9222.0	16	80	40	79	25.3	25.3	20.2	36.5	36.5	36.4	0.100	6.0	5.5	5.0	ST/PN	
49056	11/11/88	1443	2826.3	9234.0	16	54	27	54	25.2	25.0	25.0	36.4	36.4	36.6	0.162	7.1	7.1	7.0	ST/PN	
49060	11/11/88	2052	2852.2	9203.8	16	26	13	25	24.4	24.4	24.5	35.6	35.7	35.8	0.393	6.2	6.0	5.8	ST	
49062	11/12/88	0017	2905.9	9205.0	16	13	6	12	23.3	23.3	23.3	34.3	34.3	34.1	0.480	7.0	7.4	7.0	ST/PN	
49064	11/12/88	0125	2910.3	9206.0	16	9	4	9	22.9	22.9	22.9	33.7	33.7	33.7	1.168	6.7	6.7	6.9	ST	
49066	11/12/88	0632	2853.0	9218.0	16	28	14	28	23.9	23.9	24.3	35.1	35.1	35.6	0.819	7.2	7.1	6.6	ST	
49068	11/12/88	1037	2857.9	9147.1	15	17	8	16	22.8	22.8	22.8	33.5	33.5	33.9	0.645	7.0	7.2	6.5	ST	
49070	11/12/88	1343	2855.3	9138.6	15	17	8	17	23.6	23.6	23.7	34.4	34.3	34.5	0.665	7.1	7.2	7.0	ST/PN	
49072	11/12/88	1807	2830.1	9114.5	15	38	19	38	24.4	24.4	24.9	35.6	36.7	36.5	0.265	6.9	7.1	6.8	ST	
49074	11/12/88	2056	2828.6	9108.0	15	38	19	37	24.2	24.3	24.5	35.3	35.6	36.4	0.551	7.8	7.5	6.5	ST/PN	
49076	11/12/88	2355	2836.0	9045.8	14	18	9	17	24.3	24.3	25.1	35.1	35.1	35.8	0.393	7.8	7.5	7.5	ST	
49078	11/13/88	0039	3309.0	9045.9	14	25	12	25	24.2	24.3	25.3	35.0	35.1	36.3	0.330	6.7	6.8	6.1	ST	
49080	11/13/88	0243	2821.9	9045.9	14	43	22	43	24.2	24.5	24.7	35.1	35.6	36.5	0.271	6.9	6.7	6.1	ST	
49082	11/13/88	0626	2834.7	9042.9	14	18	9	18	24.1	24.3	25.2	34.8	35.2	36.1	0.794	6.9	6.9	6.5	ST	
49084	11/13/88	0844	2833.3	9034.1	14	29	14	29	24.2	24.2	25.4	34.9	34.9	36.4	0.248	6.5	6.5	6.0	ST/PN	
49086	11/13/88	1011	2837.1	9028.8	14	24	12	23	24.2	24.1	25.3	34.8	34.8	36.2	0.174	6.6	6.7	5.5	ST	
49088	11/13/88	1347	2842.0	9000.0	14	55	27	55	24.6	24.9	21.5	34.4	36.1	37.0	0.287	6.6	6.4	5.8	ST/PN	
49090	11/16/88	1041	2816.8	9009.6	14	50	25	50	25.1	25.1	25.3	36.3	36.3	36.4	0.355	6.6	6.6	6.6	ST	
49092	11/16/88	1348	2818.8	9019.9	14	60	30	60	25.5	25.4	22.2	36.7	36.7	36.7	0.084	6.5	6.5	5.5	ST	
49094	11/16/88	1753	2818.9	9048.0	14	55	27	55	25.1	25.0	24.6	36.4	36.5	36.6	0.287	7.1	7.3	6.8	ST	
49098	11/16/88	2250	2803.8	9059.9	15	90	45	90	25.6	25.5	22.3	36.6	36.7	36.6	0.131	7.1	7.0	7.0	ST	
49100	11/17/88	0202	2818.7	9108.0	15	62	31	62	25.4	25.4	22.9	36.7	36.6	36.8	0.098	7.0	6.8	5.9	ST	
49102	11/17/88	0634	2838.8	9107.4	15	21	10	20	24.0	24.0	24.0	34.8	34.9	34.9	1.383	7.0	6.8	6.7	ST	
49104	11/17/88	0845	2842.2	9104.7	15	12	5	12	23.7	23.7	23.7	34.1	34.1	34.1	0.872	6.7	6.8	6.8	ST	
49106	11/17/88	1148	2833.1	9051.1	14	25	12	25	24.4	24.4	24.4	35.3	35.3	35.3	0.735	7.0	6.9	6.9	ST	
49108	11/17/88	1241	2828.7	9050.8	14	37	18	37	24.3	24.6	24.9	35.2	35.2	36.0	0.287	7.4	7.0	6.3	ST	
49110	11/17/88	1753	2837.8	9015.6	14	31	16	31	24.2	24.2	25.0	35.0	35.1	35.9	0.527	6.9	6.9	6.4	ST	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
49112	11/17/88	2031	2840.8	9001.2	14	66	33	66	24.6	25.2	23.5	35.9	36.6	36.6	0.393	6.8	6.6	5.5	ST	
49114	11/17/88	2131	2840.8	8958.9	13	96	48	96	24.6	25.0	20.4	36.1	36.9	36.6	0.087	6.5	6.5	4.9	ST	
49116	11/18/88	0029	2850.5	9012.4	14	23	12	23	24.0	24.0	24.2	34.8	34.8	35.0	0.386	6.4	6.5	6.0	ST	
49118	11/18/88	0320	2900.0	9024.5	14	10	5	10	23.2	23.2	23.2	33.2	33.2	33.2	0.208	6.9	6.6	6.6	ST/PN	
49120	11/18/88	0627	2900.9	9021.3	14	11	5	11	23.2	23.2	23.2	33.3	33.3	33.3	2.056	6.7	6.7	6.7	ST	
49122	11/18/88	0856	2903.8	9012.8	14	10	5	10	23.1	23.1	23.1	32.9	32.9	32.9	2.347	6.7	6.7	6.6	ST	
49124	11/18/88	1103	2904.8	9005.5	14	14	7	14	23.6	23.6	23.6	34.1	34.1	34.1	1.464	6.6	6.8	6.6	ST	
49126	11/18/88	1318	2851.6	9006.2	14	29	15	29	24.2	24.2	24.9	35.1	35.1	35.8	0.623	6.8	6.9	6.2	ST	
49128	11/18/88	1724	2905.8	9101.5	15	16	8	16	23.7	23.7	23.8	34.3	34.3	34.4	1.542	6.5	6.6	6.5	ST/PN	
49130	11/18/88	1955	2913.5	8950.1	13	12	6	12	23.4	23.4	23.4	33.4	33.4	33.4	1.430	7.1	7.1	7.1	ST	
49132	11/18/88	2138	2911.0	8942.3	13	14	7	14	23.7	23.7	23.8	33.8	33.8	34.3	1.121	7.0	7.1	6.5	ST	
49134	11/18/88	2253	2907.9	8946.2	13	20	10	20	23.8	23.8	23.8	34.3	34.3	35.0	0.789	7.0	6.9	6.5	ST	
49136	11/19/88	0142	2901.8	8938.2	13	28	14	28	23.9	24.0	24.2	33.1	34.3	34.9	1.084	7.5	7.6	6.8	ST/PN	
49138	11/19/88	0643	2851.2	8919.3	13	75	37	75	23.2	24.6	23.7	33.0	35.6	36.4	1.019	7.7	7.2	6.5	ST	
49140	11/19/88	0744	2850.3	8918.4	13	103	51	103	23.2	24.2	19.6	32.5	36.3	36.4	1.028	7.2	6.4	5.6	ST	
49142	11/19/88	1742	2905.6	8857.8	11	32	16	32	23.0	23.0	23.5	31.9	34.7	35.0	1.505	8.3	8.4	8.4	ST/PN	
49144	11/19/88	1949	2912.0	8857.4	11	62	31	60	23.0	24.9	24.2	33.4	35.9	36.5	0.530	6.0	5.7	6.2	ST	
49146	11/19/88	2244	2912.2	8840.5	11	76	38	76	24.8	24.8	21.7	35.8	36.0	36.2	0.561	8.1	8.0	7.3	ST	
49148	11/20/88	0223	2916.7	8825.1	11	71	35	71	25.0	25.0	22.5	36.3	36.3	36.4	0.224	6.6	6.6	6.6	ST	
49150	11/20/88	0642	2927.9	8836.7	11	45	22	44	23.7	23.8	23.9	35.7	35.8	36.2	2.028	6.8	6.8	6.3	ST	
49152	11/20/88	0957	2920.1	8817.0	11	64	32	64	25.1	25.2	23.3	36.4	36.3	36.4	0.480	6.6	6.5	6.2	ST	
49154	11/20/88	1312	2926.0	8804.0	11	52	26	52	24.5	24.5	22.9	35.8	36.1	36.5	0.214	7.0	6.8	6.1	ST/PN	
49156	11/20/88	1519	2922.2	8756.0	99	79	40	79	24.7	24.9	20.7	36.3	36.3	36.7	0.255	7.4	7.3	6.4	ST	
49158	11/20/88	1519	2922.2	8756.0	99	44	22	44	24.3	24.4	24.2	36.0	36.0	36.3	0.673	6.7	6.6	6.1	ST/PN	
49162	11/20/88	2033	2925.1	8809.0	11	75	34	75	24.8	24.8	22.1	36.1	36.3	36.6	0.224	6.6	6.5	5.0	ST	
49164	11/20/88	2340	2921.0	8753.8	99	85	42	85	24.5	25.0	20.8	36.2	36.5	36.7	0.131	6.6	6.6	5.6	ST	
49166	11/21/88	0648	2925.2	8734.3	99	120	57	115	23.3	23.4	19.5	35.7	35.9	36.6	0.236	6.7	5.8	4.6	ST/PN	
49168	11/21/88	0854	2927.0	8740.1	99	69	34	69	23.2	23.3	25.4	35.8	35.8	36.1	0.498	6.8	6.6	6.0	ST	

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE, °C			SALINITY, PPT			CL, ₃ MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
49169	11/21/88	1333	2931.7	8751.3	10	39	23	39	23.3	23.4	23.4	35.6	35.8	0.517	7.4	7.3	7.0	ST	
49171	11/21/88	1523	2943.1	8757.2	10	34	17	34	22.6	22.6	22.6	35.0	35.0	0.658	7.0	7.0	6.7	ST	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
ARANSAS BAY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
31001	11/13/88	0850	2615.4	9703.6	21	20	10	20	24.6	24.3	23.6				9.5	9.4	8.3	ST	
31002	11/13/88	0925	2617.7	9705.6	21	19	10	19	25.3	25.1	24.5				8.4	8.3	8.1	ST	
31003	11/13/88	0944	2618.3	9705.6	21	18	9	18	25.3	25.1	24.5				8.4	8.3	8.1	ST	
31004	11/13/88	1031	2621.2	9710.5	21	14	7	14	25.8	25.3	25.1				7.8	7.9	7.5	ST	
31005	11/13/88	1110	2618.7	9709.5	21	15	7	15	25.6	24.9	24.7				8.2	8.1	7.7	ST	
31006	11/13/88	1139	2618.4	9708.4	21	16	8	16	25.8	24.8	24.4				8.9	8.7	8.4	ST	
31007	11/13/88	1212	2615.5	9707.5	21	17	8	17	25.7	24.8	24.4				8.0	7.8	7.6	ST	
31008	11/13/88	1250	2614.8	9707.5	21	17	8	17	25.6	24.7	24.2				9.5	9.2	9.0	ST	
31009	12/ 6/88	0800	2604.5	9708.4	21	12	6	12	20.2	20.3	20.3				7.4	7.5	7.6	ST	
31010	12/ 6/88	0846	2605.5	9704.4	21	20	10	20	21.7	21.7	21.6				8.2	8.3	8.4	ST	
31011	12/ 6/88	0917	2605.6	9703.5	21	21	10	21	21.4	21.6	21.7				8.3	8.4	8.5	ST	
31012	12/ 6/88	1009	2601.6	9705.7	21	18	9	18	21.2	21.3	21.3				8.4	8.4	8.5	ST	
31013	12/ 6/88	1102	2557.5	9705.6	22	18	9	18	21.6	21.6	21.6				8.4	8.5	8.5	ST	
31014	12/ 6/88	1140	2558.7	9707.6	22	12	6	12	21.0	20.8	20.7				8.5	8.6	8.6	ST	
31015	12/ 6/88	1210	2558.6	9708.5	22	5	3	5	21.0	20.7	20.7				8.4	8.4	8.5	ST	
31016	12/ 6/88	1240	2600.5	9707.6	21	12	6	12	21.1	21.1	21.0				8.5	8.5	8.5	ST	

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
MATAGORDA BAY

STA#	DATE MM/DD/YY	TIME	POSITION LAT LONG		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS			TEMPERATURE, °C SUR MID MAX			SALINITY,PPT SUR MID MAX			CL, ³ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
							MID	MAX	SUR								SUR	MID	MAX	
32001	11/ 2/88	1005	2825.6	9609.2	19	15	7	14	23.8	23.7	23.7					6.6	6.7	6.6	ST	
32002	11/ 2/88	1052	2822.5	9606.6	19	19	9	18	23.5	23.3	23.3					6.8	6.9	6.8	ST	
32003	11/ 2/88	1134	2824.5	9605.5	19	18	9	17	23.6	23.2	23.4					6.9	7.1	6.8	ST	
32004	11/ 2/88	1205	2824.4	9604.4	19	18	9	17	23.8	23.2	23.3					7.2	7.0	7.1	ST	
32005	11/ 2/88	1252	2826.6	9603.5	19	16	8	15	24.2	23.2	23.3					7.1	7.0	6.7	ST	
32006	11/ 2/88	1332	2827.5	9605.6	19	15	7	14	24.1	23.7	23.4					6.9	7.1	6.9	ST	
32007	11/ 2/88	1414	2827.6	9609.6	19	12	6	11	24.1	23.9	23.7					7.1	7.2	7.0	ST	
32008	11/ 2/88	1510	2828.3	9614.5	19	4	2	3	23.3	23.2	23.2					8.1	8.4	9.0	ST	
32009	11/23/88	0943	2824.3	9610.7	19	16	8	15	20.9	20.8	20.8					7.0	7.0	7.0	ST	
32010	11/23/88	1024	2820.5	9611.6	19	19	9	18	21.8	21.8	21.8					6.8	6.7	6.7	ST	
32011	11/23/88	1126	2818.8	9619.7	19	17	8	16	21.5	21.3	21.2					6.9	7.0	6.9	ST	
32012	11/23/88	1204	2816.4	9619.4	19	19	9	18	22.0	21.7	21.5					7.0	6.8	6.7	ST	
32013	11/23/88	1233	2816.5	9621.5	19	19	9	18	21.8	21.5	21.4					6.7	6.8	6.8	ST	
32014	11/23/88	1306	2815.3	9620.4	19	21	10	20	22.3	21.8	21.6					6.9	6.7	6.5	ST	
32015	11/23/88	1347	2813.5	9624.6	19	19	9	18	22.2	21.8	20.8					7.0	6.9	7.0	ST	
32016	11/23/88	1432	2810.5	9625.6	19	21	10	20	22.2	21.7	20.7					7.2	6.7	6.9	ST	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LAGUNA MADRE

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL ₂ , ³ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
33001	11/ 2/88	0943	2750.4	9701.5	20	10	5	10	24.1	24.1	24.1					7.0	7.2	7.1	ST
33002	11/ 2/88	1006	2751.3	9701.4	20	8	4	8	24.4	24.4	24.4					7.7	7.8	8.0	ST
33003	11/ 2/88	1034	2753.2	9700.4	20	6	3	6	23.6	23.6	23.6					7.9	8.0	8.4	ST
33004	11/ 2/88	1123	2759.5	9654.7	19	4	2	4	24.4	24.0	23.8					7.9	8.0	8.5	ST
33005	11/ 2/88	1147	2758.7	9654.4	20	11	5	11	24.5	24.5	24.3					7.8	7.9	8.1	ST
33006	11/ 2/88	1223	2757.8	9653.8	20	12	6	12	24.6	24.5	24.5					7.8	7.8	8.1	ST
33007	11/ 2/88	1308	2754.0	9649.2	20	20	10	20	24.7	24.5	24.6					7.5	7.5	7.7	ST
33008	11/ 2/88	1359	2750.8	9652.5	20	20	10	20	24.7	24.7	24.6					7.5	7.6	7.8	ST
33009	11/23/88	0734	2746.3	9700.7	20	15	7	15	21.6	21.6	21.1					8.1	8.4	8.6	ST
33010	11/23/88	0805	2743.5	9701.4	20	17	8	17	21.8	21.4	21.6					8.3	8.4	8.8	ST
33011	11/23/88	0843	2740.4	9704.7	20	16	8	16	21.9	21.9	21.0					8.2	8.3	9.2	ST
33012	11/23/88	0941	2745.5	9659.5	20	18	9	18	21.4	21.8	21.2					8.8	8.3	8.6	ST
33013	11/23/88	1014	2745.4	9656.6	20	21	10	21	22.4	22.4	22.3					8.2	8.2	8.5	ST
33014	11/23/88	1052	2747.5	9655.5	20	20	10	20	22.4	22.6	22.5					8.2	8.3	9.0	ST
33015	11/23/88	1120	2748.4	9656.6	20	18	9	18	22.2	22.2	21.6					8.3	8.2	8.6	ST
33016	11/23/88	1145	2747.6	9658.4	20	17	8	17	22.1	21.9	21.6					8.4	8.4	8.9	ST

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
GALVESTON BAY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
34001	11/ 8/88	1045	2917.6	9445.1	18	6	3	6	23.2	23.3	23.2	33.0	33.2	33.3		7.0	6.9	6.9	ST	
34002	11/ 8/88	1127	2917.3	9439.7	18	11	5	10	24.2	23.6	23.6	33.5	33.4	33.6		6.8	6.9	6.5	ST	
34003	11/ 8/88	1221	2918.7	9434.1	18	14	7	13	23.1	23.0	23.6	31.2	32.5	33.4		8.4		7.1	ST	
34004	11/ 8/88	1303	2922.3	9431.7	18	12	6	12	23.9	23.4	23.4	32.4	33.2	32.4		8.2	11.5	7.1	ST	
34005	11/ 8/88	1337	2924.9	9429.3	18	12	6	10	23.8	23.2	23.2	32.9	33.2	33.2		7.6	6.8	6.7	ST	
34006	11/ 8/88	1413	2926.5	9432.7	18	8	4	8	23.7	23.1	23.3	32.8	33.1	33.2		8.0	9.1	7.2	ST	
34007	11/ 8/88	1507	2924.8	9439.4	18	7	3	6	23.2	22.8	23.1	32.4	32.7	33.2		8.2	8.4	8.8	ST	
34008	11/ 8/88	1544	2920.3	9439.7	18	11	5	10	22.7	23.6	23.1	30.6	32.6	33.4		8.2	7.9	7.5	ST	
34009	11/23/88	0749	2915.7	9442.3	18	10	5	10	17.9	17.9	17.9	30.0	30.0	30.0		8.1	8.3	8.6	ST	
34010	11/23/88	0835	2910.4	9445.9	18	15	7	15	19.6	19.6	19.5	31.2	31.2	31.2		7.9	7.9	8.4	ST	
34011	11/23/88	0913	2908.7	9449.5	18	15	7	15	19.8	19.8	19.7	31.3	31.3	31.3		7.9	7.9	8.2	ST	
34012	11/23/88	0944	2910.3	9449.7	18	14	7	14	19.7	19.4	19.6	31.0	31.0	31.1		7.9	8.0	8.4	ST	
34013	11/23/88	1015	2911.6	9451.3	18	11	5	11	19.3	19.2	19.2	31.0	30.8	30.7		7.8	8.0	8.3	ST	
34014	11/23/88	1054	2911.2	9447.6	18	14	7	14	19.6	19.6	19.6	30.9	30.9	31.0		8.0	8.1	8.1	ST	
34015	11/23/88	1121	2912.6	9447.3	18	12	6	12	19.4	19.4	19.3	30.6	30.7	30.8		8.0	7.9	8.2	ST	
34016	11/23/88	1204	2916.3	9445.6	18	8	4	8	18.4	18.2	18.6	30.0	30.2	30.3		8.1	8.1	8.4	ST	

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
SABINE

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
40001	11/	2/88	0910	2932.4 9351.7	17	12	6	12	20.5	21.7	21.8				6.0	6.2	6.3	ST	
40002	11/	2/88	0944	2931.4 9352.4	17	12	6	12	20.5	21.7	21.7				6.0	6.2	6.3	ST	
40003	11/	2/88	1026	2933.3 9352.4	17	12	6	12	21.1	21.6	21.8				6.1	6.4	6.2	ST	
40004	11/	2/88	1121	2933.6 9357.7	17	11	6	11	21.5	21.5	21.7				5.9	6.4	6.4	ST	
40005	11/	2/88	1200	2934.6 9359.6	18	9	4	9	21.8	21.1	21.8				5.7	6.0	5.3	ST	
40006	11/	2/88	1239	2935.5 9357.6	17	8	4	8	21.3	20.7	21.3				6.2	6.5	6.2	ST	
40007	11/	2/88	1331	2940.6 9400.7	18	3	2	3	20.5	20.4	20.1				6.1	6.4	6.3	ST	
40008	11/	2/88	1419	2940.6 9358.6	17	3	2	3	21.0	20.3	20.2				6.5	6.2	6.5	ST	
40009	11/22/88	0905	2938.4 9350.6	17	5	2	5	18.1	18.2	18.2				6.1	6.3	6.4	ST		
40010	11/22/88	1749	2934.7 9349.2	17	12	6	12	18.9	19.3	19.4				6.6	7.0	6.9	ST		
40011	11/22/88	1709	2938.8 9342.2	17	10	5	10	19.0	19.1	19.1				6.8	6.7	6.6	ST		
40012	11/22/88	1625	2940.6 9337.5	17	9	4	9	18.6	18.7	18.9				6.8	7.0	7.6	ST		
40013	11/22/88	1410	2940.4 9335.5	17	9	4	9	18.6	18.6	18.8				6.6	6.9	6.7	ST		
40014	11/22/88	1327	2943.4 9338.5	17	7	4	7	18.6	18.6	18.5				6.3	6.0	5.9	ST		
40015	11/22/88	1245	2943.3 9341.4	17	6	3	6	18.2	18.1	18.1				6.2	6.2	5.7	ST		
40016	11/22/88	1144	2939.5 9347.4	17	8	4	8	18.6	18.6	18.5				6.4	6.4	6.5	ST		

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LOUISIANA INSHORE VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, ³ MG/M	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
36340	11/ 3/88	1113	3003.2	8851.7	11	2	2	21.8	22.4	30.9	32.6	0.928	7.6	7.7	ST/PN				
36341	11/ 3/88	1137	3003.3	8851.4	11	5	5	22.6	22.4	32.5	33.3	0.883	7.3	7.4	ST/PN				
36342	11/ 3/88	1205	3003.7	8850.8	11	8	8	22.8	23.1	32.7	33.4	10.934	7.5	7.3	ST/PN				
36343	11/ 7/88	1207	2900.5	9035.7	14	10	10	29.0	28.8	33.4	33.4	2.667	7.4	7.4	ST/PN				
36344	11/ 7/88	1247	2902.0	9035.7	14	6	6	21.0	21.3	31.6	31.9	4.383	7.4	7.4	ST/PN				
36345	11/ 7/88	1324	2904.5	9035.7	14	2	2	21.3	20.0	32.0	30.1	4.181	7.4	7.5	ST/PN				
36346	11/ 9/88	0923	2856.2	9058.0	14	9	9	22.4	22.0	25.2	32.1	3.435	8.7	6.9	ST/PN				
36347	11/ 9/88	1006	2901.0	9058.9	14	5	5	23.2	21.6	25.8	30.9	4.002	8.8	7.1	ST/PN				
36348	11/ 9/88	1011	2909.5	9209.5	16	9	9	22.7	22.1	31.2	31.2	1.192	7.2	6.3	ST/PN				
36349	11/ 9/88	1053	2919.3	9206.8	16	6	6	23.5	22.7	31.7	31.7	1.080	7.2	6.4	ST/PN				
36350	11/ 9/88	1055	2909.5	9058.3	14	2	2	22.5	22.2	23.8	23.5	1.960	7.1	7.1	ST/PN				
36351	11/ 9/88	1100	2916.3	8956.0	13	2	2	29.5	29.0	29.0	29.0	6.073	7.7	7.7	ST/PN				
36352	11/ 9/88	1144	2915.1	8954.2	13	5	5	24.0	28.5	29.5	32.0	5.344	7.5	6.4	ST/PN				
36353	11/ 9/88	1157	2934.0	9201.8	16	2	2	22.8	22.6	22.3	22.4	6.152	7.1	7.2	ST/PN				
36354	11/ 9/88	1210	2913.9	8952.7	13	9	9	24.5	23.5	32.0	32.0	7.563	7.7	6.4	ST/PN				
36355	11/10/88	0949	2924.8	8904.3	12	10	10	22.8	20.0	33.1	36.0	5.668	7.8	4.6	ST/PN				
36356	11/10/88	1030	2926.9	8909.6	12	6	6	23.4	23.2	31.3	31.4	4.165	8.0	8.0	ST/PN				
36357	11/10/88	1150	2927.4	8912.2	12	2	2	23.8	23.3	29.4	29.5	13.764	8.5	8.3	ST/PN				
36358	11/14/88	1131	2940.0	9322.0	17	9	9	23.2	23.2	31.5	25.4	1.813	6.9	6.6	ST/PN				
36359	11/14/88	1211	2944.0	9322.0	17	6	6	23.1	23.1	29.9	31.0	3.998	6.0	6.7	ST/PN				
36360	11/14/88	1246	2945.0	9322.0	17	2	2	24.0	24.0	30.3	30.3	4.681	7.7	7.5	ST/PN				

Table 2 (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, ₃ MG/M SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
17001	11/ 9/88	1912	2926.2	8843.1	11	35	17	34	23.5	24.0	22.0					6.6	4.8	5.6	ST	
17002	11/ 9/88	2043	2922.1	8847.8	11	35	17	34	23.5	24.0	22.0					6.4	6.0	6.0	ST	
17003	11/ 9/88	2255	2919.1	8852.3	11	39	19	39	23.0	23.5	20.5					6.2	6.0	5.6	ST	
17004	11/10/88	0720	2920.0	8852.7	11	30	15	30	23.5	23.5	21.0					6.2	6.0	6.0	ST	
17005	11/10/88	0841	2925.4	8854.3	11	16	8	16	21.5	22.5	22.0					6.2	5.8	5.8	ST	
17006	11/10/88	1031	2925.2	8843.5	11	37	18	37	24.0	24.0	21.5					6.4	6.0	6.0	ST	
17007	11/10/88	1302	2940.3	8849.3	11	11	5	10	22.3	22.4	23.1					6.9	6.8	6.4	ST	
17008	11/10/88	1816	2942.1	8848.1	11	12	6	12	22.0	22.0	23.0					6.6	6.4	6.2	ST	
17009	11/10/88	2056	2944.0	8849.6	11	10	5	9	22.0	22.0	23.0					6.4	6.6	6.2	ST	
17010	11/10/88	2312	2947.5	8846.0	11	13	6	13	21.5	21.5	22.5					6.6	6.6	6.0	ST	
17011	11/11/88	0052	2948.3	8837.4	11	20	9	19	22.5	21.5	22.7					6.9	6.7	6.0	ST	
17012	11/11/88	0655	2948.3	8831.0	11	29	14	29	21.5	22.0	22.0					6.6	6.6	6.4	ST	
17013	11/11/88	1025	2950.4	8826.7	11	31	16	31	22.0	22.0	21.0					6.2	6.2	5.4	ST	
17014	11/11/88	1218	3000.0	8830.0	11	25	13	24	21.9	22.0	21.9					6.7	6.4	5.2	PN	
17015	11/11/88	1415	3001.4	8824.0	11	22	11	21	21.9	22.0	22.5					6.6	6.5	5.6	ST	
17016	11/11/88	1608	3000.4	8819.7	11	25	12	24	22.8	22.5	23.2					6.4	6.4	5.8	ST	
17017	11/11/88	1838	3005.1	8828.9	11	16	8	15	21.5	21.5	21.5					6.1	6.8	6.4	ST	
17018	11/11/88	2203	2957.2	8821.7	11	31	15	31	22.5	22.5	23.0					6.1	6.2	5.2	ST	
17019	11/12/88	0006	2958.1	8813.3	11	47	23	46	22.9	22.8	22.9					6.4	6.3	6.2	ST	
17020	11/12/88	0227	3000.6	8810.6	11	24	12	23	22.0	22.5	22.0					6.4	6.0	6.4	ST	
17021	11/12/88	0649	3000.0	8800.0	11	19	10	19	22.0	21.5	21.5					6.3	6.3	6.3	PN	
17022	11/12/88	0921	3002.1	8753.0	10	22	10	22	21.5	21.5	21.5					6.4	6.4	6.4	ST	
17023	11/12/88	1211	3005.7	8738.9	10	19	9	18	21.6	22.6	21.8					6.8	6.7	6.7	ST	
17024	11/12/88	1351	3000.0	8730.0	10	24	12	23	22.0	21.9	22.2					6.8	6.7	6.6	PN	
17025	11/12/88	1832	3007.2	8735.3	10	14	7	14	21.5	21.0	21.0					6.4	6.2	6.6	ST	
17026	11/12/88	2039	3004.1	8740.0	10	22	10	21	21.5	21.5	21.5					6.6	6.6	6.6	ST	

Table 2 (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LUMCON PELICAN

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL ₃ MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
36361	11/28/88	1643	2904.6	9008.6	14	11	6	11	20.3	20.3	20.2	33.1	33.1	33.4	1.561	6.3	6.4	6.2	ST/PN	
36362	11/28/88	1821	2904.3	9008.5	14	10	4	10	20.2	20.3	20.3	33.0	33.1	33.1	1.157	6.9	6.6	6.4	ST	
36363	11/28/88	2132	2912.1	8958.5	13	6	3	6	19.6	19.6	19.6	32.1	32.0	31.9	2.141	6.4	6.4	6.4	ST	
36364	11/29/88	0006	2912.0	8947.2	13	15	7	15	20.8	20.8	23.6	33.3	33.7	35.1	1.071	6.3	6.0	5.0	ST	
36365	11/29/88	0315	2907.7	8935.5	13	12	6	12	20.7	20.7	23.1	33.6	33.6	35.4	0.766	8.0	8.2	8.0	ST	
36366	11/29/88	0437	2900.3	8932.4	13	16	9	16	18.6	20.8	23.2	27.7	33.0	35.4	1.318	7.7	7.1	7.0	ST	
36367	11/29/88	0516	2858.2	8932.4	13	32	16	32	20.4	22.2	23.1	26.9	33.5	33.5	1.219	7.3	6.7	7.3	ST	
36368	11/29/88	0800	2858.1	8932.4	13	33	17	33	18.4	21.9	23.1	27.2	33.6	33.7	1.371	7.4	6.6	6.8	ST/PN	
36369	11/29/88	0953	2900.0	8932.4	13	15	7	15	19.3	21.8	23.1	28.7	32.7	35.3	1.738	7.2	6.7	6.0	ST/PN	
36370	11/29/88	1155	2907.5	8935.4	13	12	6	12	19.7	19.9	23.0	30.7	32.6	34.9	1.492	7.0	7.2	6.6	ST/PN	
36371	11/29/88	1440	2911.9	8947.1	13	13	6	13	20.3	20.4	20.4	33.1	33.2	34.7	2.001	6.4	6.8	6.5	ST/PN	
36372	11/29/88	1641	2912.1	8958.5	13	6	3	6	19.2	19.2	19.0	31.9	32.0	31.9	2.102	8.0	7.7	7.5	ST/PN	
36373	11/29/88	1843	2904.0	8951.8	13	26	13	26	21.2	21.8	23.6	32.7	34.2	35.4	0.679	6.5	6.5	6.3	ST	
36374	11/29/88	2105	2859.3	8935.7	13	31	17	31	21.2	22.8	23.0	30.8	34.5	34.6	1.215	6.5	6.2	6.4	ST	
36375	11/30/88	0144	2846.6	9012.5	14	32	16	32	22.0	22.1	23.9	33.9	33.9	33.7	0.264	5.9	6.0	5.9	ST	
36376	11/30/88	0707	2859.3	8935.6	13	35	17	35	20.6	22.7	23.8	30.6	34.3	35.4	0.800	6.4	6.0	6.1	ST/PN	
36377	11/30/88	0953	2904.4	8951.2	13	26	13	26	21.3	21.9	23.0	32.6	33.9	34.7	0.658	6.3	6.2	6.1	ST/PN	
36378	11/30/88	1326	2846.3	9012.1	14	29	13	29	21.9	22.0	23.8	33.9	33.9	35.6	0.163	6.4	6.6	6.3	ST	
36379	11/30/88	1547	2837.9	9019.2	14	26	13	26	22.0	22.1	22.7	34.0	34.0	34.5	0.202	6.3	6.5	6.5	ST/PN	
36380	11/30/88	1916	2837.5	9019.6	14	26	14	26	22.0	22.0	22.9	34.0	34.0	34.7	0.105	6.4	6.5	6.5	ST	
36381	12/14/88	1450	2842.7	9021.9	14	22	11	22	21.2	21.3	21.3	35.0	35.9	35.9	1.399	10.4	4.6	4.4	ST	
36382	12/14/88	1826	2842.6	9021.8	14	22	12	22	21.2	21.2	21.2	36.0	36.0	36.0	1.433	5.1	4.3	4.3	ST	
36383	12/15/88	0534	2834.6	9106.6	15	27	13	27	18.6	19.7	21.1	31.7	33.7	35.3	0.857	5.8	4.7	4.2	ST	
36384	12/15/88	0755	2834.2	9106.6	15	28	14	28	18.4	19.6	21.0	31.7	33.7	35.2	0.870	5.5	4.5	4.2	ST	

Table 3. SEAMAP 1988 Louisiana March Trawl Survey species composition list, 23 trawl stations, using 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 WEIGHT	NUMBER OF	% FREQUENCY OF OCCURRENCE
		CAUGHT (KG)	TOWS WHERE CAUGHT	
<u>Finfishes</u>				
Sphoeroides parvus	least puffer	1387	16	69.6
Scomber japonicus	chub mackerel	1302	2	8.7
Etropus crossotus	fringed flounder	1092	13	56.5
Trachurus lathami	rough scad	927	5	21.7
Syacium gunteri	shoal flounder	920	16	69.6
Anchoa mitchilli	bay anchovy	529	5	21.7
Saurida brasiliensis	largescale lizardfish	437	12	52.2
Halieutichthys aculeatus	pancake batfish	407	14	60.9
Diplectrum bivittatum	dwarf sand perch	372	14	60.9
Cynoscion nothus	silver seatrout	365	10	43.5
Prionotus rubio	blackfin searobin	364	15	65.2
Bollmannia communis	ragged goby	319	6	26.1
Cynoscion arenarius	sand seatrout	274	7	30.4
Peprilus burti	gulf butterfish	226	9	39.1
Symphurus plagiosa	blackcheek tonguefish	192	13	56.5
Centropristis philadelphica	rock sea bass	182	12	52.2
Trichiurus lepturus	Atlantic cutlassfish	129	6	26.1
Synodus foetens	inshore lizardfish	129	12	52.2
Arius felis	hardhead catfish	125	8	34.8
Antennarius radiosus	singlespot frogfish	120	8	34.8
Eucinostomus gula	silver jenny	112	2	8.7
Prionotus tribulus	bighead searobin	101	8	34.8
Prionotus salmonicolor	blackwing searobin	86	10	43.5
Serranus atrobranchus	blackear bass	85	3	13.0
Lepophidium graellsii	blackedge cusk-eel	84	9	39.1

Table 3. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Pristipomoides aquilonaris</i>	wenchman	77	0.9	5	21.7
<i>Urophycis floridana</i>	southern hake	61	4.8	11	47.8
<i>Anchoa hepsetus</i>	striped anchovy	56	0.8	4	17.4
<i>Citharichthys spilopterus</i>	bay whiff	47	0.7	6	26.1
<i>Stenotomus caprinus</i>	longspine porgy	41	0.1	6	26.1
<i>Cyclopsetta chittendeni</i>	Mexican flounder	40	1.5	6	26.1
<i>Larimus fasciatus</i>	banded drum	37	0.3	3	13.0
<i>Scorpaena calcarata</i>	smoothhead scorpionfish	34	0.3	4	17.4
<i>Porichthys plectrodon</i>	Atlantic midshipman	31	0.5	5	21.7
<i>Diplectrum formosum</i>	sand perch	28	1.2	1	4.3
<i>Etrumeus teres</i>	round herring	24	0.1	1	4.3
<i>Ogcocephalus declivirostris</i>	thicktailed batfish	20	1.0	5	21.7
<i>Bregmaceros atlanticus</i>	antenna codlet	19	0.0	2	8.7
<i>Gobiosoma bosci</i>	naked goby	17	0.1	1	4.3
<i>Brotula barbata</i>	bearded brotula	13	0.4	3	13.0
<i>Lutjanus campechanus</i>	red snapper	12	0.7	3	13.0
<i>Prionotus paralatus</i>	Mexican searobin	12	0.1	2	8.7
<i>Selar crumenophthalmus</i>	bigeye scad	9	0.1	1	4.3
<i>Leiostomus xanthurus</i>	spot	9	0.5	4	17.4
<i>Archosargus probatocephalus</i>	sheepshead	8	15.0	1	4.3
<i>Lutjanus synagris</i>	lane snapper	8	0.4	2	8.7
<i>Bairdiella chrysoura</i>	silver perch	8	0.1	2	8.7
<i>Polydactylus octonemus</i>	Atlantic threadfin	7	0.0	2	8.7
<i>Menticirrhus americanus</i>	southern kingfish	7	1.5	3	13.0
<i>Ancylopsetta quadrocellata</i>	ocellated flounder	7	0.5	2	8.7
<i>Paralichthys lethostigma</i>	southern flounder	6	1.4	3	13.0
<i>Trinectes maculatus</i>	hogchoker	5	0.1	1	4.3
<i>Chaetodipterus faber</i>	Atlantic spadefish	5	0.1	2	8.7
<i>Citharichthys macrops</i>	spotted whiff	4	0.2	1	4.3

Table 3. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
Prionotus stearnsi	shortwing searobin	4	0.0	1	4.3
Hildebrandia flava	yellow conger	4	0.0	2	8.7
Rhizoprionodon terraenovae	Atlantic sharpnose shark	3	3.0	1	4.3
Syngnathus louisianae	chain pipefish	3	0.0	1	4.3
Pristigenys alta	short bigeye	3	0.0	1	4.3
Sphyraena guachancho	guaguanche	2	0.1	1	4.3
Lonchopisthus lindneri	swordtail jawfish	2	0.0	1	4.3
Stellifer lanceolatus	star drum	2	0.0	1	4.3
Micropogonias undulatus	Atlantic croaker	2	0.1	1	4.3
Achirus lineatus	lined sole	2	0.0	1	4.3
Brevoortia patronus	gulf menhaden	2	0.0	1	4.3
Ophichthus gomesi	shrimp eel	2	0.5	1	4.3
Gobionellus hastatus	sharptail goby	1	0.0	1	4.3
Upeneus parvus	dwarf goatfish	1	0.0	1	4.3
<u>Crustaceans</u>					
Trachypenaeus similis	roughback shrimp	10780	33.8	20	87.0
Sicyonia dorsalis	lesser rock shrimp	4202	17.5	20	87.0
Portunus gibbesii	irridescent swimming crab	4014	30.1	23	100.0
Callinectes similis	lesser blue crab	3057	71.6	19	82.6
Squilla empusa	mantis shrimp	2427	23.9	20	87.0
Trachypenaeus constrictus	roughneck shrimp	113	0.4	7	30.4
Penaeus aztecus	brown shrimp	111	2.5	13	56.5
Solenocera vioscai	humpback shrimp	96	0.2	4	17.4
Squilla chydrea	mantis shrimp	90	0.4	4	17.4
Penaeus setiferus	white shrimp	74	2.5	9	39.1
Portunus spinimanus	blotched swimming crab	67	1.1	6	26.1
Penaeus duorarum	pink shrimp	46	1.1	7	30.4

Table 3. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Alpheus heterochelis</i>	big-clawed snapping shrimp	41	0.0	3	13.0
<i>Sicyonia brevirostris</i>	brown rock shrimp	40	0.4	8	34.8
<i>Hepatus epheliticus</i>	calico crab	31	1.3	5	21.7
<i>Ovalipes floridanus</i>	Florida lady crab	30	0.0	7	30.4
<i>Libinia dubia</i>	longnose spider crab	15	2.5	2	8.7
<i>Leiolambrus nitidus</i>	white elbow crab	9	0.0	2	8.7
<i>Libinia emarginata</i>	portly spider crab	7	1.5	1	4.3
<i>Raninoides loevis</i>	furrowed frog crab	5	0.0	2	8.7
<i>Persephona crinita</i>	pink purse crab	4	0.0	3	13.0
<i>Persephona mediterranea</i>	mottled purse crab	2	0.0	2	8.7
<i>Porcellana sayana</i>	spotted porcelain crab	2	0.0	1	4.3
<i>Speocarcinus lobatus</i>	gulf squareback crab	2	0.0	1	4.3
<i>Calappa sulcata</i>	yellow box crab	2	1.0	1	4.3
<i>Portunus sayi</i>	sargassum swimming crab	1	0.0	1	4.3
<i>Portunus spinicarpus</i>	longspine swimming crab	1	0.0	1	4.3
<i>Callinectes sapidus</i>	blue crab	1	0.2	1	4.3
<i>Eurypanopeus abbreviatus</i>	lobate mud crab	1	0.0	1	4.3
<u>Others</u>					
<i>Loligo pealeii</i>	longfin squid	527	13.5	14	60.9
<i>Lolliguncula brevis</i>	Atlantic brief squid	284	3.8	10	43.5
<i>Loligo pleii</i>	arrow squid	100	3.6	1	4.3
<i>Octopus vulgaris</i>	common Atlantic octopus	1	0.0	1	4.3

Table 4a
 Statistical Zone 14
 40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 14 during 1988 Louisiana March 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 in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
<i>similis</i>	36.7	15.14	0.1	0.04	4	1684.2	935.58	3.7	2.01	5	1337.4	801.16	4.8	2.36	10
Squilla															
<i>spp.</i>	49.3	11.08	0.3	0.13	4	522.8	176.49	4.4	1.71	5	158.1	71.84	1.7	0.81	10
Portunus															
<i>gibbesii</i>	77.8	31.55	0.5	0.25	4	149.7	72.45	0.8	0.45	5	615.5	407.65	5.3	3.70	10
Sicyonia															
<i>dorsalis</i>	49.6	24.20	0.1	0.05	4	45.2	24.06	0.1	0.04	5	266.1	97.96	1.0	0.35	10
Callinectes															
<i>similis</i>	133.1	66.55	0.9	0.44	4	226.1	97.07	1.3	0.66	5	109.9	46.53	4.8	2.48	10
Trachypenaeus															
<i>constrictus</i>	12.9	4.48	0.0	0.02	4	11.3	7.38	0.0	0.02	5	19.8	19.14	0.1	0.10	10
Scomber															
<i>japonicus</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	5	350.0	241.76	3.0	2.04	10
Spherooides															
<i>parvus</i>	0.0	0.00	0.0	0.00	4	7.4	4.57	0.1	0.04	5	365.7	143.94	4.2	2.17	10
Trachurus															
<i>lathami</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	5	327.7	167.99	4.0	2.18	10
Etropus															
<i>crossotus</i>	0.0	0.00	0.0	0.00	4	14.5	12.48	0.1	0.09	5	306.0	241.39	6.2	5.41	10
Anchoa															
<i>mitchilli</i>	360.6	243.51	0.9	0.58	4	12.4	11.91	0.0	0.03	5	5.4	5.40	0.0	0.00	10
Saurida															
<i>brasiliensis</i>	1.0	1.00	0.0	0.00	4	0.0	0.00	0.0	0.00	5	98.1	42.54	1.2	0.57	10
Cynoscion															
<i>nothus</i>	0.5	0.50	0.0	0.00	4	130.3	130.29	2.1	2.14	5	16.2	4.55	1.3	0.37	10
Syacium															
<i>gunteri</i>	0.5	0.50	0.0	0.00	4	8.6	3.94	0.1	0.08	5	127.9	53.95	2.5	1.06	10
Squid															
	50.0	20.48	0.6	0.22	4	15.6	7.69	0.2	0.12	5	182.1	65.39	4.9	1.80	10

Table 4b
 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)₃ during 1988 Louisiana March trawl survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	18.7	13.04	4	17.8	7.84	5	65.1	18.43	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	16.0	12.62	4	6.9	3.92	5	40.3	14.83	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.2	0.58	4	10.8	4.79	5	20.0	4.83	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.5	0.26	4	0.2	0.19	5	4.9	1.85	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	21.0	0.30	4	20.4	0.44	5	19.8	0.10	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	20.8	0.21	4	18.6	0.70	5	18.0	0.25	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	19.6	0.58	4	18.4	0.08	5	18.7	0.05	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	21.3	2.53	4	24.0	1.39	5	29.2	0.79	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	20.4	1.77	4	26.8	1.47	5	33.3	0.56	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	22.8	2.19	4	34.4	0.18	5	35.9	0.17	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	32.5	8.19	4	28.2	9.27	4	8.0	2.10	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	34.0	4.09	4	13.7	7.17	5	1.6	0.33	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	18.1	0.89	4	6.6	1.50	5	2.0	0.49	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	11.4	0.57	4	11.2	0.76	5	9.0	0.41	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	10.8	0.79	4	8.6	0.64	5	5.3	0.54	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.5	0.84	4	1.6	0.38	5	2.8	0.17	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 5a
 Statistical Zone 15
 40-ft trawls

Summary of dominant organisms taken in shrimp statistical zone 15 during 1988 Louisiana March 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 in depths less than 10 fm or greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
dorsalis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	1764.8	451.29	8.1	2.11	4
Portunus															
gibbesii	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	1332.3	386.99	9.7	3.09	4
Callinectes															
similis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	1097.8	299.04	31.1	7.50	4
Trachypenaeus															
similis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	416.4	229.74	2.5	1.33	4
Squilla															
spp.	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	202.2	116.47	2.3	1.43	4
Penaeus															
aztecus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	27.6	5.70	0.6	0.15	4
Syacium															
gunteri	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	347.5	34.29	6.9	1.31	4
Etropus															
crossotus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	264.6	47.23	4.7	0.88	4
Bollmannia															
communis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	155.2	98.93	0.8	0.42	4
Prionotus															
rubio	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	91.8	48.34	1.1	1.08	4
Diplectrum															
bivittatum	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	93.1	36.92	1.8	0.53	4
Spherooides															
parvus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	72.1	27.26	0.6	0.19	4
Eucinostomus															
gula	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	51.0	51.00	0.0	0.05	4
Centropristis															
philadelphica	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	52.1	41.42	1.7	0.85	4
Squid	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	129.2	66.56	2.8	1.22	4

Table 5b
 Statistical Zone 15
 40-ft trawls

Summary of the mean total catch and environmental data (\bar{X}), the standard error of the mean (SEM) and the number of samples taken (n) during 1988 Louisiana March trawl survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 10 fm or greater than 20 fm.

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
Environmental category	\bar{X}	SEM	n	\bar{X}	SEM	n	\bar{X}	SEM	n	\bar{X}	SEM	n	\bar{X}	SEM	n	\bar{X}	SEM	n
Total catch kg	0.0	0.00	0	0.0	0.00	0	88.8	5.71	4	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	27.8	2.65	4	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	58.1	6.39	4	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	2.5	1.41	4	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	19.6	0.08	4	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	18.6	0.04	4	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	18.8	0.06	4	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	30.7	0.62	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	34.6	0.36	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	0.0	0.00	0	36.5	0.51	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	1.7	0.24	4	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	2.7	1.38	4	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	1.0	0.20	4	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	7.4	0.17	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	6.4	0.49	4	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	4.3	0.29	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 6. SEAMAP June-July 1988 Shrimp and Bottomfish Survey species composition list, 250 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	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<u>Finfishes</u>					
<i>Stenotomus caprinus</i>	longspine porgy	42077	760.7	194	77.6
<i>Micropogonias undulatus</i>	Atlantic croaker	23771	674.7	67	26.8
<i>Trachurus lathami</i>	rough scad	16690	294.2	130	52.0
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	15080	576.2	88	35.2
<i>Peprilus burti</i>	gulf butterflyfish	13856	471.3	128	51.2
<i>Prionotus rubio</i>	blackfin searobin	3524	49.5	81	32.4
<i>Leiostomus xanthurus</i>	spot	3476	215.7	47	18.8
<i>Arius felis</i>	hardhead catfish	3467	510.1	39	15.6
<i>Trichiurus lepturus</i>	Atlantic cutlassfish	3275	82.9	32	12.8
<i>Polydactylus octonemus</i>	Atlantic threadfin	3152	57.0	52	20.8
<i>Scomber japonicus</i>	chub mackerel	2694	82.9	43	17.2
<i>Centropristis philadelphica</i>	rock sea bass	2412	74.5	97	38.8
<i>Diplectrum bivittatum</i>	dwarf sand perch	2314	68.8	102	40.8
<i>Etropus crossotus</i>	fringed flounder	2252	23.9	74	29.6
<i>Serranus atrobranchus</i>	blackear bass	1713	19.4	67	26.8
<i>Syacium gunteri</i>	shoal flounder	1704	41.5	47	18.8
<i>Anchoa hepsetus</i>	striped anchovy	1646	23.2	44	17.6
<i>Prionotus stearnsi</i>	shortwing searobin	1630	13.9	84	33.6
<i>Saurida brasiliensis</i>	largescale lizardfish	1423	13.5	102	40.8
<i>Pristipomoides aquilonaris</i>	wenchman	1329	67.7	73	29.2
<i>Synodus foetens</i>	inshore lizardfish	1304	128.2	158	63.2
<i>Prionotus paralatus</i>	Mexican searobin	1284	20.4	52	20.8
<i>Syacium spp.</i>	lefteye flounders	1248	33.4	80	32.0
<i>Upeneus parvus</i>	dwarf goatfish	1243	26.0	100	40.0
<i>Etrumeus teres</i>	round herring	1238	16.5	42	16.8
<i>Cynoscion nothus</i>	silver seatrout	1201	60.6	27	10.8

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Haliutichthys aculeatus</i>	pancake batfish	1062	8.5	78	31.2
<i>Prionotus salmonicolor</i>	blackwing searobin	904	40.3	41	16.4
<i>Sphoeroides parvus</i>	least puffer	861	12.5	72	28.8
<i>Syacium papillosum</i>	dusky flounder	756	68.6	39	15.6
<i>Lagodon rhomboides</i>	pinfish	740	34.9	66	26.4
<i>Mullus auratus</i>	red goatfish	709	36.6	8	3.2
<i>Harengula jaguana</i>	scaled sardine	613	25.9	51	20.4
<i>Prionotus roseus</i>	bluespotted searobin	428	18.2	18	7.2
<i>Symphurus plagiusa</i>	blackcheek tonguefish	405	9.0	37	14.8
<i>Bellator militaris</i>	horned searobin	327	3.8	16	6.4
<i>Lepophidium graellsii</i>	blackedge cusk-eel	327	13.6	47	18.8
<i>Scorpaena calcarata</i>	smoothhead scorpionfish	300	5.1	30	12.0
<i>Porichthys plectrodon</i>	Atlantic midshipman	298	7.3	60	24.0
<i>Decapterus punctatus</i>	round scad	298	10.7	11	4.4
<i>Synodus poeyi</i>	offshore lizardfish	295	2.6	34	13.6
<i>Anchoa mitchilli</i>	bay anchovy	241	0.9	14	5.6
<i>Citharichthys spilopterus</i>	bay whiff	239	3.3	23	9.2
<i>Peprilus alepidotus</i>	harvestfish	234	4.1	15	6.0
<i>Trichopsetta ventralis</i>	sash flounder	230	6.0	20	8.0
<i>Larimus fasciatus</i>	banded drum	230	5.2	14	5.6
<i>Prionotus tribulus</i>	bighead searobin	229	9.2	30	12.0
<i>Lutjanus campechanus</i>	red snapper	216	28.6	54	21.6
<i>Bollmannia communis</i>	ragged goby	192	1.4	18	7.2
<i>Urophycis floridana</i>	southern hake	179	11.9	35	14.0
<i>Etropus microstomus</i>	smallmouth flounder	178	2.1	6	2.4
<i>Etropus spp.</i>	lefteye flounders	167	1.6	5	2.0
<i>Balistes capriscus</i>	gray triggerfish	161	24.7	22	8.8
<i>Selene setapinnis</i>	Atlantic moonfish	151	8.2	20	8.0
<i>Engyophrys senta</i>	spiny flounder	124	1.0	14	5.6

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Lepophidium jeannae</i>	mottled cusk-eel	124	4.4	18	7.2
<i>Cyclopsetta chittendeni</i>	Mexican flounder	120	9.8	21	8.4
<i>Cynoscion arenarius</i>	sand seatrout	117	14.0	25	10.0
<i>Bregmaceros atlanticus</i>	antenna codlet	114	0.4	12	4.8
<i>Menticirrhus americanus</i>	southern kingfish	112	17.0	15	6.0
<i>Prionotus scitulus</i>	leopard searobin	99	1.6	10	4.0
<i>Prionotus martis</i>	barred searobin	92	7.3	12	4.8
<i>Engraulis eurystole</i>	silver anchovy	85	0.2	1	0.4
<i>Stellifer lanceolatus</i>	star drum	82	2.5	8	3.2
<i>Cynoscion</i> spp.	seatrouts	71	1.0	1	0.4
<i>Anchoviella</i> spp.	anchovies	64	0.3	10	4.0
<i>Lagocephalus laevigatus</i>	smooth puffer	62	1.6	19	7.6
<i>Ogcocephalus</i> spp.	batfishes	61	1.4	16	6.4
<i>Diplectrum formosum</i>	sand perch	58	5.4	17	6.8
<i>Urophycis regia</i>	spotted hake	57	2.5	3	1.2
<i>Orthopristis chrysoptera</i>	pigfish	56	3.3	10	4.0
<i>Opisthonema oglinum</i>	Atlantic thread herring	55	4.5	9	3.6
<i>Brevoortia patronus</i>	gulf menhaden	50	2.5	7	2.8
<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	50	20.2	14	5.6
<i>Anchoviella perfasciata</i>	flat anchovy	46	0.4	3	1.2
<i>Hoplunnis macrurus</i>	freckled pike-conger	46	0.4	14	5.6
<i>Caulolatilus intermedius</i>	anchor tilefish	45	5.4	10	4.0
<i>Haemulon aurolineatum</i>	tomtate	44	2.6	11	4.4
<i>Ancylopsetta quadrocellata</i>	ocellated flounder	43	3.6	11	4.4
<i>Ancylopsetta dilecta</i>	three-eye flounder	43	1.1	9	3.6
<i>Centropristis striata</i>	black sea bass	42	2.0	3	1.2
<i>Anchoa</i> spp.	anchovies	42	0.0	3	1.2
<i>Lepophidium</i> spp.	cusk-eels	39	1.5	1	0.4
<i>Trachinocephalus myops</i>	snakefish	38	3.7	8	3.2

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Prionotus ophryas</i>	bandtail searobin	37	0.6	9	3.6
<i>Neomerinthe hemingwayi</i>	spinycheek scorpionfish	37	3.2	6	2.4
<i>Brotula barbata</i>	bearded brotula	35	2.0	16	6.4
<i>Ophidion holbrooki</i>	bank cusk-eel	34	3.9	6	2.4
<i>Selar crumenophthalmus</i>	bigeye scad	34	3.4	13	5.2
<i>Citharichthys macrops</i>	spotted whiff	31	0.5	13	5.2
<i>Ogcocephalus nasutus</i>	shortnose batfish	31	0.7	9	3.6
<i>Centropristis ocyura</i>	bank sea bass	30	2.5	6	2.4
<i>Sardinella aurita</i>	Spanish sardine	30	1.4	14	5.6
<i>Hildebrandia flava</i>	yellow conger	29	2.7	8	3.2
<i>Antennarius radiosus</i>	singlespot frogfish	28	0.7	14	5.6
<i>Symphurus diomedianus</i>	spottedfin tonguefish	28	0.6	13	5.2
<i>Synchiropus agassizii</i>	dragonet	28	0.3	7	2.8
<i>Urophycis cirrata</i>	gulf hake	27	0.9	9	3.6
<i>Ophidion welshi</i>	crested cusk-eel	26	1.6	10	4.0
<i>Dibranchius atlanticus</i>	offshore batfish	26	0.2	9	3.6
<i>Scomberomorus maculatus</i>	Spanish mackerel	25	7.9	8	3.2
<i>Bellator</i> spp.	searobins	24	0.2	4	1.6
<i>Raja eglantera</i>	clearnose skate	24	19.3	11	4.4
<i>Equetus acuminatus</i>	high-hat	24	0.8	4	1.6
<i>Equetus umbrosus</i>	cubbyu	24	0.6	2	0.8
<i>Pagrus pagrus</i>	red porgy	24	3.0	7	2.8
<i>Citharichthys cornutus</i>	horned whiff	23	0.1	4	1.6
<i>Kathetostoma albigutta</i>	lancer stargazer	23	1.5	8	3.2
<i>Monacanthus hispidus</i>	planehead filefish	23	0.5	13	5.2
<i>Ophidion grayi</i>	blotched cusk-eel	22	2.0	8	3.2
<i>Pontinus longispinis</i>	longspine scorpionfish	21	0.1	4	1.6
<i>Lutjanus synagris</i>	lane snapper	21	3.8	7	2.8
<i>Raja texana</i>	roundel skate	21	7.9	7	2.8

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Pomatomus saltatrix</i>	bluefish	19	4.2	5	2.0
<i>Serraniculus pumilio</i>	pygmy sea bass	16	0.2	4	1.6
<i>Decodon puellaris</i>	red hogfish	16	0.7	1	0.4
<i>Symphurus civitatus</i>	offshore tonguefish	16	0.4	2	0.8
<i>Gymnachirus texae</i>	fringed sole	16	0.2	11	4.4
<i>Hoplunnis</i> spp.	pike-congers	15	0.5	7	2.8
<i>Narcine brasiliensis</i>	lesser electric ray	14	11.7	3	1.2
<i>Sphyræna guachancho</i>	guaguanche	14	3.0	8	3.2
<i>Synagrops spinosus</i>	temperate bass	13	0.1	2	0.8
<i>Rhomboplites aurorubens</i>	vermilion snapper	13	1.8	5	2.0
<i>Eucinostomus gula</i>	silver jenny	13	0.8	9	3.6
<i>Equetus</i> spp.	drums	12	0.8	2	0.8
<i>Priacanthus arenatus</i>	bigeye	12	1.6	8	3.2
<i>Pikea mexicana</i>	yellowtail bass	12	0.1	4	1.6
<i>Ogcocephalus declivirostris</i>	thicktailed batfish	12	0.1	4	1.6
<i>Chilomycterus schoepfi</i>	striped burrfish	12	1.9	4	1.6
<i>Cyclopsetta fimbriata</i>	spotfin flounder	11	1.0	1	0.4
<i>Scomber</i> spp.	mackerals	11	0.3	1	0.4
<i>Chaetodipterus faber</i>	Atlantic spadefish	11	1.4	3	1.2
<i>Physiculus fulvus</i>	morid codlet	10	0.0	1	0.4
<i>Gymnothorax ocellatus</i>	ocellated moray	9	1.2	5	2.0
<i>Hemicaranx amblyrhynchus</i>	bluntnose jack	8	0.4	1	0.4
<i>Paralichthys lethostigma</i>	southern flounder	8	3.1	3	1.2
<i>Zalieutes mcgintyi</i>	tricorn batfish	8	0.6	1	0.4
<i>Ogcocephalus radiatus</i>	polka-dot batfish	7	0.2	5	2.0
<i>Aluterus schoepfi</i>	orange filefish	7	4.5	5	2.0
<i>Sphoeroides dorsalis</i>	marbled puffer	7	0.8	4	1.6
<i>Lactophrys quadricornis</i>	scrawled cowfish	6	1.2	4	1.6
<i>Trinectes maculatus</i>	hogchoker	6	0.0	1	0.4

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Scomberomorus cavalla</i>	king mackerel	6	1.4	1	0.4
<i>Bellator egretta</i>	streamer searobin	5	0.1	3	1.2
<i>Caulolatilus microps</i>	blueline tilefish	5	0.0	1	0.4
<i>Steindachneria argentea</i>	luminous hake	5	0.1	2	0.8
<i>Conodon nobilis</i>	barred grunt	5	0.2	1	0.4
<i>Gymnothorax nigromarginatus</i>	blackedge moray	5	0.9	5	2.0
<i>Dorosoma petenense</i>	threadfin shad	5	0.1	1	0.4
<i>Squatina dumerili</i>	Atlantic angel shark	4	3.5	4	1.6
<i>Bairdiella chrysoura</i>	silver perch	4	0.1	1	0.4
<i>Hippocampus erectus</i>	lined seahorse	4	0.0	3	1.2
<i>Echeneis naucrates</i>	sharksucker	4	1.5	3	1.2
Bothidae	lefteye founders	4	0.0	1	0.4
<i>Scorpaena brasiliensis</i>	barbfish	4	0.1	2	0.8
<i>Prionotus</i> spp.	searobins	4	0.0	2	0.8
<i>Ogcocephalus parvus</i>	roughback batfish	4	0.0	4	1.6
<i>Scorpaena dispar</i>	hunchback scorpionfish	3	0.0	1	0.4
<i>Equetus punctatus</i>	spotted drum	3	0.0	1	0.4
<i>Echiophis intertinctus</i>	spotted spoon-nose eel	3	1.7	1	0.4
<i>Chaetodon sedentarius</i>	reef butterflyfish	2	0.0	1	0.4
<i>Equetus lanceolatus</i>	jackknife fish	2	0.3	1	0.4
<i>Synagrops</i> spp.	temperate basses	2	0.0	1	0.4
<i>Seriola dumerili</i>	greater amberjack	2	0.7	2	0.8
Syngnathidae	pipefishes	2	0.0	1	0.4
<i>Astroscopus y-graecum</i>	southern stargazer	2	0.1	1	0.4
<i>Neobythites gillii</i>	cusk-eel	2	0.1	1	0.4
<i>Paralichthys squamilentus</i>	broad flounder	2	0.6	2	0.8
<i>Lonchopisthus lindneri</i>	swordtail jawfish	1	0.0	1	0.4
<i>Hemipteronotus novacula</i>	pearly razorfish	1	0.0	1	0.4
<i>Euthynnus alletteratus</i>	little tunny	1	0.7	1	0.4

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
<i>Peristedion gracile</i>	slender searobin	1	0.0	1	0.4
<i>Ogcocephalus corniger</i>	batfish	1	0.0	1	0.4
<i>Sphoeroides</i> spp.	puffers	1	0.0	1	0.4
<i>Opsanus beta</i>	gulf toadfish	1	0.5	1	0.4
<i>Hippocampus</i> spp.	seahorses	1	0.0	1	0.4
<i>Mycteroperca microlepis</i>	gag	1	0.1	1	0.4
<i>Rypticus maculatus</i>	whitespotted soapfish	1	0.0	1	0.4
<i>Caranx crysos</i>	blue runner	1	0.2	1	0.4
<i>Remora australis</i>	whalesucker	1	0.1	1	0.4
<i>Equetus pulcher</i>	high-hat	1	0.1	1	0.4
<i>Chaetodon ocellatus</i>	spotfin butterflyfish	1	0.0	1	0.4
<i>Calamus</i> spp.	porgies	1	0.3	1	0.4
<i>Gymnothorax</i> spp.	morays	1	0.5	1	0.4
<i>Hirundichthys rondeleti</i>	blackwing flyingfish	1	0.0	1	0.4
<i>Ophichthus rex</i>	giant snake eel	1	2.5	1	0.4
<i>Ophichthus</i> spp.	snake eels	1	0.0	1	0.4
<i>Anchoa nasuta</i>	longnose anchovy	1	0.0	1	0.4
<i>Saurida caribbaea</i>	smallscale lizardfish	1	0.0	1	0.4
<i>Mustelus norrisi</i>	Florida smoothhound	1	3.6	1	0.4
<u>Crustaceans</u>					
<i>Callinectes similis</i>	lesser blue crab	13138	216.5	131	52.4
<i>Trachypenaeus similis</i>	roughback shrimp	11899	64.5	14	5.6
<i>Trachypenaeus</i> spp.	roughneck shrimps	11391	52.1	88	35.2
<i>Penaeus aztecus</i>	brown shrimp	8678	127.8	153	61.2
<i>Sicyonia brevirostris</i>	brown rock shrimp	8114	95.0	117	46.8
<i>Portunus spinicarpus</i>	longspine swimming crab	6121	35.8	84	33.6
<i>Portunus gibbesii</i>	irridescant swimming crab	3842	30.5	82	32.8

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
<i>Sicyonia dorsalis</i>	lesser rock shrimp	2993	11.1	84	33.6
<i>Squilla empusa</i>	mantis shrimp	2135	25.0	34	13.6
<i>Squilla</i> spp.	mantis shrimps	1234	15.3	78	31.2
<i>Portunus spinimanus</i>	blotched swimming crab	1112	14.2	46	18.4
<i>Penaeus duorarum</i>	pink shrimp	826	24.4	55	22.0
<i>Callinectes sapidus</i>	blue crab	764	46.6	41	16.4
<i>Solenocera</i> spp.	humpback shrimps	633	3.6	38	15.2
<i>Parapenaeus</i> spp.	penaeid shrimps	517	0.9	9	3.6
<i>Penaeus setiferus</i>	white shrimp	196	8.8	24	9.6
<i>Anasimus latus</i>	stilt spider crab	129	0.5	20	8.0
<i>Trachypenaeus constrictus</i>	roughneck shrimp	123	0.5	3	1.2
<i>Solenocera vioscai</i>	humpback shrimp	117	0.3	6	2.4
<i>Ovalipes floridanus</i>	Florida lady crab	111	1.9	12	4.8
<i>Parthenope granulata</i>	bladetooth elbow crab	85	0.5	17	6.8
<i>Hepatus epheliticus</i>	calico crab	80	3.7	20	8.0
<i>Calappa sulcata</i>	yellow box crab	77	12.8	33	13.2
<i>Raninoides louisianensis</i>	gulf frog crab	46	0.6	8	3.2
<i>Squilla chydrea</i>	mantis shrimp	45	0.1	4	1.6
<i>Sicyonia burkenroadi</i>	spiny rock shrimp	32	0.1	4	1.6
<i>Persephona</i> spp.	purse crabs	24	0.2	2	0.8
<i>Ovalipes</i> spp.	lady crabs	23	0.4	5	2.0
<i>Myropsis quinquespinosa</i>	fivespine purse crab	21	0.1	2	0.8
<i>Leiolambrus nitidus</i>	white elbow crab	17	0.0	4	1.6
<i>Parthenope serrata</i>	sawtooth elbow crab	16	0.0	9	3.6
<i>Parthenope</i> spp.	elbow crabs	15	0.1	10	4.0
<i>Hepatus</i> spp.	box crabs	14	0.4	6	2.4
Paguridae	right-handed hermit crabs	14	0.1	5	2.0
<i>Libinia dubia</i>	longnose spider crab	11	0.8	4	1.6
<i>Libinia emarginata</i>	portly spider crab	11	2.3	6	2.4

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY OF OCCURRENCE
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	
Xanthidae	mud crabs	10	0.2	3	1.2
Ovalipes stephensoni	coarsehand lady crab	9	0.0	2	0.8
Stenorynchus seticornis	yellowline arrow crab	9	0.1	7	2.8
Podochela sidneyi	shortfinger neck crab	8	0.0	4	1.6
Scyllarus chacei	chace slipper lobster	7	0.0	2	0.8
Scyllarides spp.	slipper lobsters	7	0.0	2	0.8
Calappa flammea	flame box crab	6	2.0	3	1.2
Pagurus spp.	right-handed hermit crabs	6	0.0	3	1.2
Portunus spp.	swimming crabs	5	0.5	1	0.4
Xiphopenaeus kroyeri	seabob	4	0.0	1	0.4
Arenaeus cribrarius	speckled swimming crab	3	0.2	1	0.4
Persephona crinita	pink purse crab	3	0.0	2	0.8
Plesionika spp.	pandalid shrimps	3	0.0	2	0.8
Parthenope agona	yellow elbow crab	3	0.0	1	0.4
Nibilia spp.	spiny crabs	3	0.0	1	0.4
Persephona mediterranea	mottled purse crab	3	0.0	3	1.2
Microphrys spp.	decorator crabs	2	0.0	1	0.4
Stenocionops furcatus	furcate spider crab	2	0.1	2	0.8
Petrochirus diogenes	grant hermit crab	2	0.1	2	0.8
Sicyonia stimpsoni	eyespot rock shrimp	1	0.0	1	0.4
Tetraxanthus spp.	mud crabs	1	0.0	1	0.4
Menippe spp.	stone crabs	1	0.0	1	0.4
Scyllaridae	slipper lobsters	1	0.0	1	0.4
Calappa spp.	box crabs	1	0.1	1	0.4
Dromiidae	sponge crabs	1	0.0	1	0.4
Stenorhynchus spp.	arrow crabs	1	0.0	1	0.4
Scyllarides nodifer	ridged slipper lobster	1	0.2	1	0.4
Axiopsis hirsutimana	lobster shrimp	1	0.0	1	0.4

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
Podochela spp.	neck crabs	1	0.0	1	0.4
Anasimus spp.	spider crabs	1	0.0	1	0.4
Majidae	spider crabs	1	0.0	1	0.4
Raninoides spp.	frog crabs	1	0.0	1	0.4
Acanthocarpus spp.	box crabs	1	0.0	1	0.4
<u>Others</u>					
Loligo pealeii	longfin squid	7280	128.0	110	44.0
Loligo pleii	arrow squid	6653	134.3	103	41.2
Argopecten gibbus	calico scallop	3559	20.5	13	5.2
Myopsida	squids	1755	6.0	13	5.2
Asteroidea	starfishes	1752	8.2	72	28.8
Amusium papyraceum	paper scallop	1335	20.5	36	14.4
Aurelia spp.	jellyfishes	945	29.9	15	6.0
Lolliguncula brevis	Atlantic brief squid	523	5.6	26	10.4
Renilla spp.	sea pansies	493	2.2	21	8.4
Loligo spp.	squids	208	2.5	7	2.8
Scutellidae	sand dollars	121	3.9	7	2.8
Aplysia spp.	sea hares	56	0.5	3	1.2
Ophiuroidea	brittlestars	45	0.0	11	4.4
Echinodermata	echinoderms	37	5.0	3	1.2
Luidia spp.	sea stars	36	0.4	9	3.6
Astropecten spp.	sea stars	35	0.0	9	3.6
Anadara spp.	ark shells	15	0.1	4	1.6
Scyphozoa	jellyfishes	15	0.1	3	1.2
Porifera	sponges	8	1.6	4	1.6
Chrysaora quinquecirrha	sea nettle	7	0.0	1	0.4

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
Chaetopterus spp.	tube worms	7	0.0	2	0.8
Gastropoda	snails	6	0.0	3	1.2
Bryozoa	moss animals	5	0.0	1	0.4
Atrina spp.	penshells	5	3.0	1	0.4
Fusinus spp.	Yucatan spindle shells	4	0.0	3	1.2
Conus spp.	cone shells	3	0.1	3	1.2
Anadara baughmani	Baughman's ark	3	0.0	2	0.8
Pelecypoda	bivalve mollusks	3	0.0	1	0.4
Nudibranchia	sea slugs	3	0.0	2	0.8
Octopus vulgaris	common Atlantic octopus	3	0.5	3	1.2
Clypeaster spp.	cake urchins	3	0.1	2	0.8
Spatangidae	heart urchins	2	0.0	1	0.4
Echinaster spp.	thorny sea stars	2	0.0	1	0.4
Ophiura spp.	brittle stars	2	0.0	1	0.4
Tunicata	tunicates	2	0.0	2	0.8
Octopus spp.	octopuses	2	0.8	2	0.8
Gorgonidae	gorgonians	2	0.2	1	0.4
Pectinidae	scallops	2	0.0	1	0.4
Aplysia willcoxi	seahare	1	0.0	1	0.4
Rossia spp.	bob-tailed squids	1	0.0	1	0.4
Chione spp.	venus shells	1	0.0	1	0.4
Anthozoa	anthozoans	1	0.0	1	0.4
Pennatula spp.	sea pens	1	0.0	1	0.4
Actiniaria spp.	sea anemones	1	0.0	1	0.4
Styelidae	sea squirts	1	0.5	1	0.4
Tonna galea	giant tun	1	0.1	1	0.4
Gorgonocephalus spp.	basket stars	1	0.1	1	0.4

Table 7. SEAMAP June-July 1988 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	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<u>Finfishes</u>					
<i>Micropogonias undulatus</i>	Atlantic croaker	3644	72.0	54	67.5
<i>Leiostomus xanthurus</i>	spot	770	17.4	42	52.5
<i>Peprilus burti</i>	gulf butterfish	458	6.3	25	31.3
<i>Syacium gunteri</i>	shoal flounder	456	5.3	38	47.5
<i>Stenotomus caprinus</i>	longspine porgy	329	1.9	15	18.8
<i>Cynoscion nothus</i>	silver seatrout	296	8.1	43	53.8
<i>Polydactylus octonemus</i>	Atlantic threadfin	221	4.0	38	47.5
<i>Arius felis</i>	hardhead catfish	134	6.1	14	17.5
<i>Peprilus alepidotus</i>	harvestfish	125	0.9	18	22.5
<i>Stellifer lanceolatus</i>	star drum	111	1.5	22	27.5
<i>Larimus fasciatus</i>	banded drum	108	1.5	21	26.3
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	78	1.1	22	27.5
<i>Lagodon rhomboides</i>	pinfish	61	1.7	13	16.3
<i>Prionotus tribulus</i>	bighead searobin	48	0.4	22	27.5
<i>Brevoortia patronus</i>	gulf menhaden	43	1.0	12	15.0
<i>Menticirrhus americanus</i>	southern kingfish	40	1.9	12	15.0
<i>Prionotus rubio</i>	blackfin searobin	34	0.1	12	15.0
<i>Trichiurus lepturus</i>	Atlantic cutlassfish	34	1.6	12	15.0
<i>Symphurus plagiusa</i>	blackcheek tonguefish	31	0.3	10	12.5
<i>Cynoscion arenarius</i>	sand seatrout	28	1.4	10	12.5
<i>Etropus crossotus</i>	fringed flounder	23	0.2	13	16.3
<i>Prionotus salmonicolor</i>	blackwing searobin	17	0.3	7	8.8
<i>Anchoa mitchilli</i>	bay anchovy	17	0.0	11	13.8
<i>Lutjanus campechanus</i>	red snapper	14	0.5	10	12.5
<i>Ancylosetta quadrocellata</i>	ocellated flounder	12	0.4	9	11.3
<i>Achirus lineatus</i>	lined sole	11	0.1	2	2.5

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Citharichthys spilopterus</i>	bay whiff	11	0.0	9	11.3
<i>Mullus auratus</i>	red goatfish	8	0.1	3	3.7
<i>Lagocephalus laevigatus</i>	smooth puffer	8	0.0	7	8.8
<i>Synodus foetens</i>	inshore lizardfish	7	0.3	5	6.3
<i>Harengula jaguana</i>	scaled sardine	6	0.1	3	3.7
<i>Bairdiella chrysoura</i>	silver perch	6	0.2	3	3.7
<i>Sphoeroides dorsalis</i>	marbled puffer	5	0.0	1	1.3
<i>Upeneus parvus</i>	dwarf goatfish	4	0.0	2	2.5
<i>Orthopristis chrysoptera</i>	pigfish	4	0.0	2	2.5
<i>Diplectrum bivittatum</i>	dwarf sand perch	3	0.0	1	1.3
<i>Dorosoma petenense</i>	threadfin shad	3	0.1	3	3.7
<i>Opisthonema oglinum</i>	Atlantic thread herring	3	0.0	2	2.5
<i>Sphoeroides parvus</i>	least puffer	3	0.0	3	3.7
<i>Porichthys plectrodon</i>	Atlantic midshipman	2	0.0	2	2.5
<i>Halieutichthys aculeatus</i>	pancake batfish	2	0.0	2	2.5
<i>Citharichthys macrops</i>	spotted whiff	2	0.0	2	2.5
<i>Anchoa hepsetus</i>	striped anchovy	2	0.0	2	2.5
<i>Hippocampus erectus</i>	lined seahorse	2	0.0	2	2.5
<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	2	0.4	2	2.5
<i>Selar crumenophthalmus</i>	bigeye scad	2	0.0	1	1.3
<i>Selene setapinnis</i>	Atlantic moonfish	2	0.0	2	2.5
<i>Selene vomer</i>	lookdown	1	0.0	1	1.3
<i>Sphyaena guachancho</i>	guaguanche	1	0.1	1	1.3
<i>Hippocampus zosterae</i>	dwarf seahorse	1	0.0	1	1.3
<i>Dasyatis sabina</i>	Atlantic stringray	1	0.2	1	1.3
<i>Rhinoptera bonasus</i>	cownose ray	1	0.8	1	1.3
<i>Antennarius scaber</i>	splitlure frogfish	1	0.0	1	1.3

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<u>Crustaceans</u>					
<i>Penaeus aztecus</i>	brown shrimp	1463	14.7	56	70.0
<i>Trachypenaeus</i> spp.	roughneck shrimps	241	0.9	31	38.8
<i>Callinectes similis</i>	lesser blue crab	235	2.5	36	45.0
<i>Squilla empusa</i>	mantis shrimp	204	2.1	40	50.0
<i>Penaeus duorarum</i>	pink shrimp	110	1.4	13	16.3
<i>Pagurus pollicaris</i>	flatclaw hermit crab	76	0.9	30	37.5
<i>Hepatus epheliticus</i>	calico crab	58	1.1	20	25.0
<i>Portunus gibbesii</i>	iridescent swimming crab	56	0.6	19	23.7
<i>Callinectes sapidus</i>	blue crab	50	4.5	18	22.5
<i>Penaeus setiferus</i>	white shrimp	46	1.2	22	27.5
<i>Arenaeus cribrarius</i>	speckled swimming crab	39	1.6	5	6.3
<i>Persephona mediterranea</i>	mottled purse crab	36	0.3	14	17.5
<i>Sicyonia dorsalis</i>	lesser rock shrimp	25	0.0	13	16.3
<i>Calappa sulcata</i>	yellow box crab	24	2.0	11	13.8
<i>Portunus spinimanus</i>	blotched swimming crab	14	0.3	11	13.8
<i>Ovalipes stephensoni</i>	coarsehand lady crab	13	0.1	10	12.5
<i>Persephona crinita</i>	pink purse crab	13	0.0	5	6.3
<i>Squilla neglecta</i>	mantis shrimp	11	0.0	6	7.5
<i>Libinia dubia</i>	longnose spider crab	10	0.5	8	10.0
<i>Sicyonia brevirostris</i>	brown rock shrimp	7	0.0	5	6.3
<i>Xiphopenaeus kroyeri</i>	seabob	7	0.1	3	3.7
<i>Parthenope serrata</i>	sawtooth elbow crab	4	0.0	2	2.5
<i>Dromidia antillensis</i>	hairy sponge crab	2	0.0	1	1.3
<i>Porcellana sayana</i>	spotted porcelain crab	2	0.0	2	2.5
<i>Petrochirus diogenes</i>	giant hermit crab	2	0.1	2	2.5
<i>Pagurus longicarpus</i>	longwrist hermit crab	2	0.0	2	2.5
Xanthidae	mud crabs	2	0.0	1	1.3
<i>Menippe adina</i>	Gulf stone crab	1	0.0	1	1.3
Portunidae	swimming crabs	1	0.0	1	1.3

