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biological atlas of
the gulf of mexico
1984**

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**SEAMAP ENVIRONMENTAL AND BIOLOGICAL ATLAS
OF THE GULF OF MEXICO, 1984**

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For their steadfast belief in State-Federal cooperative fishery research and management, and their efforts to secure support and funding in the critical early years of the SEAMAP Program, this document is dedicated with appreciation to U.S. Representatives Trent C. Lott (Mississippi) and John B. Breaux (Louisiana). Their perseverance and leadership in protecting, restoring and developing the nation's fishery resources have earned them the sincere gratitude of the Southeast Area Monitoring and Assessment Program.

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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. A major SEAMAP objective is to provide the large, standardized data base needed by management agencies, industry and scientists to wisely manage and develop fishery resources for the least possible cost. To accomplish this goal, survey data must be disseminated in a useful format to SEAMAP participants, cooperators, and other interested organizations.

The SEAMAP Program began in March 1981 when the National Marine Fisheries Service (NMFS), Southeast Fisheries Center, 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 Conservation (MDWC), represented by the Gulf Coast Research Laboratory (GCRL); Louisiana Department of Wildlife and Fisheries (LDWF); and Texas Parks and Wildlife Department (TPWD)], and one from NMFS Southeast Fisheries Center. The Subcommittee organized and successfully coordinated three assessment activities in 1982 - an April-May plankton survey; a June-July shrimp and bottomfish survey; and environmental sampling, in conjunction with the two surveys (see Stuntz et al. 1985) - and four assessment activities in 1983 - an April-May plankton survey, a June-July shrimp and bottomfish survey, a December plankton survey, and environmental sampling in conjunction with these three surveys (see Thompson and Bane 1986).

In March 1984, the SEAMAP Subcommittee identified 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 and 1983, but in addition, add a plankton survey for mackerel in August of 1984. Overall surveys objectives, as in 1982 and 1983, were to assess the distribution and abundance of ichthyoplankton and trawl-caught organisms, and document environmental factors that might affect their distribution and abundance. The basis for the plankton work was primarily assessment of tuna eggs and larvae in the open Gulf of Mexico (see Sherman et al. 1983), while the Texas Closure formed the basis for trawl-caught shrimp and bottomfish surveys (see Nichols 1982, 1984), and assessment of king mackerel eggs and larvae was the basis for the August Plankton Survey.

As previously stated, a major purpose of SEAMAP is to provide resource survey data to State and Federal management agencies and universities participating in SEAMAP activities. This third in a series of SEAMAP environmental and biological atlases presents such data, in a summarized form, collected during 1984 SEAMAP surveys. The area covered in the Gulf of Mexico for all SEAMAP survey activities during 1984 is shown in Figure 1.

MATERIALS AND METHODS

Methodology for the 1984 SEAMAP surveys is similar to that of the 1982 and 1983 surveys. Sampling was conducted within the U.S. Fishery Conservation Zone (FCZ) and state territorial waters.

Plankton abundance and distribution were assessed by four surveys in the Gulf of Mexico. Offshore plankton/environmental data stations only were sampled in April-May (Figure 2), with inshore and offshore plankton sampled in June-July (Figure 3) in conjunction with the SEAMAP Shrimp/Bottomfish Survey. In some cases during the Shrimp/Bottomfish Survey, plankton stations were independent of trawl stations. Combined surveys of offshore and inshore plankton/environmental stations were made in August for mackerel (Figure 4) and November-December for blackfin tuna (Figure 5). Environmental data stations for June-July are shown in Figure 6; Shrimp/Bottomfish Survey stations are summarized in Figure 7. Data are summarized in both Figures 6 and 7 by 10-minute squares.

Vessels that participated in SEAMAP plankton surveys were the NOAA Ship OREGON II (April 20-May 24, August 2-28, and November 29-December 18); Florida Institute of Oceanography vessel BELLOWS (August 25-29); and small, inshore vessels of the LDWF (20 days between August 14 and November 28). Vessels participating in the Shrimp/Bottomfish Survey and concurrently sampling plankton included the NOAA Ship OREGON II (June 6-July 24); GCRL vessel TOMMY MUNRO (6 days between June 9 and July 27); small vessels from the ADCNR (6 days between June 6 and July 26); and vessels of the LDWF (14 days between June 5 and July 24), which collected samples within state territorial waters.

Plankton Surveys

Plankton samples were taken at stations arranged in a systematic grid across the Gulf of Mexico for each plankton survey (Figures 2-5). Such a grid was chosen because of the large survey area. Stations were set at minimum intervals of 30 miles (1/2 degree), with the exception of those by state vessels, which collected plankton samples at each trawl station, and the August survey, in which stations from Brownsville to Barataria were 15 miles apart on transect lines 30 miles apart; from Barataria to Mobile Bay, stations were 15 miles apart on transects 15 miles apart; from Mobile Bay east, stations were 30 miles apart on 30-mile transects. During the April-May survey, intensive 24-hour sampling occurred at two locations (Figure 2) where 24 tows were conducted (12 during daylight and 12 during night), to depths of 50, 100, 200, and 400 m. These stations were designed to determine rates of vertical migration in the water column over a complete cycle.

During the June-July Shrimp/Groundfish Survey, three transects were made by the OREGON II off the coasts of Louisiana and Mississippi. Transect sampling began at 5 fm with a station made every 15 miles in an offshore direction, until five stations were completed.

Louisiana conducted extensive plankton sampling from August-November 1984. Plankton and environmental stations from August 14-October 31 are shown in Figure 4; stations from November 1-November 28 are shown in Figure 5.

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 time-depth recorder was periodically attached to the cable above the bongos to record the depth and path of the tow. 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 plankton station, an oblique bongo tow and surface neuston tow were made. In deep water (more than 95 m), a standard (Smith and Richardson 1977) oblique bongo tow was made, i.e., to 200 m, or to 5 m off the bottom at depths less than 200 m, with a payout speed of 30 m/min, 1-min settling time, and a retrieval speed of 20 m/min, at a vessel speed of 1.5 knots to maintain a 45° angle. In shallow water (less than 95 m), tows were modified to extend tow times to a minimum of 10 min in clear water, or 5 min in turbid water, in order to filter enough water for quantitative purposes. This was accomplished by reducing wire payout and retrieval rates, although during each tow, payout and retrieval rates were held constant so that the water column was sampled uniformly. For all bongo tows, a 45°-wire angle was maintained. Neuston tows were made at the surface with the net half-submerged for 10 min at a vessel speed of 1.5 knots. The Alabama and Louisiana vessels made plankton tows with small, 1/2-m bongo nets with 0.333-mm mesh and soft cod ends.

Samples were preserved initially in 10% buffered formalin. After a 24-hr period, the bongo and neuston samples were transferred to 70% ethyl alcohol for final preservation, and subsequently shipped to the NMFS Miami Laboratory. At that facility, the samples were curated and the sampling data computerized. The right bongo sample and the neuston sample from each station were transshipped to the Polish Sorting Center (PSC) in Szczecin, Poland, for sorting and identification. All ichthyoplankton components (eggs and larvae) were removed from each sample and the fish larvae identified to major groups (families in most cases).

All sorted and unsorted ichthyoplankton specimens were returned to the SEAMAP Archiving Center, managed in conjunction with the FDNR, for long-term storage under museum-like conditions. More than 100,000 specimens collected in 1984, as well as hundreds of thousands collected in 1982 and 1983, are available for loan to researchers throughout the country. Other groups were provided to specialists upon request for identification and analysis. Plankton volumes were determined according to procedures in Smith and Richardson (1977). The left bongo sample from each station was retained in Miami 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, remained in Miami for one year before being sent to the SEAMAP Invertebrate Plankton Archiving Center, managed in conjunction with GCRL, for storage and use by researchers.

Environmental Surveys

Environmental data were collected at each station sampled during both plankton surveys and the Shrimp/Bottomfish Survey (Figures 2, 4, 5, and 6). Standardized methodology was used although the actual parameters measured varied among vessels participating in each survey. The following parameters were recorded:

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.

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

Wave height: Estimated visually in meters.

Cloud cover: Estimated visually in percent cloud cover.

Barometric pressure: Recorded in millibars.

Secchi depth: Secchi depth in meters, estimated at each daylight station.

Standard oceanographic 50-cm white discs were lowered until no longer visible, then raised until visible. If different depths were recorded, an average was used.

The following parameters were measured at the surface, mid-depth and bottom; for bottom depths greater than 200 m, a maximum depth of 200 m was recorded:

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 Plessey 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 3 liters of sea water. The water sample, to which 1 ml 1% (W/V) suspension of $MgCO_3$ was added, was filtered through GF/C filters, and the filters were subsequently wrapped in opaque material and frozen.

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

Approximately 10 percent 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

In 1982 and part of 1983, images of the Gulf of Mexico were taken by the Coastal Zone Color Scanner on the Nimbus-7 satellite from which chlorophyll concentrations were determined. The thermal sensor subsequently became unstable and not accurately calibrated, thus chlorophyll plots and sea-surface temperature charts derived from satellite images were not available for 1984.

Thermal data were collected instead 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).

Shrimp/Bottomfish Survey

Shrimp and bottomfish sampling was carried out from Pensacola, Florida to Brownsville, Texas (Figure 7). Trawl stations made with 40-ft nets covered NMFS shrimp statistical zones 10 through 21 (Figure 8), to a depth of 50 fm.

The sampling strategy and a description of the statistical rationale for the sampling design are described by Nichols in the 1982 SEAMAP Atlas (Gulf States Marine Fisheries Commission 1984). Briefly, the strategy was as follows: sampling sites were chosen randomly in three areas (east of the Mississippi River, west of the Mississippi River to the Louisiana-Texas border, and off Texas) stratified by depth and statistical area (two areas per stratum). In depths of 5-25 fm, stations consisted of 1-fm strata; out to 30 fm, stations covered 2.5-fm strata; and to 50 fm, stations consisted of 5-fm strata. Trawls were towed perpendicularly to the depth contours and covered the entire depth stratum on each station. Single tows were for a maximum of 30 min; 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 min and a maximum tow of 30 min. All offshore stations were sampled at night using a 40-ft shrimp trawl (Gutherz et al. 1985).

The LDWF used small vessels (less than 30 ft) to sample seven study areas in NMFS statistical zones 12, 13, 14, 16, and 17, with 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 1-fm increment at depths from 1-5 fm. Tows were made perpendicularly to shore. Alabama vessels using 16-ft trawls in daylight hours sampled passes leading from Mobile Bay to the Gulf of Mexico, with five stations made in June and five in July.

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

measured to obtain length-frequency information. Estimated total numbers were derived from the total weights of those processed. Other species of fishes and invertebrates were identified, enumerated and weighed, except on Texas and Alabama vessels, where weights were not recorded. The taking of weights and individual measurements on species other than commercial shrimp was also requested.

Environmental Perturbation Study

As provided for in the SEAMAP Operations Plan: 1985-1990, special survey activities may be scheduled to study specific environmental perturbations, e.g., hypoxia, phytoplankton blooms, and oil spills (GSMFC 1984).

In late July 1984, an oil spill was recorded when a tanker grounded off Cameron, Louisiana. The NOAA Ship OREGON II spent August 11-12, 1984 sampling waters adjacent to the tanker, in conjunction with the ongoing August Plankton Survey, to determine the extent of detrimental effects on the benthos. Ten 10-minute trawl tows were made with a 40-ft standard shrimp trawl, using 8-ft x 40-in wooden chain doors, tickler and loop chain, mud rollers and eight sponge floats. Trawl catches were processed for composition, number and weight of each species; shrimp samples were returned to the laboratory for analysis. Standard SEAMAP environmental sampling was done at each station (Figure 4), along with collection of mud samples by a pipe dredge; these were examined onboard for the presence of oil particles.

RESULTS

Plankton Surveys

Identified ichthyoplankton samples were returned from the PSC to the SEAMAP Archiving Center in July 1986. The data will be verified and incorporated into the SEAMAP data system. Distribution plots, by key families, will appear in the separate 1984 SEAMAP Ichthyoplankton Atlas (in preparation).

Plankton stations for April-May are shown in Figure 2, for June-July in Figure 3, for August in Figure 4, and for November-December in Figure 5.

Environmental Surveys

As detailed previously, environmental data are collected in conjunction with plankton and shrimp/bottomfish surveys. In the 1982 and 1983 SEAMAP atlases, contoured plots of surface and bottom temperatures, salinities, and dissolved oxygen taken from shipboard sensors were included, but because the numbers represent averages over a relatively long period, they were found by the SEAMAP Subcommittee to be generally unusable and are not included in this atlas.

However, satellite-derived surface temperatures, averaged over a few days, are shown for the April-May Plankton Survey (Figures 9-12) and December Plankton Survey (Figures 13 and 14). Few satellite data are available for the June-July Shrimp/

Bottomfish Survey and the August Plankton Survey because surface temperatures tend to be homogeneous throughout the Gulf during summer months, and discrete differences are therefore not discernible to satellite imagery; additionally, the high humidity during that season tends to obscure those gradients that do exist.

A complete listing of selected environmental parameters for all SEAMAP surveys is shown in Table 1. Additional environmental information (Secchi readings, Forel-ule, cloud cover, etc.) may be obtained from the SEAMAP Information System by contacting the program Coordinator.

Shrimp/Bottomfish Survey

The June-July Shrimp/Bottomfish Survey consisted primarily of biological trawl data (Figure 7), and concomitant environmental and plankton data. A species composition listing from the trawls is presented in Table 2, ranked in order of abundance, within the categories of finfish, crustaceans, and other invertebrates. Biological distributions of the 10 most abundant finfish plus red snapper, 3 main penaeid shrimps, 5 most abundant non-penaeid invertebrates, and combined species of squid, taken from Table 2, are displayed in plots of number/hour and lb/hour in Figures 15-54. Data for the biological plots were computed from both the 40-ft trawl data, and from 16-ft trawl data, standardized to 40-ft trawls using relative headrope length. In the plots of lb/hour, a zero value indicates less than 0.5 lb/hr taken; only stations where at least some of the species were taken are shown. No trawl stations were made by the states of Florida or Texas during this survey. No weights were taken in Alabama territorial waters except for penaeid shrimp. Table 3 summarizes environmental data taken in statistical zone 9.

Tables 4a-14a present the biological data, from the 40-ft nets, of the eight most abundant fish, six most abundant invertebrates, and squid combined for all NMFS statistical zones, by depth stratum. Tables 4b-14b present the biological data, from the 40-ft nets, of the 8 most abundant fish, 6 most abundant invertebrates, and squid within each NMFS statistical zone by depth stratum. Tables 4c-14c list the total catch and environmental data from the 40-ft nets by NMFS statistical zone and depth stratum.

Table 15 presents the biological data from the 16-ft nets of the eight most abundant fish, six most abundant invertebrates, and squid combined for all NMFS statistical zones, inside 5 fm. Tables 16-21 present the biological data from the 16-ft nets of the 8 most abundant fish, 6 most abundant invertebrates, and squid within NMFS statistical zones 11, 12, 13, 14, 16, and 17, inside 5 fm. Table 22 presents the total catch and environmental data from the 16-ft nets, by NMFS statistical zone, inside 5 fm.

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 the sample.

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

Real-time Data Management

The SEAMAP Subcommittee agreed it was imperative to the success of the SEAMAP Program to distribute data on a near real-time basis to the fishing industry and others interested in SEAMAP. To distribute near real-time data, NMFS, in cooperation with NASA, installed a data communications terminal aboard the NOAA Ship OREGON II. The terminal was designed to operate through the ATS-3 satellite system located in geostationary orbit over the Pacific Ocean. This enabled personnel aboard the vessel to transmit daily catch rates and environmental data to the NMFS computer system through computer hardware, located at the NMFS Mississippi Laboratories in Bay St. Louis.

Summarized data were distributed weekly to management agencies and the industry as computer plots and data listings. These plots showed stations locations, catches of brown, pink, and white shrimp in lb/hr and count/lb, and total finfish catch in lb/hr.

Environmental Perturbation Study

The catch compositions from the ten trawl stations surrounding the oil spill site are not indicated in this Atlas, but are available on request from the SEAMAP Information System. Shrimp samples analyzed in the NMFS-Pascagoula facility indicated no noticeable levels of oil contamination. Gross examination of site mud samples also did not indicate the presence of oil particles. No evidence of damage (i.e., dying or dead organisms) associated with environmental contamination was noticed from any of the ten trawls.

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. For example, the ichthyoplankton samples are used by researchers studying taxonomy, age and growth, bioenergetics, and other life history aspects, as well as spawning biomass and recruitment. In addition, information on species' relative distributions within the Gulf of Mexico can be analyzed with respect to concomitant 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 Shrimp/Bottomfish Survey data. In addition, however, this data set is utilized in resource management decisions, and because of the program's ability to process data quickly, the capability exists to optimize some fisheries on a real-time basis. The long-term data set on all of the species collected, not just those of commercial and recreational importance, offers an opportunity to examine ecological relationships, with the eventual goal of developing management models that take into account the multi-species nature of most Gulf fisheries. The value of the SEAMAP Program lies in its use for both immediate and long-range management. There are, in addition, many studies and other uses for SEAMAP data that are not mentioned here.

Much use has already been made of SEAMAP data. For example, during the surveys an area of very low dissolved bottom oxygen was found off Louisiana in 1982, again in 1985 and in May 1986. The presence of this phenomenon and some of the related conditions and biological effects were summarized by Stuntz et al. (1982), 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.

SEAMAP data collected during the 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 FCZ off Texas. This closure complements the traditional closure of the Texas territorial sea, normally June 1-July 15 of each year. The purpose of the closure is to increase the yield of shrimp and eliminate waste caused by discarding of undersized brown shrimp.

NMFS was charged with evaluating the effects of the Texas Closure and several reports were submitted to the Council in December 1984, subsequently summarized by Mathews (1984), reporting size and abundance of commercial shrimp collected by SEAMAP in 1984, and Nichols (1984), describing the impact of the combined Texas territorial sea and FCZ closures on brown shrimp yields. After review of these data and other information, the Council voted to continue the Texas Closure in 1985.

SEAMAP ichthyoplankton data were used to estimate spawning stock sizes of bluefin tuna in the Gulf of Mexico (McGowan and Richards 1986). 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 in the spring by SEAMAP will preclude entry of a Japanese longline fishery for tunas, which also have high billfish bycatches.

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-serve, 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. Selected environmental parameters measured during 1984 SEAMAP surveys in the Gulf of Mexico, by individual survey.

APRIL-MAY PLANKTON SURVEY																			
OREGON II																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
40850	4/21/84	1049	2830.0	8900.0	13	828	100	200	22.1	19.5	16.1					8.8	5.4	4.8	PN
40851	4/21/84	1529	2800.0	8900.0	13	1332	100	200	23.7	19.9	15.4					8.9	6.1	5.0	PN
40852	4/21/84	2112	2730.0	8900.0	13	1800	100	197	22.9	20.4	16.7	36.0	36.5	36.3		7.4	7.2	5.1	PN
40853	4/22/84	0305	2700.0	8900.0	13	2232	100	200	25.0	19.4	16.3								PN
40854	4/22/84	0830	2630.0	8900.0	13	2880	100	199	27.0	20.0	16.4					8.8	7.3	6.5	PN
40855	4/22/84	1342	2600.0	8900.0	13	3060	100	200	26.1	19.6	15.8					9.0	7.2	6.4	PN
40856	4/22/84	1811	2600.0	8830.0	11	2961	100	200	26.4	18.3	16.1					9.6	7.5	7.0	PN
40857	4/22/84	2225	2600.0	8800.0	11	3020	100	155	27.5	20.9	17.5	36.6	36.9	36.5		9.6	7.6	6.7	PN
40858	4/23/84	0220	2630.0	8800.0	11	2664	100	200	26.4	18.9	13.1					9.1	7.6	6.4	PN
40859	4/23/84	0658	2700.0	8800.0	11	2700	100	200	27.1	18.2	15.2					9.8	8.3	6.9	PN
40860	4/23/84	1300	2730.0	8800.0	11	2574	100	200	24.4	21.1	17.8					9.9	9.0	7.4	PN
40861	4/23/84	1752	2800.0	8800.0	11	2520	100	200	23.5	20.4	17.1					11.4	10.8	9.8	PN
40862	4/23/84	2225	2830.6	8800.0	11	2196	100	200	21.9	18.8	16.6	35.3	36.6	36.3		9.9	7.8	7.1	PN
40863	4/24/84	0333	2900.0	8800.0	11	1215	100	200	22.3	19.5	15.8					11.7	7.2	6.8	PN
40864	4/24/84	0830	2915.0	8730.0	10	990	100	200	22.2	18.6	15.7					9.0	7.1	6.2	PN
40865	4/24/84	1323	2930.0	8700.0	10	400	100	200	21.7	19.5	16.6					9.2	7.8		PN
40866	4/24/84	1817	2900.0	8700.0	10	2448	100	200	21.6	19.5	17.4					9.4	8.5	7.4	PN
40867	4/24/84	2250	2830.0	8700.0	10	855	100	200	22.5	19.4	16.1	35.4	36.5	36.1		8.6	6.8	5.8	PN
40868	4/25/84	0321	2800.0	8700.0	10	2828	100	200	22.7	19.6	16.1					9.8	8.5	7.3	PN
40869	4/25/84	0746	2730.0	8700.0	10	3060	100	200	23.7	20.1	16.4					7.7	7.2	5.3	PN
40870	4/25/84	1225	2700.0	8700.0	10	2970	100	200	26.1	21.2	16.0					8.0	6.5	6.1	PN
40871	4/25/84	1913	2630.0	8700.0	10	2898	100	200	26.6	24.5	18.8								PN
40872	4/26/84	0020	2600.0	8700.0	10	3096	100	200	27.6	26.8	24.4					9.3	8.4	7.5	PN
40873	4/26/84	0645	2530.0	8630.0	9	3222	100	200	27.2	26.7	26.3					9.8	8.4	7.6	PN
40874	4/26/84	1236	2500.0	8600.0	9	3294	100	200	27.5	27.3	26.3					10.6	9.3	7.9	PN
40875	4/26/84	1658	2530.0	8600.0	9	3220	100	200	27.6	27.3	26.1					10.7	9.7	8.6	PN
40876	4/26/84	2148	2600.6	8600.0	9	3237	100	200	27.2	26.8	25.4	36.2	36.3	36.8		6.9	7.2	5.9	PN
40877	4/27/84	0244	2630.0	8600.0	9	3210	100	200	27.9	27.3	22.8					9.8	8.3	7.4	PN

Table 1 (cont'd.)

APRIL-MAY PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
40878	4/27/84	0748	2700.0	8600.0	9	3219	100	200	27.6	21.7	17.2					8.6	8.4	6.3	PN
40879	4/27/84	1311	2730.0	8600.0	9	3221	100	200	24.4	19.6	15.8					9.8	7.8	6.8	PN
40880	4/27/84	1728	2800.0	8600.0	9	914	100	200	24.8	20.4	15.1					10.4	8.4	7.8	PN
40881	4/27/84	2155	2830.0	8600.0	9	329	100	200	22.4	18.9	16.3	34.4	36.1	36.0		10.2	8.5	6.5	PN
40882	4/28/84	0222	2900.0	8600.0	9	249	100	200	21.9	19.1	16.2					11.4	8.8	7.4	PN
40883	4/28/84	0755	2830.0	8530.0	8	201	100	198	21.7	19.1	15.7					10.0	6.9	5.1	PN
40884	4/28/84	1347	2800.0	8500.0	8	251	100	200	22.2	19.3	16.7					9.8	8.0	7.6	PN
40885	4/28/84	1820	2730.0	8500.0	8	402	100	200	26.6	19.1	15.1					6.8	6.2	5.6	PN
40886	4/28/84	2241	2700.0	8500.0	8	896	100	200	25.1	19.1	13.5					11.0	8.6	8.2	PN
40887	4/29/84	0440	2630.0	8500.0	8	1829	100	200	26.6	21.5	16.8					10.2	9.2	7.8	PN
40888	4/29/84	0830	2600.0	8500.0	8	3328	100	200	28.2	27.5	21.6					9.5	9.2	7.2	PN
40889	4/29/84	1229	2530.0	8500.0	8	3338	100	200	28.0	27.7	23.8					10.0	9.5		PN
40890	4/29/84	1627	2500.0	8500.0	8	3347	100	200	28.1	27.9	24.1					11.4	10.3	8.6	PN
40891	4/29/84	1955	2430.0	8500.0	8	3347	100	200	28.0	27.6	22.0	36.2	36.4	36.7		8.2	8.2	6.8	PN
40892	4/30/84	0548	2430.0	8430.0	2	3442	100	200	27.4	20.3	17.3					10.8	9.8	8.9	PN
40893	4/30/84	1114	2430.0	8400.0	2	1829	100	200	25.4	19.6	15.5					9.6	9.1	7.4	PN
40894	5/ 2/84	2035	2400.0	8200.0	2	1006	100	200	27.9	26.6	21.2	36.4	36.6	36.8		10.0	9.1	7.5	PN
40895	5/ 3/84	0220	2400.0	8230.0	2	841	100	200	27.8	26.3	19.9					10.0	9.2	7.8	PN
40896	5/ 3/84	0735	2400.0	8300.0	2	931	100	200	28.1	24.1	18.9					10.6	9.2	8.8	PN
40897	5/ 3/84	1234	2400.0	8330.0	2	1052	100	200	26.3	19.6	15.7					9.6	9.3	8.1	PN
40898	5/ 5/84	0525	2600.0	9000.0	14	2909	100	200	26.4	21.1	17.6					9.9	9.6	8.5	PN
40899	5/ 5/84	0957	2630.0	9000.0	14	2836	100	200	25.9	21.7	17.7					8.9	7.9	6.5	PN
40900	5/ 5/84	1419	2700.0	9000.0	14	2451	100	200	25.4	20.6	17.5					10.3	9.2		PN
40901	5/ 5/84	1840	2730.0	9000.0	14	1098	100	200	25.4	20.3	16.5					10.2	9.2	7.6	PN
40902	5/ 5/84	2304	2800.0	9000.0	14	531	100	200	24.4	19.6	15.8	35.6	36.3	35.9		9.6	7.9	6.0	PN
40903	5/ 6/84	0300	2800.0	9030.0	14	308	100	200	23.5	19.6	16.5					10.4	8.5	7.8	PN
40904	5/ 6/84	0652	2800.0	9100.0	15	154	70	140	23.9	20.5	17.3					10.6	10.8	7.4	PN
40905	5/ 6/84	1203	2730.0	9100.0	15	1082	100	200	23.2	19.9	15.6								PN

Table 1 (cont'd.)

APRIL-MAY PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
40906	5/ 6/84	2010	2700.0	9100.0	15	1647	100	200	25.4	21.8	17.2	36.3	36.5	36.1		9.3	8.6	6.2	PN
40907	5/ 7/84	0117	2630.0	9100.0	15	2104	100	200	25.4	22.0	19.5					9.7	9.9	7.6	PN
40908	5/ 7/84	0628	2600.0	9100.0	15	2745	100	200	25.4	22.1	18.4				10.4	9.6	8.2	PN	
40909	5/ 7/84	1024	2600.0	9130.0	15	2195	100	200	24.9	21.3	17.0	37.2	36.5	36.3					PN
40910	5/ 7/84	1932	2600.0	9200.0	16	2195	100	200	25.4	21.6	16.8	36.4	36.3	36.2		9.6	9.5	8.6	PN
40911	5/ 8/84	0000	2630.0	9200.0	16	1879	100	200	24.8	21.7	17.7	36.5	36.7	36.5		9.2	8.4	6.2	PN
40912	5/ 8/84	0424	2700.0	9200.0	16	1463	100	200	24.5	20.9	16.0	36.3	36.3	36.1		9.6	9.2	7.6	PN
40913	5/ 8/84	0854	2730.0	9200.0	16	787	100	200	23.7	20.0	15.0	35.9	36.4	36.1		9.8	8.4	6.4	PN
40914	5/ 8/84	1346	2800.0	9200.0	16	119	50	100	23.3	20.1	17.1	35.2	35.7	36.2		10.6	9.8	7.2	PN
40915	5/ 8/84	1742	2800.0	9230.0	16	108	54	108	23.2	21.8	18.2	35.8	36.1	36.2		9.6	8.7	7.9	PN
40916	5/ 8/84	2210	2800.0	9300.0	17	102	50	100	23.5	22.2	18.0	36.3	36.3	36.3		10.0	9.9	7.0	PN
40917	5/ 9/84	0200	2730.0	9300.0	17	793	100	200	23.8	19.3	15.0	36.5	36.1	36.1		10.8	11.5	8.0	PN
40918	5/ 9/84	0620	2700.0	9300.0	17	1390	100	200	23.3	19.0	14.3	36.2	36.2	35.9		12.2	11.9	10.0	PN
40919	5/ 9/84	1047	2630.0	9300.0	17	1737	100	200	23.3	19.3	13.7	36.1	36.1	35.9		11.6	8.9	6.1	PN
40920	5/ 9/84	1509	2600.0	9300.0	17	2194	100	200	23.8	18.4	14.9	35.9	36.5	36.0		10.2	8.0	6.6	PN
40921	5/ 9/84	1942	2600.0	9330.0	17	2286	100	200	23.8	20.3	16.7	35.9	36.3	35.9		10.2	9.8	7.6	PN
40922	5/10/84	0018	2630.0	9330.0	17	1629	100	200	23.4	18.5	13.7	36.6	36.3	36.0		10.6	8.4	6.8	PN
40923	5/10/84	0452	2700.0	9330.0	17	1189	100	200	23.7	18.8	14.5	36.2	36.3	36.2		11.2	9.5	8.6	PN
40924	5/10/84	1201	2730.0	9330.3	17	536	100	200	23.4	19.5	15.1	36.3	36.4	36.1		9.9	9.6	8.2	PN
40948	5/11/84	1333	2800.0	9330.0	17	97	45	90	23.5			35.6	35.9	36.5		9.0	8.2	7.6	PN
40949	5/11/84	1728	2800.0	9400.0	18	80	36	72	23.2	22.2	19.3	35.1	36.0	36.3		9.2	8.5	8.3	PN
40950	5/11/84	2135	2730.0	9400.0	18	896	100	200	24.5	21.3	18.1	36.4	36.4	36.0		8.8	8.7	6.6	PN
40951	5/12/84	0209	2700.0	9400.0	18	978	100	200	24.3	19.3	14.8	36.3	36.6	36.1		9.8	9.2	6.8	PN
40952	5/12/84	0608	2630.0	9400.0	18	1554	100	200	23.5	18.8	14.8	36.3	36.3		9.8	9.2	8.2	PN	
40953	5/12/84	1006	2600.0	9400.0	18	3109	100	200	23.8	19.3	14.3	36.0	36.3	36.2		9.8	10.0	6.5	PN
40954	5/12/84	1414	2600.0	9430.0	18	2926	100	200	24.8	21.2	16.8	36.6	36.3	36.3		8.7	7.6	6.9	PN
40955	5/12/84	1953	2630.0	9430.0	18	2926	100	200	24.8	21.2	16.8	36.3	36.4	36.3		9.1	9.9	6.5	PN
40956	5/13/84	0033	2700.0	9430.0	18	1116	100	200	24.8	21.8	16.8	36.4	36.5	36.5		9.8	10.2	7.4	PN

Table 1 (cont'd.)

APRIL-MAY PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
40957	5/13/84	0457	2730.0	9430.0	18	622	100	200	24.6	21.4	15.9	36.4	36.4	36.2		8.8	8.1	7.2	PN
40958	5/13/84	0927	2800.0	9430.0	18	68	30	60				34.1	35.6	36.3		9.6	9.7	7.9	PN
40959	5/13/84	1319	2800.0	9500.0	19	80	37	74				35.1	35.5	36.1		10.8	10.0	8.4	PN
40960	5/13/84	1730	2730.0	9500.0	20	860	100	200	22.7			36.4	36.3	36.0		9.6	8.6	7.3	PN
40961	5/13/84	2144	2700.0	9500.0	20	1463	100	200	24.8	21.2	15.7	36.4	36.3	36.3		10.4	10.6	6.6	PN
40962	5/14/84	0204	2630.0	9500.0	21	1664	100	200	25.0	20.0	15.1	36.5	36.3	36.4		12.6	11.2		PN
40963	5/14/84	0615	2600.0	9500.0	21	2341	100	200	24.7	21.7	18.3	36.5	36.3	37.0		12.4	12.4	11.9	PN
40988	5/15/84	1227	2600.0	9530.0	21	1450	100	200				36.6	36.4	36.5		10.2	11.6		PN
40989	5/15/84	1633	2600.0	9600.0	21	1043	100	200				36.2	36.3			12.6	8.6	7.8	PN
40990	5/15/84	2036	2630.0	9600.0	21	1098	100	200				36.4		36.0		12.4	10.2	9.0	PN
40991	5/16/84	0103	2700.0	9600.0	20	798	100	200				36.3	36.4	35.8		11.8	9.4		PN
40992	5/16/84	0533	2730.0	9600.0	20	223	100	200				36.2	36.5	35.9		11.5	9.0	7.5	PN

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
41012	6/ 6/84	2219	3001.7	8757.7	10	20	10	20	25.3	24.1	20.8	29.4			0.064				ST	
41013	6/ 7/84	0044	2958.3	8754.6	10	27	13	26	26.1	25.0	19.4				0.373				ST	
41014	6/ 7/84	0224	3003.1	8753.4	10	20	10	19	25.6	24.7	21.1	28.5	28.9	34.1	0.108				ST	
41015	6/ 7/84	0342	3003.3	8751.5	10	22	11	22	25.6	24.4	21.1	28.2	34.7	35.9	0.201				ST	
41016	6/ 7/84	0508	3001.0	8745.9	10	26	13	25	26.1	22.1	20.8	28.8	28.9	34.2	0.251				ST	
41017	6/ 7/84	0718	3000.0	8730.0	10	26	13	26	26.1	25.0	24.4					6.4	6.4	4.6	PN	
41018	6/ 7/84	1055	3000.0	8700.0	10	69	34	69	25.1	22.8	18.4				0.031				PN	
41019	6/ 7/84	2109	3008.6	8732.7	10	24	12	24	25.8	23.8	21.7	28.7	31.3	36.1	0.376	6.2	6.0	4.3	ST	
41020	6/ 7/84	2220	3006.9	8736.8	10	20	10	20	25.8	23.9	22.7	28.7	29.5	33.6		6.2	6.4	6.0	ST	
41021	6/ 8/84	0238	2939.6	8742.0	10	37	18	36	26.4	24.4	20.0		33.6	35.0		6.1	6.1	4.7	ST	
41022	6/ 8/84	0406	2934.2	8742.2	10	44	22	43	25.6	23.9	19.0	32.0	35.4	35.9	0.194	6.4	6.6	5.4	ST	
41024	6/ 8/84	0650	2930.0	8730.0	10	66	33	66	27.0	23.0	23.0	34.2	35.6	36.1	0.103	6.8	5.5	4.5	PN	
41025	6/ 8/84	1120	2900.0	8730.0	10	200	100	200	27.6	23.7	21.7	33.3	36.2	36.1	0.056	6.5	6.1	4.2	PN	
41026	6/ 8/84	2023	2921.2	8750.5	10	77	38	77	25.6	19.8	18.3	35.1	35.8	36.2	0.078	7.0	7.2	6.3	ST	
41027	6/ 8/84	2256	2923.0	8806.1	11	71	35	71	24.9	20.8	18.7			36.2	0.188	7.8	7.1	5.9	ST	
41028	6/ 9/84	0037	2923.2	8807.0	11	64	32	64	25.3	23.6	18.8	35.4	35.6	35.9		6.0	5.9	5.0	ST	
41029	6/ 9/84	0449	2920.2	8843.4	11	57	27	56	25.6	23.1	19.0	28.1	35.0	35.2	0.018	6.2	3.6	2.7	ST	
41030	6/ 9/84	0820	2900.0	8900.0	13	66	33	66	27.0	23.0	23.0	27.0	34.4	35.9		6.5	4.3	4.1	PN	
41032	6/ 9/84	2017	2847.4	8951.4	13	51	25	51	25.8	22.5	18.8	30.3	34.0	35.9	7.450	9.1	8.0	7.1	ST	
41033	6/ 9/84	2343	2900.0	8935.0	13	35	17	35	26.4	24.4	22.0	15.3	28.5	34.1	0.589	9.3	8.0	6.0	ST	
41034	6/10/84	0228	2847.4	8930.6	13	82	41	81	26.4	19.9	18.8				0.093	8.0	6.4	7.2	ST	
41035	6/10/84	1115	2900.0	8830.0	11	500	100	200	26.7	23.0	21.1					6.5	5.9	4.8	PN	
41036	6/10/84	2008	2903.8	8859.7	11	48	24	48	27.2	22.6	19.4		33.5	34.9	0.059	12.2	9.8	5.0	ST	
41037	6/10/84	2108	2905.2	8859.6	11	35	18	35	26.6	23.6	21.7		33.4	34.3	0.044	10.0	9.2	8.5	ST	
41038	6/11/84	0023	2922.9	8848.5	11	29	15	28	25.4	23.8	20.1	31.2	32.5	31.2	0.204	6.4	6.1	6.3	ST	
41039	6/11/84	0058	2924.6	8848.3	11	26	13	25	25.9	24.1	21.5	30.8	31.4	33.3	0.269	6.2	6.2	4.3	ST	
41040	6/11/84	0204	2927.7	8844.1	11	26	13	25	25.9	23.9	21.7	31.5	32.5	33.8		6.0	5.3	2.7	ST	
41041	6/13/84	0424	2830.4	8929.7	13	458	100	200	27.0	22.4	19.0	35.1	36.3	35.9	0.430	8.0	6.2	5.1	PN	

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
41042	6/13/84	0700	2830.3	9000.2	14	88	44	88	28.0	21.0	19.7	26.5	33.2	33.2	0.020	9.1	6.9	4.9	PN	
41043	6/13/84	1205	2900.9	9000.4	14	24	12	24	28.0	25.1	24.2	13.4	29.2	34.6	4.199		6.6	6.1	PN	
41044	6/13/84	2045	2848.5	9014.1	14	21	10	21	28.1	25.3	23.4	25.6	34.5	35.5	0.382	8.6	7.6	6.6	ST	
41045	6/13/84	2339	2859.9	9032.3	14	8	4	8	28.0	27.6	26.8	18.9	23.2	28.7	11.070			3.8	ST	
41046	6/14/84	0041	2857.9	9032.7	14	13	6	13	28.0	24.5	25.6	18.9	23.2	28.7				3.8	PN	
41047	6/14/84	0316	2843.1	9040.4	14	17	8	16	27.6	25.6	24.1	29.3	34.0	34.8	0.056	8.5	7.6	4.3	ST	
41049	6/14/84	0545	2837.0	9051.0	14	18	9	18	25.8	25.3	24.5	30.6	31.9	34.6	0.414	9.4	9.0	5.4	ST	
41050	6/14/84	0822	2848.5	9100.0	15	11	5	11	27.3	26.0	25.5	16.5	23.3	27.3	21.240	8.8	7.1	7.8	PN	
41051	6/14/84	1115	2830.0	9100.0	15	33	16	33	27.5	24.7	21.5	30.3	35.6	35.7	0.053	10.4	9.0	7.2	PN	
41052	6/14/84	1506	2830.0	9029.9	14	35	16	35	27.2	24.2	21.0	29.2	35.5	36.8	0.080	7.2	7.5	5.0	PN	
41053	6/14/84	2015	2815.7	9029.9	14	56	28	56	26.1	24.2	19.6	35.1	36.1	36.2	0.030	7.4	7.2	6.4	ST	
41054	6/14/84	2342	2823.7	9054.0	14	42	24	42	27.6	25.3	21.4	33.7	35.1	35.2		7.3	7.2	5.3	ST	
41055	6/15/84	0239	2835.2	9052.3	14	18	9	18	27.9	26.6	24.5	27.3	33.5	35.0	0.595	9.6	7.2	5.6	ST	
41056	6/15/84	0500	2834.4	9112.5	15	26	13	26	26.0	25.9	23.6	30.2	35.4	35.6	0.460	8.3		6.6	ST	
41057	6/15/84	0815	2830.0	9130.0	15	46	23	46	26.4	26.0	20.3	28.8	35.1	35.9	0.107	7.7	7.0	3.9	PN	
41058	6/15/84	1156	2800.0	9129.8	15	155	78	155	26.9	19.9	17.0	36.6	36.4	36.3	1.080	7.1	6.9	4.2	PN	
41059	6/15/84	2014	2815.1	9130.0	15	73	37	73	28.7	21.4	18.4	27.6	36.5	36.2	0.127	8.6	8.3	4.6	ST	
41061	6/16/84	0015	2826.1	9120.0	15	48	24	48	27.0	22.0	19.7	30.0	35.9	36.3	0.351	7.6	5.3	5.3	ST	
41062	6/16/84	0416	2834.6	9118.3	15	31	15	31	28.3	23.4	22.2	27.2	36.7	36.1	0.361	7.3	6.9	5.4	ST	
41063	6/16/84	0518	2833.6	9122.7	15	35	17	35	28.0	23.9	20.9	28.7	35.6	35.6	1.270	8.4	7.6	4.3	ST	
41064	6/16/84	0932	2830.0	9200.0	16	49	24	49	26.6	26.1	21.2	35.2	36.2	36.2	0.090	7.9	6.0	4.4	PN	
41065	6/16/84	2012	2835.2	9125.8	15	33	15	33	29.0	25.3	23.2	28.4	33.4	35.7	0.350	8.7	7.3	4.0	ST	
41066	6/16/84	2234	2837.0	9144.2	15	37	18	37	27.2	26.1	23.9	32.0	35.3	36.4	0.075	7.7	7.4	6.2	ST	
41067	6/17/84	0055	2846.3	9136.4	15	27	12	25	28.7	25.1	23.4	24.5	34.7	35.3	6.940	10.8	7.6	5.4	ST	
41068	6/17/84	0214	2848.0	9133.6	15	21	11	21	28.2	26.1	25.0	18.2	30.9	35.3	0.921	11.8	6.8	4.7	ST	
41069	6/17/84	0415	2900.0	9143.5	15	13	6	13	28.2	28.0	26.2	18.1	20.4	27.3	0.621	12.6	10.8	4.7	ST	
41070	6/17/84	0655	2857.6	9131.1	15	9	4	9	28.3	28.3	28.4	19.0	19.0	19.6	4.020	11.0	11.0	10.2	PN	
41071	6/17/84	1016	2900.0	9200.0	16	19	9	19	28.2	27.1	25.3	23.4	28.2	34.7	11.050	12.0	6.0	5.0	PN	

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
41072	6/17/84	1447	2900.0	9230.0	16	25	12	25	27.8	26.1	26.1	24.3	29.9	34.5	0.533	9.2	7.6	6.2	PN
41073	6/17/84	2013	2901.4	9232.0	16	24	12	24	27.4	26.7	24.8	23.4	29.9	35.1	5.270	10.6	7.6	5.5	ST
41074	6/17/84	2150	2855.6	9231.7	16	24	12	24	27.2	27.0	25.4	24.4	32.3	34.8	6.930	10.8	7.6	6.3	ST
41075	6/17/84	2321	2850.5	9234.7	16	27	13	27	28.4	26.8	25.5	24.3	33.1	34.2		9.4	7.4	5.8	ST
41076	6/18/84	0059	2849.3	9226.4	16	30	15	30	28.6	26.3	21.2	22.6	32.7	36.9	2.900	11.4	7.0	5.6	ST
41077	6/18/84	0342	2846.8	9210.4	16	30	15	30	27.1	26.8	24.2	35.2	35.2	36.1	0.115	6.9	7.2	6.5	ST
41078	6/18/84	0530	2853.9	9213.4	16	24	12	24	26.4	25.5	24.3	27.0	34.7	35.7	3.920	9.6	6.6	6.7	ST
41079	6/18/84	1112	2900.0	9300.0	17	24	12	24	27.8	27.4	25.8	33.4	33.4	34.2	0.210	7.5	7.1	6.9	PN
41080	6/18/84	1501	2930.0	9300.0	17	15	7	15	30.0	28.3	25.6				0.630	10.6	9.7	4.2	PN
41081	6/18/84	1839	2925.5	9230.1	16	9	5	9	29.1	28.9	28.3	23.9	24.7	25.1	3.710				PN
41082	6/18/84	2043	2925.9	9224.5	16	9	4	9	30.2	30.1	28.2	13.1	13.5	24.7	0.835				ST
41083	6/18/84	2325	2915.2	9240.5	16	18	9	18	28.6	27.1	26.2	23.0	26.7	33.1	3.580	11.4	8.1	5.1	ST
41084	6/19/84	0227	2918.6	9304.4	17	16	8	16	28.1	27.8	26.5	28.2	28.7	29.7	0.240	7.5	7.4	5.3	ST
41085	6/19/84	0807	2830.0	9300.0	17	44	22	44	27.2	25.2	20.3	33.4	35.1	36.1		8.0	6.2	5.1	PN
41086	6/19/84	1125	2830.0	9230.0	16	48	24	48	27.5	23.4	20.2	35.4	35.7	35.9	0.006	6.8	7.2	7.0	PN
41087	6/19/84	2020	2831.7	9228.5	16	46	23	46	28.9	24.8	21.0	35.2	36.3	35.8	0.080	7.1	7.5	7.0	ST
41089	6/20/84	0017	2813.4	9244.8	16	64	30	64	28.0	21.8	19.1	35.1	36.5	36.0	0.006	7.6	8.1	6.0	ST
41091	6/20/84	0302	2809.4	9237.4	16	82	41	82	27.5			0.052			0.052	7.0	7.7		ST
41093	6/20/84	0515	2759.9	9229.8	16	104	52	104	27.6	23.6	18.7	36.4	36.4	36.4	0.020	7.2	7.9	5.2	PN
41094	6/20/84	1218	2859.9	9330.0	17	95	47	95	28.8	24.1	19.7	35.2	35.5	36.3	0.040	7.0	8.3	7.0	PN
41095	6/20/84	2027	2807.5	9319.6	17	73	36	73	28.3	26.7	23.3	35.2	36.2	36.1	0.060	7.0	5.1	5.1	ST
41097	6/20/84	2343	2819.2	9311.8	17	55	27	55	27.8	25.0	19.4	34.9	35.6	36.1	0.040	7.2	7.4	6.7	ST
41100	6/21/84	0504	2832.5	9339.6	17	36	18	36	29.1	26.4	22.6	32.6	34.7	35.4	1.790	8.5	7.5	6.8	PN/ST
41101	6/21/84	0715	2829.8	9330.1	17	42	21	42	28.0	25.6	21.1	35.4	36.0	35.5		8.0	7.9	7.5	PN
41102	6/21/84	1050	2830.0	9400.0	18	40	20	40	28.3	26.7	23.3	34.7	34.9	36.5	0.181	7.8	8.0	8.0	PN
41103	6/21/84	2020	2830.5	9400.0	18	40	20	40	28.3	27.2	20.2	27.0	34.7	35.5	4.160	9.3	8.2	7.1	ST
41104	6/21/84	2206	2835.4	9353.3	17	36	18	36	28.6	27.2	25.5	29.8	34.7	35.2	2.480	9.4	7.9	8.0	ST
41105	6/22/84	0101	2856.3	9358.1	17	22	11	22	31.1	27.7	25.8	21.7	30.9	33.8		11.1	9.5	5.7	ST