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
Paguridae	right-handed hermit crabs	1	0.0	1	1.3
Sicyonia typica	kinglet rock shrimp	1	0.0	1	1.3
Calappa flammea	flame box crab	1	0.4	1	1.3
Metoporphaphis calcarata	false arrow crab	1	0.0	1	1.3
<u>Others</u>					
Renilla mulleri	short-stemmed sea pansy	532	2.7	28	35.0
Lolliguncula brevis	Atlantic brief squid	200	2.3	42	52.5
Luidia clathrata	sea star	150	1.8	23	28.8
Mellita quinquesperforata	five-slotted sand dollar	93	0.3	4	5.0
Actinidae	sea anemones	82	0.1	17	21.3
Dactylometra quinquecirrha	compass jellyfish	58	1.6	14	17.5
Asteroidea	starfishes	30	0.4	9	11.3
Loligo pealeii	longfin squid	28	0.5	6	7.5
Beroe ovata	comb jelly	18	0.2	2	2.5
Astropecten antillensis	beaded sea star	8	0.0	2	2.5
Neverita duplicata	shark eye	8	0.2	8	10.0
Thais haemastoma	rocksnail	6	0.1	3	3.7
Cantharus cancellarius	cancellate cantharus	5	0.0	3	3.7
Luidia alternata	banded luidia	4	0.0	4	5.0
Strombus alatus	Florida fighting conch	3	0.1	3	3.7
Architectonica nobilis	common sundial	2	0.0	1	1.3
Gorgonidae	gorgonians	2	0.0	2	2.5
Aplysia willcoxi	seahare	2	0.2	2	2.5
Busycon perversum	perverse whelk	2	0.0	2	2.5
Chione cancellata	cross-barred venus	1	0.0	1	1.3
Anadara transversa	transverse ark	1	0.0	1	1.3
Chione clenchi	Clench venus	1	0.0	1	1.3
Cyphoma mcgintyi	cyphoma	1	0.0	1	1.3

Table 8. SEAMAP June-July 1988 Shrimp and Bottomfish Survey species composition list, 32 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	TOTAL WEIGHT	NUMBER OF	% FREQUENCY OF OCCURRENCE
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	
<u>Finfishes</u>					
Anchoa hepsetus	striped anchovy	892	1.2	14	43.8
Anchoa mitchilli	bay anchovy	867	1.2	15	46.9
Polydactylus octonemus	Atlantic threadfin	299	3.0	14	43.8
Micropogonias undulatus	Atlantic croaker	197	4.5	13	40.6
Bagre marinus	gafftopsail catfish	174	1.1	2	6.3
Arius felis	hardhead catfish	144	3.9	6	18.8
Cynoscion arenarius	sand seatrout	127	0.3	7	21.9
Sphoeroides parvus	least puffer	70	0.2	9	28.1
Symphurus plagiata	blackcheek tonguefish	70	0.6	11	34.4
Anchoa nasuta	longnose anchovy	69	0.2	5	15.6
Chloroscombrus chrysurus	Atlantic bumper	63	0.2	10	31.3
Leiostomus xanthurus	spot	36	0.2	3	9.4
Stellifer lanceolatus	star drum	35	0.1	5	15.6
Brevoortia patronus	gulf menhaden	29	0.3	3	9.4
Prionotus rubio	blackfin searobin	16	0.2	5	15.6
Prionotus tribulus	bighead searobin	13	0.3	3	9.4
Etropus crossotus	fringed flounder	13	0.2	5	15.6
Porichthys plectrodon	Atlantic midshipman	13	0.1	3	9.4
Menticirrhus americanus	southern kingfish	11	0.2	6	18.8
Bothidae	lefteye flounders	10	0.1	3	9.4
Citharichthys spilopterus	bay whiff	9	0.0	3	9.4
Etropus microstomus	smallmouth flounder	8	0.2	5	15.6
Ophidion welshi	crested cusk-eel	7	0.1	5	15.6
Bairdiella chrysoura	silver perch	6	0.2	3	9.4
Peprilus alepidotus	harvestfish	5	0.0	3	9.4
Larimus fasciatus	banded drum	4	0.1	2	6.3

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
<i>Synodus foetens</i>	inshore lizardfish	3	0.1	2	6.3
<i>Gymnothorax nigromarginatus</i>	blackedge moray	3	0.1	2	6.3
<i>Ophichthus gomesi</i>	shrimp eel	2	0.1	1	3.1
<i>Syngnathus louisianae</i>	chain pipefish	2	0.1	2	6.3
<i>Gobionellus boleosoma</i>	darter goby	2	0.0	1	3.1
<i>Achirus lineatus</i>	lined sole	2	0.1	2	6.3
<i>Monacanthus hispidus</i>	planehead filefish	1	0.0	1	3.1
<i>Opsanus beta</i>	gulf toadfish	1	0.0	1	3.1
<i>Chilomycterus schoepfi</i>	striped burrfish	1	0.0	1	3.1
<i>Scomberomorus maculatus</i>	Spanish mackerel	1	0.0	1	3.1
<i>Chaetodipterus faber</i>	Atlantic spadefish	1	0.0	1	3.1
<i>Eucinostomus</i> spp.	mojarra	1	0.0	1	3.1
<i>Lutjanus synagris</i>	lane snapper	1	0.0	1	3.1
<i>Pomatomus saltatrix</i>	bluefish	1	0.2	1	3.1
<i>Centropristis philadelphica</i>	rock sea bass	1	0.0	1	3.1
<i>Caranx hippos</i>	crevalle jack	1	0.0	1	3.1
<i>Selene setapinnis</i>	Atlantic moonfish	1	0.0	1	3.1
<i>Decapterus punctatus</i>	round scad	1	0.0	1	3.1
<i>Dasyatis sabina</i>	Atlantic stringray	1	0.3	1	3.1
<i>Harengula jaguana</i>	scaled sardine	1	0.0	1	3.1
<i>Dorosoma petenense</i>	threadfin shad	1	0.0	1	3.1
<u>Crustaceans</u>					
<i>Acetes americanus</i>	sergestid shrimp	3223	0.5	8	25.0
<i>Callinectes similis</i>	lesser blue crab	628	2.8	18	56.3
<i>Trachypenaeus</i> spp.	roughneck shrimps	326	0.5	11	34.4
<i>Xiphopenaeus kroyeri</i>	seabob	115	0.3	4	12.5
<i>Portunus gibbesii</i>	irridescent swimming crab	90	0.5	11	34.4
<i>Penaeus aztecus</i>	brown shrimp	67	1.0	9	28.1

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY OF OCCURRENCE
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	
<i>Sicyonia dorsalis</i>	lesser rock shrimp	57	0.1	4	12.5
<i>Callinectes sapidus</i>	blue crab	36	1.8	9	28.1
<i>Squilla empusa</i>	mantis shrimp	33	0.3	4	12.5
<i>Penaeus setiferus</i>	white shrimp	23	0.1	4	12.5
<i>Hepatus epheliticus</i>	calico crab	18	0.3	5	15.6
<i>Sicyonia</i> spp.	rock shrimps	17	0.0	1	3.1
<i>Squilla</i> spp.	mantis shrimps	11	0.0	4	12.5
<i>Penaeus duorarum</i>	pink shrimp	6	0.1	2	6.3
<i>Sicyonia brevirostris</i>	brown rock shrimp	4	0.1	3	9.4
<i>Libinia emarginata</i>	portly spider crab	3	0.1	2	6.3
<i>Metoporphaphis calcarata</i>	false arrow crab	3	0.1	3	9.4
<i>Ovalipes stephensoni</i>	coarsehand lady crab	2	0.1	2	6.3
<i>Libinia</i> spp.	spider crab	2	0.0	2	6.3
<i>Persephona mediterranea</i>	mottled purse crab	2	0.1	2	6.3
<i>Pagurus pollicaris</i>	flatclaw hermit crab	2	0.1	2	6.3
<i>Persephona crinita</i>	pink purse crab	1	0.0	1	3.1
<i>Menippe mercenaria</i>	Florida stone crab	1	0.0	1	3.1
<i>Arenaeus cribrarius</i>	speckled swimming crab	1	0.0	1	3.1
<i>Panopeus herbstii</i>	Atlantic mud crab	1	0.0	1	3.1
<i>Macrobrachium ohione</i>	Ohio shrimp	1	0.0	1	3.1
<i>Parapenaeus</i> spp.	penaeid shrimps	1	0.0	1	3.1
<i>Ovalipes floridanus</i>	Florida lady crab	1	0.0	1	3.1
<i>Porcellana sigsbeiana</i>	striped porcelain crab	1	0.0	1	3.1
<u>Others</u>					
<i>Mellita quinquiesperforata</i>	five-slotted sand dollar	2088	2.7	4	12.5
<i>Lolliguncula brevis</i>	Atlantic brief squid	232	0.9	18	56.3
<i>Diopatra cuprea</i>	tube worm	23	0.1	3	9.4
<i>Luidia clathrata</i>	sea star	19	0.4	6	18.8

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
<i>Arca imbricata</i>	mossy ark	14	0.0	1	3.1
<i>Thais haemastoma</i>	rocksnail	14	0.2	4	12.5
<i>Chrysaora quinquecirrha</i>	sea nettle	12	0.4	3	9.4
<i>Aurelia aurita</i>	moon jellyfish	8	0.2	3	9.4
<i>Chrysaora</i> spp.	sea nettles	6	0.3	4	12.5
<i>Calliactris tricolor</i>	common sea anemone	5	0.2	4	12.5
<i>Dinophilus</i> spp.	segmented worms	3	0.1	3	9.4
<i>Mangelia</i> spp.	mangelia shells	3	0.0	1	3.1
<i>Aplysia floridensis</i>	Florida seahare	3	0.0	1	3.1
<i>Mellita</i> spp.	sand dollars	2	0.1	2	6.3
<i>Archiannelida</i>	segmented worms	2	0.0	1	3.1
<i>Tunicata</i>	tunicates	1	0.0	1	3.1
<i>Loligo pealeii</i>	longfin squid	1	0.0	1	3.1
<i>Glaucus atlanticus</i>	blue glaucus	1	0.0	1	3.1
<i>Noetia ponderosa</i>	ponderous ark	1	0.0	1	3.1
<i>Neverita duplicata</i>	shark eye	1	0.0	1	3.1
<i>Crepidula plana</i>	eastern white slippersnail	1	0.0	1	3.1

Table 9a
 Statistical Zone 10
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 10 during the June-July 1988 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 in depths greater than 30 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevirostris</i>	0.0	0.00	0.0	0.00	1	1.9	1.94	0.0	0.00	4	203.8	76.27	2.9	1.22	7
Portunus															
<i>spiniarpus</i>	0.0	0.00	0.0	0.00	1	1.2	1.15	0.0	0.00	4	70.3	36.49	0.3	0.20	7
Penaeus															
<i>duorum</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	12.3	12.28	0.3	0.34	7
Portunus															
<i>gibbesii</i>	0.0	0.00	0.0	0.00	1	10.1	7.80	0.0	0.04	4	4.8	2.27	0.1	0.05	7
Callinectes															
<i>similis</i>	0.0	0.00	0.0	0.00	1	15.4	13.04	0.2	0.20	4	0.0	0.00	0.0	0.00	7
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	1	2.9	2.90	0.0	0.00	4	4.9	4.86	0.0	0.02	7
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	1	2.4	1.44	0.0	0.00	4	191.5	167.33	1.5	1.34	7
Arius															
<i>felis</i>	587.4	0.00	90.7	0.00	1	261.4	261.43	27.4	27.42	4	19.9	19.92	3.0	2.99	7
Trichiurus															
<i>lepturus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	7
Syacium															
<i>papillosum</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	55.9	38.09	6.6	4.93	7
Syacium															
<i>spp.</i>	1.4	0.00	0.1	0.00	1	2.1	2.14	0.2	0.19	4	93.5	42.06	4.1	1.89	7
Prionotus															
<i>salmonicolor</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	50.4	36.75	4.1	2.99	7
Syacium															
<i>gunteri</i>	0.0	0.00	0.0	0.00	1	2.4	2.42	0.0	0.04	4	33.0	26.33	1.2	0.80	7
Etropus															
<i>crossotus</i>	0.0	0.00	0.0	0.00	1	6.3	6.29	0.0	0.02	4	43.0	29.51	0.4	0.24	7
Squid	1.4	0.00	0.3	0.00	1	42.2	28.94	0.6	0.52	4	438.5	150.77	8.6	2.91	7

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

Summary of dominate organisms taken in shrimp statistical zone 10 during the June-July 1988 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 in depths greater than 30 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevirostris</i>	5.2	5.22	0.2	0.18	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus															
<i>spincarpus</i>	9.6	7.96	0.7	0.54	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus															
<i>duorarum</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus															
<i>gibbesii</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
<i>similis</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stenotomus															
<i>caprinus</i>	1002.6	1002.59	47.9	47.91	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius															
<i>felis</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trichiurus															
<i>lepturus</i>	142.5	142.50	2.9	2.86	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Syacium															
<i>papillosum</i>	121.5	95.64	14.9	12.13	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Syacium															
<i>spp.</i>	25.2	25.18	0.9	0.86	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Prionotus															
<i>salmonicolor</i>	101.3	86.74	7.6	6.77	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Syacium															
<i>gunteri</i>	22.2	14.13	1.9	1.35	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etropus															
<i>crossotus</i>	4.3	4.29	0.0	0.02	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid															
	109.4	69.96	2.0	1.39	4	0.0	0.00	0.0	0.00	0	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 30 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	93.9	0.00	1	35.6	27.75	4	52.4	11.13	7	94.7	58.85	4	0.0	0.00	0	0.0	0.00	0
Total finfish kg	93.2	0.00	1	34.0	28.28	4	38.4	10.25	7	90.4	57.86	4	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	1	1.2	0.47	4	4.4	1.71	7	1.0	0.53	4	0.0	0.00	0	0.0	0.00	0
Total others kg	0.6	0.00	1	1.8	0.72	4	10.0	2.81	7	3.5	1.57	4	0.0	0.00	0	0.0	0.00	0
Surface temperature	27.5	0.00	1	26.6	0.91	4	25.7	0.33	8	26.2	0.52	4	0.0	0.00	0	0.0	0.00	0
Midwater temperature	27.0	0.00	1	26.3	0.72	4	24.6	0.44	8	24.1	0.50	4	0.0	0.00	0	0.0	0.00	0
Bottom temperature	27.0	0.00	1	26.2	0.68	4	20.9	0.63	8	20.4	0.22	4	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	34.5	0.06	2	35.2	0.12	6	35.2	0.64	2	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	34.6	0.10	2	35.7	0.12	6	36.2	0.21	2	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	34.6	0.12	2	36.4	0.04	6	36.5	0.09	2	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.2	0.20	2	0.3	0.10	6	0.1	0.00	1	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	5.4	0.00	1	6.2	0.30	4	6.7	0.20	8	6.4	0.07	4	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	5.4	0.00	1	6.2	0.32	4	6.3	0.36	8	6.4	0.11	4	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.4	0.00	1	6.1	0.26	4	6.0	0.40	8	5.5	0.26	4	0.0	0.00	0	0.0	0.00	0

Table 10a
 Statistical Zone 11
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 11 during the June-July 1988 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.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	466.2	0.00	1.9	0.00	1	245.8	122.06	1.1	0.53	17	830.5	458.14	3.5	1.67	21
Callinectes															
similis	152.3	0.00	3.8	0.00	1	783.5	451.52	8.3	4.30	17	119.6	55.03	1.3	0.53	21
Sicyonia															
brevirostris	0.0	0.00	0.0	0.00	1	44.0	22.28	0.3	0.14	17	263.0	115.02	2.1	0.87	21
Portunus															
spincarpus	0.0	0.00	0.0	0.00	1	2.7	2.73	0.0	0.04	17	127.7	54.84	0.6	0.25	21
Portunus															
gibbesii	923.1	0.00	5.0	0.00	1	204.2	78.17	1.8	0.89	17	23.7	14.21	0.3	0.16	21
Sicyonia															
dorsalis	0.0	0.00	0.0	0.00	1	39.6	17.96	0.1	0.06	17	87.4	40.30	0.3	0.16	21
Stenotomus															
caprimus	0.0	0.00	0.0	0.00	1	185.8	123.60	1.3	0.77	17	838.7	295.17	6.4	2.52	21
Chloroscombrus															
chrysurus	0.0	0.00	0.0	0.00	1	261.9	145.20	15.3	8.99	17	30.8	29.56	1.6	1.48	21
Trachurus															
lathami	0.0	0.00	0.0	0.00	1	36.8	36.76	0.3	0.33	17	91.0	65.51	2.0	1.41	21
Trichiurus															
lepturus	0.0	0.00	0.0	0.00	1	0.5	0.48	0.0	0.01	17	149.3	149.29	3.4	3.40	21
Arius															
felis	0.0	0.00	0.0	0.00	1	128.2	44.81	21.4	7.09	17	0.0	0.00	0.0	0.00	21
Leiostomus															
xanthurus	216.9	0.00	11.5	0.00	1	70.2	36.13	5.5	2.92	17	0.0	0.00	0.0	0.00	21
Etropus															
crossotus	27.7	0.00	0.4	0.00	1	54.6	27.27	0.4	0.16	17	83.4	32.43	0.8	0.23	21
Prionotus															
rubio	581.5	0.00	5.2	0.00	1	49.8	24.93	0.4	0.15	17	45.9	32.68	0.2	0.10	21
Squid	60.0	0.00	0.6	0.00	1	54.8	33.29	0.8	0.46	17	265.0	61.05	3.8	0.83	21

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

Summary of dominate organisms taken in shrimp statistical zone 11 during the June-July 1988 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.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	47.2	45.04	0.2	0.19	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Callinectes															
similis	21.5	15.73	0.6	0.52	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Sicyonia															
brevirostris	70.1	62.71	1.2	1.16	4	228.6	223.20	3.9	3.74	3	11.3	11.25	0.1	0.09	4
Portunus															
spincarpus	252.2	144.77	1.1	0.53	4	409.2	265.21	5.1	3.80	3	310.3	285.86	2.1	1.87	4
Portunus															
gibbesii	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	4
Sicyonia															
dorsalis	9.3	6.41	0.0	0.02	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Stenotomus															
caprinus	580.3	333.03	12.1	7.81	4	133.1	59.25	6.0	2.74	3	2052.9	1862.14	118.0	108.96	4
Chloroscombrus															
chrysurus	0.0	0.00	0.0	0.00	4	0.9	0.91	0.0	0.04	3	0.0	0.00	0.0	0.00	4
Trachurus															
lathami	76.3	45.98	1.6	1.06	4	4.0	4.00	0.0	0.00	3	294.7	277.43	5.7	5.32	4
Trichiurus															
lepturus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3	9.9	7.96	0.4	0.33	4
Arius															
felis	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	4
Leiostomus															
xanthurus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3	762.5	761.23	75.6	75.44	4
Etropus															
crossotus	2.8	1.88	0.0	0.02	4	0.0	0.00	0.0	0.00	3	4.6	4.62	0.1	0.05	4
Prionotus															
rubio	21.4	19.89	1.4	1.39	4	20.5	19.78	0.8	0.73	3	2.7	1.62	0.2	0.12	4
Squid															
	163.3	88.96	4.0	2.09	4	37.0	15.13	0.5	0.12	3	143.4	71.24	2.8	1.22	4

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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, 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	67.1	0.00	1	76.7	13.48	17	49.7	8.90	21	33.6	10.44	4	39.8	20.79	3	235.1	194.49	4
Total finfish kg	50.3	0.00	1	57.0	13.22	17	33.3	8.82	21	26.2	9.14	4	29.0	13.52	3	229.5	194.22	4
Total crustacean kg	16.8	0.00	1	18.2	6.75	17	10.9	2.94	21	3.6	1.32	4	11.5	6.85	3	3.0	1.94	4
Total others kg	2.1	0.00	1	1.7	0.55	17	5.9	1.30	21	4.2	2.09	4	1.9	0.64	3	3.2	1.20	4
Surface temperature	27.0	0.00	1	26.1	0.30	17	26.0	0.28	26	26.0	0.39	6	26.0	0.73	2	26.1	0.10	4
Midwater temperature	27.0	0.00	1	25.9	0.28	17	25.4	0.24	26	23.0	1.07	6	21.2	0.27	2	21.3	0.38	4
Bottom temperature	27.0	0.00	1	25.7	0.31	17	21.9	0.43	26	20.2	0.58	6	19.3	0.10	2	19.0	0.22	4
Surface salinity	0.0	0.00	0	33.3	0.28	2	34.4	0.23	6	34.8	0.45	3	34.5	0.00	1	34.8	0.56	4
Midwater salinity	0.0	0.00	0	33.4	0.23	2	34.6	0.26	6	35.9	0.39	3	36.4	0.00	1	36.5	0.08	4
Bottom salinity	0.0	0.00	0	34.1	0.44	2	35.5	0.33	6	36.5	0.03	3	36.5	0.00	1	36.5	0.04	4
Surface chlorophyll	0.0	0.00	0	1.2	0.21	2	0.6	0.15	6	0.4	0.10	2	0.2	0.01	2	0.2	0.12	4
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	5.6	0.00	1	6.4	0.15	17	6.5	0.11	26	6.4	0.13	6	6.7	0.00	1	6.9	0.18	4
Midwater oxygen	5.6	0.00	1	6.4	0.15	17	6.4	0.11	26	6.1	0.32	6	6.4	0.00	1	6.8	0.09	4
Bottom oxygen	4.4	0.00	1	6.2	0.16	17	5.0	0.19	26	4.9	0.46	6	5.2	0.00	1	4.7	0.28	4

Table 11a
 Statistical Zone 13
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 13 during the June-July 1988 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 in depths of 0-5 fm or 31-40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
<u>similis</u>	0.0	0.00	0.0	0.00	0	1723.3	1552.59	8.9	8.22	3	2456.9	2456.88	14.8	14.77	4
Callinectes															
<u>similis</u>	0.0	0.00	0.0	0.00	0	482.7	217.75	8.1	3.32	3	319.4	212.11	5.0	3.10	4
Trachypenaeus															
<u>spp.</u>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	538.2	402.44	2.8	2.09	4
Squilla															
<u>spp.</u>	0.0	0.00	0.0	0.00	0	309.5	160.92	2.8	1.36	3	136.7	115.59	1.3	1.16	4
Portunus															
<u>gibbesii</u>	0.0	0.00	0.0	0.00	0	226.7	148.61	1.2	0.94	3	16.5	9.71	0.1	0.04	4
Penaeus															
<u>aztecus</u>	0.0	0.00	0.0	0.00	0	88.9	54.56	1.6	0.99	3	80.9	36.29	1.1	0.52	4
Peprilus															
<u>burti</u>	0.0	0.00	0.0	0.00	0	2.0	2.00	0.0	0.03	3	414.5	304.66	5.9	3.84	4
Trachurus															
<u>lathami</u>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	318.6	185.97	4.2	2.56	4
Chloroscombrus															
<u>chrysurus</u>	0.0	0.00	0.0	0.00	0	531.5	501.84	26.6	25.10	3	257.2	237.89	11.9	10.74	4
Prionotus															
<u>rubio</u>	0.0	0.00	0.0	0.00	0	187.1	67.84	4.5	1.96	3	115.8	89.54	1.0	0.78	4
Etropus															
<u>crossotus</u>	0.0	0.00	0.0	0.00	0	174.0	65.82	2.2	0.94	3	100.6	51.45	1.2	0.63	4
Micropogonias															
<u>undulatus</u>	0.0	0.00	0.0	0.00	0	49.5	33.28	2.3	1.59	3	32.1	30.18	1.4	1.27	4
Trichiurus															
<u>lepturus</u>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	119.3	93.57	1.0	0.86	4
Syacium															
<u>gunteri</u>	0.0	0.00	0.0	0.00	0	60.7	43.23	1.1	0.73	3	136.7	86.84	2.2	1.39	4
Squid															
	0.0	0.00	0.0	0.00	0	193.9	111.92	4.2	2.62	3	38.9	28.84	0.7	0.56	4

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

Summary of dominate organisms taken in shrimp statistical zone 13 during the June-July 1988 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 in depths of 0-5 fm or 31-40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
<i>similis</i>	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															
<i>similis</i>	11.5	0.55	0.2	0.00	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Trachypenaeus															
<i>spp.</i>	2.7	2.73	0.0	0.03	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Squilla															
<i>spp.</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	18.0	0.00	0.4	0.00	1
Portunus															
<i>gibbesii</i>	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															
<i>aztecus</i>	34.5	23.55	0.6	0.45	2	0.0	0.00	0.0	0.00	0	2.0	0.00	0.1	0.00	1
Peprilus															
<i>burti</i>	1328.0	642.05	23.5	14.14	2	0.0	0.00	0.0	0.00	0	562.0	0.00	48.5	0.00	1
Trachurus															
<i>lathami</i>	1211.0	1061.00	25.2	22.32	2	0.0	0.00	0.0	0.00	0	40.0	0.00	1.9	0.00	1
Chloroscombrus															
<i>chrysurus</i>	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															
<i>rubio</i>	2.0	2.00	0.1	0.09	2	0.0	0.00	0.0	0.00	0	18.0	0.00	1.7	0.00	1
Etropus															
<i>crossotus</i>	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															
<i>undulatus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0	259.0	0.00	17.9	0.00	1
Trichiurus															
<i>lepturus</i>	161.3	77.32	0.2	0.22	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
Syacium															
<i>gunteri</i>	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
Squid															
	50.0	50.00	0.9	0.86	2	0.0	0.00	0.0	0.00	0	472.0	0.00	10.3	0.00	1

Table 11b
 Statistical Zone 13
 40-ft trawls

Summary of the mean total catch and environmental data (\bar{X}), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths of 0-5 fm or 31-40 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	\bar{X}	SEM	n	\bar{X}	SEM	n	\bar{X}	SEM	n	\bar{X}	SEM	n	\bar{X}	SEM	n	\bar{X}	SEM	n
Total catch kg	0.0	0.00	0	94.0	16.18	3	60.0	17.85	4	53.9	39.69	2	0.0	0.00	0	95.0	0.00	1
Total finfish kg	0.0	0.00	0	60.7	27.89	3	34.0	7.88	4	52.3	38.64	2	0.0	0.00	0	84.1	0.00	1
Total crustacean kg	0.0	0.00	0	29.0	14.86	3	25.6	18.94	4	1.5	0.29	2	0.0	0.00	0	0.9	0.00	1
Total others kg	0.0	0.00	0	4.4	2.75	3	1.0	0.37	4	0.9	0.91	2	0.0	0.00	0	10.5	0.00	1
Surface temperature	0.0	0.00	0	28.5	0.14	4	28.8	0.24	4	29.2	0.23	2	0.0	0.00	0	27.7	0.00	1
Midwater temperature	0.0	0.00	0	28.3	0.17	4	27.7	0.07	4	24.7	1.73	2	0.0	0.00	0	20.6	0.00	1
Bottom temperature	0.0	0.00	0	27.7	0.15	4	24.8	0.71	4	20.0	0.28	2	0.0	0.00	0	17.9	0.00	1
Surface salinity	0.0	0.00	0	33.5	0.13	4	34.4	0.35	4	34.5	0.30	2	0.0	0.00	0	39.5	0.00	1
Midwater salinity	0.0	0.00	0	34.0	0.22	4	35.4	0.39	4	36.4	0.14	2	0.0	0.00	0	36.6	0.00	1
Bottom salinity	0.0	0.00	0	34.8	0.14	4	36.4	0.26	4	36.5	0.05	2	0.0	0.00	0	36.5	0.00	1
Surface chlorophyll	0.0	0.00	0	1.7	0.53	4	0.2	0.02	4	0.2	0.00	2	0.0	0.00	0	0.1	0.00	1
Midwater chlorophyll	0.0	0.00	0	1.5	0.54	4	0.5	0.14	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	5.1	1.78	4	1.9	0.79	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	7.5	0.28	4	7.1	0.12	4	7.1	0.40	2	0.0	0.00	0	6.7	0.00	1
Midwater oxygen	0.0	0.00	0	7.2	0.24	4	6.8	0.13	4	6.9	0.10	2	0.0	0.00	0	5.6	0.00	1
Bottom oxygen	0.0	0.00	0	5.7	0.74	4	4.7	1.00	4	3.2	0.60	2	0.0	0.00	0	5.2	0.00	1

Table 12a
 Statistical Zone 14
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 14 during the June-July 1988 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 in depths greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
<i>similis</i>	8.8	8.75	0.0	0.00	2	1420.0	1420.00	5.7	5.74	2	750.0	421.16	5.3	3.19	8
Portunus															
<i>spincarpus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2	14.7	14.23	0.0	0.03	8
Sicyonia															
<i>dorsalis</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2	561.6	333.78	1.8	0.97	8
Callinectes															
<i>similis</i>	48.0	21.96	3.0	1.34	2	498.3	399.25	10.9	8.00	2	199.8	121.91	7.0	3.92	8
Squilla															
spp.	25.1	19.89	0.3	0.22	2	264.0	186.00	2.4	1.20	2	146.9	89.81	1.8	1.19	8
Portunus															
<i>gibbesii</i>	118.5	68.97	1.4	0.67	2	157.0	133.00	3.5	3.40	2	30.7	12.22	0.2	0.13	8
Stenotomus															
<i>caprinus</i>	5.0	5.00	0.0	0.00	2	442.8	355.25	5.8	4.93	2	2803.5	882.37	12.5	4.19	8
Trachurus															
<i>lathami</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2	449.5	220.36	8.5	4.28	8
Peprilus															
<i>burti</i>	0.0	0.00	0.0	0.00	2	42.0	42.00	1.2	1.23	2	54.6	33.38	1.2	0.67	8
Micropogonias															
<i>undulatus</i>	0.0	0.00	0.0	0.00	2	1828.5	721.50	63.3	25.92	2	0.9	0.94	0.0	0.04	8
Centropristis															
<i>philadelphica</i>	16.4	11.14	0.2	0.11	2	137.5	137.50	0.7	0.74	2	292.3	205.00	3.3	1.94	8
Prionotus															
<i>rubio</i>	8.8	8.75	0.1	0.06	2	873.8	573.75	10.1	5.97	2	38.1	15.71	0.4	0.19	8
Serranus															
<i>atrobranchus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2	252.2	193.75	1.1	0.67	8
Syacium															
<i>gunteri</i>	7.6	2.39	0.1	0.00	2	105.3	2.75	1.5	0.44	2	201.0	59.25	3.9	1.34	8
Squid															
	2.6	2.61	0.1	0.06	2	19.5	19.50	0.6	0.61	2	126.1	63.35	1.3	0.67	8

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

Summary of dominate organisms taken in shrimp statistical zone 14 during the June-July 1988 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 in depths greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
<i>similis</i>	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	0
Portunus															
<i>spinicarpus</i>	75.5	60.50	0.3	0.16	2	1169.5	1169.50	5.7	5.66	2	0.0	0.00	0.0	0.00	0
Sicyonia															
<i>dorsalis</i>	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	0
Callinectes															
<i>similis</i>	3.0	0.00	0.1	0.02	2	3.0	3.00	0.3	0.25	2	0.0	0.00	0.0	0.00	0
Squilla															
<i>spp.</i>	19.5	16.50	0.2	0.14	2	41.5	41.50	0.9	0.89	2	0.0	0.00	0.0	0.00	0
Portunus															
<i>gibbesii</i>	13.0	13.00	0.1	0.11	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Stenotomus															
<i>caprinus</i>	65.5	41.50	1.1	0.11	2	107.8	14.24	5.0	0.18	2	0.0	0.00	0.0	0.00	0
Trachurus															
<i>lathami</i>	259.5	259.50	4.3	4.25	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Peprilus															
<i>burti</i>	452.5	452.50	11.5	11.52	2	458.8	458.82	31.2	31.24	2	0.0	0.00	0.0	0.00	0
Micropogonias															
<i>undulatus</i>	1.5	1.50	0.1	0.14	2	5.6	0.35	1.1	0.59	2	0.0	0.00	0.0	0.00	0
Centropristis															
<i>philadelphica</i>	123.0	102.00	7.0	5.05	2	55.5	55.50	7.3	7.30	2	0.0	0.00	0.0	0.00	0
Prionotus															
<i>rubio</i>	12.0	6.00	0.5	0.09	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Serranus															
<i>atrobranchus</i>	28.5	22.50	0.5	0.34	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Syacium															
<i>gunteri</i>	1.5	1.50	0.1	0.14	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Squid															
	40.5	22.50	0.8	0.34	2	27.4	27.35	0.9	0.88	2	0.0	0.00	0.0	0.00	0

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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	73.8	3.31	2	142.5	34.77	2	66.9	16.34	8	44.8	7.05	2	74.8	7.05	2	0.0	0.00	0
Total finfish kg	60.5	7.09	2	118.2	15.91	2	45.9	9.68	8	41.4	8.64	2	66.0	14.20	2	0.0	0.00	0
Total crustacean kg	13.3	3.78	2	24.3	18.86	2	20.1	10.19	8	2.7	1.82	2	8.4	7.55	2	0.0	0.00	0
Total others kg	0.6	0.59	2	0.7	0.68	2	1.3	0.70	8	0.7	0.23	2	1.0	0.57	2	0.0	0.00	0
Surface temperature	28.6	0.03	2	28.6	0.07	3	28.7	0.12	8	28.7	0.06	2	28.6	0.08	2	0.0	0.00	0
Midwater temperature	28.6	0.04	2	28.0	0.25	3	27.7	0.07	8	27.5	0.10	2	25.3	1.80	2	0.0	0.00	0
Bottom temperature	28.6	0.02	2	27.0	0.09	3	24.3	0.65	8	20.8	0.33	2	19.7	0.10	2	0.0	0.00	0
Surface salinity	34.0	0.52	2	34.1	0.22	3	34.6	0.12	8	36.1	0.08	2	35.8	0.32	2	0.0	0.00	0
Midwater salinity	34.1	0.53	2	34.7	0.39	3	35.5	0.06	8	36.4	0.05	2	36.5	0.05	2	0.0	0.00	0
Bottom salinity	33.6	0.03	2	35.7	0.05	3	36.2	0.12	8	36.7	0.00	2	36.6	0.06	2	0.0	0.00	0
Surface chlorophyll	0.6	0.05	2	0.5	0.20	3	0.2	0.09	7	0.2	0.01	2	0.1	0.03	2	0.0	0.00	0
Midwater chlorophyll	0.6	0.04	2	0.4	0.13	3	0.2	0.04	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	1.4	0.47	2	3.3	1.00	3	2.4	0.41	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.0	0.00	2	6.7	0.15	3	6.6	0.13	8	7.2	0.05	2	7.1	0.15	2	0.0	0.00	0
Midwater oxygen	6.8	0.05	2	6.6	0.06	3	6.4	0.03	8	7.2	0.00	2	7.6	0.20	2	0.0	0.00	0
Bottom oxygen	6.4	0.10	2	5.1	0.54	3	5.0	0.48	8	4.5	1.60	2	6.2	0.05	2	0.0	0.00	0

Table 13a
 Statistical Zone 15
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 15 during the June-July 1988 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 in depths less than 5 fm or greater than 30 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
<i>similis</i>	0.0	0.00	0.0	0.00	0	2040.0	1104.00	53.4	22.09	2	111.2	95.26	4.4	3.63	5
Trachypenaeus															
<i>similis</i>	0.0	0.00	0.0	0.00	0	159.0	159.00	0.4	0.41	2	1155.8	1075.04	4.4	4.09	5
Portunus															
<i>gibbesii</i>	0.0	0.00	0.0	0.00	0	718.0	586.00	3.6	2.91	2	25.9	20.17	0.1	0.10	5
Squilla															
<i>spp.</i>	0.0	0.00	0.0	0.00	0	501.0	165.00	5.4	1.91	2	30.3	26.09	0.2	0.21	5
Sicyonia															
<i>brevirostris</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	0.5	0.48	0.0	0.00	5
Sicyonia															
<i>dorsalis</i>	0.0	0.00	0.0	0.00	0	14.0	14.00	0.0	0.05	2	149.8	60.06	0.5	0.22	5
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	0	22.0	22.00	0.1	0.09	2	1442.1	362.90	7.4	2.14	5
Prionotus															
<i>rubio</i>	0.0	0.00	0.0	0.00	0	719.0	395.00	9.0	5.41	2	127.3	112.69	0.7	0.54	5
Micropogonias															
<i>undulatus</i>	0.0	0.00	0.0	0.00	0	574.0	38.00	18.3	0.91	2	0.0	0.00	0.0	0.00	5
Trachurus															
<i>lathamii</i>	0.0	0.00	0.0	0.00	0	7.0	7.00	0.1	0.14	2	248.5	242.50	1.3	1.14	5
Polydactylus															
<i>octonemus</i>	0.0	0.00	0.0	0.00	0	415.0	223.00	9.5	3.55	2	21.1	21.14	0.4	0.36	5
Peprilus															
<i>burti</i>	0.0	0.00	0.0	0.00	0	57.0	45.00	1.4	0.73	2	197.1	159.45	6.0	5.28	5
Chloroscombrus															
<i>chrysurus</i>	0.0	0.00	0.0	0.00	0	114.0	114.00	4.2	4.18	2	60.1	27.38	3.4	1.58	5
Syacium															
<i>gunteri</i>	0.0	0.00	0.0	0.00	0	20.0	8.00	0.3	0.23	2	138.7	80.72	2.7	1.49	5
Squid	0.0	0.00	0.0	0.00	0	60.0	60.00	0.4	0.36	2	103.0	60.66	0.8	0.46	5

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

Summary of dominate organisms taken in shrimp statistical zone 15 during the June-July 1988 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 in depths less than 5 fm or greater than 30 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
<i>similis</i>	4.0	2.00	0.1	0.07	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<i>similis</i>	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
Portunus															
<i>gibbesii</i>	2.0	2.00	0.0	0.02	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla															
spp.	14.5	14.50	0.3	0.32	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sicyonia															
<i>brevirostris</i>	225.0	225.00	2.7	2.66	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sicyonia															
<i>dorsalis</i>	13.0	9.00	0.3	0.20	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stenotomus															
<i>caprinus</i>	148.0	120.00	2.0	1.39	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Prionotus															
<i>rubio</i>	4.5	4.50	0.2	0.23	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias															
<i>undulatus</i>	4.5	4.50	0.6	0.57	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachurus															
<i>lathami</i>	8.5	7.50	0.2	0.11	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Polydactylus															
<i>octonemus</i>	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
Peprilus															
<i>burti</i>	3.5	2.50	0.2	0.11	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus															
<i>chrysurus</i>	73.0	73.00	4.5	4.50	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Syacium															
<i>gunteri</i>	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															
	37.0	31.00	0.5	0.18	2	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 5 fm or greater than 30 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	123.2	25.00	2	45.3	12.50	5	17.7	4.09	2	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	49.5	5.91	2	33.0	9.64	5	11.8	0.00	2	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	73.2	19.55	2	10.9	8.33	5	5.2	4.32	2	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.5	0.45	2	1.2	0.36	5	0.7	0.23	2	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	28.6	0.10	2	28.3	0.05	5	28.3	0.00	1	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	28.6	0.08	2	27.8	0.05	5	28.0	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	27.7	0.02	2	23.8	0.50	5	21.5	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	33.5	0.02	2	35.0	0.07	5	35.1	0.00	1	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	33.5	0.02	2	35.5	0.20	5	36.2	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	34.7	0.05	2	36.2	0.07	5	36.4	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.7	0.21	2	0.1	0.04	5	0.2	0.00	1	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.4	0.03	2	0.1	0.05	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	4.6	0.04	2	3.6	1.78	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	6.8	0.10	2	6.8	0.15	5	6.8	0.00	1	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	6.2	0.10	2	6.6	0.17	5	7.0	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	3.9	0.05	2	6.1	0.54	5	6.9	0.00	1	0.0	0.00	0	0.0	0.00	0

Table 14a
 Statistical Zone 16
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 16 during the June-July 1988 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 in depths less than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevirostris</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	79.6	45.07	1.3	0.85	10
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	0	94.0	94.00	0.5	0.55	2	79.1	44.19	0.5	0.28	10
Penaeus															
<i>aztecus</i>	0.0	0.00	0.0	0.00	0	105.0	63.00	2.6	1.00	2	54.5	18.58	1.2	0.42	10
Callinectes															
<i>similis</i>	0.0	0.00	0.0	0.00	0	82.0	34.00	1.4	0.82	2	34.2	13.89	0.5	0.16	10
Portunus															
<i>gibbesii</i>	0.0	0.00	0.0	0.00	0	18.0	18.00	0.1	0.14	2	33.3	27.31	0.2	0.13	10
Squilla															
<i>spp.</i>	0.0	0.00	0.0	0.00	0	6.0	6.00	0.1	0.14	2	23.8	10.83	0.3	0.12	10
Micropogonias															
<i>undulatus</i>	0.0	0.00	0.0	0.00	0	8424.0	3000.00	232.6	40.48	2	60.9	57.52	1.6	1.34	10
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	0	6.0	6.00	0.1	0.07	2	236.6	77.06	2.4	0.78	10
Chloroscombrus															
<i>chrysurus</i>	0.0	0.00	0.0	0.00	0	457.5	433.50	13.9	12.82	2	381.3	183.48	15.3	7.46	10
Peprilus															
<i>burti</i>	0.0	0.00	0.0	0.00	0	60.0	12.00	3.3	1.16	2	32.4	17.87	1.2	0.70	10
Trachurus															
<i>lathami</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	137.4	62.78	2.4	1.15	10
Trichiurus															
<i>lepturus</i>	0.0	0.00	0.0	0.00	0	6.0	6.00	1.0	0.95	2	45.0	45.00	1.1	1.08	10
Diplectrum															
<i>bivittatum</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	26.9	13.36	0.7	0.35	10
Scomber															
<i>japonicus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	2	25.4	23.23	1.0	0.84	10
Squid	0.0	0.00	0.0	0.00	0	30.0	6.00	0.7	0.41	2	69.7	18.47	1.3	0.47	10

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

Summary of dominate organisms taken in shrimp statistical zone 16 during the June-July 1988 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 in depths less than 5 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevirostris</i>	20.2	18.23	0.3	0.16	2	0.0	0.00	0.0	0.00	3	11.9	11.92	0.1	0.14	4
Trachypenaeus															
spp.	98.5	98.46	0.3	0.31	2	0.0	0.00	0.0	0.00	3	0.8	0.75	0.0	0.00	4
Penaeus															
<i>aztecus</i>	20.5	19.50	0.7	0.68	2	5.3	3.18	0.3	0.17	3	1.8	0.68	0.1	0.06	4
Callinectes															
<i>similis</i>	20.8	20.77	0.6	0.63	2	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Portunus															
<i>gibbesii</i>	13.8	13.85	0.3	0.31	2	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Squilla															
spp.	6.9	6.92	0.3	0.31	2	2.7	2.67	0.0	0.05	3	2.5	1.53	0.0	0.02	4
Micropogonias															
<i>undulatus</i>	2341.5	2341.54	62.7	62.66	2	33.3	33.33	3.0	3.03	3	0.0	0.00	0.0	0.00	4
Stenotomus															
<i>caprinus</i>	1012.8	674.85	18.8	6.19	2	148.5	25.06	6.9	0.93	3	128.4	28.46	5.8	1.24	4
Chloroscombrus															
<i>chrysurus</i>	28.5	28.46	0.6	0.63	2	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Peprilus															
<i>burti</i>	25.5	25.50	1.3	1.27	2	1778.4	1415.17	99.8	76.03	3	227.9	193.42	11.5	8.71	4
Trachurus															
<i>lathami</i>	9.4	4.42	0.4	0.20	2	114.8	88.99	2.1	1.51	3	43.0	19.42	1.8	0.92	4
Trichiurus															
<i>lepturus</i>	0.0	0.00	0.0	0.00	2	4.0	3.06	0.2	0.13	3	1.5	0.88	0.2	0.10	4
Diplectrum															
<i>bivittatum</i>	13.8	13.85	0.3	0.31	2	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Scomber															
<i>japonicus</i>	0.0	0.00	0.0	0.00	2	8.3	8.33	0.3	0.30	3	0.0	0.00	0.0	0.00	4
Squid	156.9	143.08	3.1	2.50	2	123.1	61.48	3.5	1.89	3	103.6	58.31	1.5	0.68	4

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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	282.3	23.18	2	38.1	8.04	10	111.3	84.49	2	123.7	80.86	3	35.9	5.63	4
Total finfish kg	0.0	0.00	0	272.0	22.50	2	31.6	8.34	10	103.8	82.90	2	118.3	79.98	3	31.2	5.96	4
Total crustacean kg	0.0	0.00	0	10.2	0.68	2	5.1	1.45	10	4.4	3.97	2	1.2	0.53	3	1.1	0.38	4
Total others kg	0.0	0.00	0	1.6	0.23	2	1.6	0.44	10	3.1	2.38	2	4.3	1.65	3	3.9	1.98	4
Surface temperature	0.0	0.00	0	28.1	0.16	3	28.2	0.09	10	28.0	0.00	1	28.2	0.12	2	28.1	0.12	3
Midwater temperature	0.0	0.00	0	27.8	0.17	3	27.9	0.08	10	24.9	0.00	1	23.0	0.18	2	22.6	0.57	3
Bottom temperature	0.0	0.00	0	27.5	0.04	3	25.6	0.50	10	20.7	0.00	1	19.3	0.08	2	19.0	0.17	3
Surface salinity	0.0	0.00	0	31.5	0.24	3	33.1	0.43	10	31.1	0.00	1	35.5	0.21	2	35.4	0.24	3
Midwater salinity	0.0	0.00	0	31.8	0.07	3	34.1	0.38	10	35.5	0.00	1	36.3	0.06	2	36.5	0.24	3
Bottom salinity	0.0	0.00	0	33.3	0.22	3	35.2	0.39	10	36.4	0.00	1	36.5	0.00	2	36.5	0.01	3
Surface chlorophyll	0.0	0.00	0	2.1	0.57	3	0.5	0.17	9	0.3	0.00	1	0.1	0.05	2	0.1	0.01	3
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	2.5	0.74	3	3.9	1.41	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	7.3	0.10	3	7.0	0.09	10	7.3	0.00	1	6.3	0.15	2	6.7	0.15	3
Midwater oxygen	0.0	0.00	0	6.8	0.27	3	6.8	0.10	10	7.4	0.00	1	7.0	0.00	2	7.4	0.03	3
Bottom oxygen	0.0	0.00	0	6.2	0.47	3	4.7	0.45	10	6.4	0.00	1	5.5	0.95	2	5.5	0.28	3

Table 15a
 Statistical Zone 17
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the June-July 1988 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 in depths greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevis</i>	0.0	0.00	0.0	0.00	2	11.9	3.59	0.2	0.05	7	303.5	189.63	3.0	1.90	9
Penaeus															
<i>aztecus</i>	139.5	115.50	1.7	1.32	2	35.6	19.60	0.7	0.43	7	4.8	3.10	0.1	0.08	9
Portunus															
<i>spini</i>	0.0	0.00	0.0	0.00	2	23.1	23.14	0.1	0.08	7	14.7	6.42	0.0	0.02	9
Trachypenaeus															
spp.	0.0	0.00	0.0	0.00	2	73.4	33.23	0.3	0.10	7	1.1	1.11	0.0	0.00	9
Squilla															
spp.	9.5	0.50	0.2	0.02	2	13.6	5.79	0.2	0.07	7	2.3	1.55	0.0	0.03	9
Portunus															
<i>gibbesii</i>	0.0	0.00	0.0	0.00	2	19.5	13.71	0.1	0.05	7	1.3	0.89	0.0	0.01	9
Micropogonias															
<i>undulatus</i>	6733.5	5035.50	166.8	132.84	2	461.1	269.01	11.7	6.82	7	57.6	57.56	2.0	2.04	9
Chloroscombrus															
<i>chrysurus</i>	85.0	85.00	2.6	2.59	2	318.6	158.45	10.5	5.07	7	299.0	267.06	8.3	6.72	9
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	2	191.8	165.90	2.4	2.12	7	134.8	60.43	1.7	0.74	9
Arius															
<i>felis</i>	345.5	342.50	49.8	47.09	2	41.8	18.56	6.0	2.93	7	10.6	10.43	1.7	1.63	9
Peprilus															
<i>burti</i>	241.5	91.50	4.6	2.45	2	59.0	29.26	1.7	0.90	7	8.2	8.22	0.1	0.10	9
Trachurus															
<i>lathami</i>	0.0	0.00	0.0	0.00	2	1.6	1.37	0.0	0.03	7	19.3	14.73	0.4	0.31	9
Diplectrum															
<i>bivittatum</i>	0.0	0.00	0.0	0.00	2	28.6	16.71	0.7	0.45	7	22.2	8.79	0.7	0.33	9
Pristipomoides															
<i>aquilonaris</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	7	18.1	14.83	0.6	0.45	9
Squid	87.5	59.50	1.3	0.86	2	60.0	17.96	0.7	0.29	7	104.3	37.08	1.8	0.69	9

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

Summary of dominate organisms taken in shrimp statistical zone 17 during the June-July 1988 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 in depths greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevirostris</i>	79.7	46.07	1.0	0.64	6	15.0	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	0
Penaeus															
<i>aztecus</i>	8.7	3.82	0.3	0.14	6	6.0	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	0
Portunus															
<i>spinicarpus</i>	29.8	16.02	0.2	0.12	6	12.0	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Squilla															
<i>spp.</i>	3.6	1.85	0.0	0.02	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Portunus															
<i>gibbesii</i>	0.3	0.21	0.0	0.01	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Micropogonias															
<i>undulatus</i>	0.0	0.00	0.0	0.00	6	98.0	0.00	7.3	0.00	1	0.0	0.00	0.0	0.00	0
Chloroscombrus															
<i>chrysurus</i>	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Stenotomus															
<i>caprinus</i>	287.8	92.65	9.2	4.05	6	307.0	0.00	11.6	0.00	1	0.0	0.00	0.0	0.00	0
Arius															
<i>felis</i>	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Peprilus															
<i>burti</i>	1.0	1.00	0.0	0.02	6	7.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	0
Trachurus															
<i>lathamii</i>	40.8	25.49	0.8	0.53	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Diplectrum															
<i>bivittatum</i>	6.2	3.83	0.1	0.06	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Pristipomoides															
<i>aquilonaris</i>	37.6	12.65	1.1	0.35	6	34.0	0.00	1.2	0.00	1	0.0	0.00	0.0	0.00	0
Squid															
	59.9	38.11	1.3	0.79	6	2.0	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	0

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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	242.3	93.18	2	50.4	11.69	7	27.5	12.87	9	18.5	4.54	6	26.4	0.00	1	0.0	0.00	0
Total finfish kg	236.6	89.32	2	46.2	11.39	7	22.3	12.97	9	15.3	4.59	6	25.0	0.00	1	0.0	0.00	0
Total crustacean kg	5.0	3.18	2	3.1	0.98	7	3.8	1.98	9	1.8	0.74	6	0.9	0.00	1	0.0	0.00	0
Total others kg	1.8	0.91	2	1.8	0.62	7	2.1	0.69	9	1.7	0.71	6	0.5	0.00	1	0.0	0.00	0
Surface temperature	28.3	0.36	3	28.4	0.35	6	28.3	0.19	7	28.5	0.14	5	27.8	0.26	2	0.0	0.00	0
Midwater temperature	28.4	0.33	3	28.4	0.37	6	28.2	0.22	7	27.6	0.36	5	24.6	0.80	2	0.0	0.00	0
Bottom temperature	28.2	0.44	3	27.9	0.14	6	23.8	0.59	7	21.0	0.37	5	19.6	0.05	2	0.0	0.00	0
Surface salinity	30.4	0.58	3	31.2	0.29	6	33.4	0.39	7	34.0	0.42	5	35.1	0.04	2	0.0	0.00	0
Midwater salinity	30.3	0.60	3	31.3	0.30	6	34.0	0.47	7	34.9	0.33	5	36.0	0.02	2	0.0	0.00	0
Bottom salinity	30.3	0.60	3	32.1	0.30	6	35.6	0.18	7	36.3	0.13	5	36.4	0.13	2	0.0	0.00	0
Surface chlorophyll	4.0	0.91	3	1.1	0.13	6	0.2	0.05	6	0.2	0.03	4	0.2	0.01	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	3.2	1.42	3	1.1	0.30	6	0.5	0.05	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.5	0.27	3	6.7	0.22	6	6.4	0.12	7	6.1	0.04	5	6.6	0.40	2	0.0	0.00	0
Midwater oxygen	6.5	0.25	3	6.3	0.31	6	6.5	0.10	6	6.0	0.04	5	7.2	0.60	2	0.0	0.00	0
Bottom oxygen	6.3	0.35	3	6.0	0.24	6	5.7	0.24	7	5.7	0.15	5	5.0	0.20	2	0.0	0.00	0

Table 16a
 Statistical Zone 18
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 18 during the June-July 1988 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 in depths greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevirostris</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	125.8	58.73	0.8	0.36	7
Penaeus															
<i>aztecus</i>	504.0	0.00	5.7	0.00	1	41.2	0.00	0.4	0.00	1	5.9	3.34	0.2	0.11	7
Portunus															
<i>spiniarpus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	3.5	1.40	0.0	0.01	7
Sicyonia															
<i>dorsalis</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	12.2	8.80	0.1	0.07	7
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	9.1	6.26	0.0	0.03	7
Solenocera															
<i>spp.</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	282.3	129.71	2.1	0.94	7
Micropogonias															
<i>undulatus</i>	3417.0	0.00	93.3	0.00	1	0.0	0.00	0.0	0.00	1	0.5	0.45	0.0	0.04	7
Peprilus															
<i>burti</i>	580.5	0.00	11.1	0.00	1	1942.4	0.00	30.5	0.00	1	0.0	0.00	0.0	0.00	7
Trachurus															
<i>lathamii</i>	0.0	0.00	0.0	0.00	1	8.2	0.00	0.1	0.00	1	184.8	181.07	3.8	3.73	7
Chloroscombrus															
<i>chrysurus</i>	0.0	0.00	0.0	0.00	1	980.0	0.00	31.8	0.00	1	2.0	1.35	0.1	0.07	7
Cynoscion															
<i>nothus</i>	567.0	0.00	21.0	0.00	1	58.8	0.00	2.2	0.00	1	0.0	0.00	0.0	0.00	7
Leiostomus															
<i>xanthurus</i>	415.5	0.00	13.8	0.00	1	10.6	0.00	0.6	0.00	1	0.0	0.00	0.0	0.00	7
Diplectrum															
<i>bivittatum</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	32.7	13.64	0.8	0.31	7
Squid															
	184.5	0.00	2.3	0.00	1	81.2	0.00	0.5	0.00	1	83.1	27.82	1.2	0.60	7

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

Summary of dominate organisms taken in shrimp statistical zone 18 during the June-July 1988 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 in depths greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevirostris</i>	178.0	83.02	2.3	1.15	3	0.4	0.40	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Penaeus															
<i>aztecus</i>	0.7	0.67	0.0	0.05	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Portunus															
<i>spinicarpus</i>	19.9	2.62	0.1	0.01	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Sicyonia															
<i>dorsalis</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Solenocera															
<i>spp.</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Stenotomus															
<i>caprinus</i>	287.3	75.10	12.4	2.79	3	188.9	57.91	9.0	2.44	3	0.0	0.00	0.0	0.00	0
Micropogonias															
<i>undulatus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Peprilus															
<i>burti</i>	0.0	0.00	0.0	0.00	3	4.8	4.80	0.2	0.20	3	0.0	0.00	0.0	0.00	0
Trachurus															
<i>lathami</i>	57.5	56.98	0.9	0.85	3	566.0	506.00	10.9	9.59	3	0.0	0.00	0.0	0.00	0
Chloroscombrus															
<i>chrysurus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Cynoscion															
<i>nothus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Leiostomus															
<i>xanthurus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Diplectrum															
<i>bivittatum</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0
Squid															
	23.3	21.80	0.4	0.41	3	251.9	68.63	13.1	7.14	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 40 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	156.8	0.00	1	75.9	0.00	1	11.9	3.96	7	20.8	2.86	3	45.9	15.47	3	0.0	0.00	0
Total finfish kg	148.0	0.00	1	74.9	0.00	1	9.2	3.54	7	17.6	2.28	3	31.2	13.01	3	0.0	0.00	0
Total crustacean kg	6.8	0.00	1	0.5	0.00	1	1.5	0.34	7	2.7	0.99	3	0.5	0.26	3	0.0	0.00	0
Total others kg	2.0	0.00	1	0.5	0.00	1	1.6	0.53	7	0.8	0.37	3	14.7	6.61	3	0.0	0.00	0
Surface temperature	28.7	0.20	2	28.7	0.28	3	27.5	0.29	9	27.5	0.00	1	28.2	0.00	1	27.4	0.00	1
Midwater temperature	28.7	0.19	2	28.3	0.42	3	27.3	0.28	9	25.9	0.00	1	25.3	0.00	1	22.9	0.00	1
Bottom temperature	28.2	0.18	2	27.9	0.73	3	24.6	0.67	9	21.2	0.00	1	19.6	0.00	1	19.7	0.00	1
Surface salinity	32.1	0.40	2	30.9	0.44	3	32.7	0.73	9	33.8	0.00	1	34.4	0.00	1	34.0	0.00	1
Midwater salinity	32.1	0.39	2	32.3	0.83	3	33.6	0.27	9	34.8	0.00	1	36.6	0.00	1	36.2	0.00	1
Bottom salinity	32.4	0.49	2	31.5	0.70	3	35.0	0.30	9	36.1	0.00	1	36.5	0.00	1	36.3	0.00	1
Surface chlorophyll	1.0	0.38	2	0.7	0.40	3	0.1	0.02	8	0.1	0.00	1	0.3	0.00	1	0.1	0.00	1
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.3	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.0	0.05	2	6.7	0.37	3	6.9	0.13	9	6.7	0.00	1	7.2	0.00	1	7.0	0.00	1
Midwater oxygen	5.5	0.25	2	6.4	0.47	3	6.9	0.12	9	6.8	0.00	1	7.4	0.00	1	7.6	0.00	1
Bottom oxygen	5.2	0.00	1	5.9	0.20	3	6.7	0.28	9	6.8	0.00	1	6.0	0.00	1	6.4	0.00	1

Table 17a
 Statistical Zone 19
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 19 during the June-July 1988 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 in depths greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	1	170.7	83.76	0.5	0.30	8	192.9	84.08	1.1	0.47	13
Penaeus															
<i>aztecus</i>	563.1	0.00	3.8	0.00	1	223.9	80.17	3.2	1.17	8	149.1	50.63	1.8	0.53	13
Callinectes															
<i>similis</i>	96.9	0.00	0.4	0.00	1	350.8	233.42	6.0	4.20	8	79.0	49.61	0.9	0.51	13
Sicyonia															
<i>brevirostris</i>	0.0	0.00	0.0	0.00	1	2.7	2.68	0.0	0.02	8	20.0	12.51	0.1	0.08	13
Squilla															
<i>spp.</i>	0.0	0.00	0.0	0.00	1	92.5	42.32	0.9	0.45	8	18.7	8.01	0.1	0.04	13
Portunus															
<i>spinimanus</i>	0.0	0.00	0.0	0.00	1	6.2	6.21	0.0	0.04	8	0.4	0.26	0.0	0.01	13
Trachurus															
<i>lathami</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	8	449.6	215.55	6.3	2.95	13
Micropogonias															
<i>undulatus</i>	1656.9	0.00	31.7	0.00	1	974.2	529.16	24.1	12.55	8	183.4	180.33	5.6	5.46	13
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	1	2.1	1.38	0.0	0.03	8	362.1	131.20	2.1	0.77	13
Scomber															
<i>japonicus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	8	154.6	151.37	4.2	4.13	13
Polydactylus															
<i>octonemus</i>	36.9	0.00	0.8	0.00	1	258.0	112.63	4.8	1.90	8	34.6	24.64	0.7	0.53	13
Peprilus															
<i>burti</i>	92.3	0.00	1.3	0.00	1	43.5	15.11	1.3	0.48	8	84.2	35.72	1.2	0.49	13
Chloroscombrus															
<i>chrysurus</i>	0.0	0.00	0.0	0.00	1	177.2	69.79	3.6	1.44	8	13.9	7.53	0.5	0.27	13
Upeneus															
<i>parvus</i>	0.0	0.00	0.0	0.00	1	3.7	2.61	0.1	0.06	8	34.3	14.68	0.4	0.17	13
Squid															
	0.0	0.00	0.0	0.00	1	6.3	1.93	0.1	0.05	8	158.2	45.54	1.6	0.49	13

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

Summary of dominate organisms taken in shrimp statistical zone 19 during the June-July 1988 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 in depths greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	2.7	2.55	0.0	0.01	7	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Penaeus															
aztecus	2.7	2.12	0.1	0.09	7	8.0	8.00	0.5	0.45	2	0.0	0.00	0.0	0.00	0
Callinectes															
similis	0.7	0.53	0.0	0.00	7	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Sicyonia															
brevirostris	43.9	33.55	0.5	0.40	7	20.0	20.00	0.4	0.41	2	0.0	0.00	0.0	0.00	0
Squilla															
spp.	1.4	0.93	0.0	0.01	7	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Portunus															
spinimanus	21.2	20.99	0.4	0.38	7	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Trachurus															
lathamii	321.4	221.00	5.4	3.65	7	3.2	3.16	0.0	0.04	2	0.0	0.00	0.0	0.00	0
Micropogonias															
undulatus	0.0	0.00	0.0	0.00	7	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Stenotomus															
caprinus	97.3	30.37	2.3	0.72	7	79.8	26.16	3.0	0.83	2	0.0	0.00	0.0	0.00	0
Scomber															
japonicus	4.9	3.72	0.1	0.06	7	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Polydactylus															
octonemus	0.0	0.00	0.0	0.00	7	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Peprilus															
burti	0.4	0.43	0.0	0.01	7	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Chloroscombrus															
chrysurus	0.0	0.00	0.0	0.00	7	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Upeneus															
parvus	6.2	2.97	0.1	0.06	7	6.6	3.42	0.1	0.03	2	0.0	0.00	0.0	0.00	0
Squid	127.7	42.32	2.3	0.78	7	10.5	8.47	0.0	0.04	2	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	92.3	0.00	1	62.0	11.11	8	32.3	7.67	13	14.0	4.57	7	6.9	0.41	2	0.0	0.00	0
Total finfish kg	39.9	0.00	1	44.9	12.10	8	25.0	7.23	13	10.6	4.60	7	5.2	0.22	2	0.0	0.00	0
Total crustacean kg	4.2	0.00	1	12.5	4.33	8	4.8	1.43	13	1.6	0.57	7	1.3	0.55	2	0.0	0.00	0
Total others kg	48.3	0.00	1	5.1	3.09	8	2.9	0.58	13	2.5	0.83	7	0.8	0.10	2	0.0	0.00	0
Surface temperature	28.3	0.00	1	28.3	0.18	11	27.8	0.10	12	27.6	0.36	7	27.2	0.00	1	27.5	0.00	1
Midwater temperature	28.3	0.00	1	28.2	0.16	11	27.3	0.28	12	25.2	0.35	7	25.9	0.00	1	23.7	0.00	1
Bottom temperature	28.3	0.00	1	27.9	0.06	11	25.0	0.60	12	20.2	0.19	7	20.2	0.00	1	19.8	0.00	1
Surface salinity	31.2	0.00	1	31.7	0.07	11	32.6	0.15	12	33.3	0.31	7	36.3	0.00	1	36.5	0.00	1
Midwater salinity	31.2	0.00	1	31.8	0.08	11	33.0	0.17	12	35.2	0.37	7	36.8	0.00	1	36.9	0.00	1
Bottom salinity	31.2	0.00	1	32.0	0.11	11	34.2	0.30	12	36.3	0.09	7	36.5	0.00	1	36.5	0.00	1
Surface chlorophyll	0.1	0.00	1	0.7	0.19	11	0.2	0.03	11	0.1	0.05	6	0.1	0.00	1	0.1	0.00	1
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	6.9	0.30	11	7.2	0.19	12	7.0	0.13	7	8.8	0.00	1	6.9	0.00	1
Midwater oxygen	0.0	0.00	0	6.8	0.29	11	6.8	0.16	12	6.9	0.27	7	8.8	0.00	1	7.6	0.00	1
Bottom oxygen	0.0	0.00	0	6.6	0.27	11	5.6	0.29	12	6.2	0.26	7	8.2	0.00	1	6.5	0.00	1

Table 18a
 Statistical Zone 20
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 20 during the June-July 1988 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.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus</i>															
<i>aztecus</i>	2.0	2.00	0.1	0.09	3	22.7	15.81	0.3	0.21	5	476.6	209.70	5.4	2.32	10
<i>Trachypenaeus</i>															
<i>spp.</i>	2.0	2.00	0.0	0.00	3	2.2	2.18	0.0	0.00	5	27.1	18.17	0.1	0.05	10
<i>Solenocera</i>															
<i>spp.</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	10
<i>Sicyonia</i>															
<i>dorsalis</i>	0.0	0.00	0.0	0.00	3	0.6	0.63	0.0	0.03	5	1.8	0.89	0.0	0.01	10
<i>Callinectes</i>															
<i>similis</i>	11.8	9.23	0.2	0.09	3	1.5	1.01	0.0	0.00	5	7.7	2.37	0.1	0.02	10
<i>Portunus</i>															
<i>spincarpus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	10
<i>Peprilus</i>															
<i>burti</i>	243.6	154.16	4.5	2.72	3	1106.6	1083.18	25.1	24.65	5	61.2	41.59	0.8	0.59	10
<i>Chloroscombrus</i>															
<i>chrysurus</i>	622.5	299.87	10.7	5.25	3	1035.8	255.82	25.2	6.73	5	67.0	52.28	2.5	2.16	10
<i>Leiostomus</i>															
<i>xanthurus</i>	87.5	84.47	5.6	5.28	3	810.0	808.67	29.5	29.40	5	0.0	0.00	0.0	0.00	10
<i>Trachurus</i>															
<i>lathamii</i>	1.8	1.82	0.1	0.08	3	105.1	79.54	1.9	1.47	5	65.1	35.85	1.0	0.58	10
<i>Stenotomus</i>															
<i>caprinus</i>	0.0	0.00	0.0	0.00	3	15.4	7.88	0.1	0.06	5	140.9	63.35	1.0	0.54	10
<i>Scomber</i>															
<i>japonicus</i>	2.0	2.00	0.1	0.09	3	0.0	0.00	0.0	0.00	5	69.8	67.45	1.5	1.47	10
<i>Cynoscion</i>															
<i>nothus</i>	20.0	20.00	0.9	0.91	3	315.8	296.44	15.3	13.95	5	9.9	6.78	0.4	0.29	10
<i>Etrumeus</i>															
<i>teres</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	5	1.9	1.16	0.0	0.02	10
<i>Squid</i>	60.4	54.47	0.3	0.14	3	271.5	99.18	7.4	4.03	5	177.8	39.41	3.0	1.13	10

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

Summary of dominate organisms taken in shrimp statistical zone 20 during the June-July 1988 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.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus</i>															
<i>aztecus</i>	47.0	46.67	0.7	0.69	4	6.9	0.00	0.2	0.00	1	1.9	1.86	0.1	0.08	3
<i>Trachypenaeus</i>															
<i>spp.</i>	19.3	18.92	0.1	0.13	4	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
<i>Solenocera</i>															
<i>spp.</i>	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	3
<i>Sicyonia</i>															
<i>dorsalis</i>	17.1	15.68	0.1	0.06	4	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
<i>Callinectes</i>															
<i>similis</i>	7.5	4.73	0.0	0.01	4	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
<i>Portunus</i>															
<i>spinicarpus</i>	2.0	1.22	0.0	0.01	4	66.9	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	3
<i>Peprilus</i>															
<i>burti</i>	44.5	40.87	0.6	0.55	4	0.0	0.00	0.0	0.00	1	179.2	92.53	11.6	3.50	3
<i>Chloroscombrus</i>															
<i>chrysurus</i>	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	3
<i>Leiostomus</i>															
<i>xanthurus</i>	3.3	3.25	0.3	0.31	4	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
<i>Trachurus</i>															
<i>lathamii</i>	83.9	49.41	1.2	0.77	4	4.6	0.00	0.2	0.00	1	117.2	17.48	2.9	0.72	3
<i>Stenotomus</i>															
<i>caprinus</i>	0.9	0.51	0.0	0.01	4	115.4	0.00	4.5	0.00	1	30.5	20.16	1.5	0.95	3
<i>Scomber</i>															
<i>japonicus</i>	4.8	4.75	0.1	0.14	4	0.0	0.00	0.0	0.00	1	30.3	30.33	2.2	2.24	3
<i>Cynoscion</i>															
<i>nothus</i>	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	3
<i>Etrumeus</i>															
<i>teres</i>	136.7	125.50	1.5	1.21	4	0.0	0.00	0.0	0.00	1	12.6	9.85	0.5	0.43	3
<i>Squid</i>	104.8	68.48	1.7	0.92	4	11.5	0.00	0.6	0.00	1	165.1	14.88	4.6	0.99	3

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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, 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	43.8	16.53	3	126.2	77.24	5	19.1	2.90	10	11.2	3.58	4	9.4	0.00	1	37.0	1.17	3
Total finfish kg	42.1	16.18	3	116.7	78.88	5	10.1	2.65	10	8.1	3.14	4	8.4	0.00	1	28.0	3.53	3
Total crustacean kg	2.6	0.08	3	1.6	0.19	5	6.0	2.30	10	1.6	1.12	4	1.0	0.00	1	0.4	0.19	3
Total others kg	2.6	0.08	3	8.2	3.71	5	3.2	1.11	10	1.8	0.84	4	1.0	0.00	1	8.4	3.69	3
Surface temperature	29.8	0.16	3	28.9	0.21	5	28.6	0.12	12	28.7	0.10	4	27.4	0.00	1	28.2	0.21	5
Midwater temperature	29.8	0.18	3	28.8	0.22	5	28.2	0.19	12	26.6	0.46	4	21.7	0.00	1	22.4	0.57	5
Bottom temperature	29.7	0.19	3	26.7	0.69	5	26.1	0.63	12	21.4	0.81	4	20.6	0.00	1	19.3	1.09	5
Surface salinity	32.6	0.19	3	33.3	0.40	5	33.3	0.12	12	33.4	0.32	4	33.8	0.00	1	33.7	0.28	5
Midwater salinity	32.6	0.23	3	33.3	0.39	5	34.0	0.33	12	35.2	0.55	4	35.4	0.00	1	36.8	0.08	5
Bottom salinity	32.6	0.23	3	34.5	0.66	5	35.2	0.46	12	36.5	0.23	4	36.5	0.00	1	36.5	0.11	4
Surface chlorophyll	1.1	0.76	3	0.7	0.12	5	0.4	0.07	10	0.2	0.03	4	0.1	0.00	1	0.1	0.03	4
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.0	0.06	3	7.1	0.14	5	7.1	0.08	12	7.1	0.13	4	6.7	0.00	1	6.7	0.13	5
Midwater oxygen	6.9	0.09	3	6.7	0.32	5	7.0	0.07	12	7.1	0.20	4	5.5	0.00	1	7.1	0.25	5
Bottom oxygen	6.9	0.09	3	6.0	0.40	4	6.8	0.13	12	6.6	0.26	4	6.2	0.00	1	5.7	0.65	4

Table 19a
 Statistical Zone 21
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 21 during the June-July 1988 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.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus</i>															
<i>aztecus</i>	294.0	0.00	1.4	0.00	1	70.4	43.07	0.4	0.12	3	786.2	528.48	9.0	5.94	10
<i>Trachypenaeus</i>															
<i>spp.</i>	0.0	0.00	0.0	0.00	1	2.4	2.35	0.0	0.00	3	22.7	7.48	0.1	0.03	10
<i>Callinectes</i>															
<i>similis</i>	12.0	0.00	0.0	0.00	1	11.9	5.94	0.1	0.08	3	22.2	10.07	0.2	0.07	10
<i>Solenocera</i>															
<i>spp.</i>	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	10
<i>Sicyonia</i>															
<i>dorsalis</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3	11.2	3.85	0.0	0.02	10
<i>Sicyonia</i>															
<i>brevirostris</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3	4.7	1.48	0.0	0.02	10
<i>Trachurus</i>															
<i>lathami</i>	12.0	0.00	0.3	0.00	1	3.2	1.74	0.1	0.08	3	33.3	13.06	0.4	0.22	10
<i>Stenotomus</i>															
<i>caprinus</i>	6.0	0.00	0.0	0.00	1	297.5	227.39	2.4	1.68	3	160.2	63.02	0.8	0.45	10
<i>Prionotus</i>															
<i>stearnsi</i>	0.0	0.00	0.0	0.00	1	5.2	3.56	0.0	0.00	3	43.6	19.49	0.1	0.06	10
<i>Upeneus</i>															
<i>parvus</i>	78.0	0.00	0.5	0.00	1	132.7	74.54	3.0	2.07	3	59.3	22.18	0.9	0.43	10
<i>Peprilus</i>															
<i>burti</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3	15.9	10.12	0.1	0.06	10
<i>Saurida</i>															
<i>brasiliensis</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3	36.9	14.93	0.3	0.12	10
<i>Scomber</i>															
<i>japonicus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3	3.6	3.06	0.1	0.07	10
<i>Lagodon</i>															
<i>rhomboides</i>	18.0	0.00	0.3	0.00	1	93.7	46.73	1.4	0.82	3	8.6	6.60	0.4	0.32	10
<i>Squid</i>	150.0	0.00	0.5	0.00	1	217.4	81.52	1.7	0.74	3	74.1	24.50	1.0	0.51	10

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

Summary of dominate organisms taken in shrimp statistical zone 21 during the June-July 1988 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.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus															
<i>aztecus</i>	30.1	17.73	0.6	0.30	3	1.7	0.00	0.1	0.00	1	0.5	0.50	0.0	0.05	2
Trachypenaeus															
<i>spp.</i>	15.2	9.80	0.0	0.02	3	1.7	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Callinectes															
<i>similis</i>	1.1	0.59	0.0	0.02	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Solenocera															
<i>spp.</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Sicyonia															
<i>dorsalis</i>	9.0	8.06	0.0	0.02	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>brevirostris</i>	2.1	1.49	0.0	0.02	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Trachurus															
<i>lathami</i>	258.0	256.10	5.0	4.99	3	1061.1	0.00	18.5	0.00	1	108.0	72.00	2.6	1.50	2
Stenotomus															
<i>caprinus</i>	5.1	3.27	0.0	0.02	3	0.0	0.00	0.0	0.00	1	11.5	0.50	0.8	0.07	2
Prionotus															
<i>stearnsi</i>	135.1	69.52	1.2	0.80	3	42.9	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	2
Upeneus															
<i>parvus</i>	9.7	4.84	0.2	0.11	3	3.4	0.00	0.1	0.00	1	1.5	1.50	0.0	0.02	2
Peprilus															
<i>burti</i>	1.8	0.95	0.1	0.06	3	111.4	0.00	1.9	0.00	1	75.5	39.50	2.9	1.27	2
Saurida															
<i>brasiliensis</i>	17.3	7.92	0.1	0.03	3	3.4	0.00	0.0	0.00	1	0.5	0.50	0.0	0.00	2
Scomber															
<i>japonicus</i>	42.9	42.91	1.4	1.37	3	0.0	0.00	0.0	0.00	1	0.5	0.50	0.0	0.02	2
Lagodon															
<i>rhomboides</i>	5.9	4.61	0.4	0.30	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Squid															
<i>spp.</i>	75.5	74.08	1.2	1.16	3	255.4	0.00	3.7	0.00	1	429.0	81.00	9.0	1.68	2

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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, 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	5.5	0.00	1	13.1	4.19	3	15.8	6.16	10	13.0	6.38	3	28.8	0.00	1	26.1	6.59	2
Total finfish kg	2.7	0.00	1	10.9	3.91	3	5.2	1.25	10	11.0	5.69	3	24.9	0.00	1	16.8	5.00	2
Total crustacean kg	2.7	0.00	1	2.2	0.33	3	10.1	5.83	10	1.0	0.27	3	0.8	0.00	1	1.6	1.14	2
Total others kg	2.7	0.00	1	2.2	0.33	3	1.8	0.55	10	1.5	0.98	3	3.9	0.00	1	9.1	1.82	2
Surface temperature	0.0	0.00	0	25.9	0.22	4	28.5	0.09	11	28.5	0.16	3	28.5	0.00	1	28.7	0.00	1
Midwater temperature	0.0	0.00	0	24.7	0.72	4	27.9	0.23	11	26.7	0.26	3	24.4	0.00	1	21.8	0.00	1
Bottom temperature	0.0	0.00	0	22.9	0.41	4	21.6	0.20	11	21.3	0.17	3	20.5	0.00	1	19.5	0.00	1
Surface salinity	0.0	0.00	0	35.3	0.26	4	34.5	0.17	11	33.6	0.12	3	33.5	0.00	1	33.7	0.00	1
Midwater salinity	0.0	0.00	0	35.6	0.36	4	34.8	0.16	11	36.3	0.42	3	36.8	0.00	1	36.7	0.00	1
Bottom salinity	0.0	0.00	0	36.0	0.04	4	36.3	0.06	11	36.5	0.05	3	36.8	0.00	1	36.5	0.00	1
Surface chlorophyll	0.0	0.00	0	0.8	0.18	4	0.2	0.02	11	0.1	0.01	3	0.1	0.00	1	0.1	0.00	1
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.1	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	6.4	0.27	4	6.9	0.14	11	6.9	0.10	3	6.6	0.00	1	6.6	0.00	1
Midwater oxygen	0.0	0.00	0	6.4	0.27	4	6.9	0.15	11	7.1	0.23	3	7.3	0.00	1	6.8	0.00	1
Bottom oxygen	0.0	0.00	0	6.2	0.28	4	6.6	0.13	11	6.8	0.09	3	5.8	0.00	1	5.2	0.00	1

Table 20a
 Statistical Zone 17
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the June-July 1988 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 in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus															
aztecus	102.0	17.00	0.9	0.15	15	48.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	0
Penaeus															
setiferus	11.2	5.03	0.2	0.08	15	24.0	0.00	0.8	0.00	1	0.0	0.00	0.0	0.00	0
Pagurus															
pollicaris	11.2	4.09	0.2	0.07	15	18.0	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	0
Callinectes															
sapidus	8.0	3.64	0.6	0.26	15	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Squilla															
spp.	5.2	1.42	0.1	0.03	15	6.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Callinectes															
similis	3.6	1.74	0.0	0.02	15	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Micropogonias															
undulatus	420.4	103.42	7.6	1.92	15	294.0	0.00	4.6	0.00	1	0.0	0.00	0.0	0.00	0
Cynoscion															
nothus	45.6	12.81	1.0	0.30	15	138.0	0.00	2.7	0.00	1	0.0	0.00	0.0	0.00	0
Arius															
felis	23.2	6.77	1.0	0.31	15	450.0	0.00	21.3	0.00	1	0.0	0.00	0.0	0.00	0
Stellifer															
lanceolatus	31.6	7.06	0.4	0.08	15	66.0	0.00	0.8	0.00	1	0.0	0.00	0.0	0.00	0
Leiostomus															
xanthurus	27.6	10.75	0.4	0.17	15	36.0	0.00	0.8	0.00	1	0.0	0.00	0.0	0.00	0
Brevoortia															
patronus	15.2	6.22	0.3	0.13	15	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Chloroscombrus															
chrysurus	1.2	1.20	0.0	0.02	15	144.0	0.00	2.5	0.00	1	0.0	0.00	0.0	0.00	0
Polydactylus															
octonemus	8.0	3.45	0.1	0.03	15	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Squid															
	7.2	1.68	0.1	0.04	15	0.0	0.00	0.0	0.00	1	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	14.7	1.90	15	35.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	12.0	2.06	15	32.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.9	0.18	15	2.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.5	0.18	15	2.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	25.9	0.53	15	25.3	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	25.6	0.42	15	24.8	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	25.4	0.43	15	25.2	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	0.0	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	1.0	0.28	15	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	8.6	0.23	15	8.8	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	8.3	0.18	15	8.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	8.5	0.22	15	7.3	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 21a
 Statistical Zone 18
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 18 during the June-July 1988 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 in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus															
aztecus	10.5	5.75	0.1	0.04	8	20.3	11.05	0.3	0.19	8	0.0	0.00	0.0	0.00	0
Pagurus															
pollicaris	3.0	1.60	0.1	0.07	8	6.8	1.77	0.0	0.03	8	0.0	0.00	0.0	0.00	0
Squilla															
spp.	0.8	0.75	0.0	0.00	8	6.0	3.40	0.1	0.04	8	0.0	0.00	0.0	0.00	0
Penaeus															
setiferus	3.0	2.27	0.1	0.07	8	0.8	0.75	0.0	0.03	8	0.0	0.00	0.0	0.00	0
Hepatus															
epheliticus	0.0	0.00	0.0	0.00	8	3.8	2.25	0.0	0.03	8	0.0	0.00	0.0	0.00	0
Sicyonia															
dorsalis	0.0	0.00	0.0	0.00	8	1.5	1.50	0.0	0.00	8	0.0	0.00	0.0	0.00	0
Micropogonias															
undulatus	150.0	86.86	2.5	1.45	8	299.3	149.04	5.3	2.87	8	0.0	0.00	0.0	0.00	0
Peprilus															
burti	10.5	7.24	0.2	0.11	8	275.3	201.31	3.7	2.69	8	0.0	0.00	0.0	0.00	0
Peprilus															
alepidotus	60.0	39.30	0.4	0.25	8	16.5	7.41	0.1	0.05	8	0.0	0.00	0.0	0.00	0
Stenotomus															
caprinus	0.0	0.00	0.0	0.00	8	75.8	65.32	0.5	0.47	8	0.0	0.00	0.0	0.00	0
Cynoscion															
nothus	30.0	19.08	0.8	0.52	8	24.0	15.67	0.9	0.58	8	0.0	0.00	0.0	0.00	0
Polydactylus															
octonemus	11.3	7.89	0.1	0.10	8	22.5	12.09	0.3	0.20	8	0.0	0.00	0.0	0.00	0
Leiostomus															
xanthurus	18.0	11.17	0.6	0.35	8	13.5	8.24	0.3	0.20	8	0.0	0.00	0.0	0.00	0
Larimus															
fasciatus	5.3	3.48	0.1	0.04	8	9.0	6.61	0.1	0.07	8	0.0	0.00	0.0	0.00	0
Squid															
	12.0	8.56	0.1	0.10	8	39.8	13.88	0.5	0.18	8	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	6.8	2.68	8	14.0	4.17	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	6.8	2.68	8	12.3	3.79	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	1.7	0.50	8	2.7	0.00	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	1.7	0.50	8	2.4	0.34	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	27.1	0.22	10	27.3	0.19	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	26.7	0.23	10	27.1	0.24	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	26.5	0.26	10	26.6	0.27	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	30.3	0.06	3	30.3	0.24	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	30.3	0.06	3	30.5	0.25	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	30.3	0.03	3	30.7	0.20	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	2.0	0.28	10	1.1	0.42	6	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	0.22	10	6.8	0.24	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.4	0.23	10	6.8	0.25	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.8	0.22	10	5.5	0.41	6	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 dominate organisms taken in shrimp statistical zone 19 during the June-July 1988 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 in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus															
aztecus	14.0	14.00	0.1	0.09	3	313.5	92.76	3.1	0.86	8	78.0	8.05	0.9	0.16	5
Trachypenaeus															
spp.	10.0	7.21	0.0	0.00	3	88.5	27.11	0.3	0.07	8	48.0	7.82	0.3	0.09	5
Callinectes															
similis	2.0	2.00	0.0	0.00	3	54.8	21.82	0.5	0.30	8	27.6	4.07	0.2	0.05	5
Squilla															
spp.	0.0	0.00	0.0	0.00	3	42.0	9.28	0.5	0.12	8	19.2	8.78	0.2	0.11	5
Penaeus															
duorarum	0.0	0.00	0.0	0.00	3	7.5	3.72	0.2	0.09	8	1.2	1.20	0.0	0.00	5
Callinectes															
sapidus	0.0	0.00	0.0	0.00	3	4.5	3.16	0.6	0.41	8	3.6	1.47	0.5	0.22	5
Micropogonias															
undulatus	134.0	134.00	2.5	2.45	3	876.0	305.03	18.3	6.36	8	82.8	53.14	2.3	1.53	5
Stenotomus															
caprinus	4.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	8	160.8	96.72	0.9	0.53	5
Syacium															
gunteri	4.0	4.00	0.0	0.00	3	28.5	8.54	0.3	0.09	8	61.2	19.66	0.9	0.34	5
Polydactylus															
octonemus	0.0	0.00	0.0	0.00	3	20.3	6.20	0.4	0.15	8	63.6	19.12	1.3	0.63	5
Leiostomus															
xanthurus	2.0	2.00	0.1	0.09	3	45.0	16.04	1.0	0.34	8	21.6	14.77	0.6	0.43	5
Cynoscion															
nothus	10.0	10.00	0.3	0.27	3	28.5	5.97	0.8	0.23	8	12.0	4.24	0.4	0.14	5
Peprilus															
burti	0.0	0.00	0.0	0.00	3	19.5	10.50	0.3	0.20	8	28.8	15.46	0.4	0.24	5
Prionotus															
tribulus	0.0	0.00	0.0	0.00	3	12.0	5.20	0.1	0.07	8	9.6	4.07	0.1	0.05	5
Squid	8.0	4.00	0.1	0.09	3	24.0	10.64	0.2	0.09	8	57.6	37.31	0.7	0.39	5

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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	5.5	2.73	3	29.7	7.98	8	12.5	2.94	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	4.5	1.82	3	22.5	6.97	8	9.8	2.94	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	1.8	0.91	3	6.1	1.34	8	2.7	0.00	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	1.8	0.91	3	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
Surface temperature	27.5	0.65	4	26.4	0.36	9	27.7	0.12	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	27.2	0.83	4	26.5	0.48	9	27.3	0.26	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	27.2	0.91	4	26.5	0.70	9	28.3	0.36	3	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	0.6	0.07	4	0.3	0.07	8	0.3	0.06	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.9	0.36	4	8.1	0.59	9	10.3	0.67	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.9	0.74	4	8.4	0.44	8	9.3	0.33	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	8.9	1.75	4	8.7	0.52	4	9.0	0.58	3	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 dominate organisms taken in shrimp statistical zone 20 during the June-July 1988 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 in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus															
<i>aztecus</i>	0.0	0.00	0.0	0.00	2	281.6	98.46	2.9	1.06	14	0.0	0.00	0.0	0.00	0
Callinectes															
<i>similis</i>	0.0	0.00	0.0	0.00	2	53.1	14.46	0.6	0.17	14	0.0	0.00	0.0	0.00	0
Squilla															
<i>spp.</i>	0.0	0.00	0.0	0.00	2	51.0	17.33	0.5	0.17	14	0.0	0.00	0.0	0.00	0
Penaeus															
<i>duorarum</i>	0.0	0.00	0.0	0.00	2	42.0	15.59	0.5	0.17	14	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	2	29.1	18.74	0.1	0.06	14	0.0	0.00	0.0	0.00	0
Hepatus															
<i>epheliticus</i>	0.0	0.00	0.0	0.00	2	17.6	9.04	0.4	0.17	14	0.0	0.00	0.0	0.00	0
Micropogonias															
<i>undulatus</i>	0.0	0.00	0.0	0.00	2	251.1	53.41	5.7	1.48	14	0.0	0.00	0.0	0.00	0
Leiostomus															
<i>xanthurus</i>	39.0	39.00	0.5	0.55	2	197.6	59.20	4.7	1.17	14	0.0	0.00	0.0	0.00	0
Syacium															
<i>gunteri</i>	0.0	0.00	0.0	0.00	2	120.9	38.10	1.0	0.31	14	0.0	0.00	0.0	0.00	0
Polydactylus															
<i>octonemus</i>	6.0	6.00	0.1	0.14	2	31.3	12.78	0.6	0.25	14	0.0	0.00	0.0	0.00	0
Larimus															
<i>fasciatus</i>	0.0	0.00	0.0	0.00	2	29.6	11.42	0.4	0.16	14	0.0	0.00	0.0	0.00	0
Lagodon															
<i>rhomboides</i>	42.0	42.00	1.4	1.36	2	17.1	5.44	0.4	0.14	14	0.0	0.00	0.0	0.00	0
Cynoscion															
<i>nothus</i>	0.0	0.00	0.0	0.00	2	14.1	4.34	0.5	0.19	14	0.0	0.00	0.0	0.00	0
Menticirrhus															
<i>americanus</i>	15.0	15.00	0.4	0.41	2	10.7	4.46	0.6	0.21	14	0.0	0.00	0.0	0.00	0
Squid															
<i>spp.</i>	0.0	0.00	0.0	0.00	2	22.7	7.84	0.3	0.12	14	0.0	0.00	0.0	0.00	0

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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	10.9	8.18	2	22.4	3.77	14	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	4.1	1.36	2	15.2	2.66	14	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	6.8	4.09	2	6.6	1.56	14	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	2	2.7	0.00	14	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	30.2	1.67	3	28.7	0.77	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	30.0	1.55	3	28.3	0.79	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	30.0	1.54	3	28.4	0.78	13	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	0.7	0.56	3	0.1	0.01	13	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	5.6	0.12	3	6.0	0.12	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	5.7	0.15	3	6.0	0.16	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.7	0.25	3	5.9	0.11	13	0.0	0.00	0	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 dominate organisms taken in shrimp statistical zone 21 during the June-July 1988 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 in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus <i>spinimanus</i>	0.0	0.00	0.0	0.00	2	2.3	1.58	0.0	0.00	8	8.4	1.47	0.2	0.05	5
Portunus <i>gibbesii</i>	0.0	0.00	0.0	0.00	2	4.5	2.47	0.1	0.04	8	3.6	3.60	0.1	0.05	5
Penaeus <i>aztecus</i>	0.0	0.00	0.0	0.00	2	0.8	0.75	0.0	0.00	8	9.6	5.88	0.1	0.07	5
Sicyonia <i>brevirostris</i>	0.0	0.00	0.0	0.00	2	1.5	0.98	0.0	0.00	8	3.6	3.60	0.1	0.05	5
Sicyonia <i>dorsalis</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	8	6.0	4.65	0.0	0.00	5
Calappa <i>sulcata</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	8	6.0	3.29	1.1	1.08	5
Leiostomus <i>xanthurus</i>	6.0	6.00	0.1	0.14	2	73.5	73.50	1.4	1.43	8	0.0	0.00	0.0	0.00	5
Stenotomus <i>caprinus</i>	0.0	0.00	0.0	0.00	2	60.8	31.86	0.3	0.17	8	9.6	5.56	0.1	0.05	5
Syacium <i>gunteri</i>	0.0	0.00	0.0	0.00	2	9.8	3.57	0.1	0.05	8	78.0	13.01	1.8	0.80	5
Micropogonias <i>undulatus</i>	0.0	0.00	0.0	0.00	2	41.3	41.25	0.8	0.78	8	0.0	0.00	0.0	0.00	5
Stellifer <i>lanceolatus</i>	3.0	3.00	0.1	0.14	2	10.5	10.50	0.2	0.20	8	0.0	0.00	0.0	0.00	5
Lutjanus <i>campechanus</i>	3.0	3.00	0.1	0.14	2	4.5	2.47	0.1	0.07	8	2.4	1.47	0.1	0.05	5
Lagodon <i>rhomboides</i>	9.0	9.00	0.3	0.27	2	1.5	1.50	0.0	0.03	8	0.0	0.00	0.0	0.00	5
Etropus <i>crossotus</i>	0.0	0.00	0.0	0.00	2	3.0	2.27	0.0	0.03	8	1.2	1.20	0.0	0.00	5
Squid	3.0	3.00	0.0	0.00	2	2.3	2.25	0.0	0.03	8	0.0	0.00	0.0	0.00	5

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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	4.1	1.36	2	5.1	2.39	8	4.4	1.64	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	1.4	1.36	2	4.8	2.46	8	3.3	0.55	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	1.4	1.36	2	2.4	0.34	8	3.3	0.55	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.7	0.00	2	2.7	0.00	8	1.1	0.67	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	28.8	0.45	2	27.8	0.13	8	27.5	0.09	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	28.6	0.30	2	27.8	0.11	8	27.4	0.12	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	28.6	0.30	2	27.8	0.12	8	27.1	0.10	5	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	0.7	0.00	2	0.0	0.00	5	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.9	0.10	2	5.8	0.92	8	7.5	0.17	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.5	0.00	2	6.0	0.70	8	7.1	0.15	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	7.5	0.05	2	6.0	0.62	8	7.0	0.11	5	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 dominate organisms taken in shrimp statistical zone 22 during the June-July 1988 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 in less than 10 fm or greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<u>Penaeus</u>															
<u>aztecus</u>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	18.0	0.00	0.3	0.00	1
<u>Calappa</u>															
<u>sulcata</u>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	12.0	0.00	5.2	0.00	1
<u>Callinectes</u>															
<u>similis</u>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	6.0	0.00	0.5	0.00	1
<u>Syacium</u>															
<u>gunteri</u>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	30.0	0.00	0.8	0.00	1
<u>Stenotomus</u>															
<u>caprinus</u>	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
<u>Ancylopsetta</u>															
<u>quadrocellata</u>	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
<u>Lagocephalus</u>															
<u>laevigatus</u>	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
<u>Halieutichthys</u>															
<u>aculeatus</u>	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
<u>Lutjanus</u>															
<u>campechanus</u>	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 10 fm or greater than 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	8.2	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	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	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	27.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	0.0	0.00	0	27.2	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	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	5.3	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	5.6	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	5.8	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 dominate organisms taken in shrimp statistical zone 10 during the June-July 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Acetes															
<i>americanus</i>	1556.0	961.01	0.2	0.11	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<i>spp.</i>	12.0	8.90	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sicyonia															
<i>dorsalis</i>	11.0	11.00	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
<i>similis</i>	9.4	6.79	0.2	0.09	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
<i>sapidus</i>	10.0	7.85	0.3	0.22	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus															
<i>duorarum</i>	6.0	3.79	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius															
<i>felis</i>	125.0	122.62	3.2	3.13	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Polydactylus															
<i>octonemus</i>	99.0	81.33	0.9	0.71	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion															
<i>arenarius</i>	84.0	66.67	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sphoeroides															
<i>parvus</i>	60.0	60.00	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
<i>hepsetus</i>	32.2	15.40	0.1	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
<i>nasuta</i>	43.0	43.00	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Leiostomus															
<i>xanthurus</i>	34.0	22.38	0.2	0.13	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus															
<i>chrysurus</i>	21.0	21.00	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid															
	5.0	1.84	0.2	0.06	6	0.0	0.00	0.0	0.00	0	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	11.5	4.44	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	5.2	3.90	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	1.5	0.55	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	4.7	1.87	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
Surface temperature	28.5	0.45	5	22.5	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	27.8	0.44	5	26.5	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	32.0	0.00	2	0.0	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	34.0	0.00	2	0.0	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	7.4	0.24	5	7.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater 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	6.6	0.16	5	7.4	0.00	1	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 dominate organisms taken in shrimp statistical zone 11 during the June-July 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Acetes															
<i>americanus</i>	1061.6	578.71	0.2	0.07	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
<i>similis</i>	51.9	23.11	0.5	0.23	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<i>spp.</i>	14.6	10.01	0.1	0.04	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus															
<i>gibbesii</i>	13.4	9.99	0.1	0.04	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Hepatus															
<i>epheliticus</i>	5.2	3.43	0.1	0.04	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla															
<i>spp.</i>	2.6	1.71	0.1	0.04	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
<i>hepsetus</i>	508.8	439.09	0.7	0.56	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Polydactylus															
<i>octonemus</i>	55.4	31.25	0.5	0.29	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
<i>mitchilli</i>	51.1	34.86	0.2	0.06	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus															
<i>chrysurus</i>	18.6	7.07	0.1	0.05	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
<i>nasuta</i>	16.2	14.03	0.1	0.05	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Prionotus															
<i>rubio</i>	10.1	5.95	0.1	0.05	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus															
<i>plagiusa</i>	9.3	6.05	0.1	0.04	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etropus															
<i>crossotus</i>	4.1	4.09	0.1	0.06	8	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid															
	52.7	31.61	0.1	0.05	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	5.9	1.33	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	2.8	0.74	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	1.5	0.65	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	1.9	0.42	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	0.39	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
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	27.3	0.46	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 salinity	33.5	0.50	2	0.0	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	33.5	0.50	2	0.0	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	6.1	0.44	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
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	5.7	0.47	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

Table 28a
 Statistical Zone 12
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 12 during the June-July 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Acetes															
<i>americanus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
<i>similis</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus															
<i>gibbesii</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Hepatus															
<i>epheliticus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla															
<i>spp.</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
<i>hepsetus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Polydactylus															
<i>octonemus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
<i>mitchilli</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus															
<i>chrysurus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
<i>nasuta</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Prionotus															
<i>rubio</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus															
<i>plagiusa</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etropus															
<i>crossotus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid															
	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

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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	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	29.0	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 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	24.7	2.77	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	0.0	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	0.45	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	9.2	1.03	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 dominate organisms taken in shrimp statistical zone 13 during the June-July 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
<i>similis</i>	50.0	50.00	0.5	0.45	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
<i>sapidus</i>	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
Penaeus															
<i>aztecus</i>	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															
<i>mitchilli</i>	924.0	924.00	1.2	1.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus															
<i>chrysurus</i>	10.0	10.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus															
<i>plagiusa</i>	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
Peprilus															
<i>alepidotus</i>	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
Polydactylus															
<i>octonemus</i>	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															
<i>hepsetus</i>	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
Squid															
	42.0	28.35	0.2	0.18	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	4.5	1.82	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																		
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	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																		
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	31.6	0.52	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
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	31.3	0.52	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
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	7.2	0.30	2	0.0	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	7.0	0.25	2	0.0	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 dominate organisms taken in shrimp statistical zone 14 during the June-July 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
<u>similis</u>	137.0	117.81	0.8	0.56	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaues															
<u>spp.</u>	60.0	58.81	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus															
<u>gibbesii</u>	13.0	7.96	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
<u>sapidus</u>	4.0	4.00	0.3	0.27	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus															
<u>aztecus</u>	2.0	1.26	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla															
<u>spp.</u>	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
Anchoa															
<u>mitchilli</u>	198.0	130.04	0.2	0.11	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
<u>hepsetus</u>	158.0	148.49	0.1	0.09	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias															
<u>undulatus</u>	56.0	50.10	1.4	1.15	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Polydactylus															
<u>octonemus</u>	17.0	9.85	0.2	0.09	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
<u>nasuta</u>	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
Porichthys															
<u>plectrodon</u>	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
Symphurus															
<u>plagiusa</u>	3.0	3.00	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius															
<u>felis</u>	3.0	3.00	0.2	0.23	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid															
<u>Squid</u>	13.0	8.40	0.2	0.06	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	5.5	1.72	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
Total finfish kg	3.6	0.91	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	3.2	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 others 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
Surface temperature	29.9	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 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	29.8	0.37	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	0.0	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	6.5	0.63	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	6.1	0.77	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 dominate organisms taken in shrimp statistical zone 16 during the June-July 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
<u>similis</u>	512.0	464.83	1.2	0.92	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<u>spp.</u>	192.0	177.21	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus															
<u>gibbesii</u>	98.0	57.17	0.5	0.33	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus															
<u>aztecus</u>	96.0	60.40	1.6	0.98	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sicyonia															
<u>dorsalis</u>	88.0	68.09	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla															
<u>spp.</u>	58.0	29.46	0.4	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias															
<u>undulatus</u>	172.0	99.34	4.5	2.10	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Polydactylus															
<u>octonemus</u>	114.0	99.38	1.4	1.10	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus															
<u>plagiusa</u>	48.0	24.98	0.5	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
<u>mitchilli</u>	38.0	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
Prionotus															
<u>tribulus</u>	24.0	12.00	0.5	0.33	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Citharichthys															
<u>spilopterus</u>	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
Porichthys															
<u>plectrodon</u>	12.0	12.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius															
<u>felis</u>	12.0	12.00	0.5	0.45	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid															
	24.0	12.49	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	13.6	6.30	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	3.15	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	5.5	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	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	29.4	0.52	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
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	29.2	0.60	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	0.0	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	6.4	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
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	6.2	0.54	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 dominate organisms taken in shrimp statistical zone 17 during the June-July 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	272.0	212.14	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
similis	244.0	217.56	0.6	0.51	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Xiphopenaeus															
kroyeri	210.0	82.78	0.5	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus															
setiferus	42.0	28.35	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sicyonia															
spp.	34.0	34.00	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	32.0	15.62	0.4	0.24	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Bagre															
marinus	348.0	188.59	2.3	1.26	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
mitchilli	222.0	151.00	0.4	0.24	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias															
undulatus	96.0	57.86	1.4	0.98	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion															
arenarius	80.0	34.87	0.4	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Polydactylus															
octonemus	78.0	51.26	0.9	0.64	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stellifer															
lanceolatus	62.0	15.62	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Brevoortia															
patronus	58.0	20.00	0.5	0.16	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus															
plagiusa	46.0	20.30	0.3	0.16	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	198.0	117.32	0.4	0.24	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 1988 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	10.0	1.82	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 finfish kg	8.2	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	4.5	1.82	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	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
Surface temperature	29.2	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	29.7	0.15	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	0.0	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	5.6	0.50	2	0.0	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	5.3	0.30	2	0.0	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 October-December 1988 Shrimp and Groundfish Survey species composition list, 277 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	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<u>Finfishes</u>					
<i>Stenotomus caprinus</i>	longspine porgy	25905	876.1	181	65.3
<i>Micropogonias undulatus</i>	Atlantic croaker	15824	832.4	187	67.5
<i>Trachurus lathami</i>	rough scad	13596	295.8	124	44.8
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	13042	345.0	144	52.0
<i>Peprilus burti</i>	gulf butterfish	10227	583.6	130	46.9
<i>Arius felis</i>	hardhead catfish	7236	748.5	95	34.3
<i>Leiostomus xanthurus</i>	spot	7146	637.8	137	49.5
<i>Diplectrum bivittatum</i>	dwarf sand perch	5043	91.0	155	56.0
<i>Serranus atrobranchus</i>	blackear bass	4658	52.6	83	30.0
<i>Cynoscion nothus</i>	silver seatrout	3711	72.2	71	25.6
<i>Centropristis philadelphica</i>	rock sea bass	3461	140.1	158	57.0
<i>Anchoa hepsetus</i>	striped anchovy	3151	43.4	62	22.4
<i>Lagodon rhomboides</i>	pinfish	2981	169.6	135	48.7
<i>Prionotus stearnsi</i>	shortwing searobin	2769	32.1	48	17.3
<i>Sphoeroides parvus</i>	least puffer	2749	17.3	97	35.0
<i>Prionotus paralatus</i>	Mexican searobin	2585	57.4	49	17.7
<i>Synodus foetens</i>	inshore lizardfish	2457	260.3	207	74.7
<i>Syacium gunteri</i>	shoal flounder	2273	35.0	48	17.3
<i>Cynoscion arenarius</i>	sand seatrout	2150	182.4	112	40.4
<i>Pristipomoides aquilonaris</i>	wenchman	2118	96.0	57	20.6
<i>Harengula jaguana</i>	scaled sardine	1879	43.3	72	26.0
<i>Saurida brasiliensis</i>	largescale lizardfish	1869	9.8	68	24.5
<i>Upeneus parvus</i>	dwarf goatfish	1775	46.2	62	22.4
<i>Syacium spp.</i>	lefteye flounders	1600	45.8	72	26.0
<i>Prionotus rubio</i>	blackfin searobin	1560	56.5	102	36.8
<i>Etropus crossotus</i>	fringed flounder	1514	21.4	76	27.4
<i>Etrumeus teres</i>	round herring	1326	23.0	22	7.9

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Polydactylus octonemus</i>	Atlantic threadfin	1230	48.1	59	21.3
<i>Trichiurus lepturus</i>	Atlantic cutlassfish	1184	28.5	48	17.3
<i>Lutjanus campechanus</i>	red snapper	973	61.1	134	48.4
<i>Scorpaena calcarata</i>	smoothhead scorpionfish	801	11.8	53	19.1
<i>Porichthys plectrodon</i>	Atlantic midshipman	761	12.7	82	29.6
<i>Cynoscion</i> spp.	seatrouts	666	3.8	22	7.9
<i>Anchoa mitchilli</i>	bay anchovy	664	2.0	26	9.4
<i>Bollmannia communis</i>	ragged goby	620	3.0	19	6.9
<i>Opisthonema oglinum</i>	Atlantic thread herring	585	18.8	35	12.6
<i>Lepophidium graellsii</i>	blackedge cusk-eel	575	19.3	59	21.3
<i>Halieutichthys aculeatus</i>	pancake batfish	519	4.5	57	20.6
<i>Symphurus plagiosa</i>	blackcheek tonguefish	498	10.5	51	18.4
<i>Prionotus tribulus</i>	bighead searobin	444	6.4	22	7.9
<i>Citharichthys spilopterus</i>	bay whiff	332	5.0	57	20.6
<i>Scomber japonicus</i>	chub mackerel	321	14.7	31	11.2
<i>Trichopsetta ventralis</i>	sash flounder	317	8.2	23	8.3
<i>Prionotus salmonicolor</i>	blackwing searobin	315	15.1	49	17.7
<i>Stellifer lanceolatus</i>	star drum	301	3.4	12	4.3
<i>Orthopristis chrysoptera</i>	pigfish	296	19.9	40	14.4
<i>Brevoortia patronus</i>	gulf menhaden	284	26.0	34	12.3
<i>Syacium papillosum</i>	dusky flounder	262	7.4	31	11.2
<i>Eucinostomus gula</i>	silver jenny	262	5.7	48	17.3
<i>Peprilus alepidotus</i>	harvestfish	260	5.2	18	6.5
<i>Larimus fasciatus</i>	banded drum	255	12.5	17	6.1
<i>Synodus poeyi</i>	offshore lizardfish	236	2.1	35	12.6
<i>Bellator militaris</i>	horned searobin	231	2.1	20	7.2
<i>Steindachneria argentea</i>	luminous hake	216	1.9	4	1.4
<i>Lutjanus synagris</i>	lane snapper	216	11.5	41	14.8
<i>Gobionellus hastatus</i>	sharptail goby	206	0.8	1	0.4
<i>Etropus microstomus</i>	smallmouth flounder	201	3.9	9	3.2

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Balistes capriscus</i>	gray triggerfish	191	14.5	52	18.8
<i>Eucinostomus argenteus</i>	spotfin mojarra	157	4.3	14	5.1
<i>Chaetodipterus faber</i>	Atlantic spadefish	155	6.3	27	9.7
<i>Pontinus longispinis</i>	longspine scorpionfish	142	4.0	7	2.5
<i>Anchoa nasuta</i>	longnose anchovy	139	0.2	4	1.4
<i>Cyclosetta chittendeni</i>	Mexican flounder	137	17.8	42	15.2
<i>Prionotus scitulus</i>	leopard searobin	135	3.7	15	5.4
<i>Centropristis ocyura</i>	bank sea bass	127	7.5	12	4.3
<i>Lagocephalus laevigatus</i>	smooth puffer	122	8.3	42	15.2
<i>Paralichthys lethostigma</i>	southern flounder	113	36.7	39	14.1
<i>Mullus auratus</i>	red goatfish	109	7.5	11	4.0
<i>Prionotus ophryas</i>	bandtail searobin	99	2.2	25	9.0
<i>Lepophidium</i> spp.	cusk-eels	95	5.0	9	3.2
<i>Diplectrum formosum</i>	sand perch	93	6.2	13	4.7
<i>Sardinella aurita</i>	Spanish sardine	91	2.4	14	5.1
<i>Ophidion welshi</i>	crested cusk-eel	88	3.5	22	7.9
<i>Scomberomorus maculatus</i>	Spanish mackerel	83	16.1	24	8.7
<i>Ancylopsetta dilecta</i>	three-eye flounder	83	7.3	9	3.2
<i>Menticirrhus americanus</i>	southern kingfish	77	5.6	15	5.4
<i>Haemulon aurolineatum</i>	tomtate	72	2.4	14	5.1
<i>Selene setapinnis</i>	Atlantic moonfish	68	2.7	21	7.6
<i>Selene vomer</i>	lookdown	66	1.8	11	4.0
<i>Sphyraena guachancho</i>	guaguanche	63	3.8	18	6.5
<i>Lepophidium jeannae</i>	mottled cusk-eel	61	2.8	10	3.6
<i>Trachinocephalus myops</i>	snakefish	60	3.2	14	5.1
<i>Urophycis floridana</i>	southern hake	57	4.6	11	4.0
<i>Ophidion holbrooki</i>	bank cusk-eel	54	3.5	7	2.5
<i>Trinectes maculatus</i>	hogchoker	52	0.7	4	1.4
<i>Citharichthys macrops</i>	spotted whiff	52	4.2	12	4.3
<i>Gymnachirus texae</i>	fringed sole	51	1.2	19	6.9

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Hildebrandia flava</i>	yellow conger	51	3.1	13	4.7
<i>Hoplunnis macrurus</i>	freckled pike-conger	51	1.1	16	5.8
<i>Monacanthus hispidus</i>	planehead filefish	50	1.6	22	7.9
<i>Prionotus roseus</i>	bluespotted searobin	48	0.8	5	1.8
<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	47	51.7	24	8.7
<i>Ancylosetta quadrocellata</i>	ocellated flounder	43	6.5	20	7.2
<i>Antennarius radiosus</i>	singlespot frogfish	42	5.0	6	2.2
<i>Selar crumenophthalmus</i>	bigeye scad	42	3.0	18	6.5
<i>Brotula barbata</i>	bearded brotula	41	6.5	17	6.1
<i>Prionotus martis</i>	barred searobin	38	2.0	3	1.1
<i>Equetus</i> spp.	drums	37	2.5	6	2.2
<i>Hoplunnis</i> spp.	pike-congers	34	0.7	8	2.9
<i>Ogcocephalus radiatus</i>	polka-dot batfish	34	1.5	10	3.6
<i>Ogcocephalus</i> spp.	batfishes	33	1.9	5	1.8
<i>Decapterus punctatus</i>	round scad	33	2.2	5	1.8
<i>Achirus lineatus</i>	lined sole	32	0.1	6	2.2
<i>Bairdiella chrysoura</i>	silver perch	31	0.5	2	0.7
<i>Symphurus civitatus</i>	offshore tonguefish	29	0.5	3	1.1
<i>Caulolatilus intermedius</i>	anchor tilefish	28	2.6	7	2.5
<i>Gymnothorax nigromarginatus</i>	blackedge moray	27	3.0	11	4.0
Bothidae	lefteye founders	26	0.6	1	0.4
<i>Equetus umbrosus</i>	cubbyu	23	0.5	4	1.4
<i>Equetus acuminatus</i>	high-hat	23	1.1	2	0.7
<i>Urophycis regia</i>	spotted hake	22	2.5	2	0.7
<i>Bagre marinus</i>	gafftopsail catfish	21	3.8	8	2.9
<i>Pikea mexicana</i>	yellowtail bass	21	0.5	3	1.1
<i>Sphoeroides dorsalis</i>	marbled puffer	21	0.9	9	3.2
<i>Caranx crysos</i>	blue runner	20	2.3	6	2.2
<i>Anchoviella perfasciata</i>	flat anchovy	18	0.0	1	0.4
<i>Gobiosoma robustum</i>	code goby	15	0.1	1	0.4

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Kathetostoma albigutta</i>	lancer stargazer	14	0.8	7	2.5
<i>Scomberomorus cavalla</i>	king mackerel	14	1.4	9	3.2
<i>Hemicaranx amblyrhynchus</i>	bluntnose jack	14	0.6	10	3.6
<i>Centropristis striata</i>	black sea bass	14	0.7	2	0.7
<i>Peristedion gracile</i>	slender searobin	13	0.3	1	0.4
<i>Lactophrys quadricornis</i>	scrawled cowfish	13	1.5	4	1.4
<i>Symphurus diomedianus</i>	spottedfin tonguefish	12	0.3	5	1.8
<i>Raja texana</i>	roundel skate	12	5.6	6	2.2
<i>Sciaenops ocellatus</i>	red drum	12	65.8	4	1.4
<i>Priacanthus arenatus</i>	bigeye	12	1.1	8	2.9
<i>Synodus intermedius</i>	sand diver	11	0.1	4	1.4
<i>Sphyrna tiburo</i>	bonnethead	11	12.2	6	2.2
<i>Engyophrys senta</i>	spiny flounder	10	0.2	5	1.8
<i>Menticirrhus littoralis</i>	gulf kingfish	10	1.0	2	0.7
<i>Rhomboplites aurorubens</i>	vermillion snapper	10	1.8	1	0.4
<i>Ophidion grayi</i>	blotched cusk-eel	9	1.0	2	0.7
<i>Sphoeroides</i> spp.	puffers	9	0.1	1	0.4
<i>Lutjanus griseus</i>	grey snapper	8	0.3	1	0.4
<i>Caranx hippos</i>	crevalle jack	8	0.5	2	0.7
<i>Pomatomus saltatrix</i>	bluefish	7	2.0	4	1.4
<i>Ophichthus gomesi</i>	shrimp eel	7	4.1	4	1.4
<i>Mustelus canis</i>	smooth dogfish	7	7.8	5	1.8
<i>Raja eglanteria</i>	clearnose skate	6	2.5	5	1.8
<i>Ogcocephalus declivirostris</i>	thicktailed batfish	6	0.3	5	1.8
<i>Zalieutes</i> spp.	batfishes	6	0.0	1	0.4
<i>Trachinotus carolinus</i>	Florida pompano	6	1.9	4	1.4
<i>Caulolatilus microps</i>	blueline tilefish	6	0.5	3	1.1
<i>Mycteroperca microlepis</i>	gag	5	1.0	1	0.4
<i>Echeneis naucrates</i>	sharksucker	5	1.5	3	1.1
<i>Lonchopisthus</i> spp.	jawfishes	5	0.1	1	0.4

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
<i>Decodon puellaris</i>	red hogfish	5	0.6	1	0.4
<i>Neomerinthe hemingwayi</i>	spinycheek scorpionfish	5	3.2	4	1.4
<i>Aluterus schoepfi</i>	orange filefish	5	5.7	3	1.1
<i>Etropus</i> spp.	lefteye flounders	4	0.1	3	1.1
<i>Ogcocephalus parvus</i>	roughback batfish	4	0.0	3	1.1
<i>Rhinoptera bonasus</i>	cownose ray	4	31.5	2	0.7
<i>Pogonias cromis</i>	black drum	4	23.3	2	0.7
<i>Parexocoetus brachypterus</i>	sailfin flyingfish	4	0.1	1	0.4
<i>Bregmaceros atlanticus</i>	antenna codlet	4	0.0	3	1.1
<i>Anchoa</i> spp.	anchovies	4	0.1	4	1.4
<i>Hyporhamphus unifasciatus</i>	halfbeak	3	0.0	2	0.7
Congridae	conger eel	3	0.5	2	0.7
<i>Remora remora</i>	remora	3	1.6	3	1.1
<i>Calamus nodosus</i>	knobbed porgy	3	0.7	1	0.4
<i>Dasyatis sabina</i>	Atlantic stringray	3	3.5	3	1.1
<i>Narcine brasiliensis</i>	lesser electric ray	3	1.8	1	0.4
<i>Citharichthys cornutus</i>	horned whiff	3	0.0	1	0.4
<i>Chilomycterus schoepfi</i>	striped burrfish	2	0.3	2	0.7
<i>Pagrus pagrus</i>	red porgy	2	0.6	1	0.4
<i>Hemipteronotus novacula</i>	pearly razorfish	2	0.1	1	0.4
<i>Alectis ciliaris</i>	African pompano	2	0.6	1	0.4
<i>Epinephelus flavolimbatus</i>	yellowedge grouper	2	2.5	2	0.7
Priacanthidae	bigeyes	1	0.0	1	0.4
<i>Hemanthias leptus</i>	longtail bass	1	0.0	1	0.4
<i>Rypticus maculatus</i>	whitespotted soapfish	1	0.1	1	0.4
<i>Serraniculus pumilio</i>	pygmy sea bass	1	0.0	1	0.4
<i>Alectis crinitus</i>	African pompano	1	0.0	1	0.4
<i>Gymnothorax ocellatus</i>	ocellated moray	1	0.1	1	0.4
<i>Sphyraena borealis</i>	northern sennet	1	0.0	1	0.4
<i>Hippocampus erectus</i>	lined seahorse	1	0.0	1	0.4

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

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<i>Gerres cinereus</i>	yellowfin mojarra	1	0.0	1	0.4
<i>Scorpaena plumieri</i>	spotted scorpionfish	1	0.9	1	0.4
<i>Prionotus</i> spp.	searobins	1	0.0	1	0.4
<i>Gobiosoma bosci</i>	naked goby	1	0.0	1	0.4
Opisthognathidae	jawfishes	1	0.0	1	0.4
Ophidion spp.	cusks-eels	1	0.0	1	0.4
<i>Opsanus pardus</i>	leopard toadfish	1	0.0	1	0.4
<i>Ogcocephalus pumilus</i>	batfish	1	0.2	1	0.4
<i>Dactylopterus volitans</i>	flying gurnard	1	0.0	1	0.4
<i>Dorosoma petenense</i>	threadfin shad	1	0.1	1	0.4
<i>Aetobatus narinari</i>	spotted eagle ray	1	2.3	1	0.4
<u>Crustaceans</u>					
<i>Callinectes similis</i>	lesser blue crab	13112	216.4	167	60.3
<i>Sicyonia dorsalis</i>	lesser rock shrimp	12643	18.1	68	24.5
<i>Portunus spinicarpus</i>	longspine swimming crab	7626	65.2	47	17.0
<i>Trachypenaeus similis</i>	roughback shrimp	5828	12.6	30	10.8
<i>Sicyonia brevirostris</i>	brown rock shrimp	5004	77.0	77	27.8
<i>Trachypenaeus</i> spp.	roughneck shrimps	4764	13.6	85	30.7
<i>Xiphopenaeus kroyeri</i>	seabob	4216	21.1	9	3.2
<i>Penaeus aztecus</i>	brown shrimp	4126	108.8	174	62.8
<i>Portunus gibbesii</i>	iridescent swimming crab	2640	22.7	134	48.4
<i>Penaeus setiferus</i>	white shrimp	2457	45.0	101	36.5
<i>Squilla empusa</i>	mantis shrimp	2172	26.2	36	13.0
<i>Squilla</i> spp.	mantis shrimps	1106	13.4	81	29.2
<i>Solenocera</i> spp.	humpback shrimps	814	2.9	27	9.7
<i>Penaeus duorarum</i>	pink shrimp	690	18.5	66	23.8
<i>Squilla chydadae</i>	mantis shrimp	341	1.8	7	2.5
<i>Parapenaeus</i> spp.	penaeid shrimps	232	1.2	4	1.4

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
<i>Portunus spinimanus</i>	blotched swimming crab	149	7.1	30	10.8
<i>Callinectes sapidus</i>	blue crab	125	11.7	25	9.0
<i>Trachypenaeus constrictus</i>	roughneck shrimp	115	0.3	7	2.5
<i>Hepatus epheliticus</i>	calico crab	50	4.8	11	4.0
<i>Anasimus latus</i>	stilt spider crab	45	0.6	8	2.9
<i>Calappa sulcata</i>	yellow box crab	37	9.2	12	4.3
<i>Solenocera vioscai</i>	humpback shrimp	36	1.6	1	0.4
<i>Ovalipes floridanus</i>	Florida lady crab	29	1.4	6	2.2
<i>Persephona crinita</i>	pink purse crab	28	0.1	2	0.7
<i>Speocarcinus lobatus</i>	gulf squareback crab	18	0.1	1	0.4
<i>Lysmata wurdemanni</i>	peppermint shrimp	16	0.0	1	0.4
<i>Plesionika</i> spp.	pandalid shrimps	12	0.0	1	0.4
<i>Calappa flammea</i>	flame box crab	10	2.5	5	1.8
<i>Libinia dubia</i>	longnose spider crab	10	2.0	4	1.4
<i>Portunus</i> spp.	swimming crabs	6	0.1	2	0.7
<i>Scyllarides</i> spp.	slipper lobsters	6	0.1	2	0.7
<i>Arenaeus cribrarius</i>	speckled swimming crab	5	0.4	3	1.1
<i>Parthenope serrata</i>	sawtooth elbow crab	4	0.0	3	1.1
<i>Raninoides louisianensis</i>	gulf frog crab	3	0.0	1	0.4
<i>Porcellana sayana</i>	spotted porcelain crab	3	0.4	1	0.4
Galatheidæ	squat lobsters	3	0.0	1	0.4
<i>Scyllarides nodifer</i>	ridged slipper lobster	2	0.3	1	0.4
<i>Munida forceps</i>	squat lobster	2	0.0	1	0.4
<i>Libinia emarginata</i>	portly spider crab	2	0.6	2	0.7
Isopoda	isopods	2	0.0	1	0.4
<i>Alpheus normanni</i>	green snapping shrimp	1	0.0	1	0.4
<i>Persephona mediterranea</i>	mottled purse crab	1	0.0	1	0.4
<i>Persephona</i> spp.	purse crabs	1	0.0	1	0.4
<i>Petrochirus diogenes</i>	giant hermit crab	1	0.0	1	0.4

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

GENUS/SPECIES	COMMON NAME	TOTAL WEIGHT	NUMBER OF	% FREQUENCY OF OCCURRENCE
		CAUGHT (KG)	TOWS WHERE CAUGHT	
Xanthidae	mud crabs	1	1	0.4
Ovalipes spp.	lady crabs	1	1	0.4
Parthenope spp.	elbow crabs	1	1	0.4
<u>Others</u>				
Lolliguncula brevis	Atlantic brief squid	4655	72	26.0
Loligo pealeii	longfin squid	3410	99	35.7
Myopsida	squids	2294	39	14.1
Loligo pleii	arrow squid	838	19	6.9
Loligo spp.	squids	729	19	6.9
Amusium papyraceum	paper scallop	611	32	11.6
Asteroidea	starfishes	572	45	16.2
Aurelia spp.	jellyfishes	90	20	7.2
Clypeaster spp.	cake urchins	80	1	0.4
Arcidae	ark shells	60	2	0.7
Coelenterata	coelenterates	46	12	4.3
Mellita spp.	sand dollars	32	1	0.4
Chrysaora quinquecirrha	sea nettle	20	2	0.7
Rossia spp.	bob-tailed squids	13	2	0.7
Ophiuroidea	brittlestars	10	2	0.7
Ctenophora	comb jellies	10	2	0.7
Argopecten gibbus	calico scallop	9	2	0.7
Renilla spp.	sea pansies	8	3	1.1
Anthozoa	anthozoans	7	4	1.4
Renilla mulleri	short-stemmed sea pansy	4	2	0.7
Echinoidea	echinoderms	4	1	0.4
Hydrozoa	hydroids	3	1	0.4
Porifera	sponges	2	1	0.4
Scutellidae	sand dollars	2	1	0.4
Octopus spp.	octopuses	1	1	0.4

Table 34. SEAMAP October-December 1988 Shrimp and Groundfish Survey species composition list, 80 trawl stations, for those vessels that used a 20-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY OF OCCURRENCE
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	
<u>Finfishes</u>					
<i>Cynoscion nothus</i>	silver seatrout	186	1.0	41	51.3
<i>Syacium gunteri</i>	shoal flounder	174	2.2	30	37.5
<i>Cynoscion arenarius</i>	sand seatrout	105	1.4	21	26.3
<i>Symphurus plagiusa</i>	blackcheek tonguefish	86	1.3	32	40.0
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	67	0.2	10	12.5
<i>Lagodon rhomboides</i>	pinfish	57	1.5	9	11.3
<i>Stellifer lanceolatus</i>	star drum	53	0.5	18	22.5
<i>Arius felis</i>	hardhead catfish	51	0.7	14	17.5
<i>Sphoeroides parvus</i>	least puffer	43	0.0	27	33.8
<i>Menticirrhus americanus</i>	southern kingfish	38	2.4	11	13.8
<i>Orthopristis chrysoptera</i>	pigfish	29	1.3	17	21.3
<i>Selene setapinnis</i>	Atlantic moonfish	24	0.1	8	10.0
<i>Leiostomus xanthurus</i>	spot	24	1.2	11	13.8
<i>Peprilus alepidotus</i>	harvestfish	19	0.1	7	8.8
<i>Etropus crossotus</i>	fringed flounder	19	0.3	11	13.8
<i>Polydactylus octonemus</i>	Atlantic threadfin	18	1.0	15	18.8
<i>Micropogonias undulatus</i>	Atlantic croaker	17	0.8	10	12.5
<i>Harengula jaguana</i>	scaled sardine	14	0.2	7	8.8
<i>Trichiurus lepturus</i>	Atlantic cutlassfish	9	0.0	5	6.3
<i>Chaetodipterus faber</i>	Atlantic spadefish	9	0.0	8	10.0
<i>Halieutichthys aculeatus</i>	pancake batfish	9	0.0	5	6.3
<i>Anchoa mitchilli</i>	bay anchovy	8	0.0	6	7.5
<i>Prionotus salmonicolor</i>	blackwing searobin	7	0.0	7	8.8
<i>Porichthys plectrodon</i>	Atlantic midshipman	6	0.0	3	3.7
<i>Synodus foetens</i>	inshore lizardfish	6	0.3	6	7.5
<i>Dorosoma petenense</i>	threadfin shad	6	0.1	3	3.7
<i>Citharichthys spilopterus</i>	bay whiff	5	0.0	5	6.3

Table 34. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Hemicaranx amblyrhynchus</i>	bluntnose jack	5	0.0	5	6.3
<i>Eucinostomus gula</i>	silver jenny	5	0.0	3	3.7
<i>Conodon nobilis</i>	barred grunt	4	0.0	2	2.5
<i>Prionotus tribulus</i>	bighead searobin	4	0.0	4	5.0
<i>Peprilus burti</i>	gulf butterfish	4	0.0	3	3.7
<i>Brevoortia patronus</i>	gulf menhaden	4	0.1	4	5.0
<i>Larimus fasciatus</i>	banded drum	3	0.0	2	2.5
<i>Eucinostomus argenteus</i>	spotfin mojarra	3	0.0	1	1.3
<i>Trachurus lathami</i>	rough scad	3	0.0	1	1.3
<i>Diplectrum bivittatum</i>	dwarf sand perch	3	0.0	2	2.5
<i>Monacanthus hispidus</i>	planehead filefish	3	0.0	3	3.7
<i>Gymnachirus texae</i>	fringed sole	2	0.0	2	2.5
<i>Trinectes maculatus</i>	hogchoker	2	0.0	2	2.5
<i>Centropristis philadelphica</i>	rock sea bass	2	0.1	2	2.5
<i>Lutjanus campechanus</i>	red snapper	2	0.0	2	2.5
<i>Ophidion welshi</i>	crested cusk-eel	2	0.0	2	2.5
<i>Saurida brasiliensis</i>	largescale lizardfish	2	0.0	1	1.3
<i>Anchoa hepsetus</i>	striped anchovy	1	0.0	1	1.3
<i>Dasyatis sabina</i>	Atlantic stringray	1	0.2	1	1.3
<i>Lepophidium graellsii</i>	blackedge cusk-eel	1	0.0	1	1.3
<i>Astroscopus y-graecum</i>	southern stargazer	1	0.0	1	1.3
<i>Mullus auratus</i>	red goatfish	1	0.0	1	1.3
<i>Bairdiella chrysoura</i>	silver perch	1	0.0	1	1.3
<i>Selene vomer</i>	lookdown	1	0.0	1	1.3
<i>Paralichthys lethostigma</i>	southern flounder	1	0.1	1	1.3
<i>Paralichthys albigutta</i>	gulf flounder	1	0.2	1	1.3
<i>Ancylosetta quadrocellata</i>	ocellated flounder	1	0.1	1	1.3
<i>Ogcocephalus radiatus</i>	polka-dot batfish	1	0.0	1	1.3

Table 34. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<u>Crustaceans</u>					
Trachypenaeus spp.	roughneck shrimps	1033	2.6	27	33.8
Penaeus setiferus	white shrimp	331	3.7	49	61.3
Callinectes similis	lesser blue crab	273	1.5	35	43.8
Portunus gibbesii	iridescent swimming crab	169	0.8	49	61.3
Penaeus aztecus	brown shrimp	106	0.6	27	33.8
Sicyonia dorsalis	lesser rock shrimp	98	0.0	32	40.0
Squilla empusa	mantis shrimp	59	0.6	24	30.0
Penaeus duorarum	pink shrimp	45	0.4	7	8.8
Xiphopenaeus kroyeri	seabob	35	0.1	7	8.8
Pagurus pollicaris	flatclaw hermit crab	26	0.4	17	21.3
Trachypenaeus similis	roughback shrimp	15	0.0	8	10.0
Persephona mediterranea	mottled purse crab	6	0.0	5	6.3
Libinia dubia	longnose spider crab	6	0.7	6	7.5
Arenaeus cribrarius	speckled swimming crab	5	0.0	5	6.3
Calappa sulcata	yellow box crab	5	2.2	4	5.0
Speocarcinus lobatus	gulf squareback crab	2	0.0	2	2.5
Hepatus epheliticus	calico crab	2	0.0	2	2.5
Parthenope serrata	sawtooth elbow crab	2	0.0	2	2.5
Callinectes sapidus	blue crab	2	0.0	1	1.3
Persephona crinita	pink purse crab	2	0.0	2	2.5
Sicyonia typica	kinglet rock shrimp	1	0.0	1	1.3
Dyspanopeus texana	Gulf grassflat crab	1	0.0	1	1.3
Squilla neglecta	mantis shrimp	1	0.0	1	1.3
Calappa flammea	flame box crab	1	0.1	1	1.3
Petrolisthes armatus	green porcelain crab	1	0.0	1	1.3
Portunus spinimanus	blotched swimming crab	1	0.0	1	1.3

Table 34. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	OF OCCURRENCE
<u>Others</u>					
<i>Lolliguncula brevis</i>	Atlantic brief squid	685	6.1	52	65.0
<i>Renilla mulleri</i>	short-stemmed sea pansy	451	1.1	27	33.8
<i>Actinaria</i> spp.	sea anemones	65	0.1	16	20.0
<i>Loligo pealeii</i>	longfin squid	59	0.7	13	16.3
<i>Luidia clathrata</i>	sea star	23	0.4	13	16.3
<i>Dactylometra quinquecirrha</i>	compass jellyfish	22	0.1	13	16.3
Ophiuroidea	brittlestars	21	0.0	5	6.3
<i>Cantharus cancellarius</i>	cancellate cantharus	11	0.0	3	3.7
<i>Aurelia aurita</i>	moon jellyfish	7	0.4	5	6.3
Holothuroidea	sea cucumbers	6	0.0	2	2.5
Asteroidea	starfishes	5	0.0	4	5.0
<i>Mellita quinquiesperforata</i>	five-slotted sand dollar	4	0.0	2	2.5
<i>Busycon perversum</i>	perverse whelk	4	0.3	3	3.7
<i>Neverita duplicata</i>	shark eye	3	0.0	3	3.7
<i>Crepidula fornicata</i>	common Atlantic slipper-shell	3	0.0	1	1.3
<i>Astropecten duplicatus</i>	spiny beaded sea star	2	0.0	2	2.5
Gorgonidae	gorgonians	1	0.0	1	1.3
<i>Busycotypus spiratus</i>	pearwhelk	1	0.1	1	1.3

Table 35. SEAMAP October-December 1988 Shrimp and Groundfish Survey species composition list, 21 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	TOTAL WEIGHT	NUMBER OF	% FREQUENCY OF OCCURRENCE
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	
<u>Finfishes</u>					
Anchoa mitchilli	bay anchovy	423	0.6	11	52.4
Anchoa nasuta	longnose anchovy	291	0.3	2	9.5
Symphurus plagiusa	blackcheek tonguefish	46	0.5	9	42.9
Cynoscion arenarius	sand seatrout	46	0.2	10	47.6
Arius felis	hardhead catfish	35	0.4	7	33.3
Larimus fasciatus	banded drum	33	0.1	7	33.3
Sphoeroides parvus	least puffer	21	0.1	9	42.9
Stellifer lanceolatus	star drum	20	0.1	4	19.0
Porichthys plectrodon	Atlantic midshipman	16	0.0	4	19.0
Caranx hippos	crevalle jack	11	0.0	1	4.8
Menticirrhus americanus	southern kingfish	9	0.1	6	28.6
Etropus crossotus	fringed flounder	9	0.1	5	23.8
Anchoa hepsetus	striped anchovy	7	0.0	3	14.3
Trichiurus lepturus	Atlantic cutlassfish	3	0.0	2	9.5
Chloroscombrus chrysurus	Atlantic bumper	3	0.0	3	14.3
Peprilus burti	gulf butterflyfish	2	0.0	2	9.5
Chaetodipterus faber	Atlantic spadefish	2	0.0	1	4.8
Prionotus tribulus	bighead searobin	2	0.1	2	9.5
Trinectes maculatus	hogchoker	2	0.0	2	9.5
Achirus lineatus	lined sole	2	0.0	2	9.5
Syacium gunteri	shoal flounder	2	0.0	1	4.8
Symphurus civitatus	offshore tonguefish	1	0.0	1	4.8
Opsanus beta	gulf toadfish	1	0.0	1	4.8
Prionotus rubio	blackfin searobin	1	0.0	1	4.8
Citharichthys spilopterus	bay whiff	1	0.0	1	4.8
Syngnathus louisianae	chain pipefish	1	0.0	1	4.8
Micropogonias undulatus	Atlantic croaker	1	0.0	1	4.8

Table 35. SEAMAP Species Composition (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Menticirrhus littoralis</i>	gulf kingfish	1	0.0	1	4.8
<i>Harengula jaguana</i>	scaled sardine	1	0.0	1	4.8
<i>Etrumeus teres</i>	round herring	1	0.0	1	4.8
<i>Ophichthus gomesi</i>	shrimp eel	1	0.0	1	4.8
<i>Synodus foetens</i>	inshore lizardfish	1	0.0	1	4.8
<u>Crustaceans</u>					
<i>Trachypenaeus</i> spp.	roughneck shrimps	289	0.2	7	33.3
<i>Callinectes similis</i>	lesser blue crab	142	0.6	9	42.9
<i>Penaeus setiferus</i>	white shrimp	78	0.5	13	61.9
<i>Sicyonia dorsalis</i>	lesser rock shrimp	62	0.0	4	19.0
<i>Xiphopenaeus kroyeri</i>	seabob	29	0.1	5	23.8
<i>Squilla</i> spp.	mantis shrimps	20	0.2	4	19.0
<i>Callinectes sapidus</i>	blue crab	17	1.0	5	23.8
Xanthidae	mud crabs	14	0.0	1	4.8
<i>Portunus gibbesii</i>	irridescent swimming crab	10	0.0	4	19.0
<i>Squilla empusa</i>	mantis shrimp	8	0.2	3	14.3
<i>Trachypenaeus constrictus</i>	roughneck shrimp	7	0.0	3	14.3
<i>Penaeus aztecus</i>	brown shrimp	4	0.0	1	4.8
<i>Sicyonia</i> spp.	rock shrimps	2	0.0	1	4.8
<i>Menippe mercenaria</i>	Florida stone crab	1	0.0	1	4.8
<i>Penaeus duorarum</i>	pink shrimp	1	0.0	1	4.8
<u>Others</u>					
<i>Lolliguncula brevis</i>	Atlantic brief squid	313	0.9	19	90.5
<i>Mellita quinquiesperforata</i>	five-slotted sand dollar	48	0.0	1	4.8
<i>Stomolophus</i> spp.	many-mouthed sea jellies	10	5.0	2	9.5
<i>Busycon</i> spp.	whelks	1	0.5	1	4.8

Table 36a
 Statistical Zone 10
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 10 during the October-December 1988 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 in depths less than 5 fm or greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	34.8	20.17	0.1	0.07	4
Portunus															
gibbesii	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	19.5	14.15	0.3	0.20	4
Ovalipes															
floridanus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	5.5	3.20	0.7	0.42	4
Calappa															
flammea	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	5.5	3.20	1.6	1.14	4
Sicyonia															
brevirostris	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	7.5	7.50	0.1	0.14	4
Portunus															
spinimanus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	2.5	2.50	0.0	0.00	4
Arius															
felis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	525.8	361.71	63.8	40.59	4
Trachurus															
lathami	0.0	0.00	0.0	0.00	0	2328.0	0.00	15.0	0.00	1	0.0	0.00	0.0	0.00	4
Stenotomus															
caprinus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	100.5	76.73	5.1	4.50	4
Etropus															
microstomus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	57.5	38.86	1.5	1.15	4
Syacium															
spp.	0.0	0.00	0.0	0.00	0	6.0	0.00	0.3	0.00	1	63.7	27.53	4.5	2.30	4
Orthopristis															
chrysoptera	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	37.7	30.20	3.4	2.66	4
Prionotus															
martis	0.0	0.00	0.0	0.00	0	12.0	0.00	0.5	0.00	1	34.7	22.92	1.9	1.18	4
Trachinocephalus															
myops	0.0	0.00	0.0	0.00	0	54.0	0.00	2.7	0.00	1	23.5	13.12	1.0	0.45	4
Squid	0.0	0.00	0.0	0.00	0	36.0	0.00	0.3	0.00	1	154.5	66.06	1.5	0.65	4

Table 36b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 5 fm or greater than 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	46.4	0.00	1	113.5	62.31	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	46.4	0.00	1	104.7	57.11	4	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	4.2	0.88	4	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	6.2	3.48	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	21.6	0.05	2	21.9	0.26	4	23.3	0.00	1	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	21.8	0.80	2	21.9	0.26	4	23.4	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	21.4	0.40	2	22.0	0.27	4	23.4	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	0.0	0.00	0	35.0	0.00	1	35.6	0.00	1	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	35.0	0.00	1	35.8	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.7	0.00	1	0.5	0.00	1	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	6.6	0.20	2	6.7	0.13	4	7.4	0.00	1	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	6.5	0.25	2	6.7	0.13	4	7.3	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	6.7	0.05	2	6.6	0.06	4	7.0	0.00	1	0.0	0.00	0	0.0	0.00	0

Table 37a
 Statistical Zone 11
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 11 during the October-December 1988 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.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus															
<i>spincarpus</i>	0.0	0.00	0.0	0.00	1	1.5	1.50	0.1	0.09	5	5.3	4.15	0.0	0.02	13
Sicyonia															
<i>brevirostris</i>	0.0	0.00	0.0	0.00	1	4.0	4.00	0.1	0.07	5	128.4	85.38	1.7	1.06	13
Callinectes															
<i>similis</i>	128.3	0.00	2.9	0.00	1	413.2	354.74	10.1	8.50	5	171.6	76.58	4.8	1.95	13
Trachypenaeus															
<i>spp.</i>	1090.3	0.00	3.2	0.00	1	85.4	73.10	0.3	0.18	5	64.2	36.25	0.3	0.15	13
Portunus															
<i>gibbesii</i>	180.0	0.00	3.2	0.00	1	68.0	36.54	0.7	0.40	5	97.2	36.70	1.2	0.44	13
Squilla															
<i>spp.</i>	103.4	0.00	1.3	0.00	1	69.0	34.68	0.8	0.40	5	34.9	15.45	0.4	0.15	13
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	1	8.8	8.80	0.3	0.25	5	890.4	298.74	19.6	6.80	13
Trachurus															
<i>lathamii</i>	6.2	0.00	0.3	0.00	1	5.3	5.28	0.2	0.15	5	145.8	86.04	3.3	1.85	13
Peprilus															
<i>burti</i>	0.0	0.00	0.0	0.00	1	1.9	1.92	0.2	0.15	5	13.6	7.93	0.7	0.42	13
Arius															
<i>felis</i>	746.9	0.00	87.0	0.00	1	332.8	263.24	41.0	29.78	5	22.2	12.70	4.5	2.63	13
Diplectrum															
<i>bivittatum</i>	6.2	0.00	0.3	0.00	1	16.2	3.50	0.4	0.06	5	223.4	58.21	5.1	1.38	13
Leiostomus															
<i>xanthurus</i>	6.2	0.00	0.8	0.00	1	2.3	1.86	0.2	0.19	5	2.1	1.64	0.2	0.15	13
Centropristis															
<i>philadelphica</i>	12.4	0.00	0.6	0.00	1	27.7	21.99	0.8	0.57	5	44.5	18.52	1.2	0.45	13
Syacium															
<i>spp.</i>	0.0	0.00	0.0	0.00	1	55.1	30.91	1.4	0.82	5	123.0	20.10	2.3	0.39	13
Squid															
	64.1	0.00	0.3	0.00	1	81.9	22.11	1.3	0.48	5	7.5	2.92	0.1	0.07	13

Table 37a (cont'd.)
 Statistical Zone 11
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 11 during the October-December 1988 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.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus															
spincarpus	43.9	35.71	0.4	0.31	6	1728.4	1171.75	14.8	8.66	3	2694.0	0.00	15.8	0.00	1
Sicyonia															
brevirostris	48.7	24.00	1.1	0.53	6	289.3	289.33	4.5	4.53	3	2514.0	0.00	35.5	0.00	1
Callinectes															
similis	106.0	106.00	2.7	2.73	6	2.1	2.11	0.0	0.02	3	0.0	0.00	0.0	0.00	1
Trachypena															
spp.	22.0	22.00	0.0	0.05	6	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
Portunus															
gibbesii	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	1
Squilla															
spp.	17.0	17.00	0.2	0.23	6	26.2	13.08	0.3	0.16	3	12.0	0.00	0.3	0.00	1
Stenotomus															
caprinus	67.0	40.39	3.0	1.81	6	93.8	74.96	4.0	3.77	3	804.0	0.00	35.5	0.00	1
Trachurus															
lathamii	77.7	53.45	1.8	1.35	6	3.2	3.20	0.0	0.04	3	0.0	0.00	0.0	0.00	1
Peprilus															
burti	236.9	236.70	9.3	9.32	6	1.6	1.60	0.0	0.04	3	0.0	0.00	0.0	0.00	1
Arius															
felis	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	1
Diplectrum															
bivittatum	5.0	5.00	0.1	0.09	6	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
Leiostomus															
xanthurus	29.7	14.77	2.7	1.39	6	285.8	202.57	35.9	24.19	3	222.0	0.00	25.4	0.00	1
Centropristis															
philadelphica	3.0	3.00	0.1	0.09	6	196.2	110.01	8.3	4.18	3	0.0	0.00	0.0	0.00	1
Syacium															
spp.	11.0	5.47	1.2	0.73	6	5.8	3.19	0.2	0.12	3	42.0	0.00	1.9	0.00	1
Squid															
spp.	34.6	16.98	0.2	0.18	6	2.1	2.11	0.0	0.02	3	0.0	0.00	0.0	0.00	1

Table 37b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, 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	142.0	0.00	1	73.7	42.10	5	71.3	14.12	13	34.6	13.65	6	88.3	44.33	3	215.5	0.00	1
Total finfish kg	114.7	0.00	1	57.7	33.97	5	56.9	12.93	13	28.4	13.40	6	67.3	33.93	3	163.6	0.00	1
Total crustacean kg	22.6	0.00	1	14.5	8.28	5	11.6	2.89	13	5.9	3.77	6	21.2	10.61	3	51.8	0.00	1
Total others kg	4.7	0.00	1	1.2	0.36	5	3.2	2.13	13	1.2	0.41	6	0.2	0.24	3	0.0	0.00	1
Surface temperature	22.0	0.00	1	21.8	0.14	6	22.7	0.22	13	23.5	0.36	4	24.4	0.69	3	24.8	0.04	2
Midwater temperature	22.0	0.00	1	21.9	0.19	6	22.7	0.24	13	23.6	0.35	4	25.0	0.09	3	24.8	0.01	2
Bottom temperature	23.0	0.00	1	22.3	0.29	6	22.2	0.21	13	22.6	0.73	4	23.3	0.50	3	21.9	0.19	2
Surface salinity	0.0	0.00	0	0.0	0.00	0	31.9	0.00	1	35.7	0.04	2	35.4	1.01	3	36.0	0.16	2
Midwater salinity	0.0	0.00	0	0.0	0.00	0	34.7	0.00	1	36.0	0.13	2	36.2	0.13	3	36.2	0.14	2
Bottom salinity	0.0	0.00	0	0.0	0.00	0	35.0	0.00	1	36.3	0.14	2	36.4	0.02	3	36.4	0.18	2
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	1.5	0.00	1	1.1	0.91	2	0.4	0.09	3	0.4	0.17	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	0.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.4	0.00	1	6.5	0.12	6	6.6	0.15	13	6.6	0.18	4	6.4	0.20	3	7.4	0.75	2
Midwater oxygen	6.6	0.00	1	6.5	0.15	6	6.3	0.22	13	6.5	0.20	4	6.3	0.28	3	7.3	0.75	2
Bottom oxygen	6.2	0.00	1	6.2	0.10	6	6.0	0.23	13	6.0	0.16	4	6.3	0.13	3	6.2	1.15	2

Table 38a
 Statistical Zone 13
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 13 during the October-December 1988 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 in depths of 21-30 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
dorsalis	83.1	0.00	0.1	0.00	1	188.4	120.74	0.2	0.12	9	6571.5	3768.21	8.9	4.94	10
Callinectes															
similis	126.9	0.00	0.4	0.00	1	176.0	78.35	2.1	1.01	9	3868.4	2454.54	55.0	25.96	10
Trachypenaeus															
similis	1553.1	0.00	2.0	0.00	1	408.1	212.44	0.9	0.49	9	1522.3	604.55	3.4	1.25	10
Xiphopenaeus															
kroyeri	6782.3	0.00	32.1	0.00	1	3.3	3.33	0.0	0.01	9	0.0	0.00	0.0	0.00	10
Portunus															
spinicarpus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	9	3.0	3.00	0.1	0.05	10
Squilla															
spp.	588.5	0.00	9.4	0.00	1	168.8	58.69	1.4	0.55	9	550.4	253.34	5.4	2.58	10
Cynoscion															
nothus	860.8	0.00	4.2	0.00	1	365.1	298.50	1.5	1.22	9	166.1	74.30	1.4	0.75	10
Chloroscombrus															
chrysurus	0.0	0.00	0.0	0.00	1	735.5	726.58	6.6	6.53	9	8.0	4.57	0.2	0.19	10
Saurida															
brasiliensis	0.0	0.00	0.0	0.00	1	70.9	60.76	0.3	0.24	9	609.1	547.68	2.6	2.28	10
Syacium															
gunteri	0.0	0.00	0.0	0.00	1	404.0	299.84	3.5	2.48	9	152.3	44.68	1.7	0.49	10
Sphoeroides															
parvus	83.1	0.00	1.6	0.00	1	210.4	91.88	1.0	0.55	9	189.4	71.08	1.3	0.48	10
Trichiurus															
lepturus	0.0	0.00	0.0	0.00	1	189.1	171.14	2.3	2.18	9	49.1	49.09	0.6	0.60	10
Diplectrum															
bivittatum	20.8	0.00	0.1	0.00	1	222.7	137.83	1.2	0.99	9	149.3	43.88	2.8	0.97	10
Micropogonias															
undulatus	0.0	0.00	0.0	0.00	1	74.1	23.69	4.1	1.36	9	177.3	68.14	9.5	3.47	10
Squid	83.1	0.00	0.4	0.00	1	592.6	270.03	5.1	2.17	9	594.4	232.75	4.1	1.41	10

Table 38a (cont'd.)
 Statistical Zone 13
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 13 during the October-December 1988 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 in depths of 21-30 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
dorsalis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Callinectes															
similis	0.0	0.00	0.0	0.00	0	45.6	0.00	0.7	0.00	1	18.0	18.00	0.4	0.41	2
Trachypenaeus															
similis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Xiphopenaeus															
kroyeri	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Portunus															
spincarpus	0.0	0.00	0.0	0.00	0	2184.0	0.00	16.6	0.00	1	4681.0	2771.00	39.2	24.64	2
Squilla															
spp.	0.0	0.00	0.0	0.00	0	105.6	0.00	0.5	0.00	1	88.0	38.00	0.8	0.57	2
Cynoscion															
nothus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Chloroscombrus															
chrysurus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Saurida															
brasiliensis	0.0	0.00	0.0	0.00	0	31.2	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	2
Syacium															
gunteri	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Sphoeroides															
parvus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Trichiurus															
lepturus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Diplectrum															
bivittatum	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Micropogonias															
undulatus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Squid	0.0	0.00	0.0	0.00	0	60.0	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	2

Table 38b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths of 21-30 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	76.6	0.00	1	61.6	19.11	9	138.7	38.49	10	0.0	0.00	0	69.8	0.00	1	120.0	10.91	2
Total finfish kg	30.4	0.00	1	35.3	14.68	9	49.1	8.35	10	0.0	0.00	0	45.8	0.00	1	76.8	14.09	2
Total crustacean kg	46.2	0.00	1	6.9	1.93	9	78.2	33.82	10	0.0	0.00	0	24.0	0.00	1	43.2	25.00	2
Total others kg	0.0	0.00	1	5.2	2.06	9	5.0	1.38	10	0.0	0.00	0	1.1	0.00	1	0.0	0.00	2
Surface temperature	19.4	0.17	2	21.9	0.91	10	22.0	0.84	9	0.0	0.00	0	0.0	0.00	0	23.7	0.48	3
Midwater temperature	19.4	0.22	2	22.4	0.78	10	23.1	0.56	9	0.0	0.00	0	0.0	0.00	0	24.6	0.21	3
Bottom temperature	19.3	0.30	2	24.0	0.74	10	24.0	0.52	9	0.0	0.00	0	0.0	0.00	0	21.2	1.27	3
Surface salinity	32.0	0.06	2	31.3	0.77	10	31.1	0.86	9	0.0	0.00	0	0.0	0.00	0	33.8	1.13	3
Midwater salinity	32.0	0.02	2	32.9	0.32	10	34.2	0.19	9	0.0	0.00	0	0.0	0.00	0	36.2	0.36	3
Bottom salinity	31.9	0.00	2	35.0	0.23	10	34.6	0.23	9	0.0	0.00	0	0.0	0.00	0	36.5	0.06	3
Surface chlorophyll	2.1	0.02	2	1.2	0.16	10	0.9	0.12	9	0.0	0.00	0	0.0	0.00	0	0.7	0.31	3
Midwater chlorophyll	2.2	0.06	2	0.9	0.14	8	0.4	0.07	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	2.4	0.06	2	1.0	0.16	10	0.9	0.21	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.2	0.80	2	6.9	0.22	10	6.8	0.18	9	0.0	0.00	0	0.0	0.00	0	7.1	0.35	3
Midwater oxygen	7.1	0.65	2	6.8	0.23	10	6.5	0.17	9	0.0	0.00	0	0.0	0.00	0	6.7	0.25	3
Bottom oxygen	7.0	0.55	2	6.1	0.40	10	6.4	0.19	9	0.0	0.00	0	0.0	0.00	0	5.7	0.46	3

Table 39a
 Statistical Zone 14
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 14 during the October-December 1988 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.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
<i>similis</i>	93.4	44.61	1.0	0.51	5	128.8	46.86	2.2	0.82	9	190.6	83.02	3.6	1.62	18
Trachypenaeus															
<i>similis</i>	58.3	38.73	0.1	0.04	5	138.0	67.38	0.2	0.13	9	70.5	65.24	0.2	0.21	18
Xiphopenaeus															
<i>kroyeri</i>	0.8	0.49	0.0	0.00	5	357.0	266.93	2.5	2.11	9	0.0	0.00	0.0	0.00	18
Squilla															
spp.	52.3	34.44	0.4	0.25	5	179.6	97.62	2.5	1.37	9	16.5	6.74	0.2	0.09	18
Portunus															
<i>gibbesii</i>	58.4	34.97	0.4	0.27	5	121.3	44.00	0.7	0.33	9	32.5	11.03	0.3	0.12	18
Penaeus															
<i>aztecus</i>	27.6	12.54	0.3	0.14	5	9.3	5.83	0.1	0.05	9	67.7	32.42	1.1	0.47	18
Micropogonias															
<i>undulatus</i>	173.1	146.97	8.6	7.31	5	428.1	140.76	21.0	7.10	9	1248.5	349.90	62.0	16.47	18
Leiostomus															
<i>xanthurus</i>	3.0	1.84	0.2	0.11	5	18.8	10.88	1.7	0.94	9	550.4	290.14	38.6	19.37	18
Arius															
<i>felis</i>	84.8	51.57	5.4	3.55	5	629.6	382.03	29.7	15.55	9	53.2	20.45	9.0	3.47	18
Stenotomus															
<i>caprinus</i>	1.1	0.69	0.0	0.00	5	85.6	54.81	0.9	0.56	9	100.0	25.44	1.9	0.52	18
Chloroscombrus															
<i>chrysurus</i>	261.2	249.05	1.8	1.23	5	85.4	55.57	4.4	2.92	9	15.1	14.34	0.6	0.58	18
Centropristis															
<i>philadelphica</i>	10.0	5.14	0.1	0.07	5	39.7	25.11	0.4	0.19	9	58.7	29.01	1.8	0.88	18
Peprilus															
<i>burti</i>	1.7	1.71	0.1	0.10	5	49.3	49.33	4.5	4.48	9	56.0	20.06	3.9	1.49	18
Syacium															
<i>gunteri</i>	2.0	2.00	0.0	0.03	5	2.9	1.32	0.1	0.03	9	105.0	40.78	2.6	1.03	18
Squid															
	74.8	16.29	0.4	0.12	5	77.1	43.78	0.5	0.30	9	75.4	25.98	0.5	0.15	18

Table 39a (cont'd.)
 Statistical Zone 14
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 14 during the October-December 1988 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.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
<i>similis</i>	12.3	5.21	0.6	0.32	3	51.0	51.00	0.8	0.82	2	0.0	0.00	0.0	0.00	1
Trachypenaeus															
<i>similis</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Xiphopenaeus															
<i>kroyeri</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Squilla															
<i>spp.</i>	30.4	9.24	0.4	0.33	3	79.5	70.50	0.4	0.10	2	0.0	0.00	0.0	0.00	1
Portunus															
<i>gibbesii</i>	5.1	3.57	0.1	0.09	3	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Penaeus															
<i>aztecus</i>	169.5	98.72	5.3	2.00	3	15.8	3.75	0.7	0.41	2	0.0	0.00	0.0	0.00	1
Micropogonias															
<i>undulatus</i>	81.4	38.56	8.5	4.14	3	18.0	18.00	0.4	0.41	2	0.0	0.00	0.0	0.00	1
Leiostomus															
<i>xanthurus</i>	976.8	776.68	105.1	85.72	3	780.8	780.75	78.2	78.24	2	0.0	0.00	0.0	0.00	1
Arius															
<i>felis</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Stenotomus															
<i>caprinus</i>	390.9	159.38	10.0	5.24	3	347.3	162.75	7.0	1.81	2	123.7	0.00	5.5	0.00	1
Chloroscombrus															
<i>chrysurus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Centropristis															
<i>philadelphica</i>	94.3	11.44	3.9	1.26	3	339.0	339.00	9.4	9.41	2	0.0	0.00	0.0	0.00	1
Peprilus															
<i>burti</i>	4.0	4.00	0.4	0.36	3	168.0	168.00	11.1	11.08	2	91.8	0.00	6.2	0.00	1
Syacium															
<i>gunteri</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Squid															
	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	2	2.4	0.00	0.2	0.00	1

Table 39b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	25.8	9.96	5	86.3	22.97	9	157.3	40.99	18	163.7	103.69	3	167.7	42.27	2	20.6	0.00	1
Total finfish kg	22.4	10.58	5	75.1	19.50	9	147.9	40.22	18	156.5	101.82	3	150.3	57.61	2	19.5	0.00	1
Total crustacean kg	3.4	0.85	5	10.7	3.78	9	7.8	2.96	18	7.0	2.07	3	16.0	13.98	2	0.6	0.00	1
Total others kg	1.4	0.29	5	1.0	0.32	9	0.9	0.21	18	0.2	0.22	3	0.3	0.34	2	0.6	0.00	1
Surface temperature	24.6	0.98	7	25.2	0.91	9	23.4	0.35	16	24.7	0.23	4	25.0	0.47	2	0.0	0.00	0
Midwater temperature	24.6	0.97	7	25.2	0.90	9	23.5	0.36	16	24.9	0.13	4	25.3	0.07	2	0.0	0.00	0
Bottom temperature	24.6	0.97	7	25.5	0.94	9	24.2	0.36	16	24.0	0.85	4	22.8	0.68	2	0.0	0.00	0
Surface salinity	30.7	1.09	7	32.5	0.72	9	34.6	0.19	16	35.6	0.47	4	36.3	0.38	2	0.0	0.00	0
Midwater salinity	30.8	0.98	7	32.3	0.89	9	34.7	0.17	16	36.2	0.20	4	36.6	0.03	2	0.0	0.00	0
Bottom salinity	30.7	0.91	7	32.8	0.88	9	35.4	0.21	16	36.7	0.13	4	36.6	0.08	2	0.0	0.00	0
Surface chlorophyll	3.0	0.69	7	1.6	0.36	7	0.5	0.11	15	0.3	0.02	4	0.2	0.15	2	0.0	0.00	0
Midwater chlorophyll	3.4	0.73	5	1.9	0.36	3	0.7	0.26	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	3.4	0.54	6	2.1	0.28	7	1.3	0.24	14	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.7	0.19	7	6.7	0.15	9	6.7	0.28	16	6.8	0.12	4	6.7	0.15	2	0.0	0.00	0
Midwater oxygen	6.3	0.14	7	6.6	0.14	9	6.2	0.21	16	6.8	0.19	4	6.6	0.05	2	0.0	0.00	0
Bottom oxygen	6.3	0.15	7	6.0	0.41	9	5.8	0.19	16	6.3	0.23	4	5.5	0.00	2	0.0	0.00	0

Table 40a
 Statistical Zone 15
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 15 during the October-December 1988 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.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
<i>similis</i>	24.0	0.00	0.3	0.00	1	86.3	59.84	3.1	2.27	8	120.0	43.14	3.1	0.99	14
Penaeus															
<i>aztecus</i>	654.0	0.00	7.6	0.00	1	23.8	15.04	0.4	0.26	8	51.5	10.84	1.3	0.29	14
Squilla															
<i>spp.</i>	6.0	0.00	0.3	0.00	1	34.8	24.84	0.4	0.20	8	32.6	13.46	0.4	0.15	14
Trachypenaeus															
<i>similis</i>	0.0	0.00	0.0	0.00	1	71.8	63.65	0.1	0.11	8	28.6	17.03	0.1	0.08	14
Penaeus															
<i>setiferus</i>	0.0	0.00	0.0	0.00	1	101.4	66.38	1.8	0.75	8	1.3	0.88	0.0	0.03	14
Trachypenaeus															
<i>spp.</i>	138.0	0.00	0.3	0.00	1	58.5	37.73	0.2	0.11	8	4.0	2.14	0.1	0.04	14
Micropogonias															
<i>undulatus</i>	1056.0	0.00	38.5	0.00	1	966.2	418.52	49.2	20.99	8	309.2	115.16	15.3	5.56	14
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	1	52.7	27.23	0.6	0.31	8	81.3	15.20	1.3	0.30	14
Peprilus															
<i>burti</i>	0.0	0.00	0.0	0.00	1	46.9	32.74	2.7	2.00	8	35.3	18.64	2.5	1.42	14
Arius															
<i>felis</i>	270.0	0.00	11.2	0.00	1	289.3	208.98	34.8	26.36	8	21.0	12.96	3.8	2.07	14
Centropristis															
<i>philadelphia</i>	6.0	0.00	0.3	0.00	1	14.1	5.26	0.3	0.09	8	84.7	25.88	3.3	1.07	14
Trachurus															
<i>lathami</i>	0.0	0.00	0.0	0.00	1	51.5	44.34	1.3	1.05	8	58.3	52.87	1.6	1.46	14
Anchoa															
<i>hepsetus</i>	78.0	0.00	0.3	0.00	1	135.3	110.15	2.4	1.99	8	0.0	0.00	0.0	0.00	14
Serranus															
<i>atrobranchus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	8	104.6	49.34	0.8	0.35	14
Squid	6.0	0.00	0.3	0.00	1	33.8	14.63	0.2	0.12	8	76.3	34.43	0.8	0.43	14

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

Summary of dominate organisms taken in shrimp statistical zone 15 during the October-December 1988 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.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
<i>similis</i>	6.1	2.78	0.1	0.05	5	23.0	0.00	0.4	0.00	1	0.0	0.00	0.0	0.00	1
Penaeus															
<i>aztecus</i>	23.8	16.43	0.9	0.62	5	51.1	0.00	2.5	0.00	1	0.0	0.00	0.0	0.00	1
Squilla															
<i>spp.</i>	0.0	0.00	0.0	0.00	5	94.5	0.00	1.2	0.00	1	6.0	0.00	0.0	0.00	1
Trachypenaeus															
<i>similis</i>	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	1
Penaeus															
<i>setiferus</i>	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	1
Trachypenaeus															
<i>spp.</i>	6.9	6.93	0.0	0.01	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Micropogonias															
<i>undulatus</i>	94.5	46.27	6.1	2.48	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Stenotomus															
<i>caprinus</i>	429.6	127.18	14.9	4.38	5	293.6	0.00	11.3	0.00	1	246.0	0.00	12.0	0.00	1
Peprilus															
<i>burti</i>	264.5	113.46	17.7	7.47	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Arius															
<i>felis</i>	0.2	0.21	0.0	0.05	5	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Centropristis															
<i>philadelphica</i>	24.5	4.48	2.2	0.46	5	203.0	0.00	8.6	0.00	1	54.0	0.00	2.2	0.00	1
Trachurus															
<i>lathami</i>	50.2	32.90	3.1	2.61	5	0.0	0.00	0.0	0.00	1	6.0	0.00	0.0	0.00	1
Anchoa															
<i>hepsetus</i>	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	1
Serranus															
<i>atrobranchus</i>	10.1	7.89	0.1	0.12	5	144.3	0.00	1.2	0.00	1	42.0	0.00	0.8	0.00	1
Squid															
	3.3	2.05	0.0	0.04	5	0.0	0.00	0.0	0.00	1	6.0	0.00	0.8	0.00	1