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
41106	6/22/84	0427	2906.7	9332.0	17	20	10	20	30.9	26.0	26.0	26.7	31.9	34.2	4.300	9.5	9.5	5.4	ST
41108	6/22/84	0606	2900.0	9331.6	17	22	11	22	25.6	25.8	26.1	25.0	33.2	34.2	0.201	8.5	7.2	5.5	PN
41109	6/22/84	0944	2900.0	9400.0	18	21	11	21	25.8	25.8	26.1	22.0	26.9	33.4	5.010	9.3	5.0	4.8	PN
41110	6/22/84	1355	2930.0	9400.0	18	13	6	13	26.7	27.2	27.5	17.1	21.8	25.4	8.880	9.0	9.2	4.3	PN
41111	6/22/84	1719	2930.0	9330.0	17	11	6	11	28.0	28.0	27.7	17.0	21.5	29.7	16.880	10.0	9.0	2.1	PN
41112	6/22/84	2027	2930.0	9330.0	17	13	6	13	28.5	26.0	25.4		22.2	26.4	0.799	10.5	11.0	4.2	ST
41113	6/23/84	0138	2901.5	9433.6	18	16	8	16	30.3	27.4	26.0	20.9	25.0	33.2	0.080	9.6	9.4	4.4	ST
41115	6/23/84	0624	2830.0	9430.3	18	35	17	35	27.8	26.7	25.7	33.4	35.0	35.9	0.420	8.1	7.8	7.8	PN
41116	6/23/84	1000	2830.0	9500.0	19	33	16	33	28.9	26.7	24.4	26.5	34.5	35.1	0.195	7.9	6.4	6.4	PN
41117	6/23/84	2023	2832.5	9448.4	18	32	16	32	27.7	25.6	22.2	28.4	34.7	35.5	0.720	6.4	6.8	6.6	ST
41118	6/23/84	2212	2840.5	9457.1	18	23	12	23	30.5	28.2	25.6	24.5	33.6	35.6	0.249	7.6	6.7	6.3	ST
41119	6/23/84	2321	2844.5	9456.7	18	24	12	24	30.0	26.7	23.1	25.6	27.7	34.9	2.290	7.6	8.0	6.4	ST
41120	6/24/84	0128	2846.7	9513.0	19	22	11	22	30.7	28.6	25.7	24.5	29.4	34.5	4.450	7.5	6.4	4.8	ST
41121	6/24/84	0312	2854.7	9506.0	19	17	8	17	30.5	27.4	25.8	24.9	28.2	34.6	0.320	7.1	6.9	4.8	ST
41122	6/24/84	0448	2900.1	9459.9	19	15	7	15	30.4	27.4	25.8	27.2	27.4	33.5		7.1	7.0	4.1	PN
41123	6/24/84	1238	2926.0	9430.0	18	9	5	9	29.4	29.2	27.3	27.6	27.6	28.9	0.160	7.4	7.6	2.5	PN
41124	6/26/84	2042	2824.1	9431.6	18	40	20	40	28.6	26.8	25.0	31.3	35.0	35.9	2.820	10.1	7.7	6.7	ST
41126	6/27/84	0118	2815.2	9407.9	18	62	31	62	28.5	25.6	20.9	32.7	35.5	36.5	0.400	7.9	7.6	6.7	ST
41129	6/27/84	0429	2802.3	9401.7	18	70	36	70	28.7	25.7	19.8	32.2	36.5	36.5		7.0	6.8		ST
41130	6/27/84	0613	2758.2	9407.0	18	81	40	80	28.2	25.8	19.7	31.3	36.3	36.8		8.0	7.5	5.7	ST
41131	6/27/84	1020	2800.0	9430.0	18	70	45	70	29.1	24.4	20.5	29.7	36.5	36.5	3.010	6.3	7.2	5.4	PN
41132	6/27/84	1510	2800.0	9500.0	19	80	40	80	29.1	25.5	20.1	29.2	36.2	36.5	0.048	7.3	7.5	6.1	PN
41133	6/27/84	2039	2803.2	9545.7	19	44	22	44	29.5	25.8	22.1	27.2	32.9	36.4		6.9	6.3	6.6	ST
41135	6/28/84	0043	2814.2	9531.7	19	35	18	34	29.1	27.4	23.5	27.7	32.2	36.0	0.480	7.5	7.1	6.4	ST
41136	6/28/84	0324	2820.2	9514.8	19	33	16	31	29.4	26.8	26.0	24.3	33.5	35.3	1.240	7.3	7.1	6.4	ST
41137	6/28/84	0531	2830.3	9519.2	19	27	13	26	29.0	28.1	25.2	28.1	31.3	35.3	0.820	7.3	7.9	6.0	ST
41138	6/28/84	0613	2831.6	9519.7	19	26	13	24	28.9	28.4	25.7	28.4	30.7	34.5		7.9	7.2	5.4	ST
41139	6/28/84	0827	2830.0	9530.0	19	26	13	26	28.6	28.5	24.9	28.6	28.6	35.4	0.018	6.9	7.4	5.3	PN
41140	6/28/84	1234	2830.0	9600.0	19	12	6	12	27.7	27.1	25.7	31.9	32.3	33.5	9.830	7.9	6.4	3.5	PN

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
41141	6/28/84	2022	2833.9	9552.6	19	11	5	11	28.8	28.7	25.6	31.5	31.5	33.8	2.540	7.9	8.0	4.9	ST
41142	6/28/84	2232	2831.0	9606.6	19	11	5	11	27.8	27.8	27.5	32.3	32.3	32.4	14.850	8.1	9.1	4.8	ST
41143	6/29/84	0046	2817.7	9609.1	19	19	10	18	28.4	27.1	23.4	30.2	32.0	35.4	0.140	8.1	8.8	5.4	ST
41144	6/29/84	0308	2805.3	9612.4	19	28	14	27	29.1	29.0	22.6	27.6	28.1	36.2	0.023	7.9	8.2	6.1	ST
41145	6/29/84	0513	2800.0	9559.8	19	44	22	44	29.2	25.2	22.0	27.2	34.1	36.2	0.036	7.6	6.8	5.6	PN
41146	6/29/84	0830	2800.0	9530.0	19	55	27	55	29.2	25.2	21.6	27.0	34.0	36.3	0.030	6.6	6.9	6.1	PN
41147	6/29/84	1531	2800.0	9630.0	19	26	13	26	28.0	27.9	22.8	31.9	32.5	35.8	0.015	6.6	6.6	5.3	PN
41148	6/29/84	2016	2752.5	9625.5	20	38	19	38	28.8	24.9	22.3	32.9	34.4	36.4	0.120	7.6	6.6	5.6	ST
41149	6/29/84	2232	2748.1	9637.5	20	31	15	31	28.2	28.0	22.2	33.6	33.8	36.8	0.010	8.2	7.1	6.9	ST
41150	6/30/84	0022	2755.9	9641.7	20	19	10	18	27.6	27.5	23.8	34.1	34.1	36.2	0.260	6.9	7.8	6.8	ST
41151	6/30/84	0200	2753.6	9648.1	20	18	9	18	27.7	26.9	23.4	34.5	34.7	36.3	0.230	7.2	7.4	5.8	ST
41152	6/30/84	0444	2746.0	9702.5	20	13	6	11	26.2	26.1	23.9	34.6	34.7	35.5	0.480	7.0	7.0	4.8	ST
41153	6/30/84	0548	2743.3	9706.5	20	13	7	12	26.1	25.8	23.8	34.1	34.8	35.9	0.036	7.3	8.0	6.0	ST
41154	6/30/84	0810	2730.0	9700.0	20	24	12	24	28.1	27.1	24.0	35.3	35.4	36.1	0.320	6.5	7.4	5.6	PN
41155	6/30/84	1130	2730.0	9630.0	20	75	36	75	28.6	26.6	26.5	32.2	36.0	36.5	0.012	6.5	6.4	4.6	PN
41156	6/30/84	2013	2740.1	9647.1	20	31	16	31	28.4	28.2	22.4	34.0	35.1	36.2	0.070	6.7	6.8	6.1	ST
41157	6/30/84	2235	2731.2	9634.6	20	61	30	61	28.8	26.5	21.0	32.2	36.2	36.4	0.000	8.1	7.7	4.9	ST
41159	7/ 1/84	0130	2719.3	9634.2	20	77	39	77	28.7	25.5	20.8	32.5	36.3	36.4	0.007				ST
41161	7/ 1/84	0345	2718.8	9637.8	20	71	35	70	28.8	26.6	21.4	32.1	36.4	36.7					ST
41162	7/ 1/84	0533	2720.2	9646.7	20	44	22	43	28.2	28.3	22.3	34.1	34.3	36.5	0.015				ST
41164	7/ 1/84	2015	2720.8	9714.7	20	15	7	15	25.0	24.8	23.4	36.0	36.0	36.2	12.420	7.5	7.7	6.0	ST
41165	7/ 1/84	2229	2708.8	9709.7	20	25	17	25	28.3	26.9	22.9	36.1	36.2	36.3	0.011	7.3	7.0	5.8	ST
41166	7/ 1/84	2332	2706.3	9706.0	20	31	15	31	28.3	26.9	22.9	36.1	36.2	36.3	0.070	7.0	6.7	6.5	ST
41167	7/ 2/84	0031	2706.8	9701.9	20	34	17	33	28.0	28.0	22.2	36.1	36.1	37.7	0.080	6.1	6.2	6.1	ST
41168	7/ 2/84	0552	2631.2	9703.6	21	28	14	27	27.8	27.7	23.5	36.1	36.1	36.5	0.010	7.1	6.6	6.4	ST
41169	7/ 2/84	0723	2630.0	9700.0	21	31	16	31	28.1	28.0	23.6	36.1	36.1	36.6	0.030	6.5	6.3	6.0	PN
41170	7/ 2/84	2014	2625.5	9712.6	21	11	6	11	25.1	25.0	24.3	36.3	36.3	36.3	1.140	6.4	6.4	6.0	ST
41171	7/ 2/84	2145	2622.6	9703.6	21	21	10	21	27.9	27.8	23.4		36.1	36.5	0.060	6.7	6.4	6.1	ST

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
41172	7/ 2/84	2249	2618.1	9701.7	21	22	11	22	27.9	27.8	23.5	36.2	36.2	36.8	0.080	7.1	6.7	7.0	ST
41173	7/ 2/84	2339	2616.3	9703.5	21	16	8	16	27.7	27.6	23.4	36.2	36.3	36.7	0.100	6.7	6.7	6.7	ST
41174	7/ 3/84	0058	2612.4	9700.4	21	24	12	23	27.9	27.8	22.8	36.2	36.3	36.6	0.150	6.4	6.6	6.4	ST
41175	7/ 3/84	0220	2606.2	9656.1	21	28	14	27	27.0	26.8	21.8	36.3	36.4	36.9	0.014	6.9	6.9	6.2	ST
41176	7/ 3/84	0329	2603.5	9659.6	21	25	13	24	26.1	25.5	22.4	36.4	36.4	36.5	0.160	7.2	7.2	6.5	ST
41177	7/ 3/84	0445	2600.0	9700.0	21	24	12	24	25.2	23.4	22.2	36.4	36.3	36.4	0.130	7.0	6.9	6.7	PN
41178	7/ 3/84	0805	2600.0	9630.0	21	59	30	59	28.1	27.9	23.8	36.0	36.4	36.7	0.045	7.2	6.9	7.6	PN
41180	7/ 3/84	2106	2604.3	9631.6	21	54	27	54	27.5	26.6	21.8	36.3	36.5	36.4	0.005	7.8	7.6	7.2	ST
41181	7/ 3/84	2225	2601.4	9628.9	21	63	32	63	28.2	28.1	23.1	36.2	36.5	36.4	0.060	6.3	6.1	6.4	ST
41182	7/ 3/84	2347	2604.5	9623.6	21	81	40	81	28.2	28.0	22.2	36.1	36.4	36.4	0.005	6.5	6.4	6.3	ST
41183	7/ 4/84	0333	2630.6	9643.1	21	44	21	44	27.1	27.2	20.9	36.2	36.4	36.6	0.003	6.4	6.2	5.3	ST
41184	7/ 4/84	0618	2643.0	9704.2	21	30	15	29	27.8	27.8	21.3	36.2	36.2	36.8	0.060	6.8	6.6	6.6	ST
41185	7/ 4/84	0900	2700.0	9700.0	20	40	20	40	28.1	28.1	21.3	36.1	36.1	36.9		6.6	6.4	6.4	PN
41186	7/ 4/84	1235	2700.1	9630.0	20	132	66	132	28.9	21.9	17.1	34.0	36.4	36.5	0.000	7.0	6.8	4.0	PN
41187	7/ 4/84	2019	2649.4	9718.4	21	15	7	15	24.5	23.5	22.0	36.4	36.3	36.4	0.039	6.9	5.4	5.4	ST
41188	7/ 4/84	2104	2702.3	9717.4	20	17	9	17	25.0	24.9	21.7	36.3	36.3	36.4	0.510	6.9	6.8	5.6	ST
41189	7/ 4/84	2354	2716.0	9713.0	20	20	10	20	26.1	25.9	22.3	36.2	36.2	36.5	0.032	6.7	6.4	5.8	ST
41190	7/ 5/84	0112	2718.4	9706.2	20	26	13	25	26.3	26.3	22.8	36.3	36.3	36.4	0.290	8.8	8.2	7.4	ST
41191	7/ 5/84	0345	2712.7	9650.3	20	53	27	52	28.3	28.3	22.5	36.1	36.1	36.1	0.003	6.2	6.3	6.5	ST
41193	7/ 5/84	0621	2724.1	9655.6	20	32	16	31	27.9	27.8	26.4	36.2	36.2	36.5	0.090	7.1	6.9	6.8	ST
41194	7/ 5/84	2023	2810.8	9545.0	19	36	18	36	28.7	27.9	23.0	32.3	34.8	36.3	0.015	7.1	7.1	5.7	ST
41196	7/ 5/84	2242	2805.5	9530.7	19	46	23	46	28.7	27.6	22.1	32.1	35.1	36.3	0.240	6.7	6.4	5.0	ST
41197	7/ 6/84	0137	2819.6	9516.4	19	36	18	36	28.9	26.5	23.0	31.3	34.0	36.5		6.5	6.5	5.1	ST
41198	7/ 6/84	0436	2837.0	9505.7	19	27	13	26	29.1	28.2	23.7	28.5	32.3	35.6	0.620	7.4	6.8	3.7	ST
41199	7/ 6/84	0533	2842.8	9506.2	19	20	10	19	27.8	27.6	25.5	32.5	32.8	34.5	0.039	7.6	6.8	4.8	ST
41200	7/ 6/84	0717	2856.5	9503.6	19	15	8	15	28.4	27.5	24.1	31.5	32.5	35.9		7.4	6.3	3.2	ST
41201	7/ 7/84	2024	2836.8	9533.5	19	16	8	16	28.8	28.6	25.5	33.7	33.8	35.4	0.023	7.2	7.1	5.2	ST
41202	7/ 7/84	2233	2827.6	9541.5	19	24	12	24	28.7	28.3	26.4	32.4		0.008	7.4	7.3	6.8	ST	

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
41203	7/ 8/84	0024	2818.5	9549.5	19	25	12	25	28.7	27.2	22.6	33.2	33.9	36.0	0.012	7.5	7.2	4.2	ST
41204	7/ 8/84	0425	2819.1	9623.6	19	13	5	13	28.5	28.1	28.1	35.4	35.6			6.8	6.8	6.6	ST
41205	7/ 8/84	0525	2816.6	9625.8	19	11	5	11	28.2	27.2	24.0	34.8	34.8	34.9	0.390	6.4	6.3	5.1	ST
41206	7/ 8/84	2018	2737.7	9707.5	20	13	7	13	28.1	26.9	24.5	36.3	36.4	36.3	0.000	6.3	6.3	6.0	ST
41207	7/ 8/84	2220	2748.9	9654.5	20	18	9	18	28.6	26.9	23.9	36.3	36.5	36.3		7.1	6.9	5.7	ST
41208	7/ 9/84	0021	2746.4	9640.3	20	33	16	33	28.0	27.9	24.0	36.4	36.6	36.3	0.080	6.0	6.2	6.9	ST
41209	7/ 9/84	0128	2743.6	9640.3	20	37	17	37	27.5	26.5	23.2				0.120	6.5	6.3	6.0	ST
41210	7/ 9/84	0350	2733.6	9646.2	20	40	20	40	27.7	27.5	22.8	36.4	36.5	36.3	0.035	6.0	6.0	6.5	ST
41211	7/ 9/84	0605	2732.6	9626.4	20	83	41	83				33.9	36.6	36.3	0.000	6.0	6.3	4.3	ST
41212	7/ 9/84	0930	2730.0	9600.0	20	201	100	200	28.6	21.1	17.5	33.9	36.3	36.0	0.160	7.7	5.8	4.4	PN
41213	7/ 9/84	1323	2730.0	9529.9	20	814	100	200	30.0	22.8	17.8	29.9	36.3	36.0	0.015	7.3	5.4	4.6	PN
41214	7/ 9/84	2017	2754.6	9520.0	20	82	41	82	30.0	26.1	19.5	29.1	35.5	36.4	0.023	8.0	7.8	5.7	ST
41215	7/ 9/84	2151	2759.3	9518.2	20	64	32	64	29.5	28.0	19.8				0.200	8.0	7.9	5.7	ST
41216	7/10/84	0021	2807.5	9502.8	19	55	27	55	29.2	27.8	21.1	31.5	35.9	36.2	0.070	5.0	7.8	6.3	ST
41218	7/10/84	0403	2800.0	9451.3	18	71	35	71	29.2	27.5	20.3	32.7	35.5	36.4	0.020	7.0	7.5	6.5	ST
41219	7/10/84	0619	2801.0	9435.8	18	76	38	76	28.5	25.4	21.1				0.009	6.9	7.3	5.6	ST
41220	7/10/84	2016	2824.7	9436.5	18	40	20	40	29.8	26.8	23.9	29.2	33.6	35.6		6.3	5.7	4.7	ST
41221	7/10/84	2226	2832.8	9444.5	18	33	16	33	29.3	27.2	25.3	29.6	32.9	35.5		6.7	6.1	5.4	ST
41222	7/11/84	0143	2838.5	9421.5	18	31	15	31	29.5	28.3	25.1	28.7	29.8	34.9	0.269	3.5	3.8	3.4	ST
41223	7/11/84	0333	2841.7	9412.8	18	29	14	29	29.4	28.9	25.7	28.6	32.0	32.8	0.188	5.5	5.8	5.8	ST
41224	7/11/84	0546	2856.6	9402.9	18	22	11	22	29.1	28.3	26.2	30.7	31.7	35.1	0.160	6.5	5.5	4.5	ST
41225	7/11/84	2035	2833.3	9349.4	17	37	18	37	30.1	28.8	23.6	28.6	30.9	35.8	0.021	5.7	5.2	4.2	ST
41226	7/12/84	0008	2810.0	9332.4	17	64	32	64	30.3	24.5	20.8	28.5	36.0	36.9	0.027	5.9	5.5	5.2	ST
41228	7/12/84	0224	2807.7	9324.0	17	73	36	73	29.8	26.2	20.1	30.7	36.7	37.8	0.013	5.9	6.5	4.4	ST
41230	7/12/84	0607	2828.2	9318.2	17	38	19	38	29.2	27.7	24.6	30.2	34.0	36.2	0.210	6.9	7.0	7.1	ST
41231	7/12/84	2012	2843.5	9324.6	17	29	20	29	30.9	27.0	25.5	29.0	34.2	35.9	0.280	6.1	5.5	4.7	ST
41232	7/12/84	2308	2844.3	9300.1	17	29	19	29	30.4	27.5	25.8	28.5	33.4	35.4	0.010	6.7	6.0	3.4	ST
41233	7/13/84	0039	2836.4	9304.3	17	33	16	33	27.0	28.1	25.9	30.4	32.0	36.0	0.810	4.8	4.6	5.0	ST

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
41234	7/13/84	0316	2830.5	9246.5	16	46	23	46	30.3	26.5	20.6	26.0	34.9	35.9	0.870	5.0	4.4	3.3	ST
41237	7/13/84	0549	2822.4	9240.5	16	60	30	60	30.2	26.0	20.7	28.5	36.0	36.8	0.111	7.3	7.4	4.5	ST
41239	7/13/84	0955	2821.0	9300.0	17	53	26	53	30.3	29.1	20.3	29.3	34.4	35.9		7.6	7.2	4.8	PN
41240	7/13/84	1222	2831.0	9300.5	17	36	18	36	30.1	29.2	26.0	26.6	32.9	35.7	0.054	7.7	7.4	5.9	PN
41241	7/13/84	1500	2851.3	9259.8	16	25	12	25	30.5	29.2	25.6	28.4	31.2	35.0	0.056	7.9	7.8	4.3	PN
41242	7/13/84	1708	2906.0	9300.0	17	21	11	21	30.5	28.8	25.6	27.6	29.1	34.3	0.177	8.3	4.1	1.7	PN
41243	7/13/84	2020	2927.2	9315.1	17	13	9	13	30.2	29.4	29.3	23.0	30.0	30.0	0.977	9.3	8.0	3.9	ST
41244	7/13/84	2311	2907.2	9317.4	17	20	10	20	30.0	29.7	26.1	28.9	29.3	34.3	0.021	8.0	8.0	1.8	ST
41245	7/14/84	0157	2909.4	9255.8	16	18	9	18	30.1	29.9	26.0	28.1	28.5	33.3	0.071	7.3	7.5	1.5	ST
41246	7/14/84	0429	2854.0	9244.7	16	26	13	26	30.0	28.5	24.5	27.4	28.2	34.8	0.510	6.5	4.7	3.3	ST
41247	7/14/84	0609	2841.5	9239.2	16	34	17	34	29.9	28.3	23.3	28.2	29.5	36.3		5.8	4.1	3.1	ST
41248	7/14/84	1957	2855.8	9222.4	16	26	13	26	30.9	27.2	24.2	27.4	33.2	35.7		7.2	4.8	4.2	ST
41249	7/14/84	2118	2858.9	9225.3	16	21	11	21	30.5	29.0	25.9	26.6	28.4	34.4	0.095	7.7	5.0	4.2	ST
41250	7/14/84	2242	2900.7	9217.2	16	22	11	22	29.8	27.3	23.5	26.5	33.0	35.5	5.110	8.3	4.0	1.2	ST
41251	7/15/84	0037	2908.7	9211.3	16	16	8	16	30.0	30.2	24.6	25.4	25.6	35.2	0.527	9.0	8.5	0.5	ST
41252	7/15/84	0233	2908.7	9211.3	16	10	5	10	29.6	29.5	26.6	20.7	27.1	31.2	1.163	7.5	5.5	0.3	ST
41253	7/15/84	0640	2837.9	9148.7	15	39	19	39	30.0	27.3	22.4	27.3	32.8	37.3	0.093	6.0	4.5	4.0	ST
41254	7/15/84	2010	2807.5	9205.2	16	82	44	82	30.2	23.2	18.8	27.4	36.4	36.1	0.033	7.8	8.3	6.0	ST
41255	7/16/84	0033	2831.0	9143.2	15	46	23	46	30.3	26.8	21.0	27.4	34.2	36.0		8.2	7.8	4.3	ST
41257	7/16/84	0337	2837.6	9146.5	15	36	18	36	29.8	26.9	23.4	26.7	34.1	36.2	0.075	6.5	4.5	5.0	ST
41258	7/16/84	0620	2852.4	9127.1	15	18	9	18	30.0	30.1	25.3	26.5	26.5	35.5		5.3	4.1	1.6	ST
41259	7/16/84	2006	2842.2	9126.3	15	26	13	26	29.6	26.4	23.3	26.3	34.7	35.6	0.071	6.3	5.3	1.4	ST
41260	7/16/84	2219	2833.2	9109.4	15	30	15	30	29.7	26.7	22.2	26.6	35.2	35.9	2.030	8.0	6.8	4.7	ST
41261	7/17/84	0013	2834.7	9056.5	14	22	11	22	28.2	28.3	22.6	25.8	28.6	36.3	0.364	7.0	2.0	1.7	ST
41262	7/17/84	0230	2823.7	9046.5	14	42	21	42	29.7	25.5	20.7	25.8	35.3	36.6	0.115	6.3	5.5	2.6	ST
41263	7/17/84	0446	2815.7	9033.4	14	64	32	64	29.3	21.4	19.4	25.5	36.7	36.4	0.187	6.2	5.7	4.5	ST
41264	7/17/84	0558	2811.8	9027.8	14	100	50	100	29.7	19.3	18.3	23.0	36.4	36.4	0.675	8.0	6.0	5.7	ST
41265	7/17/84	0945	2800.0	9030.0	14	315	100	200	29.3	18.4	16.0	25.4	36.5	36.2	0.249	7.3	5.4	5.3	PN

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POOSITION		STAT ZONE	SAMPLE DEPTHS (M)			TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG		DEPTH (M)	MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
41266	7/17/84	1253	2815.0	9029.6	14	70	35	70	29.4	20.6	19.4	25.9	36.4	36.2	0.222	7.8	7.2	6.4	PN
41267	7/17/84	1518	2829.9	9029.8	14	38	19	38	29.4	24.0	20.2	25.8	35.7	36.6	2.630	7.8	4.7	4.6	PN
41268	7/17/84	1736	2840.0	9030.0	14	17	9	17	29.7	29.6	24.6	26.2	26.3	35.5	0.107	7.5	6.8	3.6	PN
41269	7/17/84	1949	2900.0	9030.0	14	10	5	10	28.6	28.4	24.9	26.1	26.5	34.8	1.545	5.8	4.1	0.6	PN
41270	7/17/84	2039	2900.0	9023.4	14	9	5	9	28.6	28.4	24.9	26.1	26.5	34.8		5.8	4.1	0.6	ST
41271	7/17/84	2251	2841.5	9027.7	14	18	9	18	29.5	28.3	23.9	26.3	29.4	35.8		8.3	4.3	5.6	ST
41272	7/18/84	0041	2843.6	9015.9	14	28	14	28	29.4	26.8	21.9	24.6	33.8	36.8	0.604	6.7	4.6	5.2	ST
41273	7/18/84	0157	2837.5	9017.8	14	28	14	28	29.5	27.1	23.0	24.6	33.5	36.1	0.435	7.0	5.2	5.0	ST
41274	7/18/84	0425	2820.4	9023.6	14	55	27	55	29.3	23.7	19.6	26.4	37.1	36.3	0.151	6.3	6.7	5.6	ST
41276	7/18/84	2007	2840.4	8956.7	13	70	35	70	28.8	22.3	19.9	25.7	36.2	36.2	6.110	7.3	7.4	6.1	ST
41277	7/18/84	2241	2857.6	8956.4	13	30	15	30	26.8	25.0	21.1	26.9	35.5	36.2	1.465	7.3	6.0	5.3	ST
41278	7/19/84	0012	2902.0	8955.3	13	26	13	26	27.9	25.7	21.9	27.3	34.8	36.3	0.870	7.2	5.3	4.4	ST
41279	7/19/84	0108	2903.1	8959.2	13	20	10	20	27.3	26.3	22.4	28.8	33.6	36.4	9.210	5.5	2.5	3.0	ST
41280	7/19/84	0335	2911.0	8942.0	13	13	6	13	28.4	28.4	25.6	23.9	25.5	32.5	13.880	6.7	4.5	2.5	ST
41281	7/19/84	1958	2933.5	8825.9	11	46	22	45	29.8	25.0	20.6	28.9	36.7	36.0	2.050	7.1	7.1	4.9	ST
41283	7/19/84	2344	2948.1	8815.3	11	36	18	35	29.6	24.1	20.7	28.3	36.8	36.1		7.6	6.7	3.7	ST
41284	7/20/84	0243	3008.3	8816.1	11	18	9	18	28.4	27.5	24.6	29.3	33.5	36.0	2.750	6.9	7.8	4.6	ST
41285	7/20/84	0359	3012.1	8810.9	11	14	7	14	27.8	26.6	24.4	32.2	34.1	35.7	0.068	6.7	6.7	5.0	ST
41286	7/21/84	2101	2927.5	8739.6	10	72	35	70	29.3	23.7	20.7	32.0	36.4	36.4	0.170	7.2	7.9	7.0	ST
41287	7/21/84	2256	2936.6	8733.6	10	54	26	51	29.9	25.7	22.3	29.6	36.3	36.2	0.057	7.3	7.5	7.2	ST
41288	7/22/84	0237	3001.8	8735.4	10	29	18	29	29.0	23.6	22.1	30.9	35.6	35.8	0.347	6.1	5.8	4.5	ST
41289	7/22/84	0648	3000.0	8700.0	10	72	36	72	28.8	22.2	19.4	32.4	36.8	36.6	0.016	5.9	6.7	5.5	PN
41290	7/22/84	0848	2945.0	8630.0	9	222	100	200	29.0	17.8	15.6	30.9	36.8	36.4	0.029	6.6	4.9	4.2	PN
41291	7/22/84	1056	2930.0	8700.0	10	404	100	200	28.9	18.4	15.0	34.4	36.8	36.3		6.4	5.9	4.5	PN
41292	7/22/84	1328	2914.6	8700.4	10	750	100	200	28.6	18.2	14.8	34.2	36.6	36.1	0.006	6.0	5.2	4.1	PN
41293	7/22/84	1546	2859.8	8700.3	10	1251	100	200	28.9	18.1	14.5	32.8	36.6	36.5		6.5	4.7	4.3	PN
41294	7/22/84	1915	2900.0	8730.0	10	961	100	200	29.2	17.4	14.3	32.5	36.6	36.1	0.009	6.3	4.9	4.2	PN
41295	7/23/84	0213	2915.2	8829.8	11	76	39	75	29.6	23.1	19.7	26.3	37.3	36.1	0.900	8.8	8.4	5.5	ST

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
OREGON II

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
41296	7/23/84	0535	2907.3	8854.0	11	60	32	60	29.0	22.9	19.8	23.0	36.2	36.3	1.141	7.3	4.9	4.5	ST
41297	7/23/84	2006	2922.5	8846.8	11	40	20	39	29.1	25.1	21.6	22.2	36.0	36.1	26.400	8.8	5.5	3.7	ST
41298	7/23/84	2106	2924.0	8846.5	11	31	15	31	28.8	24.8	22.9	22.9	35.8	35.9	1.678	7.1	3.7	2.1	ST
41299	7/23/84	2209	2925.2	8845.8	11	29	15	29	28.8	24.8	23.7	22.7	35.7	35.9	3.294	8.5	3.8	2.5	ST
41300	7/23/84	2311	2926.8	8846.2	11	22	11	22	28.8	23.4	23.5	21.6	35.2	35.6	23.110	8.3	3.4	3.2	ST

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
ALABAMA INSHORE VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
00001	6/ 6/84	0650	3016.1	8733.7	10	9	5	9	25.5	24.5	24.0	22.0	26.0	28.0		7.8	9.8	7.6	ST
00004	6/ 8/84	0935	3012.4	8818.4	11	9	5	9	26.5	26.0	25.5	25.0	24.0	25.0		6.6	7.0	4.6	ST
00003	6/11/84	1040	3011.9	8804.9	11	14	7	14	25.5	25.0	24.5	26.0	27.0	29.0		2.8	2.2	2.6	ST
00005	6/11/84	1150	3013.9	8812.7	11	9	5	9	25.5	25.0	25.0	24.0	25.0	26.0		7.2	2.4	1.2	ST
00002	6/12/84	0722	3013.9	8744.2	10	9	5	9	27.0	25.0	24.5	27.0	30.0	30.0		6.2	6.0	4.0	ST
00009	7/25/84	0700	3012.4	8818.4	11	6	3	6	28.0	28.0	28.0	28.0	28.0	28.0		5.4	6.6	5.4	ST
00010	7/25/84	0830	3013.9	8812.7	11	9	5	9	28.0	28.5	28.5	27.0	28.0	28.0		2.8	6.2	6.2	ST
00008	7/25/84	0950	3011.9	8804.9	11	15	8	15	28.5	28.5	28.5	28.0	29.0	30.0		3.4	6.6	6.4	ST
00007	7/26/84	0920	3013.9	8744.2	10	9	5	9	29.0	29.0	29.0	28.0	30.0	30.0		6.4	6.2	5.4	ST
00006	7/26/84	1030	3016.1	8733.7	10	9	5	9	29.0	29.0	29.0	28.0	30.0	30.0		6.4	6.4	6.0	ST

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
E0015	6/ 8/84	2005	2933.2	8837.0	11	22	11	21	24.1	22.5	20.4	29.0	33.0	35.0		8.2			ST
E0014	6/ 8/84	2135	2938.4	8833.1	11	31	15	30	24.0	21.9	19.8	31.0	33.0	35.0		7.7	7.8	3.7	ST
E0013	6/ 8/84	2355	2948.1	8836.0	11	23	11	22	24.2	23.0	19.3	27.0	30.0	35.0		7.5	8.6	5.4	ST
TMO21	6/ 9/84	0207	2948.3	8849.3	11	9	4	8	24.9	24.8	24.0	25.0	25.0	28.0		10.9	8.9	7.0	ST
E0012	6/ 9/84	0315	2955.3	8846.5	11	15	7	14	24.9	23.9	21.5	22.0	26.0	33.0		7.7	7.8	5.4	ST
E0008	6/ 9/84	1900	2948.1	8803.5	11	32	15	31	24.3	22.3	19.0	30.0	32.0	36.0		7.6	7.6	3.9	ST
TMO12	6/ 9/84	2100	2956.6	8802.5	11	31	15	30	24.9	20.5	20.1	30.0	35.0	35.0		6.3	5.8	5.0	ST
TMO13	6/ 9/84	2355	3012.4	8808.0	11	9	4	8	25.2	25.0	24.5	28.0		29.0		6.6	6.8	4.2	ST
TMO14	6/10/84	0048	3013.3	8810.4	11	9	4	8	25.2	25.1	25.0	26.0	26.0	28.0		6.6	6.7	7.0	ST
TMO15	6/10/84	0207	3011.6	8819.1	11	9	4	8	24.9	24.9	24.9	29.0		29.0		6.8	6.5	6.1	ST
TMO16	6/10/84	0305	3008.4	8822.0	11	15	7	14	24.8	23.5	20.5	27.0	30.0	34.0		6.7	6.7	1.8	ST
E0011	6/10/84	1920	2957.6	8832.6	11	23	11	22	25.5	22.5	20.8	24.0	34.0	34.0		8.2	6.2	3.3	ST
E0009	6/10/84	2132	3010.5	8825.8	11	11	5	10	25.1	25.1	24.3	27.0	28.0	28.0		7.1	6.5	5.2	ST
E0010	6/10/84	2315	3006.5	8835.2	11	15	7	14	25.1	24.5	22.2	26.0	28.0	32.0		7.7	7.0	5.4	ST
TMO18	6/11/84	0110	2959.2	8844.2	11	15	7	14	25.0	24.5	22.2	22.0	23.0	32.0		8.8	7.0	5.6	ST
TMO20	6/11/84	0204	3003.1	8844.1	11	15	7	14	25.2	24.2	21.1	21.0	26.0	32.0		8.1	8.0	3.0	ST
TMO19	6/11/84	0325	3007.0	8846.2	11	13	6	12	25.0	24.0	21.0	20.0	23.0	32.0		7.8	5.8	3.2	ST
E0030	7/26/84	1900	2941.0	8848.3	11	9	4	9	28.0	27.8	25.8	30.0	31.0	34.0		7.2	7.1	6.0	ST
E0033	7/26/84	2150	2943.0	8837.0	11	22	11	22	27.8	25.0	24.0	30.0	35.0	35.0		7.0	6.8	4.8	ST
E0031	7/26/84	2245	2946.0	8835.0	11	28	14	28	27.5	25.5	23.8	31.0	34.0	35.0		6.7	6.4	5.1	ST
E0032	7/26/84	2320	2946.0	8832.3	11	28	14	28	26.5	25.0	23.2	30.0	35.0	35.0		6.8	6.6	5.3	ST
E0034	7/27/84	0045	2941.0	8829.0	11	34	17	34	27.1	24.2	22.0	30.0	35.0	36.0		7.3	6.8	4.6	ST
E0037	7/27/84	1906	2954.0	8826.1	11	30	15	30	27.5	24.9	22.5	32.0	34.0	36.0		7.0	6.9	4.6	ST
E0036	7/27/84	2215	3005.4	8833.2	11	15	8	15	27.5	26.1	24.5	30.0	32.0	34.0		7.4	6.5	4.8	ST

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
LOUISIANA INSHORE VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
01001	6/ 5/84	1244	3003.2	8851.7	11	2	2	26.3	25.0	25.8	25.6		7.2	7.9	PN/ST				
01002	6/ 5/84	1320	3003.3	8851.4	11	5	5	26.0	25.7	24.1	24.7		9.4	9.2	PN/ST				
01003	6/ 5/84	1420	3003.7	8850.8	11	9	9	25.9	22.3	24.0	31.8		10.4	9.5	PN/ST				
02850	6/11/84	0906	2924.8	8904.3	12	9	9	26.1	27.4	12.1	29.6		11.8	3.9	PN/ST				
02830	6/11/84	1006	2926.9	8909.6	12	5	5	27.2	26.2	15.7	23.2		8.4	8.0	PN/ST				
02810	6/11/84	1043	2927.4	8912.2	12	2	2	27.3	27.2	8.4	17.5		7.2	8.5	PN/ST				
03047	6/12/84	0947	2916.3	8956.0	13	2	2	28.4	28.3	7.6	8.2	29.700	8.4	8.3	PN/ST				
03045	6/12/84	1102	2915.1	8954.2	13	5	5	28.5	26.9	8.6	12.1	26.900	10.7	7.7	PN/ST				
03083	6/12/84	1152	2913.9	8952.7	13	9	9	28.4	23.0	8.9	30.8	36.500	11.0	10.9	PN/ST				
04025	6/13/84	1008	2900.5	9035.7	14	9	9	27.6	26.0	15.4	26.5		12.1	4.5	PN/ST				
04024	6/13/84	1050	2902.0	9035.7	14	5	5	27.8	27.4	15.7	15.7		12.6	10.8	PN/ST				
04023	6/13/84	1122	2904.5	9035.7	14	2	2	28.8	28.9	16.0	15.8		11.4	12.2	PN/ST				
05005	6/14/84	1215	2856.2	9058.0	14	9	9			28.0	21.4		14.2	13.9	PN/ST				
05003	6/14/84	1301	2901.0	9058.9	14	5	5			18.2	18.4		12.3	10.2	PN/ST				
05001	6/14/84	1352	2909.5	9058.3	14	2	2			17.1	19.3		7.7	7.1	PN/ST				
06005	6/19/84	1003	2909.8	9209.8	16	9	9	29.0	28.9	19.2	20.3		9.6	10.0	PN/ST				
06003	6/19/84	1130	2919.5	9209.0	16	5	5	30.4	28.1	8.4	19.3		8.6	5.0	PN/ST				
06001	6/19/84	1316	2934.0	9207.8	16	2	2	31.3	29.8	0.5	0.7				PN/ST				
07005	6/20/84	0908	2940.0	9322.0	17	9	9	29.5	28.8	14.0	19.5		4.9	1.5	PN/ST				
07003	6/20/84	0940	2944.0	9322.0	17	5	5	29.5	29.5	13.8	14.7		8.7	5.0	PN/ST				
07001	6/20/84	1010	2945.0	9322.0	17	2	2	30.2	29.9	12.6	13.6		7.5	6.0	PN/ST				
07005	7/ 9/84	0924	2940.0	9322.0	17	9	9	29.5	29.1	27.5	28.0	5.600	6.8	2.3	PN/ST				
07003	7/ 9/84	0958	2944.0	9322.0	17	5	5	29.7	29.7	26.0	26.0	10.700	7.2	6.9	PN/ST				
07001	7/ 9/84	1021	2945.0	9322.0	17	2	2	30.0	30.0	25.0	25.3	11.400	6.8	5.9	PN/ST				
06005	7/12/84	0749	2909.8	9209.8	16	9	9	29.3	29.4	25.2	25.4	11.100	7.1	6.7	PN/ST				
06003	7/12/84	0920	2919.5	9209.0	16	5	5	30.4	28.5	5.9	25.2	40.400	9.2	1.7	PN/ST				
06001	7/12/84	1120	2934.0	9207.8	16	2	2	30.3	30.2	5.9	5.9	34.200	6.5	6.1	PN/ST				

Table 1 (cont'd.)

JUNE-JULY SHRIMP AND BOTTOMFISH SURVEY
LOUISIANA INSHORE VESSELS

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
05003	7/17/84	1122	2901.0	9058.9	14	5	5	28.5	28.7	17.4	17.8	24.900	5.5	4.1	PN/ST				
05001	7/17/84	1231	2909.5	9058.3	14	2	2	28.5	28.2	11.9	11.9	32.300	5.5	5.1	PN/ST				
04025	7/18/84	1050	2900.5	9035.7	14	9	9	28.7	28.7	22.3	22.6	15.900	5.3	0.5	PN/ST				
04024	7/18/84	1130	2902.0	9035.7	14	5	5	27.8	27.5	26.1	26.8	13.900	4.4	3.7	PN/ST				
04023	7/18/84	1215	2904.5	9035.7	14	2	2	28.2	28.1	24.0	24.0	17.700	6.0	5.1	PN/ST				
03047	7/19/84	0828	2916.3	8956.0	13	2	2	27.8	27.9	23.4	24.7	30.900	5.4	4.4	PN/ST				
03045	7/19/84	0914	2915.1	8954.2	13	5	5	27.8	28.0	23.6	28.1	18.800	6.0	2.6	PN/ST				
03083	7/19/84	0956	2913.9	8952.7	13	9	9	27.9	27.5	24.6	28.7	17.400	5.5	1.8	PN/ST				
02850	7/21/84	0936	2924.8	8904.3	12	9	9	28.2	25.6	27.1	30.8	5.300	7.5	6.4	PN/ST				
02830	7/21/84	1056	2926.9	8909.6	12	5	5	30.0	25.5	23.9	31.3	20.200	10.3	2.1	PN/ST				
02810	7/21/84	1209	2927.4	8912.2	12	2	2	29.8	29.3	21.2	29.3	24.000	11.4	8.3	PN/ST				
01001	7/24/84	1523	3003.2	8851.7	11	2	2	28.6	28.4	29.4	29.7	4.400	6.2	6.3	PN/ST				
01002	7/24/84	1606	3003.3	8851.4	11	5	5	28.3	28.4	28.7	29.4	6.100	6.4	6.0	PN/ST				
01003	7/24/84	1644	3003.7	8850.8	11	9	9	27.9	25.8	28.3	33.0	5.200	6.5	5.0	PN/ST				

Table 1 (cont'd.)

AUGUST PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
41301	8/ 2/84	1938	3000.0	8815.0	11	27	12	23	27.0	28.0	27.3	30.4	33.1	34.0	0.047				PN
41302	8/ 2/84	2320	2945.0	8815.0	11	37	19	37	27.2	24.1	22.0	29.2	35.5	35.5					PN
41303	8/ 3/84	0357	2930.0	8815.0	11	45	22	48	27.0			34.1	34.0	34.0	0.455				PN
41304	8/ 3/84	0710	2915.0	8815.0	11	108	45	90	27.2	22.9	19.7	28.9	36.6	36.3					PN
41305	8/ 3/84	1014	2900.0	8815.0	11	1013	100	200	27.6	19.0	16.6	32.4	36.2	36.2	0.024				PN
41306	8/ 3/84	1340	2845.0	8815.0	11	1620	100	200	27.7	18.8	15.9	30.0	36.4	36.1					PN
41307	8/ 3/84	1638	2845.0	8830.0	11	1323	100	200	28.1	19.1	15.3	28.9	36.3	36.0	0.120				PN
41308	8/ 3/84	1930	2900.0	8830.0	11	596	100	200	27.7	18.7	15.7	28.6	36.4	36.2	0.237				PN
41309	8/ 3/84	2208	2915.0	8830.0	11	82	40	80	28.0	21.2	19.6	26.0	36.3	36.1	0.189				PN
41310	8/ 4/84	0026	2930.0	8830.0	11	49	25	49	27.8	23.3	21.5	26.8	36.2	35.7	0.230				PN
41311	8/ 4/84	0253	2945.0	8830.0	11	30	15	31	27.1	28.1	23.7	29.8	31.4	35.7	0.036				PN
41312	8/ 4/84	0522	3000.0	8830.0	11	25	14	24	27.3	27.6	27.8	30.6	31.6	32.9	0.029				PN
41313	8/ 4/84	0718	3000.0	8845.0	11	15	7	14	27.0	27.0	28.2	27.0	27.1	30.1	0.166				PN
41314	8/ 4/84	1758	2945.0	8845.0	11	13	6	12	27.9	27.9	28.1	28.0	28.8	30.1	0.189				PN
41315	8/ 4/84	2010	2930.0	8845.0	11	15	7	15	27.6	27.7	28.2	30.6	30.9	32.6	0.019				PN
41316	8/ 4/84	2227	2915.0	8845.0	11	63	31	63	27.7	24.4	21.3	28.3	35.7	36.0	0.118				PN
41317	8/ 5/84	0048	2900.0	8845.0	11	249	98	200	27.6	19.1	15.3	28.7	36.3	36.1					PN
41318	8/ 5/84	0332	2845.0	8845.0	11	970	100	200	27.8	19.1	15.4	28.3	36.3	36.2	0.166				PN
41319	8/ 5/84	0742	2815.0	8845.0	11	1635	100	200	28.0	20.4	15.4	33.1	36.5	36.1	0.086				PN
41320	8/ 5/84	1015	2815.0	8900.0	13	1251	101	201	27.7	20.9	15.8	33.0	36.4	36.1	0.009				PN
41321	8/ 5/84	1430	2845.0	8900.0	13	515	100	200	28.2	19.6	15.5	29.4	36.4	36.1	0.389				PN
41322	8/ 5/84	1728	2900.0	8900.0	13	67	32	64	31.0	24.2	21.8	11.8	35.3	35.6	1.089				PN
41323	8/ 5/84	1940	2857.0	8915.0	13	28	15	26	30.1	28.0	27.0	3.2	31.4	33.7	0.079				PN
41324	8/ 5/84	2137	2845.0	8915.0	13	143	73	143	29.1	21.3	16.6	26.9	36.6	36.6	2.557				PN
41325	8/ 6/84	0147	2815.0	8915.0	13	834	99	200	28.3	19.6	15.8	33.3	36.2	36.3					PN
41326	8/ 6/84	0628	2745.0	8930.0	13	1152	100	200	28.5	19.6	15.6	32.4	36.5	36.4	0.012				PN
41327	8/ 6/84	1011	2815.0	8930.0	13	975	100	200	28.5	20.3	15.7	33.0	36.7	36.3	0.014				PN
41328	8/ 6/84	1412	2845.0	8930.0	13	94	47	93											PN

Table 1 (cont'd.)

AUGUST PLANKTON SURVEY																			
OREGON II																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
41329	8/ 6/84	1645	2900.0	8930.0	13	18	9	17	29.1	27.6	27.7	15.9	27.6	31.1	2.298				PN
41330	8/ 6/84	1935	2915.0	8945.0	13	9	5	9	26.1	27.9	27.8	13.3	21.7	23.8	3.874				PN
41331	8/ 6/84	2138	2900.0	8945.0	13	40	20	40	28.8	28.1	25.8	20.0	31.1	36.3	4.261				PN
41332	8/ 6/84	2310	2845.0	8945.0	13	78	40	77	28.0	25.4	21.4	29.6	35.9	36.3	0.592				PN
41333	8/ 7/84	0350	2815.0	8945.0	13	540	100	200	28.8	19.2	15.1	31.2	36.6	36.2	0.023				PN
41334	8/ 7/84	0618	2815.0	9000.0	14	172	83	164	28.6	19.7	16.2	32.0	36.2	36.1					PN
41335	8/ 7/84	0911	2830.0	9000.0	14	90	45	90	28.5	25.9	19.7	32.2	36.1	36.2	0.007				PN
41336	8/ 7/84	1123	2845.0	9000.0	14	46	23	46	28.0	28.1	24.1	30.5	32.8	36.2					PN
41337	8/ 7/84	1334	2900.0	9000.0	14	26	15	26	30.8	28.1	25.3	18.5	30.3	34.9	2.912				PN
41338	8/ 7/84	1650	2900.0	9030.0	14	11	6	11	30.3	29.6	27.5	20.2	23.7	29.4					PN
41339	8/ 7/84	1854	2845.0	9030.0	14	19	10	19	28.9	28.0	27.4	22.5	25.5	28.2	1.736				PN
41340	8/ 7/84	2100	2830.0	9030.0	14	38	18	38	29.1	25.8	23.7	18.7	34.9	36.3	1.527				PN
41341	8/ 7/84	2306	2815.0	9030.0	14	67	34	68	28.2	25.7	21.1	29.4	36.5	36.2					PN
41342	8/ 8/84	0215	2815.0	9100.0	15	75	36	75	28.4	24.2	20.6	31.0	36.1	36.3	0.000				PN
41343	8/ 8/84	0433	2830.0	9100.0	15	35	16	33	28.2	27.8	24.1	30.8	31.1	36.0	0.018				PN
41344	8/ 8/84	0641	2845.0	9100.0	15	16	8	16	28.0	27.9	27.7	27.7	28.1	29.7	0.047				PN
41345	8/ 8/84	1040	2900.0	9130.0	15	12	6	12	27.6	27.5	27.5	26.2	26.4	26.8	1.368				PN
41346	8/ 8/84	1249	2845.0	9130.0	15	21	13	21	28.5	28.0		28.0	30.7		0.053				PN
41347	8/ 8/84	1455	2830.0	9130.0	15	46	26	46	28.6	25.4	22.1	28.1	34.9	35.8	0.050				PN
41348	8/ 8/84	1719	2815.0	9130.0	15	75	37	75	29.0	23.9	20.0	28.2	36.1	36.2	0.052				PN
41349	8/ 8/84	2101	2745.0	9130.0	15	830	100	200	29.1	18.6	15.8	30.3	36.3	36.4	0.030				PN
41350	8/ 9/84	0051	2715.0	9130.0	15	1382	100	200	28.9	20.4	16.5	34.1	36.4	36.2	0.005				PN
41351	8/ 9/84	0745	2805.0	9200.0	16	125	64	124	29.0	20.3	18.6	32.7	36.5	36.2					PN
41352	8/ 9/84	1007	2815.0	9200.0	16	72	36	72	28.6	23.9	19.8	30.0	36.4	36.1					PN
41353	8/ 9/84	1237	2830.0	9200.0	16	51	25	51	28.9	24.7	20.8	30.0	35.3	36.0	0.014				PN
41354	8/ 9/84	1514	2845.0	9200.0	16	34	20	34	28.7	25.9	23.8	29.4	34.4	35.5	0.052				PN
41355	8/ 9/84	1725	2900.0	9200.0	16	21	9	21	29.2	28.1	25.4	27.4	27.6	34.9					PN
41356	8/ 9/84	2220	2925.0	9230.0	16	11	5	11	28.7	28.6	28.5	23.7	23.8	25.5	0.779				PN

Table 1 (cont'd.)

AUGUST PLANKTON SURVEY																			
OREGON II																			
STA#	DATE	TIME	POSITION		STAT	DEPTH	SAMPLE		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED			GEAR
			LAT	LONG			ZONE	DEPTH	MID	MAX	SUR	MID	MAX	SUR		MID	MAX	SUR	
41357	8/10/84	0019	2915.0	9230.0	16	13	7	13	28.8	29.0	28.8	28.1	28.7	29.9				PN	
41358	8/10/84	0218	2900.0	9230.0	16	26	13	26	29.1	28.6	24.6	27.6	31.5	35.1				PN	
41359	8/10/84	0530	2845.0	9230.0	16	35	17	35	28.8	28.8	24.5	31.6	31.9	35.3				PN	
41360	8/10/84	0741	2830.0	9230.0	16	50	25	50							0.006			PN	
41361	8/10/84	1012	2815.3	9230.0	16	68	34	68	29.2	25.7	19.5	30.0	35.6	35.9	0.007			PN	
41362	8/10/84	1233	2800.0	9230.0	16	105	55	105	29.6	23.3	19.5	33.5	36.4	36.3	0.003			PN	
41363	8/10/84	1648	2800.0	9300.0	17	104	52	104	30.1	26.2	19.8	34.1	36.4	36.3	0.000			PN	
41364	8/11/84	1148	2915.0	9445.0	18	12	6	12	30.4	29.8	29.2	26.4	28.1	31.0				ST	
41365	8/11/84	1402	2910.0	9455.0	18	13	8	13	30.2	29.6	29.3	29.1	29.8	31.1	0.237			ST	
41366	8/11/84	1638	2915.0	9430.0	18	18	9	18	30.1	29.2	29.1	26.1	29.5	31.0	0.609			PN	
41367	8/11/84	1900	2925.0	9430.0	18	11	6	11	30.6	29.8	29.2	22.0	24.9	29.8	0.609			ST	
41368	8/11/84	2123	2931.0	9414.0	18	12	6	12	30.4	30.1	29.0	23.1	23.4	29.4	0.355			PN	
41369	8/11/84	2346	2930.0	9400.0	18	13	6	12	29.4	29.2	28.8	20.5	21.6	29.8	0.513			PN	
41370	8/12/84	0204	2935.0	9345.0	17	13	6	12	29.6	29.4	28.8	19.4	20.3	29.5				ST	
41371	8/12/84	0416	2940.0	9330.0	17	11	6	11	29.2	29.2	28.7	16.4	17.6	28.1	1.705			ST	
41372	8/12/84	0550	2930.0	9330.0	17	11	6	11	29.3	28.9	29.2	18.6	23.9	29.0	1.687			PN	
41373	8/12/84	0725	2934.6	9325.6	17	13	7	13	29.3	29.3	28.6	16.9	20.0	28.6	14.204			ST	
41374	8/12/84	1045	2930.0	9300.3	17	14	7	14	29.2	29.2	29.1	24.2	26.4	28.0				PN	
41375	8/12/84	1301	2915.1	9300.0	17	18	9	18	29.0	28.7	27.8	26.6	27.5	30.9	0.359			PN	
41376	8/12/84	1509	2900.0	9300.0	17	24	13	24	29.1	28.7	25.9	27.0	30.3	34.6	0.205			PN	
41377	8/12/84	1722	2845.0	9300.0	17	28	14	27	29.1	28.4	25.1	28.5	32.3	36.6	0.086			PN	
41378	8/12/84	1920	2830.0	9300.0	17	45	23	45	29.1	29.0	21.4	34.1	35.2	36.4	0.012			PN	
41379	8/12/84	2125	2815.0	9300.0	17	62	31	62	28.9	28.9	21.2	34.5	36.0	37.5				PN	
41380	8/13/84	0525	2700.0	9330.0	17	900	100	200	28.9	20.5	15.3	35.7	36.5	36.2	0.006			PN	
41381	8/13/84	0910	2730.0	9330.0	17	622	100	200	29.0	21.7	15.4	35.9	36.7	36.4	0.006			PN	
41382	8/13/84	1257	2800.0	9330.0	17	94	47	94	28.9	26.4	19.2	34.4	36.6	36.8	0.012			PN	
41383	8/13/84	1512	2815.0	9330.0	17	65	33	65	28.6	28.3	20.5	34.1	36.3	36.3	0.014			PN	
41384	8/13/84	1727	2830.0	9330.0	17	44	22	44	28.9	26.4	22.5	31.6	34.9	36.6	0.040			PN	

Table 1 (cont'd.)

AUGUST PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
41385	8/13/84	1927	2845.0	9330.0	17	29	16	28	28.6	28.9	24.2	29.3	33.9	35.9	0.043				PN
41386	8/13/84	2138	2900.0	9330.0	17	26	12	26	28.7	28.8	26.9	29.1	29.8	33.9	0.030				PN
41387	8/13/84	2335	2915.0	9330.0	17	14	7	14	29.5	29.5	29.2	27.9	29.7	29.9	0.135				PN
41388	8/14/84	0230	2915.0	9400.0	18	16	8	16	29.2	29.5	29.4	28.9	30.0	30.7	0.039				PN
41389	8/14/84	0428	2900.0	9400.0	18	21	11	21	29.1	29.3	27.2	30.8	31.1	34.3	0.033				PN
41390	8/14/84	0634	2845.0	9400.0	18	28	14	28	28.4	28.9	26.9	32.2	33.7	35.4	0.019				PN
41391	8/14/84	0830	2830.0	9400.0	18	42	21	42	28.1	27.6	23.2	31.5	35.2	36.1					PN
41392	8/14/84	1042	2815.0	9400.0	18	60	30	60	28.5	28.1	21.4	34.5	36.2	36.9	0.015				PN
41393	8/14/84	1256	2800.0	9400.0	18	86	43	86	28.6	27.4	20.4	35.5	36.7	36.5	0.007				PN
41394	8/14/84	1614	2800.0	9430.0	18	68	34	68	28.8	28.5	23.6	35.8	36.4	36.4					PN
41395	8/14/84	1810	2815.0	9430.0	18	48	24	47	28.6	28.6	23.8	33.8	35.7	36.6	0.009				PN
41396	8/14/84	2025	2830.0	9430.0	18	35	17	35	28.6	28.9	26.0	31.3	34.7	36.5					PN
41397	8/14/84	2226	2845.0	9430.0	18	26	12	25	28.8	29.3	26.4	30.0	31.2	35.9	0.063				PN
41398	8/15/84	0027	2900.0	9430.0	18	19	10	19	28.8	29.2	29.0	28.2	31.4	31.8	0.187				PN
41399	8/15/84	0328	2900.0	9500.0	19	16	9	16	29.0	29.3	29.2	29.2	31.0	31.9	0.213				PN
41400	8/15/84	0530	2845.0	9500.0	19	22	11	22	28.5	29.3	28.3	30.1	30.6	34.8					PN
41401	8/15/84	0730	2830.0	9500.0	19	35	18	35	28.8	29.3	24.4	31.9	32.7	36.3	0.021				PN
41402	8/15/84	0932	2815.0	9500.0	19	48	24	48	28.9	29.3	23.1	32.3	33.9	36.8					PN
41403	8/15/84	1140	2800.0	9500.0	19	80	40	80	28.5	28.4	20.1	34.2	36.3	36.5					PN
41404	8/15/84	1457	2800.0	9530.0	19	56	28	56	29.6	28.9	24.4	33.7	36.0	37.4	0.010				PN
41405	8/15/84	1723	2815.0	9530.0	19	35	17	35	29.5	28.8	24.9	33.1	34.5		0.016				PN
41406	8/15/84	1918	2830.0	9530.0	19	26	12	25	29.4	29.1	26.3	31.7	32.6	35.7	0.049				PN
41407	8/15/84	2105	2845.0	9530.0	19	13	7	13	29.5	29.5	29.1	28.6	30.6	32.1	0.231				PN
41408	8/16/84	0050	2828.2	9600.0	19	18	9	18	29.1	29.1	29.2	32.7	32.8	33.0					PN
41409	8/16/84	0251	2815.0	9600.0	19	26	13	26	28.9	28.9	28.4	34.5	34.6	35.1	0.046				PN
41410	8/16/84	0453	2800.0	9600.0	19	46	22	46	28.9	28.8	23.4	34.1	35.0	37.6					PN
41411	8/16/84	0650	2745.0	9600.0	20	79	37	79	28.5	27.9	21.4	35.3	36.1	36.6	0.000				PN
41412	8/16/84	1026	2800.0	9630.0	19	26	13	26	28.8	28.7		35.3	35.4		0.034				PN

Table 1 (cont'd.)

AUGUST PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
41413	8/16/84	1523	2730.0	9615.0	20	112	54	112	29.1	24.1	19.5	35.4	36.4	36.5	0.006				PN
41414	8/16/84	1738	2730.0	9630.0	20	70	35	70	29.2	27.8	22.2	35.4	36.2	36.4	0.006				PN
41415	8/16/84	1927	2730.0	9645.0	20	47	24	47	29.0	28.5	24.9	35.8	35.9	37.0	0.007				PN
41416	8/16/84	2115	2730.0	9700.0	20	30	15	30	28.8	28.5	27.6	36.0	36.2	36.3	0.017				PN
41417	8/17/84	0128	2700.0	9715.0	20	24	12	24	28.0	28.0	27.8	36.2	36.2	36.3	0.014				PN
41418	8/17/84	0319	2700.0	9700.0	20	42	21	42	28.5	28.3	25.8	36.1	36.1	37.4	0.005				PN
41419	8/17/84	0512	2700.0	9645.0	20	70	35	70	28.7	28.5	22.8	35.8	36.3	36.9	0.005				PN
41420	8/17/84	0718	2700.0	9630.0	20	124	62	123	28.8	23.6	19.4	35.9	36.4	36.4	0.005				PN
41421	8/17/84	1300	2700.0	9600.0	20	1336	101	200	29.5	19.4	14.9	35.9	36.6	36.0					PN
41422	8/20/84	2050	3000.0	8800.0	11	24	12	24	29.4	25.9	24.5	28.4	35.0	36.5	0.053				PN
41423	8/20/84	2333	2945.0	8800.0	11	40	20	40	29.1	25.0	20.4	29.9	36.7	36.4	0.041				PN
41424	8/21/84	0149	2930.0	8800.0	11	45	23	45	29.1	26.8	22.6	28.8	36.6	36.8	0.213				PN
41425	8/21/84	0544	2900.0	8800.0	11	1379	100	200	29.0	18.4	15.4	32.2	36.4	36.2	0.023				PN
41426	8/21/84	0925	2900.0	8730.0	10	1702	100	200	28.7	18.5	15.2	32.6	36.7	36.0	0.014				PN
41427	8/21/84	1337	2930.0	8730.0	10	71	36	71	29.1	22.3	18.8	31.0	37.6	36.5					PN
41428	8/21/84	1555	2945.0	8730.0	10	37	18	36	29.1	28.5	23.1	31.1	34.4	35.9	0.015				PN
41429	8/21/84	1808	3000.0	8730.0	10	26	13	26	29.0	28.1	22.8	30.3	32.2	36.1	0.024				PN
41430	8/21/84	2009	3015.0	8730.0	10	10	5	10	29.0	29.0	25.2	28.3	28.4	34.0	0.083				PN
41431	8/21/84	2307	3015.0	8700.0	10	28	14	28	28.9	26.2	20.4	28.1	34.9	36.7	0.027				PN
41432	8/22/84	0121	3000.0	8700.0	10	72	36	72	29.1	21.0	18.1	29.2	36.9	36.5	0.017				PN
41433	8/22/84	0344	2945.0	8700.0	10	206	100	200	28.9	18.2	14.7	33.3	36.5	36.0	0.006				PN
41434	8/22/84	0714	2945.0	8630.0	9	120	60	120	28.7	20.9	17.6	31.3	37.1	36.8	0.015				PN
41435	8/22/84	0945	3000.0	8630.0	9	56	18	56	29.0	27.1	19.9	28.4	33.3	36.4	0.027				PN
41436	8/22/84	1155	3015.0	8630.0	9	24	12	24	29.2	25.8	21.7	28.5	u*4	36.7	0.024				PN
41437	8/22/84	1457	3015.0	8600.0	9	19	10	19	28.1	27.2	24.2	32.9	34.5	36.3					PN
41438	8/22/84	1656	3000.0	8600.0	9	27	13	27	29.1	26.8	21.4	28.6	34.8	36.9	0.024				PN
41439	8/22/84	1900	2945.0	8600.0	9	40	20	40	28.9	27.4	21.7	30.4	35.0	36.9	0.024				PN
41440	8/22/84	2104	2930.0	8600.0	9	58	29	58	29.1	25.7	18.9	30.8	36.5	37.8	0.015				PN

Table 1 (cont'd.)

AUGUST PLANKTON SURVEY OREGON II																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS		TEMPERATURE,C			SALINITY,PPT			CL,	DISSOLVED OXYGEN			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
41441	8/23/84	0048	2945.0	8530.0	8	22	11	22	28.4	27.5	23.5	32.3	33.8	37.0	0.021				PN
41442	8/23/84	0253	2930.0	8530.0	8	14	7	14	28.4	28.3	27.7	31.8	32.9	34.5					PN
41443	8/23/84	0620	2900.0	8530.0	8	70	36	70	28.7	24.2	19.8	33.1	36.7	36.8	0.010				PN
41444	8/23/84	1132	2815.0	8530.0	8	309	100	200	28.5	19.4	14.5	33.8	37.6	35.9	0.006				PN
41445	8/23/84	2032	2747.0	8508.0	8	435	100	200	28.7	19.4	14.9	36.0	36.4	35.9	0.006				PN
41457	8/24/84	0807	2747.0	8508.0	8	235	100	200	28.6	19.9	14.3	36.0	36.4	35.8					PN
41469	8/24/84	1827	2745.0	8430.0	5	108	55	108	28.9	21.6	17.1	33.8	36.6	36.8	0.008				PN
41470	8/24/84	2135	2745.0	8400.0	5	58	28	58	28.8	28.2	19.7	33.9	35.2	36.9	0.008				PN
41471	8/25/84	0044	2745.0	8330.0	5	34	17	34	29.0	28.8	24.3	35.2	35.5	36.5	0.000				PN
41472	8/25/84	0358	2745.0	8300.0	5	16	8	16	29.4	29.4	29.2	34.4	35.4	35.4	0.032				PN
41473	8/25/84	0835	2815.0	8330.0	6	28	14	28	28.8	28.8	26.8	34.8	34.9	36.5	0.028				PN
41474	8/25/84	1150	2815.0	8400.0	6	43	22	43	29.1	28.5	23.6	34.1	35.3	36.2	0.007				PN
41475	8/25/84	1457	2815.0	8430.0	6	63	32	63	29.3	25.5	18.7	33.2	36.7	37.4	0.004				PN
41476	8/25/84	1845	2845.0	8415.0	6	39	18	39	29.3	28.3	22.8	32.4	35.0	36.6	0.010				PN
41477	8/25/84	2200	2845.8	8345.0	6	26	13	26	29.4	29.1	27.6	32.9	33.1	35.8	0.013				PN
41478	8/26/84	0104	2845.0	8315.0	6	16	8	16	29.4	29.5	29.2	33.9	34.0	34.2	0.000				PN
41479	8/26/84	0458	2915.0	8330.0	7	13	7	13	29.1	29.1	29.1	33.4	33.4	33.5	0.041				PN
41480	8/26/84	0821	2915.0	8400.0	7	25	12	25	28.8	28.7	27.8	33.8	34.0	35.3	0.018				PN
41481	8/26/84	1135	2915.0	8430.0	7	33	17	33	28.8	28.1	25.4	32.8	34.6	36.0	0.001				PN
41482	8/26/84	1618	2945.0	8400.0	7	12	6	12	29.1	28.9	28.8	34.2	34.3	34.3	0.050				PN
41483	8/26/84	1916	2945.0	8430.0	7	13	7	13	27.6	28.6	28.6	34.2	33.7	33.7	0.064				PN
41484	8/26/84	2311	2925.0	8500.0	8	16	8	16	28.7	28.7	28.5	34.6	34.6	34.8					PN
41485	8/27/84	0225	2900.0	8500.0	8	40	20	40	28.1	23.6	20.5	30.6	36.3	36.3	0.012				PN
41486	8/27/84	0325	2845.0	8445.0	6	50	25	50	28.1	20.0	17.1	31.4	36.8	36.3					PN

Table 1 (cont'd.)

AUGUST PLANKTON SURVEY
R/V BELLOWS

DEPTHS		SAMPLE										GEAR							
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	DISSOLVED (M)		TEMPERATURE, C			SALINITY, PPT			CL, SUR	OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
000B1	8/25/84	1430	2715.0	8245.0	5	13	5	10	30.4	29.7	29.3				1.350				PN
000B2	8/25/84	2000	2715.0	8315.0	5	37	18	36	29.6	29.2	24.8				0.400				PN
000B3	8/26/84	0037	2715.0	8345.0	5	53	26	52	29.0	28.5	19.7				0.060				PN
000B4	8/26/84	0445	2715.0	8415.0	5	107	52	105	28.5	24.2	17.1				0.080				PN
000B5	8/26/84	0945	2645.0	8430.0	4	200	100	200	28.9	26.0	18.3				0.320				PN
000B6	8/26/84	1400	2645.0	8359.9	4	100	50	100	29.4	25.7	17.6				1.700				PN
000B7	8/26/84	1947	2645.0	8330.1	4	55	27	54	29.8	28.6	20.8				0.050				PN
000B8	8/26/84	2250	2645.0	8259.9	4	36	18	35	29.8	29.2	25.1				0.250				PN
000B9	8/27/84	0422	2645.0	8230.1	4	16	7	14	29.7	29.7	29.7				0.470				PN
00B10	8/27/84	1035	2615.0	8200.0	4	12	5	11	30.0	30.0	29.9				1.870				PN
00B11	8/27/84	1445	2615.0	8230.0	4	21	10	20	29.6	29.9	27.4				4.960				PN
00B12	8/27/84	1852	2615.0	8300.2	4	41	20	40	29.0	29.2	25.3				0.110				PN
00B13	8/27/84	2254	2614.9	8330.0	4	61	30	59	28.6	28.2	19.9				0.100				PN
00B14	8/28/84	0252	2615.0	8400.0	4	136	70	132	28.4	24.2	18.3				0.130				PN
00B15	8/28/84	0825	2545.0	8430.0	3	250	100	200	28.8	25.9	22.4				0.060				PN
00B16	8/28/84	1350	2545.0	8400.0	3	139	70	136	28.2	23.6	18.1								PN
00B17	8/28/84	1930	2545.0	8330.0	3	69	33	66	28.9	26.4	18.4								PN
00B18	8/29/84	0001	2545.0	8260.0	3	49	23	46	29.1	27.9	25.1								PN
00B19	8/29/84	0437	2545.0	8230.0	3	29	14	27	29.2	29.1	26.0								PN
00B20	8/29/84	1015	2545.0	8200.0	3	16	7	14	29.3	29.3	29.3								PN

Table 1 (cont'd.)

LOUISIANA PLANKTON SURVEY
LOUISIANA INSHORE VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
05094	8/14/84	1433	2913.4	9101.7	15	5	5	28.5	27.8	7.5								PN	
05093	8/14/84	1505	2912.2	9057.3	14	5	5	28.6	28.6	5.9								PN	
03011	8/28/84	0635	2920.0	8952.5	12	7	7	29.7	29.7	21.4	21.5							PN	
03012	8/28/84	0656	2918.5	8955.0	13	2	2	28.8	28.8	22.0	22.0							PN	
03014	8/28/84	0846	2912.4	9002.8	14	4	4	30.1	29.9	27.4	27.4							PN	
03013	8/28/84	0913	2916.3	8957.0	13	18	18	30.2	29.0	23.1	23.1							PN	
05093	8/28/84	1003	2912.2	9057.3	14	5	5	29.3	29.5	11.0								PN	
04016	8/28/84	1120	2902.6	9046.8	14	7	7	29.4	29.1	23.6								PN	
05094	8/28/84	1133	2913.4	9101.7	15	5	5	29.4	29.1	14.7								PN	
05095	8/28/84	1249	2913.4	9107.9	15	5	5	29.5	29.1	11.8								PN	
04017	8/29/84	1101	2902.8	9022.9	14	5	5	29.6	29.3	23.3								PN	
04016	9/10/84	1159	2902.6	9046.8	14	5	5	28.8	28.4	24.9								PN	
05094	9/11/84	1543	2913.4	9101.7	15	5	5	30.1	29.0	21.1								PN	
05095	9/12/84	1250	2913.4	9107.9	15	5	5	29.7	30.0	19.2								PN	
05093	9/25/84	1115	2912.2	9057.3	14	5	5	27.2	27.0	19.1								PN	
05094	9/25/84	1315	2913.4	9101.7	15	5	5	27.9	27.5	21.5								PN	
05095	9/25/84	1518	2913.4	9107.9	15	5	5	28.4	28.2	22.1								PN	
40016	9/26/84	1046	2902.6	9046.8	14	5	5	26.6	26.3	25.3								PN	
40017	9/27/84	1035	2902.8	9022.9	14	7	7	26.2	26.5	23.3								PN	
05095	10/ 4/84	1230	2913.4	9107.9	15	5	5	22.1	21.9	21.6								PN	
40016	10/ 8/84	1338	2902.6	9046.8	14	5	5	25.1	25.0	27.7								PN	
40017	10/ 9/84	1100	2902.8	9022.9	14	7	7	25.1	24.6	28.5								PN	
05095	10/10/84	1407	2913.4	9107.9	15	5	5	27.1	27.0	23.9								PN	
05094	10/24/84	1243	2913.4	9101.7	15	5	5	27.0	26.9	24.4								PN	
05095	10/24/84	1351	2913.4	9107.9	15	5	5	27.0	26.9	25.7								PN	
01001	10/31/84	1445	3003.2	8851.7	11	2	2	26.8	27.0	29.0	26.3							PN	
01002	10/31/84	1500	3003.3	8851.4	11	5	5	26.8	26.7	29.1	29.6							PN	
01003	10/31/84	1510	3003.7	8850.8	11	9	9	26.7	26.7	29.3	30.3							PN	

Table 1 (cont'd.)

LOUISIANA PLANKTON SURVEY
LOUISIANA INSHORE VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
02850	11/ 1/84	1424	2924.8	8904.3	12	9	9	28.2	27.5	26.6	28.4								PN
02830	11/ 1/84	1446	2926.9	8909.6	12	5	5	28.9	28.2	20.0	20.3								PN
02810	11/ 1/84	1459	2927.4	8912.2	12	2	2	30.7	29.5	20.6	21.0								PN
03047	11/ 7/84	0902	2916.3	8956.0	13	2	2	20.3	20.3	23.0	23.0								PN
03045	11/ 7/84	0927	2915.1	8954.2	13	5	5	20.5	21.1	21.7	22.6								PN
03083	11/ 7/84	0954	2913.9	8952.7	13	9	9	22.2	22.1	22.8	22.9								PN
04023	11/ 8/84	1045	2904.5	9035.7	14	2	2	19.3	19.4	26.4	26.5								PN
04024	11/ 8/84	1120	2902.0	9035.7	14	5	5	21.1	20.9	26.3	26.3								PN
04025	11/ 8/84	1152	2900.5	9035.7	14	9	9	22.5	22.6	26.5	26.5								PN
05005	11/ 8/84	1320	2856.2	9058.0	14	9	9	23.0	23.0	28.5	28.5								PN
05003	11/ 8/84	1347	2901.0	9058.9	14	5	5	22.9	22.9	28.2	28.3								PN
05001	11/ 8/84	1427	2909.5	9058.3	14	2	2	20.4	20.4	23.8	23.8								PN
06003	11/14/84	0713	2919.3	9209.0	16	5	5	18.7	18.7	25.3	25.3								PN
06005	11/14/84	0810	2909.5	9209.5	16	9	9	20.2	20.2	30.6	30.5								PN
06001	11/14/84	1010	2934.0	9207.5	16	2	2	15.8	15.8	10.3	10.3								PN
07005	11/28/84	1050	2940.0	9322.0	17	9	9	15.5	15.5	22.8	24.3								PN
07003	11/28/84	1119	2944.0	9322.0	17	5	5	15.0	15.5	22.3	25.5								PN
07001	11/28/84	1150	2945.0	9322.0	17	2	2	14.0	13.7	25.9	26.0								PN

Table 1 (cont'd.)

DECEMBER PLANKTON SURVEY
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, C			SALINITY, PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
42242	12/ 1/84	2152	2700.0	9600.0	20	798	100	200	24.2	21.6	16.9	35.8	36.5	36.3		7.5	7.2	5.0	PN
42243	12/ 2/84	0548	2600.5	9600.0	21	1061	112	200	23.8	19.3	13.6	35.3	36.4	36.1		7.7	5.8	5.1	PN
42244	12/ 2/84	1250	2600.9	9500.1	21	2342	100	200	24.8	21.4	15.8	34.3	36.7	36.0		7.4	5.2	4.5	PN
42245	12/ 2/84	2100	2700.0	9500.0	20	1464	100	200	24.2	21.5	17.2	35.7	36.5	36.4		6.5	6.0	4.2	PN
42246	12/ 3/84	1356	2800.1	9400.0	18	81	40	76	23.3	23.3	21.9	35.7	35.8	36.1		6.9	6.5	5.5	PN
42247	12/ 3/84	2155	2700.0	9400.0	18	1007	100	200	23.5	20.3	15.9	36.0	36.6	36.3		7.2	5.4	4.8	PN
42248	12/ 4/84	0545	2600.5	9400.0	18	2379	100	200	23.4	20.9	15.9	36.1	36.6	36.2		8.3	6.0	4.6	PN
42249	12/ 4/84	1305	2559.9	9300.1	17	2196	100	200	25.0	20.5	15.6	36.2	36.7	36.1		8.2	5.5	4.7	PN
42250	12/ 4/84	2108	2700.0	9300.0	17	1281	101	200	23.9	19.9	15.9	35.9	36.9	36.2		9.2	5.5	5.8	PN
42251	12/ 5/84	0525	2800.0	9300.0	17	101	45	92	22.8	22.9	20.5	35.7	35.7	36.4		6.7	6.6	4.8	PN
42252	12/ 5/84	1240	2759.7	9200.1	16	121	57	115	23.2	23.5	19.4	35.8	36.0	36.5		6.6	6.5	5.1	PN
42253	12/ 5/84	2047	2700.0	9200.0	16	1610	100	200	23.8	21.0	15.9	35.9	36.6	36.2		6.6	6.0	4.9	PN
42254	12/ 6/84	0430	2600.4	9200.1	16	2160	100	200	24.9	20.6	15.7								PN
42255	12/ 7/84	0514	2800.0	9100.0	15	139	68	135	22.9	22.2	18.2	35.8	36.2	36.4		7.1	6.5	5.2	PN
42256	12/ 7/84	1228	2800.0	9000.0	14	549	100	200	22.5	21.2	16.9	35.3	36.8	36.4		7.0	5.7	5.2	PN
42257	12/ 7/84	2114	2700.0	9000.0	14	2379	100	200	24.2	24.2	17.6	36.6	36.6	36.5		6.6	6.7	5.3	PN
42258	12/ 8/84	0447	2600.0	9000.0	14	2910	100	200	23.5	19.7	14.9	36.2	36.9	36.1		6.9	5.3	5.1	PN
42259	12/ 8/84	1130	2600.0	8900.0	13	3111	100	200	23.8	19.3	13.9	36.1	36.8	35.9		7.0	5.3	5.1	PN
42260	12/ 8/84	2024	2700.0	8900.0	13	2288	100	200	23.7	19.0	14.5	36.2	36.6	35.9		6.9	5.2	5.5	PN
42261	12/ 9/84	0427	2800.0	8900.0	13	1336	103	201	23.0	19.8	15.3	36.0	36.7	36.2		7.1		4.9	PN
42262	12/12/84	0532	2800.0	8800.0	11	2434	102	201	23.6	19.6	15.2	35.9	37.0	36.4		7.1	5.7	5.0	PN
42263	12/12/84	1408	2700.0	8800.0	11	2754	100	200	23.7	19.1	14.5	36.2	37.0	36.0		7.0	6.3	5.7	PN
42264	12/12/84	2255	2600.0	8800.0	11	3020	100	200	22.9	21.6	16.6	37.5	36.4	36.4		6.9	6.9	5.7	PN
42265	12/13/84	0615	2600.0	8700.0	10	3203	101	201	24.1	19.9	15.5	36.4	36.7	36.1		8.1	6.1	5.9	PN
42266	12/13/84	1354	2659.9	8700.0	10	3019	99	197	25.0	22.1	17.4	36.5	36.8	36.5		6.9	6.6	6.3	PN
42267	12/13/84	2158	2800.0	8700.0	10	2837	100	200	23.5	20.1	15.5	36.3	36.6	36.3		7.2	6.0	5.1	PN
42268	12/14/84	0528	2800.0	8600.0	9	915	101	200	23.7	19.5	15.6	36.4	36.7	36.2		7.2	5.5	5.5	PN
42269	12/14/84	1503	2700.0	8600.0	9	3239	100	200	24.0	21.6	17.6	36.5	36.9	36.5		7.2	6.1	5.7	PN

Table 1 (cont'd.)

DECEMBER PLANKTON SURVEY																			
OREGON II																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,C			SALINITY,PPT			CL, SUR	DISSOLVED OXYGEN			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
42270	12/14/84	2320	2600.0	8600.0	9	3239	100	200	23.1	17.8	14.0	36.6	36.6	36.0		7.1		5.4	PN
42271	12/15/84	0930	2500.0	8600.0	9	3294	100	200	26.5	26.5	20.5	36.6	36.3	36.7		6.7	6.6	5.3	PN
42272	12/16/84	0105	2600.1	8500.0	8	3331	100	200	23.5	18.0	13.9	36.4	36.5	35.8		7.1	5.9	4.9	PN
42273	12/16/84	0855	2700.0	8500.0	8	878	100	200	23.6	20.5	16.8	36.4	36.6	36.5		7.0	6.0	5.2	PN
42274	12/16/84	1715	2800.0	8500.1	8	251	102	200	23.4	20.8	16.7	36.4	36.6	36.4		7.2	5.9	5.2	PN
42275	12/17/84	0256	2900.0	8600.0	9	248	100	199	22.8	20.8	16.8	36.4	36.9	36.4		7.5	6.0	5.6	PN
42276	12/17/84	0950	2900.0	8700.0	10	695	100	202	22.9	21.2	16.2	36.4	36.3	36.4		7.4	6.2	5.2	PN
42277	12/17/84	1628	2900.0	8800.0	11	1362	100	212	23.3	19.9	15.1	36.3	36.1	36.2		7.6	6.2	5.5	PN

Table 2. SEAMAP Shrimp and Bottomfish Survey species composition list, all trawl stations. Species with a total weight of less than .05 lb (22.7 g) are indicated on table as 0.0 kg.

Genus	Species	Common name	Total number caught	Total weight caught (kg)	Number of tows where caught	% Frequency of occurrence
<u>Finfishes</u>						
	<i>Stenotomus caprinus</i>	longspine porgy	66038	1004.4	195	66.3
	<i>Peprilus burti</i>	gulf butterfish	50692	1076.4	153	52.0
	<i>Micropogonias undulatus</i>	Atlantic croaker	48693	1569.7	115	39.1
	<i>Trachurus lathami</i>	rough scad	20611	314.8	116	39.5
	<i>Polydactylus octonemus</i>	Atlantic threadfin	13499	310.1	84	28.6
	<i>Centropristis philadelphica</i>	rock sea bass	12058	250.5	196	66.7
	<i>Prionotus rubio</i>	blackfin searobin	8709	136.2	166	56.5
	<i>Leiostomus xanthurus</i>	spot	7877	261.3	57	19.4
	<i>Anchoa mitchilli</i>	bay anchovy	7467	19.1	26	8.8
	<i>Prionotus stearnsi</i>	shortwing searobin	7178	70.7	114	38.8
	<i>Serranus atrobranchus</i>	blackear bass	7060	103.0	111	37.8
	<i>Peprilus paru</i>	harvestfish	5548	61.7	13	4.4
	<i>Prionotus paralatus</i>	Mexican searobin	3963	69.6	80	27.2
	<i>Upeneus parvus</i>	dwarf goatfish	3521	86.1	80	27.2
	<i>Pristipomoides aquilonaris</i>	wenchman	3372	142.4	102	34.7
	<i>Diplectrum bivittatum</i>	dwarf sand perch	3180	89.7	88	29.9
	<i>Anchoa hepsetus</i>	striped anchovy	2836	31.2	60	20.4
	<i>Urophycis floridana</i>	southern hake	2597	127.9	100	34.0
	<i>Synodus foetens</i>	inshore lizardfish	2498	225.2	169	57.5
	<i>Cynoscion arenarius</i>	sand seatrout	2316	94.9	83	28.2
	<i>Saurida brasiliensis</i>	largescale lizardfish	2300	26.0	73	24.8
	<i>Cynoscion nothus</i>	silver seatrout	2195	90.1	44	15.0
	<i>Larimus fasciatus</i>	banded drum	2126	48.9	17	5.8
	<i>Synodus poeyi</i>	offshore lizardfish	2044	21.3	76	25.9
	<i>Steindachneria argentea</i>	luminous hake	1817	13.1	11	3.7
	<i>Syacium spp.</i>	lefteye flounders	1702	40.4	76	25.9

Table 2. SEAMAP species composition (cont'd.)

Genus	Species	Common name	Total number caught	Total weight caught (kg)	Number of tows where caught	% Frequency of occurrence
Porichthys	plectrodon	Atlantic midshipman	1643	35.0	129	43.9
Chloroscombrus	chrysurus	Atlantic bumper	1611	39.5	43	14.6
Syacium	papillosum	dusky flounder	1561	35.3	68	23.1
Decapterus	punctatus	round scad	1513	64.1	14	4.8
Bollmannia	communis	ragged goby	1315	10.1	52	17.7
Lagodon	rhomboides	pinfish	1291	79.7	48	16.3
Hildebrandia	flava	yellow conger	1170	42.0	68	23.1
Etropus	crossotus	fringed flounder	1109	17.1	100	34.0
Scomber	japonicus	chub mackerel	1036	40.4	17	5.8
Lepophidium	graellsii	blackedge cusk-eel	983	31.5	57	19.4
Halieutichthys	aculeatus	pancake batfish	968	12.3	74	25.2
Urophycis	cirrata	gulf hake	958	32.0	36	12.2
Sphoeroides	parvus	least puffer	903	10.3	75	25.5
Trichiurus	lepturus	Atlantic cutlassfish	856	53.5	51	17.3
Brevoortia	patronus	gulf menhaden	681	19.5	16	5.4
Prionotus	salmonicolor	blackwing searobin	681	25.3	44	15.0
Bellator	militaris	horned searobin	628	8.5	22	7.5
Symphurus	plagiusa	blackcheek tonguefish	547	11.9	88	29.9
Scorpaena	calcarata	smoothhead scorpionfish	536	9.4	33	11.2
Etrumeus	terres	round herring	481	4.8	31	10.5
Lepophidium	spp.	cusk-eels	452	13.0	31	10.5
Arius	felis	hardhead catfish	422	55.7	40	13.6
Harengula	jaguana	scaled sardine	365	15.6	25	8.5
Opisthonema	oglinum	Atlantic thread herring	347	5.5	9	3.1
Trichopsetta	ventralis	sash flounder	345	10.3	35	11.9
Syacium	gunteri	shoal flounder	331	6.5	18	6.1

Table 2. SEAMAP species composition (cont'd.)

Genus	Species	Common name	Total number caught	Total weight caught (kg)	Number of tows where caught	% Frequency of occurrence
Lagocephalus	laevigatus	smooth puffer	293	9.2	30	10.2
Cyclopsetta	chittendeni	Mexican flounder	276	31.9	66	22.4
Hoplunnis	macrurus	freckled pike-conger	270	6.5	46	15.6
Mullidae		goatfishes	268	14.5	3	1.0
Ancylopsetta	dilecta	three-eye flounder	263	8.0	31	10.5
Lutjanus	campechanus	red snapper	261	23.9	37	12.6
Brotula	barbata	bearded brotula	259	14.7	39	13.3
Cynoscion	spp.	seatrouts	232	2.7	5	1.7
Selene	setapinnis	Atlantic moonfish	230	11.1	26	8.8
Prionotus	scitulus	leopard searobin	222	3.7	14	4.8
Paralichthys	lethostigma	southern flounder	214	12.3	15	5.1
Gobiidae		gobies	214	1.4	3	1.0
Antennarius	radiosus	singlespot frogfish	205	3.5	23	7.8
Prionotus	tribulus	bighead searobin	202	7.0	40	13.6
Prionotus	spp.	searobins	200	2.4	3	1.0
Anchoa	spp.	anchovies	185	0.3	9	3.1
Monacanthus	hispidus	planehead filefish	161	5.2	31	10.5
Citharichthys	spilopterus	bay whiff	146	2.4	25	8.5
Scomberomorus	maculatus	Spanish mackerel	133	1.5	7	2.4
Stellifer	lanceolatus	star drum	131	1.0	7	2.4
Prionotus	ophryas	bandtail searobin	124	2.7	16	5.4
Ancylopsetta	quadrocellata	ocellated flounder	119	7.8	28	9.5
Priacanthus	arenatus	bigeye	114	7.4	9	3.1
Caulolatilus	intermedius	anchor tilefish	109	5.2	18	6.1
Trachinocephalus	myops	snakefish	103	4.1	10	3.4
Menticirrhus	americanus	southern kingfish	88	9.5	13	4.4

Table 2. SEAMAP species composition (cont'd.)

Genus	Species	Common name	Total number caught	Total weight caught (kg)	Number of tows where caught	% Frequency of occurrence
Anchoa	nasuta	longnose anchovy	80	0.0	4	1.4
Lepophidium	jeannae	mottled cusk-eel	80	3.2	11	3.7
Orthopristis	chrysoptera	pigfish	72	8.5	10	3.4
Ophidion	holbrookii	bank cusk-eel	68	5.6	11	3.7
Gymnachirus	texae	fringed sole	68	2.0	25	8.5
Equetus	umbrosus	cubbya	67	2.5	2	0.7
Haemulon	aurolineatum	tomtate	64	3.6	9	3.1
Ogcocephalidae		batfishes	60	2.0	14	4.8
Ophidion	welshi	crested cusk-eel	59	2.6	18	6.1
Equetus	punctatus	spotted drum	50	3.5	4	1.4
Hoplunnis	spp.	pike-congers	48	0.9	7	2.4
Prionotus	roseus	bluespotted searobin	45	1.1	6	2.0
Rhomboplites	aurorubens	vermilion snapper	42	6.8	5	1.7
Eucinostomus	gula	silver jenny	42	1.0	6	2.0
Paraconger	caudilimbatus	margintail conger	40	3.7	9	3.1
Bregmaceros	atlanticus	antenna codlet	40	0.4	11	3.7
Scomberomorus	cavalla	king mackerel	37	1.2	4	1.4
Anchoa	lyolepis	dusky anchovy	37	0.1	4	1.4
Caulolatilus	microps	blueline tilefish	35	0.8	2	0.7
Equetus	spp.	drums	33	1.0	6	2.0
Ogcocephalus	spp.	batfishes	33	0.8	7	2.4
Engyophrys	senta	spiny flounder	33	0.4	12	4.1
Kathetostoma	albigutta	lancer stargazer	32	1.0	10	3.4
Astroscopus	y-graecum	southern stargazer	31	2.0	8	2.7
Gymnothorax	nigromarginatus	blackedge moray	30	2.6	11	3.7
Selene	vomer	lookdown	30	1.4	7	2.4

Table 2. SEAMAP species composition (cont'd.)

Genus	Species	Common name	Total number caught	Total weight caught (kg)	Number of tows where caught	% Frequency of occurrence
<i>Urophycis</i>	<i>regia</i>	spotted hake	29	0.7	5	1.7
<i>Diplectrum</i>	<i>formosum</i>	sand perch	28	0.6	5	1.7
<i>Pikea</i>	<i>mexicana</i>	yellowtail bass	28	0.3	3	1.0
<i>Sardinella</i>	<i>aurita</i>	Spanish sardine	27	2.9	3	1.0
<i>Lutjanus</i>	<i>synagris</i>	lane snapper	25	1.8	5	1.7
<i>Balistes</i>	<i>capriscus</i>	gray triggerfish	24	1.2	4	1.4
<i>Ophichthus</i>	<i>gomesi</i>	shrimp eel	24	1.9	10	3.4
<i>Centropristis</i>	<i>ocyurus</i>	bank sea bass	23	1.0	2	0.7
<i>Ogcocephalus</i>	<i>radiatus</i>	polka-dot batfish	22	1.6	7	2.4
<i>Selar</i>	<i>crumenophthalmus</i>	bigeye scad	20	2.9	5	1.7
<i>Pontinus</i>	<i>longispinis</i>	longspine scorpionfish	20	0.5	5	1.7
<i>Caranx</i>	<i>crysos</i>	blue runner	20	2.5	2	0.7
<i>Ophidion</i>	<i>grayi</i>	blotched cusk-eel	19	1.1	7	2.4
<i>Neomerinthe</i>	<i>hemingwayi</i>	spinycheek scorpionfish	19	0.3	4	1.4
<i>Apogon</i>	<i>aurolineatus</i>	bridle cardinalfish	17	0.3	2	0.7
<i>Trinectes</i>	<i>maculatus</i>	hogchoker	17	0.0	7	2.4
<i>Gymnothorax</i>	<i>saxicola</i>	ocellated moray	17	1.7	3	1.0
<i>Physiculus</i>	<i>fulvus</i>	morid codlet	17	0.1	3	1.0
<i>Mullus</i>	<i>auratus</i>	red goatfish	17	1.0	2	0.7
<i>Saurida</i>	spp.	lizardfishes	16	0.2	1	0.3
<i>Raja</i>	<i>texana</i>	roundel skate	16	4.1	5	1.7
<i>Ophidion</i>	<i>marginatum</i>	striped cusk-eel	15	0.8	1	0.3
<i>Peristedion</i>	<i>gracile</i>	slender searobin	15	0.3	5	1.7
<i>Acanthostracion</i>	<i>quadricornis</i>	boxfish	14	2.6	3	1.0
<i>Gymnothorax</i>	<i>ocellatus</i>	ocellated moray	13	1.5	6	2.0
<i>Pagrus</i>	<i>pagrus</i>	red porgy	13	0.4	3	1.0

Table 2. SEAMAP species composition (cont'd.)