Table 40b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	84.5	0.00	1	114.9	31.65	8	70.3	8.73	14	63.2	10.61	5	47.0	0.00	1	54.5	0.00	1
Total finfish kg	57.3	0.00	1	103.9	30.72	8	56.0	7.89	14	62.2	10.76	5	41.2	0.00	1	54.5	0.00	1
Total crustacean kg	8.2	0.00	1	10.6	7.08	8	6.0	1.44	14	1.3	0.61	5	5.2	0.00	1	2.7	0.00	1
Total others kg	19.1	0.00	1	1.2	0.32	8	1.5	0.43	14	0.2	0.14	5	0.6	0.00	1	2.7	0.00	1
Surface temperature	23.0	0.00	1	24.9	0.65	8	23.5	0.63	13	24.4	0.08	4	25.4	0.00	1	25.6	0.00	1
Midwater temperature	23.0	0.00	1	24.9	0.65	8	23.9	0.56	13	24.4	0.06	4	25.4	0.00	1	25.5	0.00	1
Bottom temperature	23.0	0.00	1	25.0	0.63	8	24.6	0.50	13	24.8	0.09	4	22.9	0.00	1	22.3	0.00	1
Surface salinity	34.0	0.00	1	32.8	0.97	8	32.9	0.77	13	35.6	0.14	4	36.7	0.00	1	36.6	0.00	1
Midwater salinity	33.9	0.00	1	34.1	0.16	8	33.4	0.79	13	36.1	0.23	4	36.6	0.00	1	36.7	0.00	1
Bottom salinity	33.7	0.00	1	34.3	0.23	8	34.2	0.78	13	36.4	0.08	4	36.8	0.00	1	36.6	0.00	1
Surface chlorophyll	0.0	0.00	0	1.1	0.24	8	0.5	0.10	13	0.3	0.09	4	0.1	0.00	1	0.1	0.00	1
Midwater chlorophyll	0.0	0.00	0	1.2	0.47	3	0.7	0.10	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	1.0	0.00	1	1.4	0.29	8	1.1	0.13	13	0.4	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.3	0.00	1	6.6	0.12	8	6.5	0.12	13	7.2	0.29	4	7.0	0.00	1	7.1	0.00	1
Midwater oxygen	6.0	0.00	1	6.6	0.18	8	6.2	0.23	13	7.1	0.19	4	6.8	0.00	1	0.0	0.00	0
Bottom oxygen	5.5	0.00	1	6.3	0.17	8	5.8	0.26	13	6.6	0.09	4	5.9	0.00	1	7.0	0.00	1

Table 41a
 Statistical Zone 16
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 16 during the October-December 1988 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.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
<i>similis</i>	193.3	0.00	0.4	0.00	1	248.5	158.90	1.6	0.88	5	37.7	14.02	0.8	0.23	6
Trachypenaeus															
<i>spp.</i>	202.2	0.00	0.2	0.00	1	80.7	43.55	0.3	0.19	5	46.7	20.71	0.2	0.07	6
Portunus															
<i>gibbesii</i>	0.0	0.00	0.0	0.00	1	92.1	56.30	0.4	0.23	5	8.5	7.15	0.1	0.05	6
Penaeus															
<i>setiferus</i>	246.7	0.00	5.2	0.00	1	54.8	23.79	1.0	0.33	5	5.3	3.92	0.2	0.15	6
Sicyonia															
<i>dorsalis</i>	0.0	0.00	0.0	0.00	1	42.2	42.20	0.1	0.05	5	1.8	1.14	0.0	0.01	6
Penaeus															
<i>aztecus</i>	0.0	0.00	0.0	0.00	1	18.5	16.37	0.2	0.13	5	43.6	22.90	1.2	0.79	6
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	1	34.2	24.17	0.4	0.37	5	97.4	87.67	2.2	2.08	6
Trachurus															
<i>lathamii</i>	0.0	0.00	0.0	0.00	1	4.7	3.46	0.1	0.06	5	16.9	10.07	0.5	0.31	6
Peprilus															
<i>burti</i>	4.4	0.00	0.2	0.00	1	83.9	58.58	4.5	3.37	5	25.5	15.17	1.7	1.01	6
Micropogonias															
<i>undulatus</i>	2.2	0.00	0.1	0.00	1	17.1	8.57	0.7	0.35	5	353.3	167.61	16.7	6.51	6
Anchoa															
<i>hepsetus</i>	4.4	0.00	0.1	0.00	1	288.0	241.45	2.5	1.72	5	2.1	2.14	0.0	0.03	6
Etrumeus															
<i>teres</i>	0.0	0.00	0.0	0.00	1	3.3	1.68	0.1	0.03	5	0.0	0.00	0.0	0.00	6
Chloroscombrus															
<i>chrysurus</i>	0.0	0.00	0.0	0.00	1	1.9	0.78	0.1	0.02	5	198.6	191.55	9.8	9.70	6
Syacium															
<i>spp.</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	29.4	25.96	0.6	0.56	6
Squid															
<i>spp.</i>	222.2	0.00	2.0	0.00	1	103.3	41.18	0.6	0.36	5	15.7	10.36	0.1	0.07	6

Table 41a (cont'd.)
 Statistical Zone 16
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 16 during the October-December 1988 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.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
<i>similis</i>	3.7	3.67	0.0	0.02	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Portunus															
<i>gibbesii</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Penaeus															
<i>setiferus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Sicyonia															
<i>dorsalis</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Penaeus															
<i>aztecus</i>	7.3	1.48	0.3	0.08	3	4.0	0.00	0.1	0.00	1	4.9	4.23	0.4	0.35	3
Stenotomus															
<i>caprinus</i>	566.1	506.16	16.4	14.37	3	691.0	0.00	23.5	0.00	1	196.3	101.47	7.8	4.36	3
Trachurus															
<i>lathami</i>	151.7	77.10	4.9	2.44	3	327.0	0.00	4.6	0.00	1	257.9	138.56	10.2	5.35	3
Peprilus															
<i>burti</i>	249.3	141.52	15.8	8.30	3	0.0	0.00	0.0	0.00	1	175.9	169.25	7.2	6.63	3
Micropogonias															
<i>undulatus</i>	9.5	0.75	1.2	0.24	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Anchoa															
<i>hepsetus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Etrumeus															
<i>teres</i>	0.0	0.00	0.0	0.00	3	19.0	0.00	0.3	0.00	1	393.4	381.24	5.9	5.80	3
Chloroscombrus															
<i>chrysurus</i>	10.0	6.08	0.7	0.42	3	0.0	0.00	0.0	0.00	1	3.1	3.11	0.1	0.10	3
Syacium															
<i>spp.</i>	165.0	165.00	6.0	6.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Squid															
	0.0	0.00	0.0	0.00	3	13.0	0.00	0.7	0.00	1	29.9	10.31	1.3	0.77	3

Table 41b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, 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	16.2	0.00	1	29.7	9.32	5	64.2	8.01	6	58.5	24.69	3	52.3	0.00	1	52.3	11.21	3
Total finfish kg	8.1	0.00	1	25.2	10.55	5	61.2	7.73	6	57.9	24.90	3	50.9	0.00	1	49.9	11.21	3
Total crustacean kg	6.1	0.00	1	3.8	1.53	5	3.1	1.07	6	0.7	0.22	3	0.5	0.00	1	0.8	0.53	3
Total others kg	2.0	0.00	1	0.8	0.29	5	0.3	0.15	6	0.2	0.15	3	0.9	0.00	1	2.2	0.81	3
Surface temperature	22.9	0.00	1	23.3	0.17	5	23.9	0.14	6	25.0	0.15	3	25.5	0.00	1	25.4	0.03	3
Midwater temperature	22.9	0.00	1	23.3	0.17	5	23.9	0.14	6	24.9	0.10	3	25.3	0.00	1	25.4	0.03	3
Bottom temperature	22.9	0.00	1	23.3	0.11	5	24.1	0.22	6	24.9	0.08	3	21.2	0.00	1	20.4	0.27	3
Surface salinity	33.7	0.00	1	33.6	0.94	4	35.1	0.22	6	36.3	0.07	3	36.4	0.00	1	36.5	0.03	3
Midwater salinity	33.7	0.00	1	34.1	0.37	4	35.1	0.21	6	36.3	0.07	3	36.5	0.00	1	36.5	0.05	3
Bottom salinity	33.7	0.00	1	33.6	0.77	4	35.4	0.27	6	36.4	0.13	3	36.6	0.00	1	36.5	0.07	3
Surface chlorophyll	1.2	0.00	1	0.8	0.15	5	0.5	0.10	5	0.3	0.06	3	0.1	0.00	1	0.1	0.01	3
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	1.2	0.00	1	1.3	0.53	3	0.9	0.11	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.7	0.00	1	6.7	0.14	5	6.8	0.24	6	7.2	0.07	3	6.5	0.00	1	6.4	0.26	3
Midwater oxygen	6.7	0.00	1	7.0	0.13	5	6.8	0.21	6	7.3	0.09	3	6.3	0.00	1	6.2	0.38	3
Bottom oxygen	6.9	0.00	1	6.8	0.18	5	6.7	0.21	6	7.2	0.10	3	5.7	0.00	1	5.6	0.47	3

Table 42a
 Statistical Zone 17
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the October-December 1988 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.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevirostris</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	79.6	39.70	1.1	0.53	13
Callinectes															
<i>similis</i>	8.0	0.00	0.1	0.00	1	88.0	62.55	1.1	0.89	6	13.7	7.84	0.3	0.18	13
Portunus															
<i>gibbesii</i>	34.0	0.00	0.1	0.00	1	70.2	55.68	0.6	0.43	6	2.3	0.66	0.1	0.03	13
Penaeus															
<i>aztecus</i>	0.0	0.00	0.0	0.00	1	7.5	6.55	0.2	0.16	6	4.3	1.71	0.1	0.05	13
Trachypenaeus															
<i>spp.</i>	48.0	0.00	0.1	0.00	1	33.8	15.89	0.1	0.04	6	0.5	0.36	0.0	0.01	13
Penaeus															
<i>setiferus</i>	174.0	0.00	1.1	0.00	1	31.0	13.93	0.8	0.32	6	0.0	0.00	0.0	0.00	13
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	1	7.8	4.28	0.1	0.06	6	269.7	82.93	9.9	2.71	13
Peprilus															
<i>burti</i>	0.0	0.00	0.0	0.00	1	11.5	6.40	0.7	0.34	6	44.3	32.83	2.9	2.10	13
Trachurus															
<i>lathamii</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	6.5	3.07	0.2	0.11	13
Chloroscombrus															
<i>chrysurus</i>	0.0	0.00	0.0	0.00	1	2.5	1.71	0.1	0.07	6	158.9	67.78	6.7	3.46	13
Arius															
<i>felis</i>	6.0	0.00	0.7	0.00	1	269.6	30.54	39.0	5.52	6	10.4	4.35	2.0	0.80	13
Serranus															
<i>atrobranchus</i>	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	13
Lagodon															
<i>rhomboides</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	62.8	23.19	3.3	1.17	13
Micropogonias															
<i>undulatus</i>	0.0	0.00	0.0	0.00	1	6.7	3.44	0.3	0.15	6	34.5	9.39	2.8	0.81	13
Squid	62.0	0.00	0.9	0.00	1	147.2	89.74	1.3	0.87	6	6.4	2.68	0.1	0.04	13

Table 42a (cont'd.)
 Statistical Zone 17
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the October-December 1988 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.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevirostris</i>	76.7	46.06	1.5	0.87	5	112.6	110.17	1.9	1.91	4	0.0	0.00	0.0	0.00	2
Callinectes															
<i>similis</i>	3.2	3.23	0.1	0.15	5	0.9	0.87	0.0	0.03	4	0.0	0.00	0.0	0.00	2
Portunus															
<i>gibbesii</i>	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	2
Penaeus															
<i>aztecus</i>	52.1	20.58	2.0	0.73	5	6.5	5.18	0.5	0.43	4	4.3	4.29	0.4	0.42	2
Trachypenaeus															
<i>spp.</i>	3.9	3.31	0.0	0.04	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	2
Penaeus															
<i>setiferus</i>	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	2
Stenotomus															
<i>caprinus</i>	686.3	252.18	25.3	8.85	5	349.3	150.51	16.3	7.15	4	231.5	53.81	11.6	3.96	2
Peprilus															
<i>burti</i>	211.5	207.65	13.8	13.47	5	351.5	240.30	24.3	15.74	4	59.9	43.96	5.3	4.22	2
Trachurus															
<i>lathami</i>	44.2	27.23	0.6	0.34	5	227.6	223.35	5.2	5.07	4	794.7	786.10	25.9	25.50	2
Chloroscombrus															
<i>chrysurus</i>	35.0	30.04	2.3	2.01	5	11.4	11.43	0.9	0.91	4	0.0	0.00	0.0	0.00	2
Arius															
<i>felis</i>	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	2
Serranus															
<i>atrobranchus</i>	37.1	18.26	0.1	0.05	5	73.0	72.98	1.3	1.30	4	221.8	168.77	4.1	2.61	2
Lagodon															
<i>rhomboides</i>	33.4	8.95	1.3	0.37	5	29.3	29.29	2.8	2.84	4	0.0	0.00	0.0	0.00	2
Micropogonias															
<i>undulatus</i>	73.4	52.76	4.5	3.30	5	6.4	6.43	0.9	0.86	4	0.0	0.00	0.0	0.00	2
Squid															
	6.9	5.36	0.1	0.07	5	0.0	0.00	0.0	0.00	4	118.5	29.15	8.4	3.96	2

Table 42b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	61.8	0.00	1	70.1	8.13	6	46.3	5.95	13	65.0	14.86	5	75.7	26.25	4	94.9	22.56	2
Total finfish kg	59.1	0.00	1	65.7	9.05	6	44.1	6.00	13	60.8	16.28	5	72.4	26.01	4	84.2	20.72	2
Total crustacean kg	1.8	0.00	1	3.4	1.47	6	2.6	0.71	13	4.0	1.63	5	2.9	2.35	4	1.6	0.59	2
Total others kg	0.9	0.00	1	1.6	0.89	6	0.7	0.27	13	0.4	0.10	5	0.9	0.78	4	9.6	2.95	2
Surface temperature	0.0	0.00	0	23.0	0.18	6	24.6	0.09	13	25.0	0.05	3	25.4	0.11	3	25.5	0.00	1
Midwater temperature	0.0	0.00	0	23.0	0.25	5	24.6	0.08	13	25.1	0.07	3	26.7	1.39	3	25.6	0.00	1
Bottom temperature	0.0	0.00	0	23.1	0.24	6	24.7	0.09	13	25.1	0.09	3	21.9	0.72	3	19.1	0.00	1
Surface salinity	0.0	0.00	0	33.8	0.60	6	35.8	0.09	13	36.0	0.16	3	36.5	0.04	3	36.5	0.00	1
Midwater salinity	0.0	0.00	0	33.9	0.53	6	35.9	0.07	13	36.3	0.04	3	36.5	0.06	3	36.6	0.00	1
Bottom salinity	0.0	0.00	0	34.1	0.46	5	35.9	0.07	13	36.3	0.07	3	36.6	0.08	3	36.7	0.00	1
Surface chlorophyll	0.0	0.00	0	0.7	0.09	6	0.4	0.03	12	0.3	0.02	3	0.2	0.05	3	0.1	0.00	1
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	1.0	0.45	5	0.5	0.09	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	6.6	0.24	6	6.6	0.12	13	7.0	0.67	3	6.7	0.12	3	6.6	0.00	1
Midwater oxygen	0.0	0.00	0	7.0	0.17	6	6.6	0.12	13	7.0	0.53	3	6.7	0.12	3	6.6	0.00	1
Bottom oxygen	0.0	0.00	0	6.9	0.15	6	6.7	0.11	13	6.7	0.40	3	6.1	0.41	3	6.3	0.00	1

Table 43a
 Statistical Zone 18
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 18 during the October-December 1988 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 in depths less than 5 fm or greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevirostris</i>	0.0	0.00	0.0	0.00	0	9.1	7.38	0.1	0.10	3	31.2	16.80	0.4	0.21	8
Penaeus															
<i>aztecus</i>	0.0	0.00	0.0	0.00	0	28.7	20.66	0.5	0.27	3	15.0	6.57	0.6	0.30	8
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	0	61.9	49.34	0.4	0.39	3	1.3	0.87	0.0	0.01	8
Portunus															
<i>gibbesii</i>	0.0	0.00	0.0	0.00	0	13.3	4.54	0.1	0.05	3	6.3	4.94	0.1	0.04	8
Penaeus															
<i>duorarum</i>	0.0	0.00	0.0	0.00	0	37.6	37.65	0.8	0.80	3	9.3	4.89	0.4	0.19	8
Penaeus															
<i>setiferus</i>	0.0	0.00	0.0	0.00	0	39.6	33.17	0.8	0.60	3	0.0	0.00	0.0	0.00	8
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	0	1.2	1.18	0.0	0.00	3	215.3	75.63	8.0	2.86	8
Chloroscombrus															
<i>chrysurus</i>	0.0	0.00	0.0	0.00	0	37.0	34.45	1.0	0.95	3	117.1	57.45	6.9	3.50	8
Peprilus															
<i>burti</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	112.7	72.27	6.4	4.11	8
Prionotus															
<i>paralatus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	0.3	0.27	0.0	0.01	8
Diplectrum															
<i>bivittatum</i>	0.0	0.00	0.0	0.00	0	38.6	35.46	0.6	0.57	3	77.3	17.81	1.6	0.37	8
Upeneus															
<i>parvus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	8
Scorpaena															
<i>calcarata</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	10.9	4.39	0.1	0.02	8
Micropogonias															
<i>undulatus</i>	0.0	0.00	0.0	0.00	0	26.2	22.33	1.5	1.26	3	66.8	31.76	4.6	2.18	8
Squid	0.0	0.00	0.0	0.00	0	154.3	125.42	0.9	0.82	3	19.1	6.98	0.1	0.02	8

Table 43a (cont'd.)
 Statistical Zone 18
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 18 during the October-December 1988 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 in depths less than 5 fm or greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia															
<i>brevirostris</i>	335.8	68.20	4.5	0.76	2	135.4	84.30	2.3	1.37	4	0.0	0.00	0.0	0.00	0
Penaeus															
<i>aztecus</i>	38.3	10.70	1.4	0.46	2	10.7	5.65	0.7	0.40	4	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<i>spp.</i>	1.8	1.80	0.0	0.03	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Portunus															
<i>gibbesii</i>	0.0	0.00	0.0	0.00	2	17.2	17.21	0.3	0.34	4	0.0	0.00	0.0	0.00	0
Penaeus															
<i>duorarum</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Penaeus															
<i>setiferus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Stenotomus															
<i>caprinus</i>	488.6	67.40	19.6	2.76	2	577.0	113.91	22.6	5.57	4	0.0	0.00	0.0	0.00	0
Chloroscombrus															
<i>chrysurus</i>	2.5	2.50	0.1	0.11	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Peprilus															
<i>burti</i>	0.0	0.00	0.0	0.00	2	0.5	0.50	0.0	0.03	4	0.0	0.00	0.0	0.00	0
Prionotus															
<i>paralatus</i>	81.6	44.40	2.2	1.44	2	135.4	73.15	2.4	1.56	4	0.0	0.00	0.0	0.00	0
Diplectrum															
<i>bivittatum</i>	1.2	1.20	0.0	0.03	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Upeneus															
<i>parvus</i>	45.1	22.10	0.9	0.28	2	108.5	58.52	2.2	1.22	4	0.0	0.00	0.0	0.00	0
Scorpaena															
<i>calcarata</i>	140.2	83.80	1.7	0.89	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Micropogonias															
<i>undulatus</i>	10.7	8.30	0.8	0.50	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Squid	0.0	0.00	0.0	0.00	2	35.6	21.02	0.4	0.17	4	0.0	0.00	0.0	0.00	0

Table 43b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 5 fm or greater than 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	18.8	3.17	3	36.0	9.04	8	45.0	6.82	2	50.7	12.59	4	0.0	0.00	0
Total finfish kg	0.0	0.00	0	12.7	5.94	3	34.5	9.28	8	38.6	5.91	2	47.2	11.06	4	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	2.9	0.76	3	1.7	0.61	8	6.4	0.91	2	3.8	1.95	4	0.0	0.00	0
Total others kg	0.0	0.00	0	3.7	2.57	3	0.7	0.21	8	0.0	0.00	2	0.7	0.31	4	0.0	0.00	0
Surface temperature	0.0	0.00	0	23.9	0.40	3	25.0	0.18	7	26.1	0.00	1	26.4	0.15	2	26.7	0.00	1
Midwater temperature	0.0	0.00	0	24.0	0.39	3	25.0	0.18	7	26.0	0.00	1	26.3	0.12	2	26.5	0.00	1
Bottom temperature	0.0	0.00	0	24.3	0.21	3	25.1	0.19	7	26.0	0.00	1	22.2	0.03	2	20.6	0.00	1
Surface salinity	0.0	0.00	0	33.0	1.60	3	35.8	0.11	8	36.2	0.00	1	0.0	0.00	0	35.0	0.00	1
Midwater salinity	0.0	0.00	0	33.0	1.68	3	35.8	0.10	8	36.2	0.00	1	0.0	0.00	0	36.3	0.00	1
Bottom salinity	0.0	0.00	0	33.3	1.56	3	35.8	0.11	8	36.0	0.00	1	0.0	0.00	0	36.4	0.00	1
Surface chlorophyll	0.0	0.00	0	0.9	0.42	3	0.4	0.03	8	0.3	0.00	1	0.2	0.02	2	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	7.1	0.03	3	6.8	0.10	8	7.0	0.00	1	6.9	0.25	2	6.8	0.00	1
Midwater oxygen	0.0	0.00	0	7.0	0.05	2	6.6	0.11	8	6.9	0.00	1	6.9	0.30	2	6.4	0.00	1
Bottom oxygen	0.0	0.00	0	6.8	0.10	2	6.5	0.14	7	6.8	0.00	1	6.6	0.15	2	5.9	0.00	1

Table 44a
 Statistical Zone 19
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 19 during the October-December 1988 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 stations were taken in depths greater than 30 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	2223.0	1929.00	38.9	32.32	2	28.4	13.07	0.6	0.24	6	6.9	3.16	0.2	0.08	12
Penaeus aztecus	72.0	48.00	0.4	0.14	2	13.1	8.01	0.2	0.09	6	45.9	17.17	1.2	0.39	12
Trachypenaeus spp.	0.0	0.00	0.0	0.00	2	17.3	16.76	0.0	0.05	6	31.6	16.90	0.1	0.05	12
Sicyonia brevirostris	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	6.3	5.58	0.1	0.08	12
Portunus gibbesii	3.0	3.00	0.0	0.00	2	11.0	5.95	0.1	0.05	6	6.4	2.22	0.1	0.02	12
Callinectes similis	0.0	0.00	0.0	0.00	2	0.5	0.53	0.0	0.02	6	5.3	2.45	0.1	0.04	12
Stenotomus caprinus	0.0	0.00	0.0	0.00	2	1.4	1.43	0.0	0.03	6	87.7	44.07	2.2	1.09	12
Chloroscombrus chrysurus	9.0	9.00	0.1	0.14	2	68.5	59.17	0.2	0.12	6	195.4	61.55	4.5	1.55	12
Trachurus lathamii	0.0	0.00	0.0	0.00	2	465.8	465.16	5.7	5.71	6	44.0	15.77	1.0	0.39	12
Diplectrum bivittatum	0.0	0.00	0.0	0.00	2	3.9	2.10	0.1	0.04	6	161.5	49.79	2.4	0.60	12
Cynoscion nothus	312.0	312.00	1.8	1.77	2	191.5	170.55	1.5	0.83	6	76.8	72.62	5.7	5.36	12
Lagodon rhomboides	18.0	18.00	0.8	0.82	2	10.4	7.68	0.4	0.30	6	16.6	7.82	0.8	0.38	12
Harengula jaguana	45.0	33.00	1.0	0.68	2	346.1	227.18	3.3	2.03	6	45.5	38.34	1.1	0.87	12
Peprilus burti	30.0	30.00	0.1	0.14	2	23.7	15.32	0.8	0.45	6	105.2	92.76	4.1	3.55	12
Squid	255.0	63.00	2.2	0.55	2	244.6	32.85	1.7	0.34	6	117.2	36.60	0.8	0.23	12

Table 44a (cont'd.)
 Statistical Zone 19
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 19 during the October-December 1988 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 stations were taken in depths greater than 30 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus															
setiferus	0.2	0.20	0.0	0.01	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus															
aztecus	14.6	13.11	0.6	0.58	5	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	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sicyonia															
brevirostris	1.0	1.00	0.0	0.02	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus															
gibbesii	1.6	1.17	0.0	0.01	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
similis	0.8	0.58	0.0	0.02	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stenotomus															
caprinus	193.0	78.88	10.2	3.88	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus															
chrysurus	34.8	20.37	1.6	0.86	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachurus															
lathami	18.4	14.85	0.3	0.23	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Diplectrum															
bivittatum	2.2	2.20	0.0	0.05	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion															
nothus	1.0	0.77	0.1	0.04	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Lagodon															
rhomboides	138.2	61.82	7.5	3.13	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Harengula															
jaguana	7.2	6.95	0.3	0.28	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus															
burti	31.4	17.90	1.9	1.23	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	58.8	35.15	0.3	0.17	5	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 44b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl stations were taken in depths greater than 30 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	80.5	42.27	2	25.8	9.14	6	37.1	14.70	12	33.2	8.53	5	0.0	0.00	0	0.0	0.00	0
Total finfish kg	32.7	5.45	2	22.1	8.72	6	33.3	14.75	12	32.2	8.75	5	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	39.5	31.36	2	1.7	0.28	6	2.5	0.45	12	0.9	0.57	5	0.0	0.00	0	0.0	0.00	0
Total others kg	9.5	4.09	2	2.6	0.48	6	1.9	0.56	12	0.5	0.09	5	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	24.4	0.30	8	25.3	0.13	11	26.2	0.29	5	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	24.6	0.28	9	25.4	0.18	11	26.2	0.19	5	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	24.7	0.23	9	25.8	0.19	11	25.8	0.35	5	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	31.7	0.62	6	34.8	1.61	9	35.4	0.29	3	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	31.8	0.48	8	34.1	0.42	8	35.9	0.10	4	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	32.1	0.40	9	34.8	0.33	7	36.0	0.19	4	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.9	0.13	8	0.4	0.07	11	0.3	0.09	5	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	7.9	0.34	9	7.0	0.24	11	7.6	0.42	5	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	7.8	0.35	9	7.2	0.22	11	7.4	0.39	5	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	7.7	0.32	9	6.8	0.18	11	7.1	0.27	5	0.0	0.00	0	0.0	0.00	0

Table 45a
 Statistical Zone 20
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 20 during the October-December 1988 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.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	0.0	0.00	0.0	0.00	1	26.1	22.99	0.1	0.04	5	380.4	196.23	0.9	0.38	12
Penaeus															
aztecus	0.0	0.00	0.0	0.00	1	18.6	14.26	0.3	0.19	5	117.9	54.53	2.2	0.82	12
Xiphopenaeus															
kroyeri	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	53.0	53.04	0.1	0.06	12
Parapenaeus															
spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	29.7	29.66	0.1	0.08	12
Penaeus															
setiferus	0.0	0.00	0.0	0.00	1	4.2	2.61	0.1	0.06	5	10.0	2.51	0.4	0.09	12
Callinectes															
similis	0.0	0.00	0.0	0.00	1	3.8	1.80	0.1	0.04	5	2.1	0.58	0.1	0.07	12
Trachurus															
lathami	0.0	0.00	0.0	0.00	1	17.7	16.76	0.3	0.28	5	85.2	53.25	1.5	0.84	12
Chloroscombrus															
chrysurus	204.0	0.00	1.4	0.00	1	264.0	178.31	3.7	3.02	5	613.2	209.01	9.9	3.29	12
Prionotus															
stearnsi	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	12
Stenotomus															
caprinus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	5.2	2.35	0.1	0.04	12
Peprilus															
burti	0.0	0.00	0.0	0.00	1	15.5	15.53	0.4	0.45	5	50.2	29.93	1.4	0.85	12
Lagodon															
rhomboides	0.0	0.00	0.0	0.00	1	35.4	29.13	1.2	1.09	5	8.0	2.38	0.3	0.09	12
Diplectrum															
bivittatum	6.0	0.00	0.3	0.00	1	14.8	7.88	0.2	0.08	5	109.6	33.19	1.6	0.47	12
Polydactylus															
octonemus	36.0	0.00	0.8	0.00	1	45.9	28.72	1.4	0.85	5	79.5	34.67	3.1	1.36	12
Squid	402.0	0.00	2.2	0.00	1	288.6	47.70	2.8	0.40	5	340.7	51.65	2.9	0.61	12

Table 45a (cont'd.)
 Statistical Zone 20
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 20 during the October-December 1988 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.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	1.0	1.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4
Penaeus															
aztecus	23.9	20.11	1.0	0.86	3	26.8	16.67	1.1	0.59	4	5.6	3.47	0.3	0.18	4
Xiphopenaeus															
kroyeri	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4
Parapenaeus															
spp.	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4
Penaeus															
setiferus	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4
Callinectes															
similis	2.0	1.00	0.1	0.04	3	4.5	2.95	0.1	0.07	4	0.7	0.42	0.0	0.02	4
Trachurus															
lathami	830.6	603.74	16.3	12.49	3	384.2	326.88	5.5	4.46	4	381.9	95.78	7.4	1.97	4
Chloroscombrus															
chrysurus	28.8	25.90	0.8	0.63	3	4.0	4.00	0.1	0.15	4	0.0	0.00	0.0	0.00	4
Prionotus															
stearnsi	13.0	13.00	0.1	0.12	3	444.7	224.12	4.3	2.15	4	20.9	18.39	0.1	0.12	4
Stenotomus															
caprinus	115.3	72.42	3.2	1.67	3	223.5	93.07	7.4	2.79	4	147.2	38.56	7.4	1.81	4
Peprilus															
burti	54.7	25.68	2.0	0.89	3	130.7	127.78	6.6	6.47	4	46.3	16.46	1.9	0.92	4
Lagodon															
rhomboides	216.7	137.38	13.6	9.03	3	11.4	5.36	0.9	0.44	4	1.2	1.18	0.1	0.05	4
Diplectrum															
bivittatum	14.1	7.50	0.2	0.09	3	0.0	0.00	0.0	0.00	4	2.0	2.00	0.0	0.05	4
Polydactylus															
octonemus	1.6	1.58	0.1	0.07	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4
Squid	71.1	43.42	0.3	0.15	3	35.6	19.98	0.8	0.46	4	66.3	21.26	1.9	0.50	4

Table 45b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, 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	35.5	0.00	1	16.7	5.07	5	32.3	5.72	12	44.5	11.62	3	40.2	6.76	4	27.4	2.78	4
Total finfish kg	32.7	0.00	1	12.0	5.11	5	25.6	4.94	12	43.1	12.39	3	37.7	6.37	4	24.3	2.46	4
Total crustacean kg	2.7	0.00	1	1.1	0.32	5	4.0	1.04	12	1.5	0.87	3	1.4	0.74	4	0.8	0.22	4
Total others kg	2.7	0.00	1	4.1	0.80	5	3.2	0.57	12	0.5	0.09	3	1.5	0.38	4	2.8	0.81	4
Surface temperature	0.0	0.00	0	26.1	0.11	5	26.2	0.06	13	25.7	0.42	3	26.1	0.11	3	26.2	0.11	3
Midwater temperature	0.0	0.00	0	25.9	0.10	5	26.0	0.17	14	26.4	0.12	3	26.8	0.08	3	26.5	0.06	3
Bottom temperature	0.0	0.00	0	25.5	0.48	5	26.4	0.09	14	26.5	0.12	3	24.2	0.61	3	21.3	0.06	3
Surface salinity	0.0	0.00	0	34.5	0.49	4	33.8	0.99	13	35.0	0.11	2	34.4	0.42	2	34.9	0.15	3
Midwater salinity	0.0	0.00	0	34.8	0.38	5	35.0	0.14	13	35.3	0.22	3	35.9	0.25	3	36.7	0.02	3
Bottom salinity	0.0	0.00	0	34.8	0.38	5	35.4	0.14	14	36.5	0.10	3	36.7	0.15	3	36.7	0.03	3
Surface chlorophyll	0.0	0.00	0	0.4	0.04	4	0.2	0.02	10	0.2	0.05	3	0.2	0.02	3	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	6.9	0.55	5	7.0	0.23	14	6.8	0.29	3	7.7	0.76	3	7.5	0.45	3
Midwater oxygen	0.0	0.00	0	7.0	0.67	5	7.1	0.27	13	7.4	0.60	2	7.8	0.72	3	7.5	0.58	3
Bottom oxygen	0.0	0.00	0	6.9	0.64	5	6.6	0.20	14	7.3	0.72	3	6.9	0.67	3	7.5	0.49	3

Table 46a
 Statistical Zone 21
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 21 during the October-December 1988 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 stations were taken in depths greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus															
<i>aztecus</i>	0.0	0.00	0.0	0.00	1	18.6	15.56	0.1	0.09	6	22.7	16.76	0.5	0.39	7
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	1	154.6	97.14	0.2	0.09	6	21.7	15.19	0.1	0.04	7
Solenocera															
<i>spp.</i>	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	7
Callinectes															
<i>similis</i>	6.0	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	6	1.0	0.67	0.0	0.01	7
Penaeus															
<i>duorarum</i>	0.0	0.00	0.0	0.00	1	4.6	3.92	0.1	0.04	6	57.8	57.03	0.6	0.55	7
Sicyonia															
<i>brevirostris</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	0.9	0.90	0.0	0.01	7
Chloroscombrus															
<i>chrysurus</i>	942.0	0.00	27.8	0.00	1	122.5	36.78	1.7	0.69	6	487.7	213.61	11.0	5.40	7
Serranus															
<i>atrobranchus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	22.2	14.51	0.2	0.15	7
Trachurus															
<i>lathamii</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	113.9	92.01	2.2	1.85	7
Polydactylus															
<i>octonemus</i>	0.0	0.00	0.0	0.00	1	128.3	75.02	4.0	2.11	6	149.8	129.37	5.1	4.38	7
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	11.7	7.72	0.2	0.12	7
Harengula															
<i>jaguana</i>	252.0	0.00	2.7	0.00	1	190.8	103.79	2.6	1.37	6	31.1	17.29	0.6	0.27	7
Anchoa															
<i>hepsetus</i>	138.0	0.00	1.6	0.00	1	247.4	103.26	3.0	1.49	6	4.5	3.95	0.1	0.05	7
Upeneus															
<i>parvus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	6	1.8	1.80	0.0	0.03	7
Squid															
<i>spp.</i>	0.0	0.00	0.0	0.00	1	160.3	25.47	1.5	0.49	6	171.7	45.83	1.1	0.54	7

Table 46a (cont'd.)
 Statistical Zone 21
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 21 during the October-December 1988 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 stations were taken in depths greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus															
<i>aztecus</i>	80.6	18.63	2.4	0.57	6	4.0	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<i>spp.</i>	25.0	8.80	0.1	0.03	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Solenocera															
<i>spp.</i>	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Callinectes															
<i>similis</i>	18.7	5.75	0.6	0.22	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Penaeus															
<i>duorarum</i>	2.5	2.50	0.0	0.04	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Sicyonia															
<i>brevirostris</i>	6.0	5.57	0.1	0.06	6	3.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Chloroscombrus															
<i>chrysurus</i>	20.9	8.01	0.8	0.27	6	1.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Serranus															
<i>atrobranchus</i>	236.3	56.72	1.7	0.36	6	28.0	0.00	0.4	0.00	1	0.0	0.00	0.0	0.00	0
Trachurus															
<i>lathamii</i>	44.0	31.18	0.8	0.49	6	629.0	0.00	11.3	0.00	1	0.0	0.00	0.0	0.00	0
Polydactylus															
<i>octonemus</i>	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Stenotomus															
<i>caprinus</i>	68.7	18.08	1.5	0.46	6	54.0	0.00	1.2	0.00	1	0.0	0.00	0.0	0.00	0
Harengula															
<i>jaguana</i>	2.2	1.28	0.1	0.04	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Anchoa															
<i>hepsetus</i>	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Upeneus															
<i>parvus</i>	49.6	21.56	1.1	0.47	6	5.0	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	0
Squid															
	116.4	36.41	0.6	0.23	6	35.0	0.00	0.7	0.00	1	0.0	0.00	0.0	0.00	0

Table 46b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	38.2	0.00	1	32.8	14.21	6	30.5	10.92	7	22.5	6.46	6	22.7	0.00	1	0.0	0.00	0
Total finfish kg	35.5	0.00	1	30.2	13.32	6	27.9	10.56	7	18.3	6.30	6	21.8	0.00	1	0.0	0.00	0
Total crustacean kg	2.7	0.00	1	1.8	0.47	6	2.1	0.59	7	3.4	0.73	6	0.5	0.00	1	0.0	0.00	0
Total others kg	0.0	0.00	1	2.7	0.62	6	2.0	0.38	7	0.8	0.19	6	0.9	0.00	1	0.0	0.00	0
Surface temperature	0.0	0.00	0	26.4	0.13	8	26.8	0.14	6	26.7	0.07	4	26.4	0.00	1	0.0	0.00	0
Midwater temperature	0.0	0.00	0	26.4	0.09	8	27.2	0.68	5	26.7	0.08	4	26.9	0.00	1	0.0	0.00	0
Bottom temperature	0.0	0.00	0	26.4	0.09	8	26.6	0.06	6	26.2	0.24	4	23.6	0.00	1	0.0	0.00	0
Surface salinity	0.0	0.00	0	35.8	0.16	8	36.1	0.12	6	35.4	0.49	4	35.5	0.00	1	0.0	0.00	0
Midwater salinity	0.0	0.00	0	36.0	0.06	8	36.0	0.14	5	36.1	0.12	4	36.4	0.00	1	0.0	0.00	0
Bottom salinity	0.0	0.00	0	36.0	0.05	8	36.3	0.07	6	36.7	0.05	4	36.5	0.00	1	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.5	0.11	6	0.3	0.02	6	0.1	0.01	4	0.1	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	6.8	0.43	8	6.4	0.14	6	6.5	0.28	4	5.5	0.00	1	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	7.0	0.49	8	6.5	0.17	5	6.6	0.42	4	5.3	0.00	1	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	6.9	0.44	8	6.3	0.14	6	6.5	0.26	4	5.1	0.00	1	0.0	0.00	0

Table 47a
 Statistical Zone 17
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the October-December 1988 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 in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus															
setiferus	37.3	20.44	0.2	0.12	9	1.2	1.20	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Xiphopenaeus															
kroyeri	19.3	17.20	0.1	0.06	9	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Portunus															
gibbesii	15.3	5.58	0.1	0.05	9	3.6	2.40	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Sicyonia															
dorsalis	0.7	0.67	0.0	0.00	9	24.0	9.86	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Squilla															
spp.	9.3	3.76	0.1	0.07	9	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Callinectes															
similis	5.3	2.73	0.0	0.00	9	3.6	2.40	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Stellifer															
lanceolatus	16.0	12.41	0.1	0.06	9	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Cynoscion															
nothus	4.7	2.19	0.1	0.04	9	1.2	1.20	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Sphoeroides															
parvus	2.7	1.45	0.0	0.00	9	4.8	1.20	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Symphurus															
plagiusa	2.0	1.41	0.0	0.03	9	3.6	2.40	0.1	0.05	5	0.0	0.00	0.0	0.00	0
Etropus															
crossotus	0.7	0.67	0.0	0.00	9	6.0	3.79	0.1	0.07	5	0.0	0.00	0.0	0.00	0
Anchoa															
mitchilli	2.7	1.45	0.0	0.00	9	1.2	1.20	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Dorosoma															
petenense	2.7	2.67	0.1	0.06	9	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Leiostomus															
xanthurus	2.0	2.00	0.1	0.06	9	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Squid	140.7	61.03	1.6	0.74	9	106.8	47.53	1.0	0.47	5	0.0	0.00	0.0	0.00	0

Table 47b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	3.6	0.64	9	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 finfish kg	2.7	0.00	9	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	2.7	0.00	9	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	0.45	9	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	19.1	0.40	9	20.5	0.44	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	19.0	0.30	9	21.2	0.47	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	19.1	0.35	9	21.3	0.47	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	6.4	0.09	9	6.1	0.12	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.5	0.11	9	6.4	0.15	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.5	0.18	9	6.4	0.12	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 48a
 Statistical Zone 18
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 18 during the October-December 1988 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 in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	42.0	24.25	0.1	0.05	7	138.0	61.96	0.3	0.15	11	0.0	0.00	0.0	0.00	0
Penaeus															
setiferus	48.0	18.61	0.5	0.25	7	34.9	10.36	0.3	0.13	11	0.0	0.00	0.0	0.00	0
Callinectes															
similis	10.3	6.77	0.0	0.04	7	58.4	31.05	0.4	0.25	11	0.0	0.00	0.0	0.00	0
Portunus															
gibbesii	5.1	2.42	0.0	0.00	7	21.3	10.21	0.1	0.05	11	0.0	0.00	0.0	0.00	0
Penaeus															
aztecus	1.7	1.11	0.0	0.00	7	20.7	10.18	0.1	0.08	11	0.0	0.00	0.0	0.00	0
Sicyonia															
dorsalis	3.4	2.57	0.0	0.00	7	17.5	4.61	0.0	0.00	11	0.0	0.00	0.0	0.00	0
Cynoscion															
arenarius	28.3	14.68	0.1	0.08	7	33.8	7.25	0.3	0.10	11	0.0	0.00	0.0	0.00	0
Cynoscion															
nothus	25.7	15.86	0.0	0.00	7	22.4	11.18	0.0	0.00	11	0.0	0.00	0.0	0.00	0
Symphurus															
plagiusa	4.3	2.52	0.0	0.04	7	14.2	3.26	0.2	0.06	11	0.0	0.00	0.0	0.00	0
Arius															
felis	11.1	5.62	0.1	0.05	7	5.5	2.62	0.1	0.05	11	0.0	0.00	0.0	0.00	0
Stellifer															
lanceolatus	4.3	1.71	0.0	0.00	7	8.7	3.37	0.1	0.06	11	0.0	0.00	0.0	0.00	0
Menticirrhus															
americanus	7.7	7.71	0.4	0.35	7	3.3	1.87	0.3	0.15	11	0.0	0.00	0.0	0.00	0
Peprilus															
alepidotus	0.0	0.00	0.0	0.00	7	7.1	3.11	0.0	0.03	11	0.0	0.00	0.0	0.00	0
Sphoeroides															
parvus	2.6	1.78	0.0	0.00	7	4.9	2.26	0.0	0.00	11	0.0	0.00	0.0	0.00	0
Squid	59.1	24.26	0.5	0.30	7	89.5	34.96	0.5	0.24	11	0.0	0.00	0.0	0.00	0

Table 48b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	3.1	0.39	7	3.7	0.41	11	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	7	2.7	0.00	11	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	7	2.7	0.00	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	1.9	0.50	7	2.5	0.25	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	21.2	0.90	7	21.4	0.64	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	21.0	0.86	7	21.3	0.61	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	21.1	0.86	7	21.3	0.62	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	31.6	0.68	5	31.5	0.29	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	31.8	0.72	5	31.9	0.33	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	32.0	0.76	5	32.0	0.36	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	7.3	0.40	7	7.9	0.13	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.6	0.44	7	8.1	0.41	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	7.4	0.50	7	7.7	0.22	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 49a
 Statistical Zone 19
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 19 during the October-December 1988 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 in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	0.0	0.00	0.0	0.00	2	130.5	45.54	0.4	0.14	12	454.0	53.03	1.4	0.16	3
Callinectes															
similis	0.0	0.00	0.0	0.00	2	34.5	9.17	0.1	0.04	12	78.0	30.20	0.5	0.18	3
Penaeus															
setiferus	0.0	0.00	0.0	0.00	2	29.0	12.57	0.3	0.12	12	40.0	14.42	0.5	0.24	3
Sicyonia															
dorsalis	0.0	0.00	0.0	0.00	2	14.5	2.90	0.0	0.00	12	20.0	10.58	0.0	0.00	3
Portunus															
gibbesii	0.0	0.00	0.0	0.00	2	13.0	6.72	0.1	0.05	12	16.0	13.11	0.1	0.09	3
Squilla															
spp.	0.0	0.00	0.0	0.00	2	5.0	2.32	0.0	0.03	12	26.0	8.00	0.2	0.09	3
Syacium															
gunteri	0.0	0.00	0.0	0.00	2	14.5	4.40	0.2	0.07	12	48.0	15.10	0.7	0.24	3
Cynoscion															
nothus	0.0	0.00	0.0	0.00	2	17.5	2.81	0.2	0.09	12	34.0	16.00	0.3	0.16	3
Symphurus															
plagiusa	0.0	0.00	0.0	0.00	2	8.0	4.07	0.1	0.06	12	12.0	9.17	0.2	0.18	3
Chloroscombrus															
chrysurus	24.0	24.00	0.1	0.14	2	3.0	1.73	0.0	0.00	12	0.0	0.00	0.0	0.00	3
Sphoeroides															
parvus	0.0	0.00	0.0	0.00	2	5.5	2.15	0.0	0.00	12	0.0	0.00	0.0	0.00	3
Lagodon															
rhomboides	9.0	9.00	0.3	0.27	2	3.0	2.02	0.1	0.05	12	0.0	0.00	0.0	0.00	3
Stellifer															
lanceolatus	0.0	0.00	0.0	0.00	2	1.5	1.08	0.0	0.05	12	8.0	5.29	0.1	0.09	3
Polydactylus															
octonemus	3.0	3.00	0.1	0.14	2	2.5	1.16	0.1	0.06	12	2.0	2.00	0.2	0.18	3
Squid	3.0	3.00	0.3	0.27	2	50.5	17.45	0.5	0.16	12	24.0	21.07	0.1	0.09	3

Table 49b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	3.9	0.41	12	5.5	1.57	3	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	0.00	12	2.7	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	1.4	1.36	2	2.7	0.00	12	3.6	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.7	0.00	2	2.7	0.00	12	2.7	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	23.9	0.55	2	22.9	0.33	13	22.3	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	23.6	0.40	2	22.5	0.30	13	21.8	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	23.5	0.30	2	22.4	0.33	13	21.2	0.45	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	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	8.0	0.10	2	6.9	0.05	13	7.1	0.15	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	8.2	0.20	2	6.9	0.04	13	6.7	0.00	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	8.8	0.25	2	6.8	0.04	13	6.7	0.20	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 50a
 Statistical Zone 20
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 20 during the October-December 1988 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 in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	0.0	0.00	0.0	0.00	3	85.5	40.48	0.2	0.11	8	193.5	112.05	0.5	0.28	4
Penaeus															
setiferus	2.0	2.00	0.1	0.09	3	37.5	10.06	0.5	0.12	8	31.5	12.09	0.7	0.28	4
Penaeus															
aztecus	0.0	0.00	0.0	0.00	3	33.8	18.10	0.2	0.10	8	13.5	2.87	0.1	0.08	4
Penaeus															
duorarum	0.0	0.00	0.0	0.00	3	31.5	15.20	0.3	0.12	8	4.5	2.87	0.0	0.00	4
Portunus															
gibbesii	0.0	0.00	0.0	0.00	3	15.0	5.32	0.1	0.04	8	24.0	8.83	0.1	0.08	4
Callinectes															
similis	0.0	0.00	0.0	0.00	3	8.3	6.70	0.1	0.04	8	36.0	20.78	0.3	0.16	4
Syacium															
gunteri	0.0	0.00	0.0	0.00	3	10.5	5.04	0.1	0.09	8	112.5	18.55	1.3	0.28	4
Cynoscion															
nothus	26.0	26.00	0.2	0.18	3	23.3	6.94	0.0	0.00	8	9.0	3.87	0.2	0.13	4
Lagodon															
rhomboides	14.0	4.00	0.2	0.09	3	30.8	21.85	0.9	0.63	8	0.0	0.00	0.0	0.00	4
Chloroscombrus															
chrysurus	72.0	54.00	0.2	0.18	3	9.0	9.00	0.0	0.03	8	0.0	0.00	0.0	0.00	4
Symphurus															
plagiusa	0.0	0.00	0.0	0.00	3	17.3	6.65	0.2	0.08	8	3.0	3.00	0.1	0.07	4
Menticirrhus															
americanus	4.0	4.00	0.2	0.18	3	15.0	6.80	1.0	0.46	8	1.5	1.50	0.1	0.07	4
Arius															
felis	36.0	36.00	0.5	0.55	3	1.5	0.98	0.1	0.04	8	0.0	0.00	0.0	0.00	4
Orthopristis															
chrysoptera	4.0	4.00	0.2	0.18	3	9.8	3.39	0.3	0.11	8	4.5	4.50	0.3	0.27	4
Squid	54.0	30.20	0.6	0.24	3	36.0	10.01	0.3	0.15	8	25.5	13.94	0.2	0.13	4

Table 50b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	5.5	2.73	3	4.8	0.68	8	6.8	0.79	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	4.5	1.82	3	3.4	0.45	8	4.1	1.36	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.9	0.91	3	2.7	0.00	8	3.4	0.68	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.7	0.00	3	2.7	0.00	8	2.7	0.00	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	24.0	0.23	3	22.5	0.45	8	23.6	0.66	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	24.0	0.23	3	22.5	0.45	8	23.5	0.61	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	24.0	0.23	3	22.1	0.51	8	23.5	0.64	4	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	0.27	3	8.2	0.12	8	7.9	0.20	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.7	0.24	3	8.2	0.08	8	7.9	0.20	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	7.8	0.38	3	8.6	0.13	8	8.3	0.31	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 51a
 Statistical Zone 21
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 21 during the October-December 1988 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 in depths less than 5 fm or greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus															
<u>gibbesii</u>	0.0	0.00	0.0	0.00	0	8.4	4.75	0.0	0.03	10	10.0	2.00	0.0	0.00	3
Parthenope															
<u>serrata</u>	0.0	0.00	0.0	0.00	0	0.6	0.60	0.0	0.00	10	2.0	2.00	0.0	0.00	3
Xiphopenaeus															
<u>kroyeri</u>	0.0	0.00	0.0	0.00	0	1.2	1.20	0.0	0.00	10	0.0	0.00	0.0	0.00	3
Penaeus															
<u>setiferus</u>	0.0	0.00	0.0	0.00	0	0.6	0.60	0.0	0.00	10	0.0	0.00	0.0	0.00	3
Sicyonia															
<u>dorsalis</u>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	10	2.0	2.00	0.0	0.00	3
Sicyonia															
<u>typica</u>	0.0	0.00	0.0	0.00	0	0.6	0.60	0.0	0.00	10	0.0	0.00	0.0	0.00	3
Syacium															
<u>gunteri</u>	0.0	0.00	0.0	0.00	0	9.0	4.02	0.1	0.06	10	30.0	13.86	0.4	0.09	3
Trichiurus															
<u>lepturus</u>	0.0	0.00	0.0	0.00	0	3.0	2.05	0.0	0.00	10	2.0	2.00	0.0	0.00	3
Cynoscion															
<u>nothus</u>	0.0	0.00	0.0	0.00	0	3.0	3.00	0.1	0.05	10	0.0	0.00	0.0	0.00	3
Selene															
<u>setapinnis</u>	0.0	0.00	0.0	0.00	0	3.0	1.84	0.0	0.00	10	0.0	0.00	0.0	0.00	3
Chloroscombrus															
<u>chrysurus</u>	0.0	0.00	0.0	0.00	0	3.0	2.41	0.0	0.03	10	0.0	0.00	0.0	0.00	3
Etropus															
<u>crossotus</u>	0.0	0.00	0.0	0.00	0	2.4	1.60	0.0	0.03	10	0.0	0.00	0.0	0.00	3
Cynoscion															
<u>arenarius</u>	0.0	0.00	0.0	0.00	0	1.2	1.20	0.1	0.08	10	0.0	0.00	0.0	0.00	3
Chaetodipterus															
<u>faber</u>	0.0	0.00	0.0	0.00	0	0.6	0.60	0.0	0.00	10	0.0	0.00	0.0	0.00	3
Squid															
	0.0	0.00	0.0	0.00	0	1.2	0.80	0.0	0.03	10	6.0	3.46	0.0	0.00	3

Table 51b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 5 fm or greater than 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	10	2.7	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	2.5	0.27	10	2.7	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	2.2	0.36	10	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	2.2	0.36	10	1.8	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	24.2	0.73	10	22.6	1.02	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	23.7	0.63	10	22.5	0.88	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	23.4	0.57	10	22.3	0.65	3	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	8.4	0.18	10	8.7	0.42	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	8.3	0.15	10	8.7	0.35	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	8.1	0.16	10	8.4	0.06	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 52a
 Statistical Zone 22
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 22 during the October-December 1988 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 in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus															
<i>gibbesii</i>	0.0	0.00	0.0	0.00	1	27.0	27.00	0.1	0.14	2	0.0	0.00	0.0	0.00	0
Penaeus															
<i>setiferus</i>	0.0	0.00	0.0	0.00	1	9.0	9.00	0.1	0.14	2	0.0	0.00	0.0	0.00	0
Arenaeus															
<i>cribrarius</i>	6.0	0.00	0.0	0.00	1	3.0	3.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Calappa															
<i>sulcata</i>	0.0	0.00	0.0	0.00	1	6.0	6.00	2.9	2.86	2	0.0	0.00	0.0	0.00	0
Xiphopenaeus															
<i>kroyeri</i>	0.0	0.00	0.0	0.00	1	3.0	3.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Selene															
<i>setapinnis</i>	0.0	0.00	0.0	0.00	1	24.0	18.00	0.1	0.14	2	0.0	0.00	0.0	0.00	0
Syacium															
<i>gunteri</i>	0.0	0.00	0.0	0.00	1	6.0	6.00	0.1	0.14	2	0.0	0.00	0.0	0.00	0
Gymnachirus															
<i>texae</i>	0.0	0.00	0.0	0.00	1	3.0	3.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Trichiurus															
<i>lepturus</i>	0.0	0.00	0.0	0.00	1	3.0	3.00	0.0	0.00	2	0.0	0.00	0.0	0.00	0
Symphurus															
<i>plagiusa</i>	0.0	0.00	0.0	0.00	1	3.0	3.00	0.1	0.14	2	0.0	0.00	0.0	0.00	0

Table 52b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	2.7	0.00	1	4.1	1.36	2	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	1	2.7	0.00	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	1	4.1	1.36	2	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	1	1.4	1.36	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface																		
temperature	21.0	0.00	1	21.3	0.30	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater																		
temperature	20.7	0.00	1	21.2	0.40	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom																		
temperature	20.7	0.00	1	21.2	0.45	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	8.4	0.00	1	8.5	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater																		
oxygen	8.4	0.00	1	8.6	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom																		
oxygen	8.5	0.00	1	8.6	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 53a
 Statistical Zone 11
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 11 during the October-December 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
sapidus	4.0	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
Sicyonia															
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
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
Larimus															
fasciatus	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
Squid	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

Table 53b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	5.5	0.00	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	22.4	0.31	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	22.6	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
Surface salinity	32.0	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
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	33.1	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
Surface chlorophyll	4.2	3.34	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	7.5	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 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	0.12	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 54a
 Statistical Zone 12
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 12 during the October-December 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Anchoa															
<u>nasuta</u>	180.0	180.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus															
<u>chrysurus</u>	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
Prionotus															
<u>tribulus</u>	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
Menticirrhus															
<u>americanus</u>	2.0	2.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid															
<u>Squid</u>	56.0	28.21	0.3	0.16	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 54b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	3.6	1.82	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 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	0.9	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	23.3	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 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	22.2	1.08	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	31.3	1.07	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	32.3	1.93	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	7.9	2.98	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	8.1	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 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	7.0	1.19	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

Table 55a
 Statistical Zone 13
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 13 during the October-December 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus															
<u>setiferus</u>	62.0	39.40	0.5	0.33	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
<u>similis</u>	36.0	24.98	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus															
<u>constrictus</u>	14.0	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
Penaeus															
<u>duorarum</u>	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															
<u>mitchilli</u>	420.0	211.31	0.5	0.31	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius															
<u>felis</u>	48.0	42.14	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Larimus															
<u>fasciatus</u>	28.0	25.06	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion															
<u>arenarius</u>	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
Symphurus															
<u>plagiusa</u>	12.0	9.17	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sphoeroides															
<u>parvus</u>	10.0	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
Menticirrhus															
<u>americanus</u>	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
Trichiurus															
<u>lepturus</u>	4.0	4.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid															
<u></u>	188.0	164.33	0.6	0.64	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 55b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	7.3	1.82	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 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	0.9	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	26.0	1.76	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	27.0	1.76	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	30.2	0.93	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	31.0	1.00	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 chlorophyll	6.3	0.65	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	0.07	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	6.8	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

Table 56a
 Statistical Zone 14
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 14 during the October-December 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	203.0	147.82	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
similis	38.0	28.84	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	22.0	11.66	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	19.0	7.81	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Xanthidae															
	14.0	14.00	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
sapidus	10.0	7.85	0.3	0.27	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
nasuta	201.0	201.00	0.2	0.23	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
mitchilli	178.0	71.74	0.2	0.09	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus															
plagiusa	24.0	15.41	0.3	0.17	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Larimus															
fasciatus	14.0	7.85	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion															
arenarius	9.0	4.02	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sphoeroides															
parvus	9.0	4.58	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etropus															
crossotus	8.0	3.69	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius															
felis	8.0	4.00	0.1	0.06	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	75.0	28.00	0.2	0.08	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 56b
 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 1988 SRAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total																		
catch kg	6.4	0.91	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	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																		
crustacean 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
Total																		
others kg	0.0	0.00	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	23.2	1.20	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	22.7	1.27	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	28.6	1.69	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	30.3	1.44	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	3.4	0.39	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	7.8	0.30	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	7.2	0.10	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 57a
 Statistical Zone 16
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 16 during the October-December 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus															
spp.	56.8	39.45	0.0	0.05	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sicyonia															
dorsalis	48.7	24.33	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	24.3	21.25	0.1	0.10	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus															
setiferus	5.2	3.02	0.0	0.03	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla															
spp.	4.4	4.44	0.1	0.10	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes															
sapidus	2.1	2.08	0.3	0.28	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
mitchilli	7.1	7.08	0.0	0.02	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Porichthys															
plectrodon	10.6	6.44	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	8.7	4.33	0.0	0.05	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus															
plagiusa	6.7	6.67	0.1	0.07	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Larimus															
fasciatus	4.2	4.21	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sphoeroides															
parvus	2.5	1.32	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	2.2	2.22	0.0	0.03	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Syacium															
gunteri	1.5	1.48	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid															
	9.1	3.92	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 57b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	2.4	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
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	0.7	0.36	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
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	23.0	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																		
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	22.5	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
Surface																		
salinity	28.4	3.05	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	28.4	3.02	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	2.8	1.67	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																		
chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom																		
chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface																		
oxygen	7.2	0.03	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	6.6	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

Table 58a
 Statistical Zone 17
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the October-December 1988 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 in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes															
similis	108.0	93.40	0.5	0.24	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus															
spp.	54.0	54.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus															
setiferus	42.0	12.00	0.3	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squilla															
spp.	36.0	12.49	0.4	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Xiphopenaeus															
kroyeri	14.0	8.72	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	10.0	7.21	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion															
arenarius	42.0	21.63	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa															
mitchilli	36.0	21.07	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	30.0	27.06	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Caranx															
hippos	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
Symphurus															
plagiusa	14.0	7.21	0.2	0.09	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
Peprilus															
burti	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
Syngnathus															
louisianae	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
Squid	202.0	169.01	0.4	0.24	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 58b
 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 1988 SEAMAP Shrimp and Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 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	30.0	15.98	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
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	0.9	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 others kg	10.0	6.36	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
Surface temperature	23.4	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
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	23.4	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	30.6	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 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	28.9	1.76	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	3.5	0.86	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	6.9	0.49	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	6.9	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

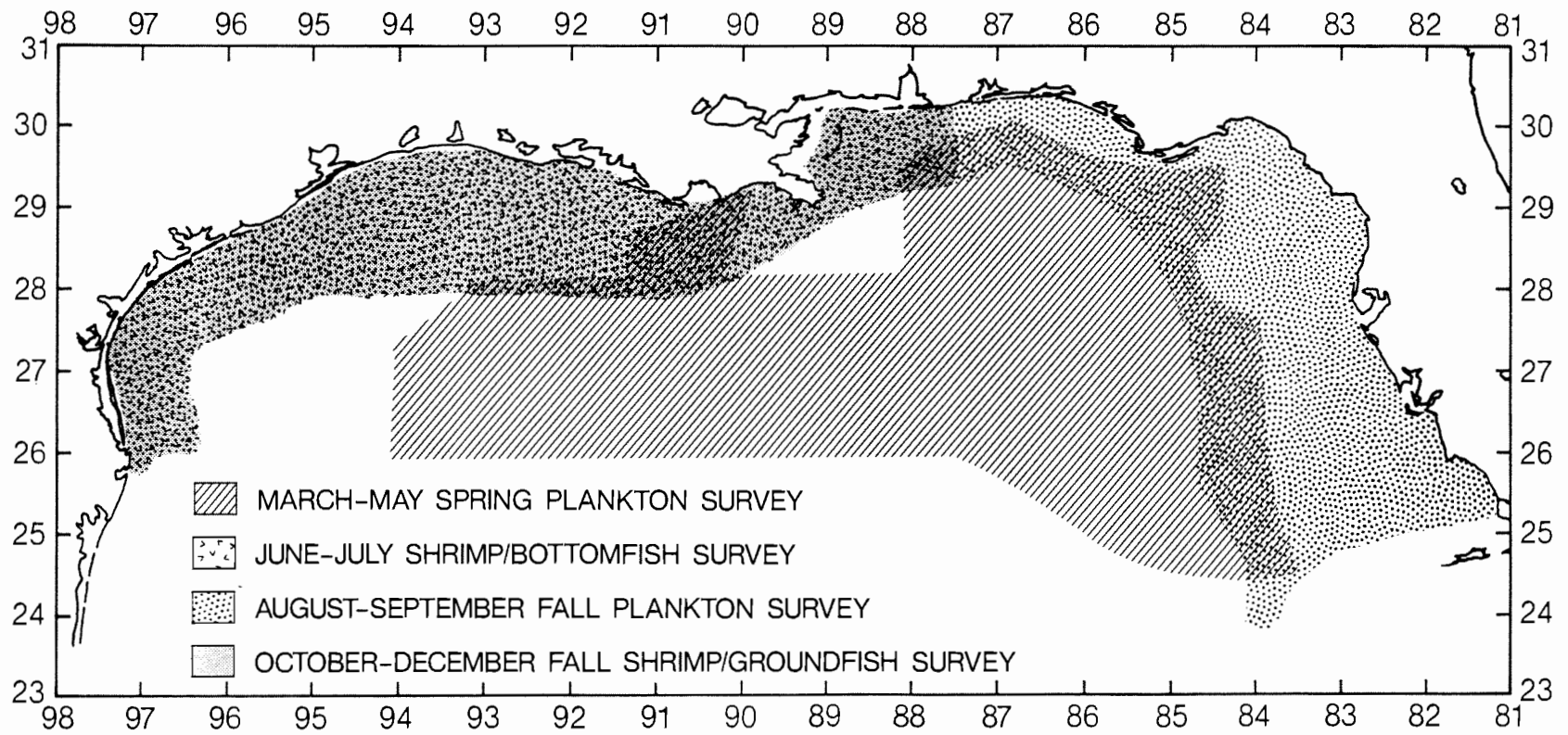


Figure 1. 1988 SEAMAP Surveys, Gulf of Mexico.

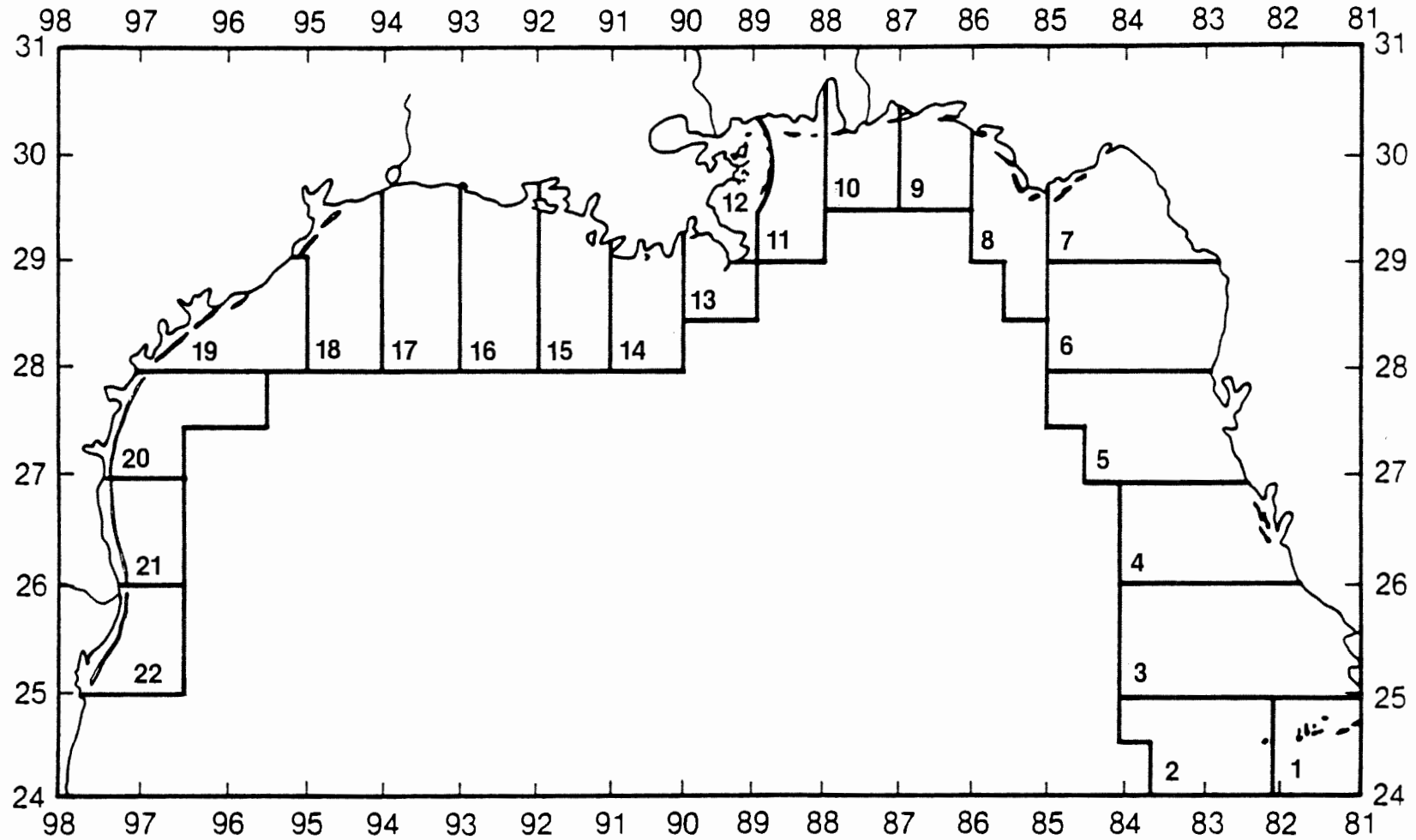


Figure 2. Statistical zones for shrimp in the Gulf of Mexico.

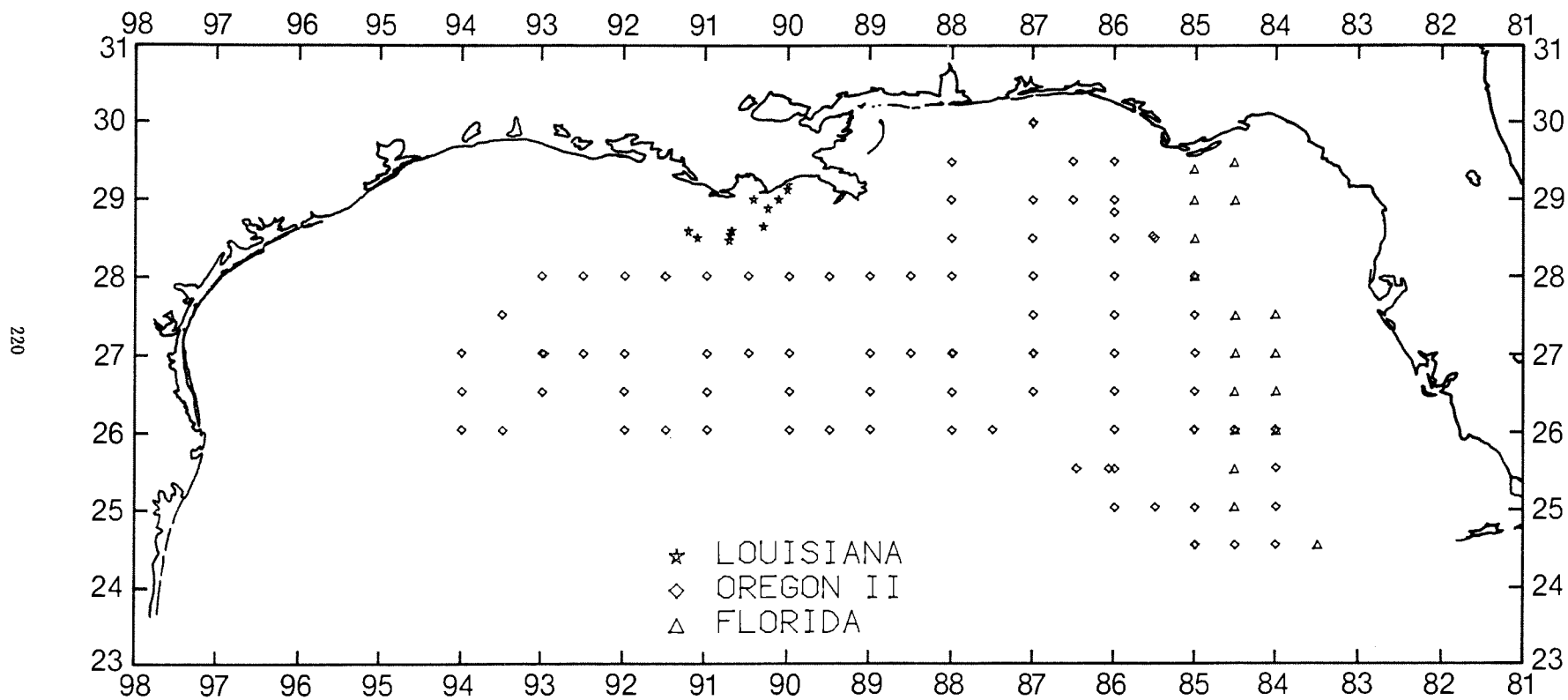


Figure 3. Locations of plankton and environmental stations during SEAMAP offshore plankton survey, March-May 1988.

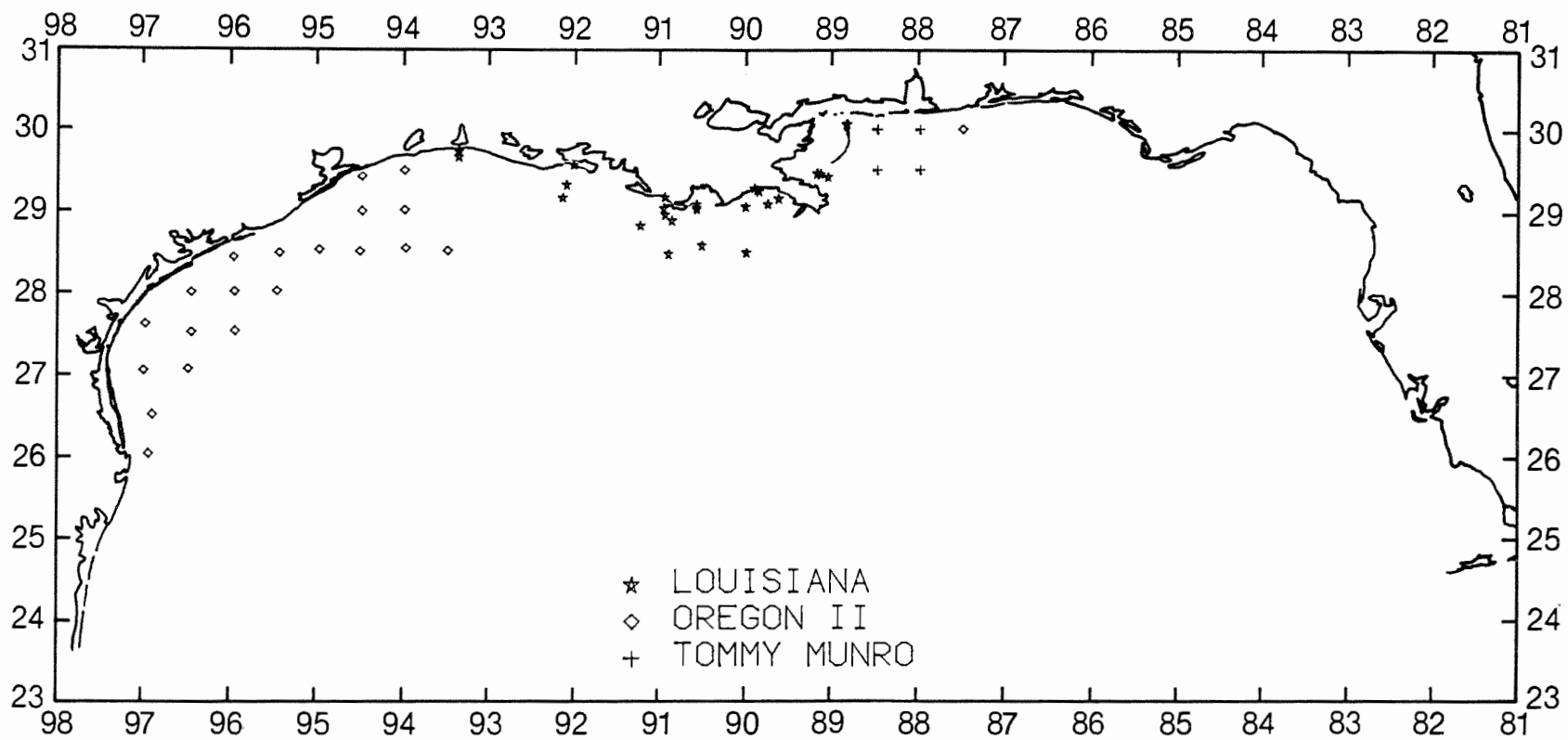


Figure 4. Locations of plankton stations during SEAMAP Summer Shrimp/Bottomfish Survey, June-July 1988.

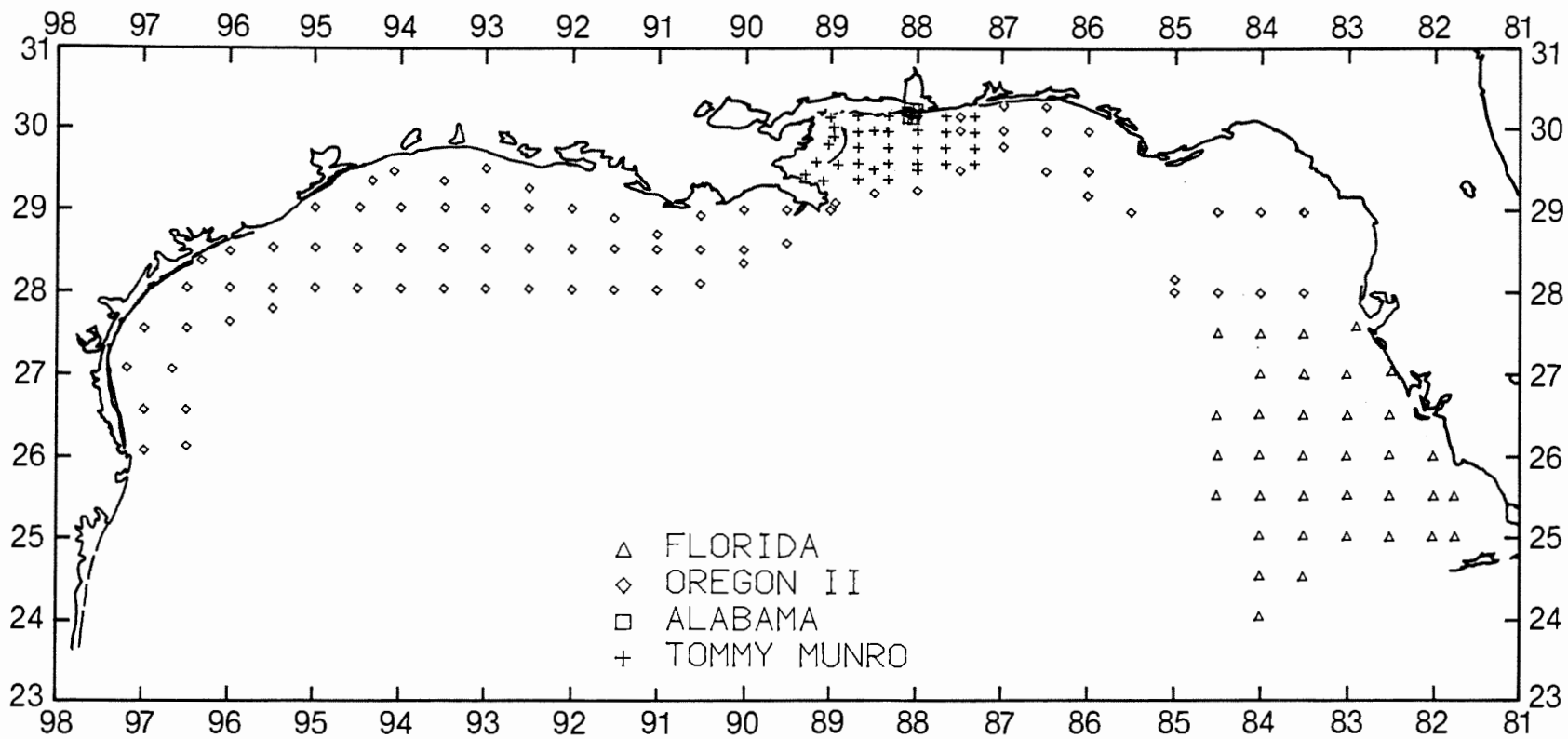


Figure 5. Locations of plankton and environmental stations during SEAMAP Fall Plankton Survey, August-September 1988.

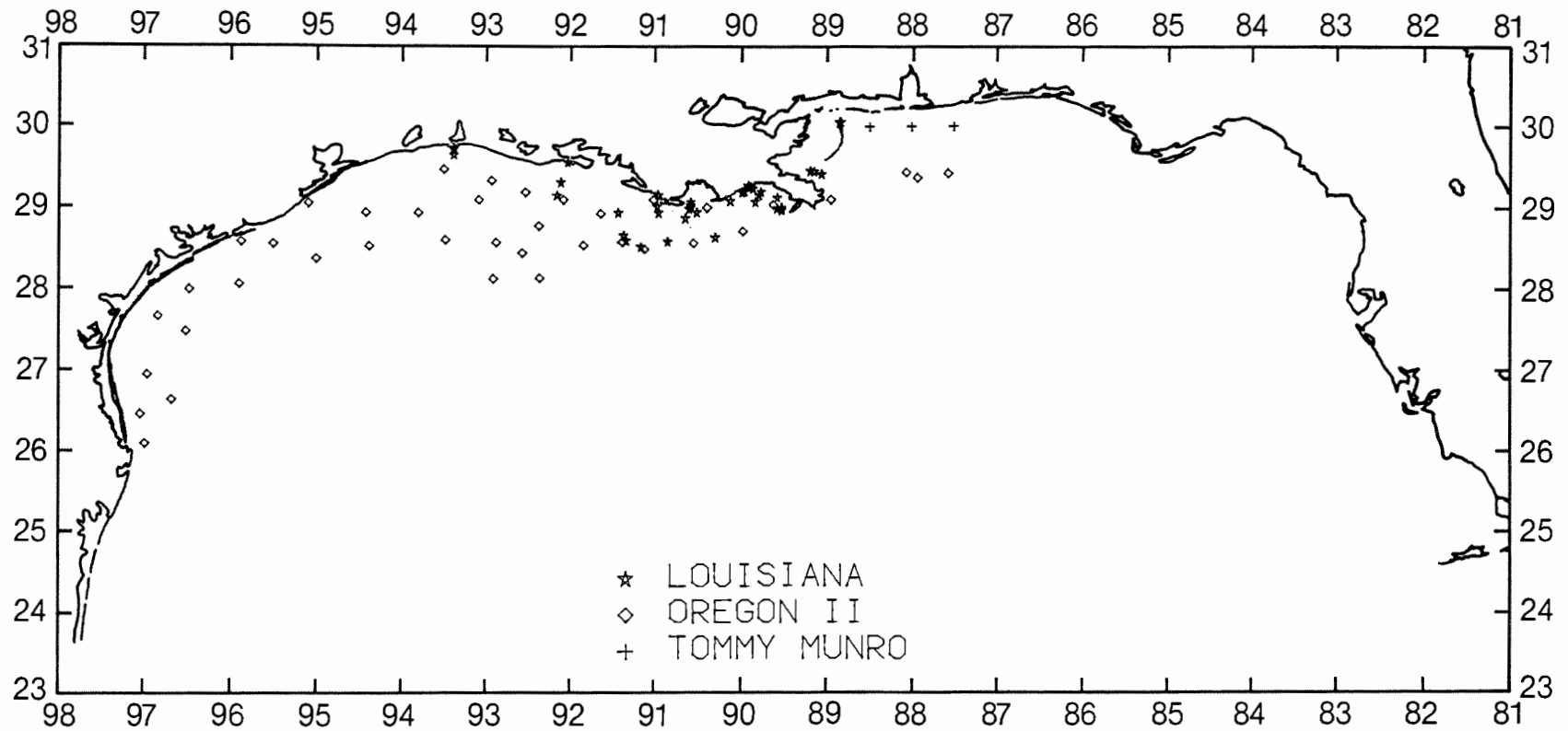


Figure 6. Locations of plankton stations during SEAMAP Fall Shrimp/Groundfish Survey, October-December 1988.