Genus	Species	Common name	Total number caught	Total weight caught (kg)	Number of tows where caught	% Frequency of occurrence
<i>Chilomycterus</i>	<i>schoepfi</i>	striped burrfish	12	0.4	4	1.4
<i>Calamus</i>	<i>nodosus</i>	knobbed porgy	11	3.0	1	0.3
<i>Neobythites</i>	<i>marginatus</i>	brotula or bythitid	10	0.3	2	0.7
<i>Sphyraena</i>	<i>guachancho</i>	guaguanche	10	0.3	5	1.7
<i>Ancylopsetta</i>	spp.	left-eye flounders	9	0.4	2	0.7
<i>Bothus</i>	spp.	left-eye flounders	9	0.2	3	1.0
<i>Chaetodipterus</i>	<i>faber</i>	Atlantic spadefish	9	0.4	3	1.0
<i>Serraniculus</i>	<i>pumilio</i>	pygmy sea bass	8	0.1	3	1.0
<i>Bagre</i>	<i>marinus</i>	gafftopsail catfish	8	0.1	1	0.3
<i>Citharichthys</i>	<i>macrops</i>	spotted whiff	8	0.0	4	1.4
<i>Coelorhynchus</i>	spp.	grenadiers	7	0.2	1	0.3
<i>Raja</i>	<i>eglanteria</i>	clearnose skate	7	4.5	5	1.7
<i>Gymnothorax</i>	spp.	morays	7	1.0	1	0.3
Ophidiidae		cusks-eels	6	0.6	1	0.3
<i>Sphoeroides</i>	<i>nephelus</i>	southern puffer	6	0.0	3	1.0
<i>Dorosoma</i>	<i>petenense</i>	threadfin shad	6	0.0	1	0.3
<i>Squatina</i>	<i>dumerili</i>	Atlantic angel shark	6	2.0	3	1.0
<i>Rhizoprionodon</i>	<i>terraenovae</i>	Atlantic sharpnose shark	5	1.0	2	0.7
<i>Paraconger</i>	<i>caudilimbatus</i>	marginail conger	5	0.3	1	0.3
<i>Neconger</i>	<i>mucronatus</i>	slender pike eel	5	0.7	2	0.7
<i>Mustelus</i>	<i>canis</i>	smooth dogfish	4	2.7	3	1.0
<i>Conger</i>	<i>oceanicus</i>	conger eel	4	4.1	1	0.3
<i>Bregmaceros</i>	spp.	codlets	4	0.0	1	0.3
<i>Bothus</i>	<i>lunatus</i>	peacock flounder	4	0.1	1	0.3
<i>Scorpaena</i>	<i>brasiliensis</i>	barbfish	4	0.8	2	0.7
Callionymidae		dragonets	4	0.1	1	0.3

Table 2. SEAMAP species composition (cont'd.)

Genus	Species	Common name	Total number caught	Total weight caught (kg)	Number of tows where caught	% Frequency of occurrence
Opsanus spp.		toadfishes	4	0.2	1	0.3
Syngnathus louisianae		chain pipefish	3	0.0	2	0.7
Conodon nobilis		barred grunt	3	0.3	1	0.3
Bembrops gobioides		goby flathead	3	0.1	1	0.3
Urophycis spp.		hakes	3	0.1	1	0.3
Dasyatis americana		southern stingray	3	0.1	1	0.3
Ogcocephalus parvus		roughback batfish	3	0.1	1	0.3
Sphoeroides dorsalis		marbled puffer	3	0.3	1	0.3
Callionymus spp.		dragonets	3	0.0	1	0.3
Peristedion spp.		searobins	3	0.1	1	0.3
Monacanthus setifer		pygmy filefish	3	0.1	1	0.3
Symphurus diomedianus		spottedfin tonguefish	3	0.1	2	0.7
Achirus lineatus		lined sole	3	0.0	1	0.3
Hoplunnis diomedianus		blacktail pike-conger	2	0.0	1	0.3
Saurida caribbaea		smallscale lizardfish	2	0.0	1	0.3
Uroconger syringinus		threadtail conger	2	0.2	1	0.3
Blenniidae		combtooth blennies	2	0.0	1	0.3
Aluterus schoepfi		orange filefish	2	0.0	1	0.3
Ogcocephalus nasutus		shortnose batfish	2	0.0	2	0.7
Dasyatis sabina		Atlantic stingray	2	0.7	2	0.7
Echeneis naucrates		sharksucker	2	0.2	2	0.7
Sphyræna borealis		northern sennet	2	0.5	1	0.3
Lutjanus apodus		schoolmaster	1	0.0	1	0.3
Caranx hippos		crevalle jack	1	0.0	1	0.3
Aluterus scriptus		scrawled filefish	1	0.0	1	0.3
Hypsoblennius ionthas		freckled blenny	1	0.0	1	0.3

Table 2. SEAMAP species composition (cont'd.)

Genus	Species	Common name	Total number caught	Total weight caught (kg)	Number of tows where caught	% Frequency of occurrence
Fistularia sp.		cornetfish	1	0.5	1	0.3
Syngnathus sp.		pipefish	1	0.0	1	0.3
Ophichthus ocellatus		palespotted eel	1	0.4	1	0.3
Myrophis punctatus		speckled worm eel	1	0.0	1	0.3
Ictalurus furcatus		blue catfish	1	0.0	1	0.3
Gobiesox strumosus		skilletfish	1	0.0	1	0.3
Sphoeroides spengleri		bandtail puffer	1	0.1	1	0.3
Gobionellus hastatus		sharptail goby	1	0.0	1	0.3
Symphurus civitatus		offshore tonguefish	1	0.0	1	0.3
Tetraodontidae		puffer	1	0.0	1	0.3
<u>Crustaceans</u>						
Trachypenaeus spp.		roughneck shrimps	88097	337.0	164	55.8
Penaeus aztecus		brown shrimp	30387	488.0	219	74.5
Callinectes similis		lesser blue crab	13641	224.0	168	57.1
Sicyonia brevirostris		rock shrimp	11263	129.2	125	42.5
Squilla spp.		mantis shrimps	10515	120.5	169	57.5
Sicyonia dorsalis		rock shrimp	9927	35.1	87	29.6
Portunus spinicarpus		swimming crab	6477	43.0	65	22.1
Solenocera spp.		rareback shrimps	5251	28.5	75	25.5
Parapenaeus spp.		deepwater rose shrimps	4090	13.1	3	1.0
Portunus gibbesii		swimming crab	2685	17.0	54	18.4
Portunus spinimanus		swimming crab	1596	18.8	53	18.0
Portunidae		swimming crabs	498	1.6	1	0.3
Penaeus duorarum		pink shrimp	368	13.0	48	16.3
Caridea		shrimps	265	0.4	1	0.3
Callinectes sapidus		blue crab	242	26.0	49	16.7
Penaeus setiferus		white shrimp	183	7.5	28	9.5

Table 2. SEAMAP species composition (cont'd.)

Genus	Species	Common name	Total number caught	Total weight caught (kg)	Number of tows where caught	% Frequency of occurrence
Xiphopenaeus	kroyeri	seabob	174	0.7	3	1.0
Calappa	sulcata	box crab	78	16.4	24	8.2
Anasimus	latus	spider crab	58	2.0	13	4.4
Ovalipes	spp.	lady crabs	49	1.0	11	3.7
Sicyonia	stimpsoni	rock shrimp	44	0.2	3	1.0
Palaemonetes	vulgaris	grass shrimp	36	0.0	1	0.3
Xanthidae		mud crabs	25	0.7	6	2.0
Acetes	americanus	sergestid	23	0.0	1	0.3
Ovalipes	floridanus	oval lady crab	23	0.1	5	1.7
Ovalipes	guadulpsensis	lady crab	20	0.6	9	3.1
Scyllaridae		Spanish lobsters	20	0.1	2	0.7
Sicyonia	spp.	rock shrimps	19	1.1	4	1.4
Squilla	empusa	mantis shrimp	19	0.3	5	1.7
Hepatus	epheleticus	box crab	17	1.3	7	2.4
Trachypenaeus	similis	roughneck shrimp	16	0.0	1	0.3
Raninoides	louisianensis	frog crab	15	0.2	4	1.4
Portunus	sayi	gulf weed crab	13	0.1	5	1.7
Parthenope	spp.	spider crabs	8	0.1	2	0.7
Speocarcinus	lobatus	mud crab	8	0.3	3	1.0
Trachypenaeus	constrictus	roughneck shrimp	5	0.0	2	0.7
Stenorynchus	seticornis	spider crab	4	0.1	2	0.7
Panulirus	argus	spiny lobster	4	0.2	2	0.7
Scyllarides	spp.	Spanish lobsters	4	0.1	2	0.7
Decapoda		decapod	4	0.0	1	0.3
Persephona	punctata	box crab	3	0.0	1	0.3
Leiolumbrus	nitidus	long-clawed crab	3	0.1	2	0.7

Table 2. SEAMAP species composition (cont'd.)

Genus	Species	Common name	Total number caught	Total weight caught (kg)	Number of tows where caught	% Frequency of occurrence
<i>Persephona</i>	<i>crinata</i>	box crab	2	0.0	1	0.3
<i>Clibanarius</i>	<i>vittatus</i>	striped hermit crab	2	0.0	2	0.7
<i>Plagusia</i>	<i>depressa</i>	grapsid crab	2	0.0	1	0.3
<i>Scyllarides</i>	<i>nodifer</i>	ridged slipper lobster	2	1.0	1	0.3
<i>Macrobrachium</i>	<i>acanthurus</i>	palaemonid shrimp	2	0.0	1	0.3
<i>Libinia</i>	spp.	spider crabs	2	0.0	1	0.3
<i>Squilla</i>	<i>deceptrix</i>	mantis shrimp	2	0.0	2	0.7
<i>Isopoda</i>		isopod	1	0.0	1	0.3
<i>Podocheila</i>	<i>rissei</i>	spider crab	1	0.0	1	0.3
Majidae		spider crab	1	0.0	1	0.3
Parthenopidae		spider crab	1	0.0	1	0.3
<i>Persephona</i>	<i>mediterranea</i>	box crab	1	0.0	1	0.3
<i>Plesionika</i>	<i>ensis</i>	pandalid shrimp	1	0.0	1	0.3
<i>Podocheila</i>	<i>lamelligera</i>	spider crab	1	0.0	1	0.3
<u>Others</u>						
<i>Loligo</i>	<i>pealei</i>	common squid	6593	144.9	147	50.0
<i>Lolliguncula</i>	<i>brevis</i>	western Atlantic brief squid	1165	10.6	55	18.7
<i>Amusium</i>	<i>papyraceum</i>	paper scallop	895	14.2	36	12.2
Tunicata		tunicates	292	2.0	1	0.3
<i>Illex</i>	spp.	shortfin squids	270	3.8	5	1.7
<i>Renilla</i>	spp.	sea pansies	212	0.5	2	0.7
Cephalopoda		cephalopods	183	4.0	5	1.7
Spatangidae		heart urchins	180	16.3	2	0.7
Myopsida		squid	161	5.1	4	1.4
Scutellidae		sand dollars	120	5.9	8	2.7
<i>Doryteuthis</i>	<i>plei</i>	arrow squid	97	1.3	3	1.0
<i>Pecten</i>	spp.	scallops	83	1.0	3	1.0

Table 2. SEAMAP species composition (cont'd.)

Genus	Species	Common name	Total number caught	Total weight caught (kg)	Number of tows where caught	% Frequency of occurrence
Asteroidea		starfishes	57	1.2	13	4.4
Illex	illecebrosus	northern shortfin squid	46	1.0	3	1.0
Aequipecten	gibbus	scallop	33	0.3	3	1.0
Loligo	spp.	longfin squids	28	0.2	1	0.3
Mellita	quinqüesperforata	five-slotted sand dollar	16	0.0	3	1.0
Porifera		sponges	12	3.9	2	0.7
Aequipecten	spp.	scallops	9	0.0	1	0.3
Rossia	spp.	bobtail squids	8	0.2	4	1.4
Luidia	spp.	sea stars	8	0.2	2	0.7
Pecten	ravenelli	Ravenel's scallop	7	0.1	2	0.7
Luidia	clathrata	sea star	5	0.1	1	0.3
Chrysaora	quinqüecirrha	sea nettle	4	0.1	1	0.3
Archidoris	spp.	nudibranchs	3	0.1	1	0.3
Aurelia	spp.	jellyfishes	2	0.2	1	0.3
Muricea	sp.	Anthozoan	1	0.0	1	0.3
Asterias	sp.	starfish	1	0.0	1	0.3
Aplysia	sp.	sea hare	1	0.0	1	0.3
Doryteuthis	sp.	squid	1	0.0	1	0.3
Siphonariidae		false limpet	1	0.0	1	0.3

Table 3
Statistical Zone 9

Summary of the environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Temperature in °C, salinity in ppt and oxygen in ppm. No trawl sampling was done in statistical zone 9. Plankton station only.

Over 40 fm			
Environmental category	X	SEM	n
Total catch kg			
Total finfish kg			
Total crustacean kg			
Total others kg			
Surface temperature	29.0	0.00	1
Midwater temperature	17.8	0.00	1
Bottom temperature	15.6	0.00	1
Surface salinity	30.9	0.00	1
Midwater salinity	36.8	0.00	1
Bottom salinity	36.4	0.00	1
Surface chlorophyll	0.0	0.00	1
Surface oxygen	6.6	0.00	1
Midwater oxygen	4.9	0.00	1
Bottom oxygen	4.2	0.00	1

Table 4a (cont'd.)
 Statistical Zone 10
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 10 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus															
spp.	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Penaeus															
aztecus	1.3	1.25	0.1	0.06	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Callinectes															
similis	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	1
Sicyonia															
brevirostris	256.1	185.41	3.8	2.78	3	337.5	0.00	5.5	0.00	1	13.8	0.00	0.6	0.00	1
Squilla															
spp.	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	1
Sicyonia															
dorsalis	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	1
Stenotomus															
caprinus	0.0	0.00	0.0	0.00	3	1361.3	0.00	76.7	0.00	1	955.4	0.00	51.4	0.00	1
Peprilus															
burti	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	13.8	0.00	0.6	0.00	1
Micropogonias															
undulatus	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	2450.8	0.00	174.1	0.00	1
Trachurus															
lathami	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	1
Polydactylus															
octonemus	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	1
Centropristis															
philadelphica	12.8	4.97	0.7	0.26	3	45.0	0.00	2.6	0.00	1	13.8	0.00	1.0	0.00	1
Prionotus															
rubio	118.7	64.74	10.5	5.75	3	45.0	0.00	3.9	0.00	1	23.1	0.00	0.0	0.00	1
Leiostomus															
xanthurus	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	36.9	0.00	5.5	0.00	1
Squid	64.5	27.18	1.7	0.66	3	45.0	0.00	4.1	0.00	1	46.2	0.00	4.2	0.00	1

Table 4b
 Statistical Zone 10
 40-ft trawls

Summary of dominant organisms taken within statistical zone 10 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
<i>Sicyonia</i>										
<i>brevirostris</i>	163.6	0.00	2.0	0.00	1	280.2	67.00	3.5	1.15	8
<i>Trachypenaeus</i>										
spp.	76.4	0.00	0.5	0.00	1	324.2	178.03	1.8	0.96	8
<i>Portunus</i>										
<i>spinicarpus</i>	0.0	0.00	0.0	0.00	1	23.6	23.20	0.3	0.27	8
<i>Solenocera</i>										
spp.	16.4	0.00	0.0	0.00	1	24.8	12.77	0.1	0.04	8
<i>Penaeus</i>										
<i>duorarum</i>	54.5	0.00	2.0	0.00	1	71.5	22.75	2.5	0.82	8
<i>Squilla</i>										
spp.	27.3	0.00	0.2	0.00	1	28.5	13.23	0.2	0.10	8
<i>Stenotomus</i>										
<i>caprinus</i>	823.6	0.00	3.7	0.00	1	732.4	271.98	3.9	1.44	8
<i>Lagodon</i>										
<i>rhomboides</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	8
<i>Micropogonias</i>										
<i>undulatus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	8
<i>Syacium</i>										
spp.	392.7	0.00	7.4	0.00	1	170.6	62.09	4.9	1.63	8
<i>Etropus</i>										
<i>crossotus</i>	5.5	0.00	0.2	0.00	1	171.9	42.70	2.0	0.57	8
<i>Urophycis</i>										
<i>floridanus</i>	0.0	0.00	0.0	0.00	1	48.9	19.00	1.7	0.66	8
<i>Syacium</i>										
<i>papillosum</i>	0.0	0.00	0.0	0.00	1	74.3	74.35	1.8	1.81	8
<i>Diplectrum</i>										
<i>bivittatum</i>	180.0	0.00	4.2	0.00	1	102.8	26.54	2.4	0.74	8
<i>Squid</i>										
	463.6	0.00	6.2	0.00	1	90.8	35.35	1.3	0.54	8

Table 4b (cont'd.)
 Statistical Zone 10
 40-ft trawls

Summary of dominant organisms taken within statistical zone 10 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Sicyonia															
<i>brevirostris</i>	256.1	185.41	3.8	2.78	3	337.5	0.00	5.5	0.00	1	13.8	0.00	0.6	0.00	1
Trachypenaeus															
spp.	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	1
Portunus															
<i>spinicarpus</i>	274.0	232.70	2.0	1.58	3	461.3	0.00	6.5	0.00	1	0.0	0.00	0.0	0.00	1
Solenocera															
spp.	96.4	41.18	0.3	0.06	3	11.3	0.00	0.0	0.00	1	152.3	0.00	0.6	0.00	1
Penaeus															
<i>duorarum</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	1
Squilla															
spp.	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	1
Stenotomus															
<i>caprinus</i>	0.0	0.00	0.0	0.00	3	1361.3	0.00	76.7	0.00	1	955.4	0.00	51.4	0.00	1
Lagodon															
<i>rhomboides</i>	16.7	16.67	1.3	1.26	3	1867.5	0.00	120.2	0.00	1	470.8	0.00	36.5	0.00	1
Micropogonias															
<i>undulatus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	2450.8	0.00	174.1	0.00	1
Syacium															
spp.	98.1	34.41	6.1	1.75	3	78.8	0.00	3.9	0.00	1	83.1	0.00	4.2	0.00	1
Etropus															
<i>crossotus</i>	0.7	0.67	0.0	0.03	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Urophycis															
<i>floridanus</i>	77.9	27.37	3.3	0.97	3	180.0	0.00	6.5	0.00	1	281.5	0.00	12.0	0.00	1
Syacium															
<i>papillosum</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	1
Diplectrum															
<i>bivittatum</i>	1.3	1.25	0.1	0.06	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Squid															
	64.5	27.18	1.7	0.66	3	45.0	0.00	4.1	0.00	1	46.2	0.00	4.2	0.00	1

Table 4c
 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 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. Alabama data on numbers and weights not included. No samples were taken below 6 fm.

Environmental category	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
Total catch kg	29.8	0.00	1	44.4	6.58	8	48.5	8.44	3	272.7	0.00	1	314.7	0.00	1
Total finfish kg	17.4	0.00	1	30.3	5.86	8	36.5	7.19	3	255.7	0.00	1	308.4	0.00	1
Total crustacean kg	5.0	0.00	1	8.9	2.37	8	6.2	4.56	3	11.9	0.00	1	2.1	0.00	1
Total others kg	7.4	0.00	1	5.6	1.63	8	5.2	1.79	3	5.1	0.00	1	4.2	0.00	1
Surface temperature				26.0	0.41	9	27.3	1.31	3	27.5	0.95	4	28.1	0.55	6
Midwater temperature				23.7	0.44	9	24.7	0.52	3	22.9	0.32	4	19.3	0.94	6
Bottom temperature				21.6	0.53	8	20.4	0.98	3	20.4	1.00	4	16.4	1.21	6
Surface salinity				29.0	0.34	7	30.8	1.21	2	32.9	0.68	3	33.7	0.41	6
Midwater salinity				31.5	1.22	6	35.1	0.78	2	36.3	0.37	3	36.4	0.14	6
Bottom salinity				34.9	0.45	6	35.7	0.36	2	36.4	0.13	3	36.2	0.06	6
Surface chlorophyll				0.2	0.05	7	0.1	0.07	2	0.1	0.04	4	0.0	0.02	4
Surface oxygen				6.2	0.06	4	6.6	0.36	3	6.6	0.38	3	6.5	0.13	6
Midwater oxygen				6.2	0.15	4	6.7	0.41	3	6.7	0.69	3	5.7	0.38	6
Bottom oxygen				4.9	0.39	4	5.8	0.74	3	5.7	0.73	3	4.6	0.34	6

*No environmental data were collected.

Table 5a
 Statistical Zone 11
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 11 during the June-July 1984 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 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.	0.8	0.83	0.0	0.00	4	69.0	59.05	0.4	0.31	10	1173.6	393.41	5.7	1.97	19
Penaeus															
aztecus	25.7	23.71	0.3	0.29	4	36.0	34.68	0.8	0.72	10	47.9	22.04	1.1	0.47	19
Callinectes															
similis	98.0	44.87	0.6	0.26	4	20.9	14.43	0.2	0.17	10	11.5	3.79	0.2	0.07	19
Sicyonia															
brevirostris	0.0	0.00	0.0	0.00	4	0.9	0.65	0.0	0.00	10	157.8	113.17	1.2	0.88	19
Squilla															
spp.	2.0	1.96	0.0	0.03	4	13.2	5.74	0.1	0.04	10	98.2	55.64	1.2	0.62	19
Sicyonia															
dorsalis	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	10	41.5	27.48	0.2	0.09	19
Stenotomus															
caprinus	0.0	0.00	0.0	0.00	4	303.1	269.48	4.3	4.07	10	812.7	410.20	8.4	4.54	19
Peprilus															
burti	55.3	53.60	1.1	1.09	4	35.2	34.76	0.8	0.82	10	256.9	184.54	3.1	2.10	19
Micropogonias															
undulatus	12.4	4.99	0.3	0.18	4	171.9	165.66	5.3	5.21	10	2.3	1.54	0.2	0.12	19
Trachurus															
lathamii	0.0	0.00	0.0	0.00	4	1.1	0.94	0.0	0.03	10	12.5	8.11	0.2	0.11	19
Polydactylus															
octonemus	6.0	6.00	0.2	0.17	4	0.0	0.00	0.0	0.00	10	0.0	0.00	0.0	0.00	19
Centropristis															
philadelphica	0.0	0.00	0.0	0.00	4	23.6	19.30	0.3	0.26	10	145.0	45.59	1.7	0.43	19
Prionotus															
rubio	13.8	7.01	0.1	0.07	4	26.6	22.09	0.7	0.63	10	15.4	6.77	0.3	0.16	19
Leiostomus															
xanthurus	2.0	1.22	0.0	0.03	4	4.7	4.17	0.4	0.38	10	0.0	0.00	0.0	0.00	19
Squid															
	1.7	1.67	0.0	0.04	4	43.7	28.28	1.0	0.72	10	41.1	11.97	1.1	0.37	19

Table 5a (cont'd.)
 Statistical Zone 11
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 11 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	1867.8	894.65	12.0	5.30	3	579.7	333.86	2.0	1.13	4	1302.0	0.00	3.0	0.00	1
Penaeus aztecus	132.9	43.71	3.7	0.45	3	32.4	9.95	1.6	0.74	4	12.0	0.00	0.5	0.00	1
Callinectes similis	133.9	69.87	3.0	0.79	3	2.0	2.00	0.0	0.02	4	0.0	0.00	0.0	0.00	1
Sicyonia brevis	295.7	156.71	2.7	1.41	3	60.6	51.89	0.9	0.80	4	42.0	0.00	0.8	0.00	1
Squilla spp.	899.5	306.66	8.7	1.53	3	161.6	71.27	2.7	1.52	4	156.0	0.00	0.8	0.00	1
Sicyonia dorsalis	13.3	13.33	0.1	0.05	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1
Stenotomus caprinus	1013.1	606.07	11.4	6.69	3	310.4	232.98	16.3	12.20	4	318.0	0.00	23.5	0.00	1
Peprilus burti	33.1	33.10	0.4	0.44	3	38.6	30.27	0.4	0.19	4	0.0	0.00	0.0	0.00	1
Micropogonias undulatus	1329.8	1113.50	76.1	62.96	3	234.3	217.36	17.2	15.91	4	2076.0	0.00	125.7	0.00	1
Trachurus lathami	47.0	16.73	1.2	0.42	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1
Polydactylus octonemus	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	1
Centropristis philadelphica	206.9	96.58	5.7	2.42	3	137.1	54.38	7.9	3.77	4	78.0	0.00	4.6	0.00	1
Prionotus rubio	249.0	62.00	6.1	1.53	3	29.9	9.18	2.0	0.37	4	78.0	0.00	7.1	0.00	1
Leiostomus xanthurus	4.7	4.67	0.4	0.42	3	3.5	3.50	0.3	0.32	4	18.0	0.00	1.9	0.00	1
Squid	40.7	23.10	1.5	0.76	3	115.6	80.72	3.6	2.65	4	0.0	0.00	0.0	0.00	1

Table 5b
 Statistical Zone 11
 40-ft trawls

Summary of dominant organisms taken within statistical zone 11 during the June-July 1984 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 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	0.8	0.83	0.0	0.00	4	69.0	59.05	0.4	0.31	10	1173.6	393.41	5.7	1.97	19
Portunus spincarpus	0.0	0.00	0.0	0.00	4	4.2	4.20	0.0	0.04	10	147.7	77.20	0.9	0.60	19
Portunus gibbesii	0.0	0.00	0.0	0.00	4	16.7	15.06	0.1	0.06	10	65.3	34.70	0.2	0.10	19
Squilla spp.	2.0	1.96	0.0	0.03	4	13.2	5.74	0.1	0.04	10	98.2	55.64	1.2	0.62	19
Sicyonia brevirostris	0.0	0.00	0.0	0.00	4	0.9	0.65	0.0	0.00	10	157.8	113.17	1.2	0.88	19
Solenocera spp.	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	10	38.3	20.14	0.1	0.05	19
Stenotomus caprinus	0.0	0.00	0.0	0.00	4	303.1	269.48	4.3	4.07	10	812.7	410.20	8.4	4.54	19
Peprilus paru	0.0	0.00	0.0	0.00	4	2.7	2.70	0.0	0.04	10	0.4	0.35	0.0	0.00	19
Micropogonias undulatus	12.4	4.99	0.3	0.18	4	171.9	165.66	5.3	5.21	10	2.3	1.54	0.2	0.12	19
Peprilus burti	55.3	53.60	1.1	1.09	4	35.2	34.76	0.8	0.82	10	256.9	184.54	3.1	2.10	19
Centropristis philadelphica	0.0	0.00	0.0	0.00	4	23.6	19.30	0.3	0.26	10	145.0	45.59	1.7	0.43	19
Urophycis floridanus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	10	37.4	16.96	1.7	0.74	19
Anchoa hepsetus	31.0	27.77	0.5	0.50	4	1.9	1.48	0.0	0.01	10	192.3	183.31	2.3	2.08	19
Serranus atrobranchus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	10	111.5	70.84	0.8	0.48	19
Squid	1.7	1.67	0.0	0.04	4	43.7	28.28	1.0	0.72	10	41.1	11.97	1.1	0.37	19

Table 5b (cont'd.)
 Statistical Zone 11
 40-ft trawls

Summary of dominant organisms taken within statistical zone 11 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp	1867.8	894.65	12.0	5.30	3	579.7	333.86	2.0	1.13	4	1302.0	0.00	3.0	0.00	1
Portunus spincarpus	147.8	147.78	0.3	0.30	3	964.3	552.78	4.7	2.31	4	1776.0	0.00	22.4	0.00	1
Portunus gibbesii	1105.9	973.99	4.3	3.72	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1
Squilla spp.	899.5	306.66	8.7	1.53	3	161.6	71.27	2.7	1.52	4	156.0	0.00	0.8	0.00	1
Sicyonia brevirostris	295.7	156.71	2.7	1.41	3	60.6	51.89	0.9	0.80	4	42.0	0.00	0.8	0.00	1
Solenocera spp.	84.3	62.99	0.3	0.09	3	241.3	199.91	1.2	1.08	4	0.0	0.00	0.0	0.00	1
Stenotomus caprinus	1013.1	606.07	11.4	6.69	3	310.4	232.98	16.3	12.20	4	318.0	0.00	23.5	0.00	1
Peprilus paru	3672.9	3664.56	39.8	39.65	3	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1
Micropogonias undulatus	1329.8	1113.50	76.1	62.96	3	234.3	217.36	17.2	15.91	4	2076.0	0.00	125.7	0.00	1
Peprilus burti	33.1	33.10	0.4	0.44	3	38.6	30.27	0.4	0.19	4	0.0	0.00	0.0	0.00	1
Centropristis philadelphica	206.9	96.58	5.7	2.42	3	137.1	54.38	7.9	3.77	4	78.0	0.00	4.6	0.00	1
Urophycis floridanus	68.3	19.71	4.7	1.98	3	114.8	61.15	5.1	2.50	4	2508.0	0.00	85.4	0.00	1
Anchoa hepsetus	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	1
Serranus atrobranchus	119.7	11.55	1.6	0.34	3	43.0	26.06	1.1	0.74	4	120.0	0.00	2.2	0.00	1
Squid	40.7	23.10	1.5	0.76	3	115.6	80.72	3.6	2.65	4	0.0	0.00	0.0	0.00	1

Table 5c
 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 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, 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	11.2	3.70	4	26.5	13.07	10	43.0	8.70	19	217.0	66.19	3	113.6	31.60	4	291.8	0.00	1
Total finfish kg	7.5	2.99	4	22.0	12.06	10	26.9	6.34	19	180.4	63.42	3	93.1	27.41	4	264.5	0.00	1
Total crustacean kg	3.7	1.19	4	3.1	1.10	10	12.3	3.36	19	35.2	3.32	3	16.8	5.27	4	27.3	0.00	1
Total others kg	0.0	0.00	4	1.4	0.72	10	4.2	2.32	19	1.4	0.79	3	3.7	2.47	4	0.0	0.00	1
Surface temperature	25.6	0.59	5	25.9	0.45	10	26.5	0.41	19	28.7	0.78	3	26.2	0.93	4	28.2	1.46	2
Midwater temperature	25.5	0.57	5	25.0	0.41	10	23.7	0.30	19	24.2	0.81	3	22.6	0.62	4	23.0	0.03	2
Bottom temperature	24.8	0.30	5	22.6	0.52	10	21.6	0.37	19	20.5	0.63	3	19.1	0.24	4	20.4	0.69	2
Surface salinity	27.6	0.93	5	25.6	1.33	10	28.5	0.80	18	25.5	3.35	2	28.8	3.60	3	26.3	0.00	1
Midwater salinity	27.3	1.86	3	28.4	1.27	10	33.9	0.39	19	35.4	0.96	3	35.6	0.33	3	37.3	0.00	1
Bottom salinity	29.6	1.12	5	32.9	0.73	10	34.9	0.28	19	35.7	0.37	3	35.9	0.24	3	36.1	0.00	1
Surface chlorophyll	0.0	0.00	0	1.4	1.34	2	4.8	3.70	6	9.5	8.47	3	0.4	0.35	3	0.9	0.00	1
Surface oxygen	7.6	0.83	5	7.5	0.21	10	7.4	0.22	19	9.4	1.50	3	6.8	0.43	4	7.7	1.15	2
Midwater oxygen	7.2	0.44	5	7.0	0.22	10	6.3	0.37	18	7.5	1.25	3	5.4	0.74	4	7.2	1.25	2
Bottom oxygen	6.1	0.51	5	4.4	0.41	10	4.4	0.36	18	4.5	0.42	3	4.5	0.67	4	5.2	0.35	2

*Extra environmental stations are plankton stations

Table 6a
 Statistical Zone 13
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 13 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	120.0	0.00	0.4	0.00	1	19504.4	6622.43	59.5	12.14	5
Penaeus aztecus	0.0	0.00	0.0	0.00	1	151.7	56.88	3.3	1.26	5
Callinectes similis	4.6	0.00	0.2	0.00	1	1062.6	698.09	12.0	4.73	5
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	6.2	4.05	0.0	0.05	5
Squilla spp.	27.7	0.00	0.2	0.00	1	1206.1	360.71	10.1	1.91	5
Sicyonia dorsalis	0.0	0.00	0.0	0.00	1	224.7	118.98	0.6	0.38	5
Stenotomus caprinus	13.8	0.00	0.4	0.00	1	198.8	102.67	2.1	0.80	5
Peprilus burti	0.0	0.00	0.0	0.00	1	8.7	5.34	1.3	1.11	5
Micropogonias undulatus	0.0	0.00	0.0	0.00	1	168.0	136.80	8.7	6.03	5
Trachurus lathami	0.0	0.00	0.0	0.00	1	5.0	3.07	0.2	0.14	5
Polydactylus octonemus	0.0	0.00	0.0	0.00	1	36.7	27.49	0.7	0.53	5
Centropristis philadelphica	0.0	0.00	0.0	0.00	1	466.5	138.13	3.3	0.99	5
Prionotus rubio	32.3	0.00	0.6	0.00	1	834.5	310.98	10.4	4.21	5
Leiostomus xanthurus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5
Squid	0.0	0.00	0.0	0.00	1	50.0	24.10	1.7	0.92	5

Table 6a (cont'd.)
 Statistical Zone 13
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 13 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	0.0	0.00	0.0	0.00	1	1085.3	910.73	6.6	5.33	2	168.0	0.00	1.3	0.00	1
Penaeus aztecus	4.6	0.00	0.2	0.00	1	23.9	2.09	0.9	0.17	2	0.0	0.00	0.0	0.00	1
Callinectes similis	304.6	0.00	2.7	0.00	1	34.0	34.00	0.3	0.32	2	72.0	0.00	1.3	0.00	1
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	125.5	103.55	1.6	1.35	2	0.0	0.00	0.0	0.00	1
Squilla spp.	60.0	0.00	4.2	0.00	1	237.5	8.45	3.6	0.60	2	84.0	0.00	0.9	0.00	1
Sicyonia dorsalis	124.6	0.00	2.7	0.00	1	8.0	8.00	0.1	0.14	2	0.0	0.00	0.0	0.00	1
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Peprilus burti	49029.2	0.00	780.0	0.00	1	18.0	18.00	0.2	0.23	2	0.0	0.00	0.0	0.00	1
Micropogonias undulatus	0.0	0.00	0.0	0.00	1	1110.3	1104.27	85.1	83.95	2	88.0	0.00	9.1	0.00	1
Trachurus lathami	1043.1	0.00	22.2	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Polydactylus octonemus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Centropristis philadelphica	0.0	0.00	0.0	0.00	1	18.6	8.64	1.6	1.35	2	100.0	0.00	16.0	0.00	1
Prionotus rubio	0.0	0.00	0.0	0.00	1	73.2	63.18	6.4	2.81	2	0.0	0.00	0.0	0.00	1
Leiostomus xanthurus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Squid	0.0	0.00	0.0	0.00	1	19.1	19.09	0.4	0.37	2	0.0	0.00	0.0	0.00	1

Table 6b
 Statistical Zone 13
 40-ft trawls

Summary of dominant organisms taken within statistical zone 13 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	120.0	0.00	0.4	0.00	1	19504.4	6622.43	59.5	12.14	5
Parapenaeus spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5
Squilla spp.	27.7	0.00	0.2	0.00	1	1206.1	360.71	10.1	1.91	5
Callinectes similis	4.6	0.00	0.2	0.00	1	1062.6	698.09	12.0	4.73	5
Solenocera spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5
Caridea	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5
Peprilus burti	0.0	0.00	0.0	0.00	1	8.7	5.34	1.3	1.11	5
Steindachneria argentea	0.0	0.00	0.0	0.00	1	303.0	289.45	1.6	1.37	5
Prionotus rubio	32.3	0.00	0.6	0.00	1	834.5	310.98	10.4	4.21	5
Micropogonias undulatus	0.0	0.00	0.0	0.00	1	168.0	136.80	8.7	6.03	5
Centropristis philadelphica	0.0	0.00	0.0	0.00	1	466.5	138.13	3.3	0.99	5
Urophycis cirratus	0.0	0.00	0.0	0.00	1	27.0	27.00	1.0	1.00	5
Trachurus lathami	0.0	0.00	0.0	0.00	1	5.0	3.07	0.2	0.14	5
Stenotomus caprinus	13.8	0.00	0.4	0.00	1	198.8	102.67	2.1	0.80	5
Squid	0.0	0.00	0.0	0.00	1	50.0	24.10	1.7	0.92	5

Table 6b (cont'd.)
 Statistical Zone 13
 40-ft trawls

Summary of dominant organisms taken within statistical zone 13 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	0.0	0.00	0.0	0.00	1	1085.3	910.73	6.6	5.33	2	168.0	0.00	1.3	0.00	1
Parapenaeus spp.	0.0	0.00	0.0	0.00	1	651.0	651.00	1.5	1.50	2	12476.0	0.00	28.4	0.00	1
Squilla spp.	60.0	0.00	4.2	0.00	1	237.5	8.45	3.6	0.60	2	84.0	0.00	0.9	0.00	1
Callinectes similis	304.6	0.00	2.7	0.00	1	34.0	34.00	0.3	0.32	2	72.0	0.00	1.3	0.00	1
Solenocera spp.	60.0	0.00	2.7	0.00	1	645.7	319.73	3.9	2.28	2	396.0	0.00	1.8	0.00	1
Caridea	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	1060.0	0.00	1.6	0.00	1
Peprilus burti	49029.2	0.00	780.0	0.00	1	18.0	18.00	0.2	0.23	2	0.0	0.00	0.0	0.00	1
Steindachneria argentea	0.0	0.00	0.0	0.00	1	414.6	267.36	2.7	1.47	2	3620.0	0.00	28.9	0.00	1
Prionotus rubio	0.0	0.00	0.0	0.00	1	73.2	63.18	6.4	2.81	2	0.0	0.00	0.0	0.00	1
Micropogonias undulatus	0.0	0.00	0.0	0.00	1	1110.3	1104.27	85.1	83.95	2	88.0	0.00	9.1	0.00	1
Centropristis philadelphia	0.0	0.00	0.0	0.00	1	18.6	8.64	1.6	1.35	2	100.0	0.00	16.0	0.00	1
Urophycis cirratus	184.6	0.00	8.4	0.00	1	129.0	129.00	3.0	3.00	2	284.0	0.00	11.3	0.00	1
Trachurus lathami	1043.1	0.00	22.2	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Squid	0.0	0.00	0.0	0.00	1	19.1	19.09	0.4	0.37	2	0.0	0.00	0.0	0.00	1

Statistical Zone 13
40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No samples were taken below 6 fm.

Environmental category	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
Total catch kg	2.1	0.00	1	138.2	14.78	5	828.7	0.00	1	128.2	80.04	2	123.6	0.00	1
Total finfish kg	2.1	0.00	1	50.6	6.85	5	814.0	0.00	1	106.9	81.49	2	85.5	0.00	1
Total crustacean kg	2.1	0.00	1	85.8	11.38	5	14.7	0.00	1	20.0	2.69	2	38.2	0.00	1
Total others kg	0.0	0.00	1	2.3	1.03	5	0.0	0.00	1	1.2	1.24	2	0.0	0.00	1
Surface temperature	28.4	0.00	1	27.3	0.33	3	25.8	0.00	1	27.9	0.88	2	26.6	0.20	3
Midwater temperature	28.4	0.00	1	25.7	0.40	3	22.5	0.00	1	22.6	0.36	2	22.2	1.30	3
Bottom temperature	25.6	0.00	1	21.8	0.38	3	18.8	0.00	1	21.5	1.53	2	19.9	1.03	3
Surface salinity	23.9	0.00	1	27.7	0.58	3	25.8	0.00	1	26.4	0.66	2	25.2	9.91	2
Midwater salinity	25.5	0.00	1	34.6	0.56	3	22.5	0.00	1	35.3	0.87	2	32.4	3.91	2
Bottom salinity	32.5	0.00	1	36.3	0.08	3	18.8	0.00	1	36.1	0.11	2	35.0	0.88	2
Surface chlorophyll	13.9	0.00	1	3.8	2.69	3	7.5	0.00	1	6.1	0.00	1	0.4	0.15	3
Surface oxygen	6.7	0.00	1	6.7	0.58	3	9.1	0.00	1	6.9	0.40	2	8.4	0.43	3
Midwater oxygen	4.5	0.00	1	4.6	1.07	3	8.0	0.00	1	5.8	1.55	2	6.9	0.57	3
Bottom oxygen	2.5	0.00	1	4.2	0.67	3	7.1	0.00	1	5.1	1.00	2	6.1	0.61	3

Table 7a
 Statistical Zone 14
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 14 during the June-July 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. None of the species listed were taken below 6 fm.

Species	0-5 fm					6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	0.0	0.00	0.0	0.00	1	134.9	51.06	0.5	0.18	5	4348.7	993.46	24.5	5.22	5
Penaeus aztecus	0.0	0.00	0.0	0.00	1	457.1	199.33	5.7	2.35	5	469.8	181.55	7.2	2.24	5
Callinectes similis	0.0	0.00	0.0	0.00	1	16.7	7.39	0.3	0.12	5	447.8	145.35	11.8	4.56	5
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	30.7	20.85	0.2	0.19	5	127.6	75.93	1.2	0.74	5
Squilla spp.	0.0	0.00	0.0	0.00	1	35.0	8.81	0.4	0.09	5	456.2	181.96	4.7	2.21	5
Sicyonia dorsalis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	183.2	93.90	0.8	0.46	5
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	9.3	5.11	0.2	0.07	5	5116.4	3008.23	35.4	16.44	5
Peprilus burti	0.0	0.00	0.0	0.00	1	110.5	96.73	2.5	1.91	5	329.5	146.58	7.5	3.36	5
Micropogonias undulatus	0.0	0.00	0.0	0.00	1	1076.6	1074.19	19.7	19.53	5	4495.0	4492.02	126.6	126.21	5
Trachurus lathami	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	49.4	46.46	1.8	1.66	5
Polydactylus octonemus	0.0	0.00	0.0	0.00	1	71.3	55.51	1.4	1.06	5	212.9	160.65	4.9	3.70	5
Centropristis philadelphica	0.0	0.00	0.0	0.00	1	14.8	3.64	0.1	0.06	5	246.5	96.44	5.0	3.36	5
Prionotus rubio	0.0	0.00	0.0	0.00	1	19.3	8.71	0.3	0.11	5	1144.0	765.69	10.3	6.24	5
Leiostomus xanthurus	0.0	0.00	0.0	0.00	1	14.2	13.68	0.5	0.46	5	0.0	0.00	0.0	0.00	5
Squid	0.0	0.00	0.0	0.00	1	26.6	10.46	1.2	0.36	5	99.8	74.45	2.3	1.17	5

Table 2a (cont'd.)
 Statistical Zone 14
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 14 during the June-July 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. None of the species were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	1988.5	644.47	12.8	2.11	2	97.8	55.50	0.6	0.32	4	1269.5	0.00	2.3	0.00	1
Penaeus aztecus	107.2	37.55	3.3	0.75	2	134.8	67.84	5.2	1.77	4	34.7	0.00	3.0	0.00	1
Callinectes similis	183.0	180.56	5.7	5.56	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1
Sicyonia brevirostris	55.4	43.41	1.2	1.01	2	89.4	46.24	1.0	0.44	4	180.0	0.00	1.9	0.00	1
Squilla spp.	579.4	521.79	7.1	6.41	2	81.6	56.59	0.6	0.47	4	110.5	0.00	0.7	0.00	1
Sicyonia dorsalis	735.3	612.92	4.2	3.33	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1
Stenotomus caprinus	108.4	89.22	1.4	0.85	2	449.3	228.42	17.8	9.65	4	129.5	0.00	6.9	0.00	1
Peprilus burti	39.5	27.53	1.2	1.07	2	501.5	501.50	8.0	8.02	4	9.5	0.00	0.4	0.00	1
Micropogonias undulatus	8.8	8.82	0.7	0.72	2	1119.0	483.68	84.6	35.47	4	60.0	0.00	6.9	0.00	1
Trachurus lathami	6.0	6.00	0.3	0.27	2	0.0	0.00	0.0	0.00	4	60.0	0.00	1.4	0.00	1
Polydactylus octonemus	15.9	15.88	0.6	0.56	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1
Centropristis philadelphica	300.1	225.74	9.4	5.55	2	9.8	3.43	0.8	0.33	4	41.1	0.00	6.9	0.00	1
Prionotus rubio	45.7	7.27	0.9	0.93	2	68.1	30.88	4.0	1.55	4	60.0	0.00	5.9	0.00	1
Leiostomus xanthurus	0.0	0.00	0.0	0.00	2	20.6	20.56	2.5	2.47	4	0.0	0.00	0.0	0.00	1
Squid	49.4	49.41	3.0	2.97	2	191.5	179.55	3.6	2.72	4	423.2	0.00	9.2	0.00	1

Table 7b
 Statistical Zone 14
 40-ft trawls

Summary of dominant organisms taken within statistical zone 14 during the June-July 1984 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 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
Trachypeneus spp.	0.0	0.00	0.0	0.00	1	134.9	51.06	0.5	0.18	5	4348.7	993.46	24.5	5.22	5
Penaeus aztecus	0.0	0.00	0.0	0.00	1	457.1	199.33	5.7	2.35	5	469.8	181.55	7.2	2.24	5
Squilla spp.	0.0	0.00	0.0	0.00	1	35.0	8.81	0.4	0.09	5	456.2	181.96	4.7	2.21	5
Portunus spinicarpus	5.0	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	5	77.6	69.73	0.6	0.53	5
Callinectes similis	0.0	0.00	0.0	0.00	1	16.7	7.39	0.3	0.12	5	447.8	145.35	11.8	4.56	5
Sicyonia dorsalis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	183.2	93.90	0.8	0.46	5
Micropogonias undulatus	0.0	0.00	0.0	0.00	1	1076.6	1074.19	19.7	19.53	5	4495.0	4492.02	126.6	126.21	5
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	9.3	5.11	0.2	0.07	5	5116.4	3008.23	35.4	16.44	5
Peprilus burti	0.0	0.00	0.0	0.00	1	110.5	96.73	2.5	1.91	5	329.5	146.58	7.5	3.36	5
Prionotus rubio	0.0	0.00	0.0	0.00	1	19.3	8.71	0.3	0.11	5	1144.0	765.69	10.3	6.24	5
Serranus atrobranchus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	320.0	288.60	2.1	1.69	5
Centropristis philadelphia	0.0	0.00	0.0	0.00	1	14.8	3.64	0.1	0.06	5	246.5	96.44	5.0	3.36	5
Polydactylus octonemus	0.0	0.00	0.0	0.00	1	71.3	55.51	1.4	1.06	5	212.9	160.65	4.9	3.70	5
Prionotus paralatus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	2.2	2.18	0.0	0.00	5
Squid	0.0	0.00	0.0	0.00	1	26.6	10.46	1.2	0.36	5	99.8	74.45	2.3	1.17	5

Table 1. Shrimp and bottomfish taken within statistical zone 1- during the June-July 1964 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypeneus spp.	1988.5	644.47	12.8	2.11	2	97.8	55.50	0.6	0.32	4	1269.5	0.00	2.3	0.00	1
Penaeus aztecus	107.2	37.55	3.3	0.75	2	134.8	67.84	5.2	1.77	4	34.7	0.00	3.0	0.00	1
Squilla spp.	579.4	521.79	7.1	6.41	2	81.6	56.59	0.6	0.47	4	110.5	0.00	0.7	0.00	1
Portunus spinicarpus	45.6	45.60	0.4	0.38	2	356.2	172.69	3.2	1.38	4	271.6	0.00	1.4	0.00	1
Callinectes similis	183.0	180.56	5.7	5.56	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1
Sicyonia dorsalis	735.3	612.92	4.2	3.33	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1
Micropogonias undulatus	8.8	8.82	0.7	0.72	2	1119.0	483.68	84.6	35.47	4	60.0	0.00	6.9	0.00	1
Stenotomus caprinus	108.4	89.22	1.4	0.85	2	449.3	228.42	17.8	9.65	4	129.5	0.00	6.9	0.00	1
Peprilus burti	39.5	27.53	1.2	1.07	2	501.5	501.50	8.0	8.02	4	9.5	0.00	0.4	0.00	1
Prionotus rubio	45.7	7.27	0.9	0.93	2	68.1	30.88	4.0	1.55	4	60.0	0.00	5.9	0.00	1
Serranus atrobranchus	439.9	269.51	4.7	4.27	2	43.2	14.19	1.5	0.46	4	82.1	0.00	1.4	0.00	1
Centropristis philadelphica	300.1	225.74	9.4	5.55	2	9.8	3.43	0.8	0.33	4	41.1	0.00	6.9	0.00	1
Polydactylus octonemus	15.9	15.88	0.6	0.56	2	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	1
Prionotus paralatus	261.5	165.53	2.4	1.30	2	75.3	35.59	1.1	0.41	4	0.0	0.00	0.0	0.00	1
Squid	49.4	49.41	3.0	2.97	2	191.5	179.55	3.6	2.72	4	423.2	0.00	9.2	0.00	1

Table 7c
 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 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, 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	6.8	0.00	1	52.3	22.08	5	274.3	151.81	5	88.2	40.17	2	170.5	31.87	4	78.9	0.00	1
Total finfish kg	4.5	0.00	1	40.5	20.75	5	215.1	148.33	5	44.1	16.84	2	156.2	33.92	4	58.9	0.00	1
Total crustacean kg	2.3	0.00	1	9.8	1.92	5	56.9	7.79	5	39.2	21.75	2	10.8	4.12	4	11.5	0.00	1
Total others kg	0.0	0.00	1	2.4	0.74	5	2.3	0.91	5	4.8	1.57	2	4.1	2.58	4	10.0	0.00	1
Surface temperature	28.3	0.26	2	28.1	0.50	7	28.4	0.36	6	28.9	0.68	3	28.5	0.79	4	29.0	0.50	3
Midwater temperature	28.0	0.39	2	26.9	0.72	7	26.1	0.62	6	24.9	0.46	3	22.5	0.88	4	19.6	0.77	3
Bottom temperature	25.8	0.96	2	24.6	0.21	7	22.7	0.46	6	20.8	0.35	3	19.5	0.06	4	18.0	1.08	3
Surface salinity	22.5	3.59	2	26.4	1.41	7	23.9	2.20	6	28.4	2.63	3	28.2	2.30	4	25.0	1.04	3
Midwater salinity	24.8	1.63	2	29.3	1.55	7	32.5	1.18	6	35.4	0.15	3	36.6	0.21	4	35.4	1.07	3
Bottom salinity	31.7	3.02	2	34.1	0.92	7	36.0	0.35	6	36.2	0.47	3	36.3	0.04	4	35.3	1.02	3
Surface chlorophyll	11.1	0.00	1	0.5	0.27	5	1.0	0.64	6	1.4	1.26	2	0.1	0.04	4	0.3	0.19	3
Surface oxygen	5.8	0.00	1	8.2	0.57	6	7.3	0.33	5	7.1	0.44	3	6.9	0.40	4	8.1	0.52	3
Midwater oxygen	4.1	0.00	1	6.5	0.79	6	5.6	0.87	6	5.8	0.74	3	6.7	0.35	4	6.1	0.44	3
Bottom oxygen	2.2	1.60	2	4.1	0.67	7	4.9	0.70	6	4.2	0.81	3	5.7	0.45	4	5.3	0.23	3

Table 8a
 Statistical Zone 15
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 15 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm or between 31-40 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	83.2	76.79	0.3	0.22	2	2408.1	506.76	10.8	2.20	9
Penaeus aztecus	0.0	0.00	0.0	0.00	2	152.7	43.81	2.9	0.66	9
Callinectes similis	67.1	32.86	1.1	0.15	2	259.7	91.02	5.1	1.76	9
Sicyonia brevirostris	0.0	0.00	0.0	0.00	2	13.1	4.98	0.2	0.09	9
Squilla spp.	46.0	46.00	0.2	0.18	2	338.8	124.71	4.2	1.49	9
Sicyonia dorsalis	28.1	4.07	0.2	0.06	2	315.6	92.88	1.1	0.38	9
Stenotomus caprinus	30.8	22.79	0.2	0.06	2	2693.1	887.56	12.3	4.60	9
Peprilus burti	59.6	12.43	1.3	0.00	2	2455.5	1607.52	50.8	32.72	9
Micropogonias undulatus	7.4	3.36	0.3	0.10	2	233.0	219.85	6.7	6.25	9
Trachurus lathami	0.0	0.00	0.0	0.00	2	28.3	15.54	0.7	0.42	9
Polydactylus octonemus	6.0	6.00	0.3	0.27	2	87.6	59.31	2.5	1.63	9
Centropristis philadelphica	36.3	27.71	0.3	0.22	2	735.6	251.29	7.0	2.45	9
Prionotus rubio	53.4	42.64	0.4	0.13	2	477.9	285.90	3.7	1.55	9
Leiostomus xanthurus	0.0	0.00	0.0	0.00	2	1.6	1.13	0.2	0.13	9
Squid	29.7	21.71	0.2	0.06	2	69.6	41.59	1.1	0.52	9

Table 8a (cont'd.)
 Statistical Zone 15
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 15 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm or between 31-40 fm.

Species	21-30 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	1201.8	768.12	5.5	3.14	5	0.0	0.00	0.0	0.00	2
Penaeus aztecus	92.6	43.01	2.5	1.06	5	13.2	1.20	0.9	0.18	2
Callinectes similis	156.6	67.44	4.8	2.69	5	0.0	0.00	0.0	0.00	2
Sicyonia brevirostris	91.2	36.51	1.0	0.49	5	0.0	0.00	0.0	0.00	2
Squilla spp.	290.4	110.60	3.1	1.22	5	0.0	0.00	0.0	0.00	2
Sicyonia dorsalis	735.8	254.26	2.7	1.09	5	0.0	0.00	0.0	0.00	2
Stenotomus caprinus	458.0	434.60	2.0	1.52	5	376.4	156.40	21.0	8.90	2
Peprilus burti	526.4	414.55	11.8	10.40	5	0.0	0.00	0.0	0.00	2
Micropogonias undulatus	1.8	1.80	0.2	0.19	5	0.0	0.00	0.0	0.00	2
Trachurus lathami	31.2	31.20	0.5	0.55	5	0.0	0.00	0.0	0.00	2
Polydactylus octonemus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2
Centropristis philadelphica	152.0	62.73	4.3	1.43	5	55.6	11.60	5.6	1.35	2
Prionotus rubio	75.0	35.77	2.5	1.06	5	0.0	0.00	0.0	0.00	2
Leiostomus xanthurus	1.8	1.80	0.2	0.25	5	0.0	0.00	0.0	0.00	2
Squid	364.8	140.27	6.9	2.10	5	952.2	301.80	15.9	7.58	2

Table 8b
 Statistical Zone 15
 40-ft trawls

Summary of dominant organisms taken within statistical zone 15 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm or between 31-40 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	83.2	76.79	0.3	0.22	2	2408.1	506.76	10.8	2.20	9
Sicyonia dorsalis	28.1	4.07	0.2	0.06	2	315.6	92.88	1.1	0.38	9
Squilla spp.	46.0	46.00	0.2	0.18	2	338.8	124.71	4.2	1.49	9
Callinectes similis	67.1	32.86	1.1	0.15	2	259.7	91.02	5.1	1.76	9
Penaeus aztecus	0.0	0.00	0.0	0.00	2	152.7	43.81	2.9	0.66	9
Portunus spinicarpus	0.0	0.00	0.0	0.00	2	13.4	8.90	0.0	0.04	9
Peprilus burti	59.6	12.43	1.3	0.00	2	2455.5	1607.52	50.8	32.72	9
Stenotomus caprinus	30.8	22.79	0.2	0.06	2	2693.1	887.56	12.3	4.60	9
Centropristis philadelphia	36.3	27.71	0.3	0.22	2	735.6	251.29	7.0	2.45	9
Prionotus rubio	53.4	42.64	0.4	0.13	2	477.9	285.90	3.7	1.55	9
Prionotus stearnsi	0.0	0.00	0.0	0.00	2	233.7	122.73	1.3	0.57	9
Serranus atrobranchus	0.0	0.00	0.0	0.00	2	175.0	111.20	1.3	0.62	9
Prionotus paralatus	0.0	0.00	0.0	0.00	2	82.5	40.20	0.6	0.31	9
Micropogonias undulatus	7.4	3.36	0.3	0.10	2	233.0	219.85	6.7	6.25	9
Squid	29.7	21.71	0.2	0.06	2	69.6	41.59	1.1	0.52	9

Table 8b (cont'd.)
 Statistical Zone 15
 40-ft trawls

Summary of dominant organisms taken within statistical zone 15 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm or between 31-40 fm.

Species	21-30 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus										
spp.	1201.8	768.12	5.5	3.14	5	0.0	0.00	0.0	0.00	2
Sicyonia										
dorsalis	735.8	254.26	2.7	1.09	5	0.0	0.00	0.0	0.00	2
Squilla										
spp.	290.4	110.60	3.1	1.22	5	0.0	0.00	0.0	0.00	2
Callinectes										
similis	156.6	67.44	4.8	2.69	5	0.0	0.00	0.0	0.00	2
Penaeus										
aztecus	92.6	43.01	2.5	1.06	5	13.2	1.20	0.9	0.18	2
Portunus										
spinicarpus	200.4	163.11	1.3	0.87	5	0.0	0.00	0.0	0.00	2
Peprilus										
burti	526.4	414.55	11.8	10.40	5	0.0	0.00	0.0	0.00	2
Stenotomus										
caprinus	458.0	434.60	2.0	1.52	5	376.4	156.40	21.0	8.90	2
Centropristis										
philadelphica	152.0	62.73	4.3	1.43	5	55.6	11.60	5.6	1.35	2
Prionotus										
rubio	75.0	35.77	2.5	1.06	5	0.0	0.00	0.0	0.00	2
Prionotus										
stearnsi	64.6	23.95	0.6	0.20	5	140.4	123.60	2.5	2.50	2
Serranus										
atrobranchus	88.4	18.79	1.5	0.33	5	188.0	76.00	1.3	1.16	2
Prionotus										
paralatus	137.6	84.26	1.0	0.59	5	22.8	22.80	3.2	3.16	2
Micropogonias										
undulatus	1.8	1.80	0.2	0.19	5	0.0	0.00	0.0	0.00	2
Squid	364.8	140.27	6.9	2.10	5	952.2	301.80	15.9	7.58	2

Table 8c
 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 JJune-July 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No samples were taken between 31-40 fm.

Environmental category	0-5 fm*			6-10 fm			11-20 fm			21-30 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg				8.4	0.65	2	136.4	38.78	9	69.8	5.00	5	83.5	2.82	2
Total finfish kg				5.6	0.19	2	109.0	41.90	9	41.5	7.45	5	63.3	3.27	2
Total crustacean kg				2.8	0.84	2	24.8	4.80	9	22.2	5.36	5	1.0	0.09	2
Total others kg				1.4	0.42	2	2.6	0.56	9	6.8	2.13	5	19.3	6.18	2
Surface temperature	28.3	0.00	1	28.5	0.80	3	28.5	0.37	10	28.2	0.82	5	27.8	0.91	2
Midwater temperature	28.3	0.00	1	28.0	1.18	3	25.4	0.37	10	25.6	0.95	5	20.7	0.74	2
Bottom temperature	28.4	0.00	1	25.7	0.27	3	22.9	0.37	10	21.5	0.77	5	17.7	0.72	2
Surface salinity	19.0	0.00	1	20.3	3.10	3	26.7	1.10	10	29.1	0.89	5	32.1	4.49	2
Midwater salinity	19.0	0.00	1	23.4	1.76	3	34.6	0.51	10	34.9	0.69	5	36.5	0.07	2
Bottom salinity	19.6	0.00	1	30.0	2.71	3	35.7	0.09	10	36.4	0.25	5	36.2	0.06	2
Surface chlorophyll	4.0	0.00	1	10.9	10.31	2	1.3	0.66	10	0.2	0.07	4	0.6	0.48	2
Surface oxygen	11.0	0.00	1	8.9	2.11	3	8.7	0.58	10	7.4	0.37	5	7.9	0.75	2
Midwater oxygen	11.0	0.00	1	7.3	1.94	3	6.9	0.44	9	6.4	0.64	5	7.6	0.70	2
Bottom oxygen	10.2	0.00	1	4.7	1.79	3	4.9	0.50	10	4.7	0.44	5	4.4	0.20	2

*Plankton and environmental stations only.

Table 9a
 Statistical Zone 16
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 16 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	593.6	556.47	2.2	1.99	4	1138.9	526.72	5.6	2.49	12
Penaeus aztecus	337.1	289.76	2.5	1.75	4	222.4	56.97	3.9	1.23	12
Callinectes similis	17.1	2.75	0.4	0.06	4	156.0	59.22	2.7	0.94	12
Sicyonia brevirostris	0.0	0.00	0.0	0.00	4	61.2	24.23	0.7	0.26	12
Squilla spp.	41.8	40.19	0.6	0.51	4	203.1	84.95	3.4	2.10	12
Sicyonia dorsalis	0.0	0.00	0.0	0.00	4	37.5	15.80	0.2	0.09	12
Stenotomus caprinus	106.2	81.11	1.3	0.98	4	2856.6	783.17	19.9	7.83	12
Peprilus burti	288.2	272.41	9.2	8.59	4	861.9	450.35	22.1	13.18	12
Micropogonias undulatus	4206.9	2546.92	59.6	39.39	4	435.4	329.92	14.6	11.44	12
Trachurus lathami	0.0	0.00	0.0	0.00	4	955.7	614.52	12.4	6.15	12
Polydactylus octonemus	676.6	655.70	15.3	14.78	4	95.8	92.00	3.2	3.07	12
Centropristis philadelphica	14.5	12.87	0.4	0.31	4	200.8	52.56	2.0	0.56	12
Prionotus rubio	279.6	227.56	2.7	2.51	4	278.3	262.40	1.5	0.99	12
Leiostomus xanthurus	267.4	267.35	23.9	23.86	4	0.0	0.00	0.0	0.00	12
Squid	0.0	0.00	0.0	0.00	4	27.8	15.71	0.6	0.32	12

Table 9a (cont'd.)
 Statistical Zone 16
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 16 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	83.2	56.61	0.3	0.20	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Penaeus aztecus	120.1	39.65	4.1	0.93	5	42.9	15.82	2.7	1.08	4	28.3	6.79	1.8	0.39	3
Callinectes similis	26.4	18.39	0.6	0.41	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Sicyonia brevirostris	1330.5	599.99	17.5	6.85	5	67.1	54.33	0.6	0.47	4	6.1	6.09	0.2	0.16	3
Squilla spp.	111.6	44.91	1.3	0.51	5	31.1	15.50	0.3	0.13	4	49.5	24.26	0.7	0.39	3
Sicyonia dorsalis	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	4	0.7	0.67	0.0	0.03	3
Stenotomus caprinus	827.8	328.13	22.1	6.33	5	666.4	255.76	29.6	12.05	4	195.1	34.61	9.7	2.44	3
Peprilus burti	15.9	9.33	0.7	0.43	5	96.0	85.56	6.1	5.23	4	320.0	320.00	24.3	24.27	3
Micropogonias undulatus	107.0	77.48	8.9	6.17	5	5.5	5.50	0.7	0.66	4	0.0	0.00	0.0	0.00	3
Trachurus lathami	467.1	445.78	7.1	6.21	5	2794.0	2684.47	14.2	11.13	4	83.9	76.75	2.0	1.88	3
Polydactylus octonemus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Centropristis philadelphica	115.8	14.42	5.1	0.38	5	52.1	29.53	3.8	2.67	4	18.7	5.56	2.0	0.68	3
Prionotus rubio	51.8	21.83	3.4	1.39	5	20.5	8.21	1.2	0.63	4	18.9	9.45	1.0	0.50	3
Leiostomus xanthurus	89.9	67.31	9.6	7.46	5	1.4	1.36	0.1	0.12	4	0.0	0.00	0.0	0.00	3
Squid	206.2	129.36	5.1	2.93	5	81.4	44.73	1.9	0.82	4	253.0	253.04	3.3	3.32	3

Table 9b
 Statistical Zone 16
 40-ft trawls

Summary of dominant organisms taken within statistical zone 16 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	593.6	556.47	2.2	1.99	4	1138.9	526.72	5.6	2.49	12
Sicyonia brevirostris	0.0	0.00	0.0	0.00	4	61.2	24.23	0.7	0.26	12
Portunus spinicarpus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	12
Penaeus aztecus	337.1	289.76	2.5	1.75	4	222.4	56.97	3.9	1.23	12
Squilla spp.	41.8	40.19	0.6	0.51	4	203.1	84.95	3.4	2.10	12
Solenocera spp.	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	12
Stenotomus caprinus	106.2	81.11	1.3	0.98	4	2856.6	783.17	19.9	7.83	12
Trachurus lathami	0.0	0.00	0.0	0.00	4	955.7	614.52	12.4	6.15	12
Micropogonias undulatus	4206.9	2546.92	59.6	39.39	4	435.4	329.92	14.6	11.44	12
Peprilus burti	288.2	272.41	9.2	8.59	4	861.9	450.35	22.1	13.18	12
Prionotus rubio	279.6	227.56	2.7	2.51	4	278.3	262.40	1.5	0.99	12
Polydactylus octonemus	676.6	655.70	15.3	14.78	4	95.8	92.00	3.2	3.07	12
Centropristis philadelphica	14.5	12.87	0.4	0.31	4	200.8	52.56	2.0	0.56	12
Prionotus stearnsi	0.0	0.00	0.0	0.00	4	3.8	3.80	0.0	0.04	12
Squid	0.0	0.00	0.0	0.00	4	27.8	15.71	0.6	0.32	12

Table 9b (cont'd.)
 Statistical Zone 16
 40-ft trawls

Summary of dominant organisms taken within statistical zone 16 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	83.2	56.61	0.3	0.20	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Sicyonia brevirostris	1330.5	599.99	17.5	6.85	5	67.1	54.33	0.6	0.47	4	6.1	6.09	0.2	0.16	3
Portunus spinicarpus	784.0	282.13	4.6	1.97	5	105.5	38.57	1.2	0.72	4	18.5	14.64	0.2	0.13	3
Penaeus aztecus	120.1	39.65	4.1	0.93	5	42.9	15.82	2.7	1.08	4	28.3	6.79	1.8	0.39	3
Squilla spp.	111.6	44.91	1.3	0.51	5	31.1	15.50	0.3	0.13	4	49.5	24.26	0.7	0.39	3
Solenocera spp.	0.0	0.00	0.0	0.00	5	80.6	60.62	0.2	0.12	4	454.9	122.71	2.4	0.90	3
Stenotomus caprinus	827.8	328.13	22.1	6.33	5	666.4	255.76	29.6	12.05	4	195.1	34.61	9.7	2.44	3
Trachurus lathami	467.1	445.78	7.1	6.21	5	2794.0	2684.47	14.2	11.13	4	83.9	76.75	2.0	1.88	3
Micropogonias undulatus	107.0	77.48	8.9	6.17	5	5.5	5.50	0.7	0.66	4	0.0	0.00	0.0	0.00	3
Peprilus burti	15.9	9.33	0.7	0.43	5	96.0	85.56	6.1	5.23	4	320.0	320.00	24.3	24.27	3
Prionotus rubio	51.8	21.83	3.4	1.39	5	20.5	8.21	1.2	0.63	4	18.9	9.45	1.0	0.50	3
Polydactylus octonemus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Centropristis philadelphia	115.8	14.42	5.1	0.38	5	52.1	29.53	3.8	2.67	4	18.7	5.56	2.0	0.68	3
Prionotus stearnsi	172.2	92.19	1.1	0.34	5	40.6	17.89	0.4	0.28	4	249.5	161.78	3.8	2.51	3
Squid	206.2	129.36	5.1	2.93	5	81.4	44.73	1.9	0.82	4	253.0	253.04	3.3	3.32	3

Table 9c
 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 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, 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				138.8	103.57	4	114.9	31.90	12	131.3	31.03	5	91.8	24.14	4	70.2	39.04	3
Total finfish kg				130.8	100.08	4	95.5	32.29	12	96.3	23.56	5	83.4	22.75	4	59.0	34.06	3
Total crustacean kg				8.0	3.70	4	17.9	4.29	12	29.7	10.41	5	5.7	1.95	4	6.0	1.17	3
Total others kg				0.0	0.00	4	1.6	0.93	12	5.3	2.81	5	2.9	0.78	4	5.5	4.35	3
Surface temperature	29.6	0.53	2	29.6	0.35	4	28.8	0.39	14	28.3	0.80	4	29.1	1.10	2	28.4	0.89	3
Midwater temperature	29.5	0.63	2	29.2	0.72	4	27.3	0.29	14	25.2	0.69	4	23.9	2.09	2	23.4	0.16	2
Bottom temperature	28.3	0.05	2	25.8	0.43	4	24.6	0.35	14	20.8	0.23	4	19.9	0.76	2	18.8	0.07	2
Surface salinity	18.5	5.40	2	24.3	1.60	4	26.4	0.85	14	33.0	2.32	4	31.8	3.30	2	33.0	2.80	3
Midwater salinity	19.1	5.57	2	27.0	0.60	4	31.4	0.64	14	35.8	0.32	4	36.2	0.26	2	36.1	0.32	3
Bottom salinity	24.9	0.19	2	33.2	0.83	4	35.3	0.21	14	35.9	0.09	4	36.4	0.39	2	36.3	0.16	2
Surface chlorophyll	2.3	1.44	2	1.3	0.78	4	3.3	1.08	11	0.3	0.20	4	0.1	0.05	2	0.0	0.01	3
Surface oxygen	0.0	0.00	0	8.8	0.95	4	8.8	0.51	14	6.7	0.61	4	7.5	0.15	2	7.3	0.24	3
Midwater oxygen	0.0	0.00	0	7.4	0.67	4	6.2	0.38	14	6.3	0.70	4	7.8	0.35	2	8.0	0.18	3
Bottom oxygen	0.0	0.00	0	1.9	1.11	4	4.9	0.42	14	5.4	0.94	4	5.3	0.75	2	5.6	0.40	2

*Plankton and environmental stations only.

Table 10a
 Statistical Zone 17
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 17 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	969.0	936.08	3.6	3.40	3	256.2	122.66	1.5	0.56	10
Penaeus aztecus	335.8	292.46	5.2	4.61	3	207.7	106.73	4.2	1.76	10
Callinectes similis	16.6	12.69	0.5	0.34	3	167.6	74.59	3.5	1.49	10
Sicyonia brevis	16.9	16.92	0.2	0.24	3	533.8	157.77	5.0	1.65	10
Squilla spp.	27.7	27.69	0.3	0.31	3	232.0	112.75	2.5	1.18	10
Sicyonia dorsalis	0.0	0.00	0.0	0.00	3	85.4	51.05	0.3	0.18	10
Stenotomus caprinus	358.1	194.86	4.1	2.20	3	1440.4	782.81	15.7	7.61	10
Peprilus burti	277.4	218.08	4.7	3.02	3	66.7	36.41	1.6	0.84	10
Micropogonias undulatus	1104.4	811.34	26.4	17.02	3	60.9	42.86	4.3	3.07	10
Trachurus lathami	17.2	17.24	0.4	0.44	3	66.1	49.58	1.0	0.65	10
Polydactylus octonemus	55.9	45.90	1.2	0.80	3	18.0	18.00	0.5	0.55	10
Centropristis philadelphia	79.2	79.23	0.9	0.94	3	228.1	74.86	3.2	0.85	10
Prionotus rubio	103.1	103.08	1.4	1.40	3	53.7	29.99	1.1	0.46	10
Leiostomus xanthurus	0.0	0.00	0.0	0.00	3	87.2	60.36	7.7	5.35	10
Squid	11.4	6.57	0.3	0.16	3	79.9	44.46	1.9	1.01	10

Table 10a (cont'd.)
 Statistical Zone 17
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 17 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus															
spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	28.0	24.17	0.2	0.13	4
Penaeus															
aztecus	178.0	0.00	5.3	0.00	1	18.8	11.13	1.0	0.66	5	24.5	5.63	1.2	0.28	4
Callinectes															
similis	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	4
Sicyonia															
brevirostris	54.0	0.00	0.5	0.00	1	91.6	37.57	1.7	0.75	5	0.0	0.00	0.0	0.00	4
Squilla															
spp.	12.0	0.00	0.5	0.00	1	2.4	2.40	0.1	0.11	5	23.9	22.08	0.2	0.20	4
Sicyonia															
dorsalis	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	4
Stenotomus															
caprinus	2612.0	0.00	99.7	0.00	1	455.2	141.25	21.9	6.90	5	234.6	103.32	13.5	5.94	4
Peprilus															
burti	768.0	0.00	19.0	0.00	1	6.8	5.85	0.6	0.53	5	0.0	0.00	0.0	0.00	4
Micropogonias															
undulatus	0.0	0.00	0.0	0.00	1	1.6	1.60	0.3	0.31	5	1.4	1.36	0.1	0.12	4
Trachurus															
lathami	3292.0	0.00	59.8	0.00	1	4.4	3.43	0.2	0.10	5	28.5	28.50	2.1	2.14	4
Polydactylus															
octonemus	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	4
Centropristis															
philadelphica	66.0	0.00	2.5	0.00	1	106.0	27.90	7.7	2.61	5	60.7	35.09	6.8	3.46	4
Prionotus															
rubio	34.0	0.00	2.5	0.00	1	4.8	2.94	0.3	0.22	5	15.6	7.59	1.5	0.74	4
Leiostomus															
xanthurus	0.0	0.00	0.0	0.00	1	0.4	0.40	0.0	0.04	5	7.5	6.24	0.7	0.54	4
Squid	66.0	0.00	1.0	0.00	1	34.0	20.88	1.6	1.31	5	27.3	9.21	0.4	0.07	4

Table 10b
 Statistical Zone 17
 40-ft trawls

Summary of dominant organisms taken within statistical zone 17 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Sicyonia										
<i>brevirostris</i>	16.9	16.92	0.2	0.24	3	533.8	157.77	5.0	1.65	10
Trachypenaeus										
spp.	969.0	936.08	3.6	3.40	3	256.2	122.66	1.5	0.56	10
Penaeus										
<i>aztecus</i>	335.8	292.46	5.2	4.61	3	207.7	106.73	4.2	1.76	10
Squilla										
spp.	27.7	27.69	0.3	0.31	3	232.0	112.75	2.5	1.18	10
Callinectes										
<i>similis</i>	16.6	12.69	0.5	0.34	3	167.6	74.59	3.5	1.49	10
Portunus										
<i>spinimanus</i>	6.9	6.92	0.2	0.17	3	36.6	29.12	1.0	0.63	10
Stenotomus										
<i>caprinus</i>	358.1	194.86	4.1	2.20	3	1440.4	782.81	15.7	7.61	10
Trachurus										
<i>lathami</i>	17.2	17.24	0.4	0.44	3	66.1	49.58	1.0	0.65	10
Micropogonias										
<i>undulatus</i>	1104.4	811.34	26.4	17.02	3	60.9	42.86	4.3	3.07	10
Centropristis										
<i>philadelphica</i>	79.2	79.23	0.9	0.94	3	228.1	74.86	3.2	0.85	10
Peprilus										
<i>burti</i>	277.4	218.08	4.7	3.02	3	66.7	36.41	1.6	0.84	10
Diplectrum										
<i>bivittatum</i>	0.0	0.00	0.0	0.00	3	196.3	68.85	5.5	1.74	10
Prionotus										
<i>paralatus</i>	0.0	0.00	0.0	0.00	3	21.0	11.39	0.3	0.16	10
Prionotus										
<i>stearnsi</i>	0.0	0.00	0.0	0.00	3	54.5	44.20	0.4	0.26	10
Squid										
	11.4	6.57	0.3	0.16	3	79.9	44.46	1.9	1.01	10

Table 10b (cont'd.)
 Statistical Zone 17
 40-ft trawls

Summary of dominant organisms taken within statistical zone 17 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Sicyonia															
<i>brevirostris</i>	54.0	0.00	0.5	0.00	1	91.6	37.57	1.7	0.75	5	0.0	0.00	0.0	0.00	4
Trachypenaeus															
<i>spp.</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	28.0	24.17	0.2	0.13	4
Penaeus															
<i>aztecus</i>	178.0	0.00	5.3	0.00	1	18.8	11.13	1.0	0.66	5	24.5	5.63	1.2	0.28	4
Squilla															
<i>spp.</i>	12.0	0.00	0.5	0.00	1	2.4	2.40	0.1	0.11	5	23.9	22.08	0.2	0.20	4
Callinectes															
<i>similis</i>	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	4
Portunus															
<i>spinimanus</i>	44.0	0.00	0.5	0.00	1	197.2	165.74	1.5	1.20	5	7.5	4.50	0.3	0.16	4
Stenotomus															
<i>caprinus</i>	2612.0	0.00	99.7	0.00	1	455.2	141.25	21.9	6.90	5	234.6	103.32	13.5	5.94	4
Trachurus															
<i>lathami</i>	3292.0	0.00	59.8	0.00	1	4.4	3.43	0.2	0.10	5	28.5	28.50	2.1	2.14	4
Micropogonias															
<i>undulatus</i>	0.0	0.00	0.0	0.00	1	1.6	1.60	0.3	0.31	5	1.4	1.36	0.1	0.12	4
Centropristis															
<i>philadelphica</i>	66.0	0.00	2.5	0.00	1	106.0	27.90	7.7	2.61	5	60.7	35.09	6.8	3.46	4
Peprilus															
<i>burti</i>	768.0	0.00	19.0	0.00	1	6.8	5.85	0.6	0.53	5	0.0	0.00	0.0	0.00	4
Diplectrum															
<i>bivittatum</i>	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	4
Prionotus															
<i>paralatus</i>	22.0	0.00	0.5	0.00	1	98.4	26.48	3.1	1.05	5	191.0	113.92	6.1	3.56	4
Prionotus															
<i>stearnsi</i>	12.0	0.00	1.0	0.00	1	97.6	75.15	1.2	0.95	5	124.7	38.38	1.5	0.52	4
Squid															
	66.0	0.00	1.0	0.00	1	34.0	20.88	1.6	1.31	5	27.3	9.21	0.4	0.07	4

Table 10c

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 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No samples were taken below 6 fm.

Environmental category	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
Total catch kg	68.0	32.00	3	81.7	18.01	10	218.2	0.00	1	69.6	15.52	5	72.0	13.10	4
Total finfish kg	56.2	22.18	3	58.7	15.87	10	210.9	0.00	1	61.3	13.64	5	67.3	11.77	4
Total crustacean kg	11.1	10.19	3	20.8	4.51	10	7.3	0.00	1	5.1	1.69	5	3.3	1.02	4
Total others kg	0.7	0.33	3	2.4	0.98	10	0.9	0.00	1	3.1	1.06	5	2.0	1.31	4
Surface temperature	29.0	0.47	5	29.3	0.51	12	29.0	0.60	5	29.0	1.27	2	28.9	0.43	3
Midwater temperature	27.9	0.55	5	27.6	0.35	12	27.3	0.81	5	24.8	0.23	2	25.7	0.79	3
Bottom temperature	26.9	0.72	5	25.6	0.28	12	22.0	0.89	5	20.1	0.70	2	21.1	1.13	3
Surface salinity	22.7	3.24	3	28.4	0.92	12	31.4	1.30	5	31.7	3.17	2	33.7	1.49	3
Midwater salinity	25.6	2.19	4	32.5	0.55	12	34.1	0.88	5	35.8	0.19	2	36.1	0.35	3
Bottom salinity	29.0	0.85	4	34.9	0.22	12	35.9	0.13	5	36.5	0.37	2	36.7	0.55	3
Surface chlorophyll	3.9	3.25	5	0.9	0.42	11	0.1	0.09	2	0.0	0.01	2	0.0	0.01	3
Surface oxygen	9.6	0.57	5	8.0	0.48	12	7.2	0.43	5	6.6	0.65	2	6.6	0.37	3
Midwater oxygen	9.0	0.63	5	7.0	0.49	12	6.7	0.46	5	6.5	0.95	2	6.6	0.93	3
Bottom oxygen	3.9	0.52	5	5.1	0.56	12	5.7	0.66	5	6.0	0.75	2	5.5	0.78	3

Table 11a
 Statistical Zone 18
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 18 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	284.2	0.00	1.4	0.00	1	345.9	158.16	2.1	0.88	7
Penaeus aztecus	63.2	0.00	3.4	0.00	1	193.8	70.41	4.0	1.51	7
Callinectes similis	195.8	0.00	5.5	0.00	1	189.5	44.89	5.4	1.34	7
Sicyonia brevirostris	44.2	0.00	0.3	0.00	1	206.2	110.22	2.0	1.06	7
Squilla spp.	691.6	0.00	3.0	0.00	1	224.5	90.66	2.6	1.58	7
Sicyonia dorsalis	15.8	0.00	0.1	0.00	1	388.7	154.52	1.9	0.76	7
Stenotomus caprinus	947.4	0.00	10.9	0.00	1	1767.3	554.17	22.9	6.84	7
Peprilus burti	789.5	0.00	15.4	0.00	1	567.5	543.50	10.3	9.96	7
Micropogonias undulatus	0.0	0.00	0.0	0.00	1	3.4	3.43	0.2	0.16	7
Trachurus lathami	0.0	0.00	0.0	0.00	1	655.2	428.63	11.5	8.54	7
Polydactylus octonemus	631.6	0.00	11.1	0.00	1	0.0	0.00	0.0	0.00	7
Centropristis philadelphica	360.0	0.00	4.4	0.00	1	199.0	103.77	3.7	1.40	7
Prionotus rubio	44.2	0.00	1.4	0.00	1	37.7	32.30	0.3	0.23	7
Leiostomus xanthurus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7
Squid	37.9	0.00	1.7	0.00	1	102.2	34.96	2.2	0.77	7

Table 11a (cont'd.)
 Statistical Zone 18
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 18 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	72.9	27.66	0.6	0.21	5	2.0	2.00	0.0	0.02	4	0.0	0.00	0.0	0.00	2
Penaeus aztecus	170.6	143.01	4.7	3.48	5	39.5	19.14	2.5	1.12	4	39.0	37.00	1.8	1.59	2
Callinectes similis	6.4	4.35	0.1	0.08	5	1.5	1.50	0.0	0.02	4	0.0	0.00	0.0	0.00	2
Sicyonia brevirostris	1080.9	806.15	12.3	9.15	5	71.3	44.19	1.1	0.61	4	0.0	0.00	0.0	0.00	2
Squilla spp.	11.8	8.24	0.2	0.16	5	24.0	22.05	0.2	0.20	4	6.0	6.00	0.3	0.27	2
Sicyonia dorsalis	20.8	20.80	0.1	0.13	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	2
Stenotomus caprinus	560.5	188.88	16.8	6.25	5	847.7	189.11	40.3	11.63	4	520.0	158.00	26.6	8.27	2
Peprilus burti	0.8	0.80	0.0	0.04	5	58.1	34.30	3.5	1.99	4	7.0	7.00	0.3	0.32	2
Micropogonias undulatus	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
Trachurus lathami	375.4	279.91	7.0	5.14	5	308.8	300.83	13.3	12.97	4	370.0	268.00	6.7	3.77	2
Polydactylus octonemus	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
Centropristis philadelphica	68.4	22.66	2.3	0.79	5	64.6	18.97	4.9	1.69	4	58.0	58.00	5.2	5.23	2
Prionotus rubio	88.1	78.53	0.5	0.46	5	4.0	2.45	0.3	0.19	4	6.0	6.00	0.9	0.86	2
Leiostomus xanthurus	0.0	0.00	0.0	0.00	5	17.0	10.34	1.9	1.16	4	0.0	0.00	0.0	0.00	2
Squid	150.2	39.87	3.5	1.10	5	46.7	40.94	1.0	0.65	4	0.0	0.00	0.0	0.00	2

Table 11b
 Statistical Zone 18
 40-ft trawls

Summary of dominant organisms taken within statistical zone 18 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Sicyonia										
<i>brevirostris</i>	44.2	0.00	0.3	0.00	1	206.2	110.22	2.0	1.06	7
Trachypenaeus										
<i>spp.</i>	284.2	0.00	1.4	0.00	1	345.9	158.16	2.1	0.88	7
Penaeus										
<i>aztecus</i>	63.2	0.00	3.4	0.00	1	193.8	70.41	4.0	1.51	7
Squilla										
<i>spp.</i>	691.6	0.00	3.0	0.00	1	224.5	90.66	2.6	1.58	7
Sicyonia										
<i>dorsalis</i>	15.8	0.00	0.1	0.00	1	388.7	154.52	1.9	0.76	7
Portunus										
<i>spinimanus</i>	44.2	0.00	2.6	0.00	1	0.0	0.00	0.0	0.00	7
Stenotomus										
<i>caprinus</i>	947.4	0.00	10.9	0.00	1	1767.3	554.17	22.9	6.84	7
Trachurus										
<i>lathami</i>	0.0	0.00	0.0	0.00	1	655.2	428.63	11.5	8.54	7
Peprilus										
<i>burti</i>	789.5	0.00	15.4	0.00	1	567.5	543.50	10.3	9.96	7
Prionotus										
<i>paralatus</i>	0.0	0.00	0.0	0.00	1	13.4	7.26	0.3	0.16	7
Centropristis										
<i>philadelphica</i>	360.0	0.00	4.4	0.00	1	199.0	103.77	3.7	1.40	7
Upeneus										
<i>parvus</i>	0.0	0.00	0.0	0.00	1	43.2	15.99	0.8	0.31	7
Diplectrum										
<i>bivittatum</i>	120.0	0.00	3.0	0.00	1	371.3	77.54	9.9	2.23	7
Pristipomoides										
<i>aquilonaris</i>	0.0	0.00	0.0	0.00	1	9.3	7.80	0.3	0.22	7
Squid										
	37.9	0.00	1.7	0.00	1	102.2	34.96	2.2	0.77	7

Table 11b (cont'd.)
 Statistical Zone 18
 40-ft trawls

Summary of dominant organisms taken within statistical zone 18 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Sicyonia															
<i>brevirostris</i>	1080.9	806.15	12.3	9.15	5	71.3	44.19	1.1	0.61	4	0.0	0.00	0.0	0.00	2
Trachypenaeus															
spp.	72.9	27.66	0.6	0.21	5	2.0	2.00	0.0	0.02	4	0.0	0.00	0.0	0.00	2
Penaeus															
<i>aztecus</i>	170.6	143.01	4.7	3.48	5	39.5	19.14	2.5	1.12	4	39.0	37.00	1.8	1.59	2
Squilla															
spp.	11.8	8.24	0.2	0.16	5	24.0	22.05	0.2	0.20	4	6.0	6.00	0.3	0.27	2
Sicyonia															
<i>dorsalis</i>	20.8	20.80	0.1	0.13	5	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	2
Portunus															
<i>spinimanus</i>	32.6	23.38	0.4	0.25	5	399.3	278.71	3.6	2.52	4	61.0	41.00	0.7	0.45	2
Stenotomus															
<i>caprinus</i>	560.5	188.88	16.8	6.25	5	847.7	189.11	40.3	11.63	4	520.0	158.00	26.6	8.27	2
Trachurus															
<i>lathamii</i>	375.4	279.91	7.0	5.14	5	308.8	300.83	13.3	12.97	4	370.0	268.00	6.7	3.77	2
Peprilus															
<i>burti</i>	0.8	0.80	0.0	0.04	5	58.1	34.30	3.5	1.99	4	7.0	7.00	0.3	0.32	2
Prionotus															
<i>paralatus</i>	34.8	34.80	0.8	0.82	5	147.8	122.92	4.0	3.11	4	499.0	461.00	14.5	13.36	2
Centropristis															
<i>philadelphica</i>	68.4	22.66	2.3	0.79	5	64.6	18.97	4.9	1.69	4	58.0	58.00	5.2	5.23	2
Upeneus															
<i>parvus</i>	35.0	26.54	0.6	0.45	5	298.1	239.58	12.3	9.09	4	67.0	55.00	2.6	2.09	2
Diplectrum															
<i>bivittatum</i>	15.5	8.12	0.3	0.15	5	0.0	0.00	0.0	0.00	4	7.0	7.00	0.1	0.14	2
Pristipomoides															
<i>aquilonaris</i>	91.8	23.61	3.2	0.80	5	145.4	85.35	5.7	2.55	4	169.0	163.00	13.2	12.95	2
Squid															
	150.2	39.87	3.5	1.10	5	46.7	40.94	1.0	0.65	4	0.0	0.00	0.0	0.00	2

Table 11c
 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 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, 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				94.7	0.00	1	99.3	24.16	7	77.8	17.55	5	123.7	28.81	4	95.0	40.45	2
Total finfish kg				68.9	0.00	1	79.2	22.95	7	55.4	14.37	5	114.9	31.64	4	89.5	39.55	2
Total crustacean kg				21.5	0.00	1	18.0	3.89	7	18.7	8.65	5	7.1	3.76	4	3.2	2.27	2
Total others kg				4.3	0.00	1	2.4	0.80	7	3.7	1.09	5	1.4	0.83	4	2.7	1.82	2
Surface temperature	29.4	0.00	1	29.1	1.24	3	28.8	0.48	9	28.7	0.35	4	28.9	0.15	4	28.4	0.14	2
Midwater temperature	29.2	0.00	1	27.4	0.07	3	27.3	0.40	9	26.9	0.12	4	25.8	0.64	4	25.6	0.18	2
Bottom temperature	27.3	0.00	1	26.4	0.54	3	25.0	0.46	9	23.1	1.03	4	20.4	0.23	4	20.4	0.69	2
Surface salinity	27.6	0.00	1	21.8	2.94	3	28.0	1.13	9	30.5	1.63	4	31.8	0.72	4	31.3	0.00	1
Midwater salinity	27.6	0.00	1	24.7	1.63	3	31.6	0.97	9	34.5	0.34	4	36.0	0.29	4	36.3	0.00	1
Bottom salinity	28.9	0.00	1	30.7	2.65	3	34.8	0.35	9	35.9	0.23	4	36.5	0.02	4	36.8	0.00	1
Surface chlorophyll	0.2	0.00	1	4.5	4.40	2	1.2	0.60	8	2.4	1.17	3	1.1	0.94	3	0.0	0.00	1
Surface oxygen	7.4	0.00	1	8.6	0.75	3	6.8	0.55	9	8.4	0.84	4	7.1	0.33	4	7.5	0.55	2
Midwater oxygen	7.6	0.00	1	8.5	0.77	3	6.2	0.45	9	7.4	0.58	4	7.3	0.18	4	7.4	0.10	2
Bottom oxygen	2.5	0.00	1	4.3	0.09	3	5.7	0.44	9	6.6	0.70	4	6.2	0.40	3	5.7	0.05	2

*Plankton and environmental station only.