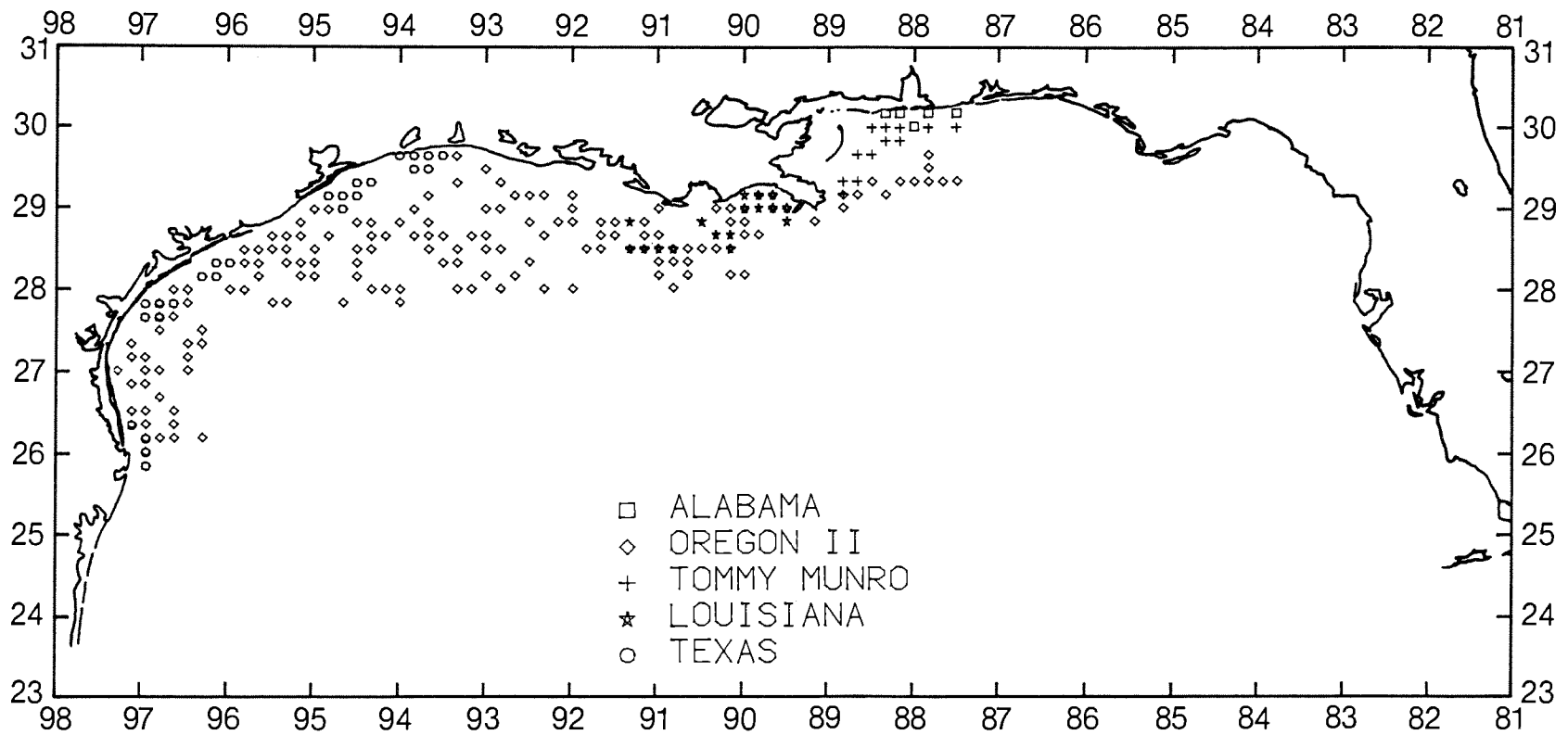


Figure 7. Locations of SEAMAP Summer Shrimp/Bottomfish environmental stations, summarized by 10-minute squares, June-July 1988.

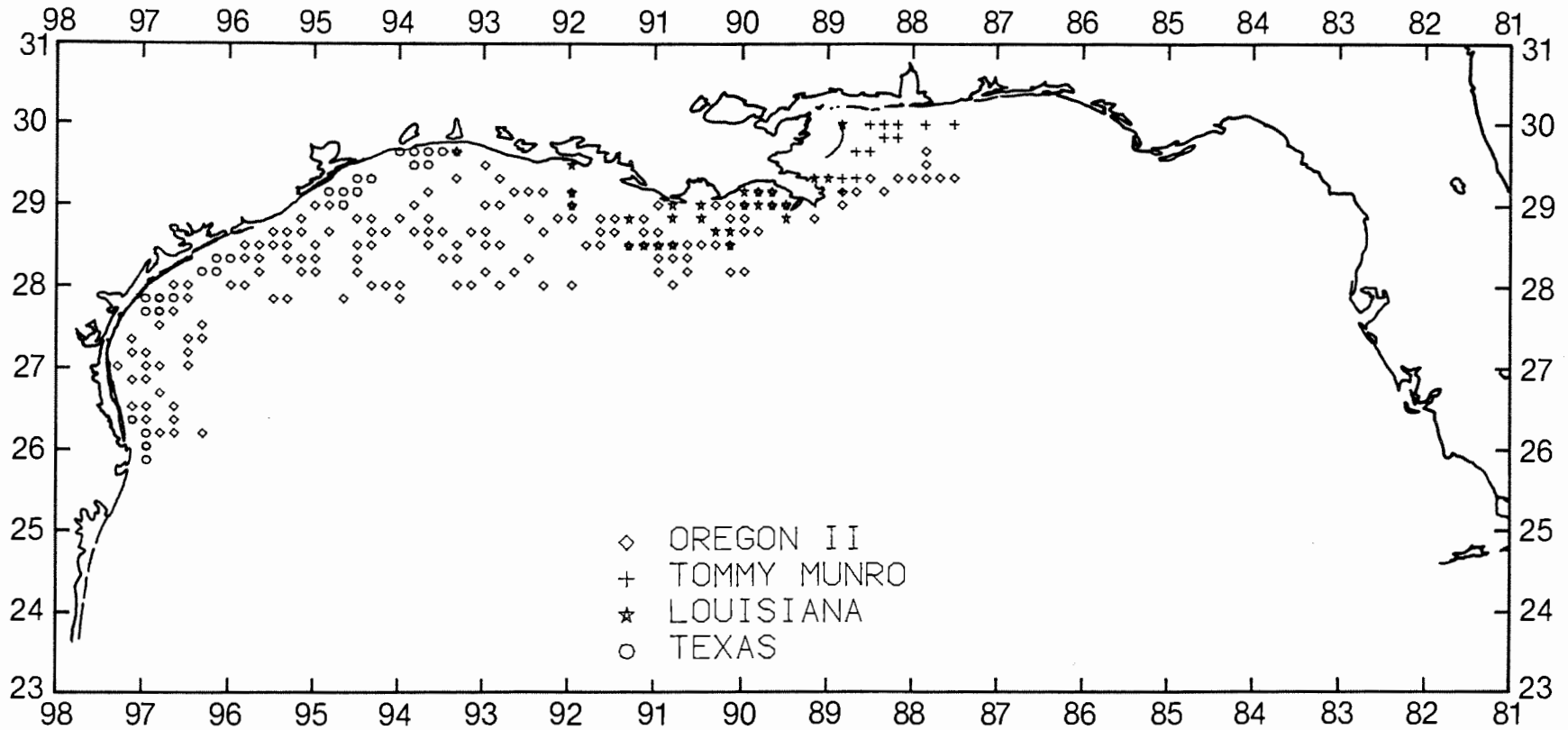


Figure 8. Locations of SEAMAP Fall Shrimp/Groundfish Survey environmental stations, summarized by 10-minute squares, October-December 1988.

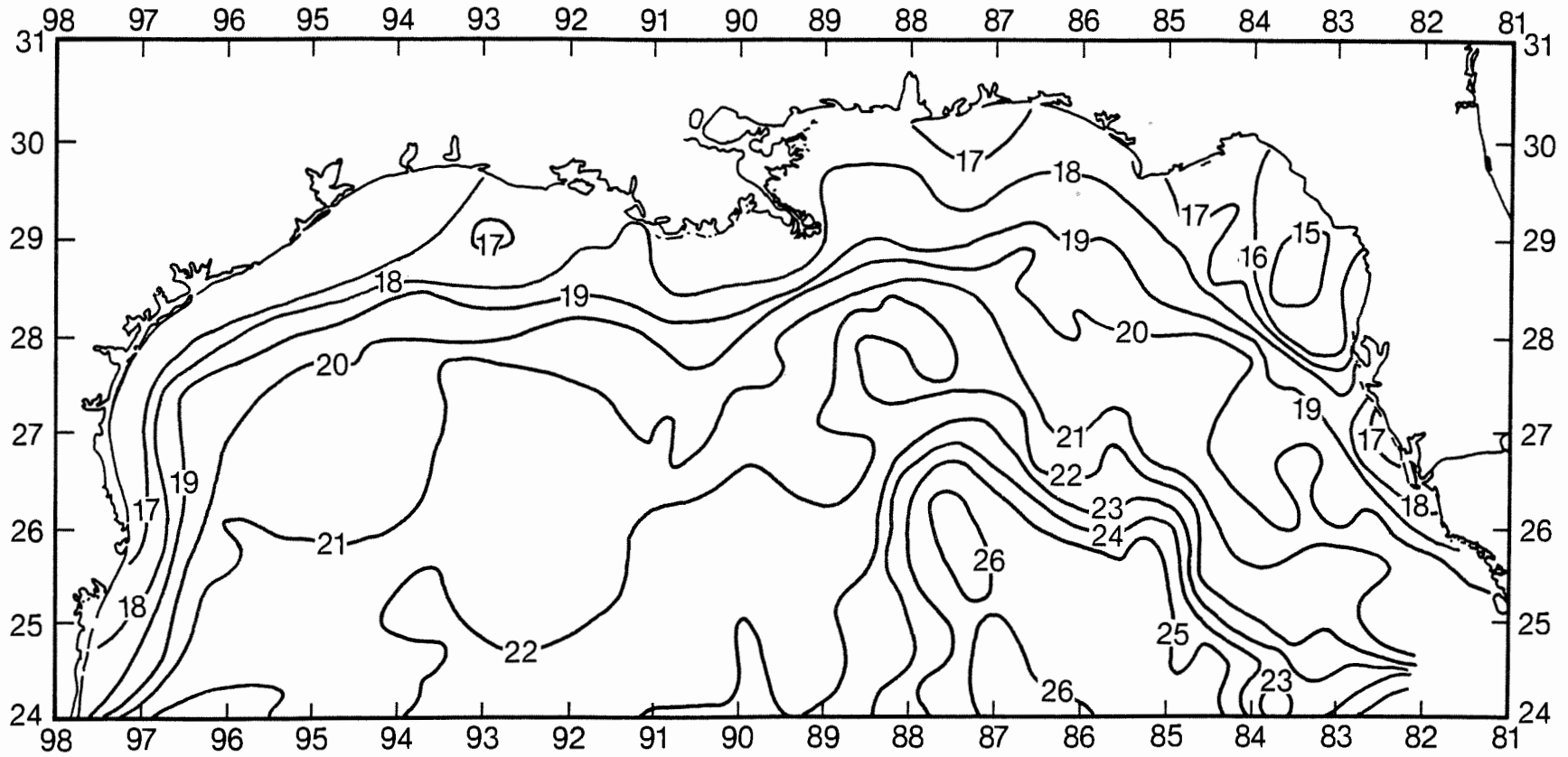


Figure 9. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the Gulf of Mexico, March 12, 1988 (modified from NWS/NESS Sea Surface Thermal Analysis).

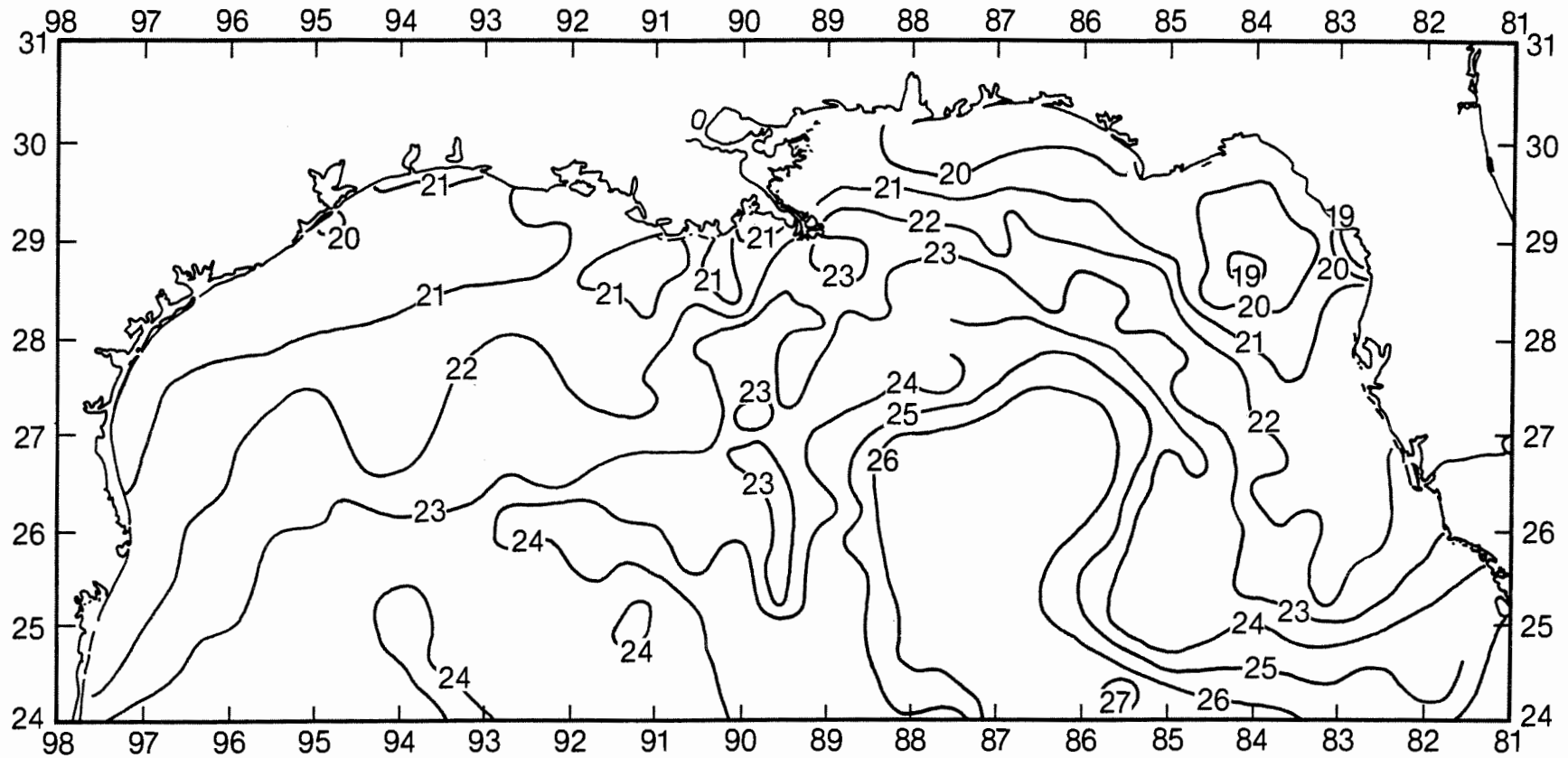


Figure 10. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the Gulf of Mexico, April 16, 1988 (modified from NWS/NRSS Sea Surface Thermal Analysis).

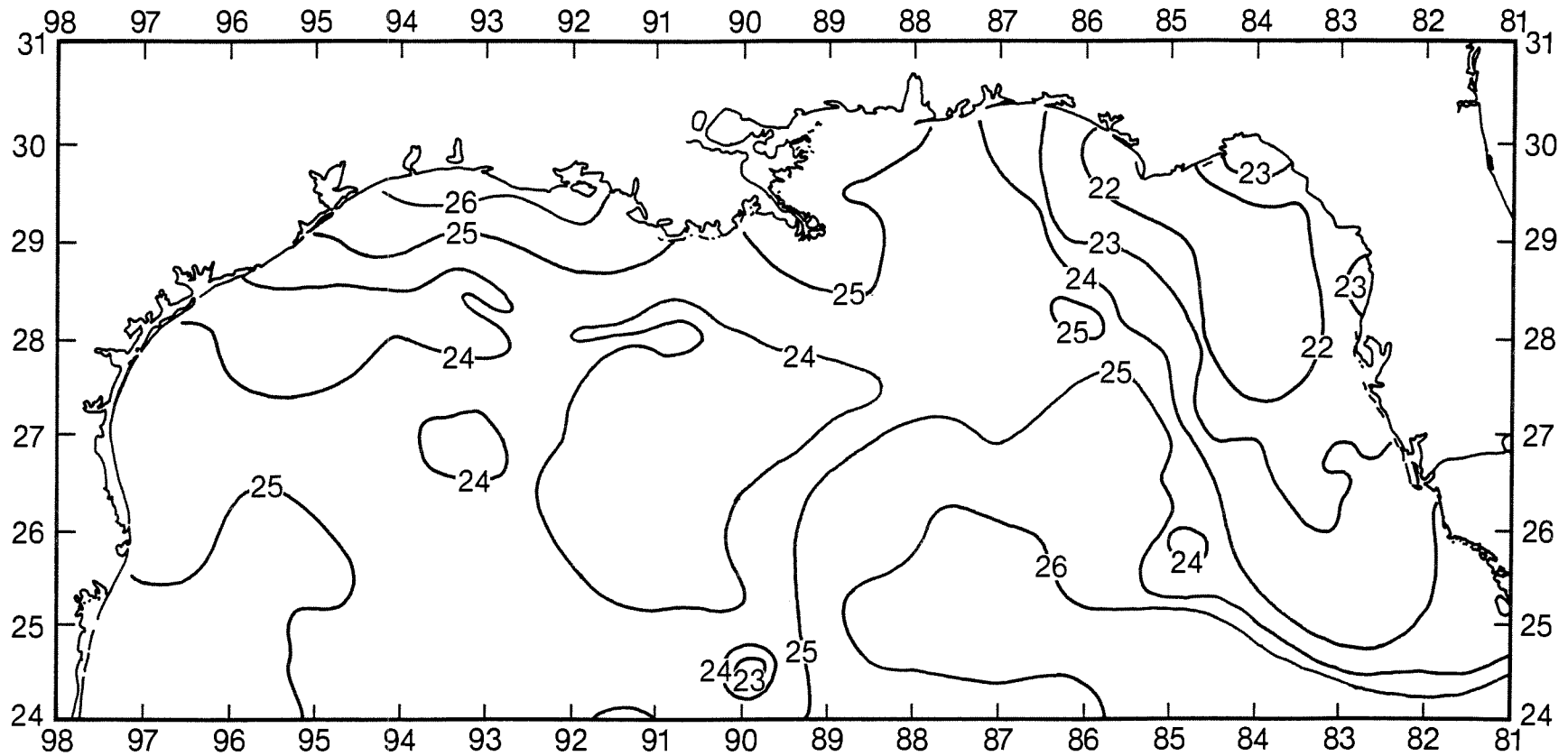


Figure 11. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the Gulf of Mexico, May 14, 1988 (modified from NWS/NESS Sea Surface Thermal Analysis).

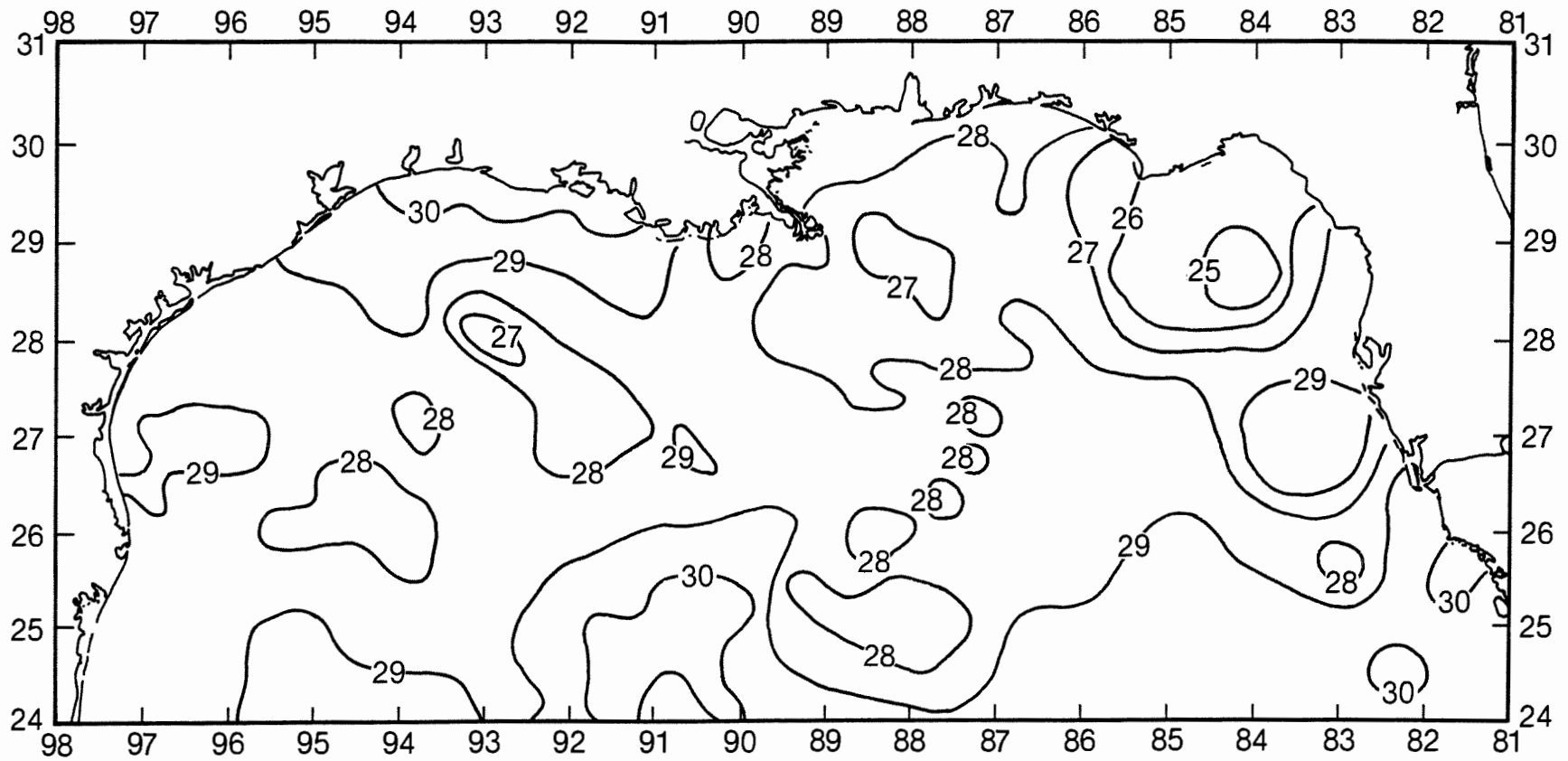


Figure 13. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the Gulf of Mexico, July 13, 1988 (modified from NWS/NESS Sea Surface Thermal Analysis).

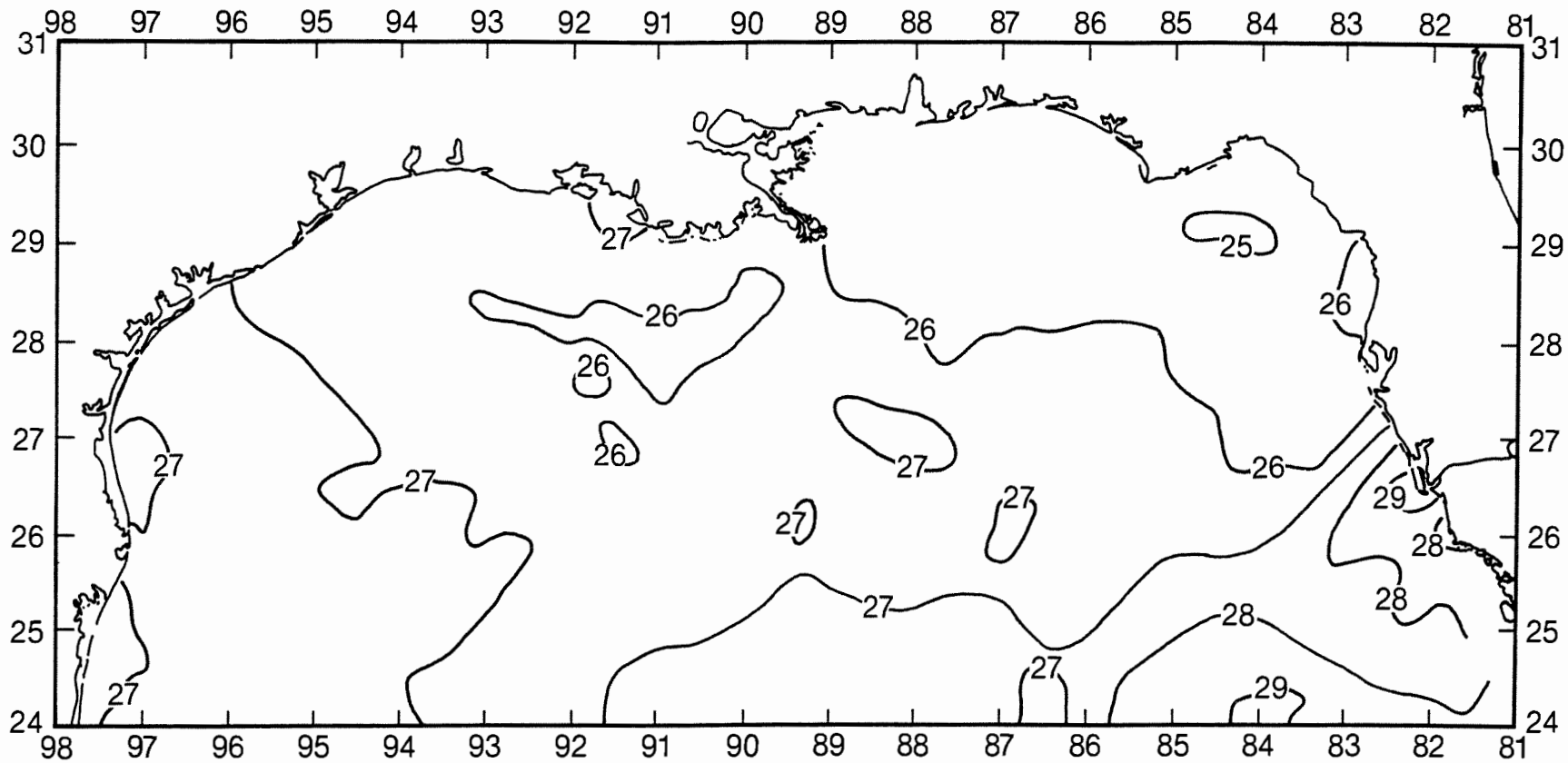


Figure 12. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the Gulf of Mexico, June 11, 1988 (modified from NWS/NESS Sea Surface Thermal Analysis).

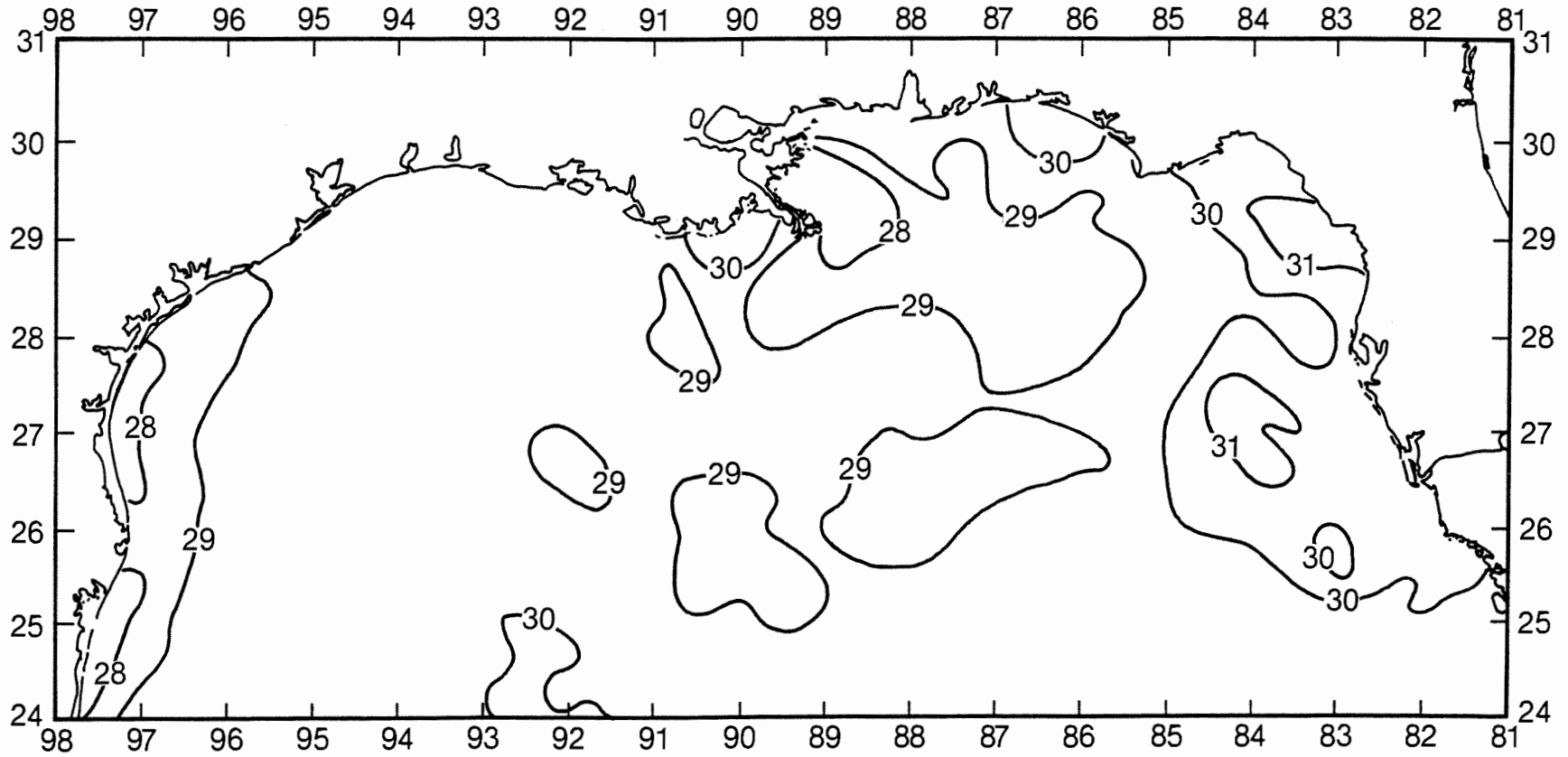


Figure 14. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the Gulf of Mexico, August 13, 1988 (modified from NWS/NESS Sea Surface Thermal Analysis).

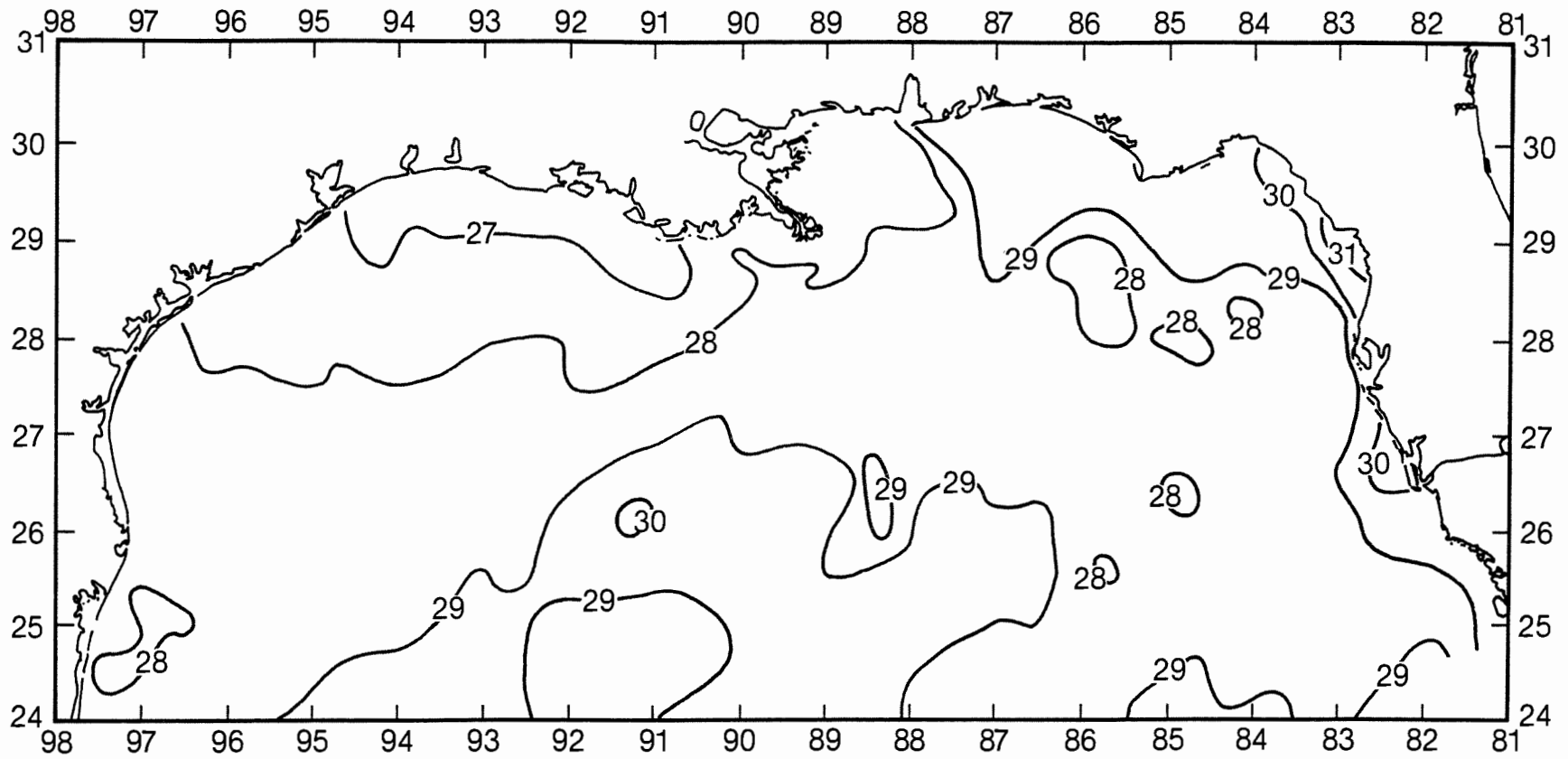


Figure 15. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the Gulf of Mexico, September 10, 1988 (modified from NWS/NESS Sea Surface Thermal Analysis).

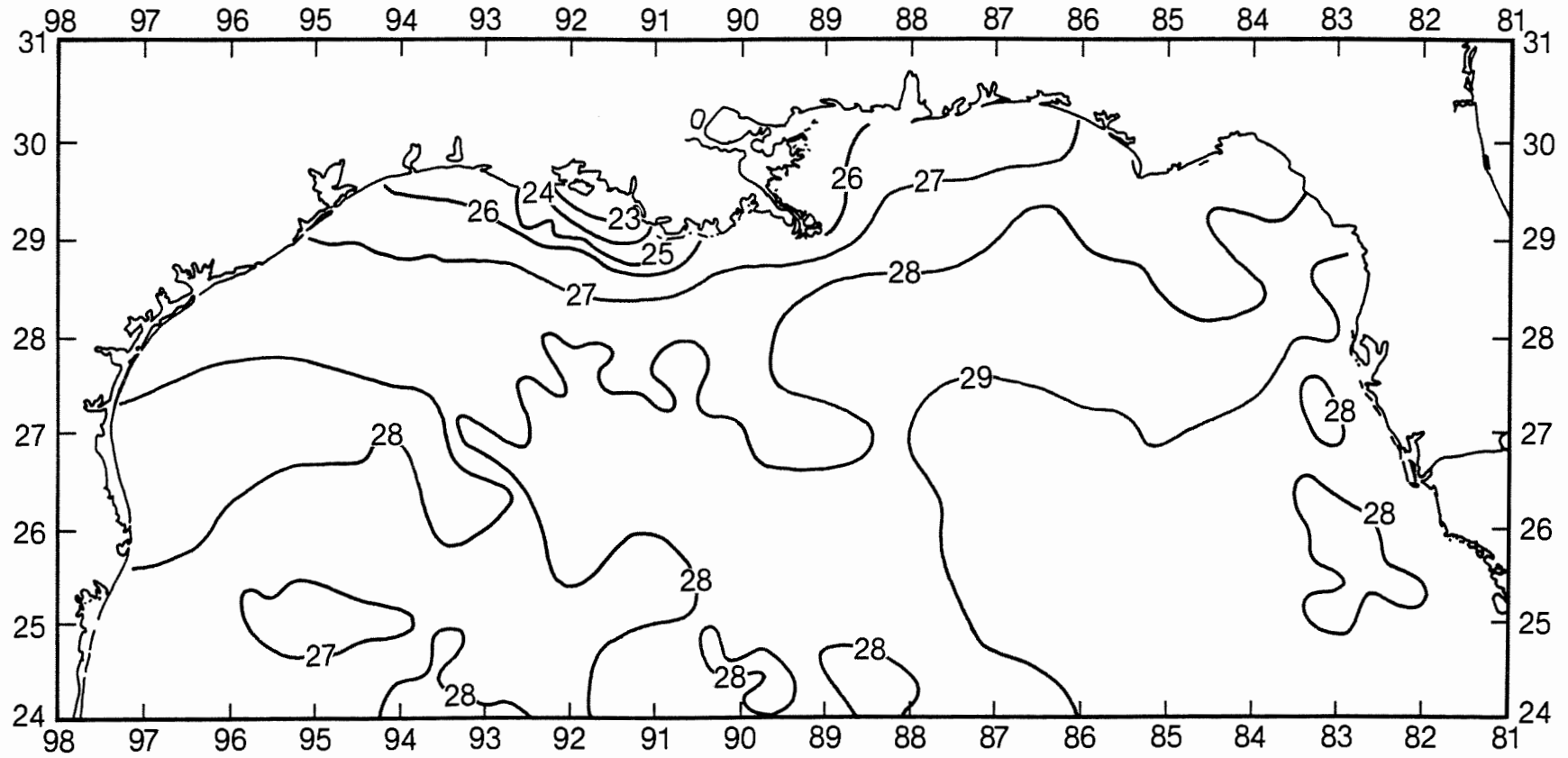


Figure 16. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the Gulf of Mexico, October 8, 1988 (modified from NWS/NESS Sea Surface Thermal Analysis).

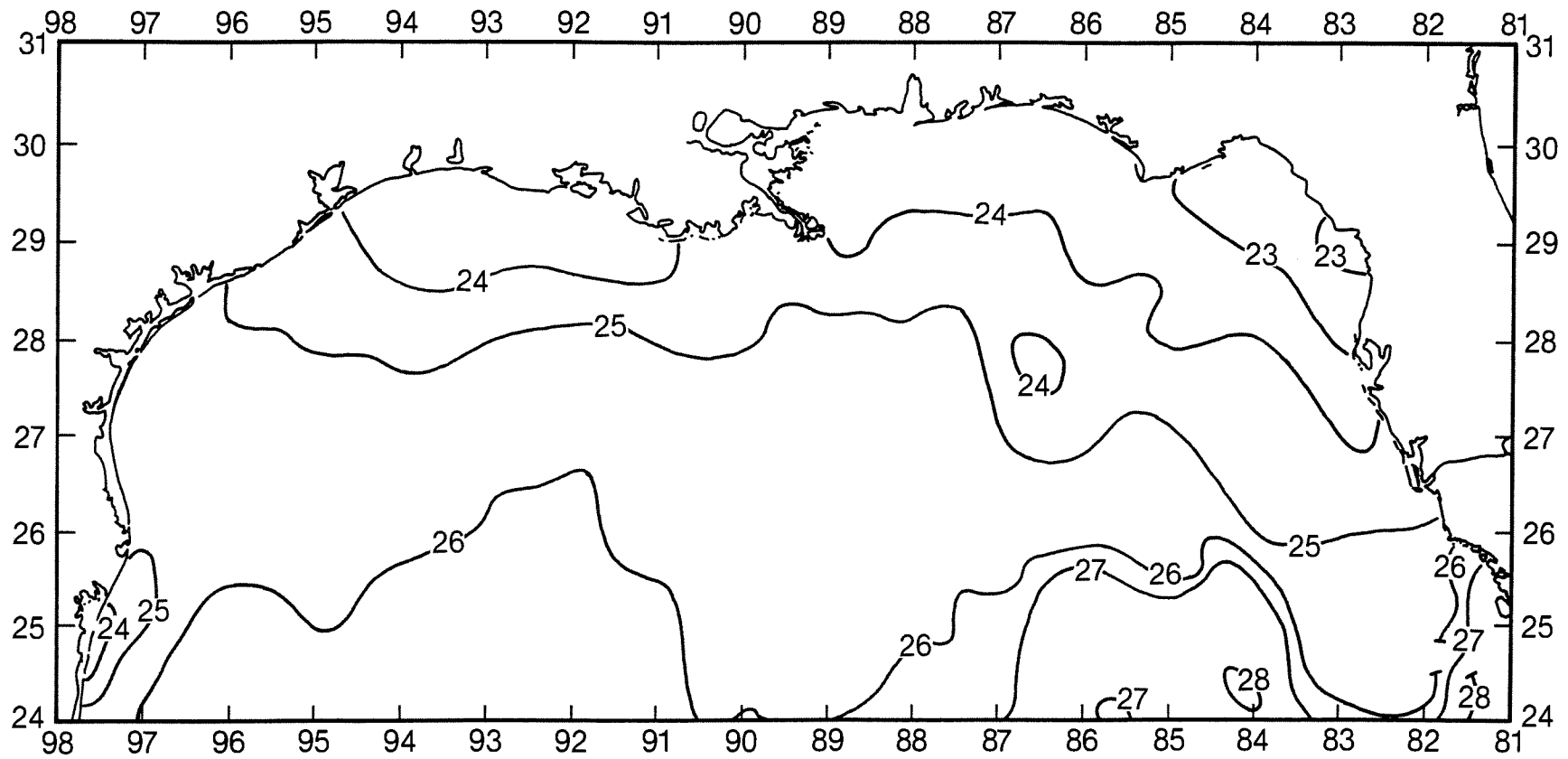


Figure 17. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the Gulf of Mexico, November 15, 1988 (modified from NWS/NESS Sea Surface Thermal Analysis).

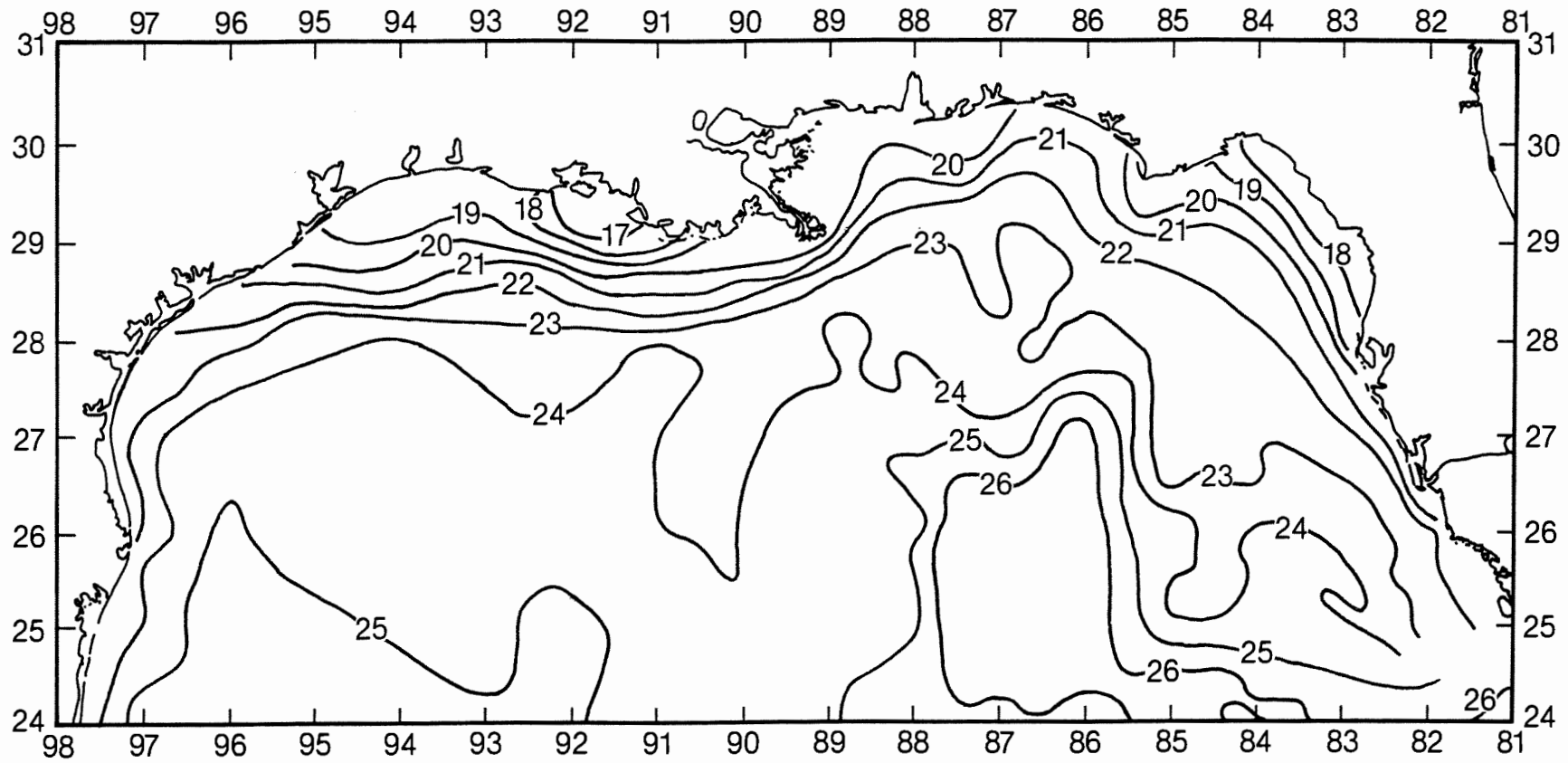


Figure 18. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the Gulf of Mexico, December 10, 1988 (modified from NWS/NESS Sea Surface Thermal Analysis).

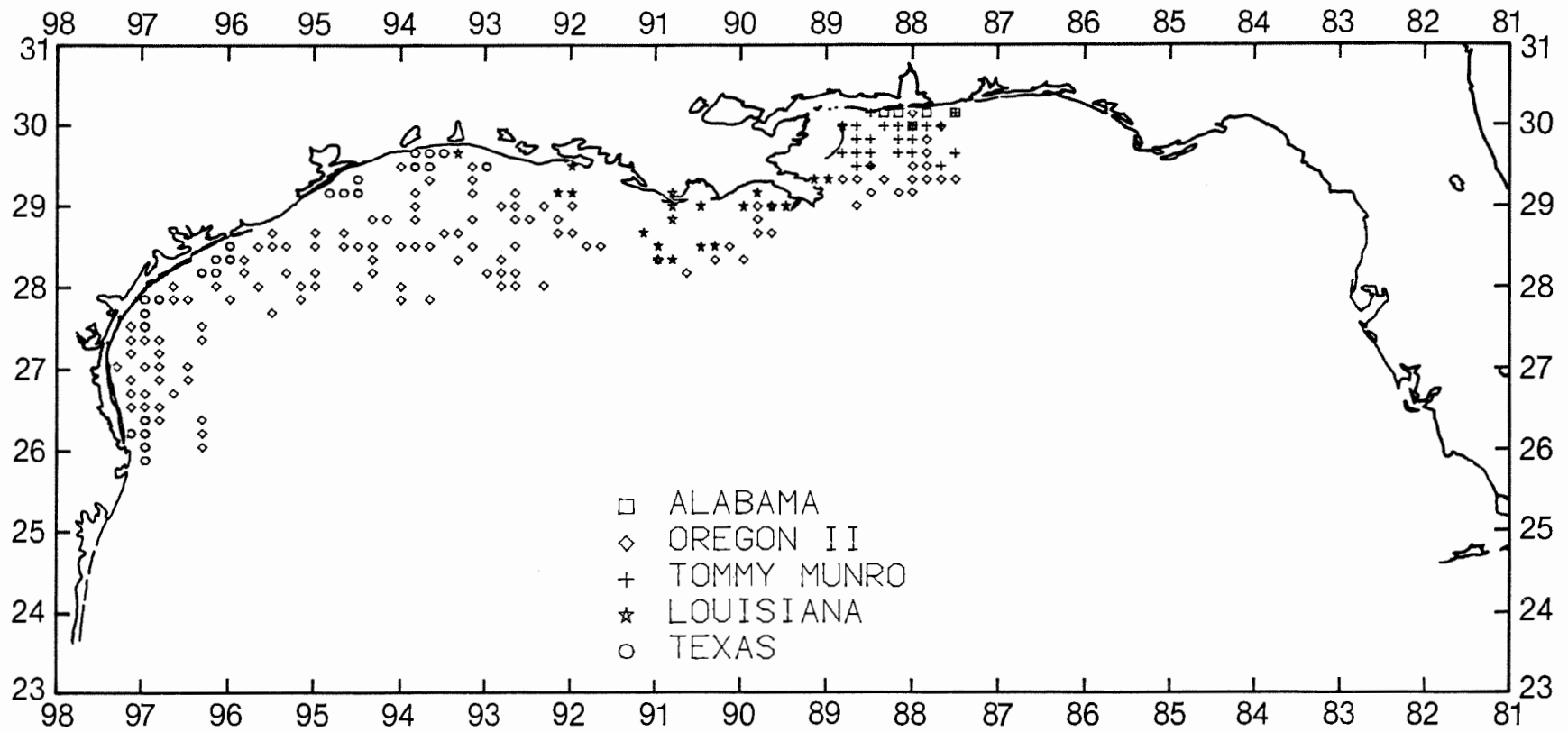


Figure 19. Locations of SEAMAP Summer Shrimp/Bottomfish trawl stations, summarized by 10-minute squares, June-July 1988.

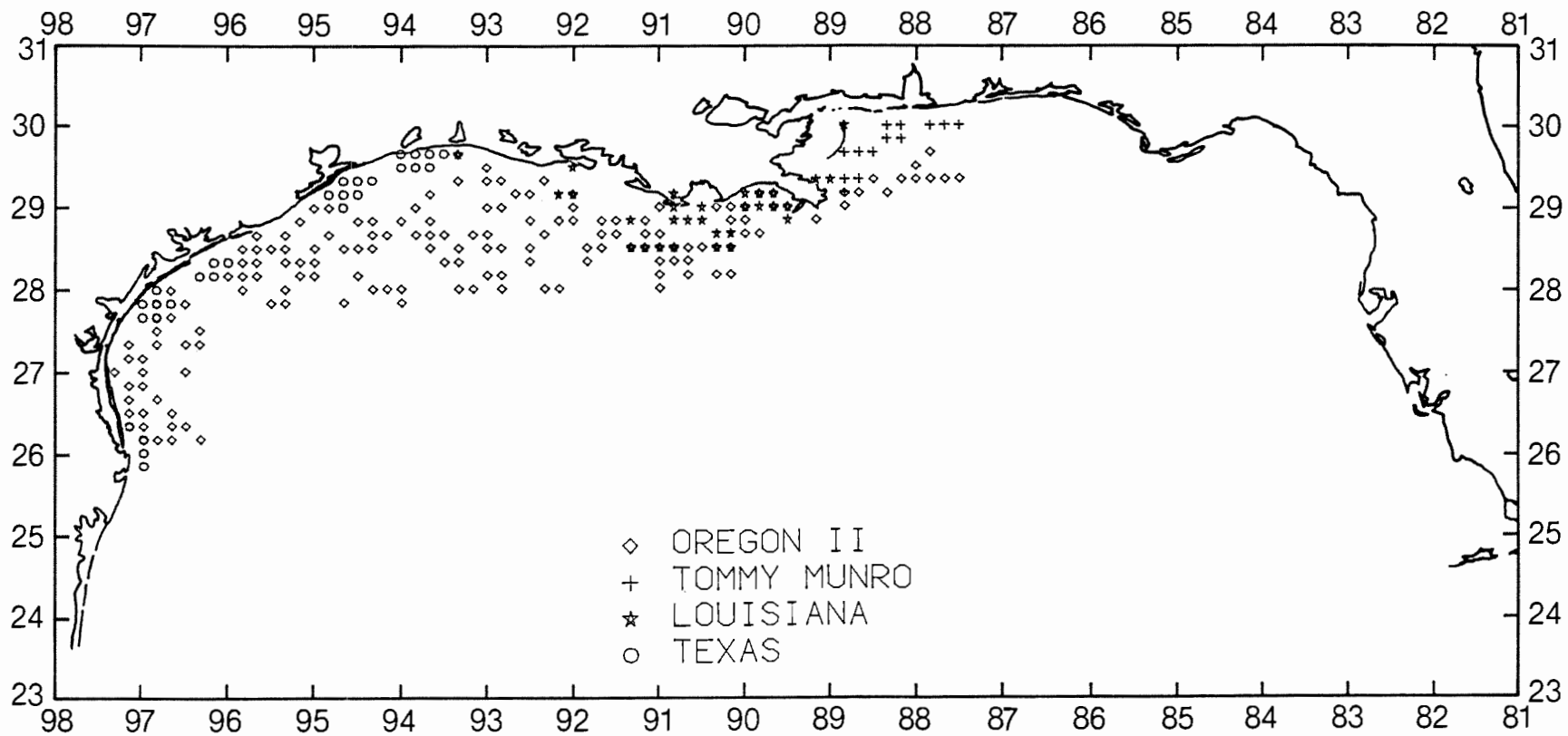


Figure 20. Locations of SEAMAP Fall Shrimp/Groundfish trawl stations, summarized by 10-minute squares, October-December 1988.

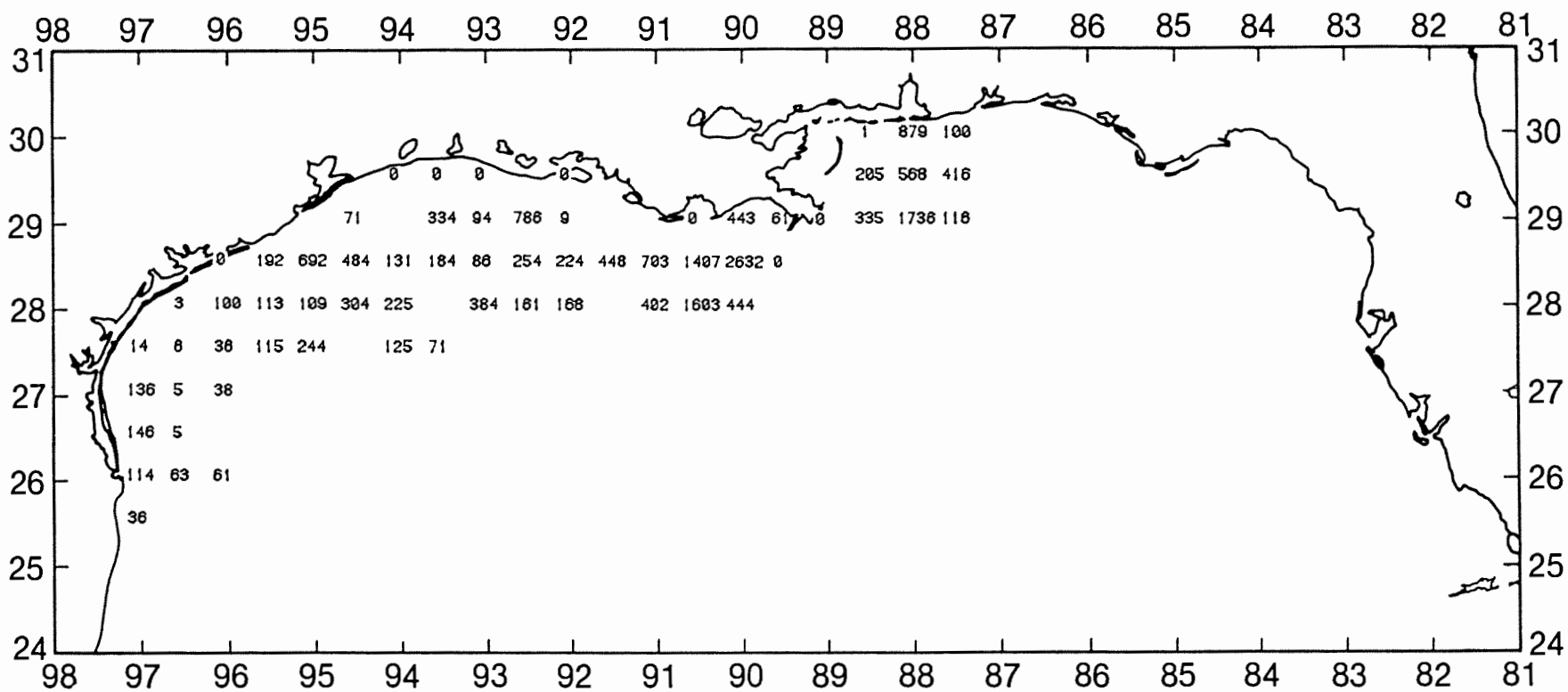


Figure 21. Longspine pogy, *Stenotomus caprinus*, number/hour for June-July 1988.

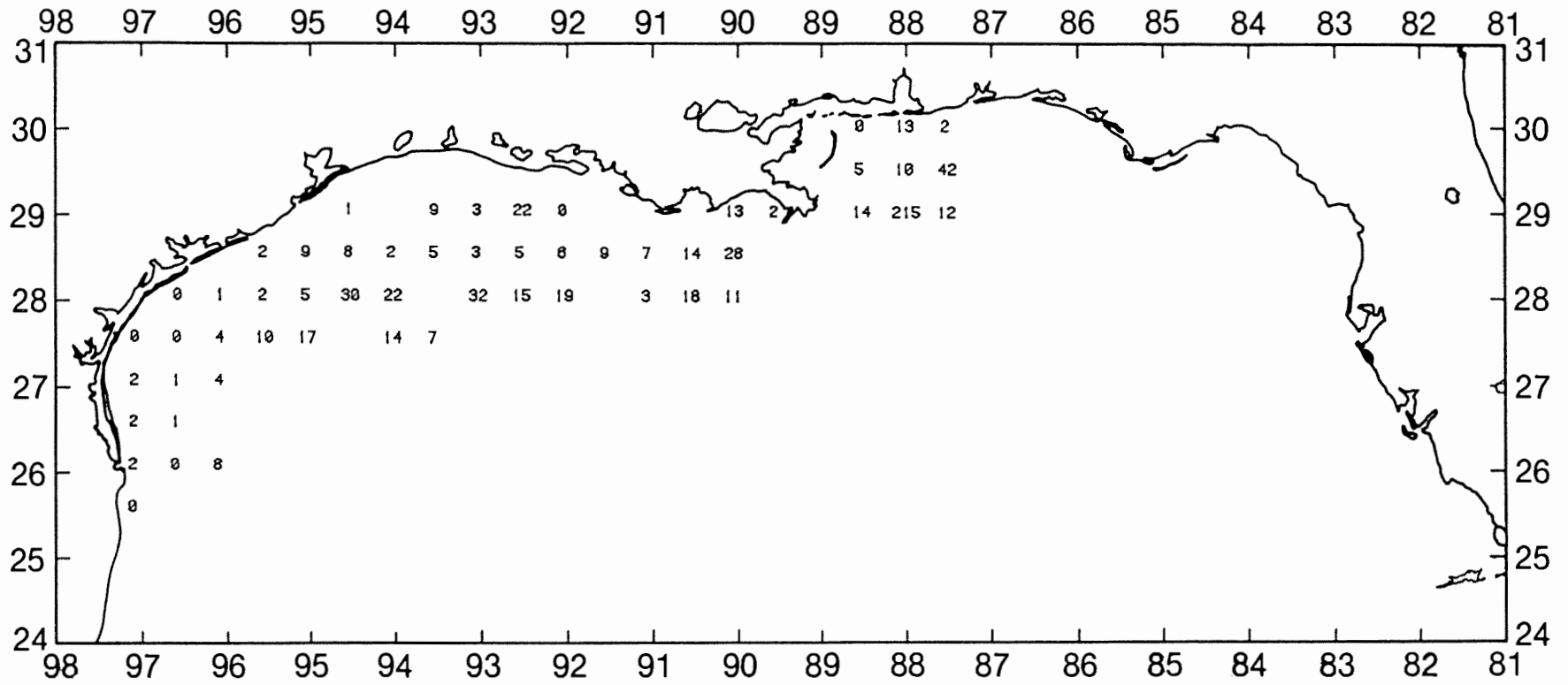


Figure 22. Longspine pogy, *Stenotomus caprinus*, lb/hour for June-July 1988.

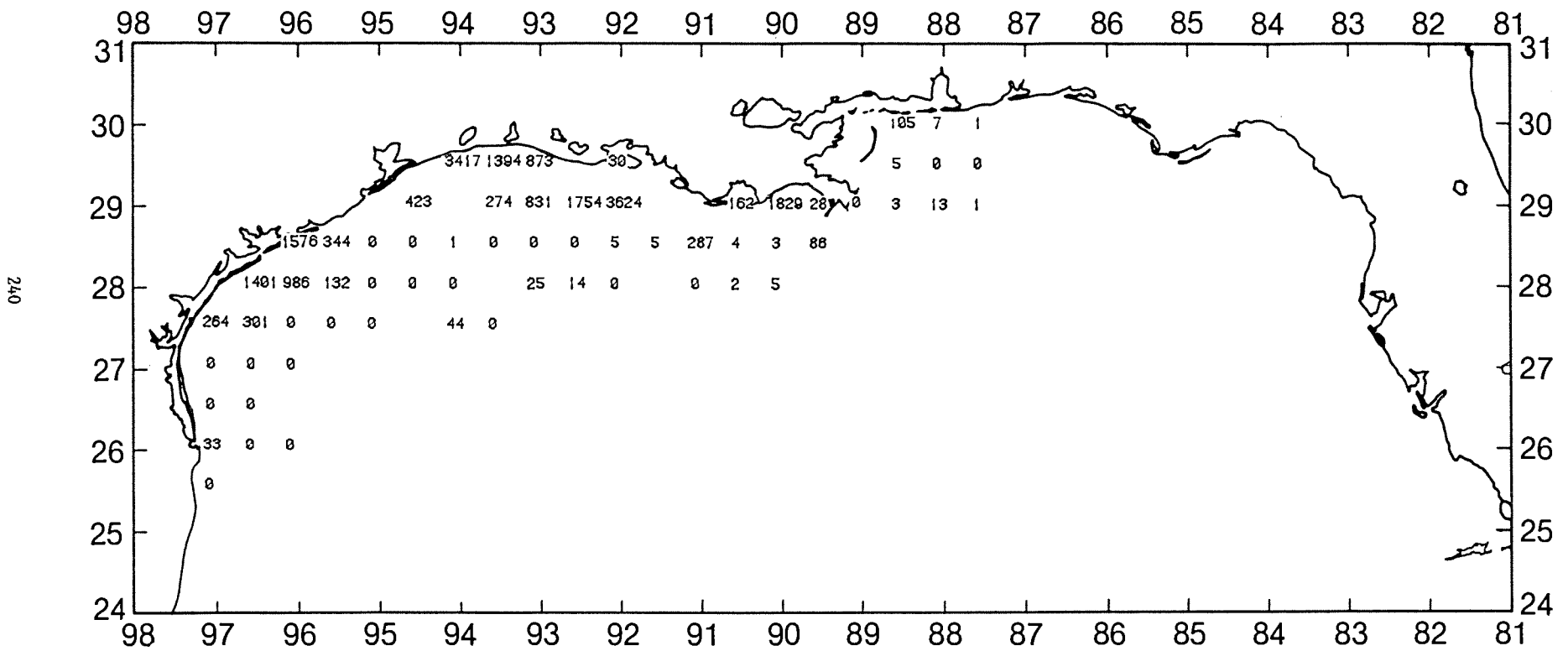


Figure 23. Atlantic croaker, *Microponogonias undulatus*, number/hour for June-July 1988.

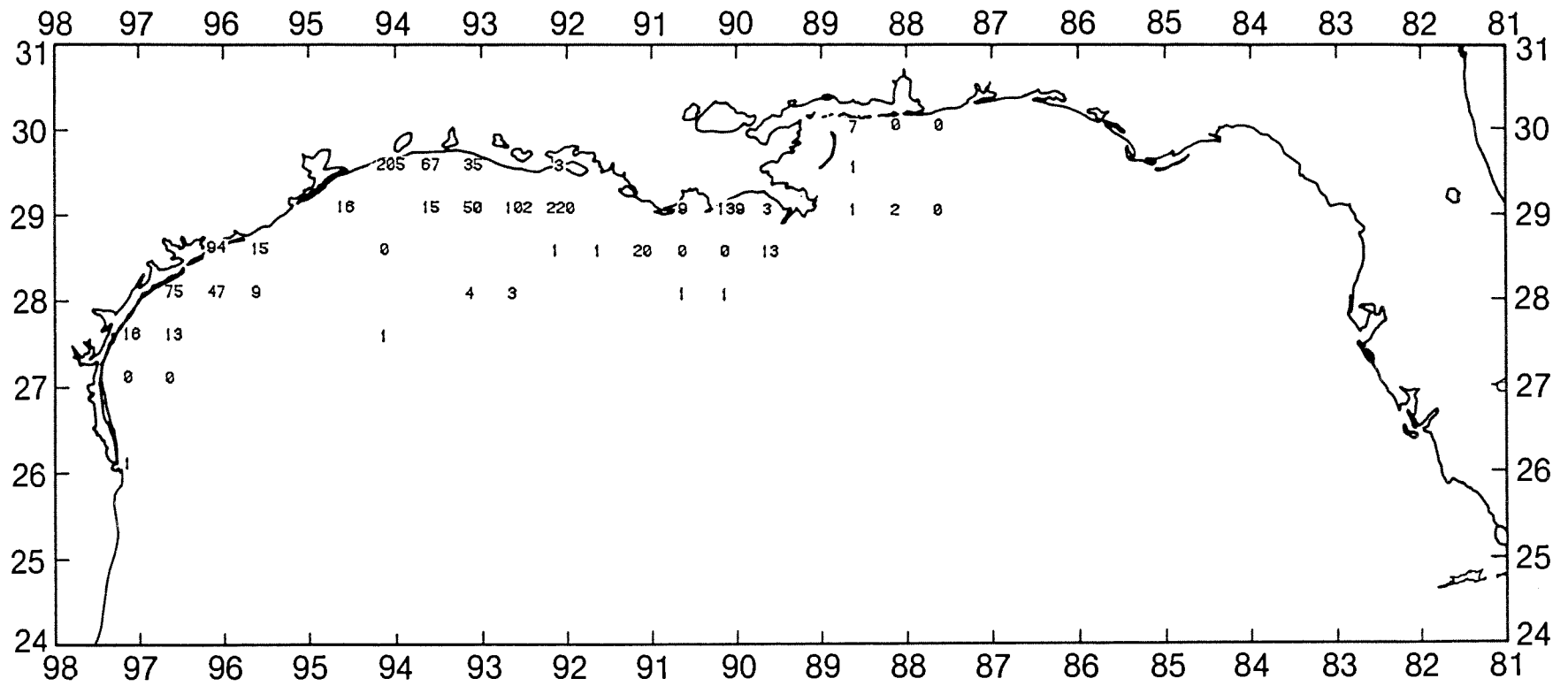


Figure 24. Atlantic croaker, *Micropogonias undulatus*, lb/hour for June-July 1988.

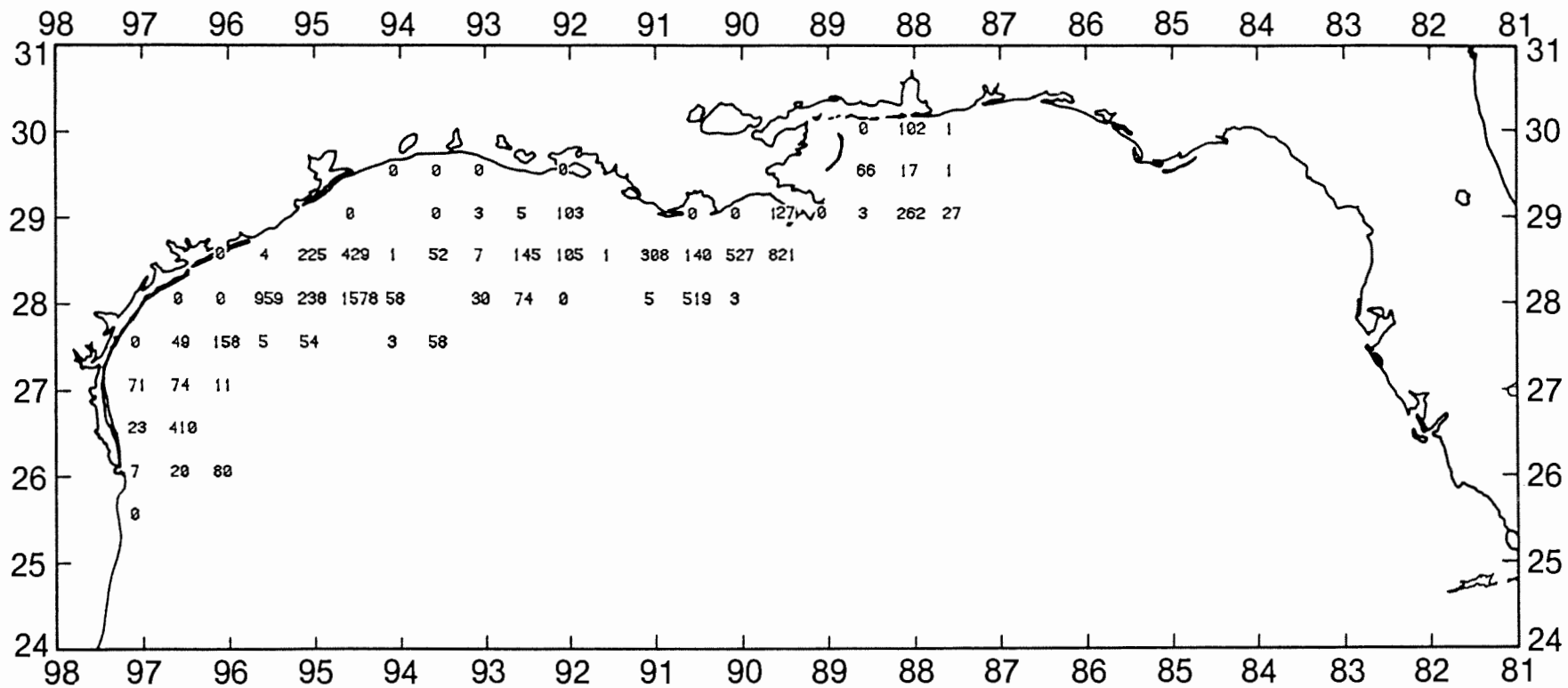


Figure 25. Rough scad, *Trachurus lathami*, number/hour for June-July 1988.

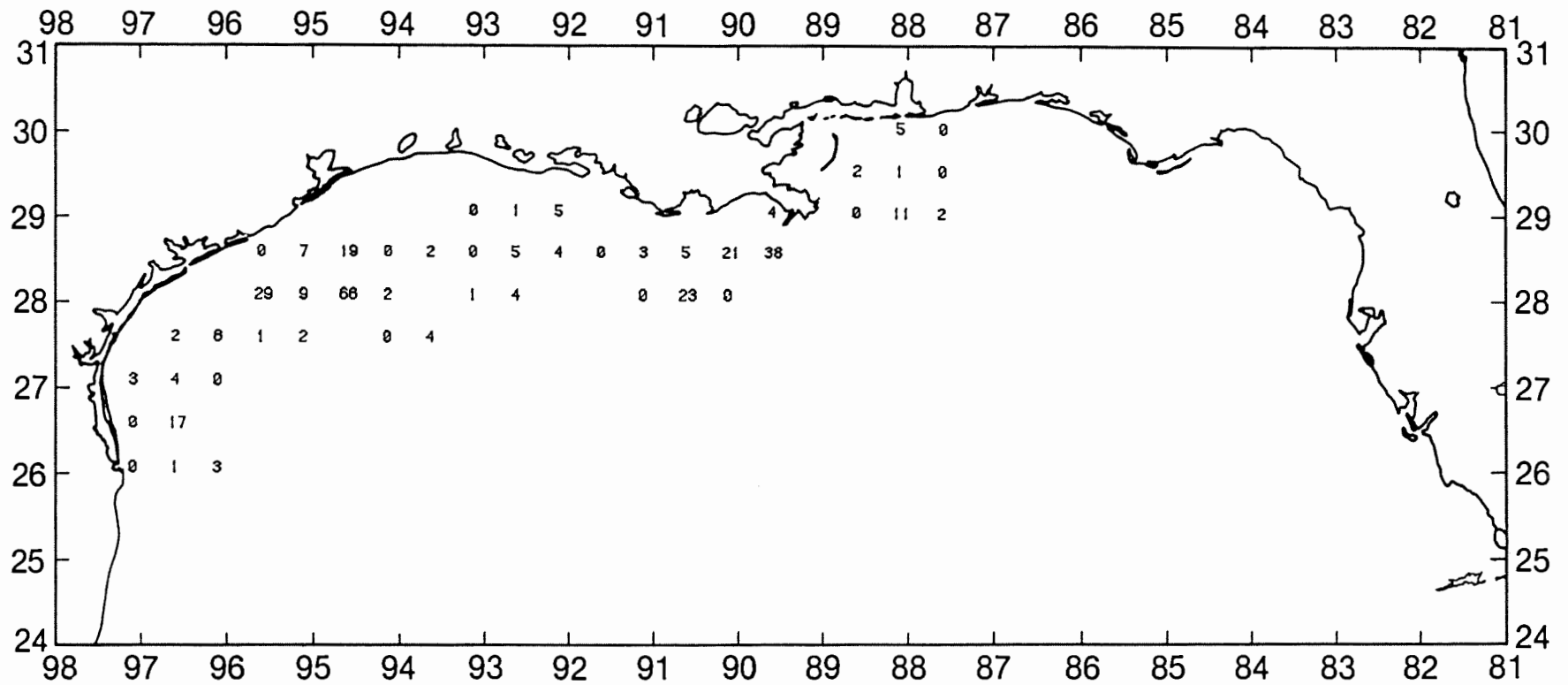


Figure 26. Rough scad, *Trachurus lathami*, lb/hour for June-July 1988.

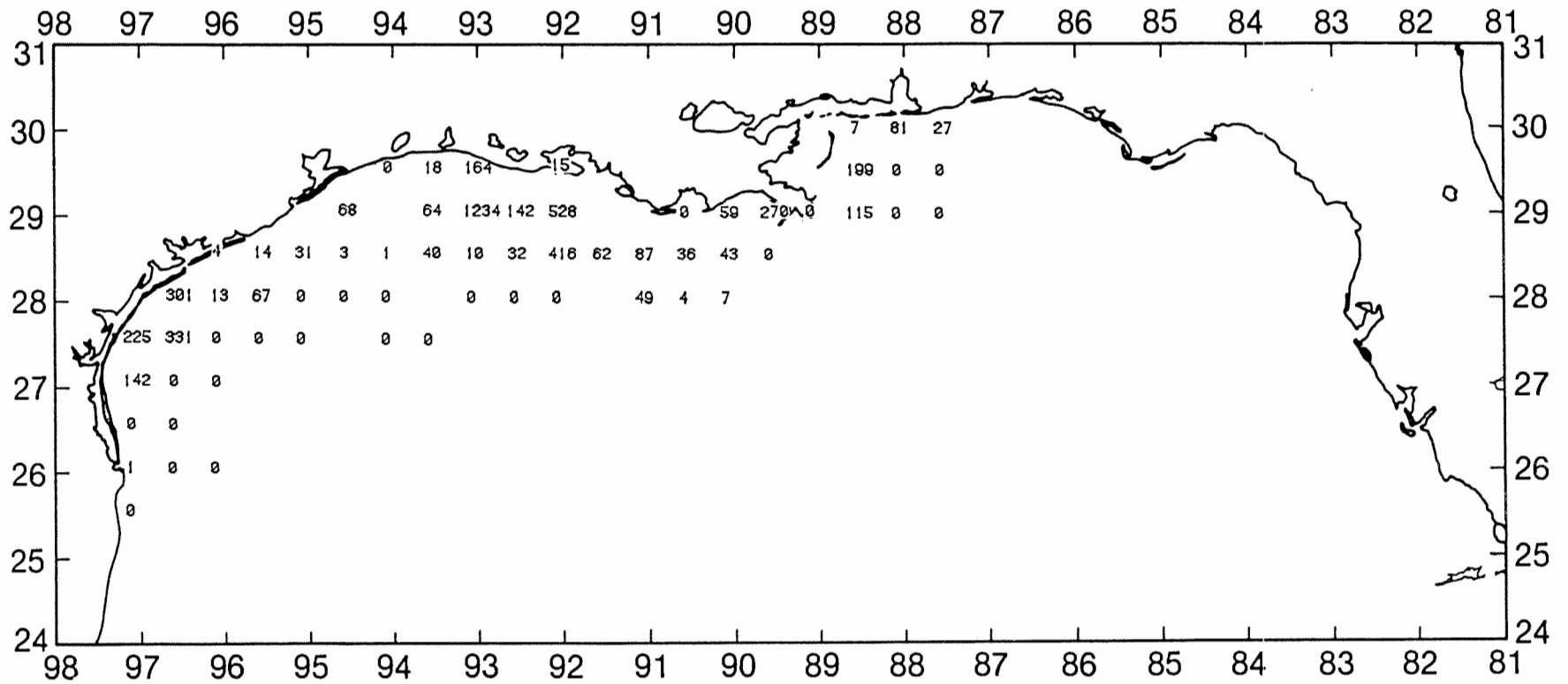


Figure 27. Atlantic bumper, *Chloroscombrus chrysurus*, number/hour for June-July 1988.