Table 12a
 Statistical Zone 19
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 19 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	272.6	224.27	1.3	1.04	6	5355.2	3086.76	8.0	2.94	14
Penaeus aztecus	771.0	573.14	9.4	6.43	6	646.7	92.45	10.8	1.44	14
Callinectes similis	307.2	175.42	5.5	3.55	6	498.7	188.92	8.6	2.42	14
Sicyonia brevirostris	0.0	0.00	0.0	0.00	6	1.4	0.96	0.0	0.02	14
Squilla spp.	* 211.8	101.16	1.8	0.89	6	216.0	51.61	3.4	0.75	14
Sicyonia dorsalis	0.0	0.00	0.0	0.00	6	377.7	128.14	1.1	0.35	14
Stenotomus caprinus	612.3	516.09	11.5	10.25	6	1880.0	415.01	20.1	4.16	14
Peprilus burti	3014.5	2774.09	69.3	62.91	6	2871.9	2227.77	55.5	40.71	14
Micropogonias undulatus	4313.7	2061.80	158.6	75.94	6	69.5	53.77	8.3	7.64	14
Trachurus lathami	342.7	342.73	9.9	9.88	6	162.5	137.12	3.9	3.34	14
Polydactylus octonemus	2872.7	1801.43	69.0	47.55	6	367.1	206.51	8.5	4.58	14
Centropristis philadelphia	5.2	5.19	0.1	0.08	6	384.7	105.38	4.9	1.38	14
Prionotus rubio	161.0	81.86	1.8	1.04	6	133.6	91.03	1.2	0.58	14
Leiostomus xanthurus	846.0	445.66	24.3	11.90	6	3.6	3.57	0.6	0.62	14
Squid	132.8	79.03	4.0	2.99	6	48.1	14.60	0.8	0.21	14

Table 12a (cont'd.)
 Statistical Zone 19
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 19 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	2039.9	477.53	11.7	2.83	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
Penaeus aztecus	511.9	151.25	8.6	3.37	4	77.5	46.62	4.1	2.36	3	22.9	0.00	1.6	0.00	1
Callinectes similis	354.4	152.24	4.5	1.57	4	37.2	3.57	0.6	0.26	3	0.0	0.00	0.0	0.00	1
Sicyonia brevirostris	61.7	36.80	0.5	0.27	4	238.7	50.52	3.0	0.73	3	0.0	0.00	0.0	0.00	1
Squilla spp.	182.7	79.65	2.2	0.95	4	2.0	2.00	0.1	0.09	3	0.0	0.00	0.0	0.00	1
Sicyonia dorsalis	1326.8	443.78	4.4	0.98	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
Stenotomus caprinus	365.7	240.18	4.5	3.58	4	552.1	99.71	20.3	3.60	3	454.3	0.00	21.0	0.00	1
Peprilus burti	30.1	22.82	0.9	0.59	4	3.5	3.48	0.1	0.12	3	642.9	0.00	37.1	0.00	1
Micropogonias undulatus	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	1
Trachurus lathami	11.5	11.50	0.1	0.09	4	0.0	0.00	0.0	0.00	3	37.1	0.00	2.1	0.00	1
Polydactylus octonemus	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	1
Centropristis philadelphia	111.5	49.99	2.6	0.67	4	29.6	10.92	1.3	0.38	3	8.6	0.00	1.4	0.00	1
Prionotus rubio	275.0	146.97	2.7	1.66	4	121.7	121.74	2.1	2.13	3	31.4	0.00	1.4	0.00	1
Leiostomus xanthurus	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	1
Squid	111.4	39.84	1.8	0.90	4	47.2	2.04	1.3	0.45	3	568.6	0.00	16.2	0.00	1

Table 12b
 Statistical Zone 19
 40-ft trawls

Summary of dominant organisms taken within statistical zone 19 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	272.6	224.27	1.3	1.04	6	5355.2	3086.76	8.0	2.94	14
Penaeus aztecus	771.0	573.14	9.4	6.43	6	646.7	92.45	10.8	1.44	14
Sicyonia dorsalis	0.0	0.00	0.0	0.00	6	377.7	128.14	1.1	0.35	14
Callinectes similis	307.2	175.42	5.5	3.55	6	498.7	188.92	8.6	2.42	14
Squilla spp.	211.8	101.16	1.8	0.89	6	216.0	51.61	3.4	0.75	14
Solenocera spp.	4.8	4.81	0.2	0.22	6	3.3	3.29	0.0	0.02	14
Peprilus burti	3014.5	2774.09	69.3	62.91	6	2871.9	2227.77	55.5	40.71	14
Micropogonias undulatus	4313.7	2061.80	158.6	75.94	6	69.5	53.77	8.3	7.64	14
Stenotomus caprinus	612.3	516.09	11.5	10.25	6	1880.0	415.01	20.1	4.16	14
Polydactylus octonemus	2872.7	1801.43	69.0	47.55	6	367.1	206.51	8.5	4.58	14
Prionotus stearnsi	0.0	0.00	0.0	0.00	6	135.6	53.69	0.5	0.17	14
Larimus fasciatus	744.5	463.17	14.3	8.79	6	48.7	48.70	0.6	0.57	14
Leiostomus xanthurus	846.0	445.66	24.3	11.90	6	3.6	3.57	0.6	0.62	14
Prionotus rubio	161.0	81.86	1.8	1.04	6	133.6	91.03	1.2	0.58	14
Squid	132.8	79.03	4.0	2.99	6	48.1	14.60	0.8	0.21	14

Table 12b (cont'd.)
 Statistical Zone 19
 40-ft trawls

Summary of dominant organisms taken within statistical zone 19 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	2039.9	477.53	11.7	2.83	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
Penaeus aztecus	511.9	151.25	8.6	3.37	4	77.5	46.62	4.1	2.36	3	22.9	0.00	1.6	0.00	1
Sicyonia dorsalis	1326.8	443.78	4.4	0.98	4	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
Callinectes similis	354.4	152.24	4.5	1.57	4	37.2	3.57	0.6	0.26	3	0.0	0.00	0.0	0.00	1
Squilla spp.	182.7	79.65	2.2	0.95	4	2.0	2.00	0.1	0.09	3	0.0	0.00	0.0	0.00	1
Solenocera spp.	394.1	183.08	1.4	0.65	4	12.7	4.18	0.1	0.08	3	0.0	0.00	0.0	0.00	1
Peprilus burti	30.1	22.82	0.9	0.59	4	3.5	3.48	0.1	0.12	3	642.9	0.00	37.1	0.00	1
Micropogonias undulatus	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	1
Stenotomus caprinus	365.7	240.18	4.5	3.58	4	552.1	99.71	20.3	3.60	3	454.3	0.00	21.0	0.00	1
Polydactylus octonemus	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	1
Prionotus stearnsi	316.0	111.96	2.5	0.80	4	473.1	147.08	6.5	1.78	3	54.3	0.00	0.4	0.00	1
Larimus fasciatus	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	1
Leiostomus xanthurus	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	1
Prionotus rubio	275.0	146.97	2.7	1.66	4	121.7	121.74	2.1	2.13	3	31.4	0.00	1.4	0.00	1
Squid	111.4	39.84	1.8	0.90	4	47.2	2.04	1.3	0.45	3	568.6	0.00	16.2	0.00	1

Table 12c

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 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No samples were taken below 6 fm.

Environmental category	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
Total catch kg	421.3	144.67	6	190.8	59.61	14	79.5	19.07	4	70.6	8.53	3	110.4	0.00	1
Total finfish kg	396.5	142.01	6	157.5	62.40	14	44.1	14.90	4	60.0	9.22	3	89.6	0.00	1
Total crustacean kg	20.5	9.66	6	32.2	5.18	14	33.5	5.31	4	8.9	2.23	3	2.6	0.00	1
Total others kg	4.4	3.09	6	1.5	0.26	14	1.9	0.89	4	1.7	0.25	3	18.2	0.00	1
Surface temperature	28.6	0.31	8	28.9	0.16	16	29.1	0.23	3	29.2	0.02	2	29.1	0.00	1
Midwater temperature	27.8	0.21	8	27.7	0.19	16	26.2	0.72	3	26.5	1.28	2	25.5	0.00	1
Bottom temperature	25.8	0.51	8	24.3	0.33	16	22.1	0.03	3	21.3	0.23	2	20.1	0.00	1
Surface salinity	32.0	1.15	8	29.3	0.71	16	28.8	1.63	3	29.3	2.26	2	29.2	0.00	1
Midwater salinity	32.6	0.80	8	32.3	0.57	16	34.0	0.65	3	34.9	0.91	2	36.2	0.00	1
Bottom salinity	34.4	0.39	8	35.5	0.16	16	36.3	0.04	3	36.3	0.05	2	36.5	0.00	1
Surface chlorophyll	4.7	2.54	6	0.6	0.31	14	0.1	0.10	2	0.0	0.02	2	0.0	0.00	1
Surface oxygen	7.4	0.21	8	7.4	0.11	16	7.1	0.27	3	5.8	0.80	2	7.3	0.00	1
Midwater oxygen	7.1	0.35	8	7.2	0.17	16	6.5	0.15	3	7.4	0.45	2	7.5	0.00	1
Bottom oxygen	4.8	0.37	8	5.5	0.21	16	5.7	0.47	3	6.2	0.10	2	6.1	0.00	1

Table 13a
 Statistical Zone 20
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 20 during the June-July 1984 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 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	160.0	128.84	1.1	0.93	4	628.2	207.61	3.8	1.07	12
Penaeus															
aztecus	10.0	0.00	0.2	0.00	1	1573.5	1399.23	21.6	20.10	4	1324.9	494.29	21.4	7.93	12
Callinectes															
similis	2240.0	0.00	28.9	0.00	1	1661.3	1207.65	23.7	15.87	4	567.1	143.59	8.1	1.93	12
Sicyonia															
brevirostris	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	7.6	6.43	0.0	0.04	12
Squilla															
spp.	0.0	0.00	0.0	0.00	1	6.0	6.00	0.1	0.14	4	79.4	20.56	1.1	0.26	12
Sicyonia															
dorsalis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	21.2	14.40	0.1	0.05	12
Stenotomus															
caprinus	0.0	0.00	0.0	0.00	1	987.3	886.71	14.8	13.48	4	1410.4	504.58	11.8	4.50	12
Peprilus															
burti	100.0	0.00	3.6	0.00	1	692.8	318.85	19.1	9.29	4	482.9	362.65	11.8	8.68	12
Micropogonias															
undulatus	1890.0	0.00	50.5	0.00	1	5593.3	2927.01	146.1	75.61	4	1877.7	1369.12	64.1	49.95	12
Trachurus															
lathami	0.0	0.00	0.0	0.00	1	456.3	256.85	10.0	5.36	4	458.8	280.15	8.6	5.61	12
Polydactylus															
octonemus	330.0	0.00	6.6	0.00	1	1145.0	564.83	24.0	8.75	4	310.7	144.85	7.4	3.52	12
Centropristis															
philadelphica	605.0	0.00	12.5	0.00	1	295.0	295.00	3.9	3.92	4	636.1	201.11	6.5	1.99	12
Prionotus															
rubio	0.0	0.00	0.0	0.00	1	303.8	202.25	1.5	1.11	4	164.6	69.29	1.3	0.53	12
Leiostomus															
xanthurus	3040.0	0.00	106.4	0.00	1	2248.0	1018.45	54.0	22.47	4	561.5	561.50	11.6	11.61	12
Squid	0.0	0.00	0.0	0.00	1	75.8	17.97	0.7	0.19	4	161.2	32.73	2.3	0.67	12

Table 13a (cont'd.)
 Statistical Zone 20
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 20 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	837.0	178.18	4.2	0.90	6	1079.7	382.98	5.4	2.17	4	24.0	24.00	0.2	0.18	3
Penaeus aztecus	844.4	175.60	13.9	2.48	6	336.7	115.86	8.0	2.25	4	117.1	80.83	3.5	1.66	3
Callinectes similis	125.7	52.63	2.8	1.17	6	45.5	22.29	3.4	2.81	4	0.0	0.00	0.0	0.00	3
Sicyonia brevirostris	2.8	1.41	0.1	0.06	6	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Squilla spp.	23.4	5.29	0.4	0.09	6	49.3	21.96	0.6	0.29	4	8.0	4.00	0.2	0.09	3
Sicyonia dorsalis	94.2	49.72	0.3	0.08	6	523.6	281.33	1.3	0.72	4	2.0	2.00	0.1	0.06	3
Stenotomus caprinus	56.7	26.57	0.6	0.21	6	47.6	47.59	1.8	1.76	4	155.1	37.07	9.4	1.54	3
Peprilus burti	2256.9	1408.82	54.4	34.18	6	26.7	15.79	1.0	0.64	4	220.4	208.53	18.1	17.06	3
Micropogonias undulatus	0.7	0.67	0.0	0.03	6	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Trachurus lathami	259.3	223.06	5.8	5.25	6	7.4	2.60	0.3	0.11	4	274.1	256.09	6.1	5.42	3
Polydactylus octonemus	4.0	2.70	0.1	0.07	6	0.0	0.00	0.0	0.00	4	6.9	6.90	0.3	0.31	3
Centropristis philadelphia	203.3	65.62	3.7	0.51	6	55.2	10.55	3.8	0.23	4	32.5	5.75	4.1	0.37	3
Prionotus rubio	7.5	4.00	0.3	0.13	6	137.8	83.81	3.3	1.28	4	6.0	3.46	0.8	0.47	3
Leiostomus xanthurus	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
Squid	94.7	48.85	1.7	0.99	6	22.5	16.03	0.2	0.12	4	77.9	77.93	1.6	1.60	3

Table 13b
 Statistical Zone 20
 40-ft trawls

Summary of dominant organisms taken with statistical zone 20 during the June-July 1984 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 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
Penaeus															
aztecus	10.0	0.00	0.2	0.00	1	1573.5	1399.23	21.6	20.10	4	1324.9	494.29	21.4	7.93	12
Trachypenaeus															
spp.	0.0	0.00	0.0	0.00	1	160.0	128.84	1.1	0.93	4	628.2	207.61	3.8	1.07	12
Callinectes															
similis	2240.0	0.00	28.9	0.00	1	1661.3	1207.65	23.7	15.87	4	567.1	143.59	8.1	1.93	12
Solenocera															
spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	12
Sicyonia															
dorsalis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	21.2	14.40	0.1	0.05	12
Portunus															
spincarpus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	2.1	1.68	0.0	0.02	12
Micropogonias															
undulatus	1890.0	0.00	50.5	0.00	1	5593.3	2927.01	146.1	75.61	4	1877.7	1369.12	64.1	49.95	12
Peprilus															
burti	100.0	0.00	3.6	0.00	1	692.8	318.85	19.1	9.29	4	482.9	362.65	11.8	8.68	12
Stenotomus															
caprinus	0.0	0.00	0.0	0.00	1	987.3	886.71	14.8	13.48	4	1410.4	504.58	11.8	4.50	12
Leiostomus															
xanthurus	3040.0	0.00	106.4	0.00	1	2248.0	1018.45	54.0	22.47	4	561.5	561.50	11.6	11.61	12
Centropristis															
philadelphica	605.0	0.00	12.5	0.00	1	295.0	295.00	3.9	3.92	4	636.1	201.11	6.5	1.99	12
Trachurus															
lathami	0.0	0.00	0.0	0.00	1	456.3	256.85	10.0	5.36	4	458.8	280.15	8.6	5.61	12
Serranus															
atrobranchus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	29.7	12.21	0.2	0.09	12
Prionotus															
stearnsi	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	88.9	36.39	0.4	0.17	12
Squid	0.0	0.00	0.0	0.00	1	75.8	17.97	0.7	0.19	4	161.2	32.73	2.3	0.67	12

Table 13b (cont'd.)
 Statistical Zone 20
 40-ft trawls

Summary of dominant organisms taken with statistical zone 20 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
<i>Penaeus aztecus</i>	844.4	175.60	13.9	2.48	6	336.7	115.86	8.0	2.25	4	117.1	80.83	3.5	1.66	3
<i>Trachypenaeus</i> spp.	837.0	178.18	4.2	0.90	6	1079.7	382.98	5.4	2.17	4	24.0	24.00	0.2	0.18	3
<i>Callinectes similis</i>	125.7	52.63	2.8	1.17	6	45.5	22.29	3.4	2.81	4	0.0	0.00	0.0	0.00	3
<i>Solenocera</i> spp.	108.7	87.82	0.9	0.68	6	743.7	252.17	4.5	1.32	4	42.0	33.41	0.4	0.24	3
<i>Sicyonia dorsalis</i>	94.2	49.72	0.3	0.08	6	523.6	281.33	1.3	0.72	4	2.0	2.00	0.1	0.06	3
<i>Portunus spinicarpus</i>	0.4	0.37	0.0	0.02	6	418.1	418.13	1.4	1.41	4	0.0	0.00	0.0	0.00	3
<i>Micropogonias undulatus</i>	0.7	0.67	0.0	0.03	6	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
<i>Peprilus burti</i>	2256.9	1408.82	54.4	34.18	6	26.7	15.79	1.0	0.64	4	220.4	208.53	18.1	17.06	3
<i>Stenotomus caprinus</i>	56.7	26.57	0.6	0.21	6	47.6	47.59	1.8	1.76	4	155.1	37.07	9.4	1.54	3
<i>Leiostomus xanthurus</i>	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	3
<i>Centropristis philadelphica</i>	203.3	65.62	3.7	0.51	6	55.2	10.55	3.8	0.23	4	32.5	5.75	4.1	0.37	3
<i>Trachurus lathami</i>	259.3	223.06	5.8	5.25	6	7.4	2.60	0.3	0.11	4	274.1	256.09	6.1	5.42	3
<i>Serranus atrobranchus</i>	267.1	83.91	3.4	1.34	6	804.4	77.02	13.9	1.71	4	511.4	146.73	12.8	2.25	3
<i>Prionotus stearnsi</i>	371.0	189.83	3.0	1.53	6	276.6	118.66	3.2	1.12	4	243.4	240.39	4.1	4.00	3
Squid	94.7	48.85	1.7	0.99	6	22.5	16.03	0.2	0.12	4	77.9	77.93	1.6	1.60	3

Table 13c
 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 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, 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	227.3	0.00	1	368.4	65.38	4	177.7	63.07	12	115.5	35.22	6	71.0	5.67	4	97.6	23.79	3
Total finfish kg	193.2	0.00	1	315.6	81.16	4	140.3	56.69	12	91.1	38.15	6	44.7	3.11	4	85.1	23.70	3
Total crustacean kg	34.1	0.00	1	49.7	26.93	4	34.9	9.37	12	22.5	4.15	6	24.8	6.28	4	7.3	0.46	3
Total others kg	0.0	0.00	1	3.2	0.56	4	2.1	0.60	12	2.1	0.99	6	1.1	0.43	4	5.2	1.59	3
Surface temperature				26.7	0.56	7	27.7	0.24	11	28.1	0.18	6	28.8	0.02	2	28.7	0.05	4
Midwater temperature				26.0	0.35	7	27.3	0.23	11	27.3	0.55	6	26.5	1.04	2	23.8	1.34	4
Bottom temperature				23.5	0.33	7	23.3	0.38	11	22.4	0.26	6	21.2	0.22	2	20.5	2.18	4
Surface salinity				35.4	0.38	7	35.5	0.32	11	35.1	0.70	5	32.1	0.02	2	33.3	0.39	5
Midwater salinity				35.6	0.32	7	35.6	0.28	11	35.5	0.48	5	36.3	0.08	2	36.3	0.10	5
Bottom salinity				36.1	0.12	7	36.5	0.14	11	36.4	0.13	5	36.6	0.13	2	36.3	0.10	5
Surface chlorophyll				2.3	2.03	6	0.1	0.03	11	0.1	0.03	5	0.0	0.00	1	0.0	0.03	5
Surface oxygen				7.0	0.14	7	7.0	0.25	11	6.6	0.28	5	8.1	0.00	1	6.8	0.36	4
Midwater oxygen				7.2	0.22	7	7.0	0.19	11	6.3	0.10	5	7.7	0.00	1	6.3	0.21	4
Bottom oxygen				5.7	0.16	7	6.4	0.17	11	6.2	0.18	5	4.9	0.00	1	4.3	0.12	4

*No environmental data were collected below 6 fm.

Table 14a
 Statistical Zone 21
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 21 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	0.0	0.00	0.0	0.00	3	74.9	33.67	0.3	0.12	7
Penaeus aztecus	0.0	0.00	0.0	0.00	3	5347.9	1545.45	59.4	14.43	7
Callinectes similis	327.3	319.13	2.2	2.11	3	510.1	131.55	4.9	1.00	7
Sicyonia brevirostris	141.8	141.82	0.5	0.50	3	5.3	2.96	0.1	0.05	7
Squilla spp.	34.5	26.78	0.5	0.38	3	49.5	14.82	0.5	0.15	7
Sicyonia dorsalis	0.0	0.00	0.0	0.00	3	19.2	15.40	0.1	0.11	7
Stenotomus caprinus	220.0	168.42	1.6	1.22	3	3067.4	526.27	32.3	5.86	7
Peprilus burti	412.7	412.73	11.6	11.57	3	601.3	289.35	13.6	6.68	7
Micropogonias undulatus	248.5	245.76	5.6	5.37	3	1551.0	464.82	43.0	11.37	7
Trachurus lathami	2165.5	2165.45	28.9	28.93	3	373.4	237.88	6.1	3.79	7
Polydactylus octonemus	67.3	56.71	1.8	1.59	3	62.4	41.86	1.9	1.26	7
Centropristis philadelphica	7.3	7.27	0.1	0.08	3	317.8	99.89	2.6	0.96	7
Prionotus rubio	0.0	0.00	0.0	0.00	3	79.8	41.54	0.7	0.29	7
Leiostomus xanthurus	526.2	446.00	16.8	14.48	3	540.7	521.80	16.1	14.89	7
Squid	67.3	67.27	0.4	0.41	3	83.8	33.10	1.0	0.39	7

Table 14a (cont'd.)
 Statistical Zone 21
 40-ft trawls

Summary of dominant organisms, combined for all zones, taken in shrimp statistical zone 21 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Trachypenaeus spp.	1757.8	0.00	9.5	0.00	1	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
Penaeus aztecus	731.1	0.00	14.9	0.00	1	366.2	30.90	8.9	0.18	3	6.0	0.00	0.3	0.00	1
Callinectes similis	62.2	0.00	0.6	0.00	1	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
Sicyonia brevirostris	0.0	0.00	0.0	0.00	1	6.0	6.00	0.0	0.03	3	0.0	0.00	0.0	0.00	1
Squilla spp.	133.3	0.00	1.9	0.00	1	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
Sicyonia dorsalis	224.4	0.00	0.6	0.00	1	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
Stenotomus caprinus	62.2	0.00	0.5	0.00	1	202.0	59.23	10.7	3.51	3	42.0	0.00	2.2	0.00	1
Peprilus burti	0.0	0.00	0.0	0.00	1	5.5	1.24	0.2	0.03	3	0.0	0.00	0.0	0.00	1
Micropogonias undulatus	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	1
Trachurus lathami	0.0	0.00	0.0	0.00	1	190.7	162.98	6.3	5.87	3	0.0	0.00	0.0	0.00	1
Polydactylus octonemus	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	1
Centropristis philadelphica	206.7	0.00	2.3	0.00	1	48.6	21.28	2.9	1.38	3	0.0	0.00	0.0	0.00	1
Prionotus rubio	11.1	0.00	0.8	0.00	1	48.5	38.76	1.6	1.11	3	0.0	0.00	0.0	0.00	1
Leiostomus xanthurus	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	1
Squid	0.0	0.00	0.0	0.00	1	14.7	10.09	0.9	0.55	3	0.0	0.00	0.0	0.00	1

Table 14b
 Statistical Zone 21
 40-ft trawls

Summary of dominant organisms taken within statistical zone 21 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	6-10 fm					11-20 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
Penaeus aztecus	0.0	0.00	0.0	0.00	3	5347.9	1545.45	59.4	14.43	7
Callinectes similis	327.3	319.13	2.2	2.11	3	510.1	131.55	4.9	1.00	7
Trachypenaeus spp.	0.0	0.00	0.0	0.00	3	74.9	33.67	0.3	0.12	7
Solenocera spp.	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	7
Squilla spp.	34.5	26.78	0.5	0.38	3	49.5	14.82	0.5	0.15	7
Sicyonia dorsalis	0.0	0.00	0.0	0.00	3	19.2	15.40	0.1	0.11	7
Stenotomus caprinus	220.0	168.42	1.6	1.22	3	3067.4	526.27	32.3	5.86	7
Trachurus lathami	2165.5	2165.45	28.9	28.93	3	373.4	237.88	6.1	3.79	7
Micropogonias undulatus	248.5	245.76	5.6	5.37	3	1551.0	464.82	43.0	11.37	7
Upeneus parvus	729.1	638.61	15.3	14.07	3	411.3	264.69	6.4	3.61	7
Peprilus burti	412.7	412.73	11.6	11.57	3	601.3	289.35	13.6	6.68	7
Leiostomus xanthurus	526.2	446.00	16.8	14.48	3	540.7	521.80	16.1	14.89	7
Centropristis philadelphia	7.3	7.27	0.1	0.08	3	317.8	99.89	2.6	0.96	7
Anchoa hepsetus	379.5	211.39	5.4	3.89	3	103.2	50.94	2.2	1.04	7
Squid	67.3	67.27	0.4	0.41	3	83.8	33.10	1.0	0.39	7

Table 14b (cont'd.)
 Statistical Zone 21
 40-ft trawls

Summary of dominant organisms taken within statistical zone 21 during the June-July 1984 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 weight in kg per hour, the SEM of weight and the number (n) of samples taken. No samples were taken below 6 fm.

Species	21-30 fm					31-40 fm					Over 40 fm				
	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n	Num	SEM	Wt	SEM	n
<i>Penaeus</i>															
<i>aztecus</i>	731.1	0.00	14.9	0.00	1	366.2	30.90	8.9	0.18	3	6.0	0.00	0.3	0.00	1
<i>Callinectes</i>															
<i>similis</i>	62.2	0.00	0.6	0.00	1	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
<i>Trachypenaeus</i>															
<i>spp.</i>	1757.8	0.00	9.5	0.00	1	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
<i>Solenocera</i>															
<i>spp.</i>	682.2	0.00	5.8	0.00	1	5.4	5.38	0.0	0.03	3	0.0	0.00	0.0	0.00	1
<i>Squilla</i>															
<i>spp.</i>	133.3	0.00	1.9	0.00	1	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
<i>Sicyonia</i>															
<i>dorsalis</i>	224.4	0.00	0.6	0.00	1	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1
<i>Stenotomus</i>															
<i>caprinus</i>	62.2	0.00	0.5	0.00	1	202.0	59.23	10.7	3.51	3	42.0	0.00	2.2	0.00	1
<i>Trachurus</i>															
<i>lathami</i>	0.0	0.00	0.0	0.00	1	190.7	162.98	6.3	5.87	3	0.0	0.00	0.0	0.00	1
<i>Micropogonias</i>															
<i>undulatus</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	1
<i>Upeneus</i>															
<i>parvus</i>	0.0	0.00	0.0	0.00	1	241.8	79.85	7.2	1.64	3	0.0	0.00	0.0	0.00	1
<i>Peprilus</i>															
<i>burti</i>	0.0	0.00	0.0	0.00	1	5.5	1.24	0.2	0.03	3	0.0	0.00	0.0	0.00	1
<i>Leiostomus</i>															
<i>xanthurus</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	1
<i>Centropristis</i>															
<i>philadelphica</i>	206.7	0.00	2.3	0.00	1	48.6	21.28	2.9	1.38	3	0.0	0.00	0.0	0.00	1
<i>Anchoa</i>															
<i>hepsetus</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	1
<i>Squid</i>															
	0.0	0.00	0.0	0.00	1	14.7	10.09	0.9	0.55	3	0.0	0.00	0.0	0.00	1

Table 14c
 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 1984 SEAMAP Shrimp and Bottomfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, and oxygen in ppm. No samples were taken below 6 fm.

Environmental category	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
Total catch kg	120.0	51.87	3	204.9	24.03	7	80.8	0.00	1	62.1	3.21	3	2.7	0.00	1
Total finfish kg	115.8	54.27	3	138.0	20.81	7	47.5	0.00	1	51.0	3.95	3	2.7	0.00	1
Total crustacean kg	3.3	3.31	3	65.8	14.58	7	33.3	0.00	1	9.2	0.12	3	0.0	0.00	1
Total others kg	0.8	0.83	3	1.1	0.52	7	0.0	0.00	1	1.9	0.89	3	0.0	0.00	1
Surface temperature	25.7	0.99	3	27.3	0.34	9	27.3	0.19	2						
Midwater temperature	25.4	1.19	3	27.0	0.52	9	26.9	0.31	2						
Bottom temperature	23.2	0.68	3	22.7	0.28	9	21.3	0.48	2						
Surface salinity	36.3	0.07	3	36.2	0.04	8	36.2	0.02	2						
Midwater salinity	36.3	0.01	3	36.2	0.04	9	36.5	0.01	2						
Bottom salinity	36.5	0.12	3	36.6	0.06	9	36.5	0.10	2						
Surface chlorophyll	0.4	0.36	3	0.1	0.02	9	0.0	0.00	2						
Surface oxygen	6.7	0.15	3	6.9	0.09	9	7.1	0.70	2						
Midwater oxygen	6.2	0.39	3	6.7	0.09	9	6.9	0.70	2						
Bottom oxygen	6.0	0.38	3	6.4	0.10	9	6.3	0.95	2						

*No environmental data were collected.

Table 15
16-ft trawls

Summary of dominant organisms, combined for all zones sampled, shrimp statistical zones 11-17, taken during June-July 1984 SEAMAP Shrimp and Bottomfish Survey in the 0-5 fm depth stratum; no sampling was done in zone 15. The mean number (Num) of organisms per hour, the standard error of the mean (SEM) for numbers, the weight in kg per hour, the SEM of weight and the number (n) of samples taken in that zone are given. Catch and total finfish catch weights from statistical zone 10 are listed on Table 22; however, individual weights by species were not taken inside 5 fm.

Species	STATISTICAL ZONE														
	11					12					13				
	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	6	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Penaeus aztecus	4.0	2.97	0.0	0.05	6	2.0	2.00	0.0	0.00	6	81.0	51.52	0.7	0.46	6
Callinectes similis	22.0	17.37	0.1	0.09	6	0.0	0.00	0.0	0.00	6	72.0	69.63	0.2	0.18	6
Sicyonia brevis	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Squilla spp.	3.0	3.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Sicyonia dorsalis	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Stenotomus caprinus	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Peprilus burti	1.0	1.00	0.0	0.05	6	0.0	0.00	0.0	0.00	6	7.0	3.26	0.1	0.06	6
Micropogonias undulatus	0.0	0.00	0.0	0.00	6	10.0	10.00	0.2	0.18	6	99.0	69.73	1.1	0.70	6
Trachurus lathami	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Polydactylus octonemus	1.0	1.00	0.0	0.05	6	69.0	69.00	0.9	0.86	6	40.0	27.52	0.4	0.24	6
Centropristis philadelphica	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Prionotus rubio	1.0	1.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Leiostomus xanthurus	4.0	2.97	0.1	0.06	6	3.0	3.00	0.1	0.14	6	4.0	2.53	0.1	0.06	6
Squid	263.0	245.17	0.4	0.41	6	3.0	2.05	0.1	0.06	6	2.0	1.26	0.0	0.00	6

Table 15 (cont'd.)

16-ft trawls

Summary of dominant organisms, combined for all zones sampled, shrimp statistical zones 11-17, taken during June-July 1984 SEAMAP Shrimp and Bottomfish Survey in the 0-5 fm depth stratum; no sampling was done in zone 15. The mean number (Num) of organisms per hour, the standard error of the mean (SEM) for numbers, the weight in kg per hour, the SEM of weight and the number (n) of samples taken in that zone are given. Catch and total finfish catch weights from statistical zone 10 are listed on Table 22; however, individual weights by species were not taken inside 5 fm.

Species	STATISTICAL ZONE														
	14					16					17				
	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	11	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Penaeus															
aztecus	104.7	66.76	1.1	0.74	11	93.0	66.09	0.7	0.40	6	283.0	195.34	1.7	1.20	6
Callinectes															
similis	63.8	57.89	0.2	0.13	11	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Sicyonia															
brevirostris	0.0	0.00	0.0	0.00	11	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Squilla															
spp.	0.0	0.00	0.0	0.00	11	1.0	1.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Sicyonia															
dorsalis	0.0	0.00	0.0	0.00	11	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Stenotomus															
caprinus	0.0	0.00	0.0	0.00	11	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Peprilus															
burti	1.1	0.73	0.0	0.02	11	5.0	3.92	0.1	0.09	6	1.0	1.00	0.0	0.00	6
Micropogonias															
undulatus	847.6	618.10	8.3	7.77	11	1094.0	657.70	13.0	7.53	6	248.0	173.29	1.5	0.90	6
Trachurus															
lathamii	0.0	0.00	0.0	0.00	11	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Polydactylus															
octonemus	78.0	49.81	0.8	0.58	11	380.0	375.21	5.9	5.86	6	94.0	59.63	0.9	0.58	6
Centropristis															
philadelphica	0.0	0.00	0.0	0.00	11	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Prionotus															
rubio	1.1	1.09	0.0	0.00	11	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	6
Leiostomus															
xanthurus	149.5	132.39	2.5	1.80	11	1.0	1.00	0.0	0.00	6	11.0	11.00	0.2	0.18	6
Squid	4.9	4.34	0.0	0.02	11	36.0	24.59	0.3	0.20	6	1.0	1.00	0.0	0.00	6

Table 16
 Statistical Zone 11
 16-ft trawls.

Summary of dominant organisms taken within shrimp statistical zone 11 during the June-July 1984 SEAMAP Shrimp and Bottomfish Survey in the 0-5 fm depth stratum. The mean number (Num) of organisms per hour, the standard error of the mean (SEM) for numbers, the weight in kg per hour, the SEM of weight and the number (n) of samples taken. Catch and total finfish catch weights from statistical zone 10 are listed on Table 22; however, individual weights by species were not taken inside 5 fm. Catch data are from Louisiana vessels only.

0-5 fm					
Species	Num	SEM	Wt	SEM	n
Callinectes					
<u>similis</u>	22.0	17.37	0.1	0.09	6
Acetes					
<u>americanus</u>	23.0	23.00	0.0	0.00	6
Callinectes					
<u>sapidus</u>	3.0	2.05	0.4	0.28	6
Penaeus					
<u>setiferus</u>	0.0	0.00	0.0	0.00	6
Penaeus					
<u>aztecus</u>	4.0	2.97	0.0	0.05	6
Squilla					
<u>spp.</u>	3.0	3.00	0.0	0.00	6
Chloroscombrus					
<u>chrysurus</u>	400.0	389.28	0.2	0.18	6
Anchoa					
<u>hepsetus</u>	378.0	190.89	0.6	0.32	6
Opisthonema					
<u>oglinum</u>	304.0	207.37	0.3	0.17	6
Anchoa					
<u>nasuta</u>	0.0	0.00	0.0	0.00	6
Symphurus					
<u>plagiusa</u>	0.0	0.00	0.0	0.00	6
Leiostomus					
<u>xanthurus</u>	4.0	2.97	0.1	0.06	6
Micropogonias					
<u>undulatus</u>	0.0	0.00	0.0	0.00	6
Harengula					
<u>jaguana</u>	29.0	19.06	0.1	0.09	6
Squid					
	263.0	245.17	0.4	0.41	6

Table 17
 Statistical Zone 12
 16-ft trawls

Summary of dominant organisms taken within shrimp statistical zone 12 during the June-July 1984 SEAMAP Shrimp and Bottomfish Survey in the 0-5 fm depth stratum. The mean number (Num) of organisms per hour, the standard error of the mean (SEM) for numbers, the weight in kg per hour, the SEM of weight and the number (n) of samples taken.

0-5 fm					
Species	Num	SEM	Wt	SEM	n
Callinectes					
<u>sapidus</u>	2.0	2.00	0.4	0.36	6
Penaeus					
<u>aztecus</u>	2.0	2.00	0.0	0.00	6
Polydactylus					
<u>octonemus</u>	69.0	69.00	0.9	0.86	6
Micropogonias					
<u>undulatus</u>	10.0	10.00	0.2	0.18	6
Cynoscion					
<u>arenarius</u>	9.0	9.00	1.0	0.95	6
Menticirrhus					
<u>americanus</u>	3.0	3.00	0.0	0.05	6
Leiostomus					
<u>xanthurus</u>	3.0	3.00	0.1	0.14	6
Anchoa					
<u>mitchilli</u>	1.0	1.00	0.0	0.00	6
Squid	3.0	2.05	0.1	0.06	6

Table 18
 Statistical Zone 13
 16-ft trawls

Summary of dominant organisms taken within shrimp statistical zone 13 during the June-July 1984 SEAMAP Shrimp and Bottomfish Survey in 0-5 fm depth stratum. The mean number (Num) of organisms per hour, the standard error of the mean (SEM) for numbers, the weight in kg per hour, the SEM of weight and the number (n) of samples taken.

0-5 fm					
Species	Num	SEM	Wt	SEM	n
Penaeus aztecus	81.0	51.52	0.7	0.46	6
Callinectes similis	72.0	69.63	0.2	0.18	6
Callinectes sapidus	7.0	4.49	0.8	0.49	6
Penaeus setiferus	1.0	1.00	0.0	0.05	6
Anchoa mitchilli	6929.0	6724.71	18.2	17.75	6
Anchoa hepsetus	487.0	468.06	0.5	0.45	6
Micropogonias undulatus	99.0	69.73	1.1	0.70	6
Polydactylus octonemus	40.0	27.52	0.4	0.24	6
Brevoortia patronus	34.0	34.00	0.4	0.36	6
Trichiurus lepturus	18.0	15.72	0.3	0.27	6
Symphurus plagiusa	18.0	18.00	0.1	0.09	6
Cynoscion arenarius	10.0	10.00	0.0	0.05	6
Squid	2.0	1.26	0.0	0.00	6

Table 19
 Statistical Zone 14
 16-ft trawls

Summary of dominant organisms taken within shrimp statistical zone 14 during the June-July 1984 SEAMAP Shrimp and Bottomfish Survey in the 0-5 fm depth stratum. The mean number (Num) of organisms per hour, the standard error of the mean (SEM) for numbers, the weight in kg per hour, the SEM of weight and the number (n) of samples taken.

0-5 fm					
Species	Num	SEM	Wt	SEM	n
<u>Penaeus</u>					
<u>aztecus</u>	104.7	66.76	1.1	0.74	11
<u>Callinectes</u>					
<u>similis</u>	63.8	57.89	0.2	0.13	11
<u>Callinectes</u>					
<u>sapidus</u>	19.1	11.72	1.2	0.74	11
<u>Trachypenaeus</u>					
<u>similis</u>	8.7	8.73	0.0	0.02	11
<u>Trachypenaeus</u>					
<u>constrictus</u>	2.7	2.20	0.0	0.00	11
<u>Persephona</u>					
<u>punctatus</u>	1.6	1.64	0.0	0.00	11
<u>Micropogonias</u>					
<u>undulatus</u>	847.6	618.10	8.3	7.77	11
<u>Anchoa</u>					
<u>mitchilli</u>	158.2	117.66	0.2	0.17	11
<u>Leiostomus</u>					
<u>xanthurus</u>	149.5	132.39	2.5	1.80	11
<u>Polydactylus</u>					
<u>octonemus</u>	78.0	49.81	0.8	0.58	11
<u>Sphoeroides</u>					
<u>parvus</u>	51.3	50.68	0.1	0.07	11
<u>Anchoa</u>					
<u>hepsetus</u>	13.6	9.33	0.0	0.00	11
<u>Cynoscion</u>					
<u>arenarius</u>	9.3	7.07	0.2	0.17	11
<u>Stellifer</u>					
<u>lanceolatus</u>	8.7	8.73	0.2	0.17	11
<u>Squid</u>	4.9	4.34	0.0	0.02	11

Table 20
 Statistical Zone 16
 16-ft trawls

Summary of the dominant organisms taken within shrimp statistical zone 16 during the June-July 1984 SEAMAP Shrimp and Bottomfish Survey in the 0-5 fm depth stratum. The mean number (Num) of organisms per hour, the standard error of the mean (SEM) for numbers, the weight in kg per hour, the SEM of weight and the number (n) of samples taken.

0-5 fm					
<u>Species</u>	<u>Num</u>	<u>SEM</u>	<u>Wt</u>	<u>SEM</u>	<u>n</u>
Penaeus					
<u>aztecus</u>	93.0	66.09	0.7	0.40	6
Callinectes					
<u>sapidus</u>	58.0	36.75	2.6	2.54	6
Palaemo					
<u>vulgaris</u>	36.0	36.00	0.0	0.00	6
Portunus					
<u>sayi</u>	9.0	9.00	0.0	0.05	6
Penaeus					
<u>setiferus</u>	8.0	8.00	0.0	0.05	6
Macrobr					
<u>acanth</u>	2.0	2.00	0.0	0.00	6
Micropogonias					
<u>undulatus</u>	1094.0	657.70	13.0	7.53	6
Polydactylus					
<u>octonemus</u>	380.0	375.21	5.9	5.86	6
Symphurus					
<u>plagiusa</u>	67.0	61.12	0.7	0.67	6
Cynoscion					
<u>arenarius</u>	60.0	45.14	0.5	0.32	6
Arius					
<u>felis</u>	37.0	20.28	4.7	2.65	6
Larimus					
<u>fasciatus</u>	14.0	10.00	0.3	0.22	6
Prionotus					
<u>tribulus</u>	7.0	7.00	0.1	0.14	6
Selene					
<u>setapinnis</u>	6.0	6.00	0.0	0.00	6
Squid	36.0	24.59	0.3	0.20	6

Table 21
 Statistical Zone 17
 16-ft trawls

Summary of dominant organisms taken within shrimp statistical zone 17 during the June-July 1984 SEAMAP Shrimp and Bottomfish Survey in the 0-5 fm depth stratum. The mean number (Num) of organisms per hour, the standard error of the mean (SEM) for numbers, the weight in kg per hour, the SEM of weight and the number (n) of samples taken.

0-5 fm					
Species	Num	SEM	Wt	SEM	n
<u>Penaeus</u> <u>aztecus</u>	283.0	195.34	1.7	1.20	6
<u>Xiphopenaeus</u> <u>kroyeri</u>	35.0	22.79	0.1	0.09	6
<u>Callinectes</u> <u>sapidus</u>	28.0	17.78	3.3	2.10	6
<u>Penaeus</u> <u>setiferus</u>	2.0	2.00	0.0	0.00	6
<u>Micropogonias</u> <u>undulatus</u>	248.0	173.29	1.5	0.90	6
<u>Stellifer</u> <u>lanceolatus</u>	107.0	78.36	0.3	0.20	6
<u>Polydactylus</u> <u>octonemus</u>	94.0	59.63	0.9	0.58	6
<u>Anchoa</u> <u>mitchilli</u>	46.0	37.23	0.0	0.05	6
<u>Cynoscion</u> <u>arenarius</u>	36.0	23.24	0.2	0.18	6
<u>Arius</u> <u>felis</u>	26.0	23.63	1.5	1.19	6
<u>Symphurus</u> <u>plagiusa</u>	15.0	10.93	0.1	0.14	6
<u>Leiostomus</u> <u>xanthurus</u>	11.0	11.00	0.2	0.18	6
<u>Squid</u>	1.0	1.00	0.0	0.00	6

Table 22
 16-ft trawls
 0-5 fathoms

Summary of the mean total catch (kg/hr) and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the June-July 1984 SEAMAP Shrimp and Bottomfish Survey. Catch values in kg, temperature in °C, salinity in ppt, and oxygen in ppm. No sampling was done in statistical zone 15. Statistical zone 11 includes weights by Louisiana vessels from individual species, but not by Alabama vessels for individual species.

Environmental Category	STATISTICAL ZONE											
	10			11			12			13		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	1.8	0.91	3	5.0	1.29	12	4.5	2.41	6	22.7	17.44	6
Total finfish kg	0.9	0.91	3	3.2	1.15	12	2.7	2.23	6	20.9	17.71	6
Total crustacean kg	0.0	0.00	3	2.0	0.36	12	0.5	0.45	6	1.8	0.91	6
Total others kg	0.0	0.00	3	0.7	0.36	12	1.4	0.61	6	0.9	0.57	6
Surface temperature	27.6	0.85	4	27.1	0.36	12	28.1	0.63	6	28.1	0.14	6
Midwater temperature	26.9	1.23	4	26.8	0.69	6	0.0	0.00	0	0.0	0.00	0
Bottom temperture	26.6	1.38	4	26.3	0.59	12	26.9	0.58	6	26.9	0.81	6
Surface salinity	26.3	1.44	4	26.5	0.57	12	18.1	2.94	6	16.1	3.47	6
Midwater salinity	29.0	1.00	4	26.8	0.79	6	0.0	0.00	0	0.0	0.00	0
Bottom salinity	29.5	0.50	4	28.4	0.77	12	26.9	2.23	6	22.1	3.90	6
Surface chlorophyll	0.0	0.00	0	5.2	0.49	3	16.5	5.71	3	26.7	3.01	6
Surface oxygen	6.7	0.37	4	6.2	0.68	12	9.4	0.82	6	7.8	1.05	6
Midwater oxygen	7.1	0.90	4	5.2	0.91	6	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.8	0.75	4	5.9	0.70	12	6.2	1.08	6	6.0	1.46	6

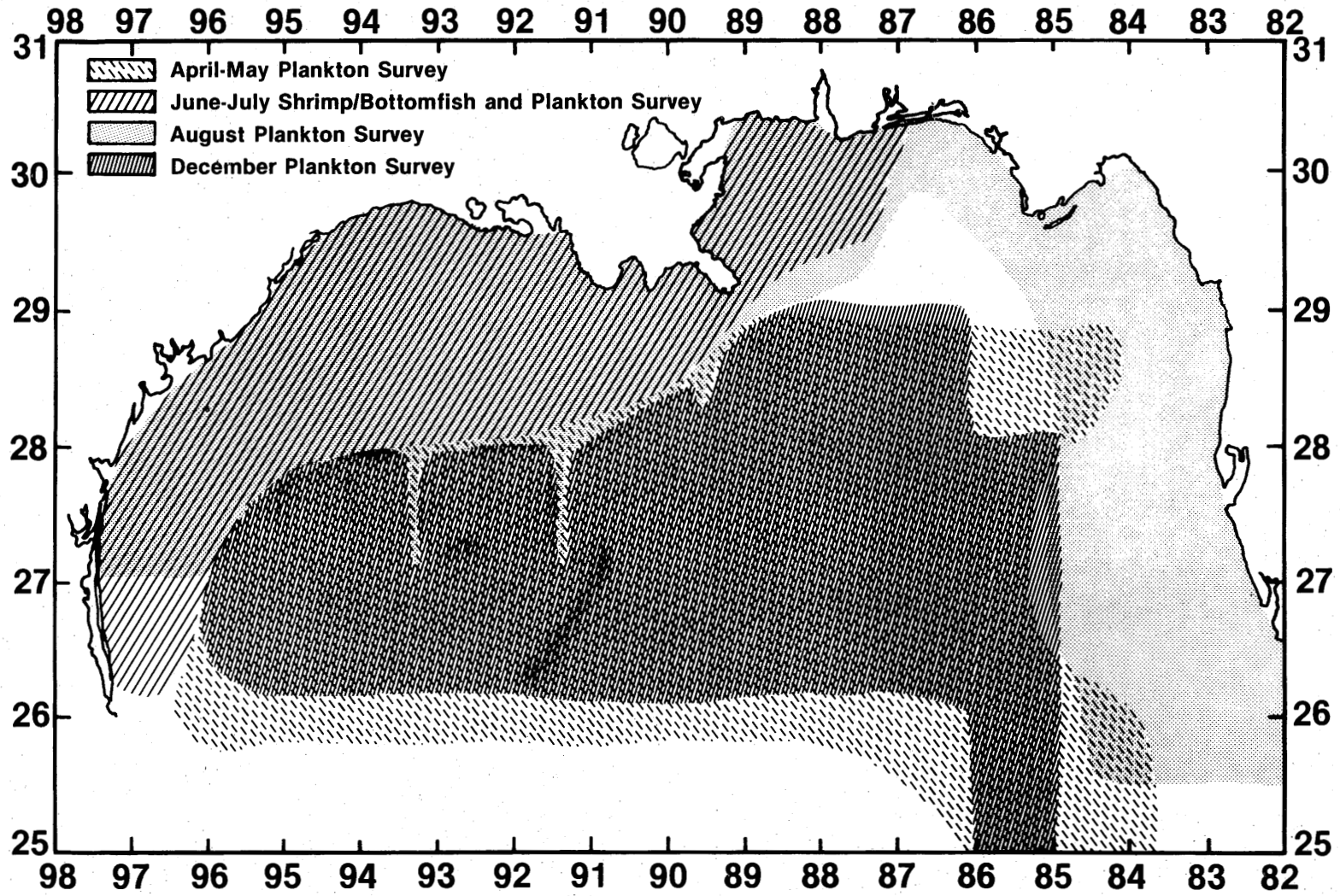


Figure 1. 1984 SEAMAP surveys, Gulf of Mexico.