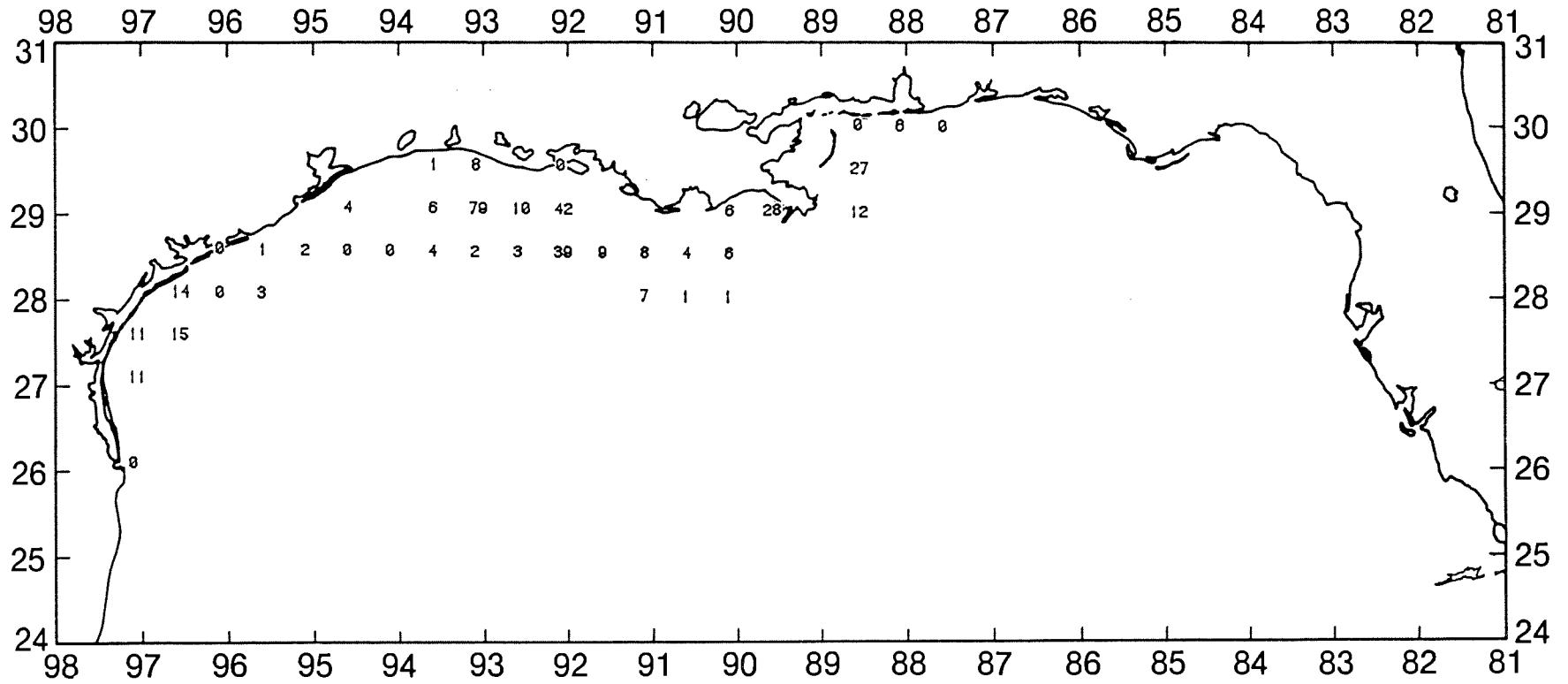


Figure 28. Atlantic bumper, *Chloroscombus chrysurus*, lb/hour for June-July 1988.

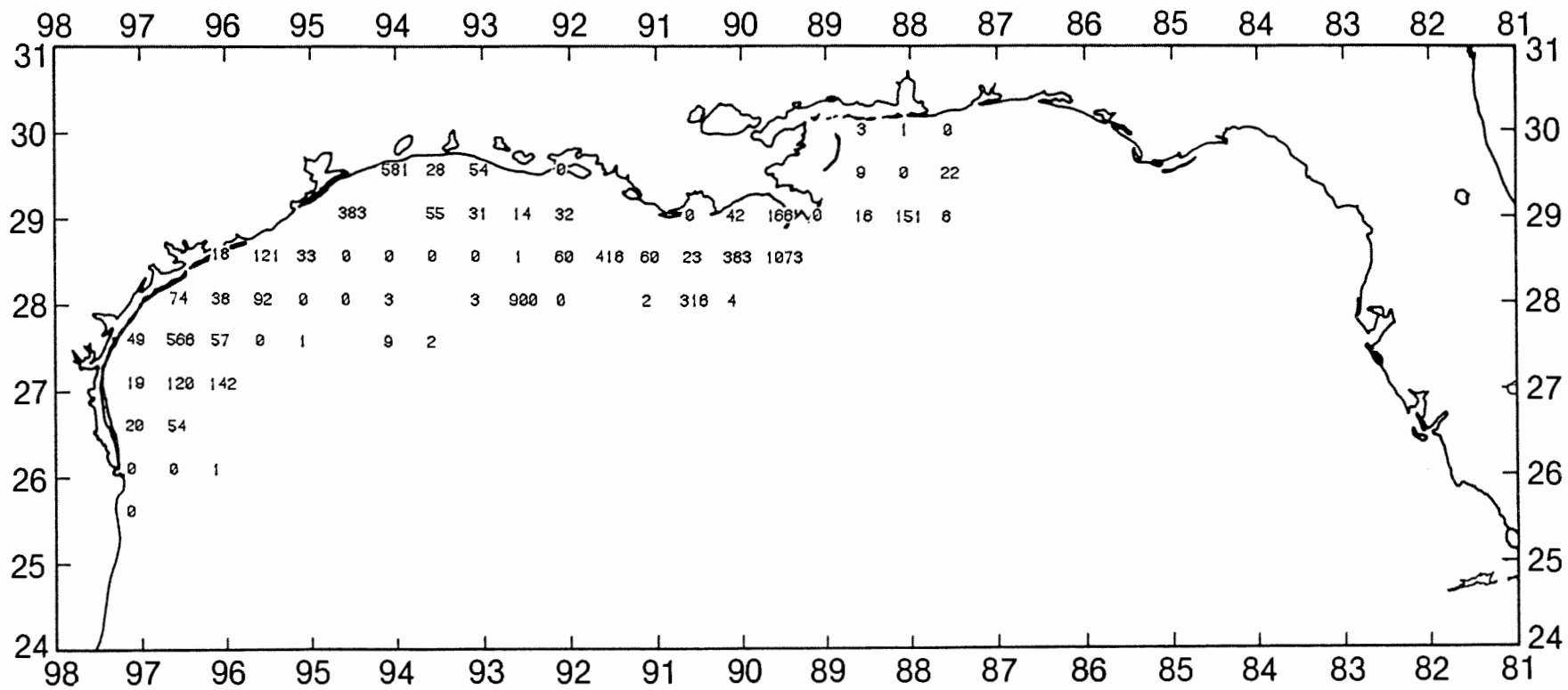


Figure 29. Gulf butterfish, *Peprilus burti*, number/hour for June-July 1988.

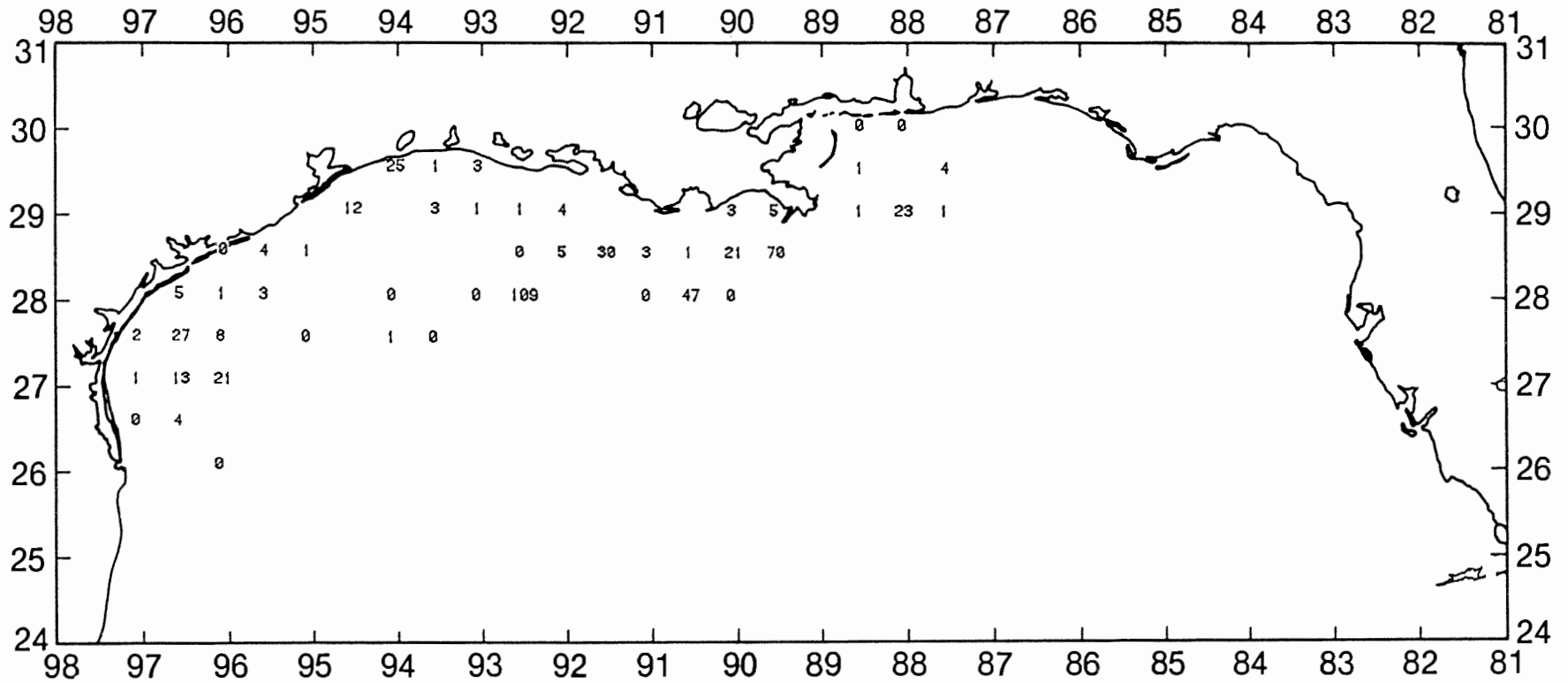


Figure 30. Gulf butterfish, *Peprilus burti*, lb/hour for June-July 1988.

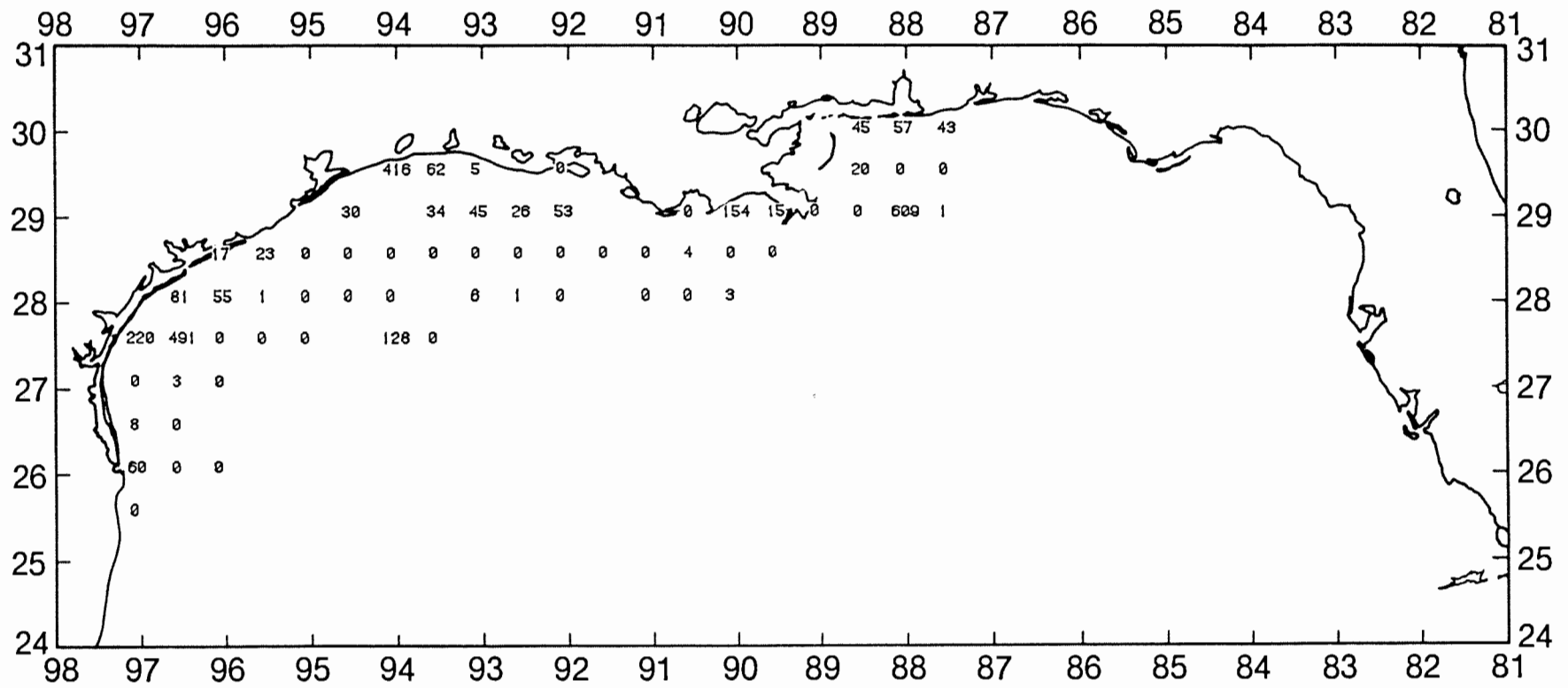


Figure 31. Spot, *Leiostranus xanthurus*, number/hour for June-July 1988.

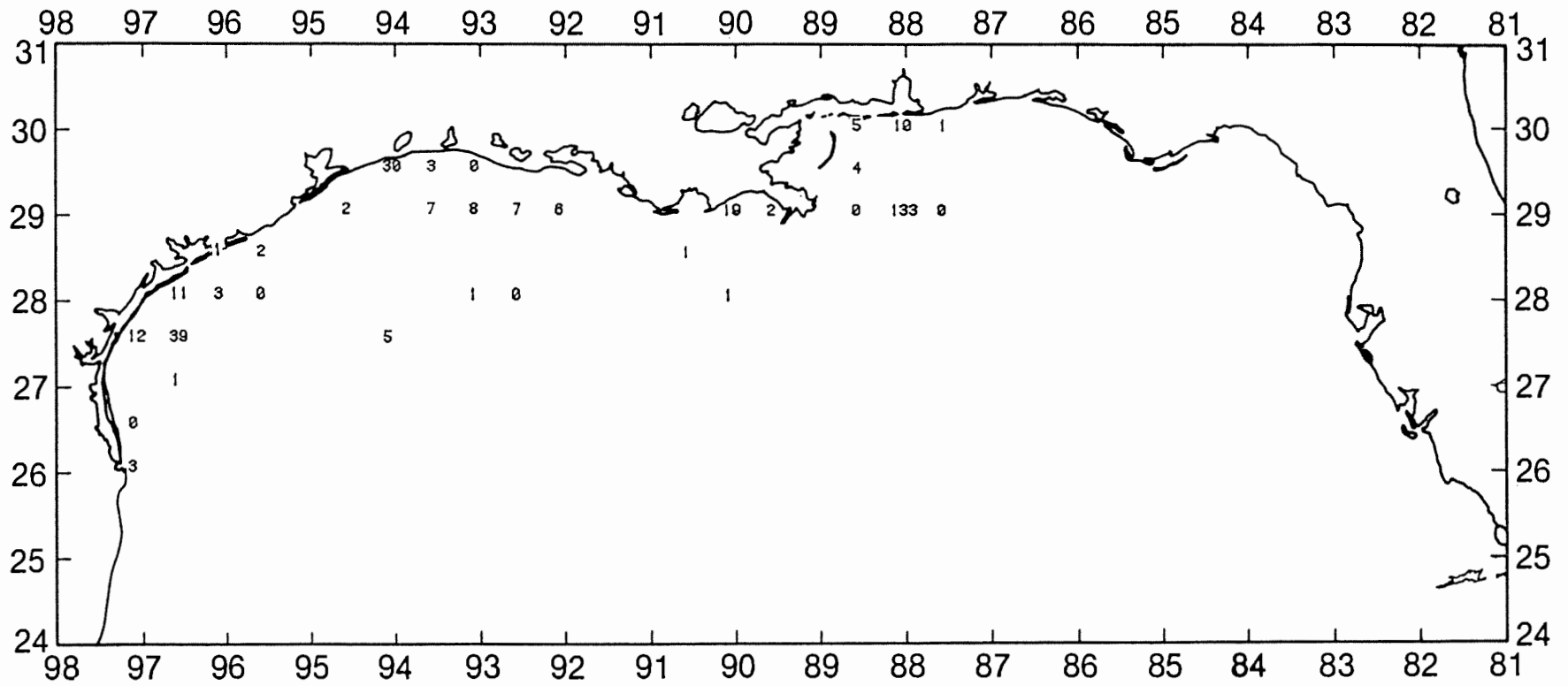


Figure 32. Spot, *Leioostomus xanthurus*, lb/hour for June-July 1988.

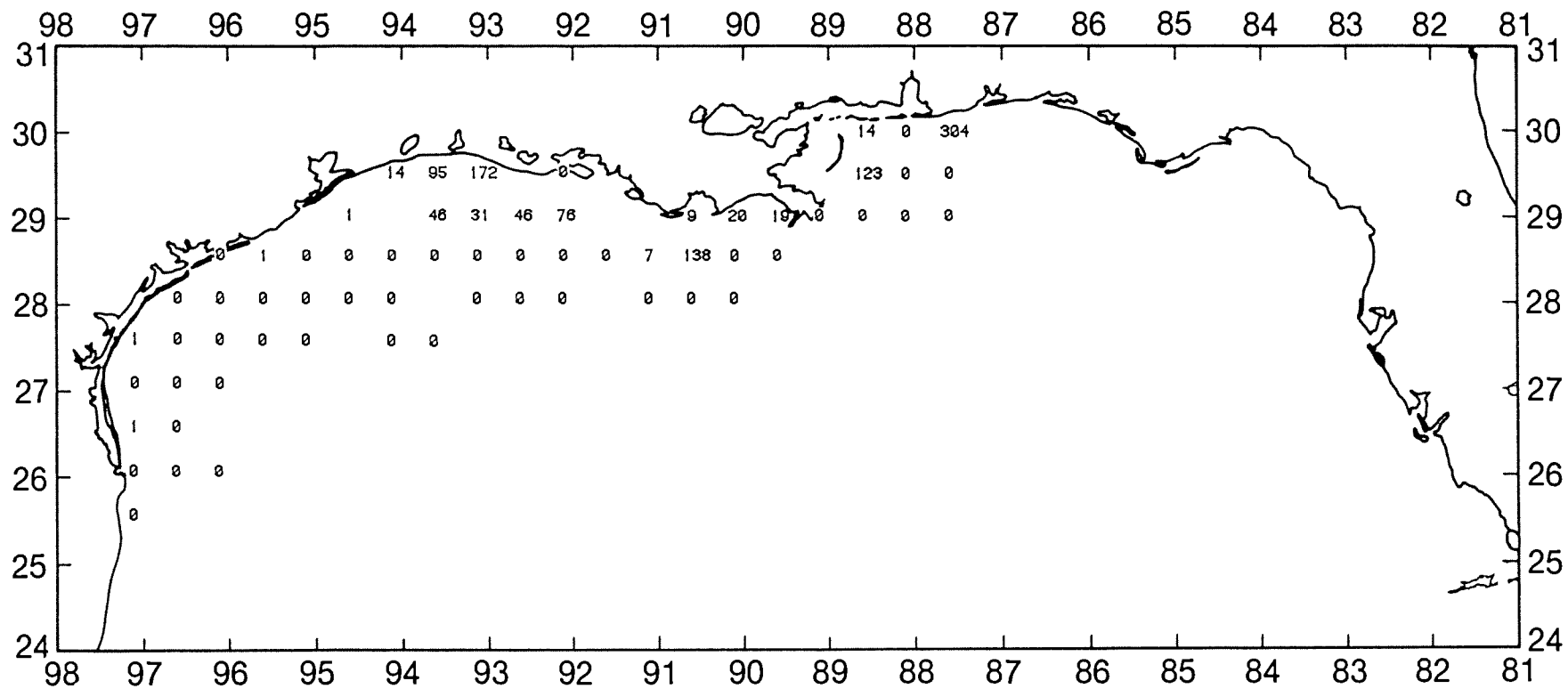


Figure 33. Hardhead catfish, *Arius felis*, number/hour for June-July 1988.

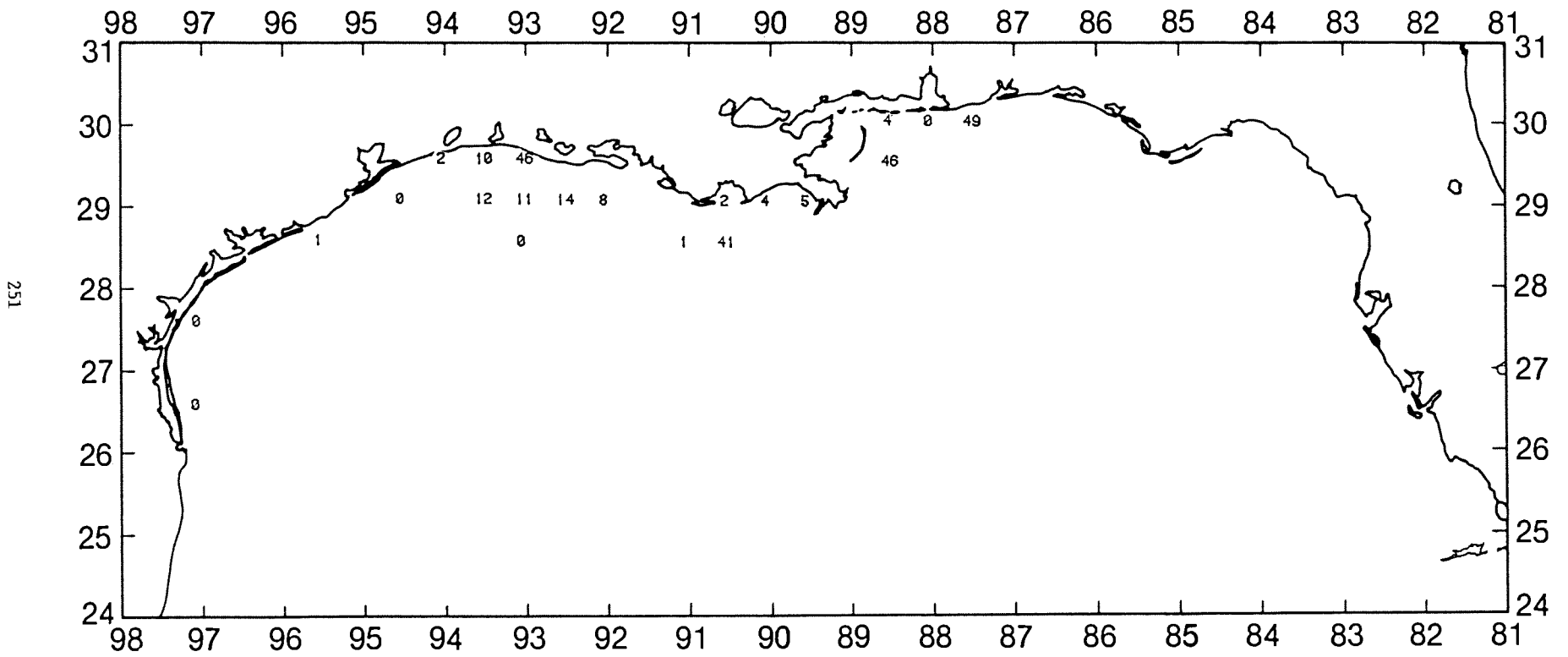


Figure 34. Hardhead catfish, *Arius felis*, lb/hour for June-July 1988.

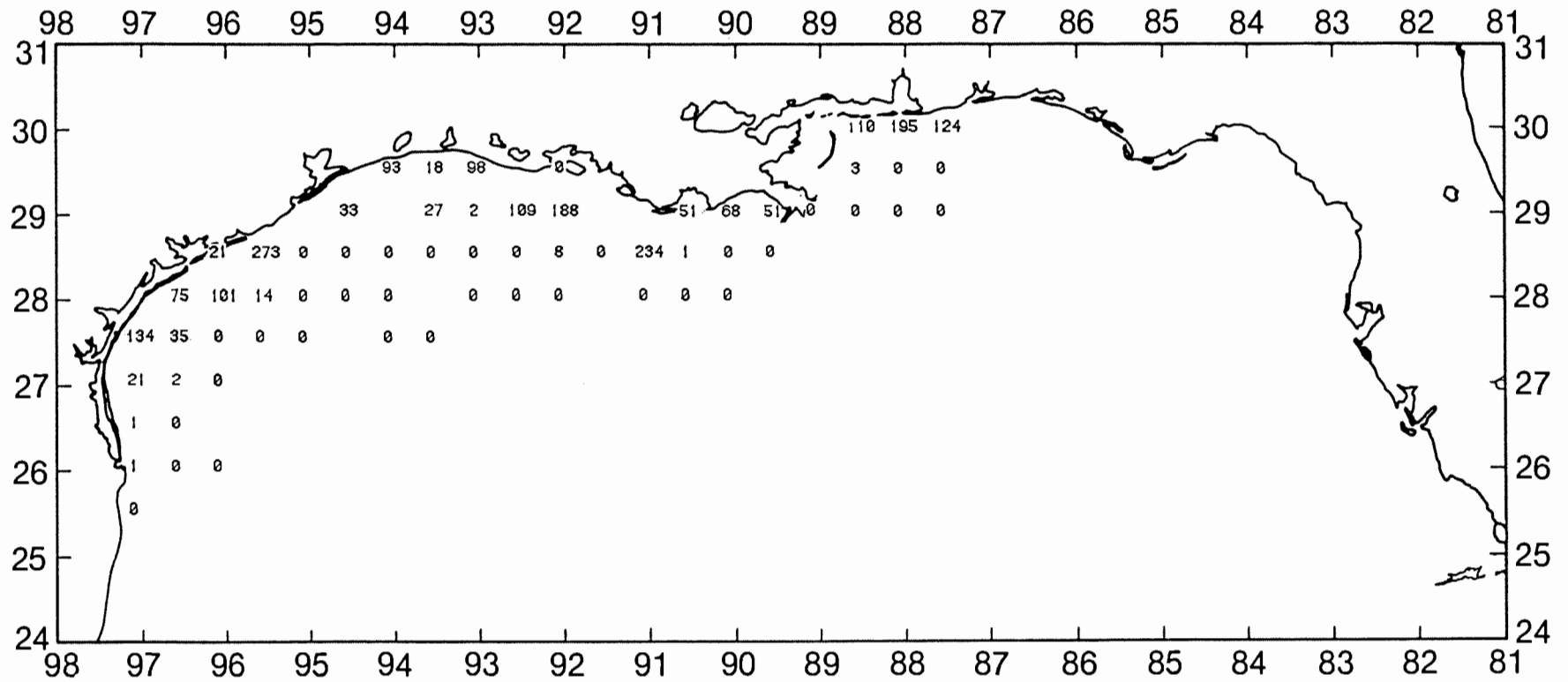


Figure 35. Atlantic threadfin, *Polydactylus octonemus*, number/hour for June-July 1988.

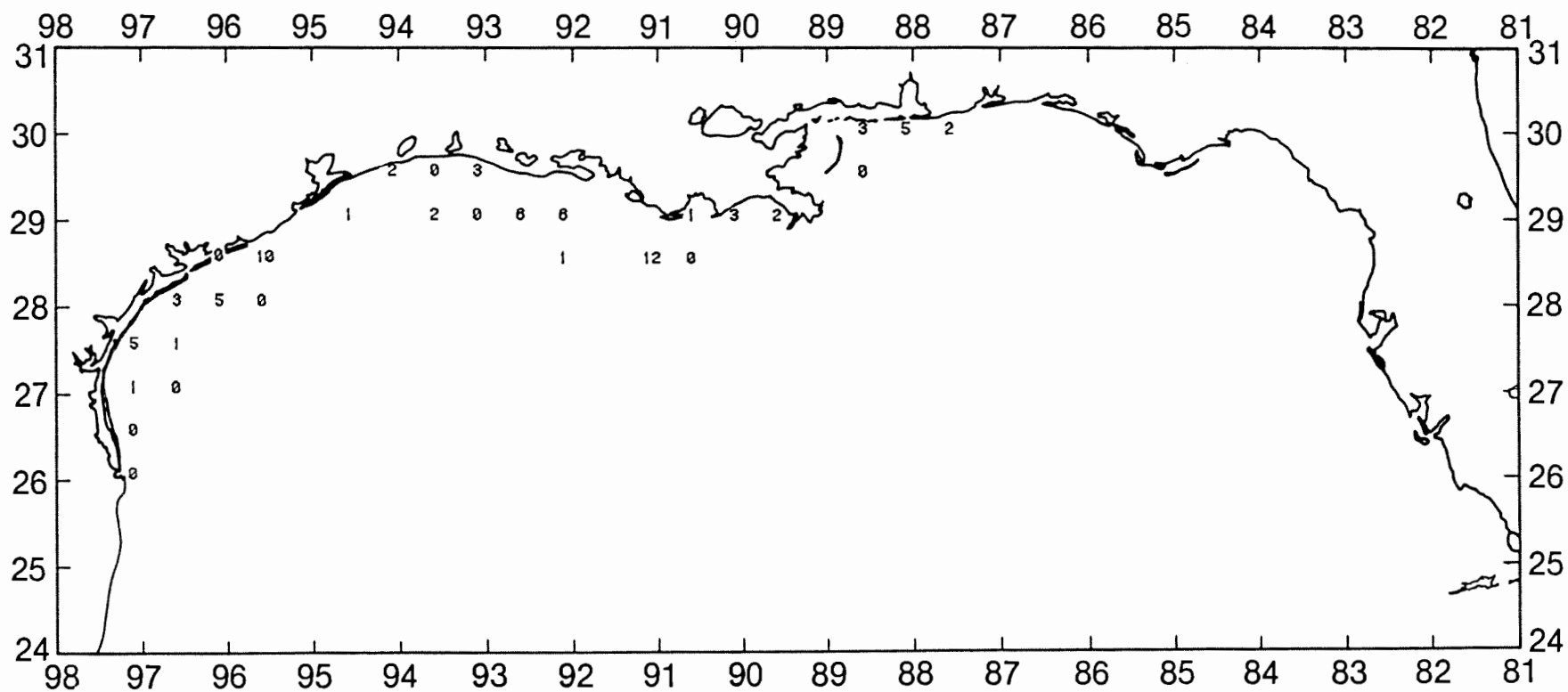


Figure 36. Atlantic threadfin, *Polydactylus octonemus*, lb/hour for June-July 1988.

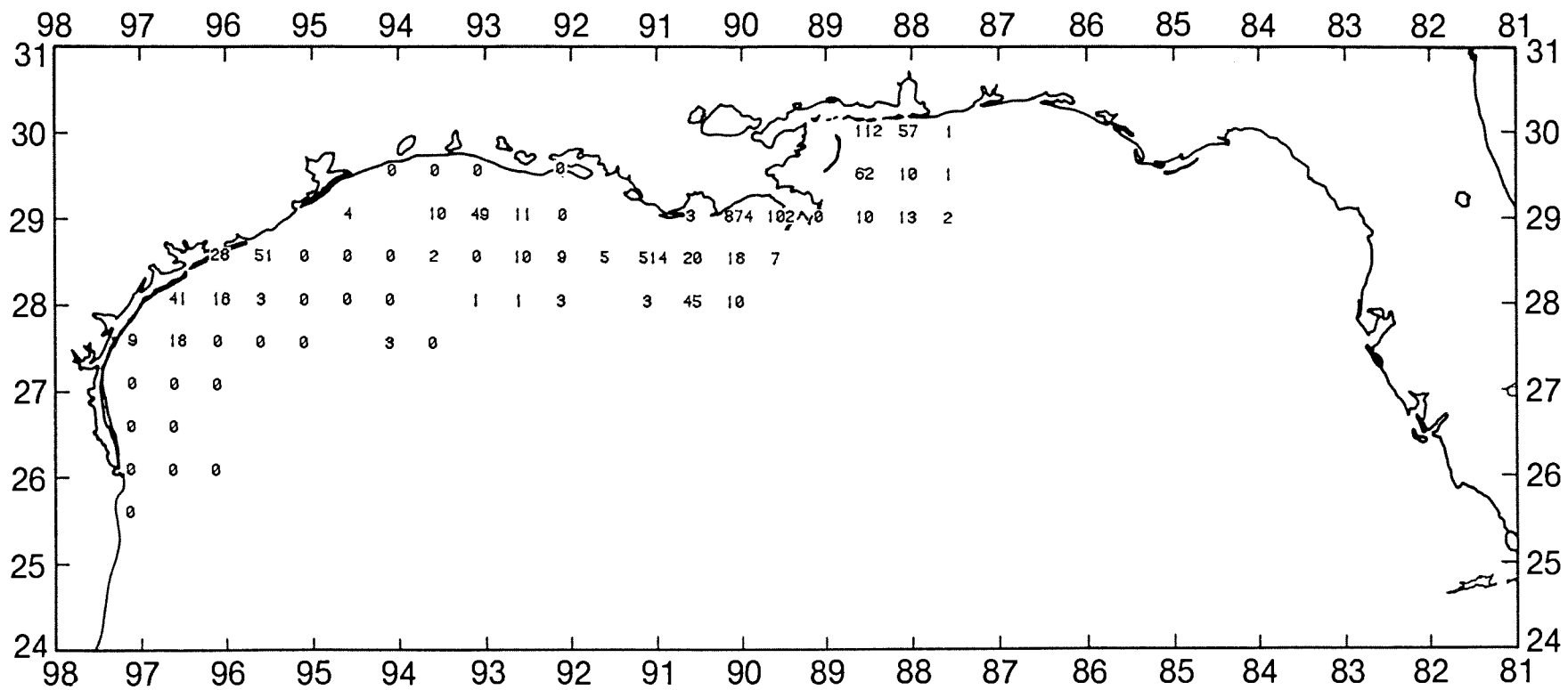


Figure 37. Blackfin searobin, *Prionotus rubio*, number/hour for June-July 1988.

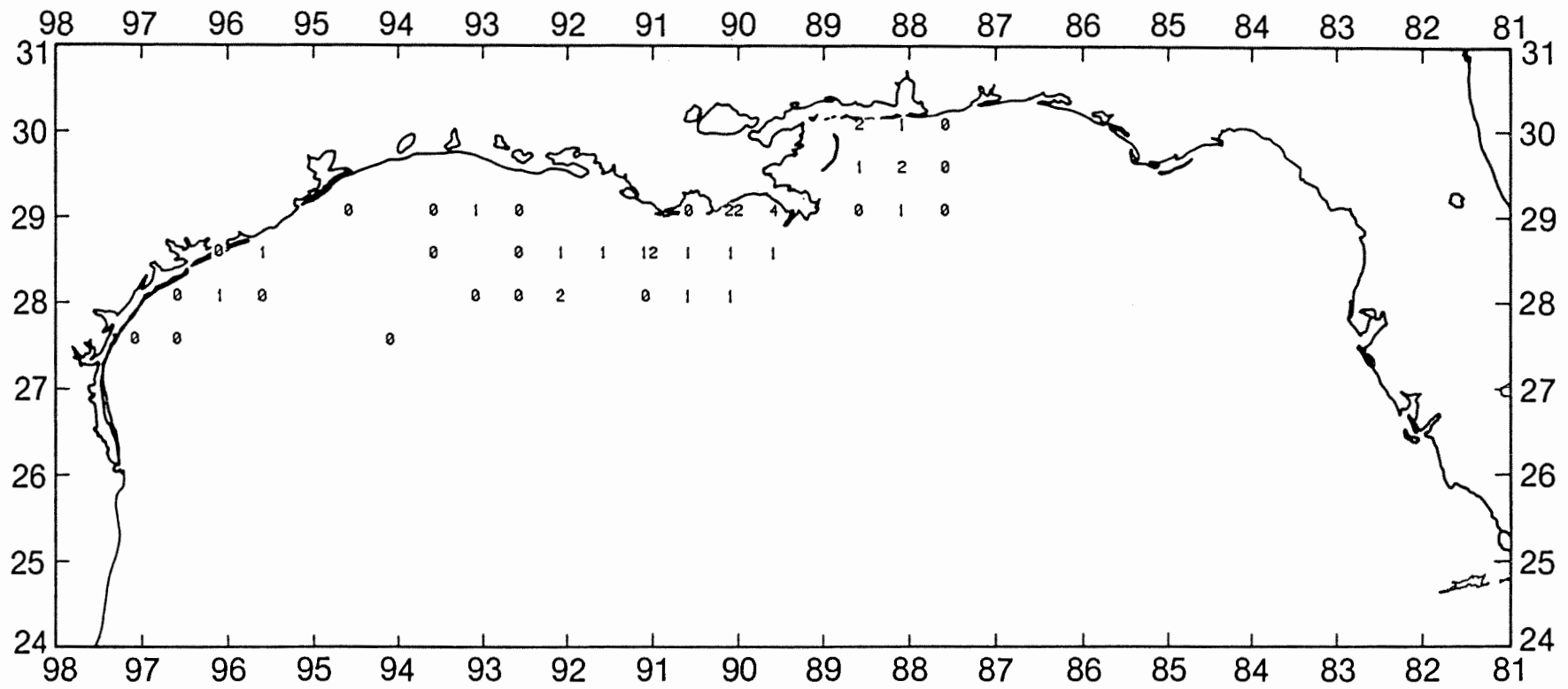


Figure 38. Blackfin searobin, *Prionotus rubic*, lb/hour for June-July 1988.

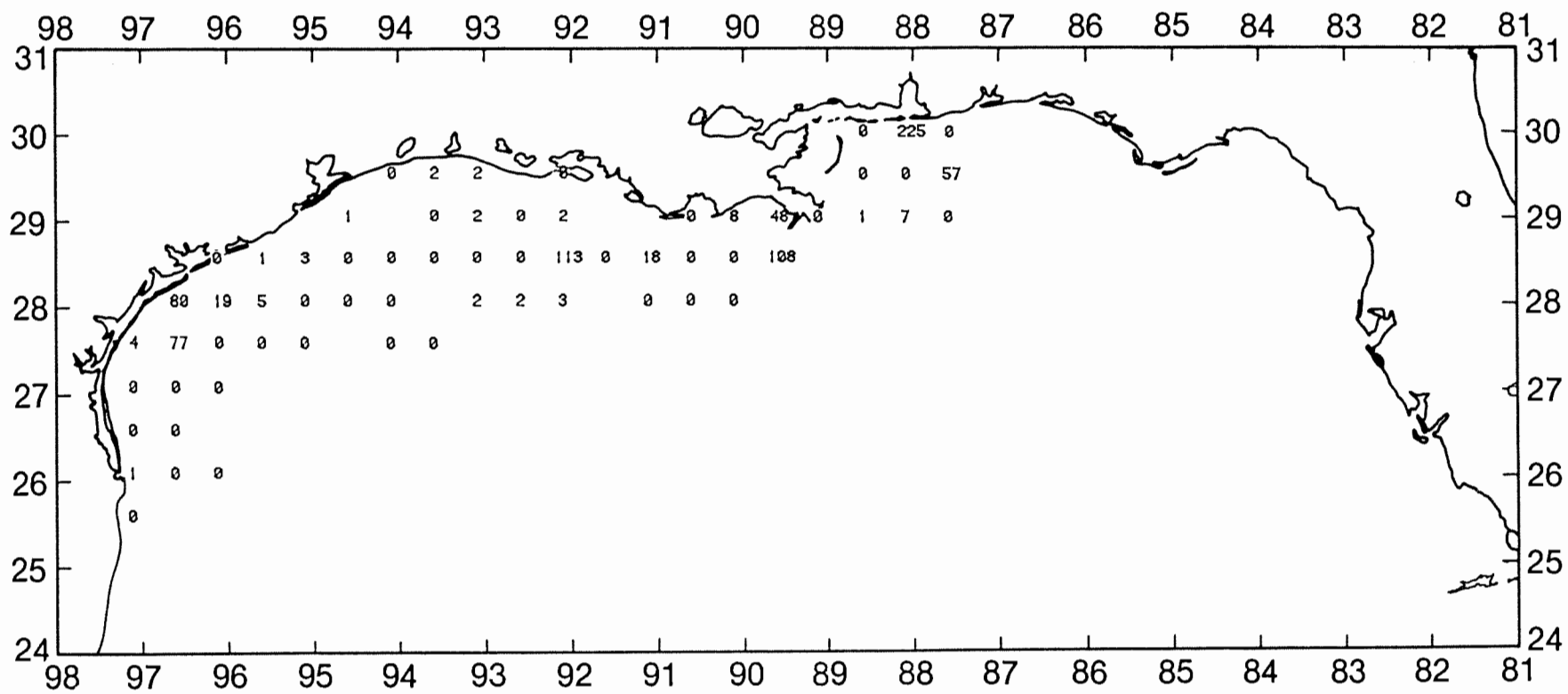


Figure 39. Atlantic cutlassfish, *Trichiurus lepturus*, number/hour for June-July 1988.

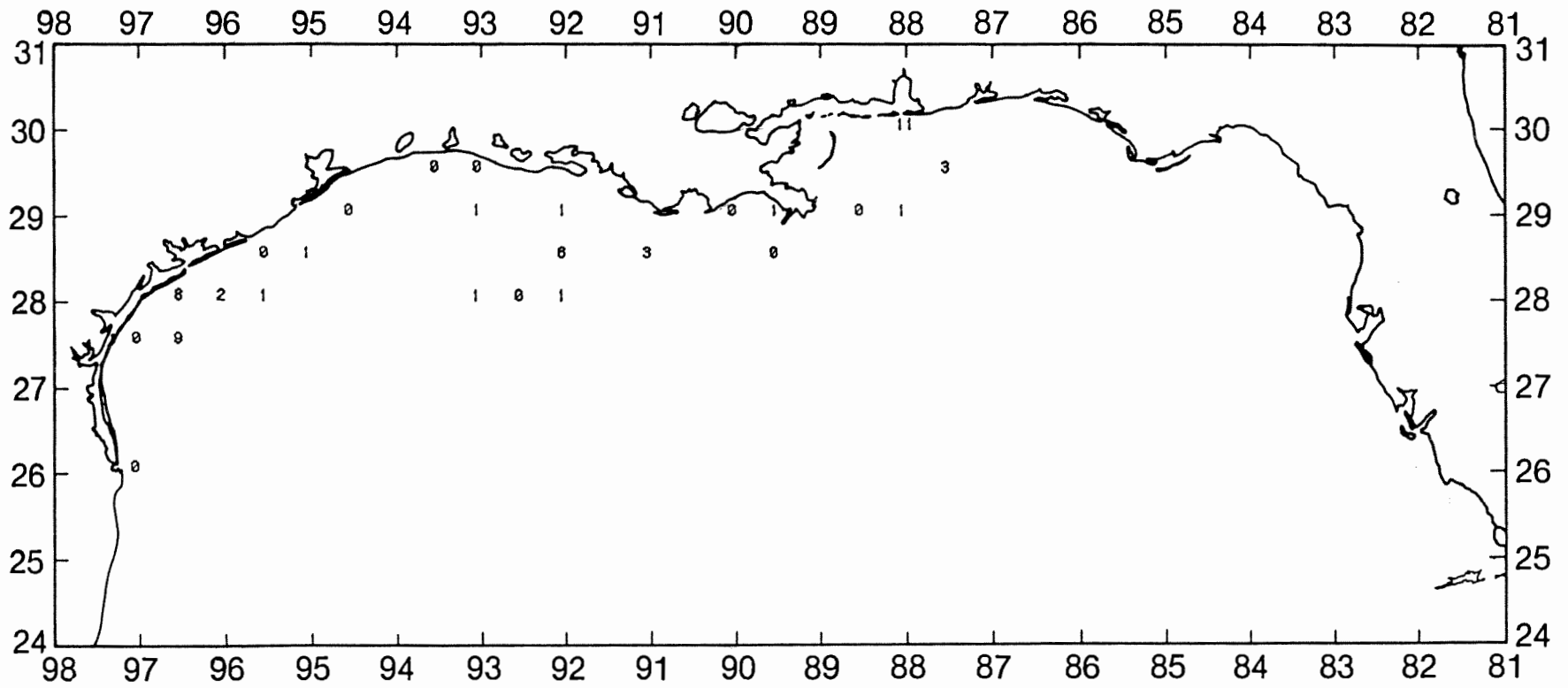


Figure 40. Atlantic cutlassfish, *Trichiurus lepturus*, lb/hour for June-July 1988.

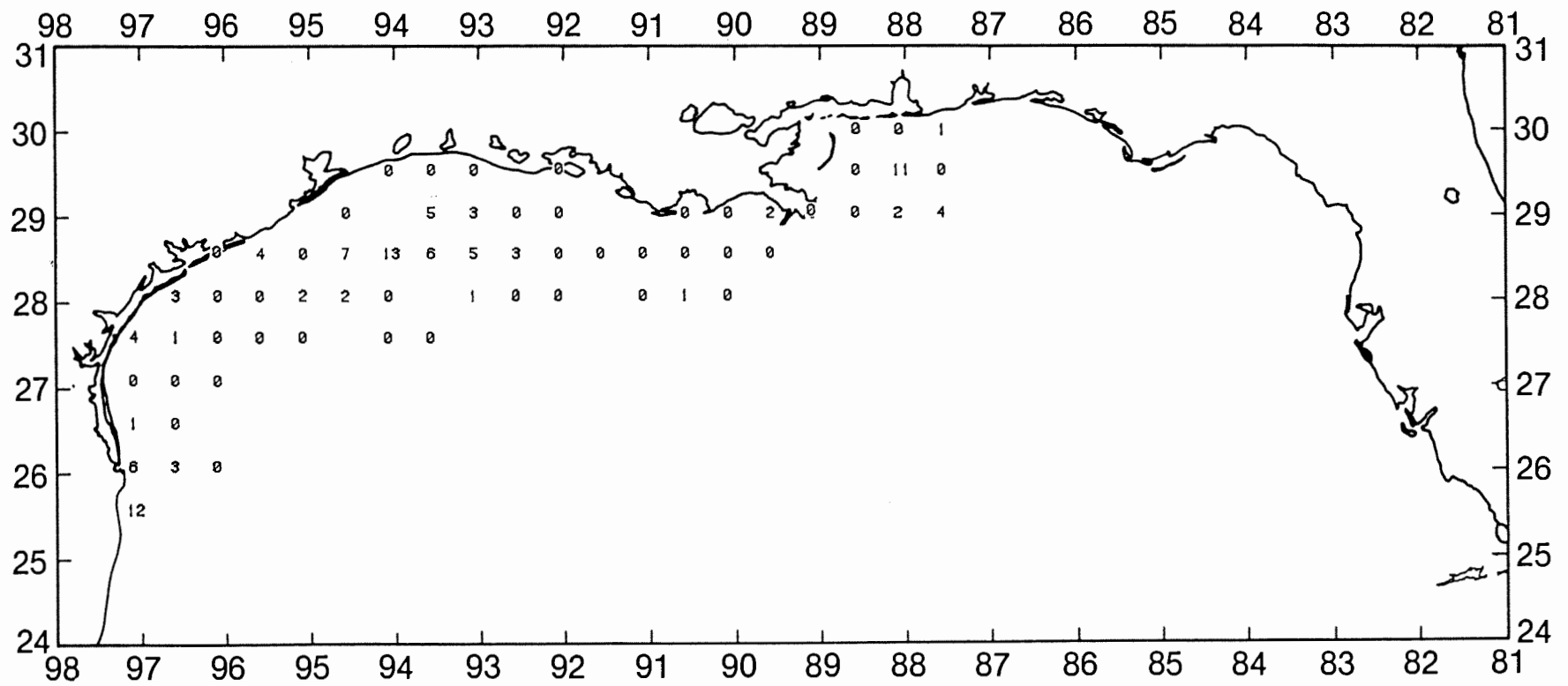


Figure 41. Red snapper, *Lutjanus campechanus*, number/hour for June-July 1988.

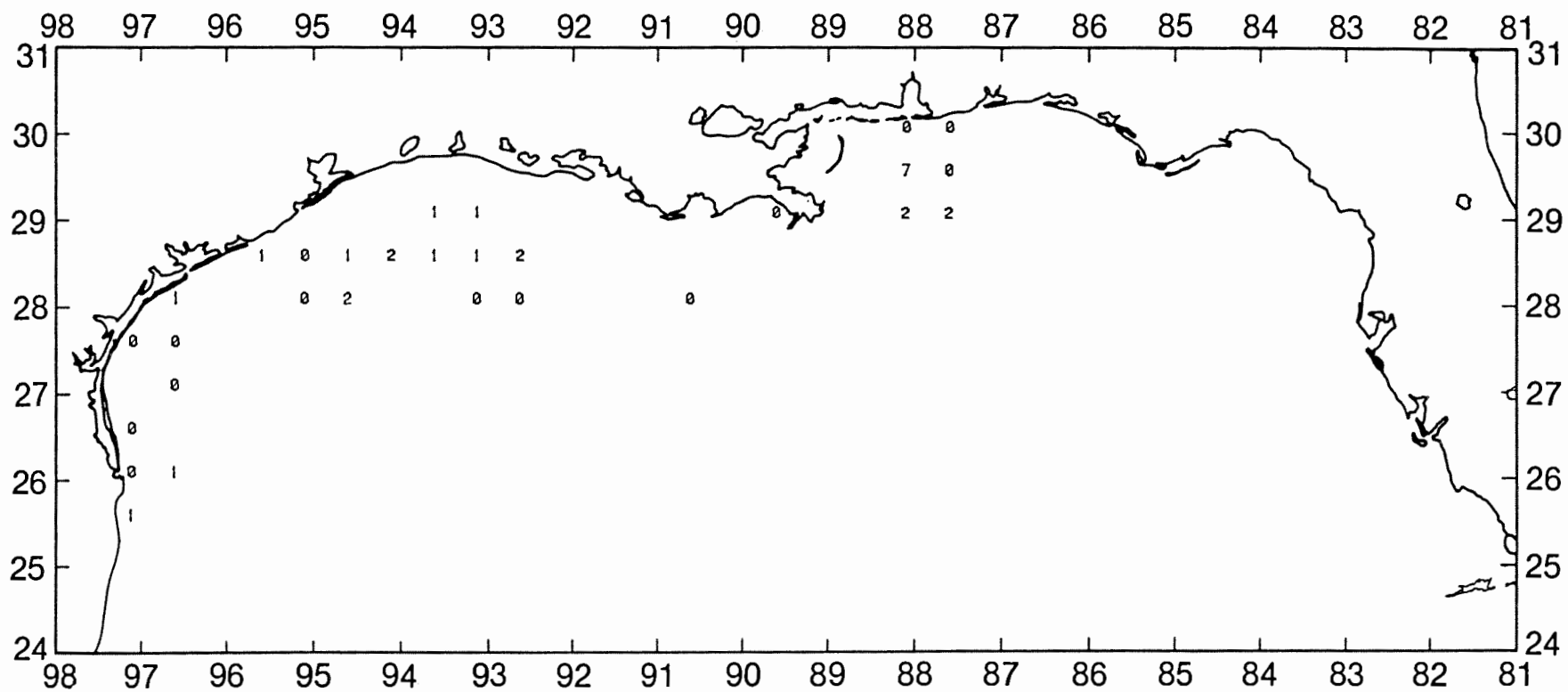


Figure 42. Red snapper, *Lutjanus campechanus*, lb/hour for June-July 1988.

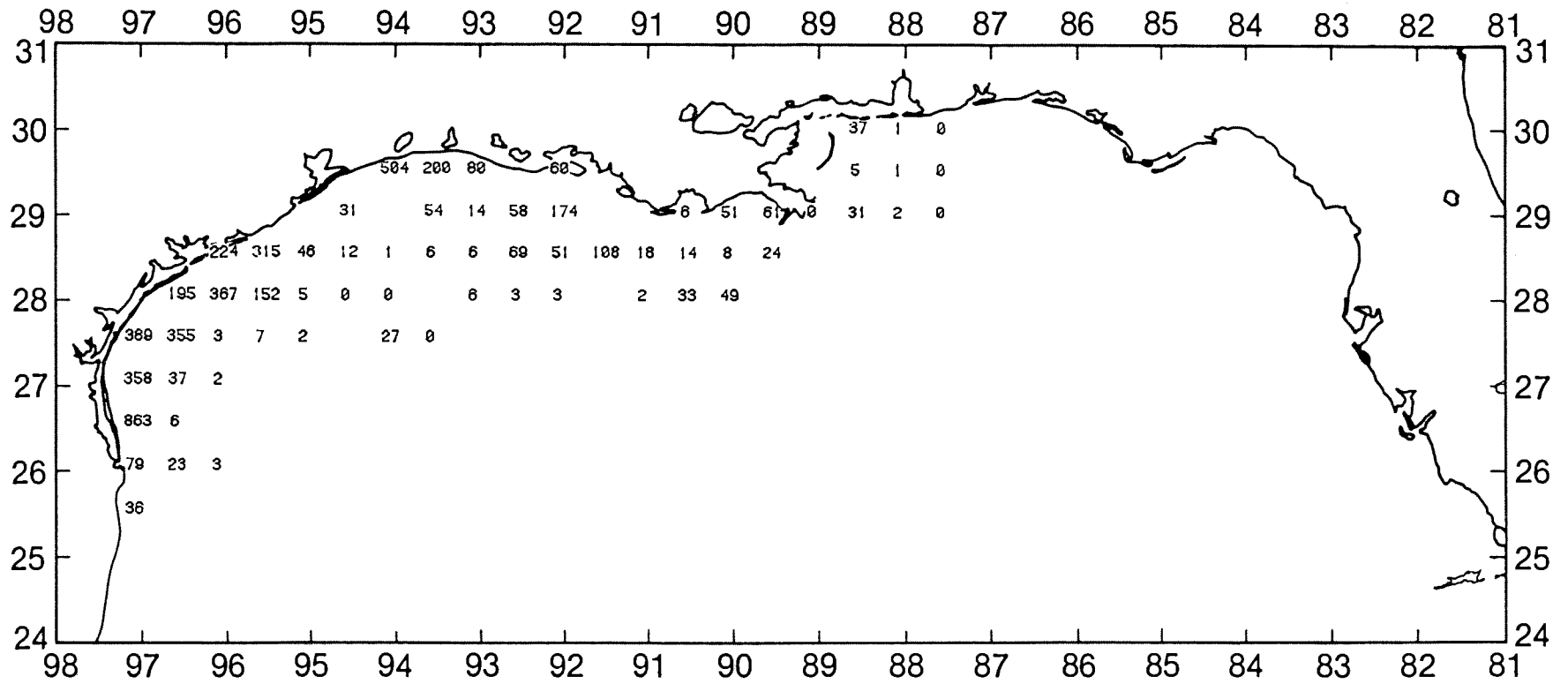


Figure 43. Brown shrimp, *Penaeus aztecus*, number/hour for June-July 1988.

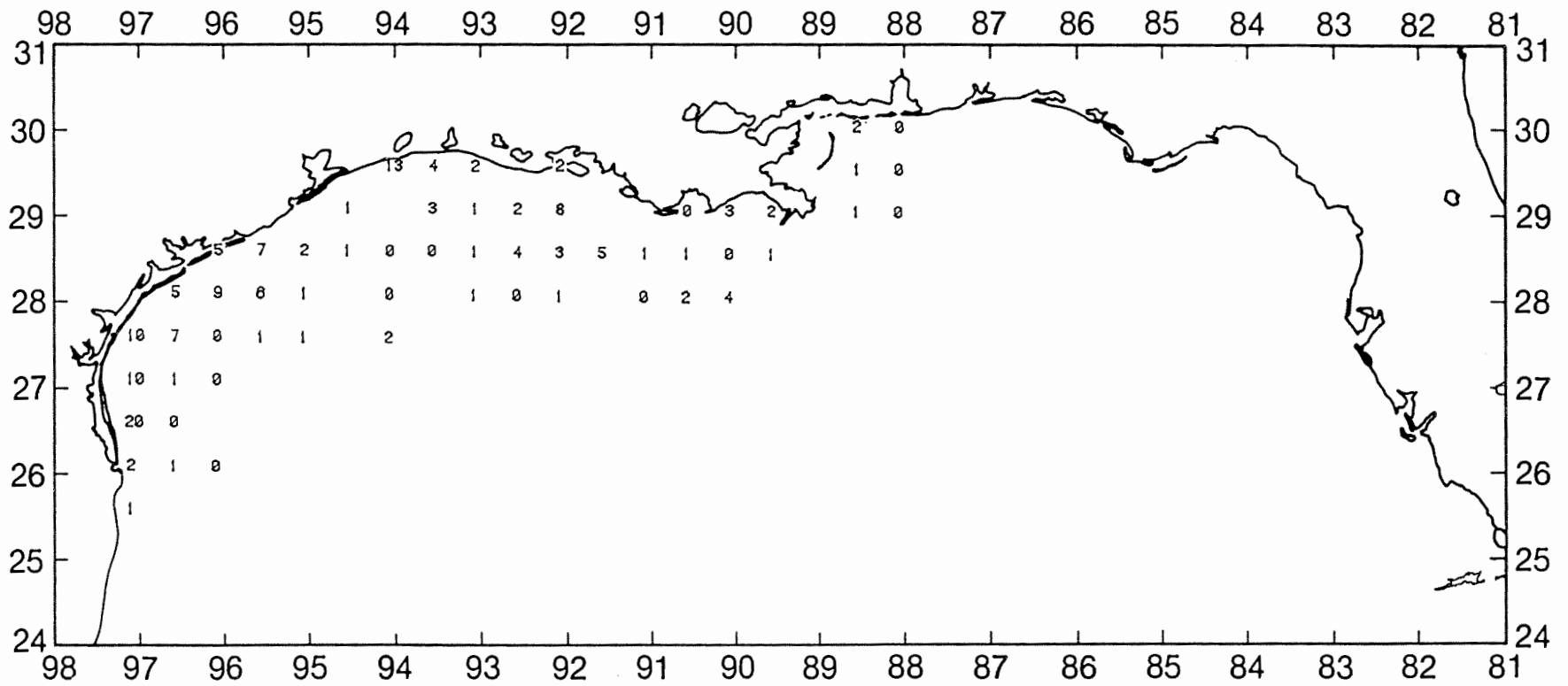


Figure 44. Brown shrimp, *Penaeus aztecus*, lb/hour for June-July 1988.

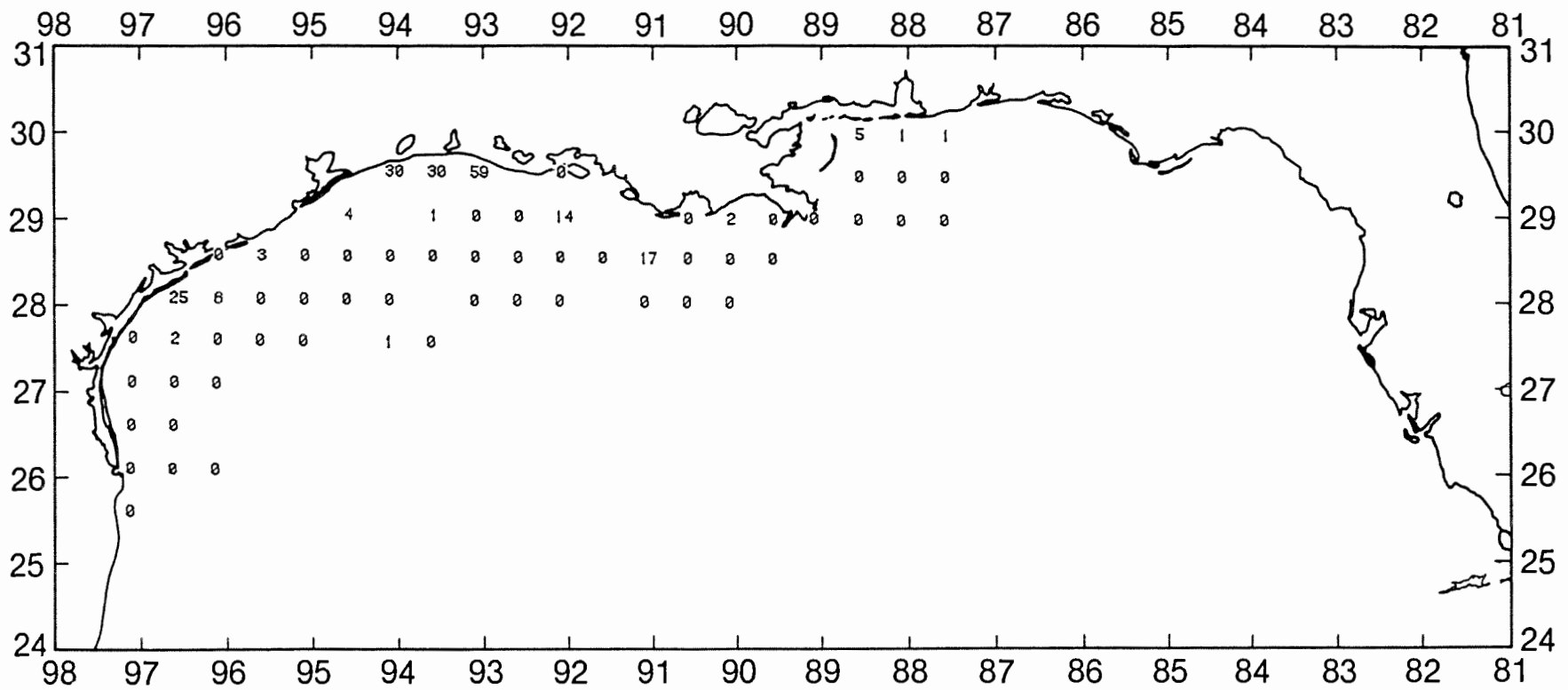


Figure 45. White shrimp, *Penaeus setiferus*, number/hour for June-July 1988.

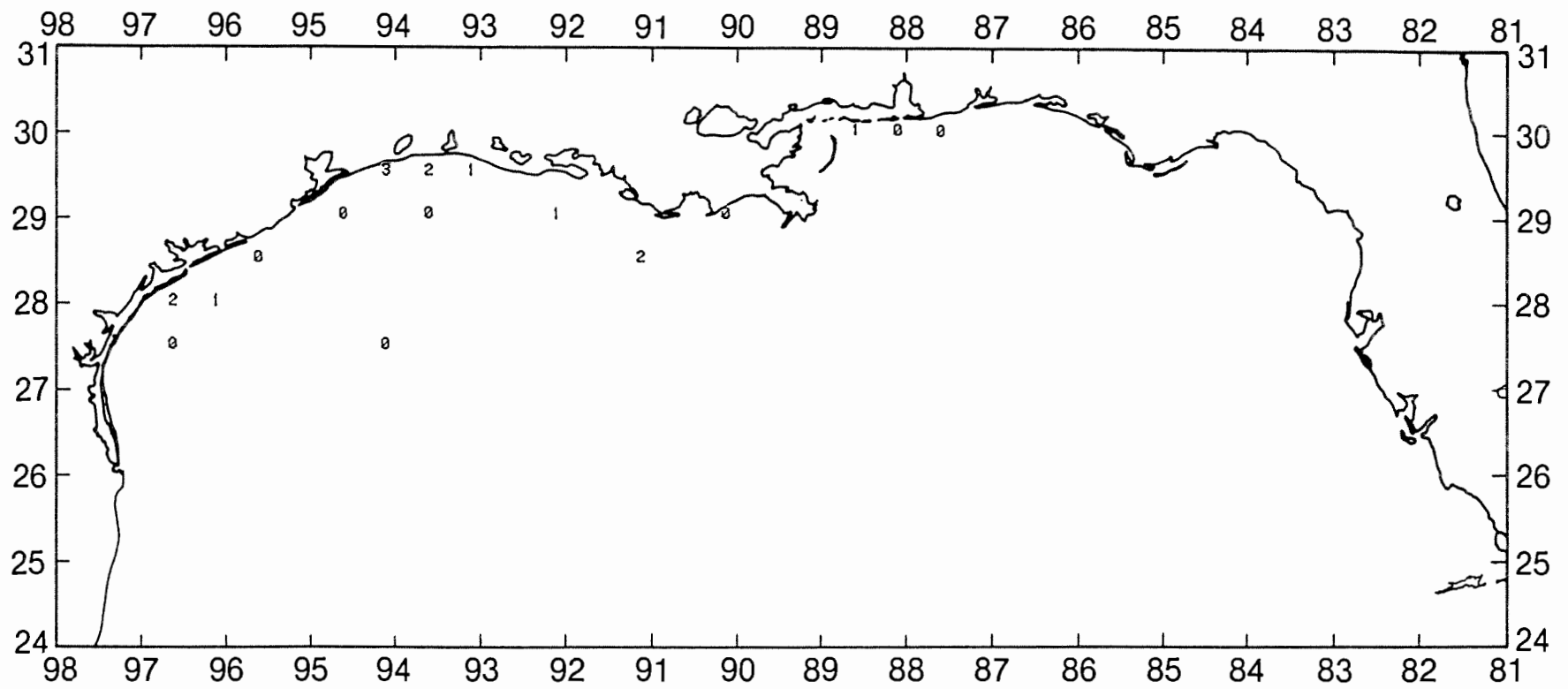


Figure 46. White shrimp, *Penaeus setiferus*, lb/hour for June-July 1988.

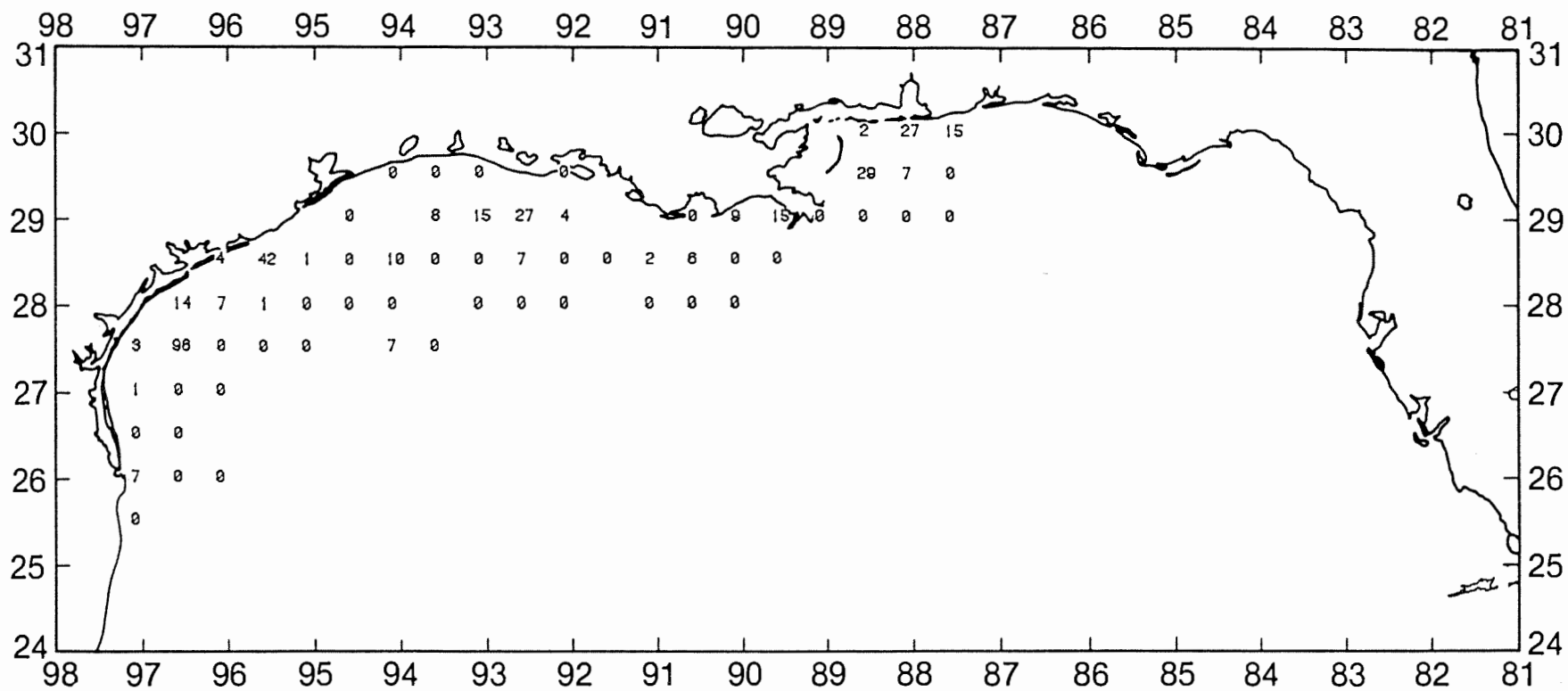


Figure 47. Pink shrimp, *Penaeus duorarum*, number/hour for June-July 1988.

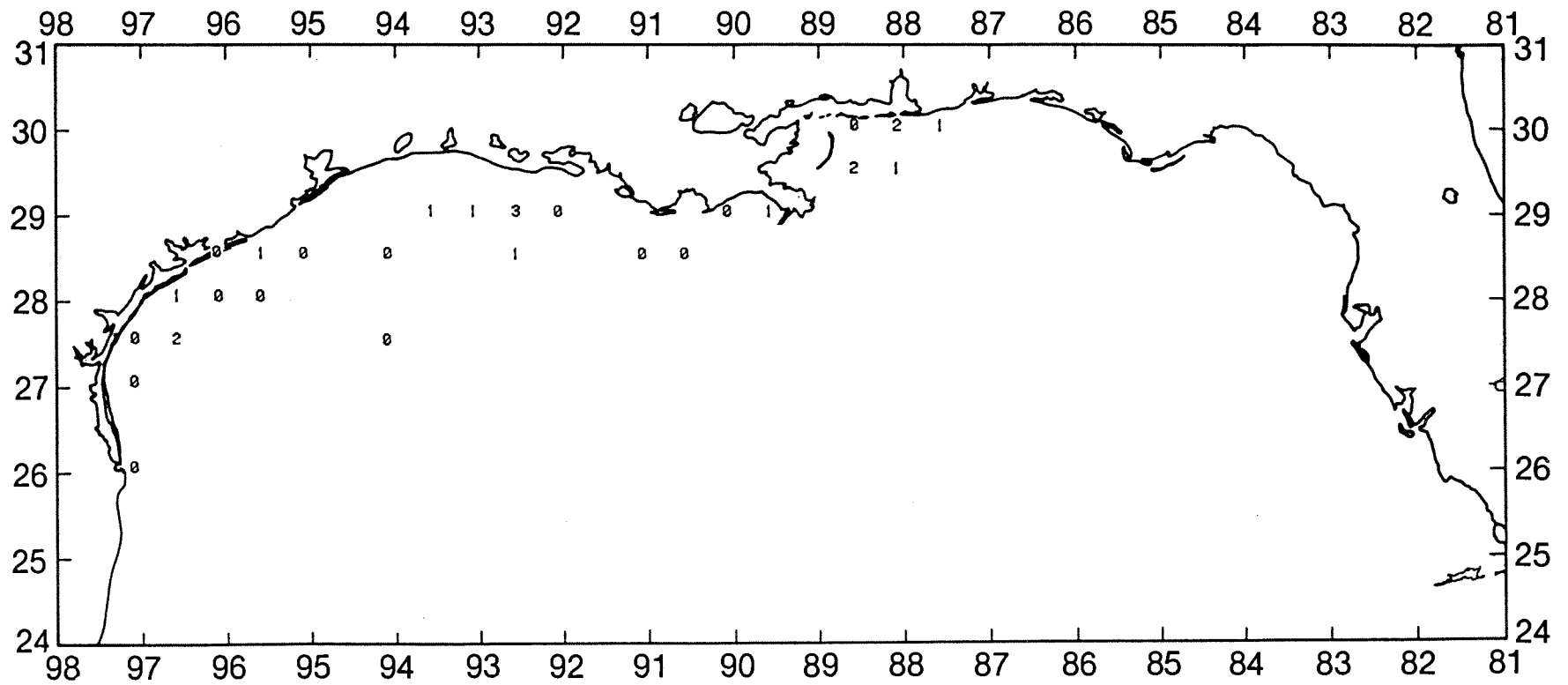


Figure 48. Pink shrimp, *Penaeus duorarum*, lb/hour for June-July 1988.

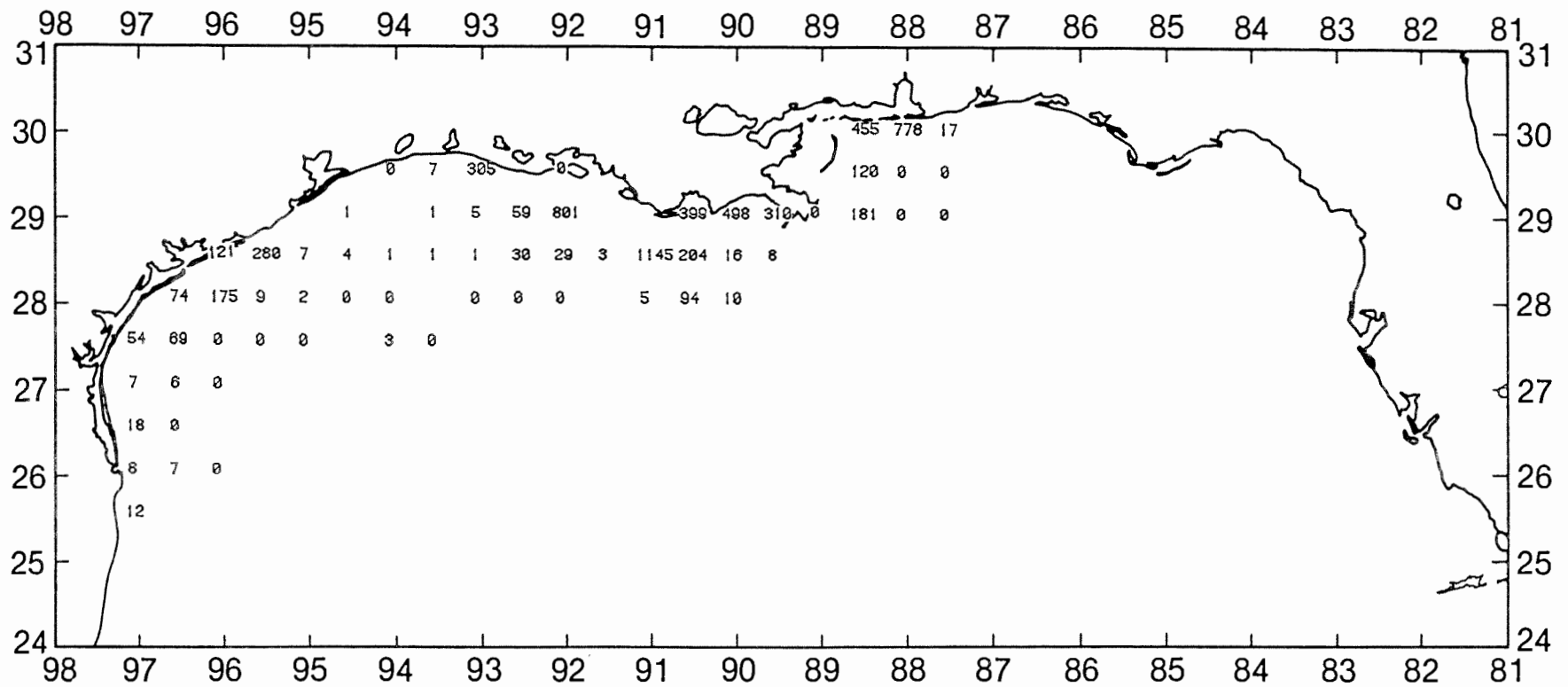


Figure 49. Lesser blue crab, *Callinectes similis*, number/hour for June-July 1988.

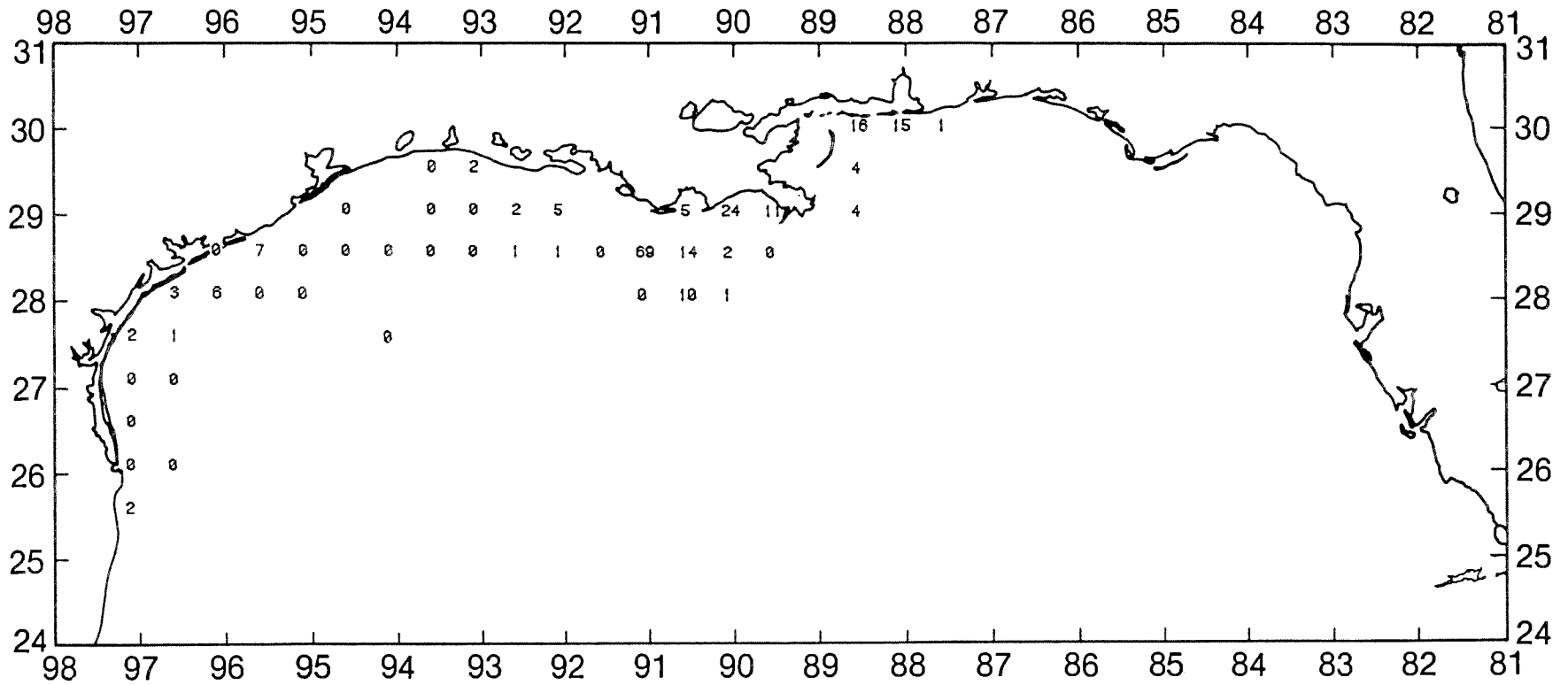


Figure 50. Lesser blue crab, *Callinectes similis*, lb/hour for June-July 1988.

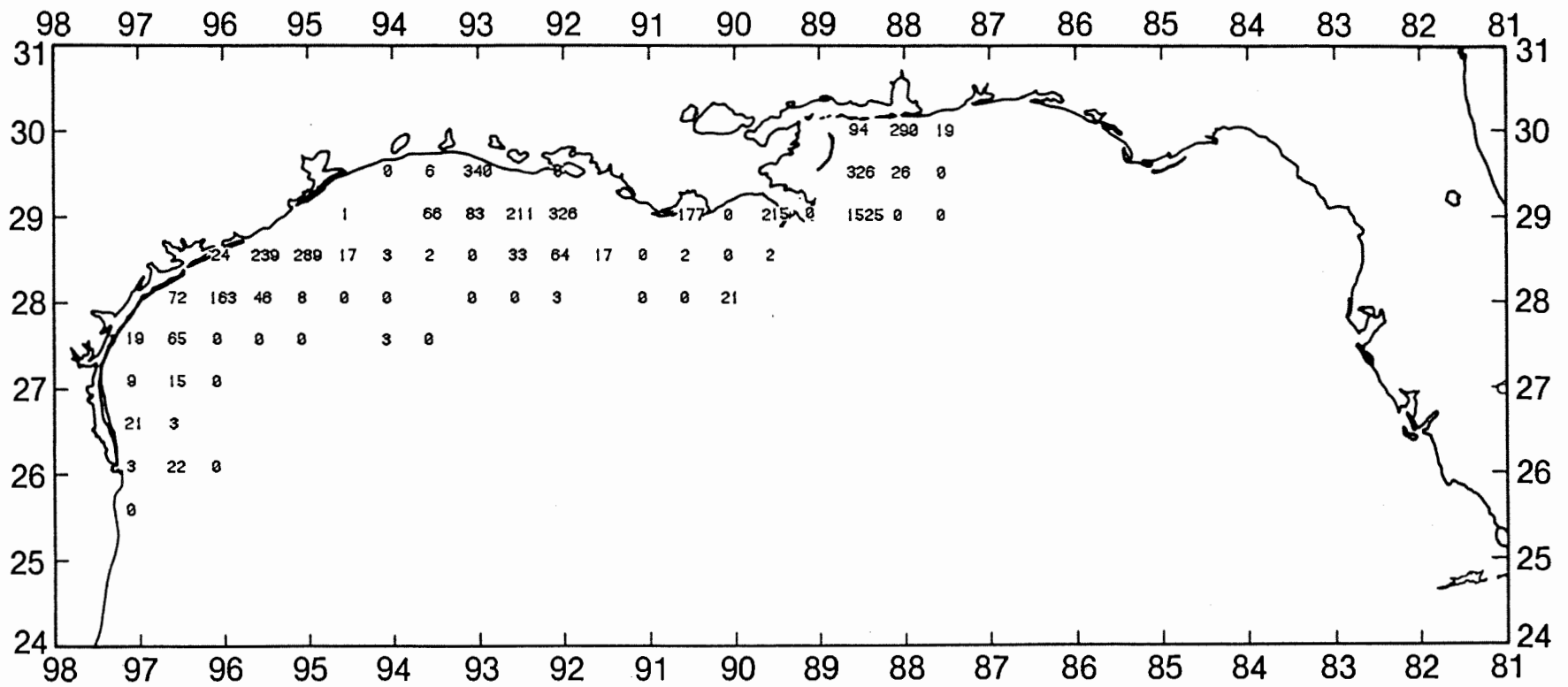


Figure 51. Roughneck shrimp, *Trachypenaeus* spp, number/hour for June-July 1988.

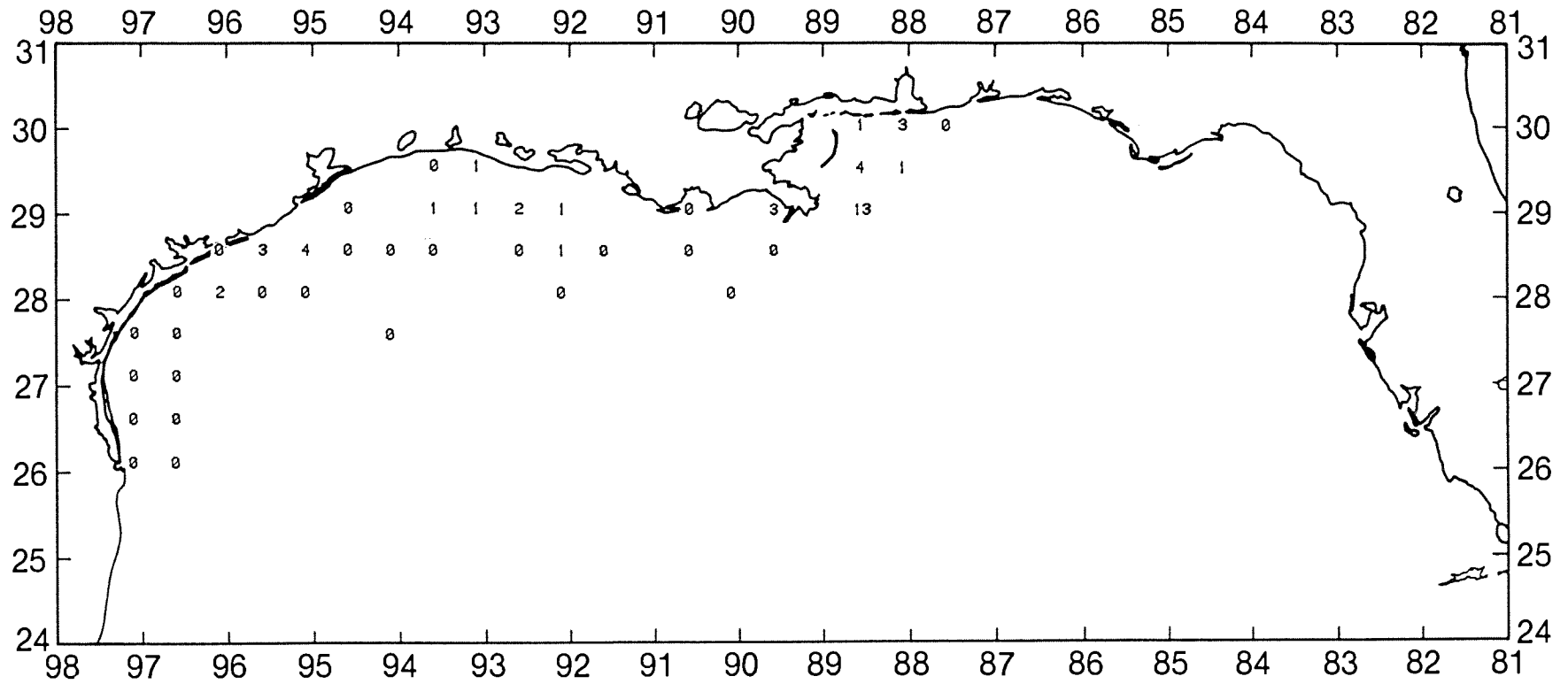


Figure 52. Roughneck shrimp, *Trachypenaeus* spp, lb/hour for June-July 1988.

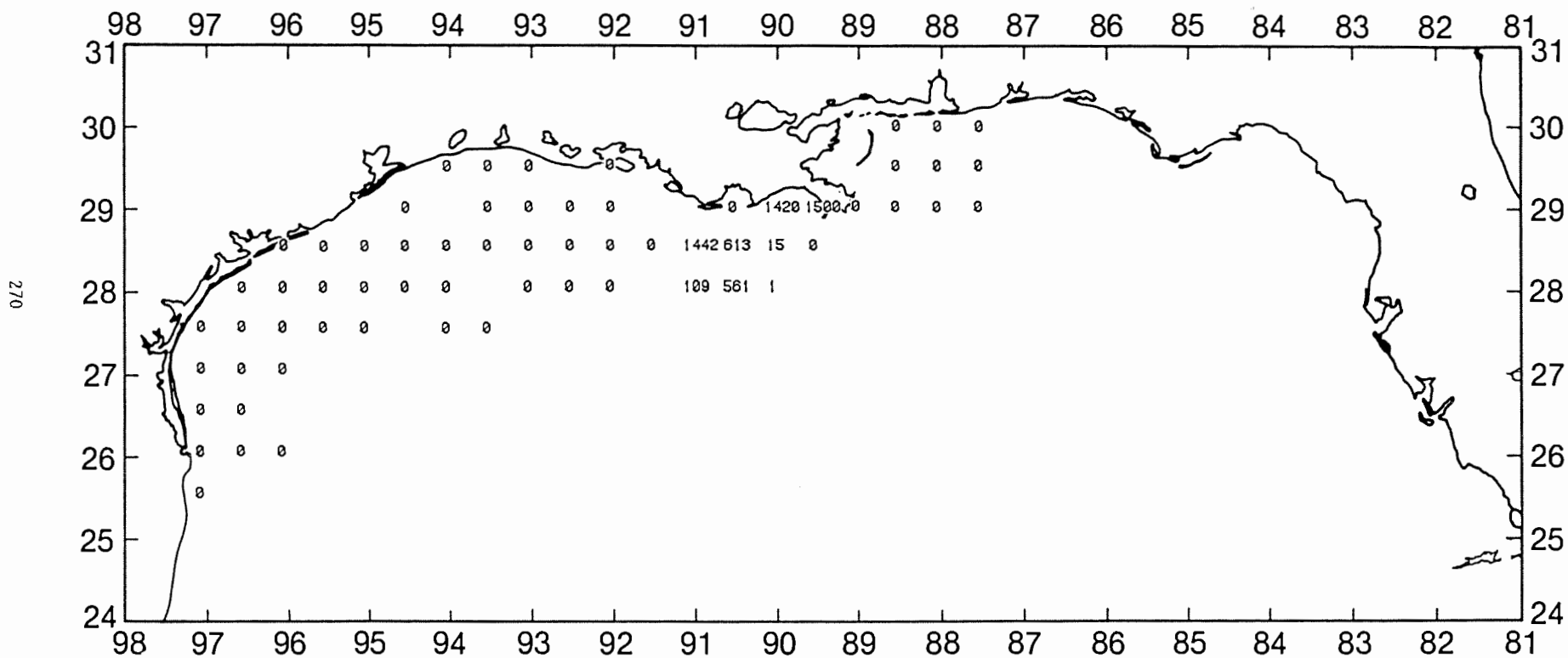


Figure 53. Roughback shrimp, *Trachypenaeus similis*, number/hour for June-July 1988.

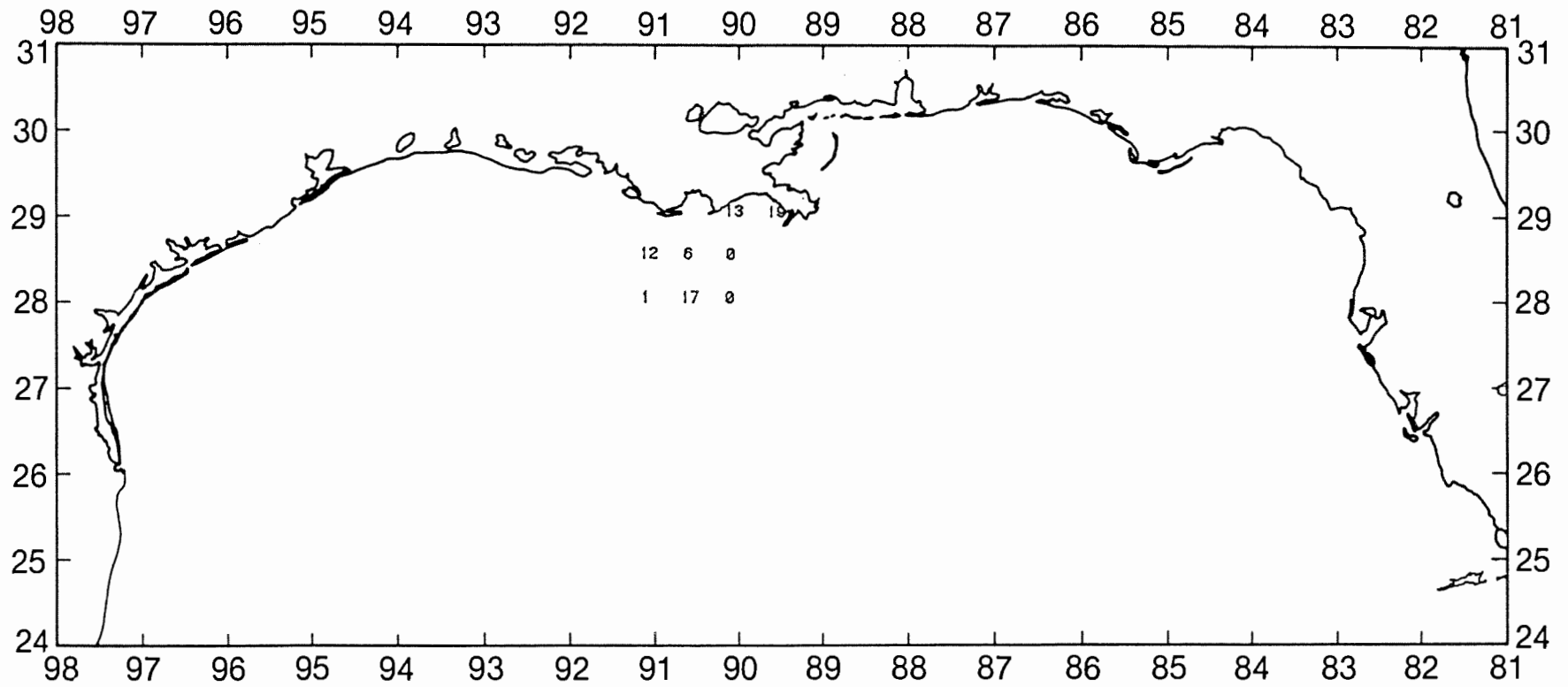


Figure 54. Roughback shrimp, *Trachypenaeus similis*, lb/hour for June-July 1988.

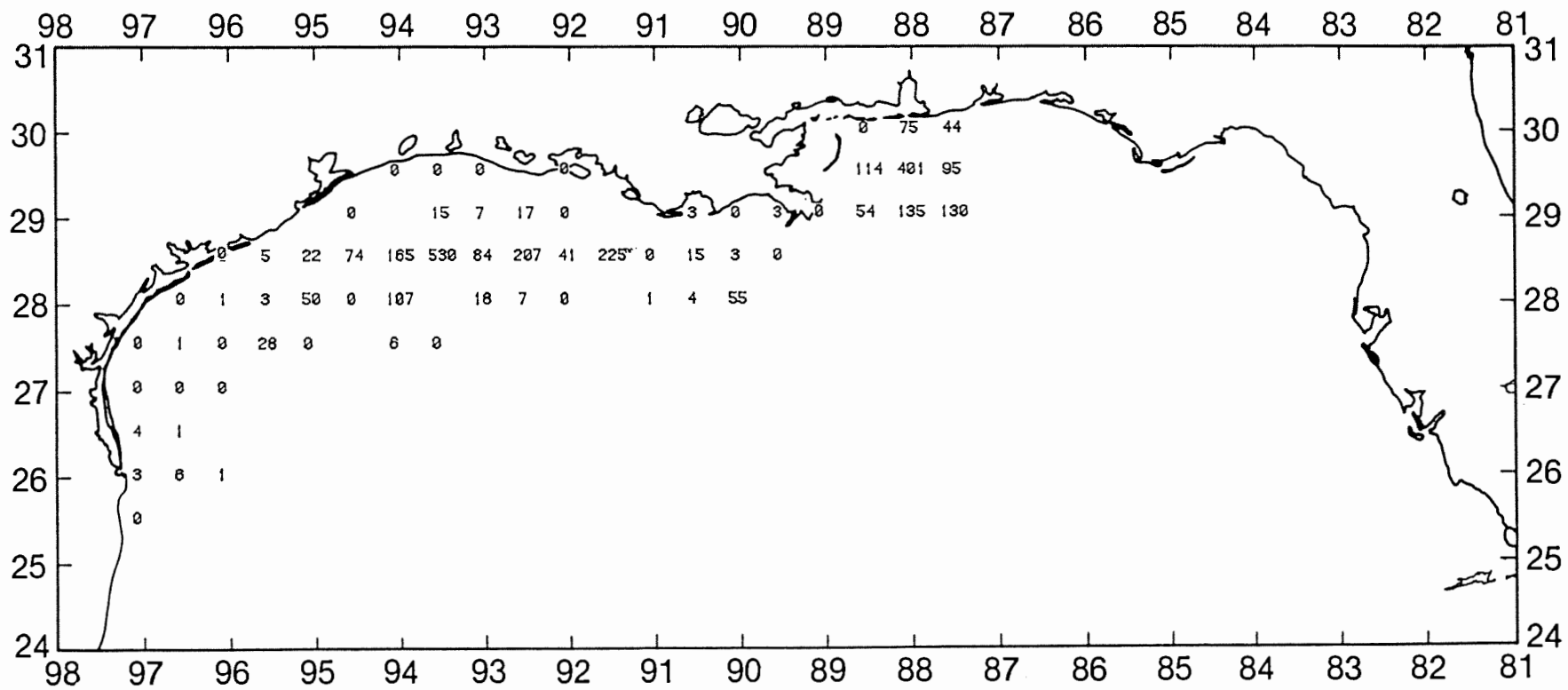


Figure 55. Brown rock shrimp, *Sicyonia brevirostris*, number/hour for June-July 1988.

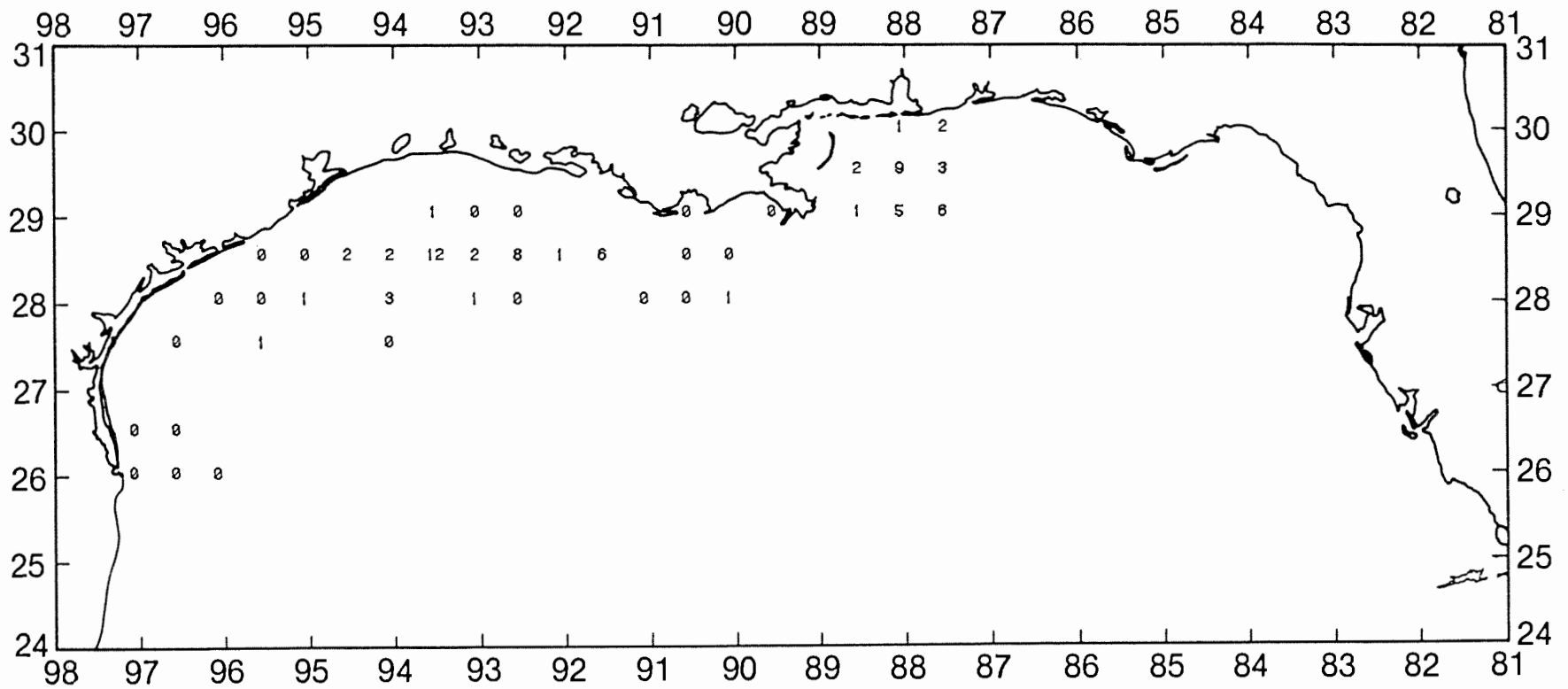


Figure 56. Brown rock shrimp, *Sicyonia brevirostris*, lb/hour for June-July 1988.

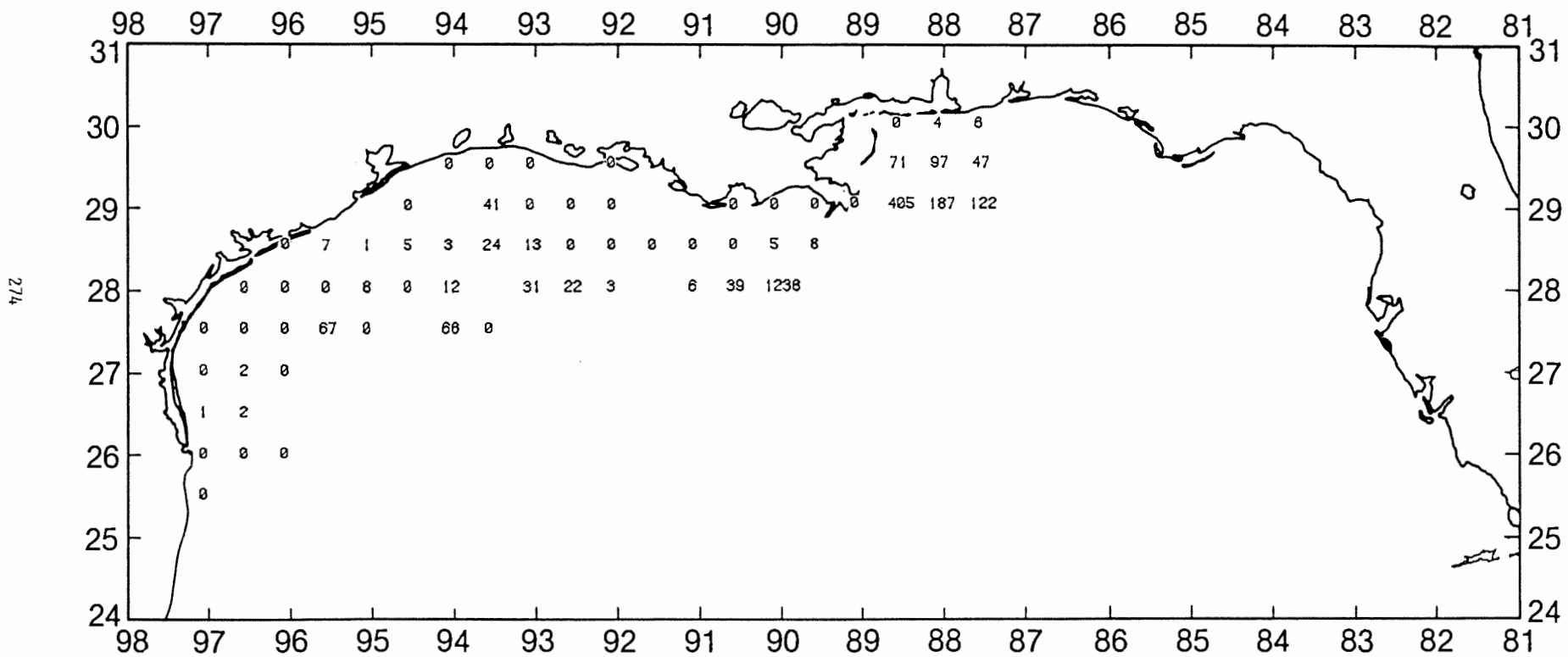


Figure 57. Longspine swimming crab, *Portunus spinicarpus*, number/hour for June-July 1988.

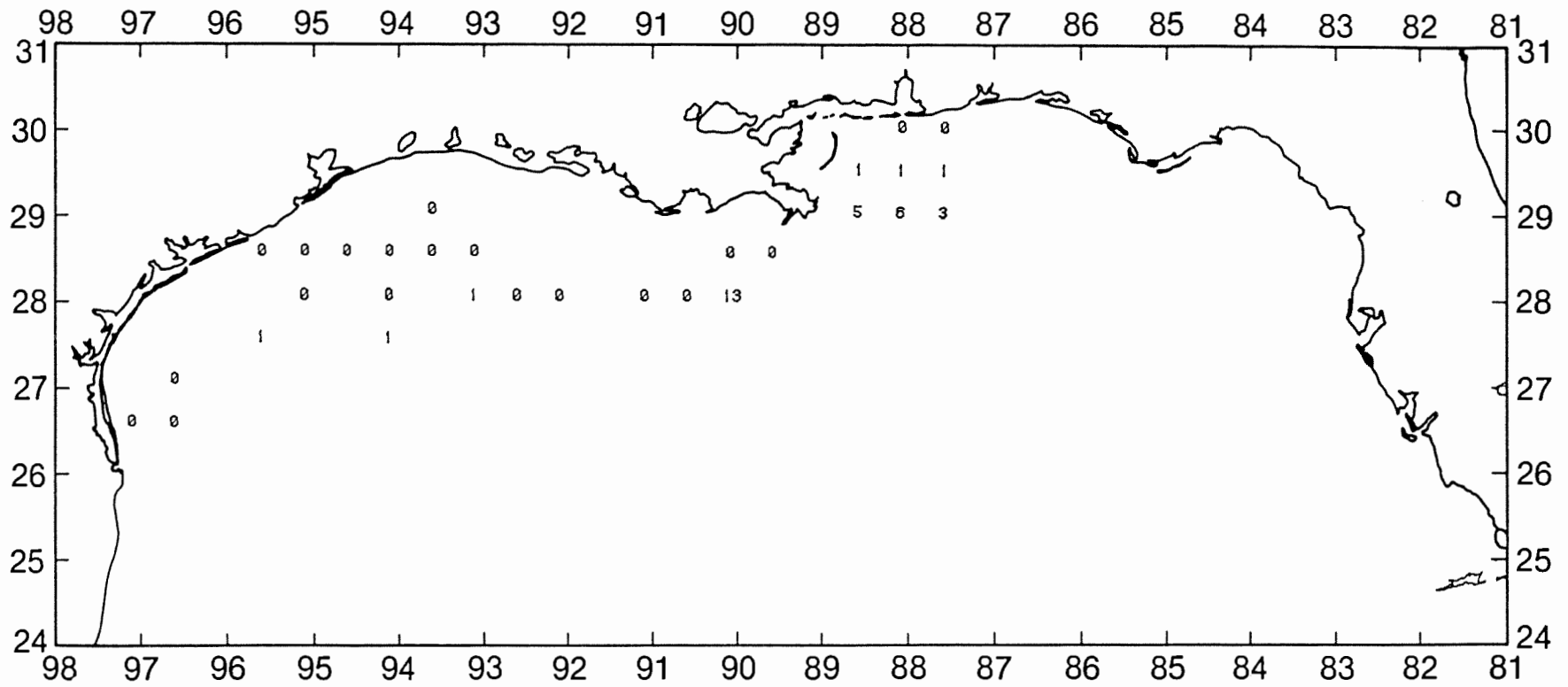


Figure 58. Longspine swimming crab, *Portunus spinicarpus*, lb/hour for June-July 1988.

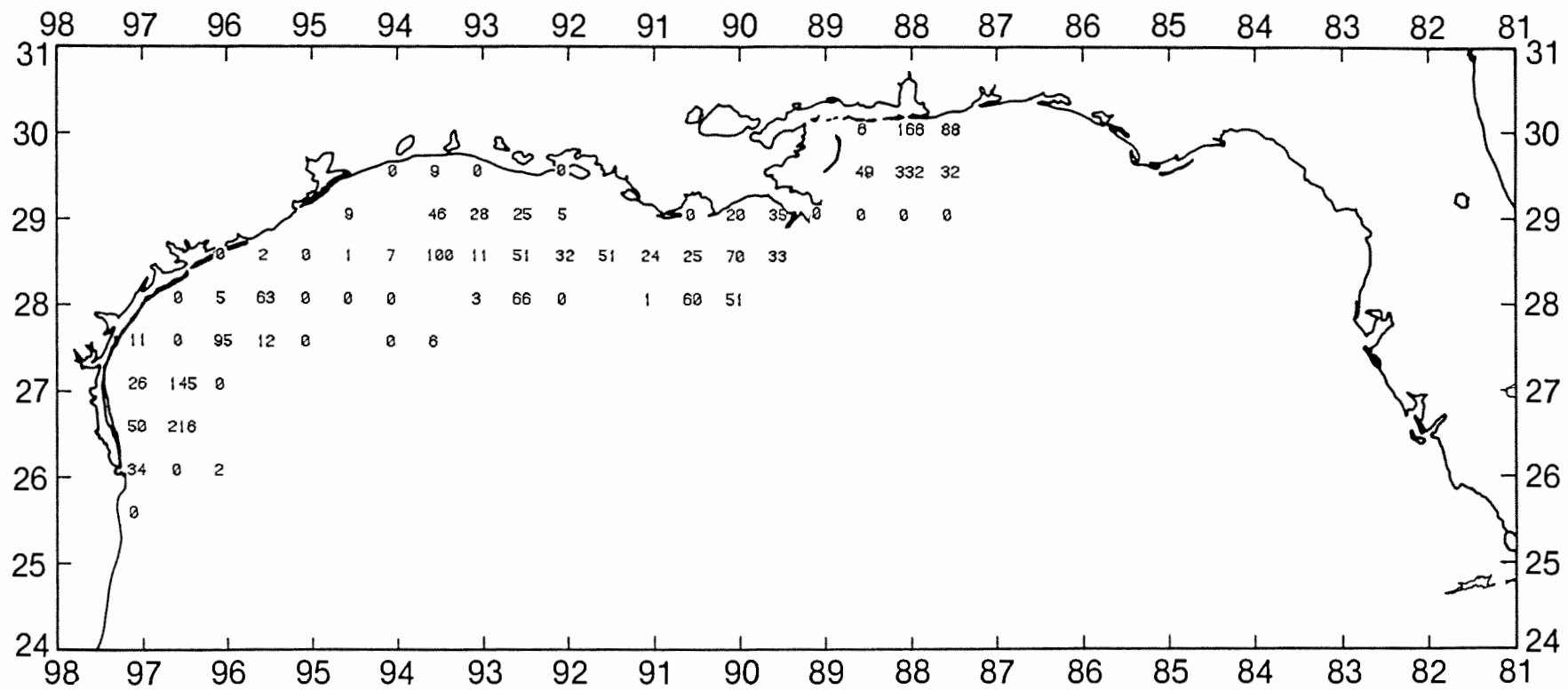


Figure 59. Longfin squid, *Loligo pealeii*, number/hour for June-July 1988.

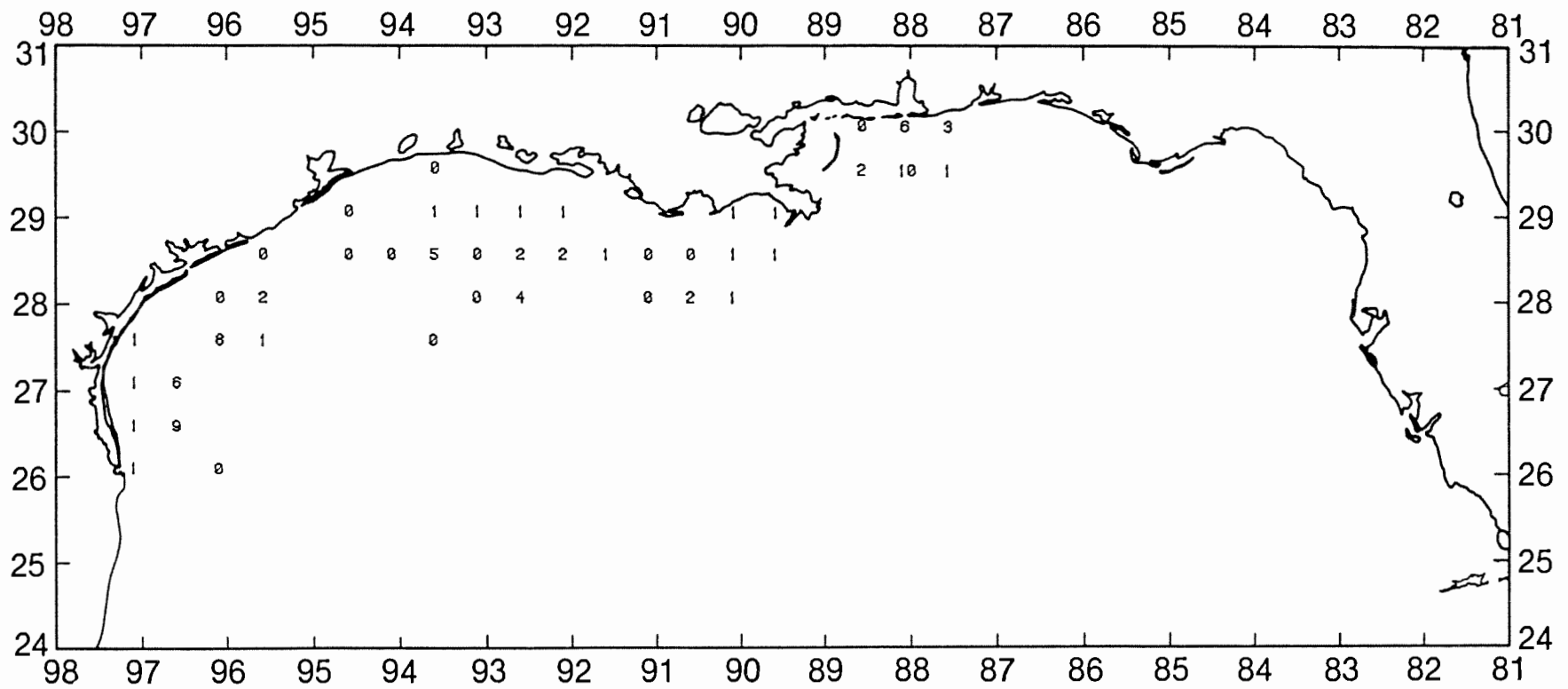


Figure 60. Longfin squid, *Loligo pealeii*, number/hour for June-July 1988.

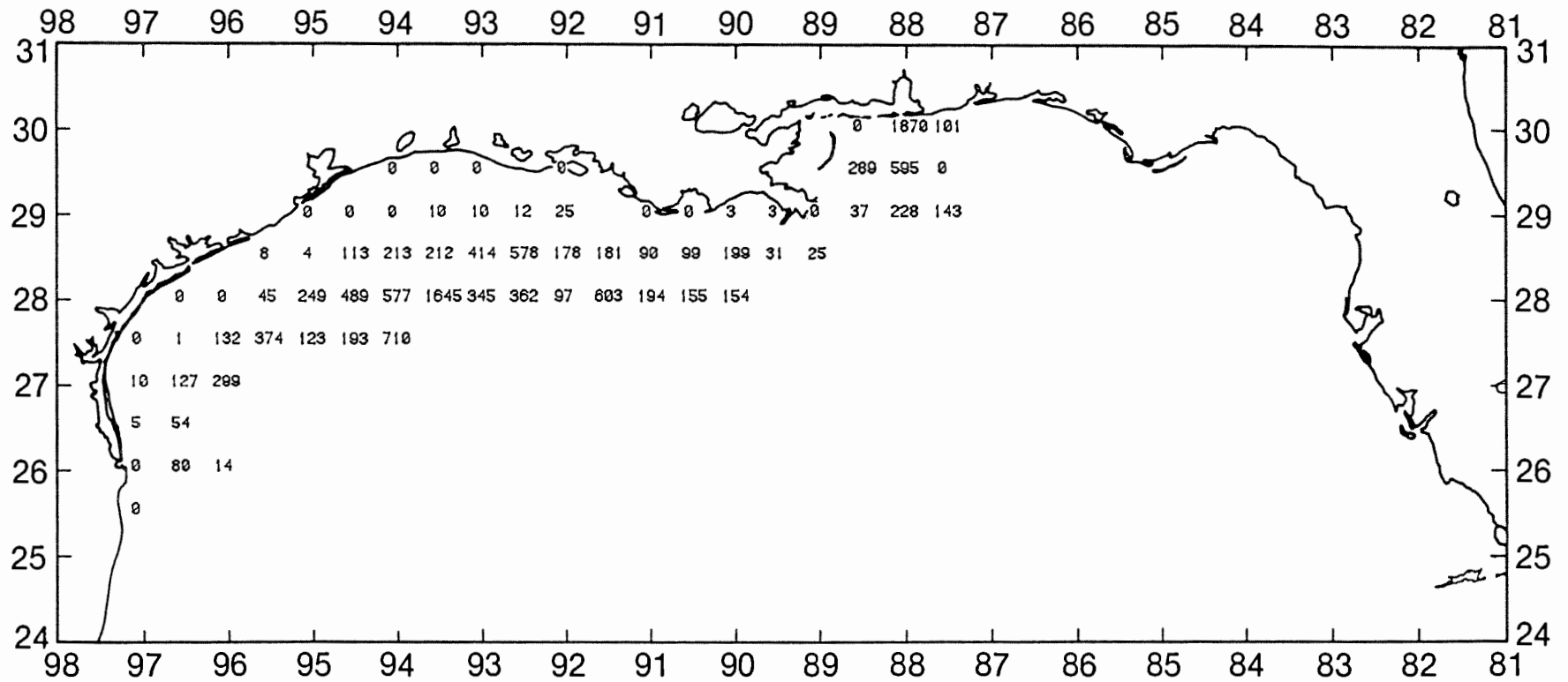


Figure 61. Longspine pogy, *Stenotomus caprinus*, number/hour for October-December 1988.

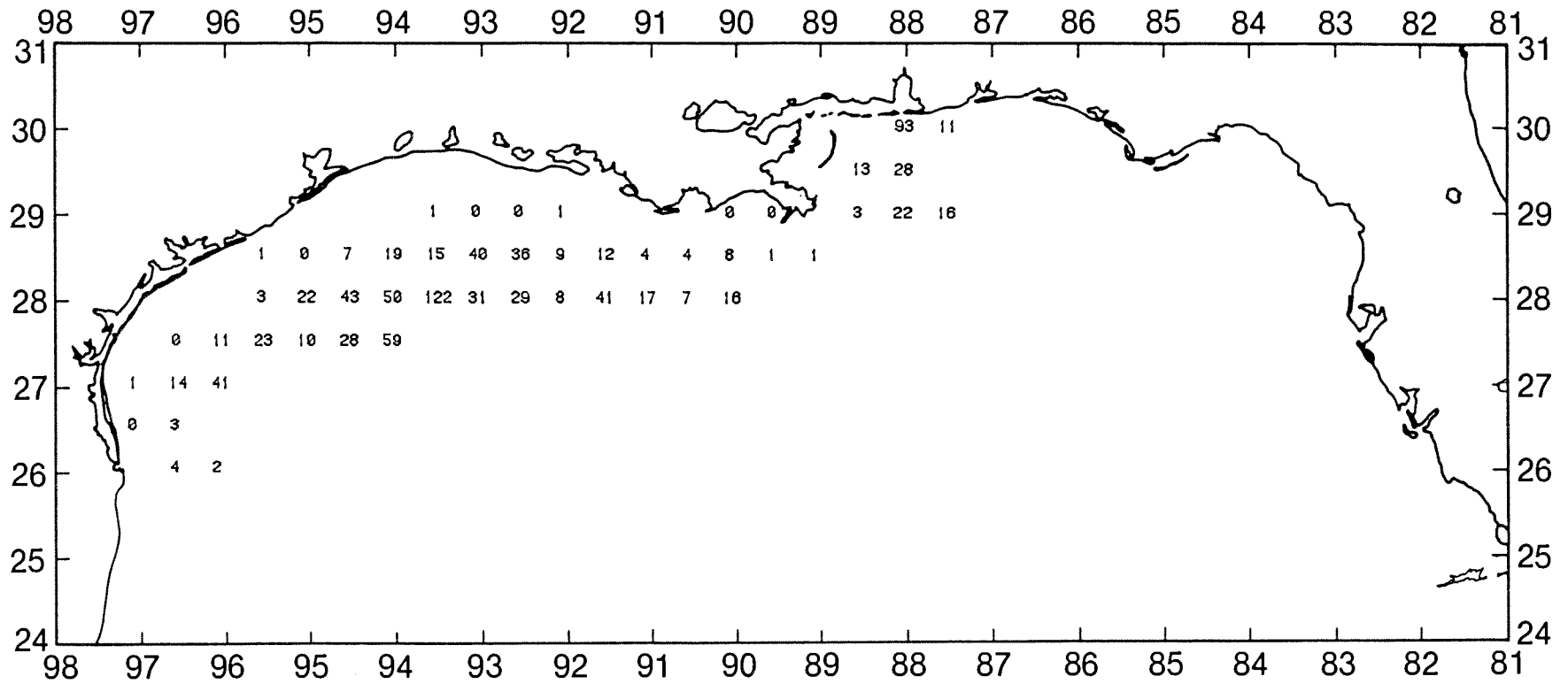


Figure 62. Longspine pogy, *Stenotomus caprinus*, lb/hour for October-December 1988.

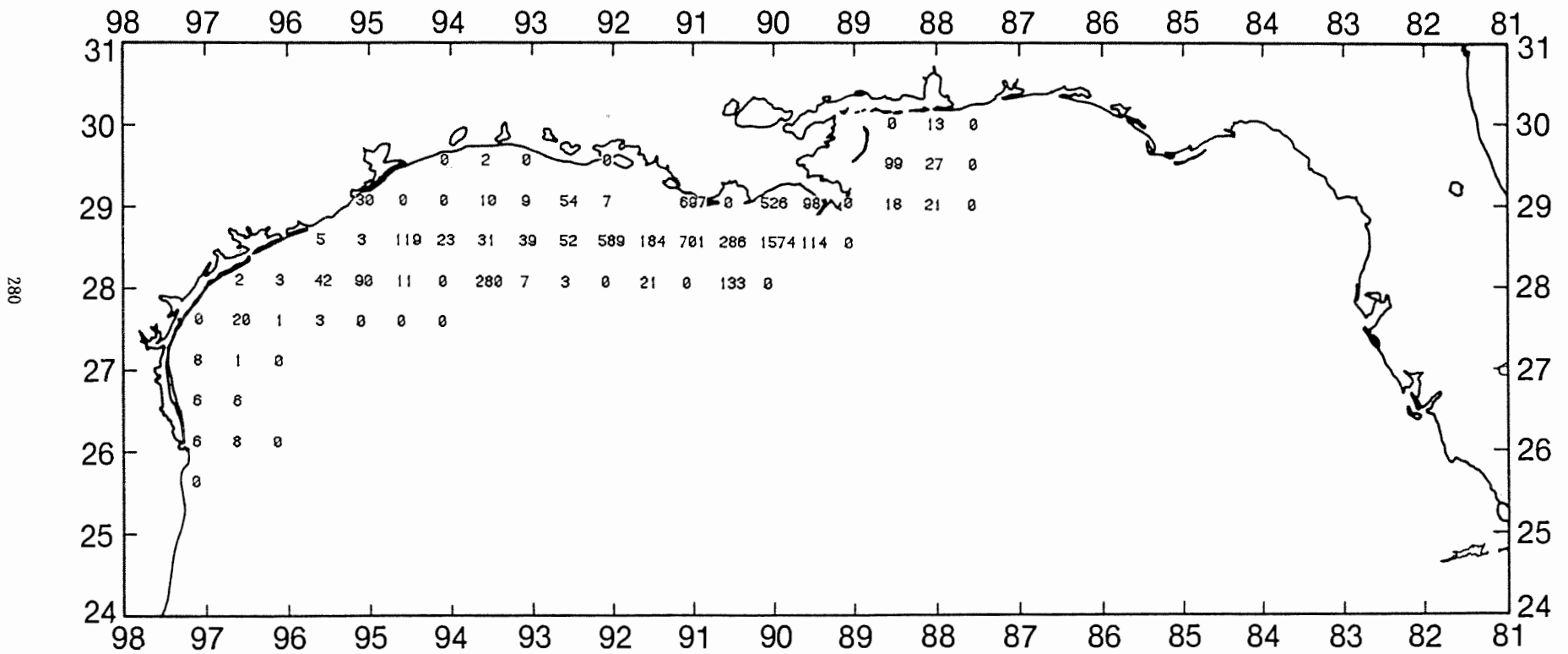


Figure 63. Atlantic croaker, *Microgogonias undulatus*, number/hour for October-December 1988.

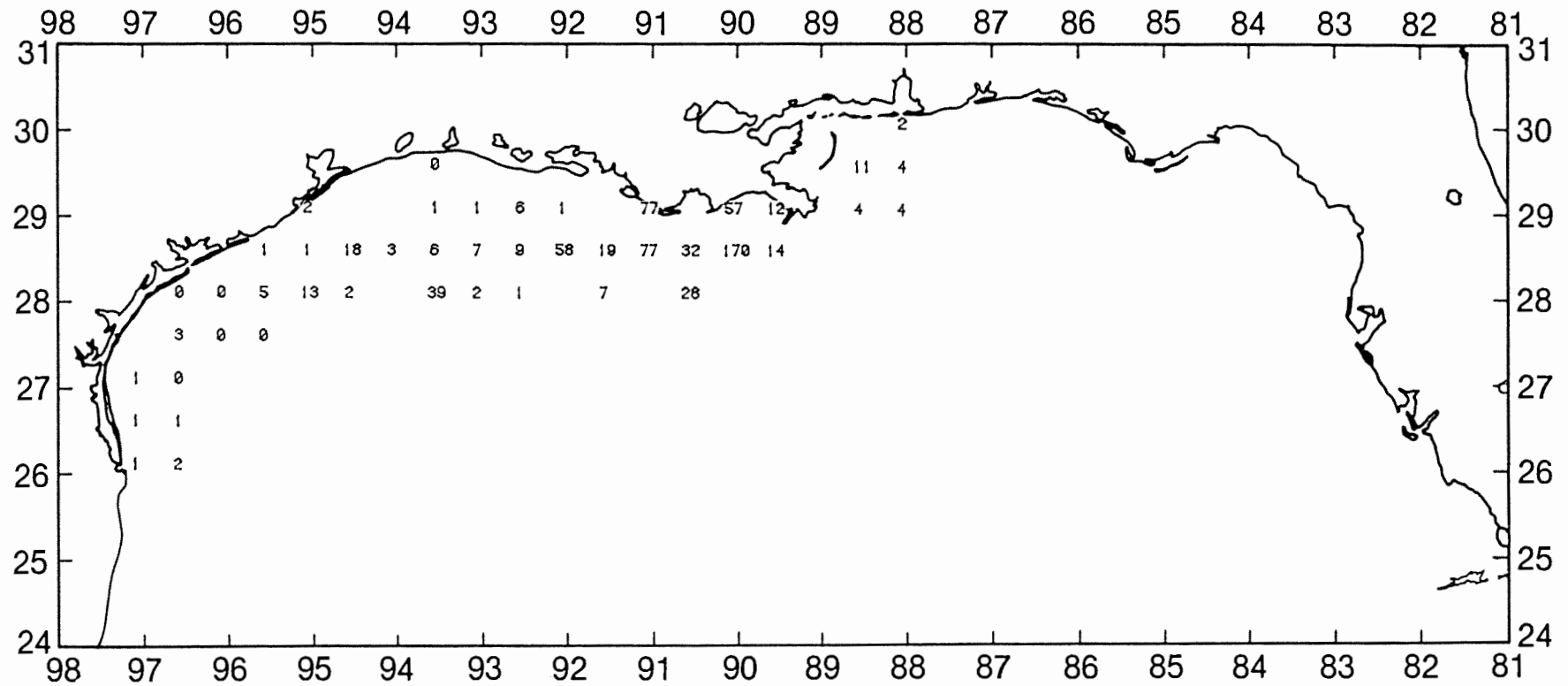


Figure 64. Atlantic croaker, *Micropogonias undulatus*, lb/hour for October-December 1988.

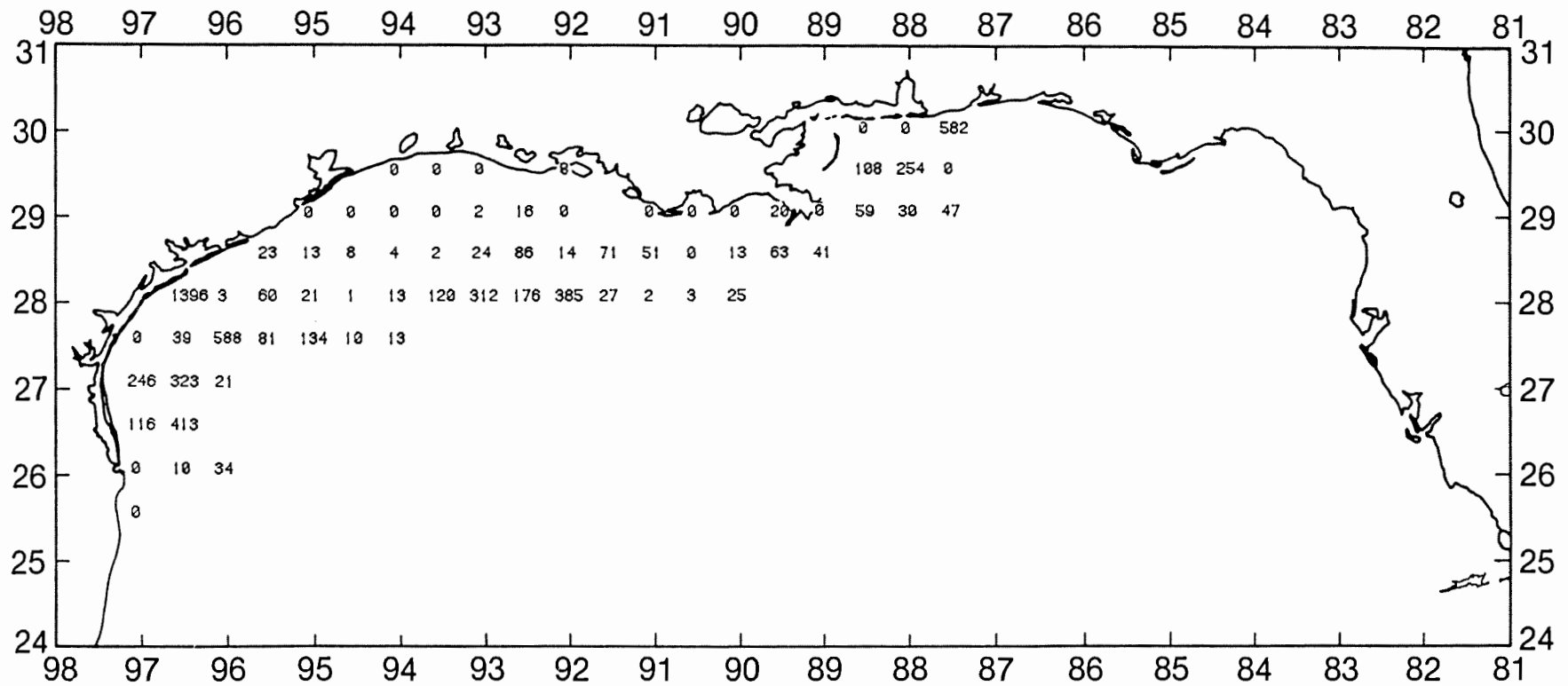


Figure 65. Rough scad, *Trachurus lathami*, number/hour for October-December 1988.

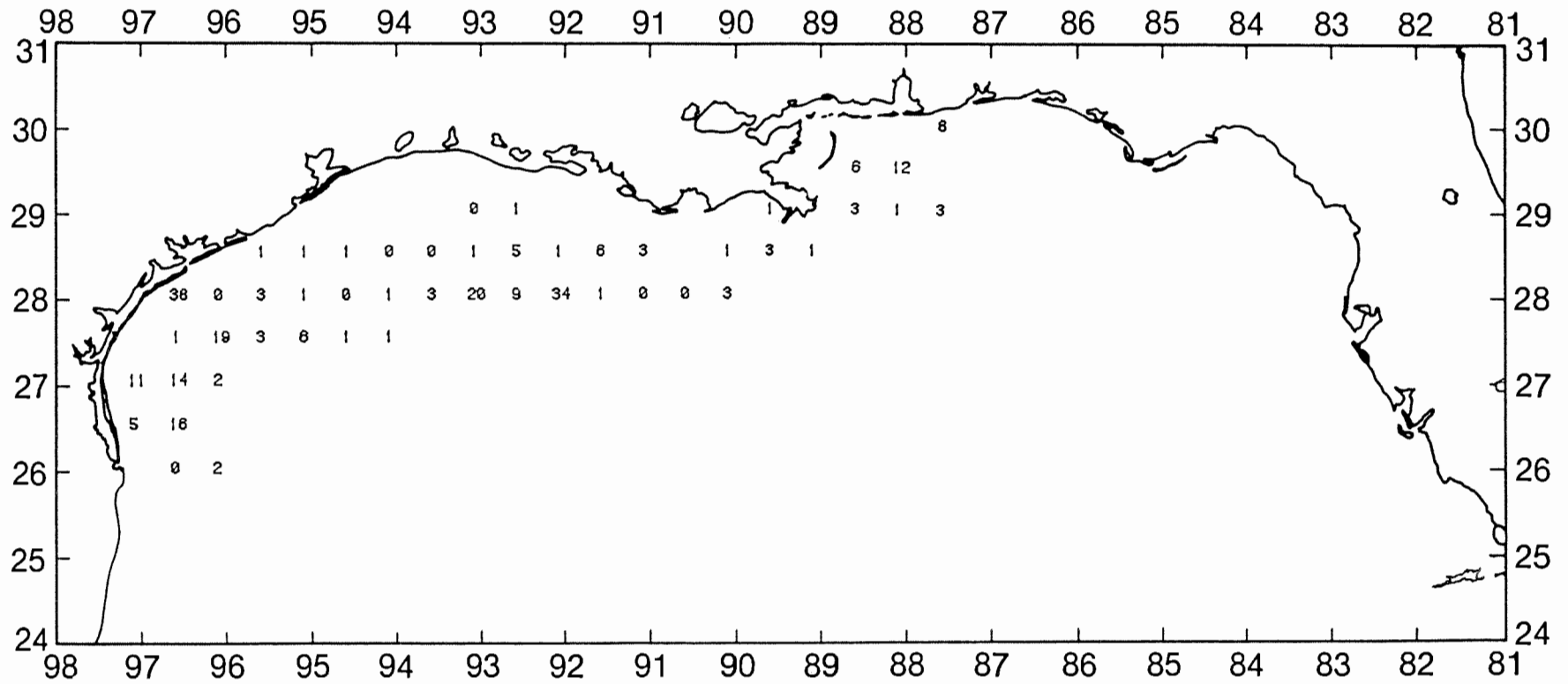


Figure 66. Rough scad, *Trachurus lathami*, lb/hour for October-December 1988.

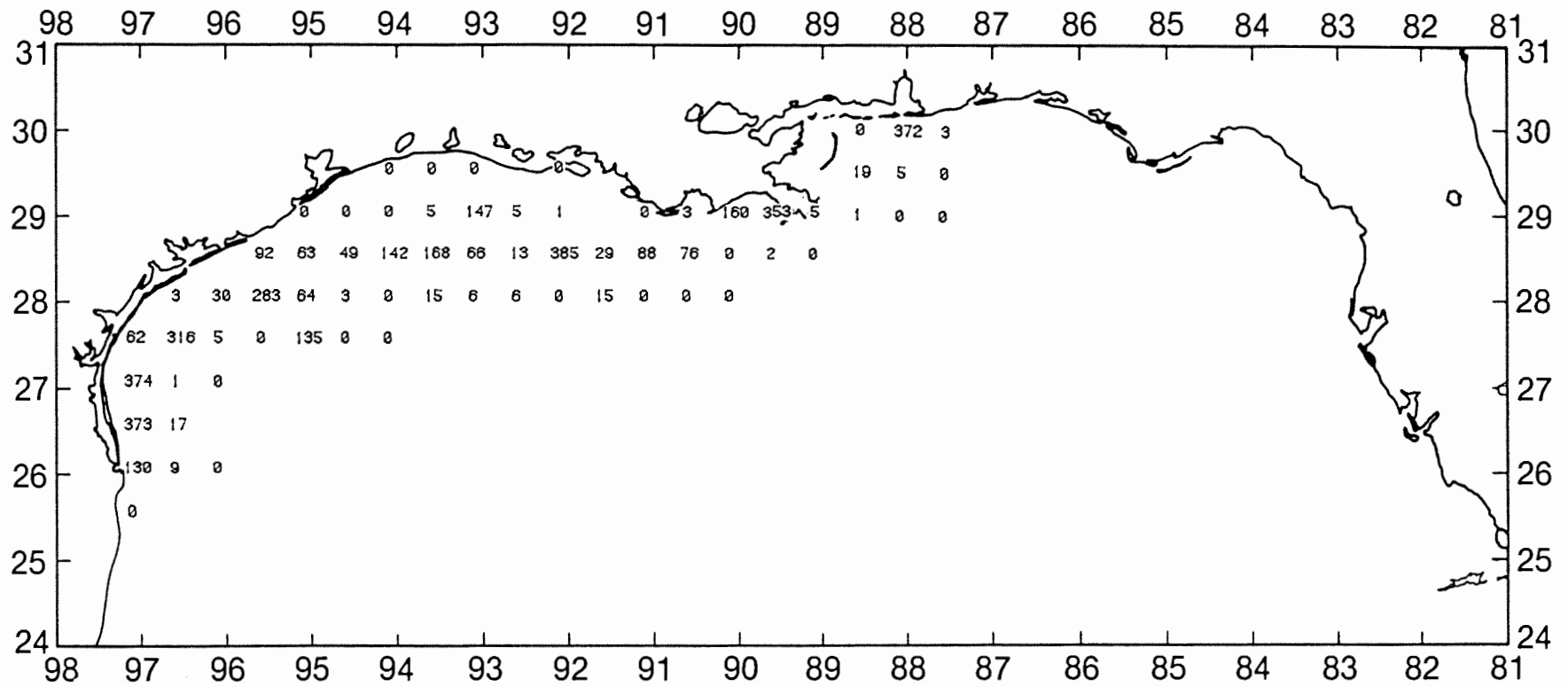


Figure 67. Atlantic bumper, *Chloroscombus chrysurus*, number/hour for October-December 1988.

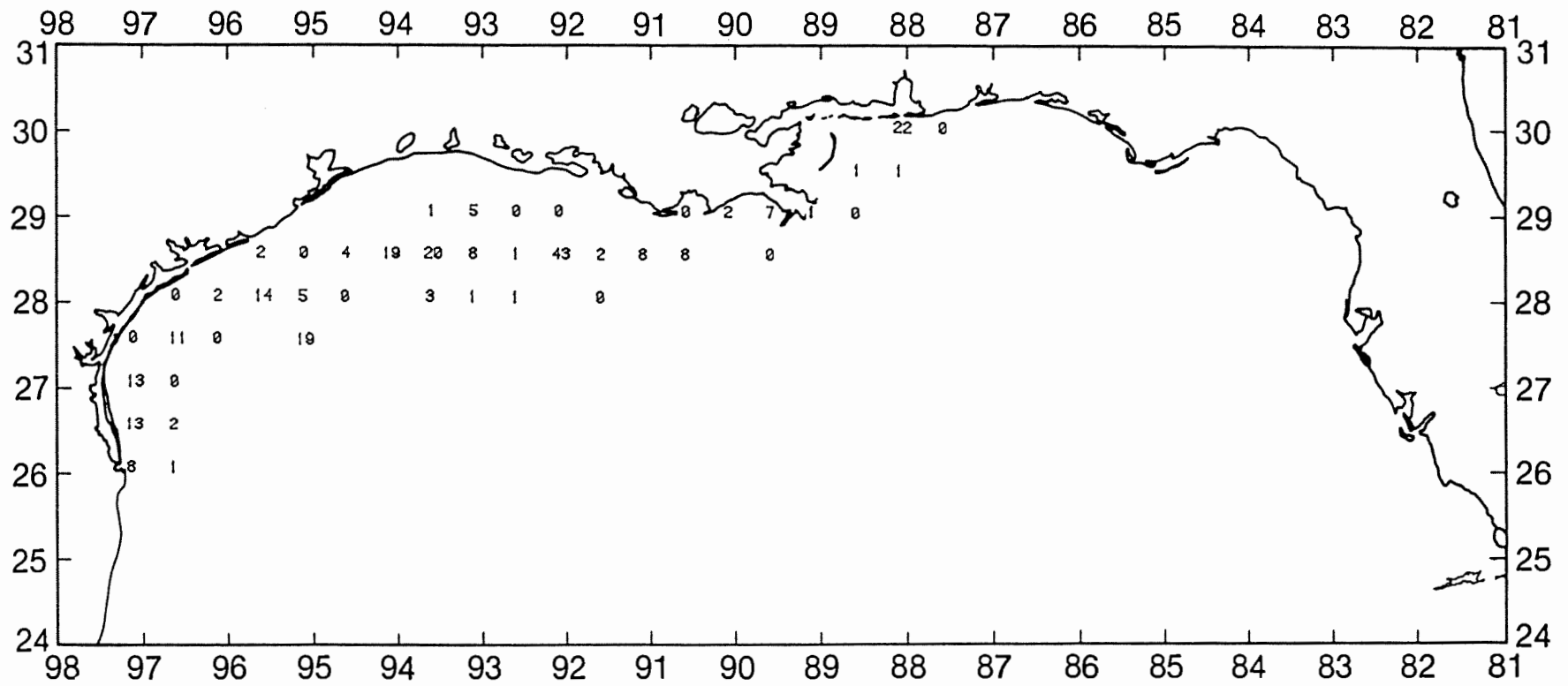


Figure 68. Atlantic bumper, *Chloroscombrus chrysurus*, lb/hour for October-December 1988.

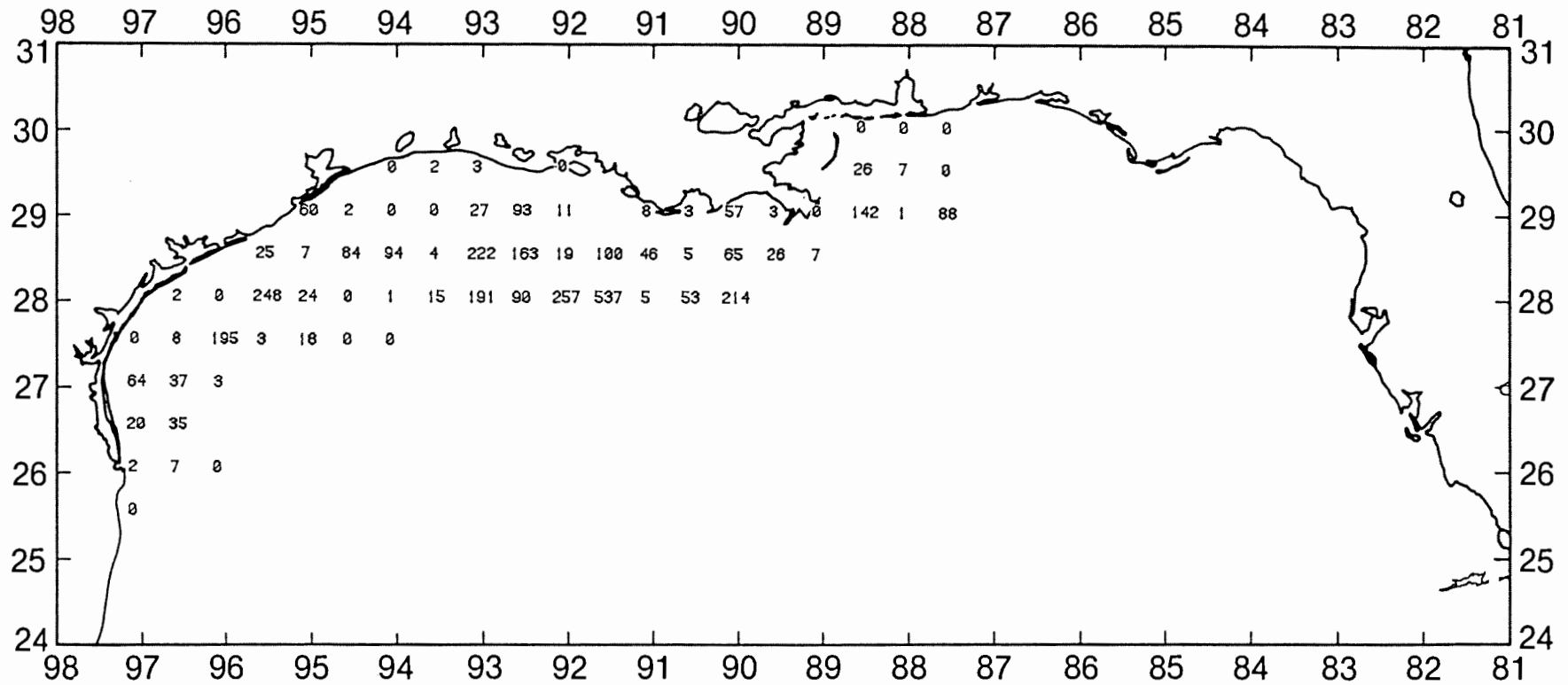


Figure 69. Gulf butterfish, *Peprilus burti*, number/hour for October-December 1988.

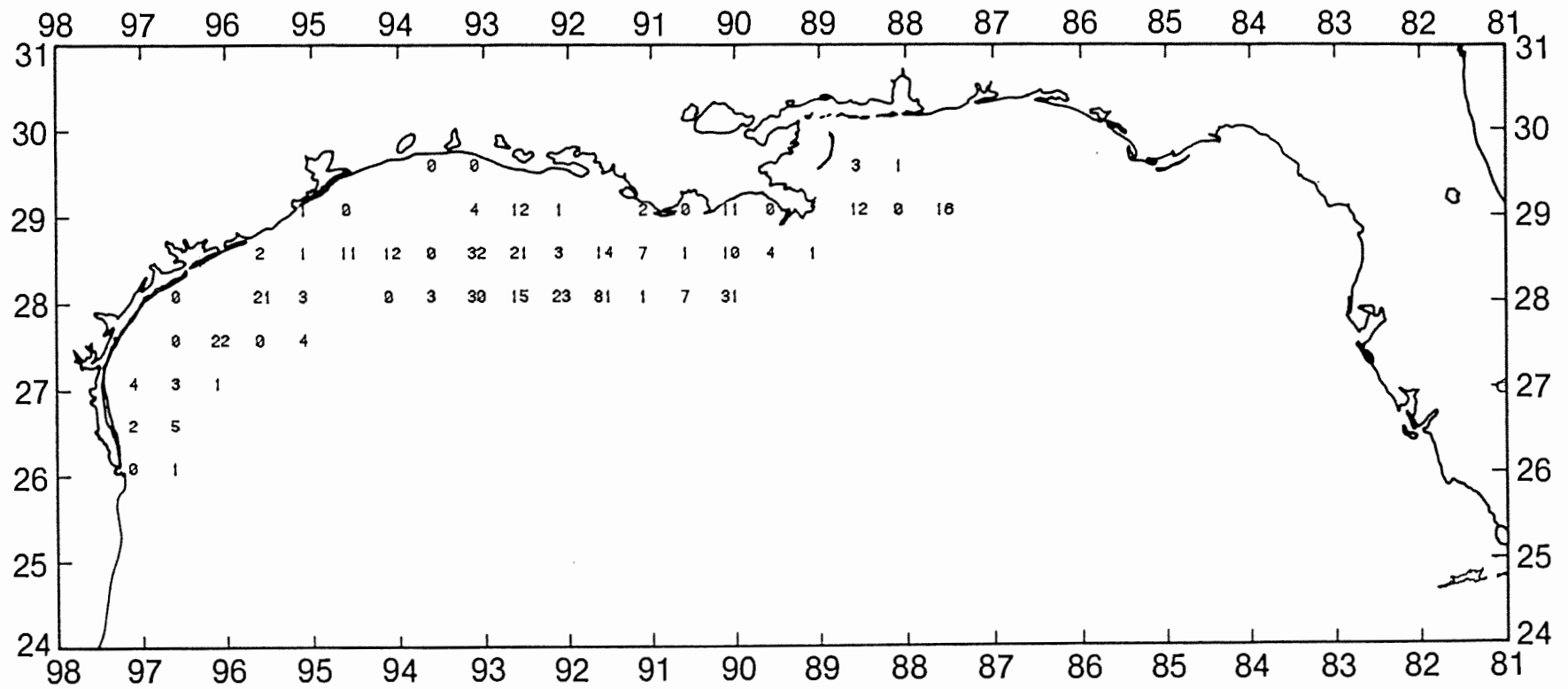


Figure 70. Gulf butterfish, *Peprilus burti*, lb/hour for October-December 1988.

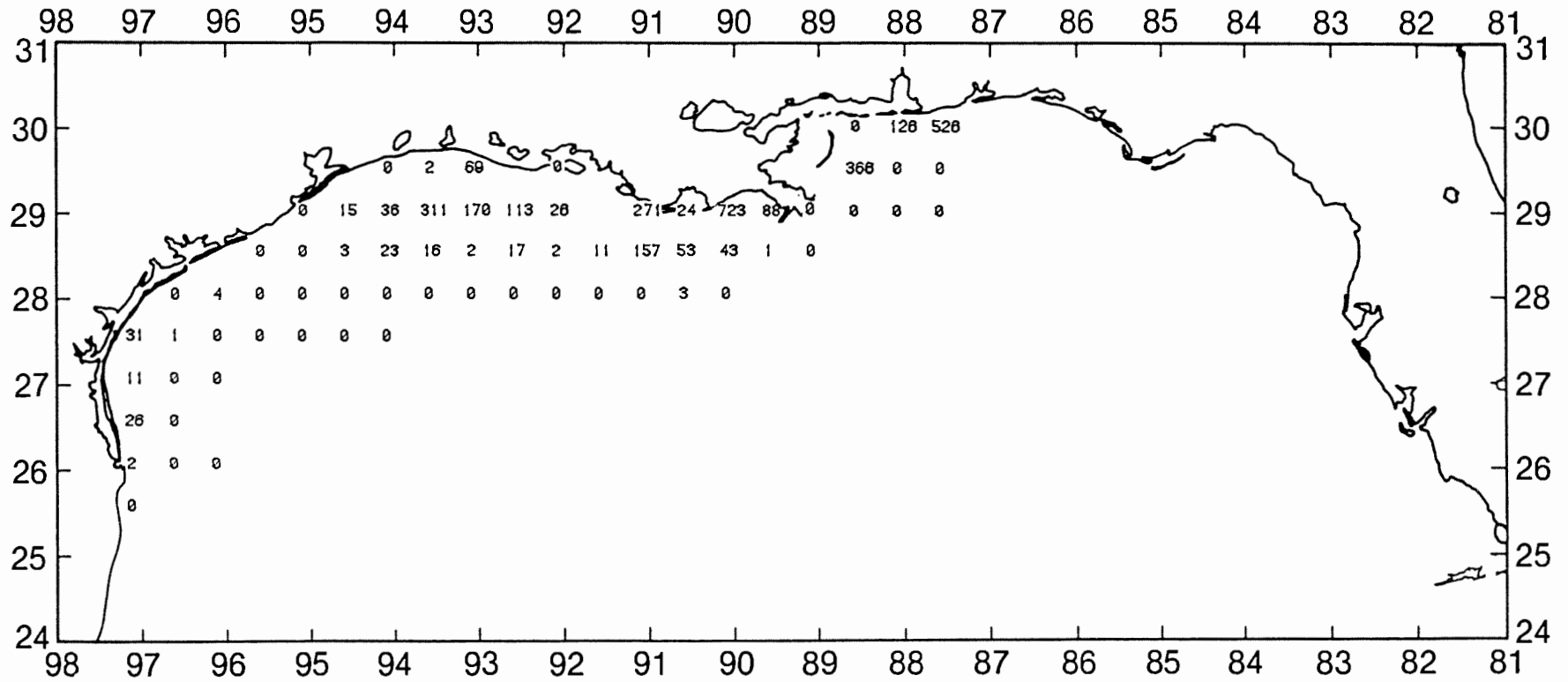


Figure 71. Hardhead catfish, *Arius felis*, number/hour for October-December 1988.

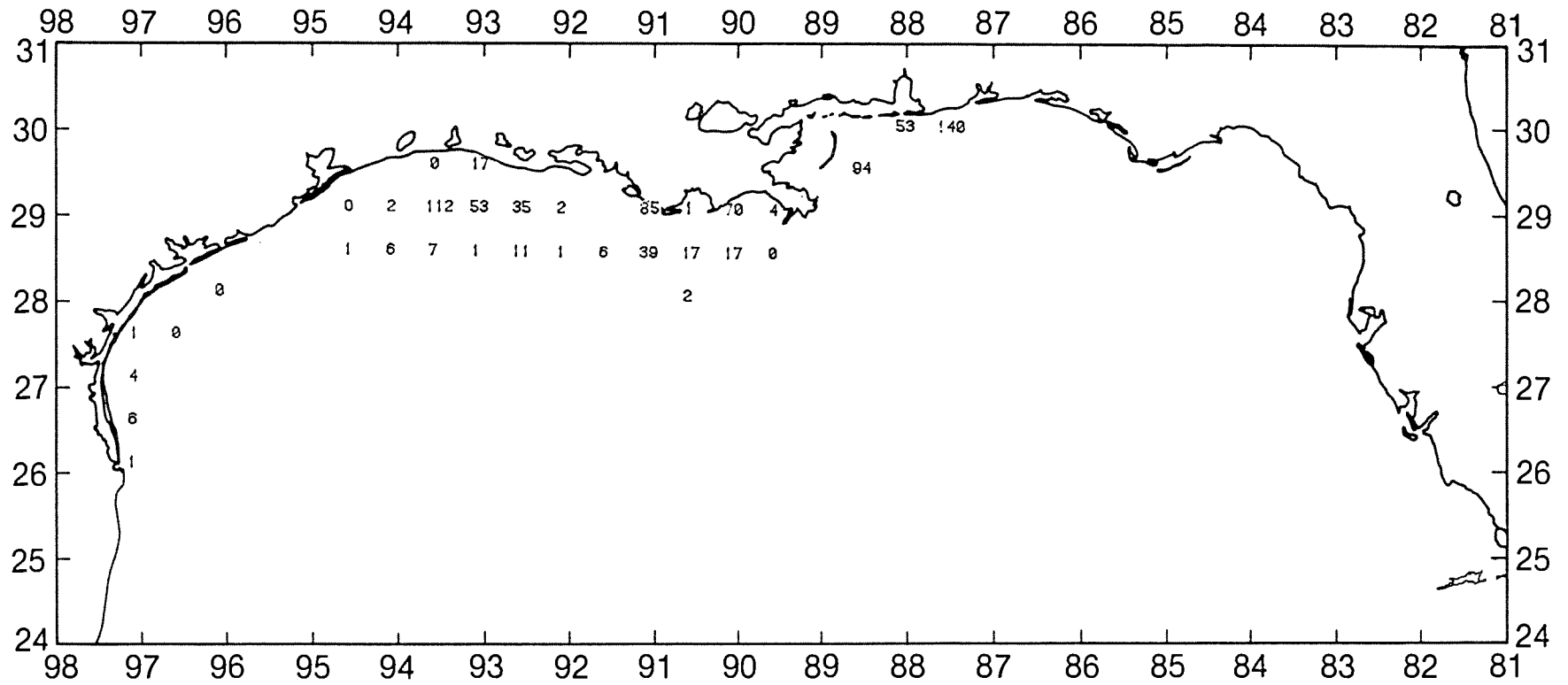


Figure 72. Hardhead catfish, *Arius felis*, lb/hour for October-December 1988.

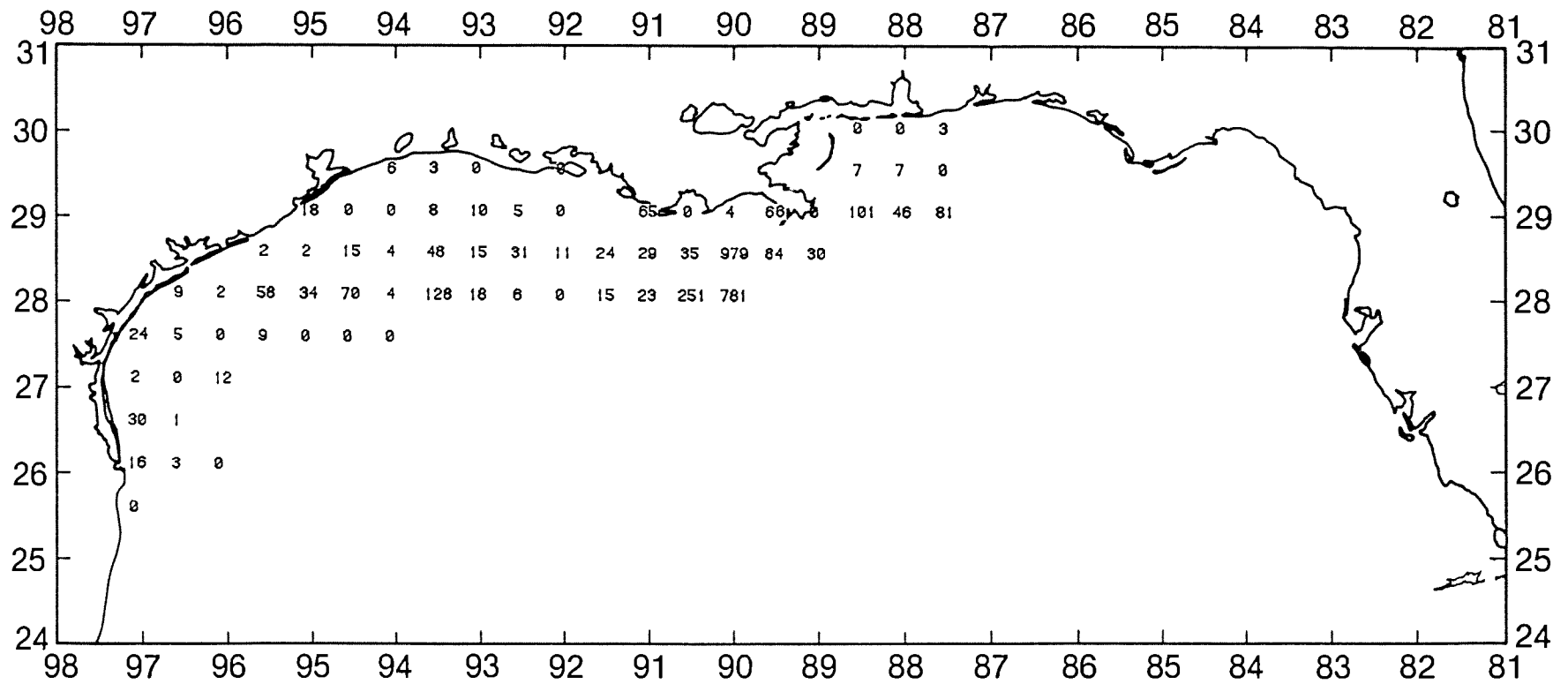


Figure 73. Spot, *Leioostomus xanthurus*, number/hour for October-December 1988.

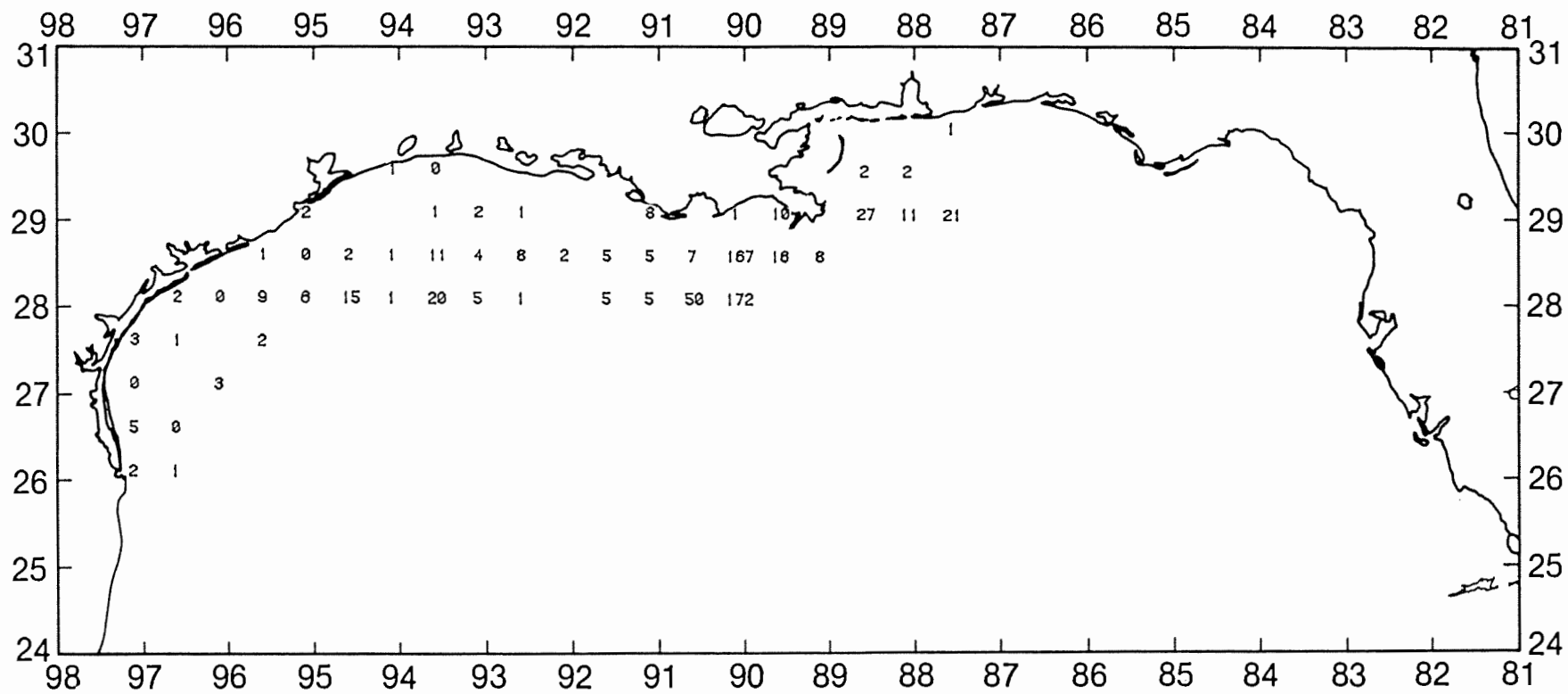


Figure 74. Spot, *Leiostomus xanthurus*, lb/hour for October-December 1988.