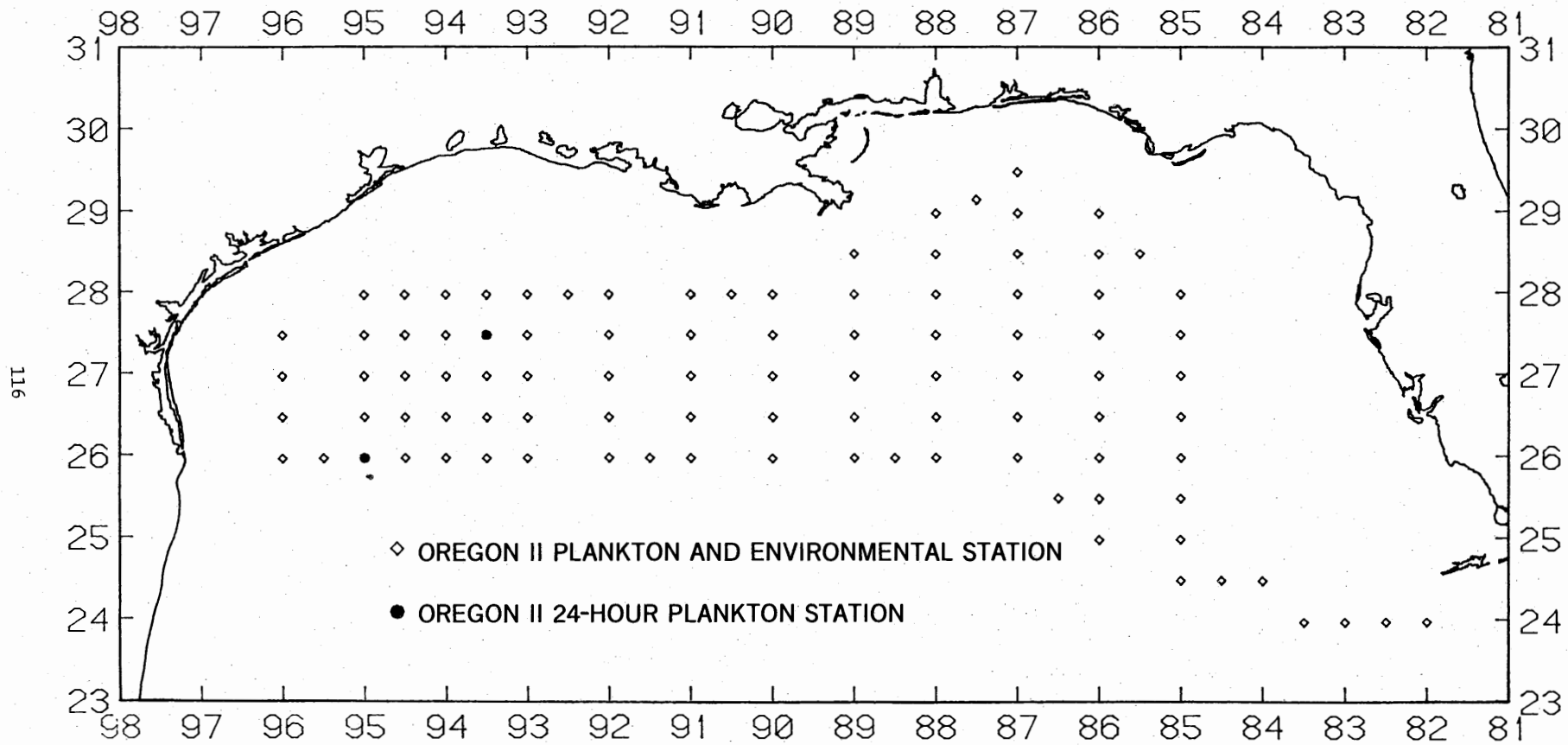


Figure 2. Locations of plankton and environmental stations during SEAMAP Plankton Survey, April-May 1984.

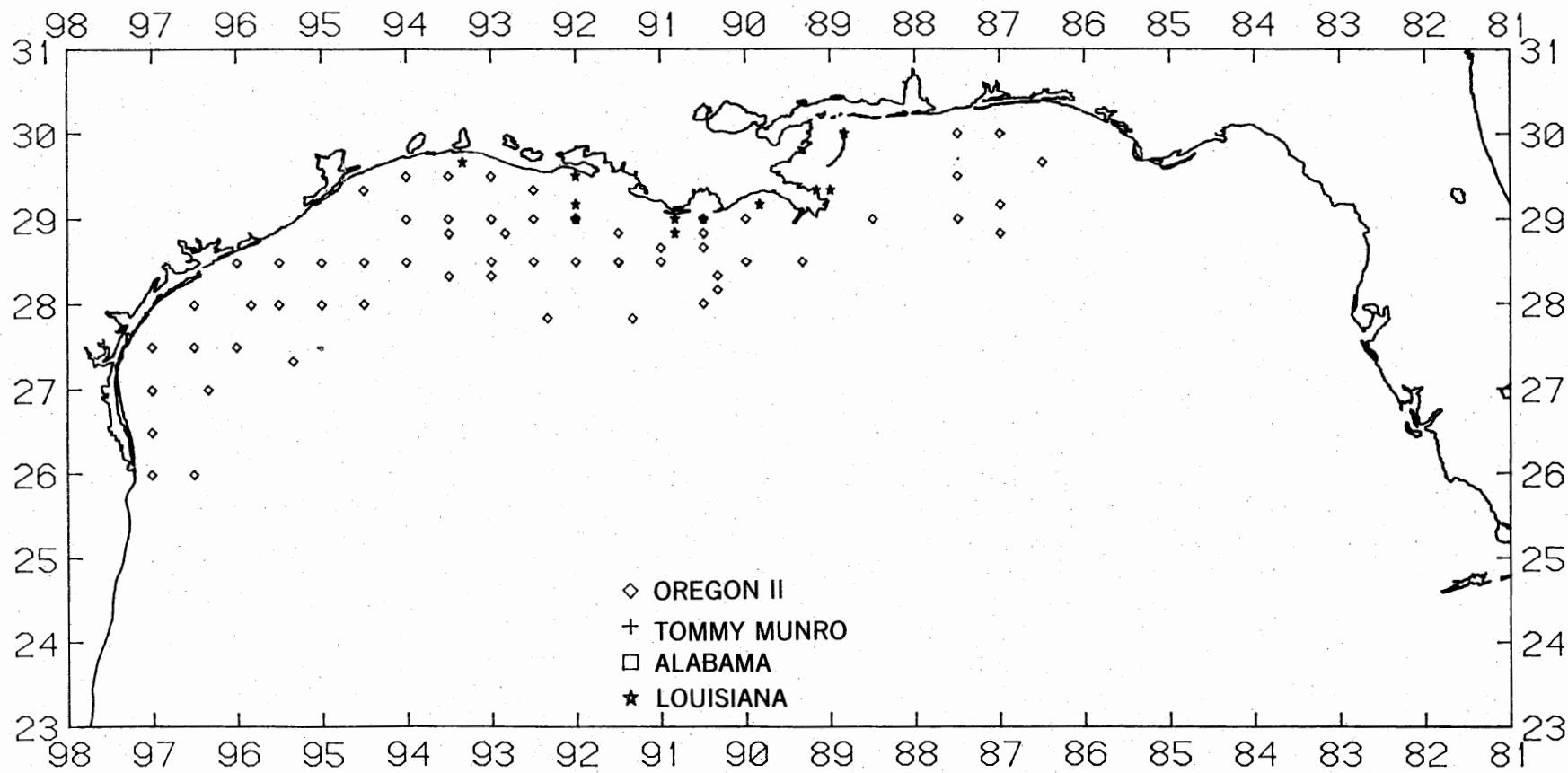


Figure 3. Locations of plankton stations during SEAMAP Shrimp and Bottomfish Survey, June-July 1984.

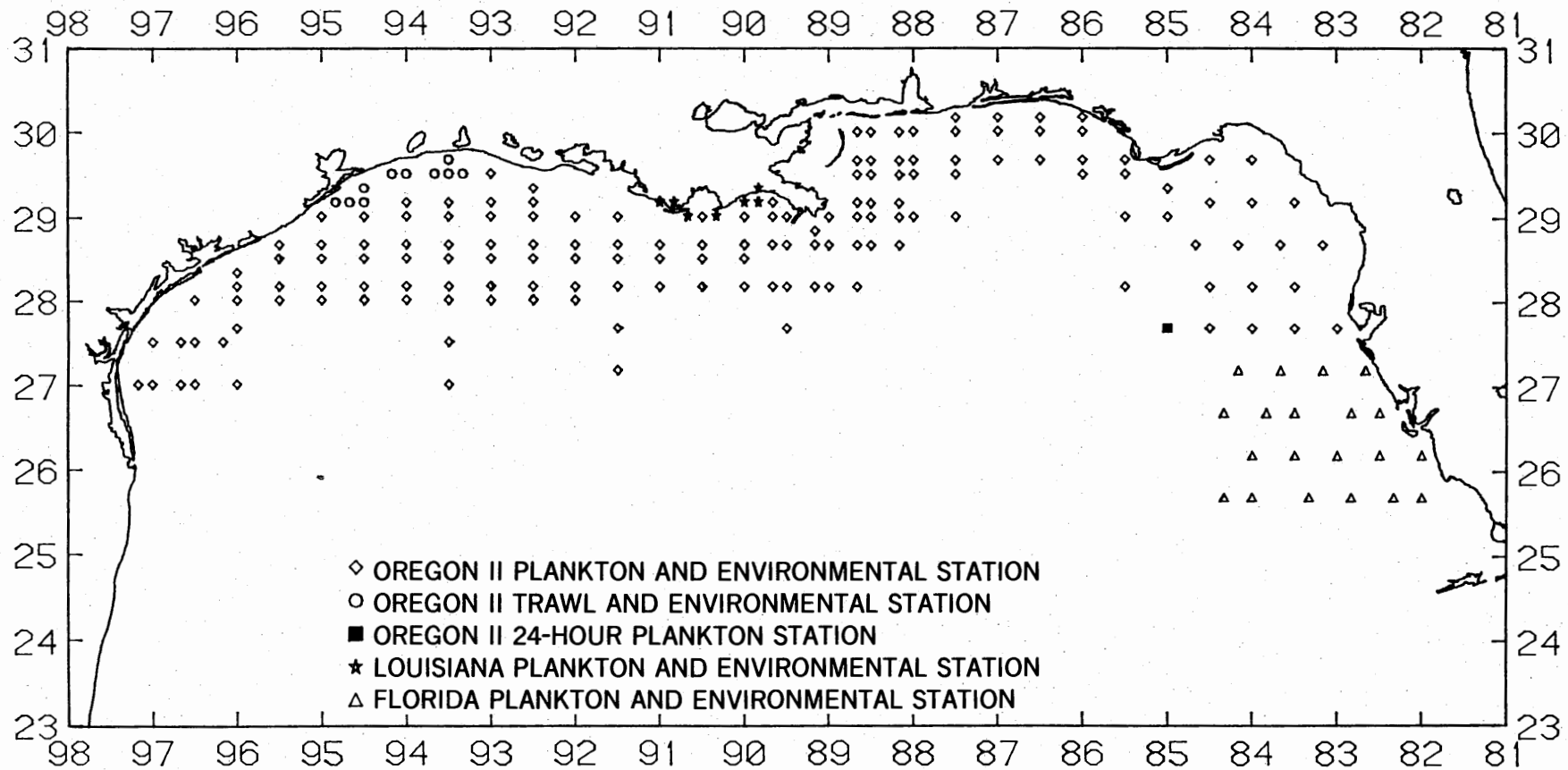


Figure 4. Locations of plankton and environmental stations during SEAMAP Plankton Survey, August 1984.

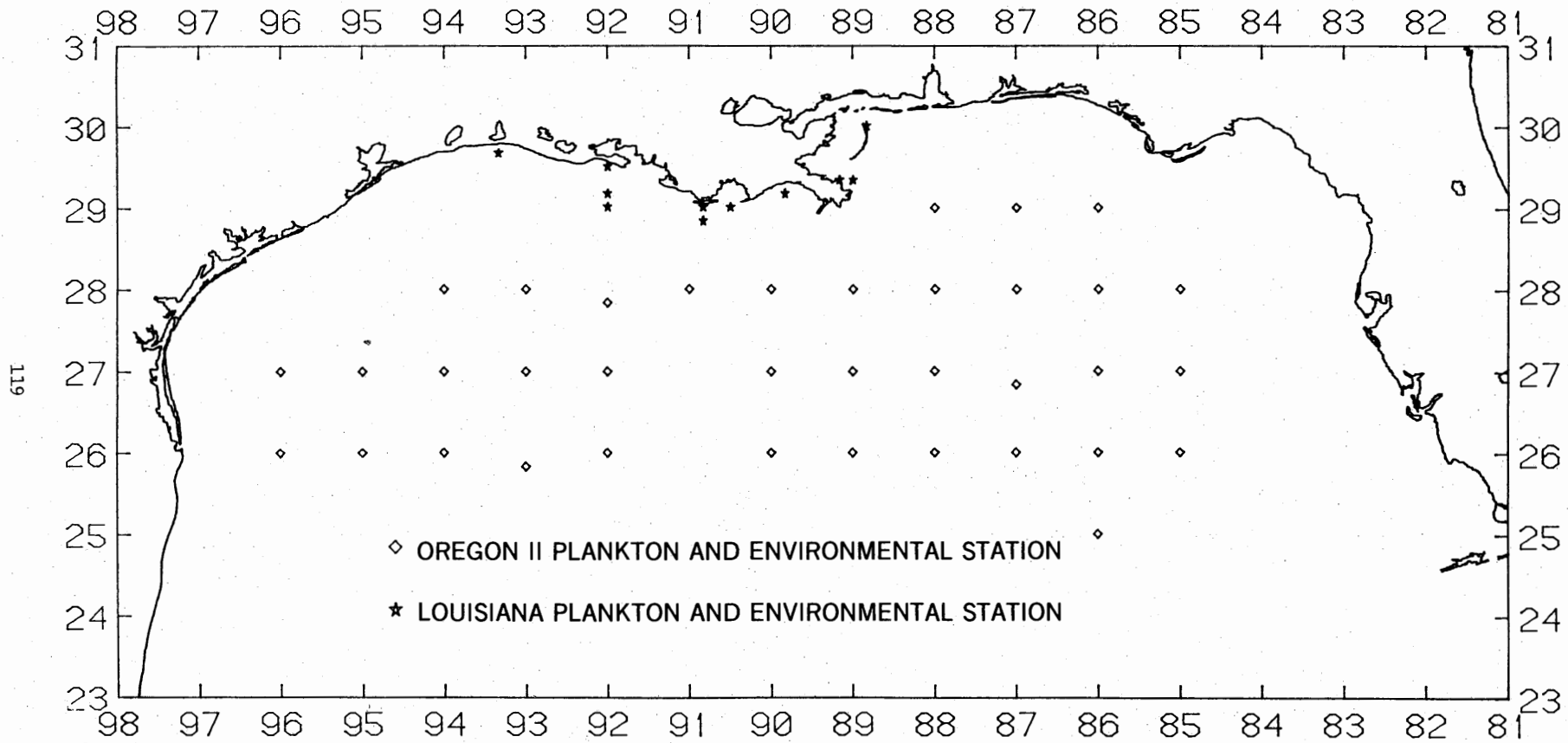


Figure 5. Locations of plankton and environmental stations during SEAMAP Plankton Survey, November-December 1984.

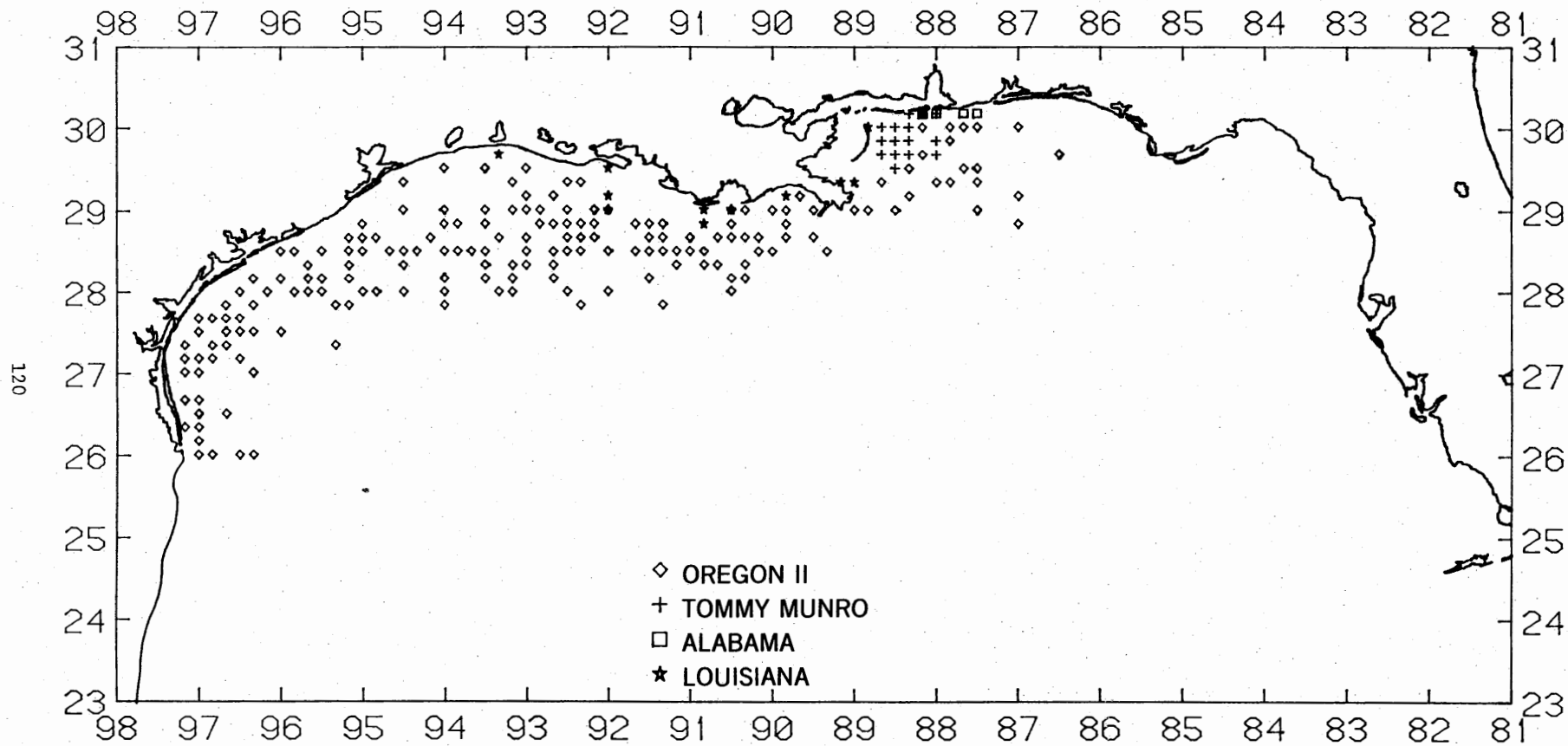


Figure 6. Locations of SEAMAP Shrimp and Bottomfish Survey environmental stations, summarized by 10-minute squares, June-July 1984.

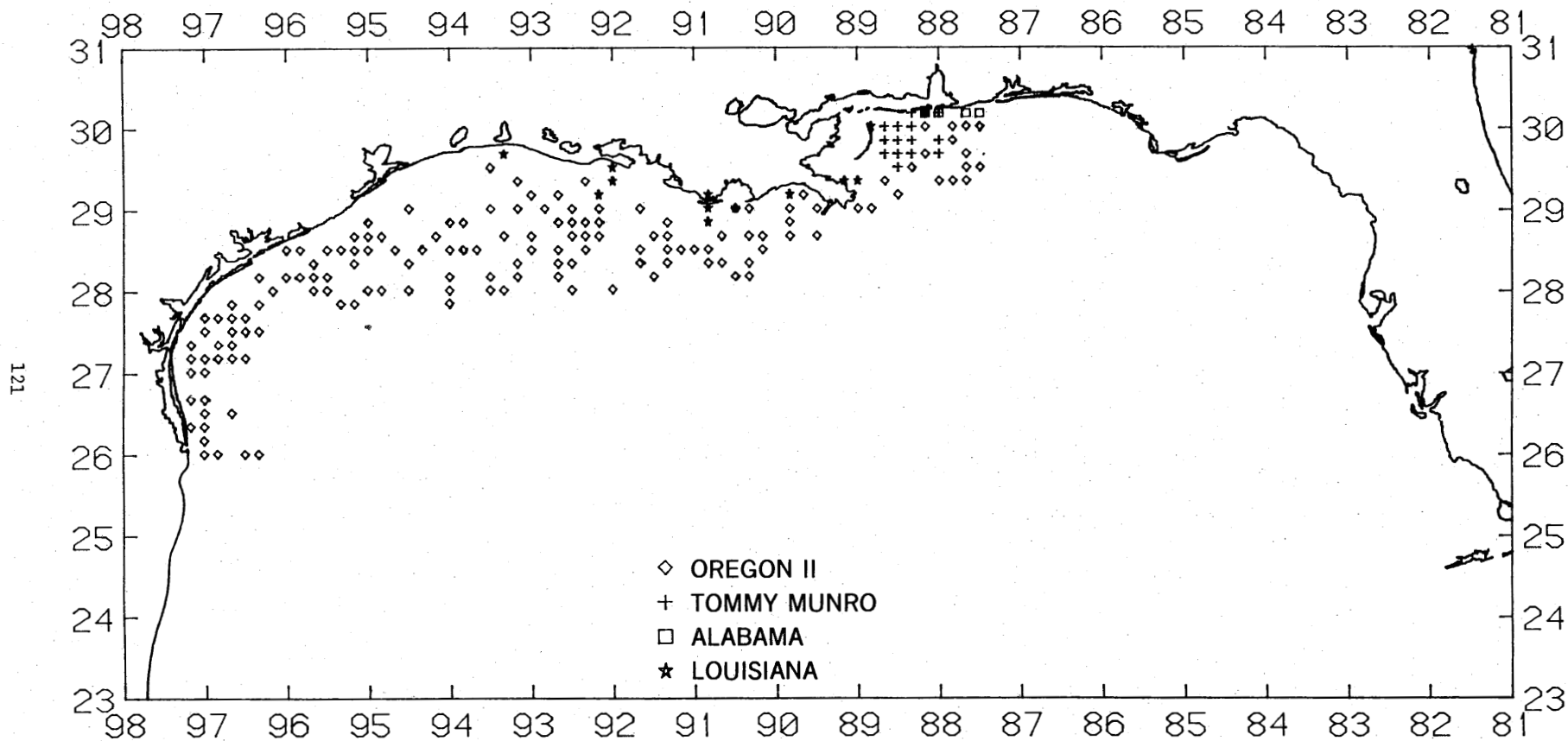


Figure 7. Locations of SEAMAP Shrimp and Bottomfish Survey trawl stations, summarized by 10-minute squares, June-July 1984.

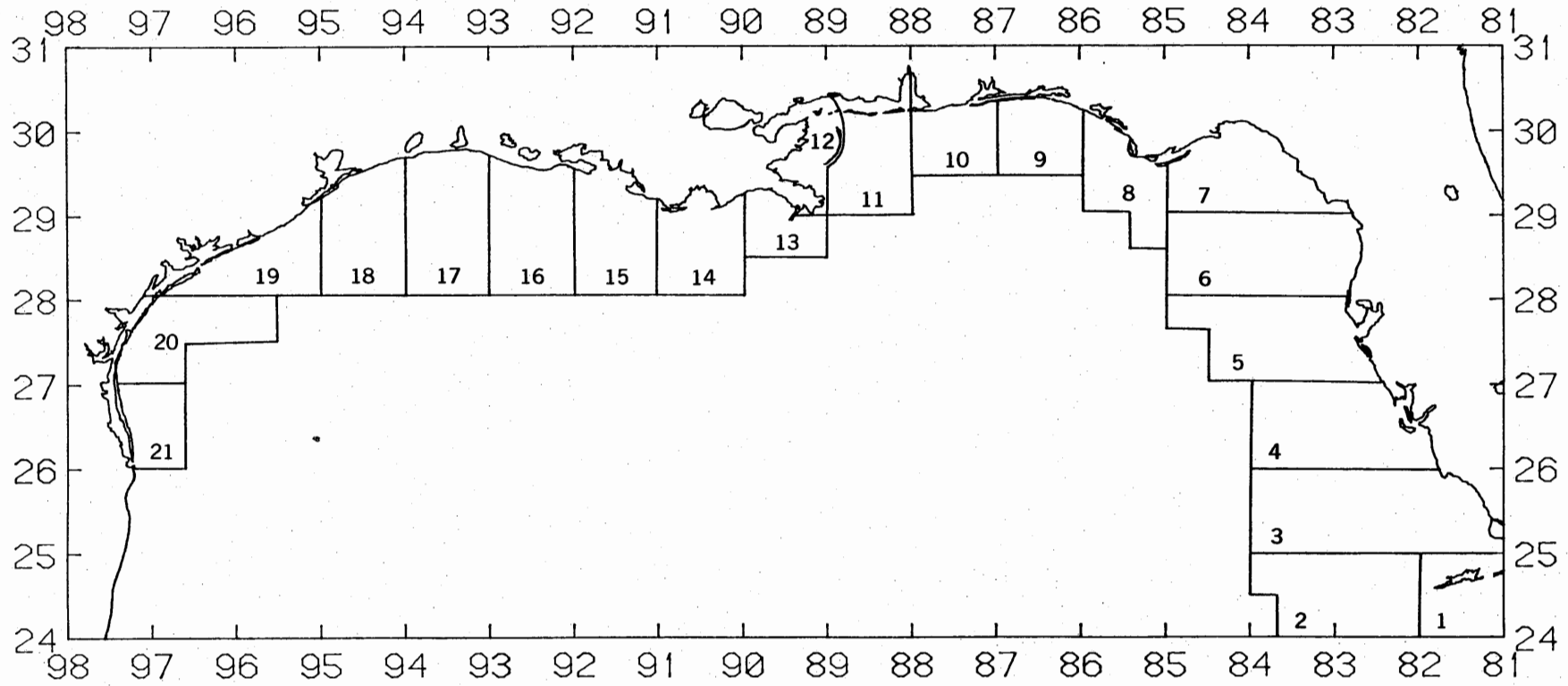


Figure 8. Statistical zones for shrimp in the Gulf of Mexico.

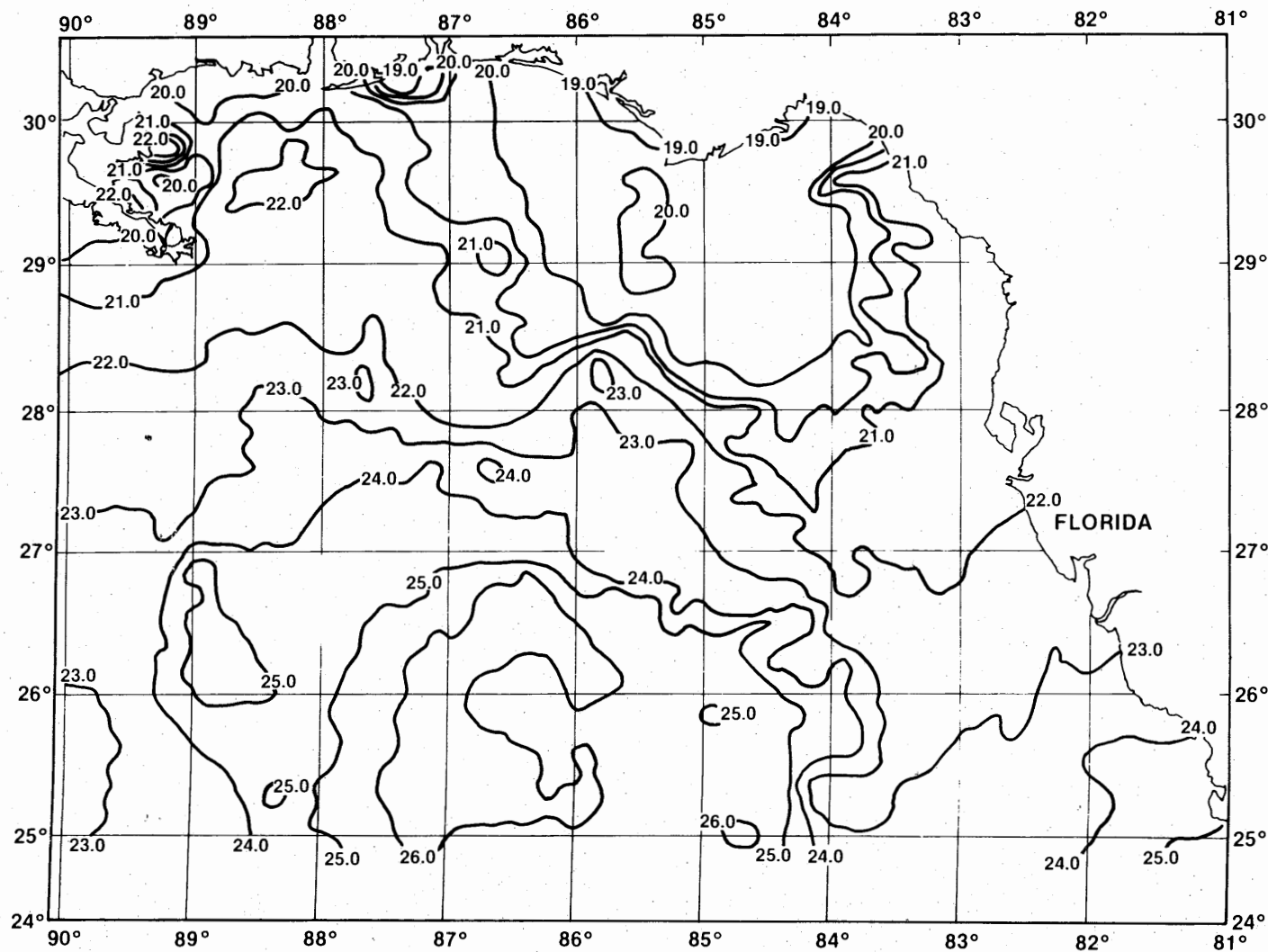


Figure 9. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the eastern Gulf of Mexico, April 1984 (modified from NWS/NESS Sea Surface Thermal Analysis).

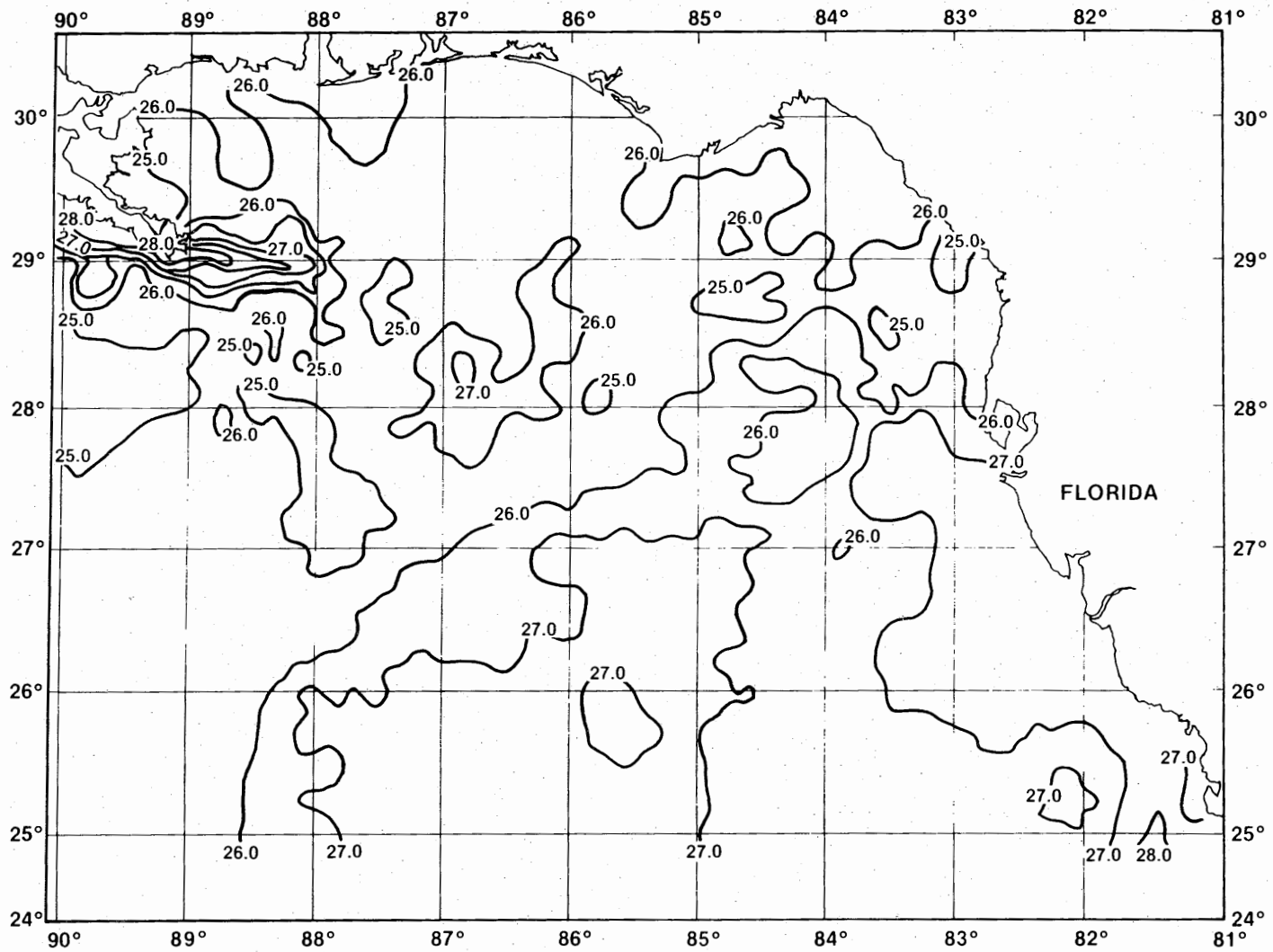


Figure 10. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the eastern Gulf of Mexico, May 1984 (modified from NWS/NESS Sea Surface Thermal Analysis).

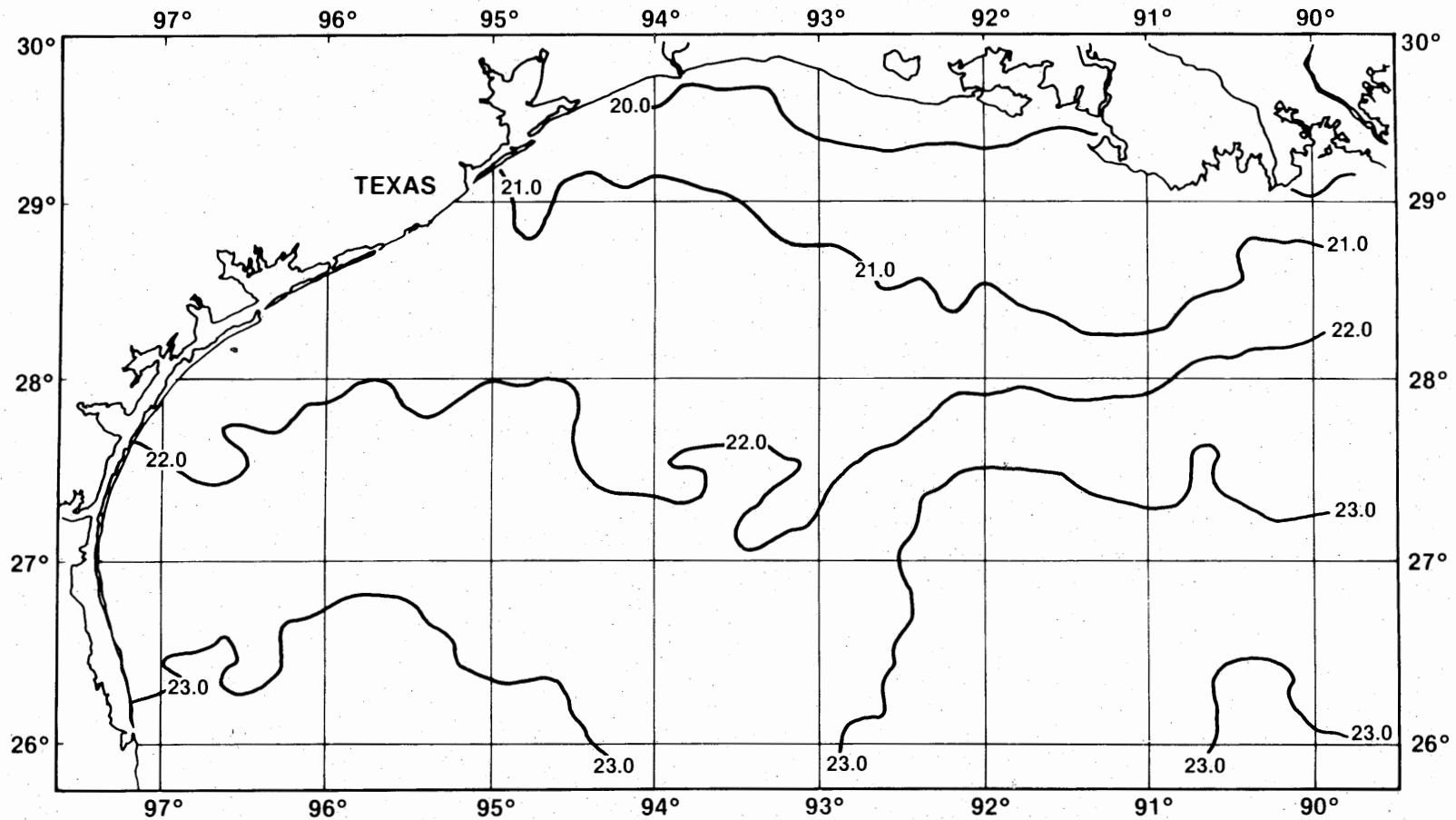


Figure 11. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the western Gulf of Mexico, April 1984 (modified from NWS/NESS Sea Surface Thermal Analysis).

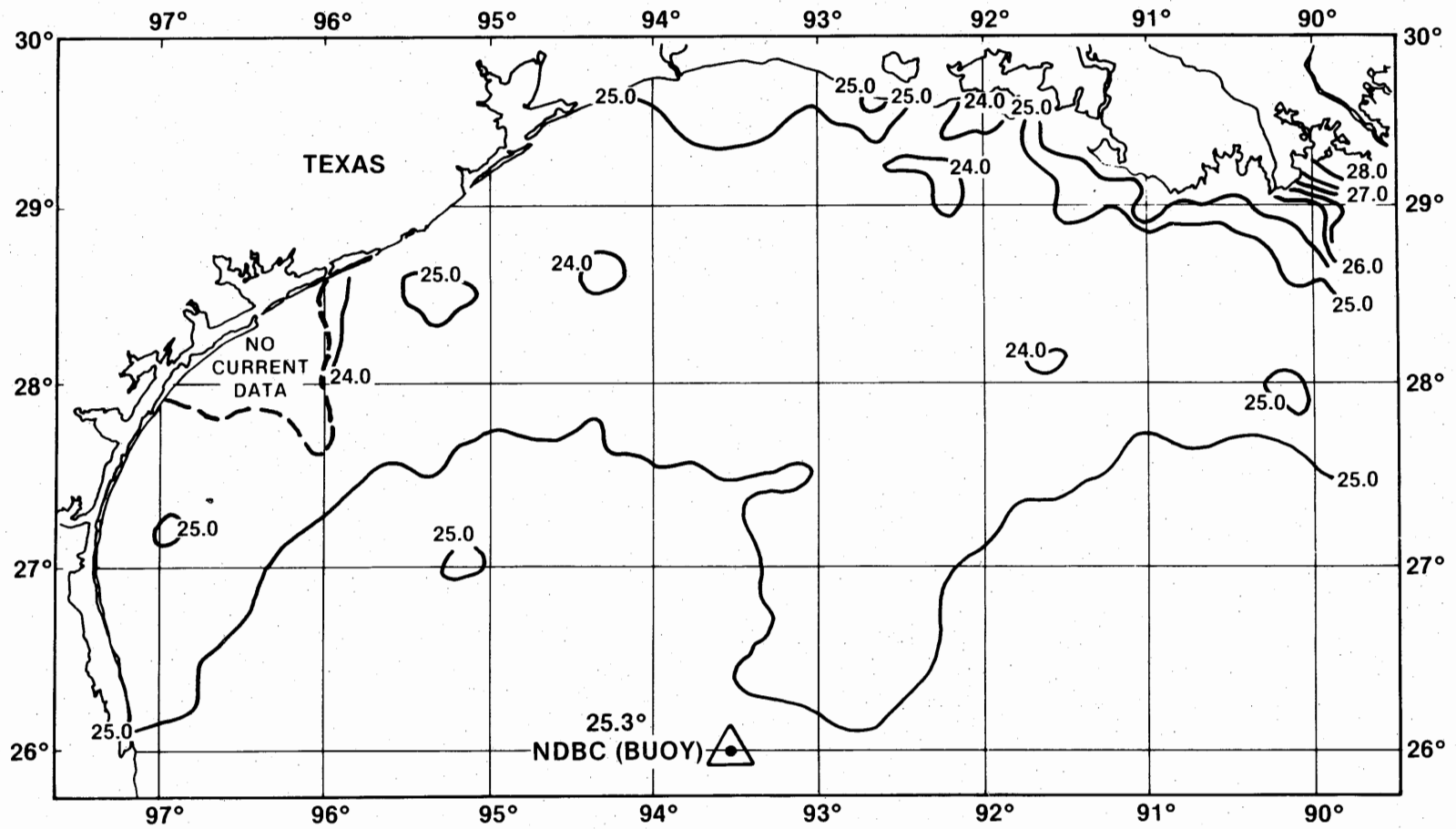


Figure 12. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the western Gulf of Mexico, May 1984 (modified from NWS/NESS Sea Surface Thermal Analysis).

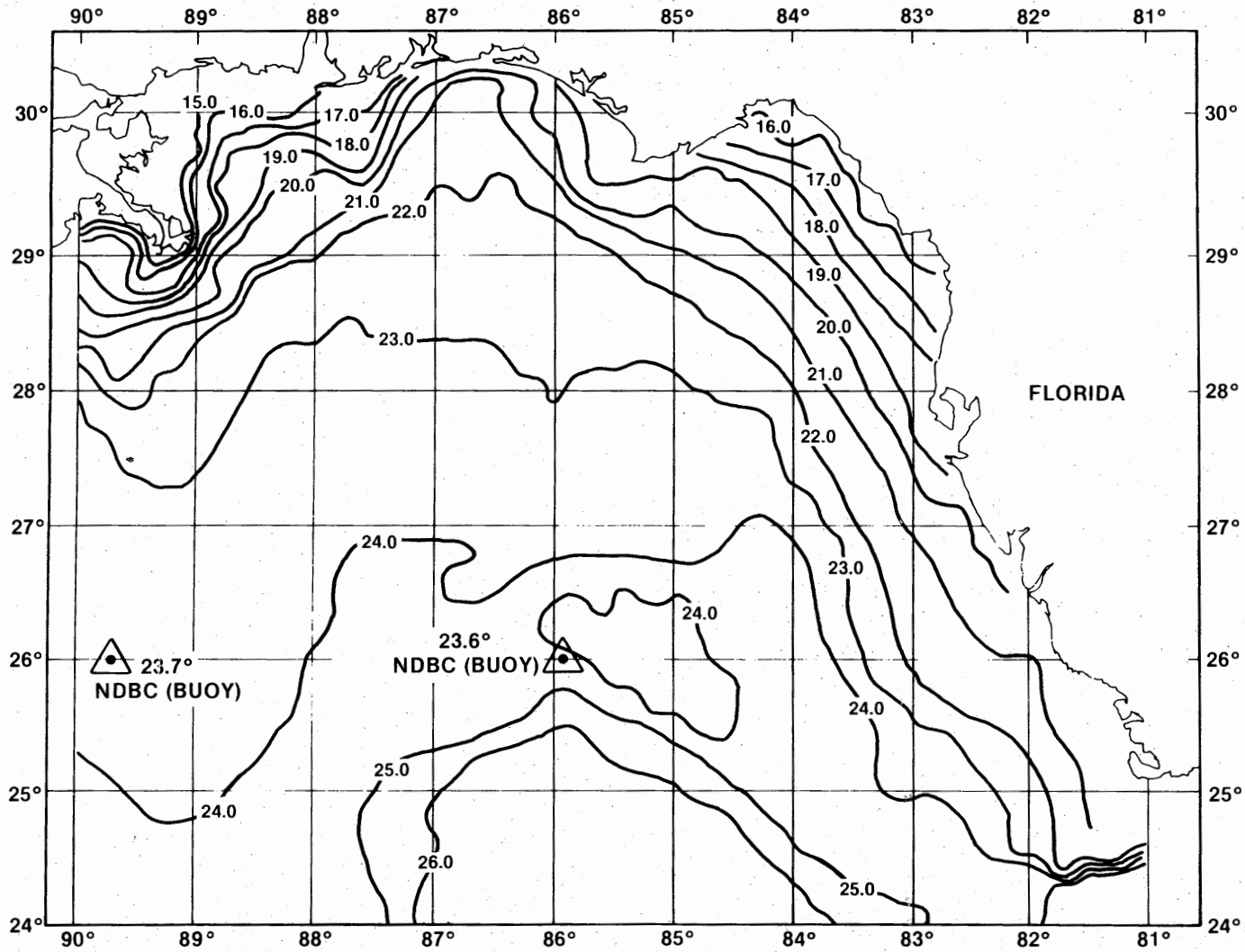
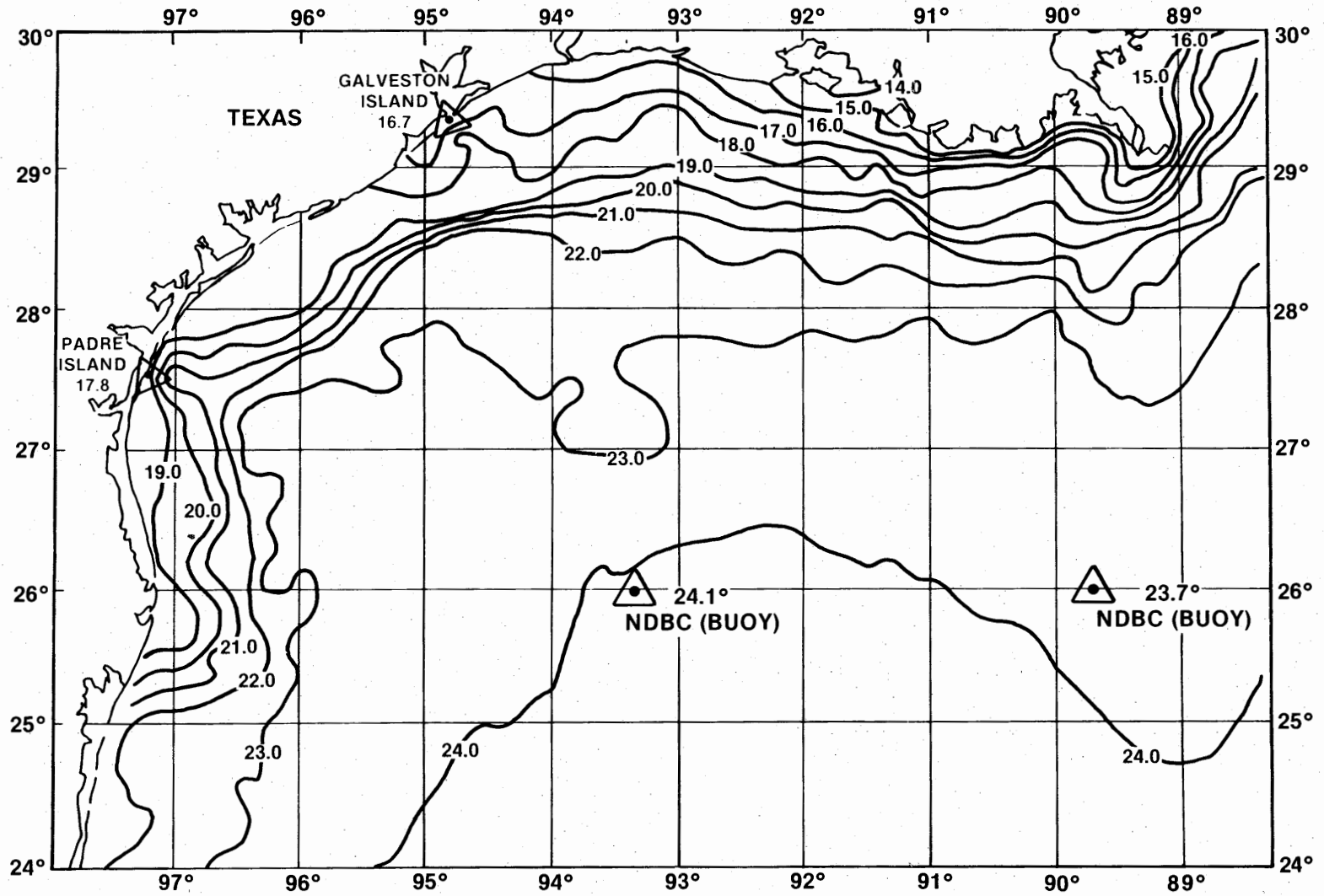


Figure 13. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the eastern Gulf of Mexico, December 1984 (modified from NWS/NESS Sea Surface Thermal Analysis).