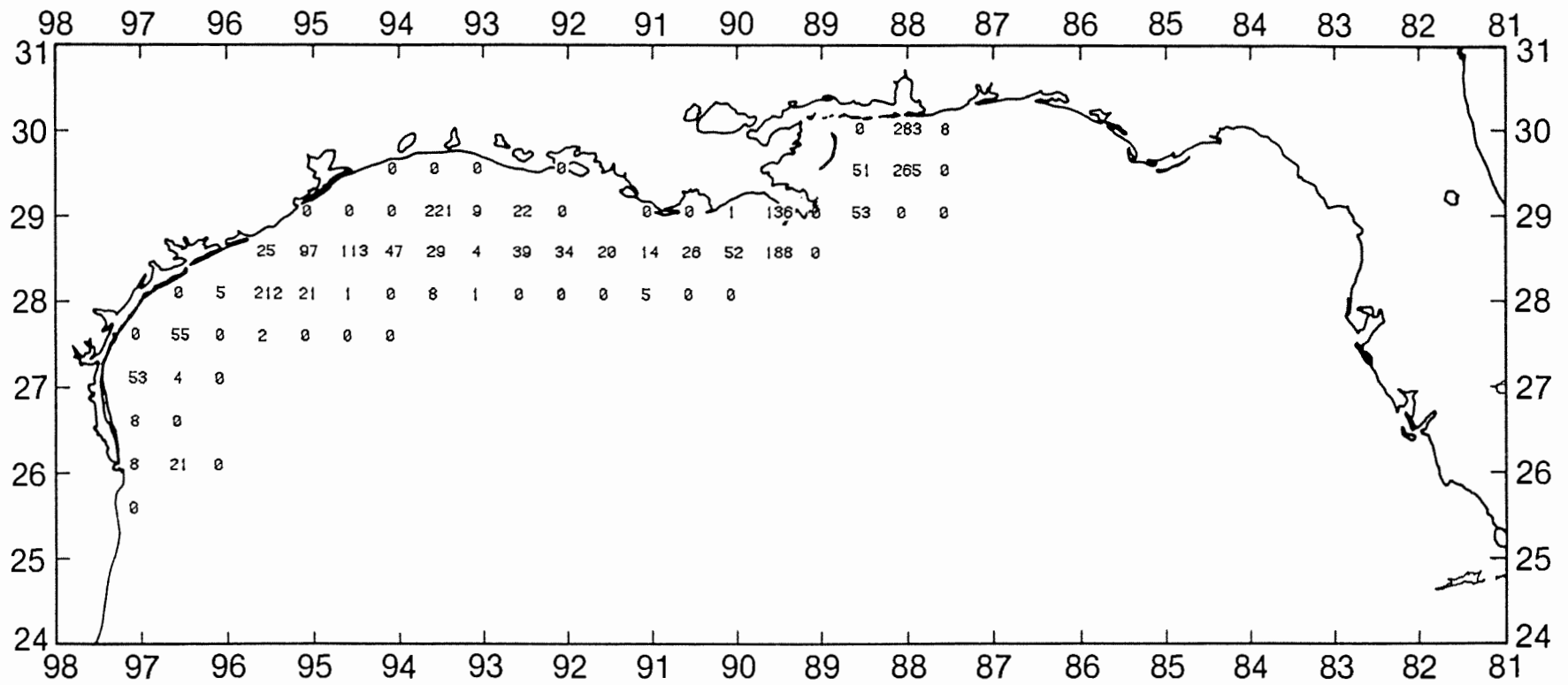
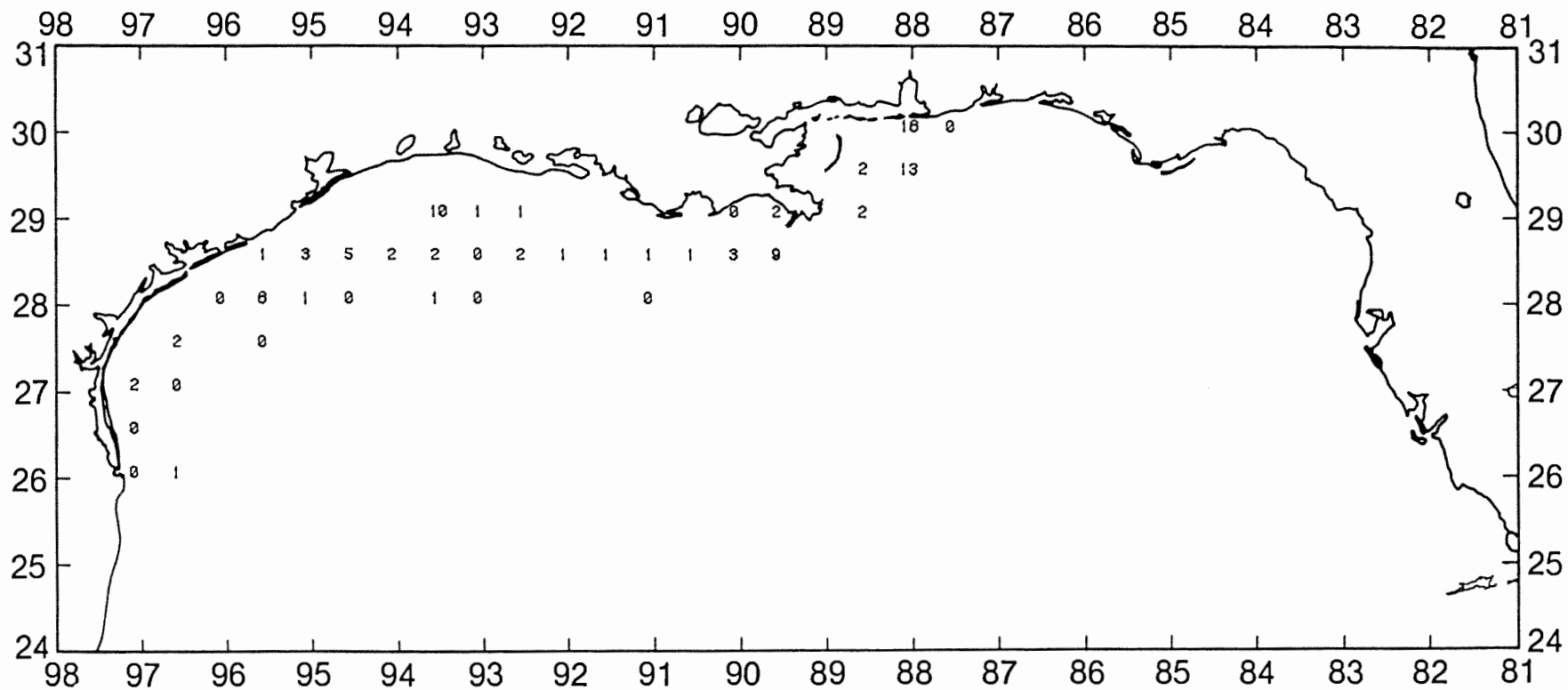


Figure 75. Dwarf sand perch, *Diplectrum bivittatum*, number/hour for October-December 1988.



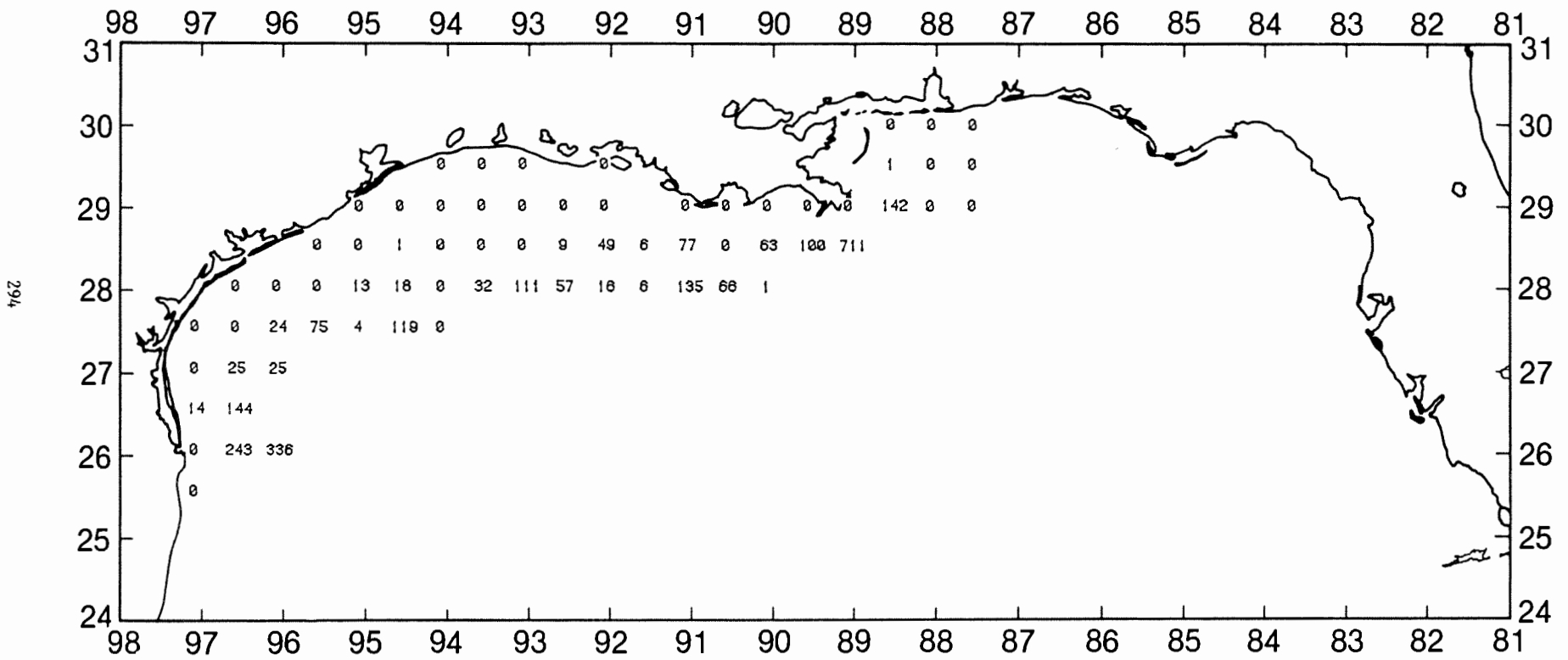


Figure 77. Blackear bass, *Serranus atrobranchus*, number/hour for October-December 1988.

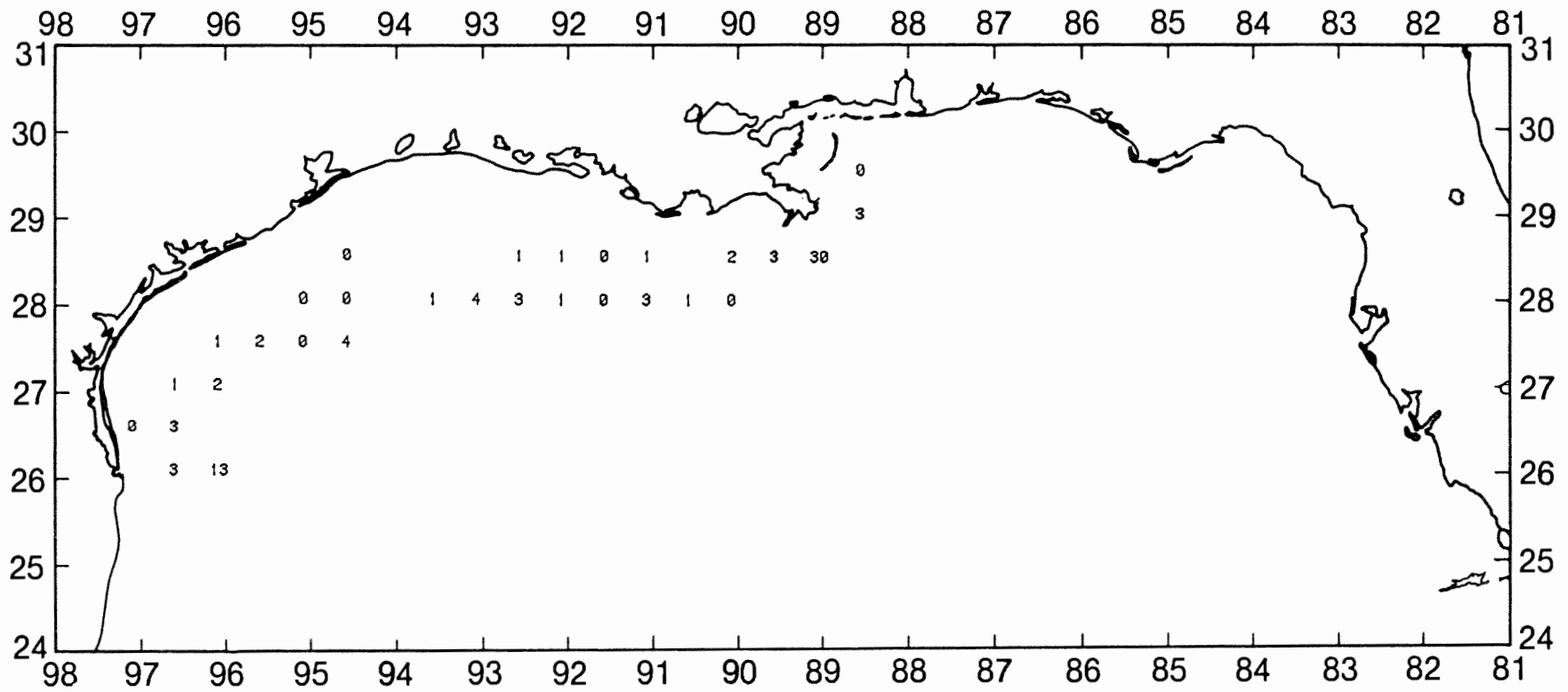


Figure 78. Blackear bass, *Serranus atrobranchus*, lb/hour for October-December 1988.

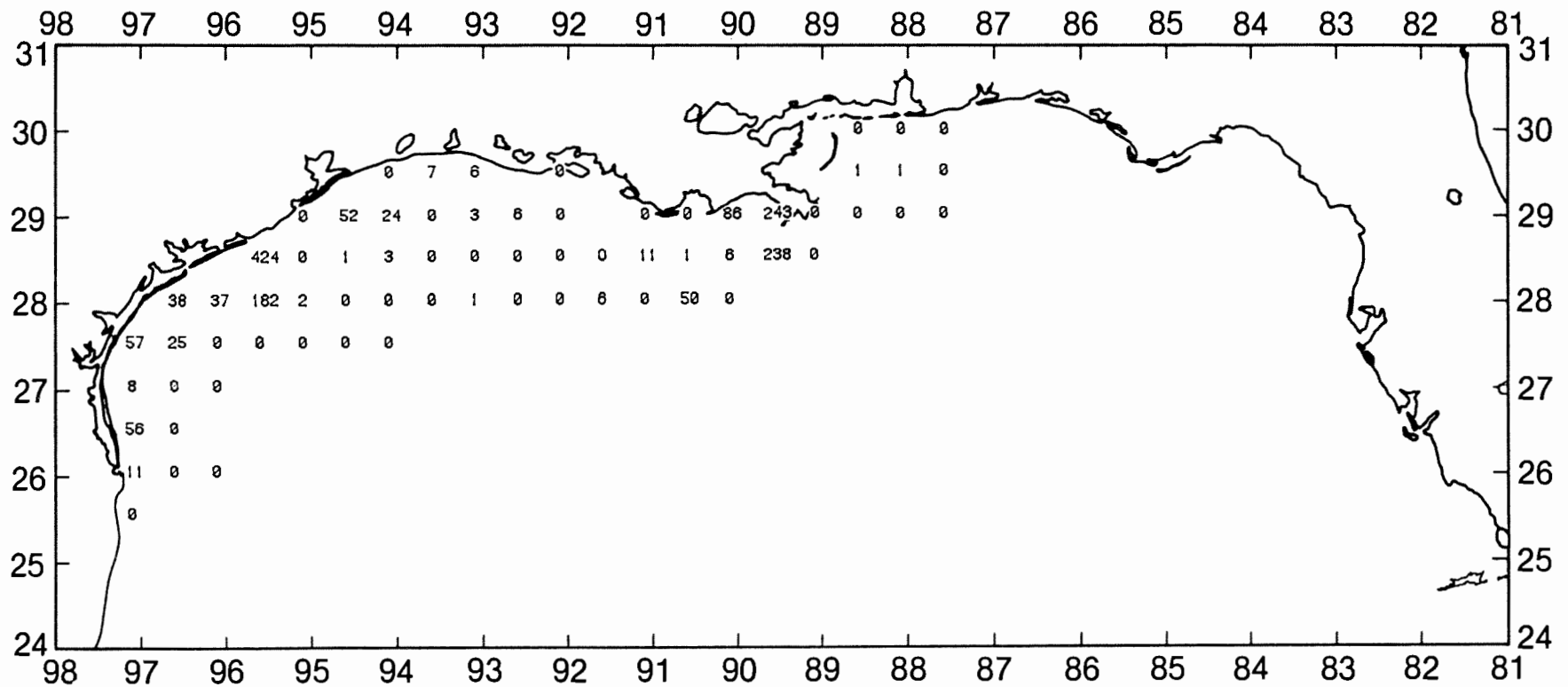


Figure 79. Silver seatrout, *Cynoscion nothus*, number/hour for October-December 1988.

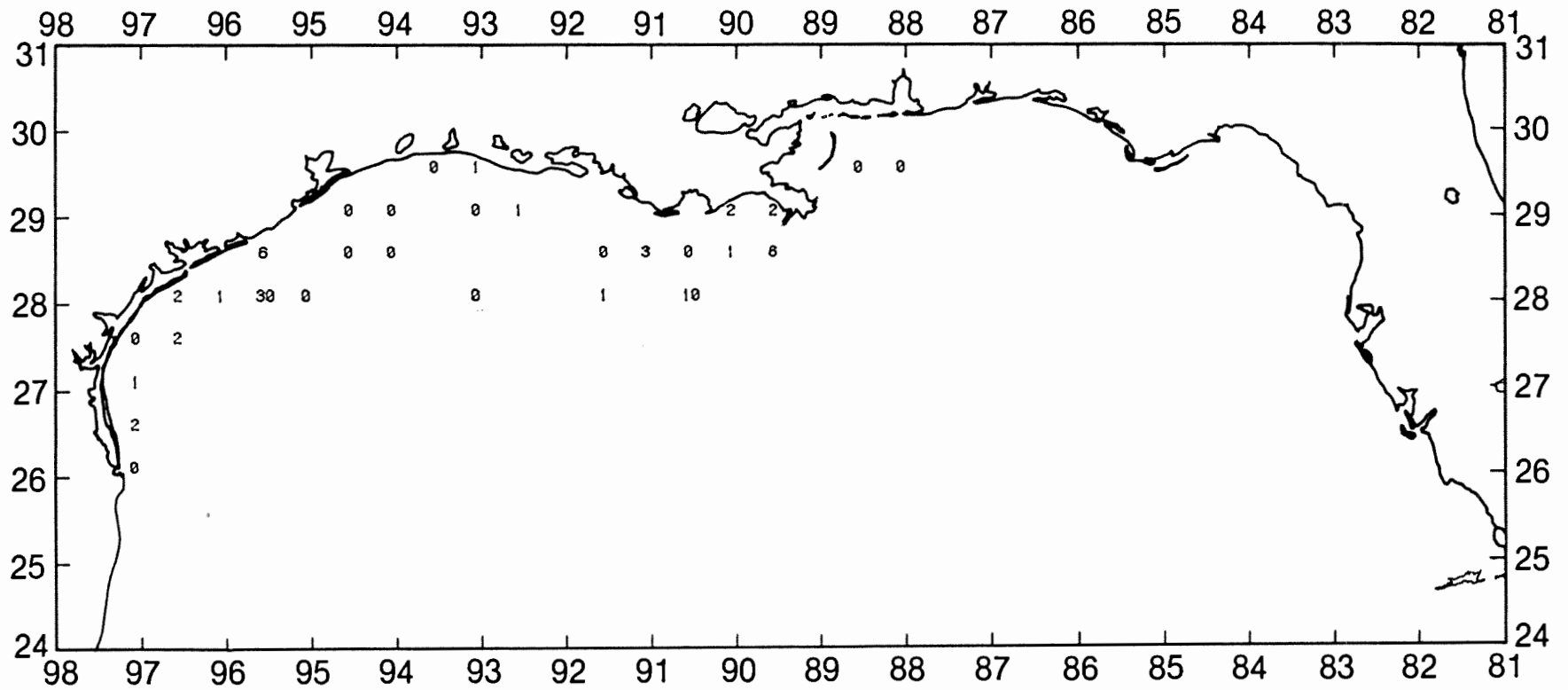


Figure 80. Silver seatrout, *Cynoscion nothus*, lb/hour for October-December 1988.

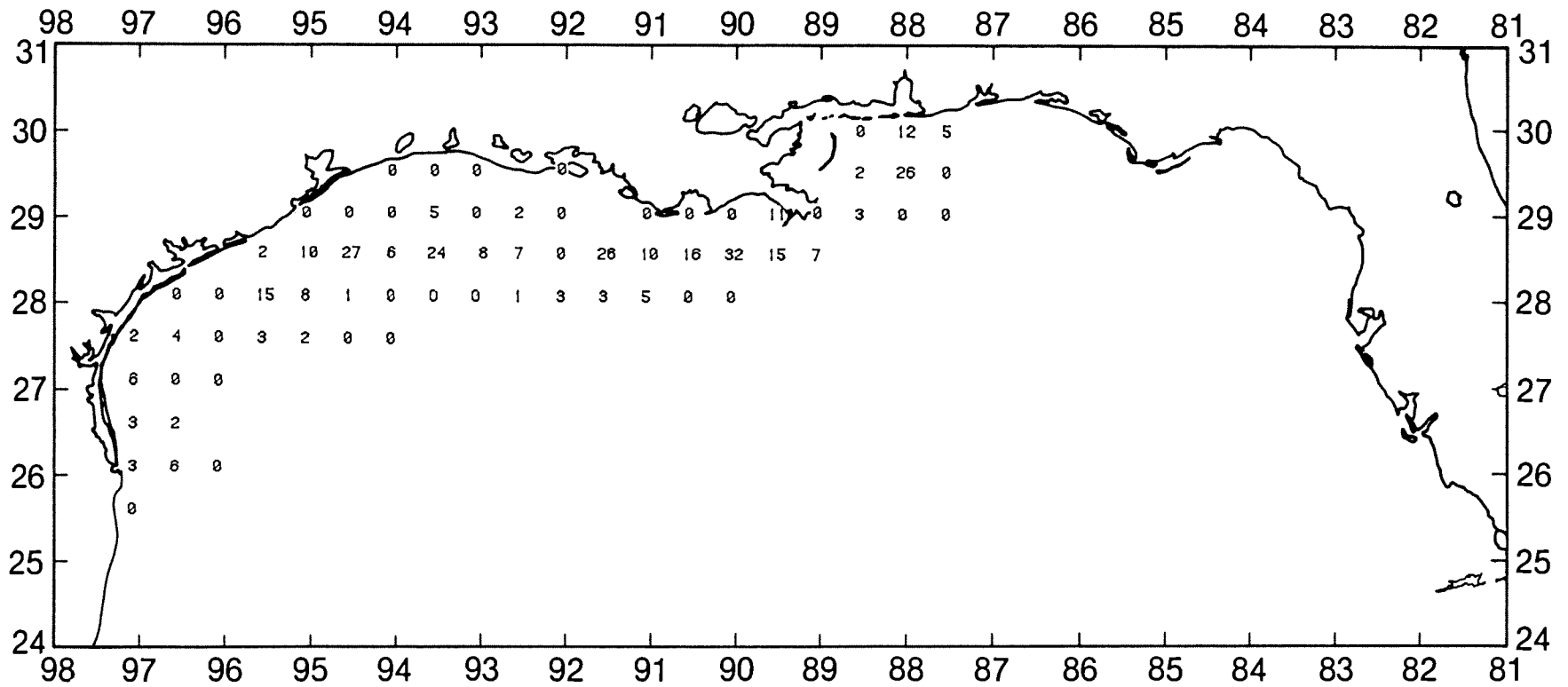


Figure 81. Red snapper, *Lutjanus campechanus*, number/hour for October-December 1988.

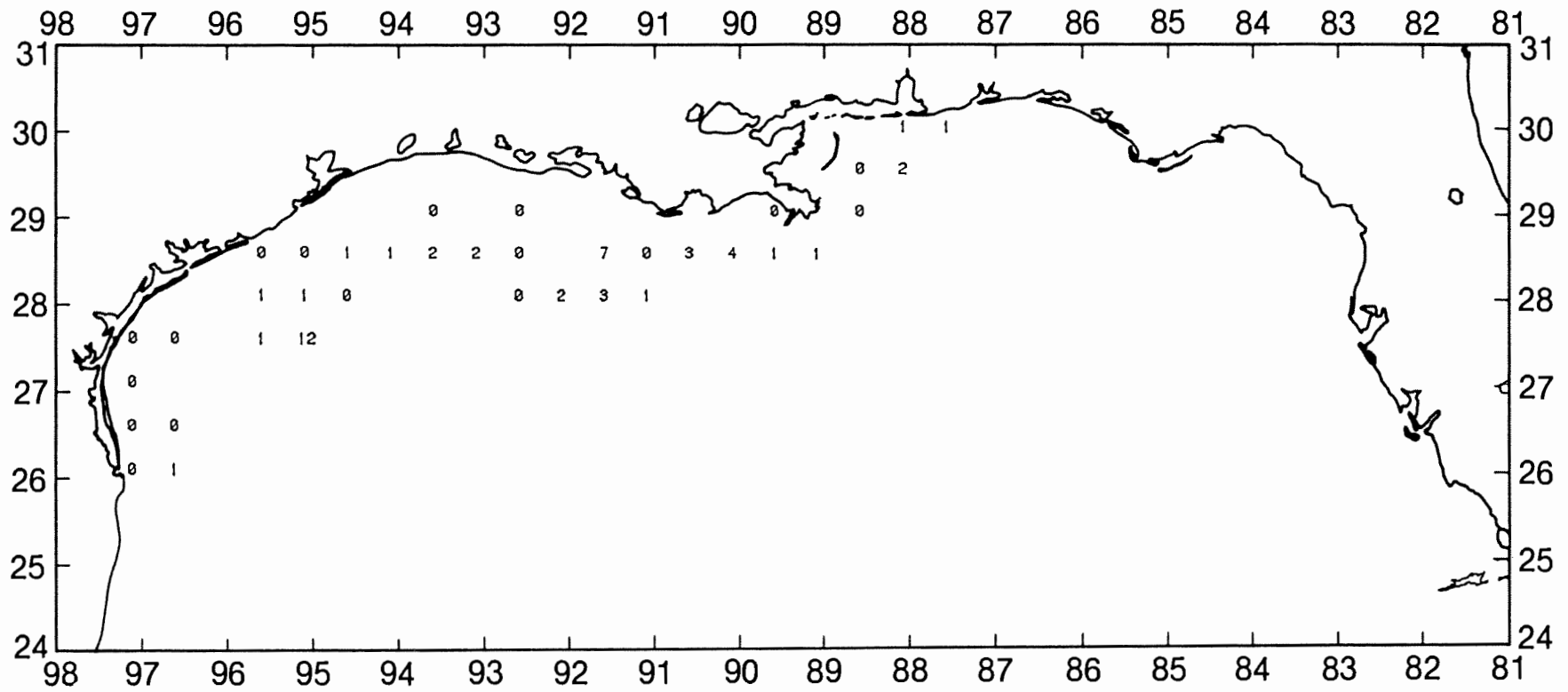


Figure 82. Red snapper, *Lutjanus campechanus*, lb/hour for October-December 1988.

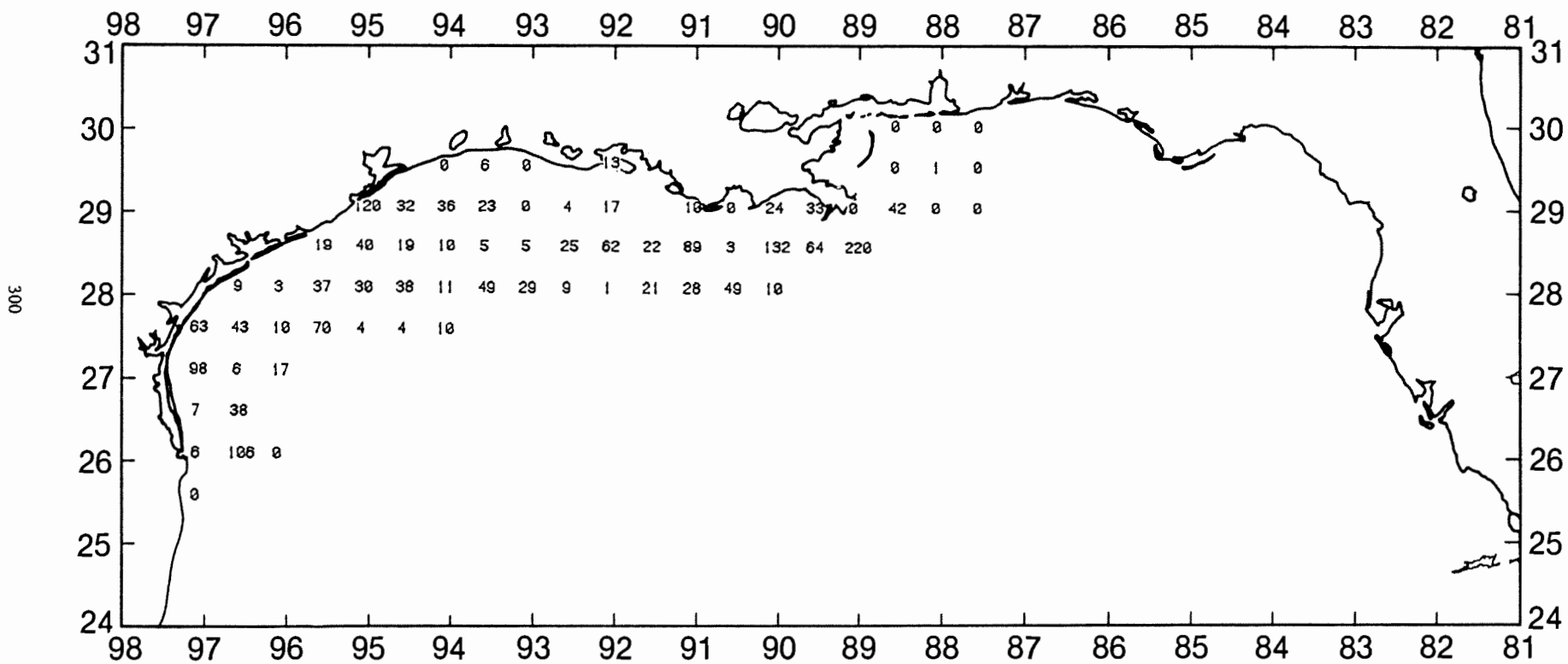


Figure 83. Brown shrimp, *Penaeus aztecus*, number/hour for October-December 1988.

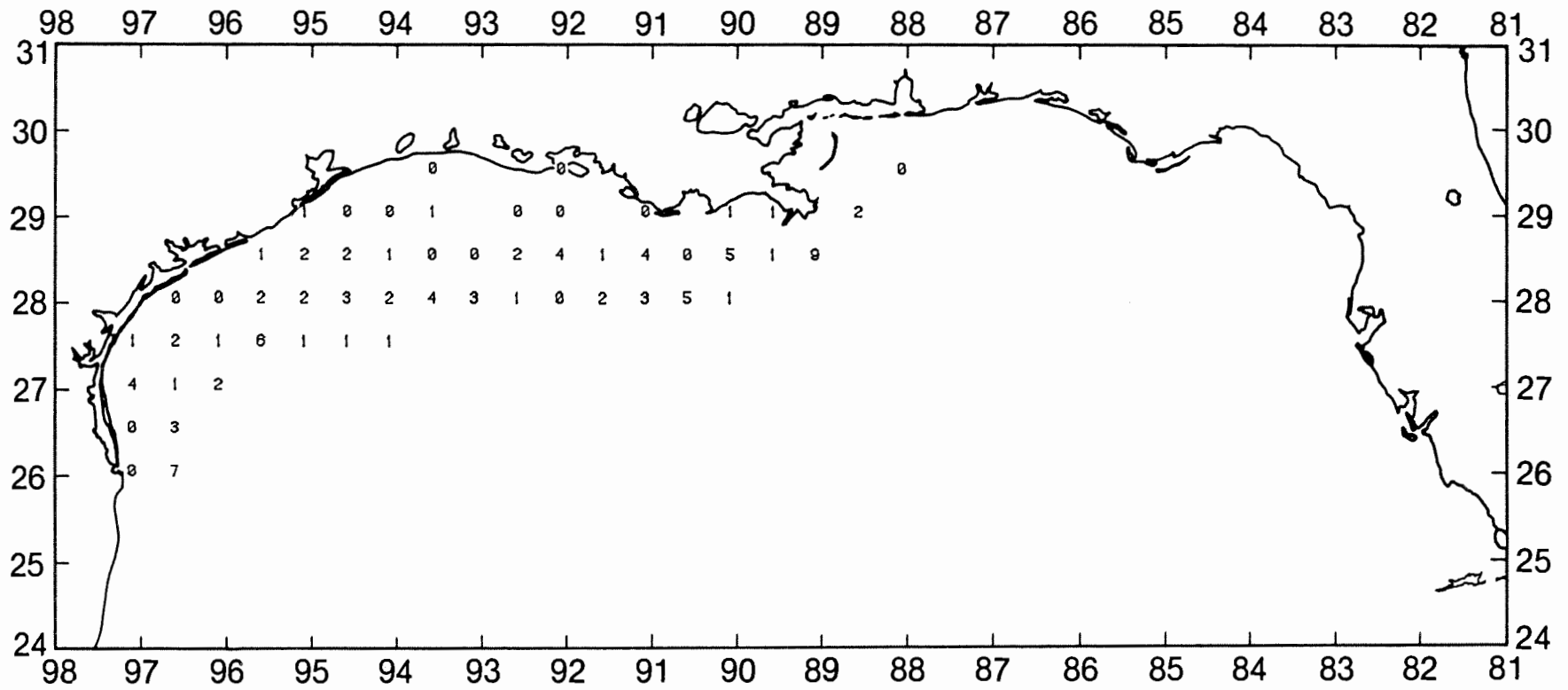


Figure 84. Brown shrimp, *Penaeus aztecus*, lb/hour for October-December 1988.

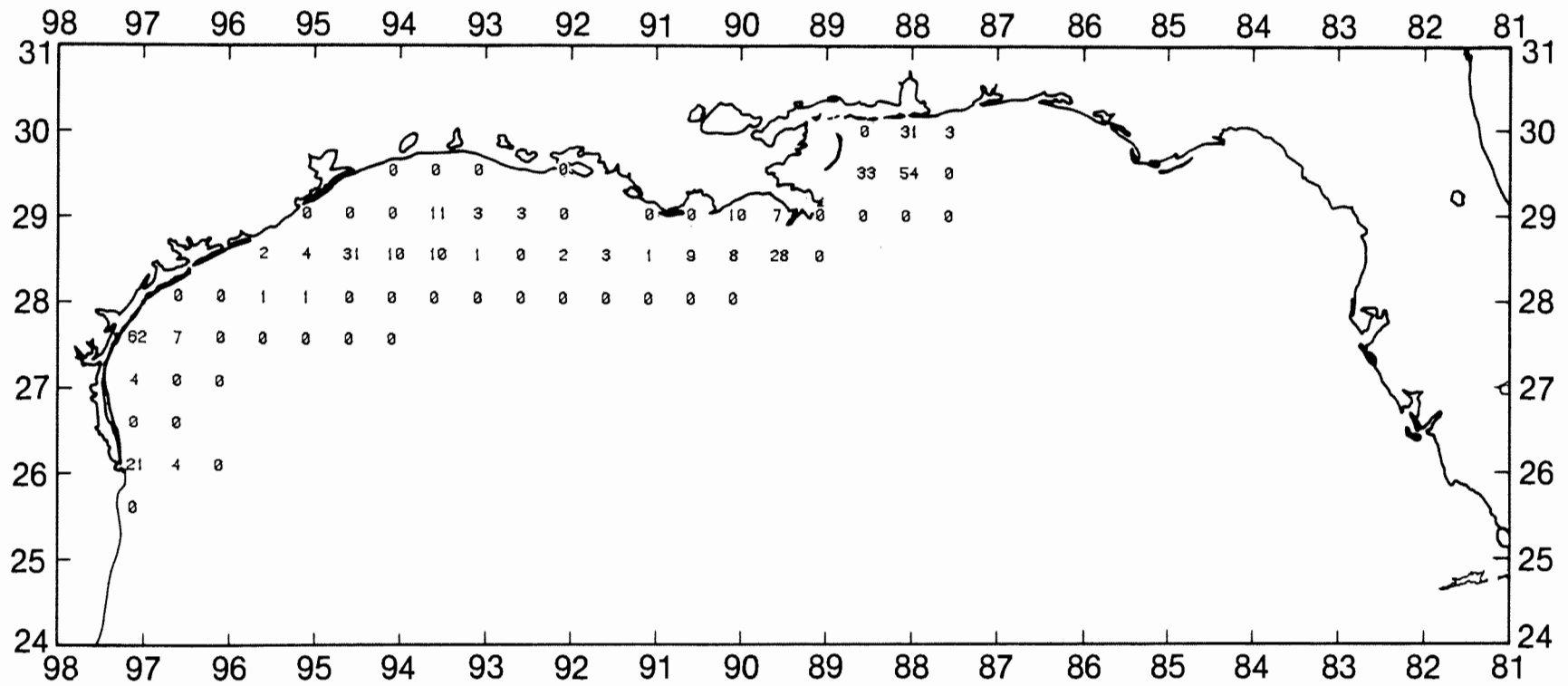


Figure 87. Pink shrimp, *Penaeus duorarum*, number/hour for October-December 1988.

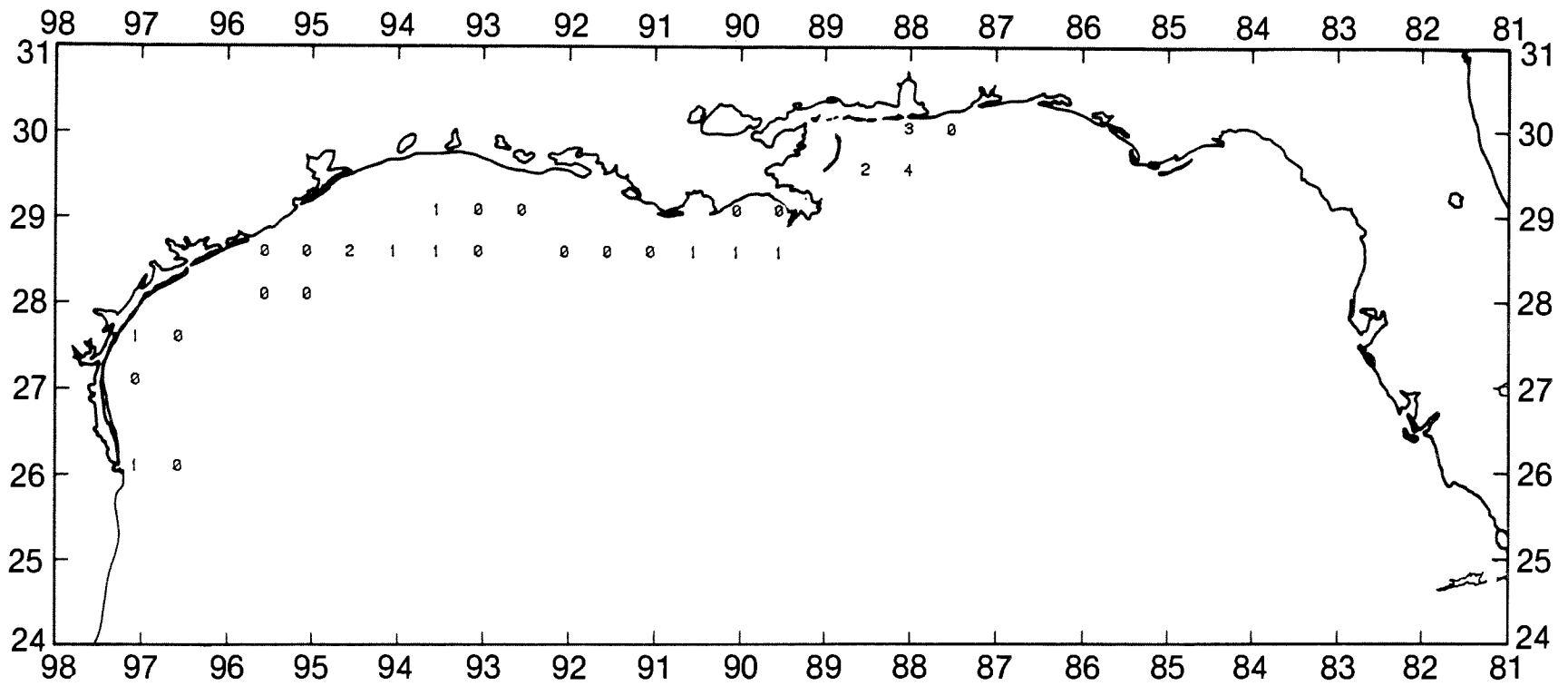


Figure 88. Pink shrimp, *Penaeus duorarum*, lb/hour for October-December 1988.

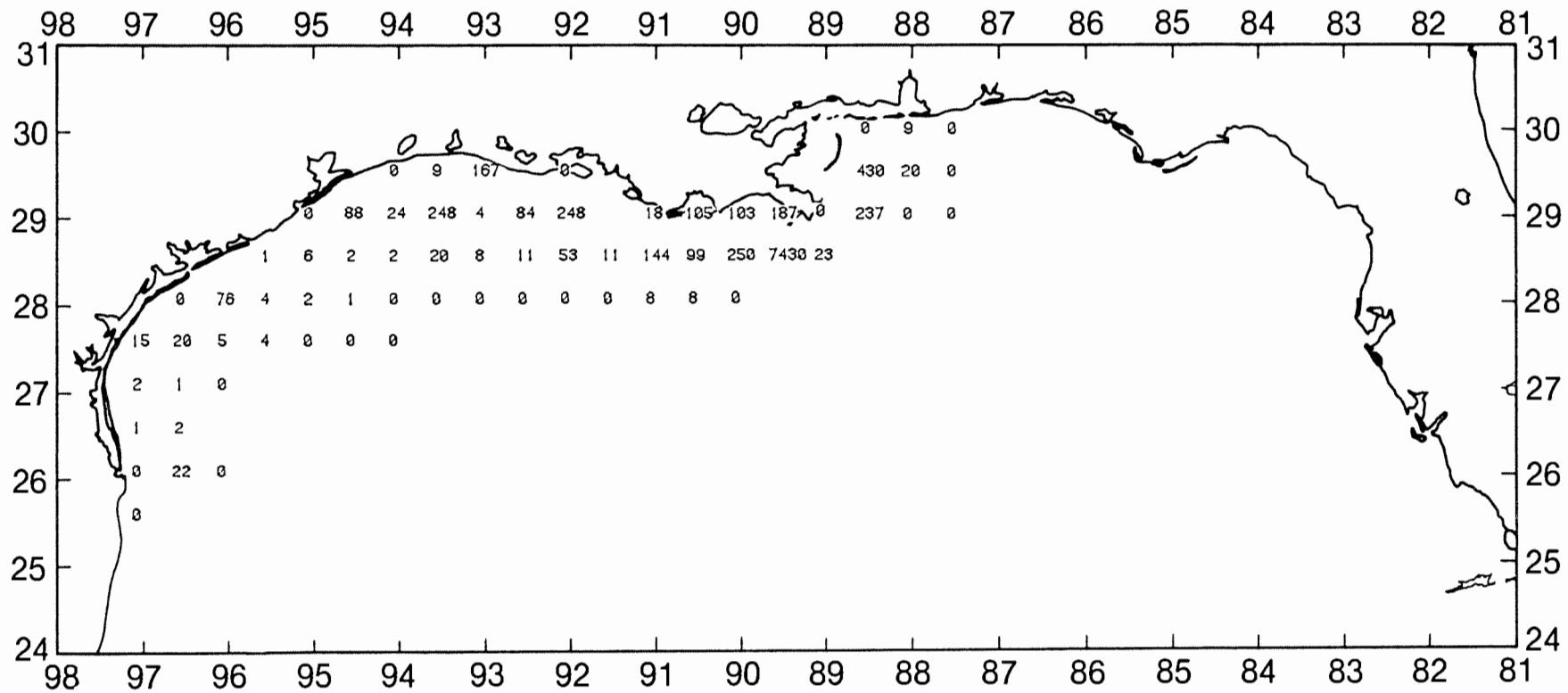


Figure 89. Lesser blue crab, *Callinectes similis*, number/hour for October-December 1988.

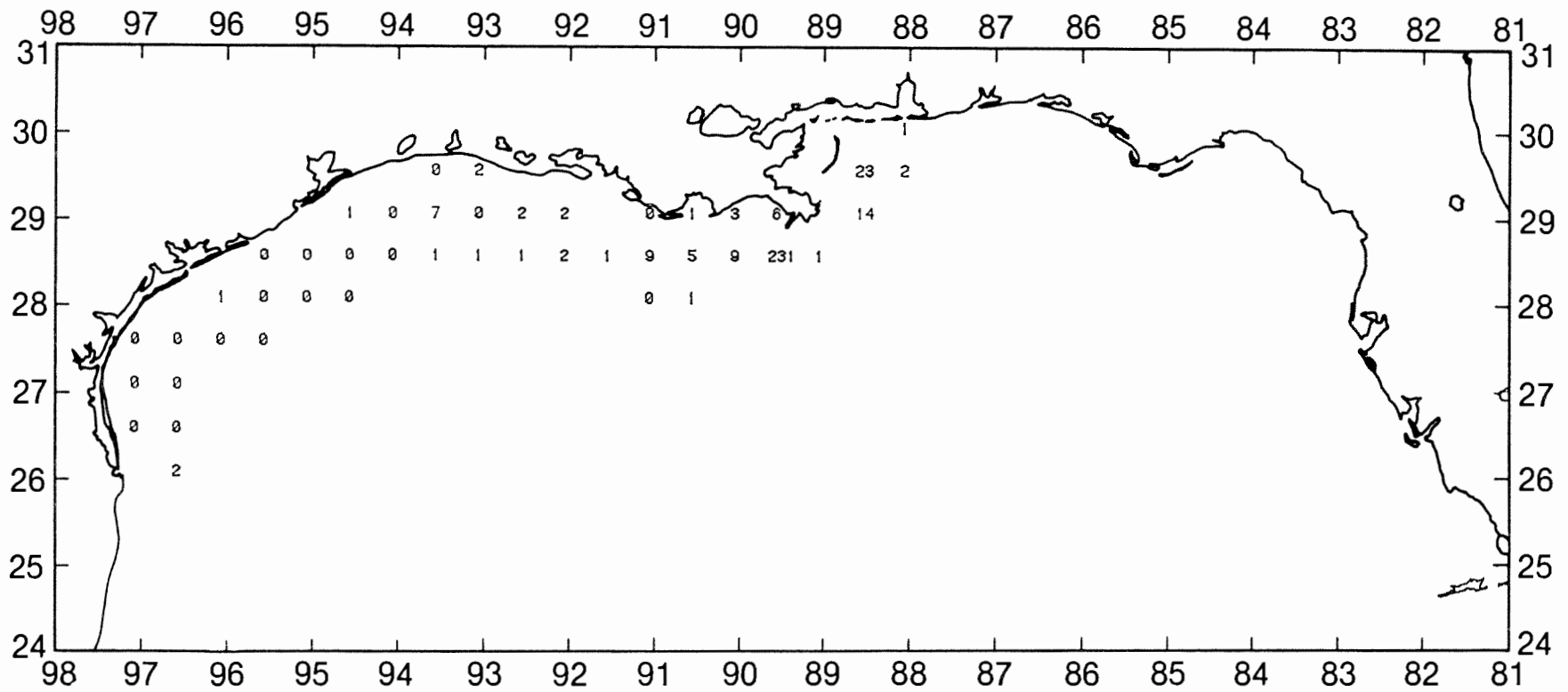


Figure 90. Lesser blue crab, *Callinectes similis*, lb/hour for October-December 1988.

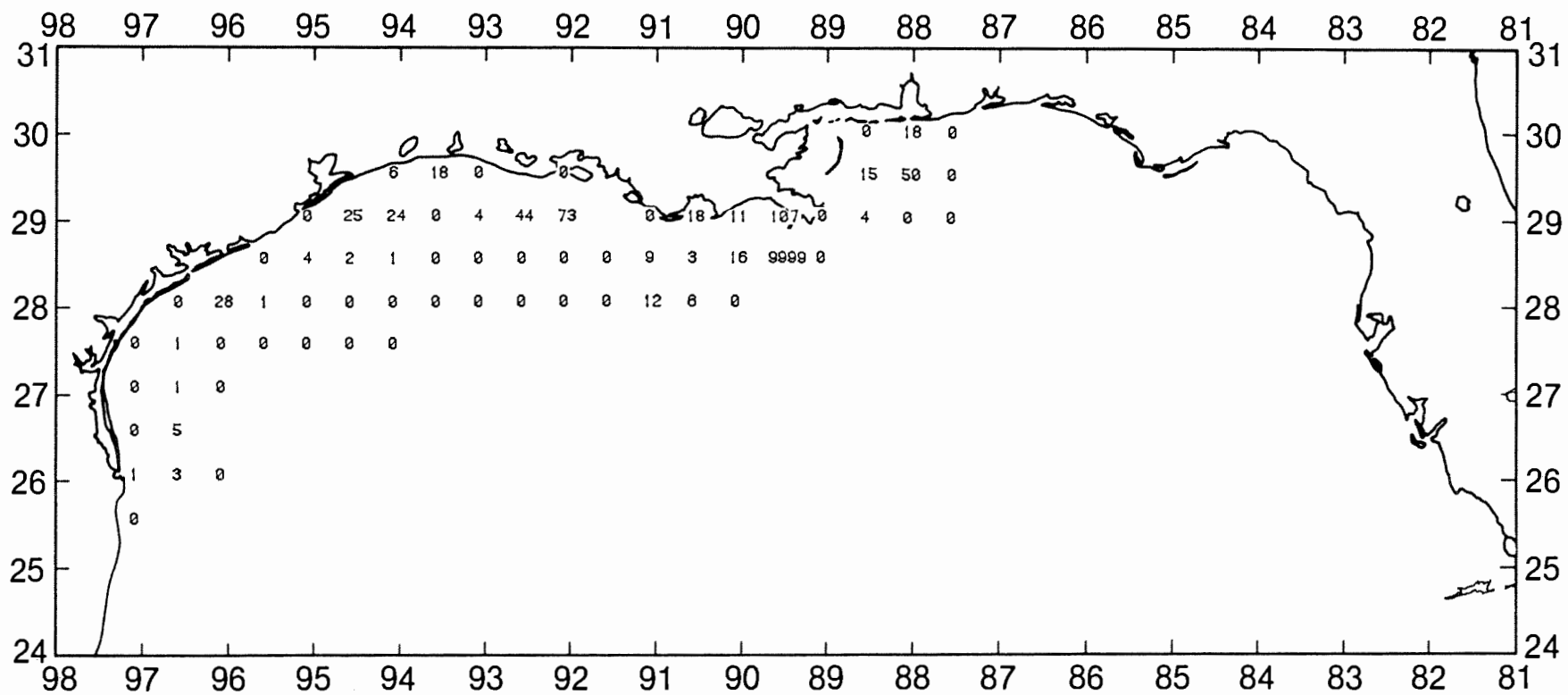


Figure 91. Lesser rock shrimp, *Sicyonia dorsalis*, number/hour for October-December 1988.

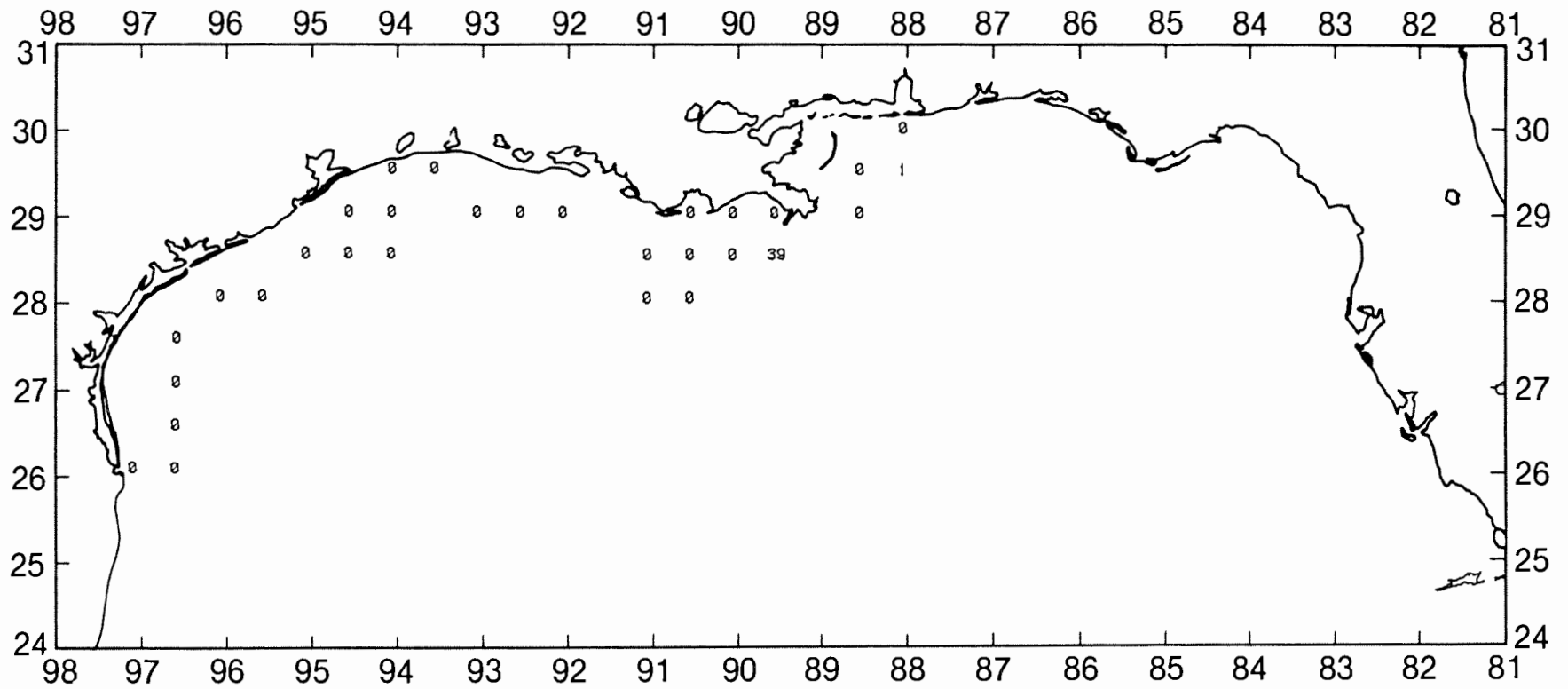


Figure 92. Lesser rock shrimp, *Sicyonia dorsalis*, number/hour for October-December 1988.

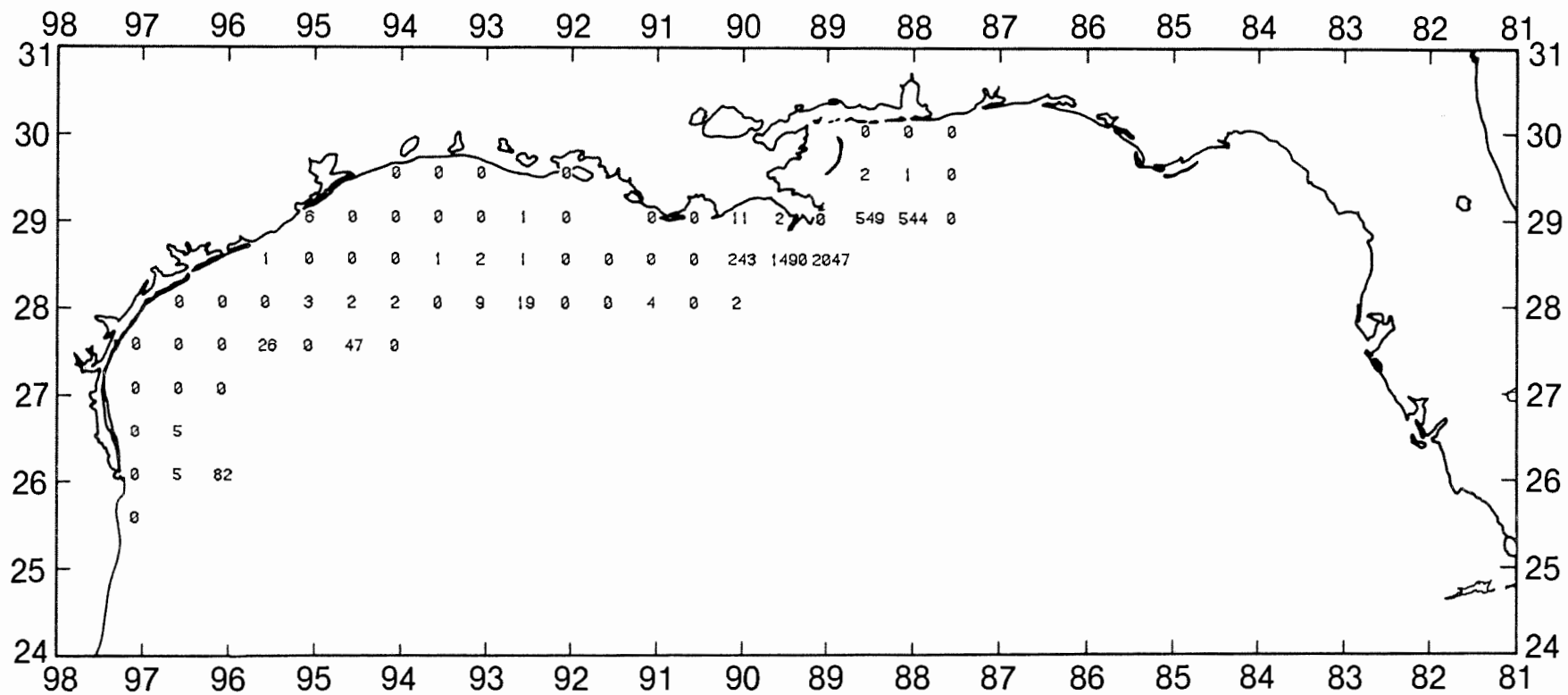


Figure 93. Longspine swimming crab, *Portunus spinicarpus*, number/hour for October-December 1988.

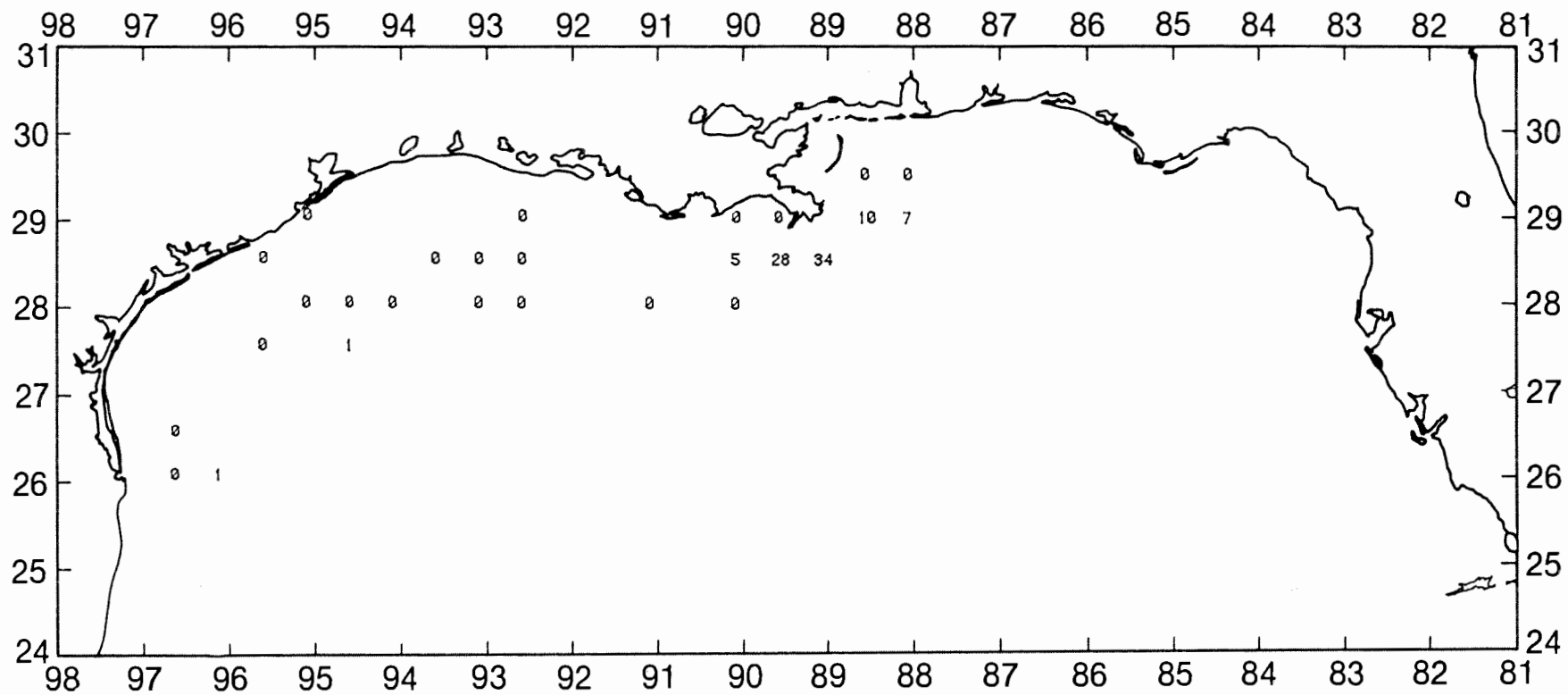


Figure 94. Longspine swimming crab, *Portunus spinicarpus*, lb/hour for October-December 1988.

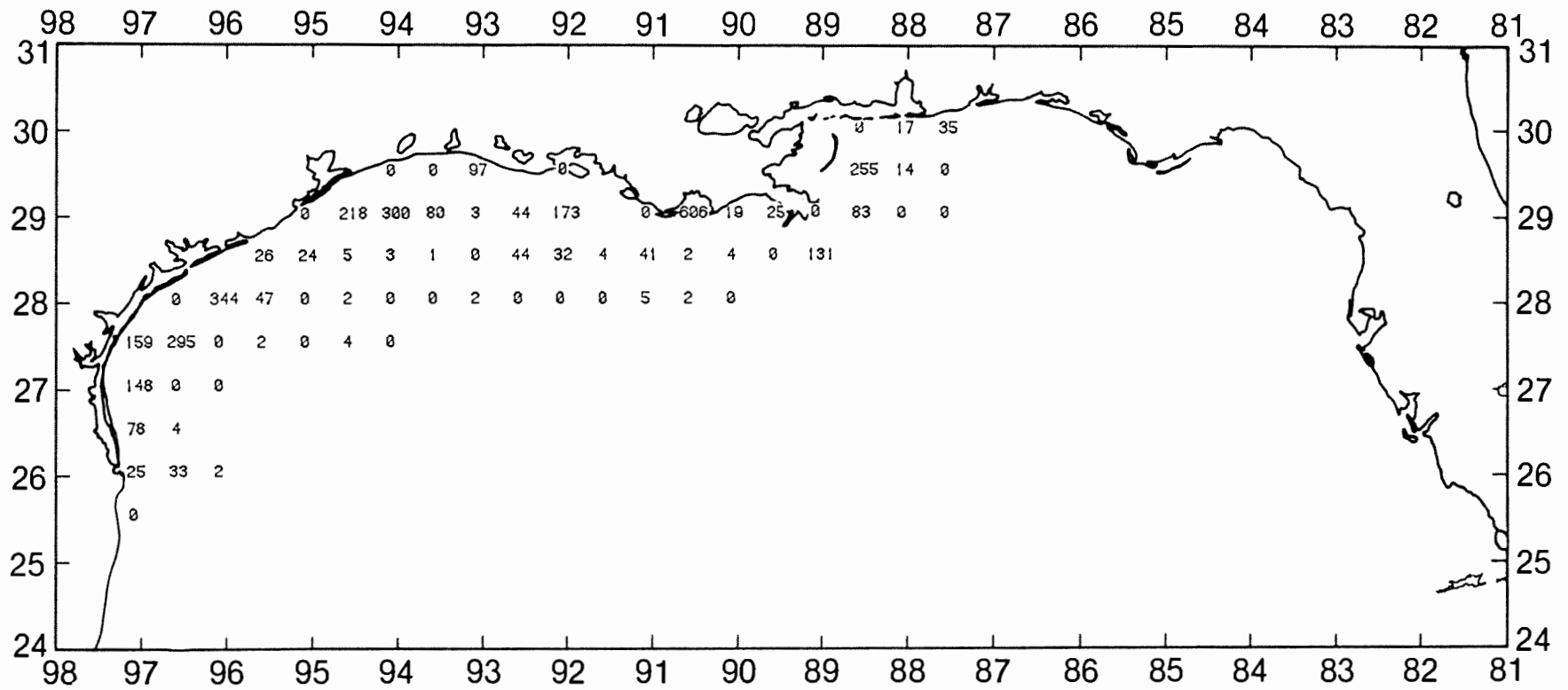


Figure 95. Roughneck shrimp, *Trachypenaeus* spp, number/hour for October-December 1988.

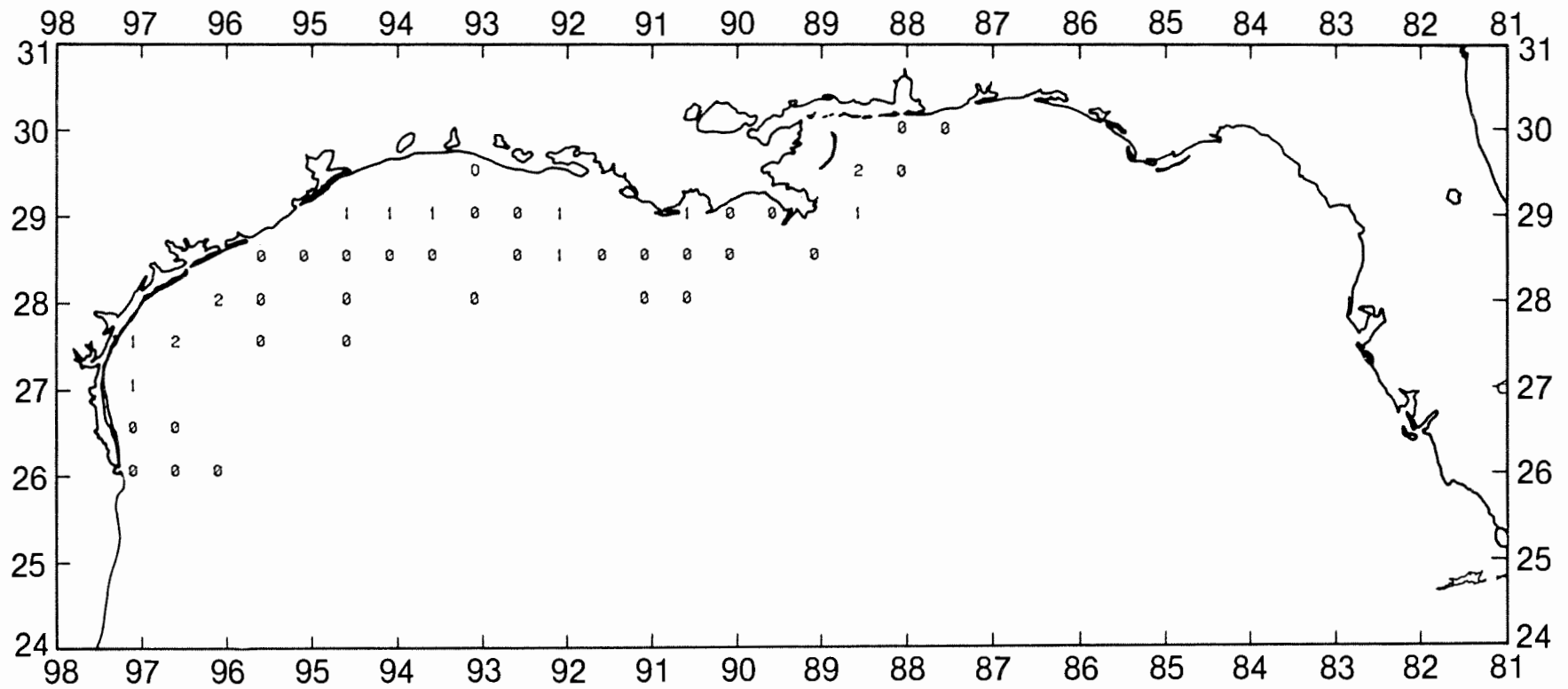


Figure 96. Roughneck shrimp, *Trachypenaeus* spp, lb/hour for October-December 1988.

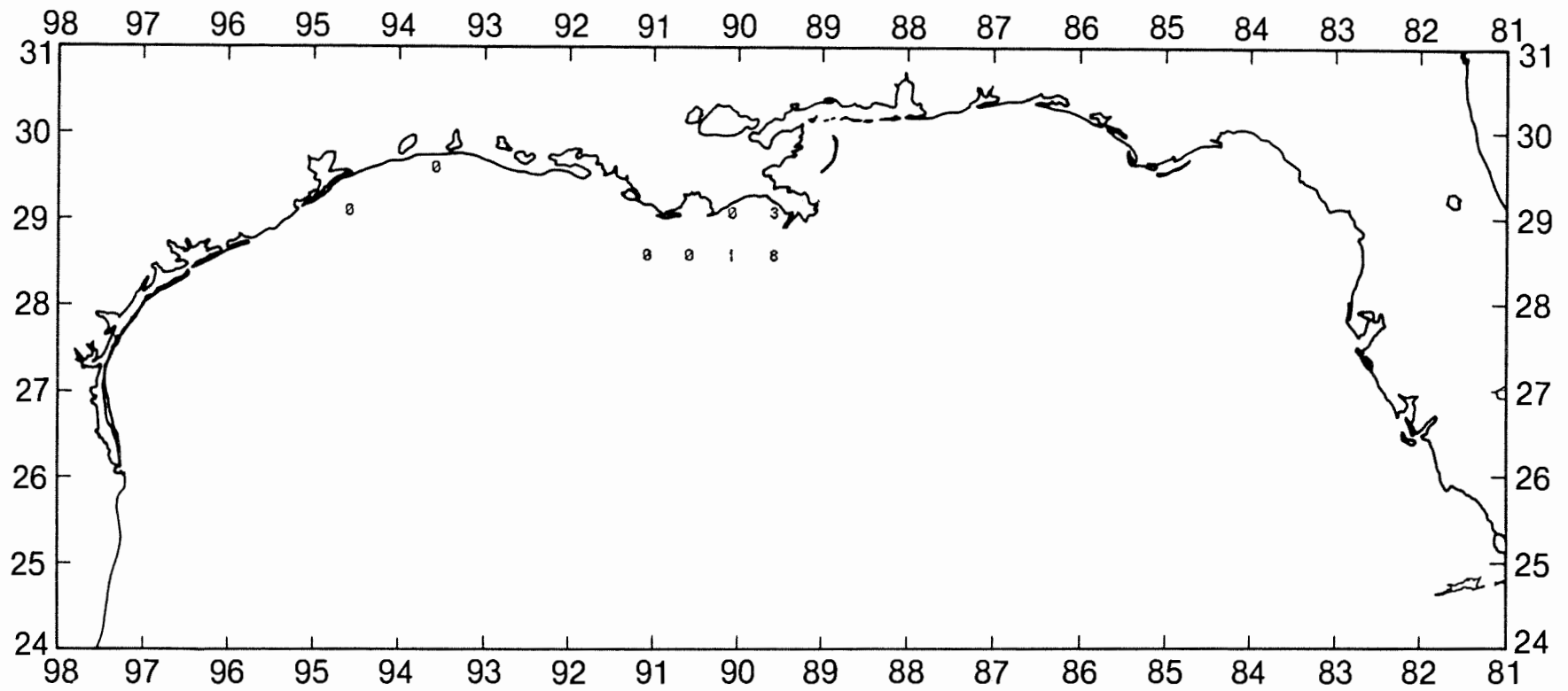


Figure 98. Roughback shrimp, *Trachypenaeus similis*, lb/hour for October-December 1988.

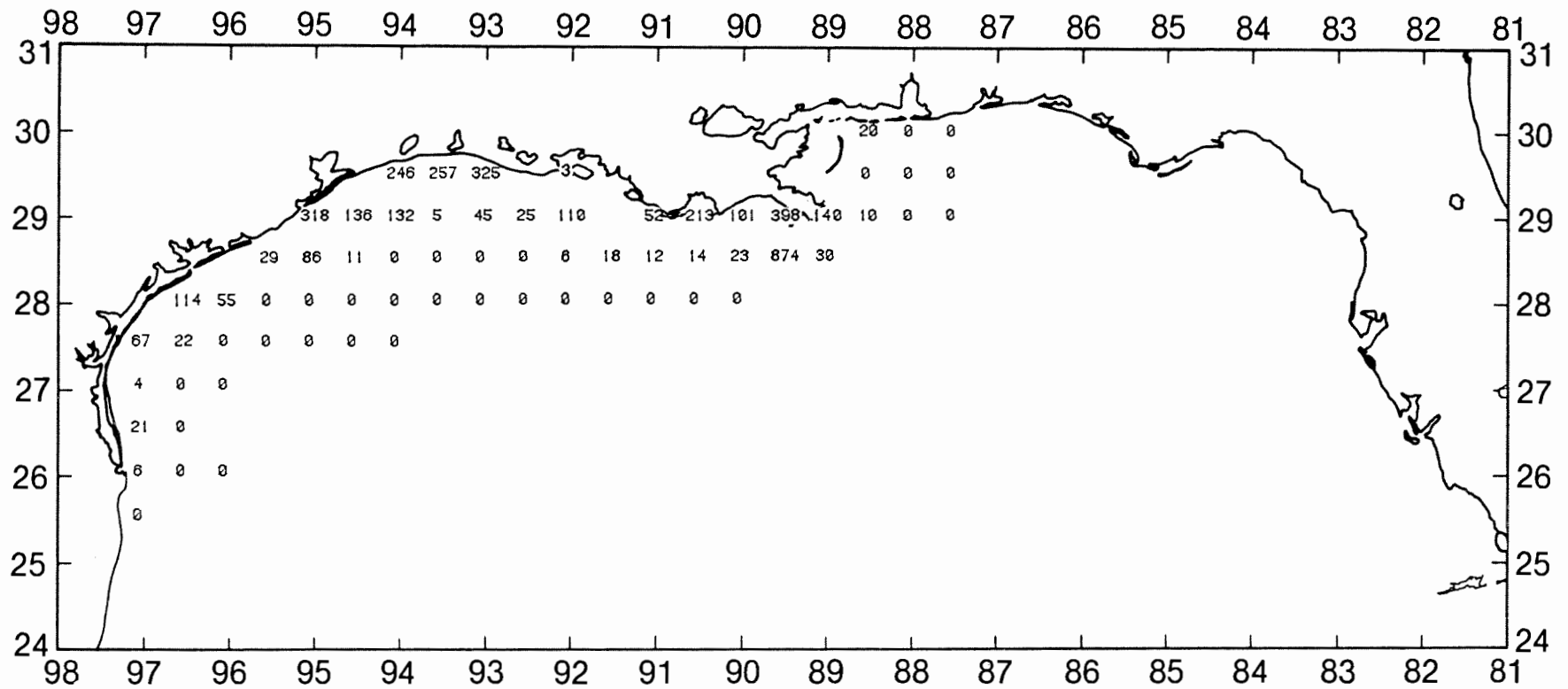


Figure 99. Atlantic brief squid, *Lolliguncula brevis*, number/hour for October-December 1988.

LITERATURE CITED

- Center for Wetland Resources. 1980. Management plan and final environmental impact statement for the shrimp fishery of the Gulf of Mexico, United States waters. Louisiana State Univ., Baton Rouge, Louisiana. 185 p.
- Eldridge, P.J. 1988. The Southeast Area Monitoring and Assessment Program (SEAMAP): A state-federal-university program for collection, management and dissemination of fishery-independent data and information in the southeast United States. Mar. Fish. Rev. 50(2): 29-39.
- Gulf States Marine Fisheries Commission. 1984. SEAMAP Operations Plan: 1985-1990. Ocean Springs, Mississippi: GSMFC. 86 p.
- Jeffrey, S.W. and G.F. Humphrey. 1975. New spectrophotometric equations for determining chlorophylls a, b, c₁ and c₂ in higher plants, algae and natural phytoplankton. Biochem. Physiol. Pflanz. 167: 191-194.
- Klima, E.F., J.M. Nance and S. Nichols. 1989. Executive summary of the 1988 Texas closure. NOAA Tech. Mem., NMFS-SEFC-217.
- Kramer, D., M.J. Kalin, E.G. Stevens, J.R. Thrailkill and J.R. Zweifel. 1972. Collecting and processing data on fish eggs and larvae in the California Current region. NOAA Technical Report. NMFS Circular 370. 38 p.
- Leming, T.D. and W.E. Stuntz. 1984. Zones of coastal hypoxia revealed by satellite scanning have implications for strategic fishing. Nature, 310 (5973): 131-138.
- McGowan, M.F. and W.J. Richards. 1986. Distribution and abundance of bluefin tuna (Thunnus thynnus) larvae in the Gulf of Mexico in 1982 and 1983 with estimates of the biomass and population size of the spawning stock from 1977, 1978, and 1981-1983. International Commission for the Conservation of Atlantic Tunas. Collective Volume of Scientific Papers. 24:182-195.
- Nance, J.M., Klima, E.F., K.N. Baxter, F.J. Patella and D.B. Koi. 1989. Review of the 1988 Texas closure for the shrimp fishery off Texas and Louisiana. NOAA Tech. Mem., NMFS-SEFC- 218.
- Nichols, S. 1982. Impacts of the 1981 and 1982 Texas closure on brown shrimp yields. NOAA, NMFS-SEFC. 44 p.
- Nichols, S. 1984. Impacts of the 1982 and 1983 closure of the Texas FCZ on brown shrimp yields. Report to the Gulf of Mexico Fishery Management Council.
- Nichols, S. and J.R. Poffenberger. 1987. Analysis of alternative closures for improving brown shrimp yield in the Gulf of Mexico. Report to the Gulf of Mexico Fishery Management Council.
- Posgay, J.A. and R.R. Marak. 1980. The MARMAP bongo zooplankton samplers. J. Northw. Atl. Fish. Sci. 1: 9-99.

LITERATURE CITED

- Sanders, N.J., P.A. Thompson and T. Van Devender. 1990a. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1986. Gulf States Marine Fisheries Commission. No. 20. 328 p.
- Sanders, N.J., P.A. Thompson and D.M. Donaldson. 1990b. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1987. Gulf States Marine Fisheries Commission. No. 337 p.
- Sherman, K., R. Lasker, W. Richards and A.W. Kendall, Jr. 1983. Ichthyoplankton and fish recruitment studies in large marine ecosystems. Mar. Fish. Rev. 45 (10, 11, 12): 1-25.
- Smith, P.E. and S.L. Richardson, eds. 1977. Standard techniques for pelagic fish egg and larva surveys. FAO Fish. Tech. Paper 175. 100 p.
- Southeast Area Monitoring and Assessment Program (SEAMAP) Strategic Plan. 1981. Report to the Gulf States Marine Fisheries Commission. 50 p.
- Strickland, J.D.H. and T.R. Parson. 1972. A practical handbook of seawater analysis. Ottawa: Fish. Res. Bd. Can. 310 p.
- Stuntz, W.E., C.E. Bryan, K. Savastano, R.S. Waller and P.A. Thompson. 1985. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1982. Gulf States Marine Fisheries Commission. 145 p.
- Thompson, P.A. and N. Bane. 1986a. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1983. Gulf States Marine Fisheries Commission. No. 13. 179 p.
- Thompson, P.A. and N. Bane. 1986b. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1984. Gulf States Marine Fisheries Commission. No. 15. 171 p.
- Thompson, P.A., T. Van Devender and N.J. Sanders, Jr. 1988. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1985. Gulf States Marine Fisheries Commission. No. 17. 338 p.