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Figure 14. Satellite measurement of surface temperature ($^{\circ}\text{C}$) in the western Gulf of Mexico, December 1984 (modified from NWS/NESS Sea Surface Thermal Analysis).

DATA PLOTS: JUNE-JULY
SHRIMP AND BOTTOMFISH SURVEY

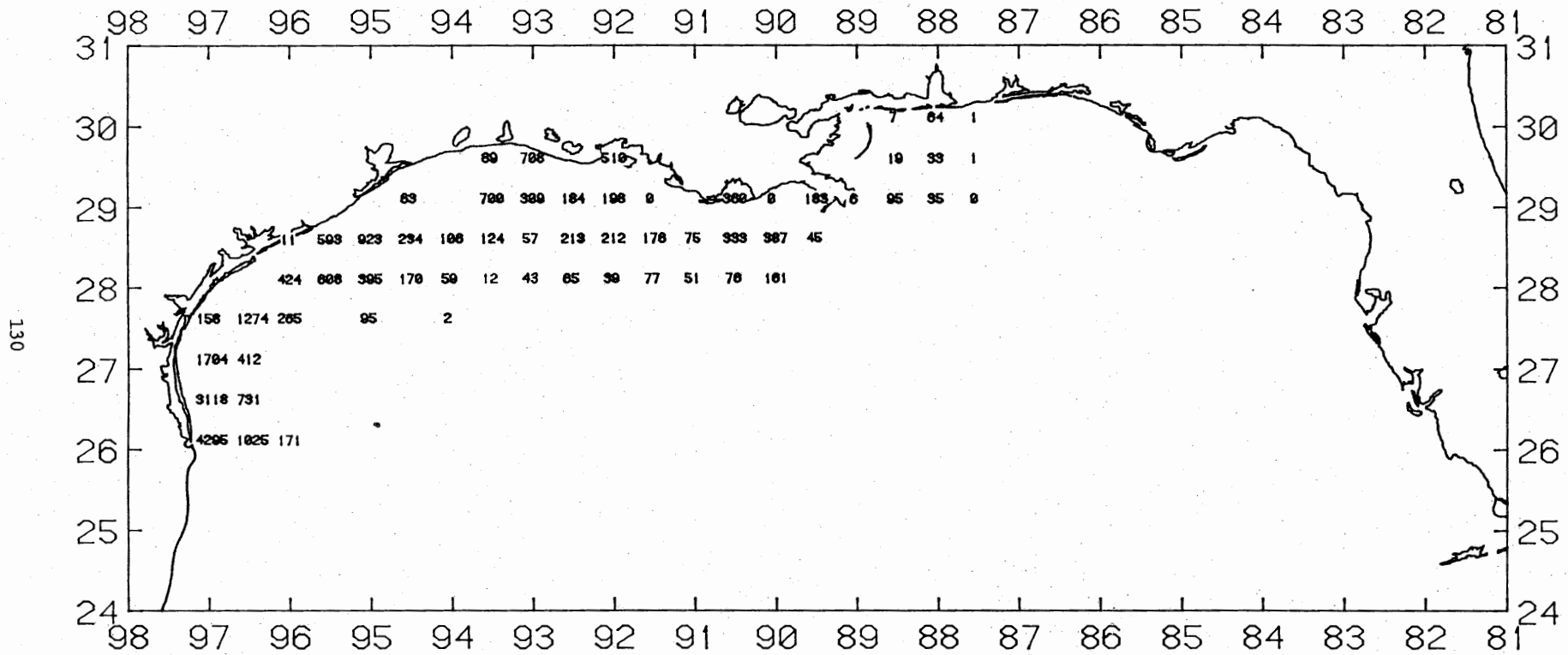


Figure 15. Northern brown shrimp, *Penaeus aztecus*, number/hour for June-July 1984.

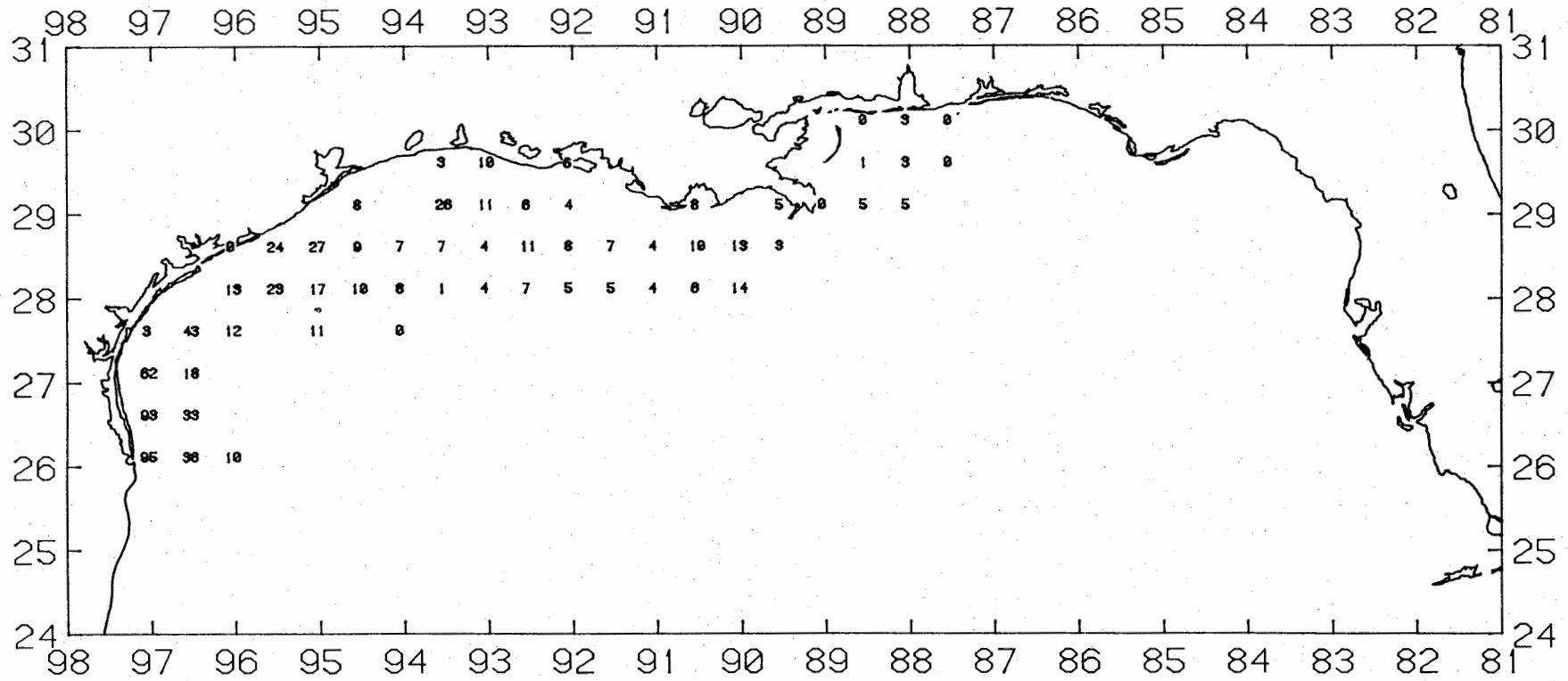


Figure 16. Northern brown shrimp, *Penaeus aztecus*, lb/hour for June-July 1984.

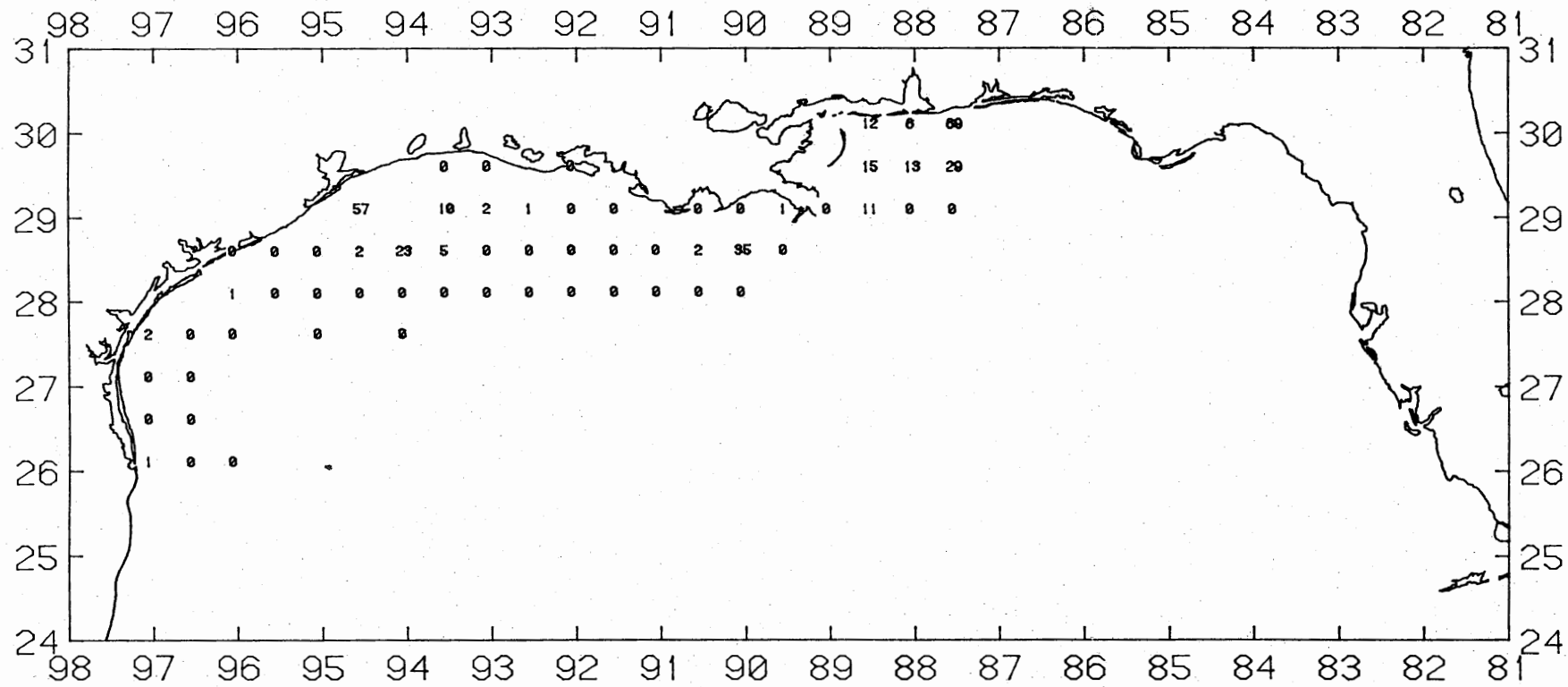


Figure 17. Northern pink shrimp, *Penaeus duorarum*, number/hour for June-July 1984.

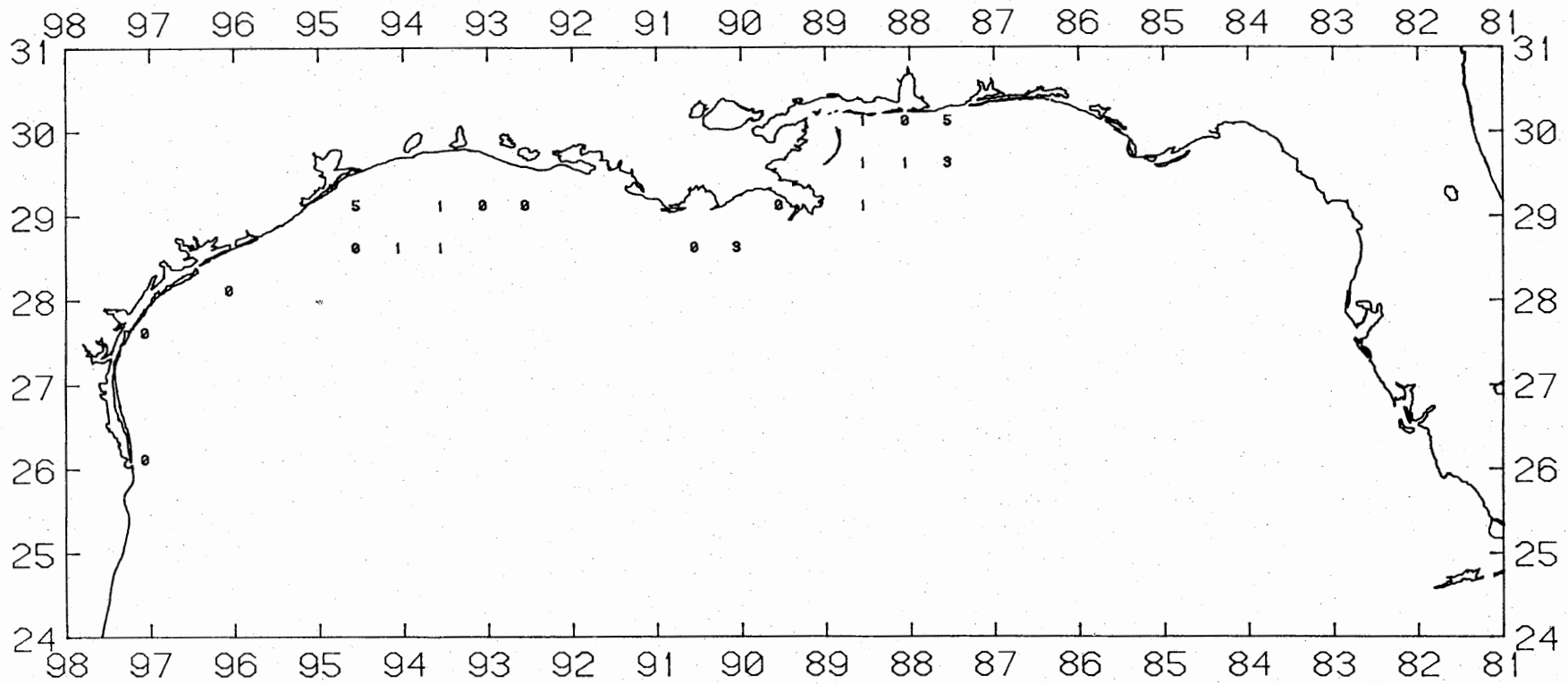


Figure 18. Northern pink shrimp, *Penaeus duorarum*, lb/hour for June-July 1984.

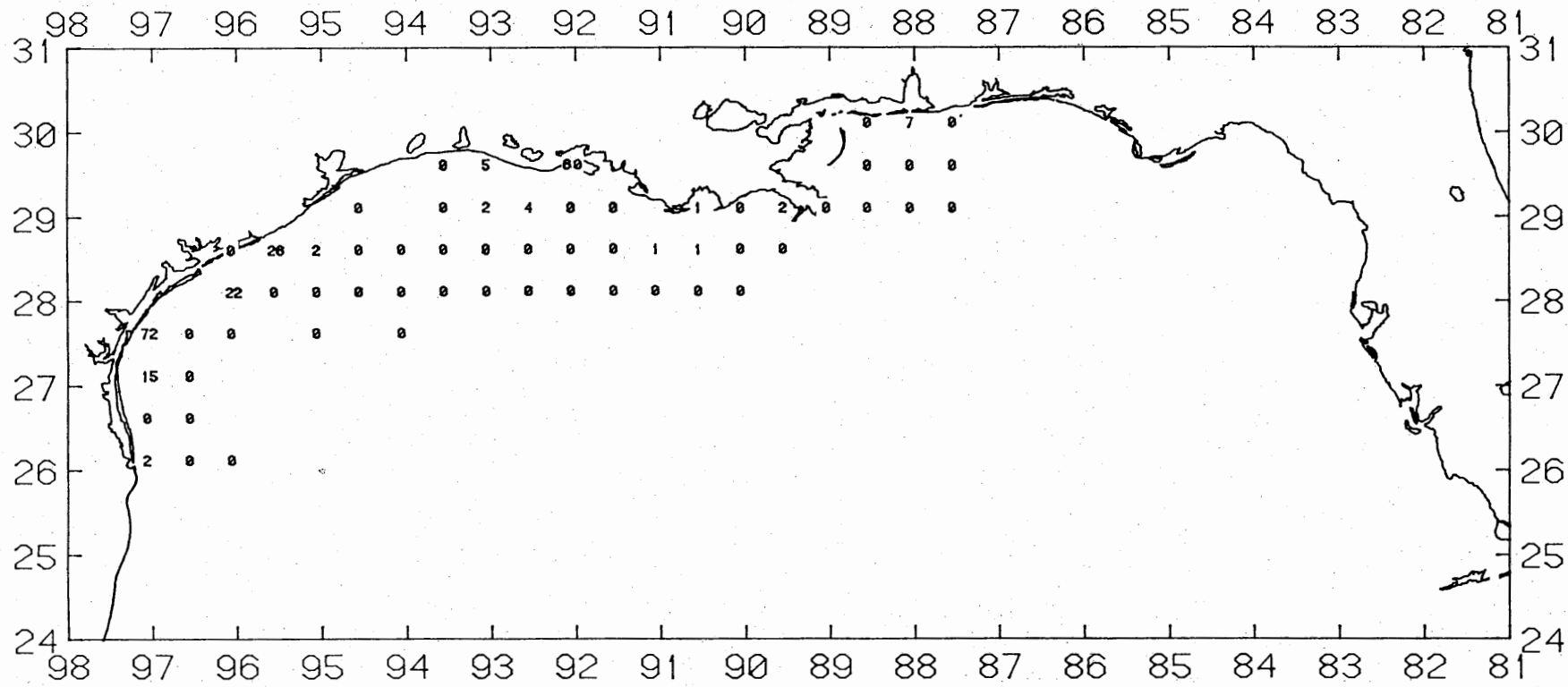


Figure 19. Northern white shrimp, *Penaeus setiferus*, number/hour for June-July 1984.

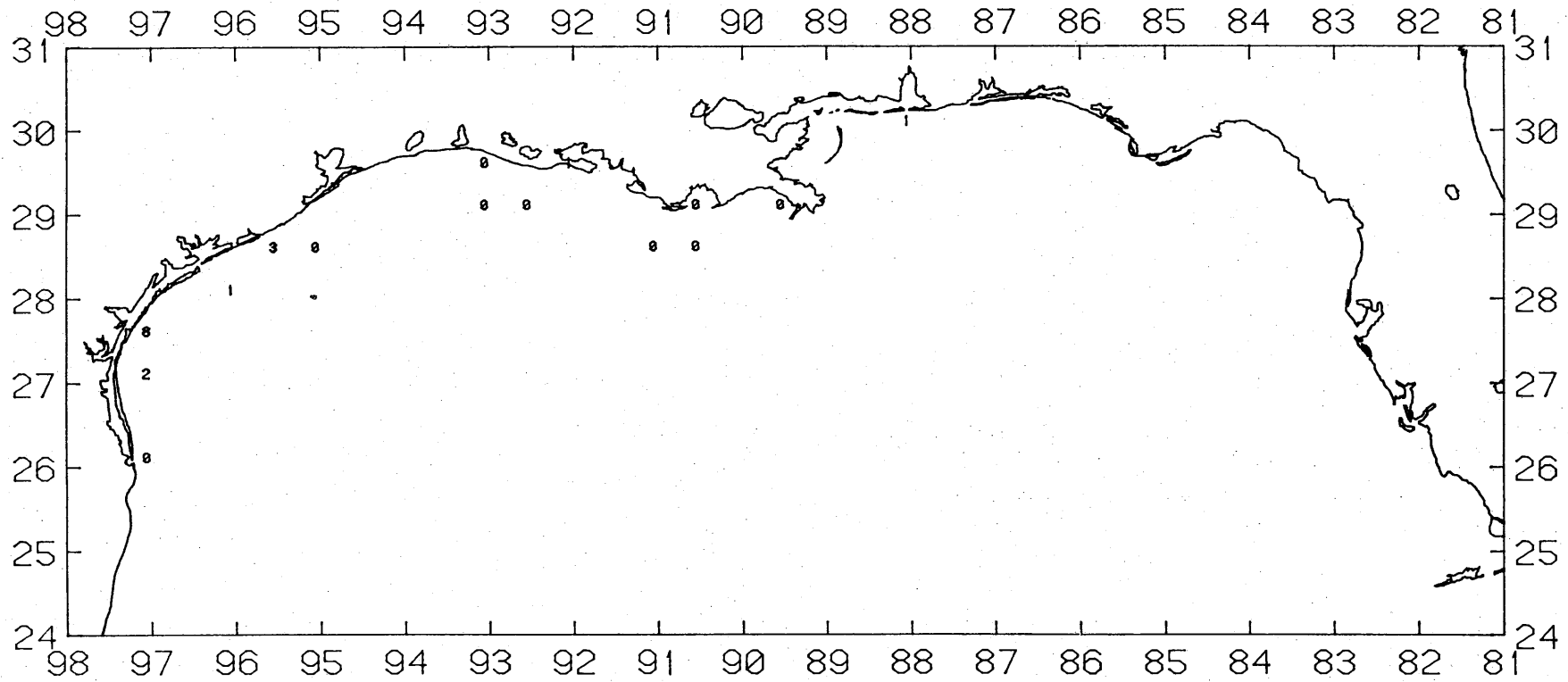


Figure 20. Northern white shrimp, *Penaeus setiferus*, lb/hour for June-July 1984.

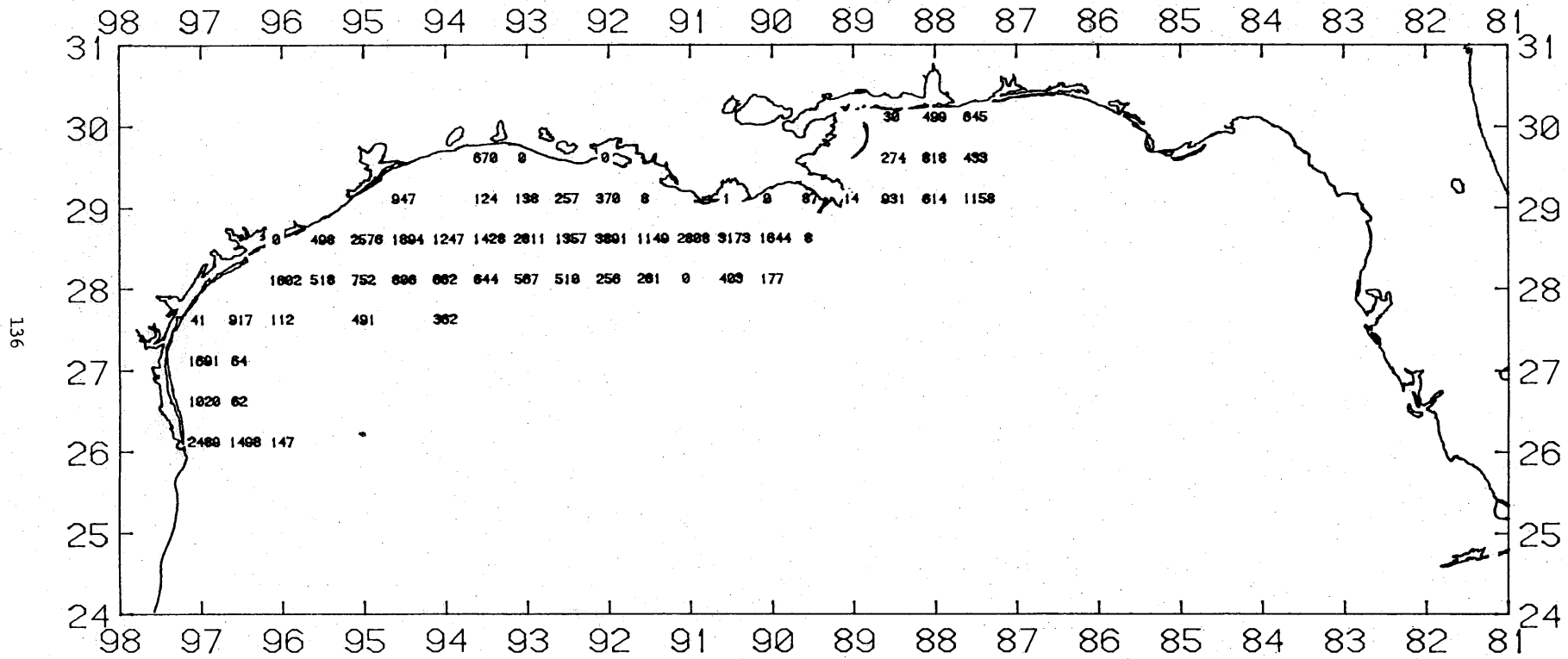


Figure 21. Longspine pogy, *Stenotomus caprinus*, number/hour for June-July 1984.

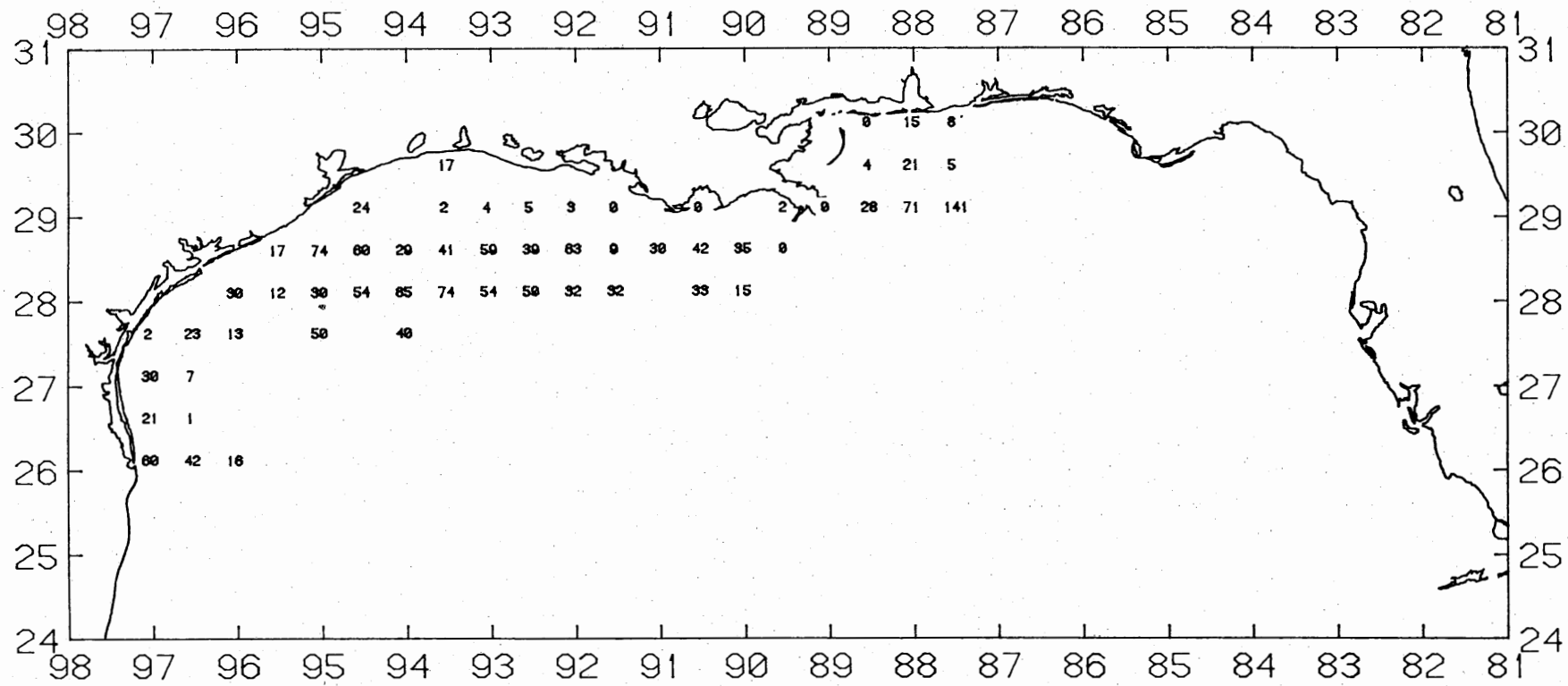


Figure 22. Longspine pogy, *Stenotomus caprinus*, lb/hour for June-July 1984.

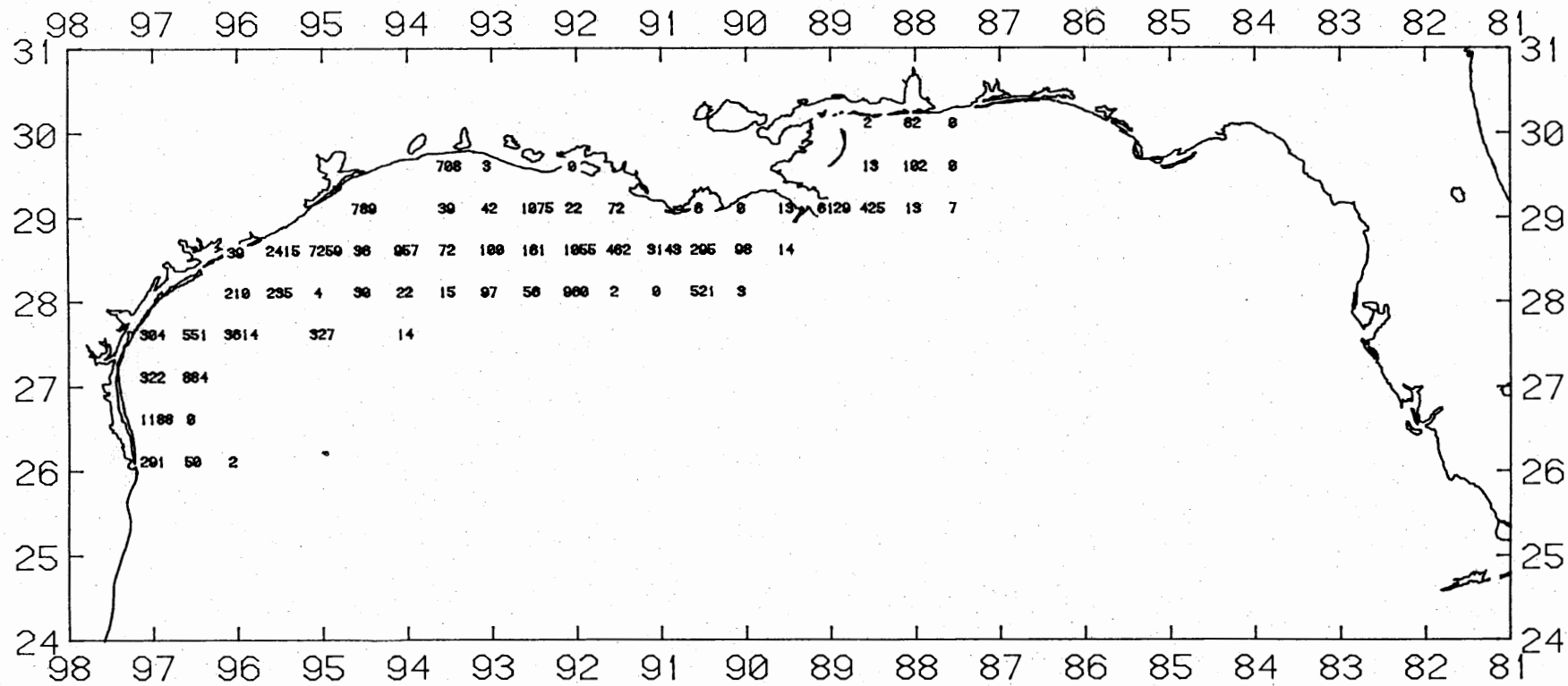


Figure 23. Gulf butterfish, *Peprilus burti*, number/hour for June-July 1984.

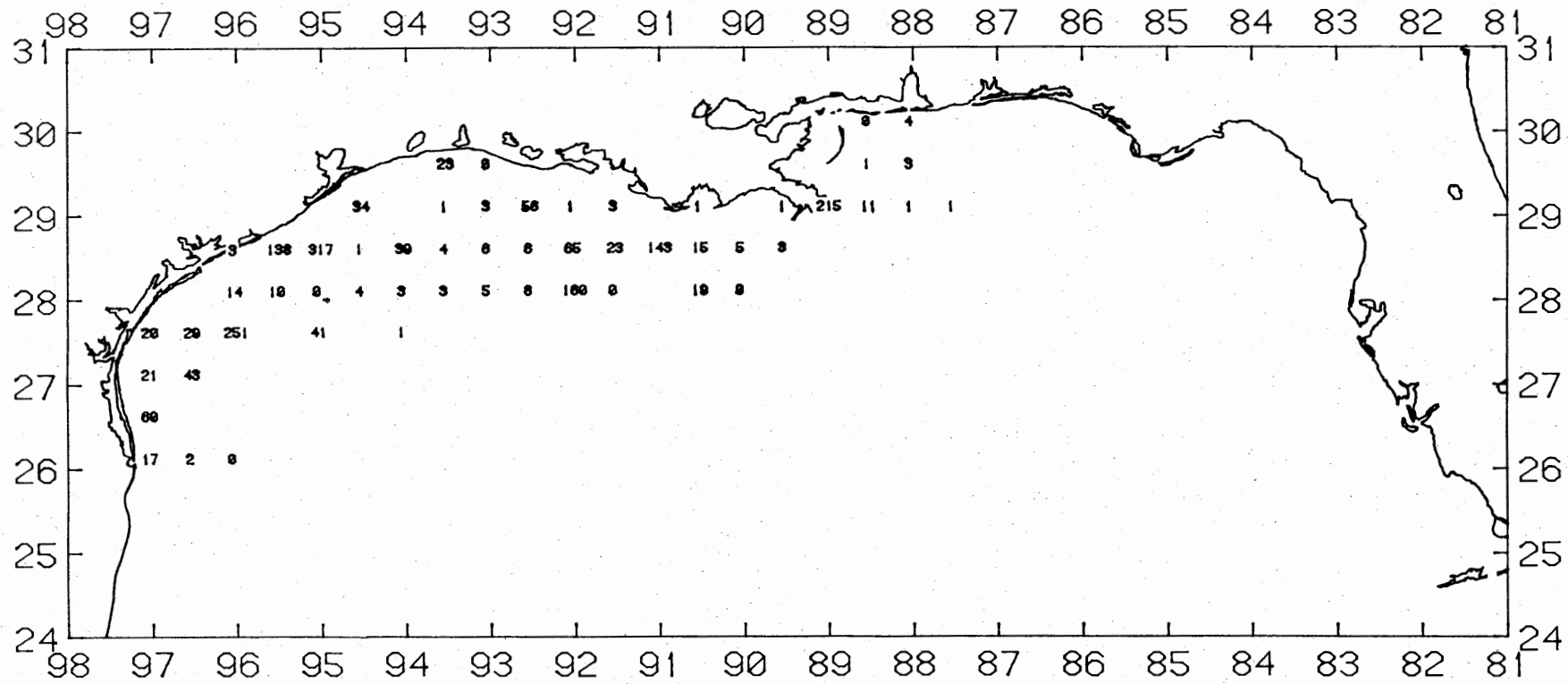


Figure 24. Gulf butterfish, *Peprilus burti*, lb/hour for June-July 1984.

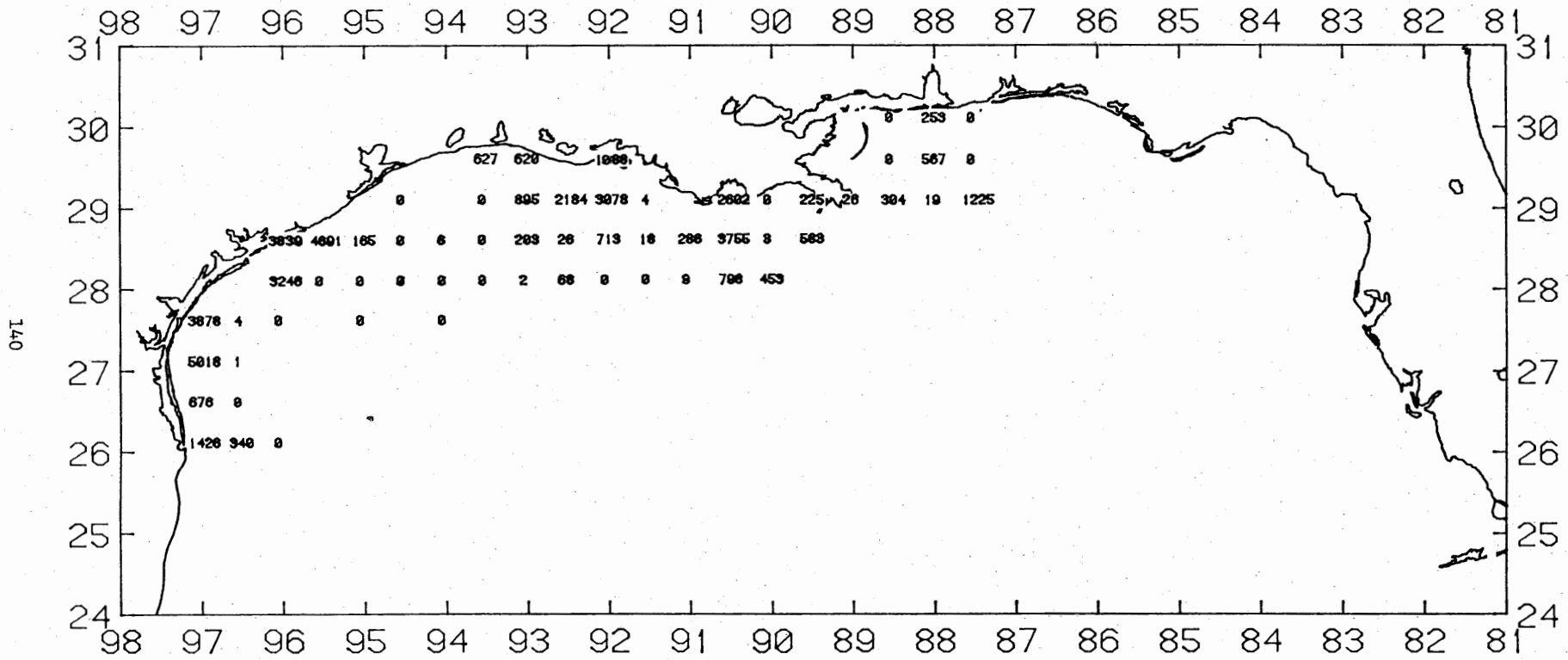


Figure 25. Atlantic croaker, *Micropogonias undulatus*, number/hour for June-July 1984.

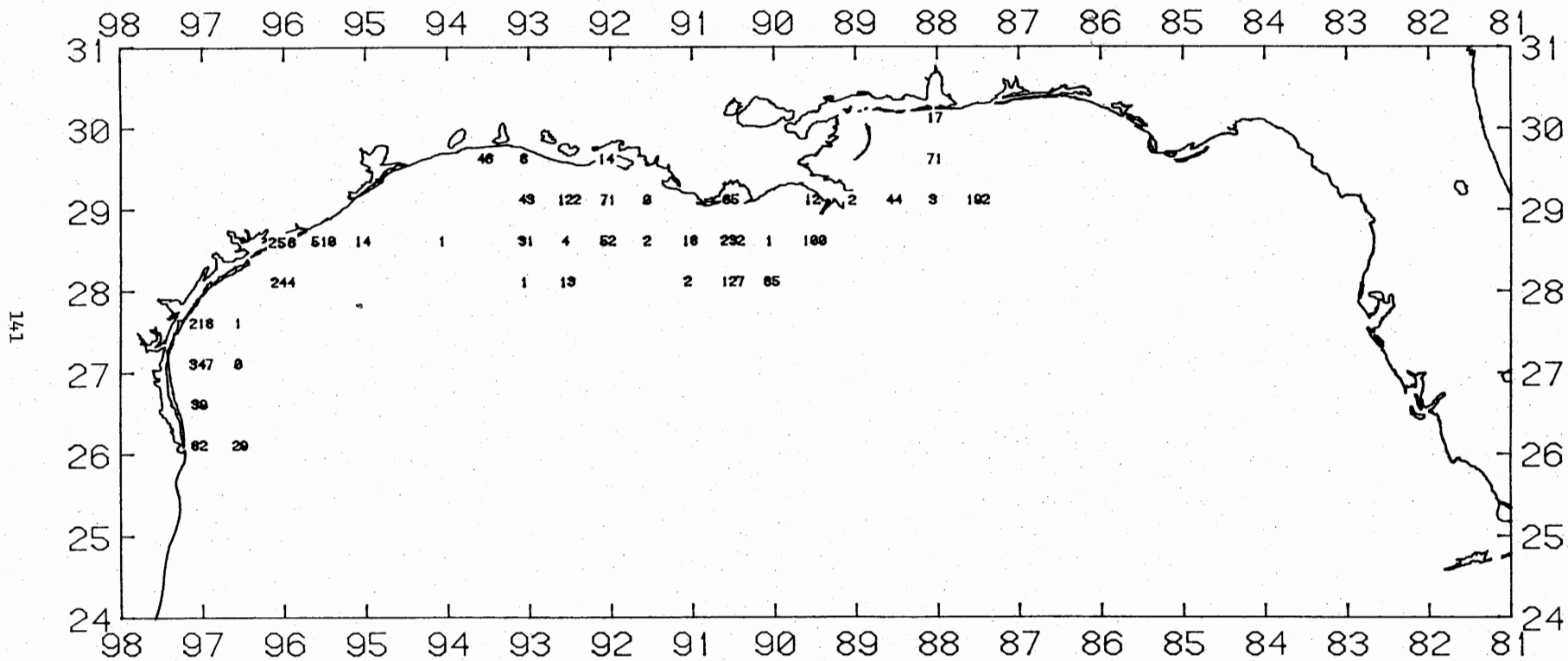


Figure 26. Atlantic croaker, *Micropogonias undulatus*, lb/hour for June-July 1984.

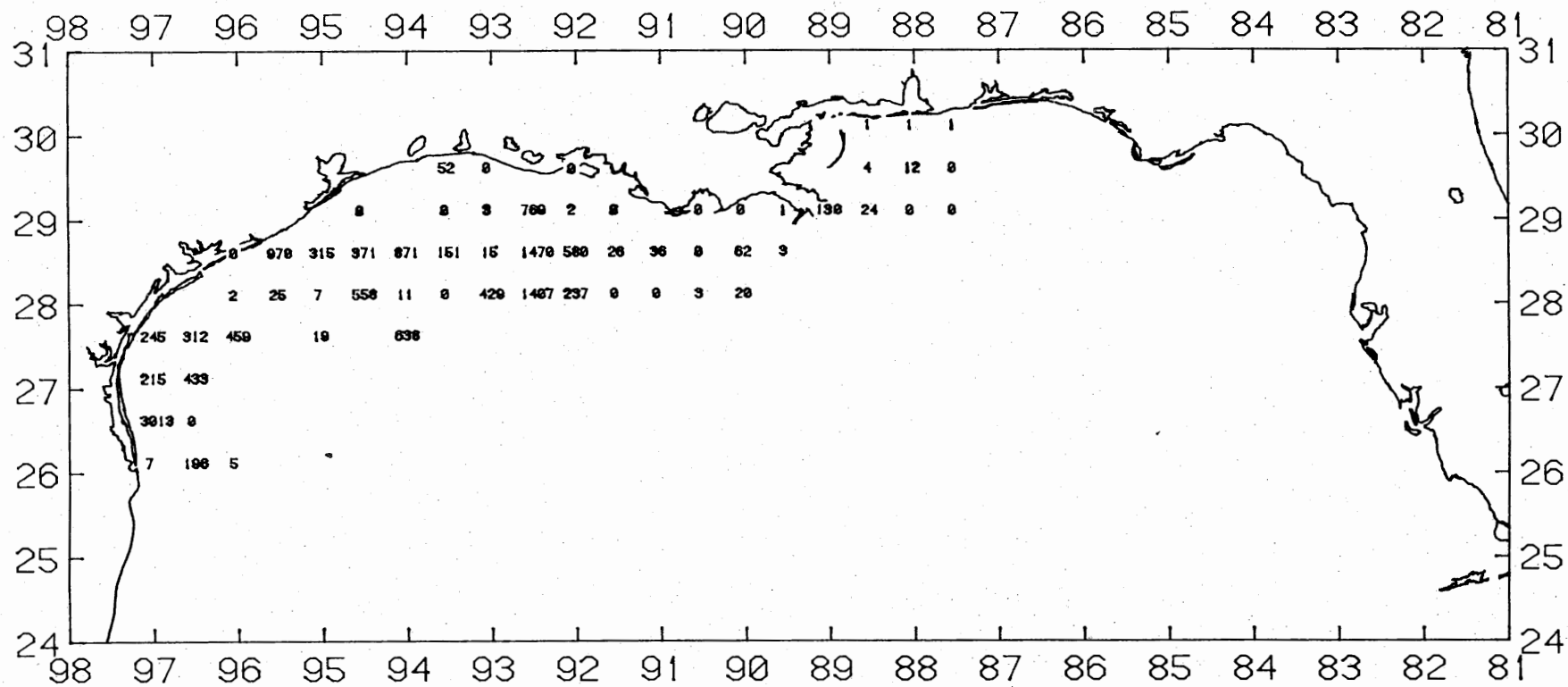


Figure 27. Rough scad, *Trachurus lathami*, number/hour for June-July 1984.

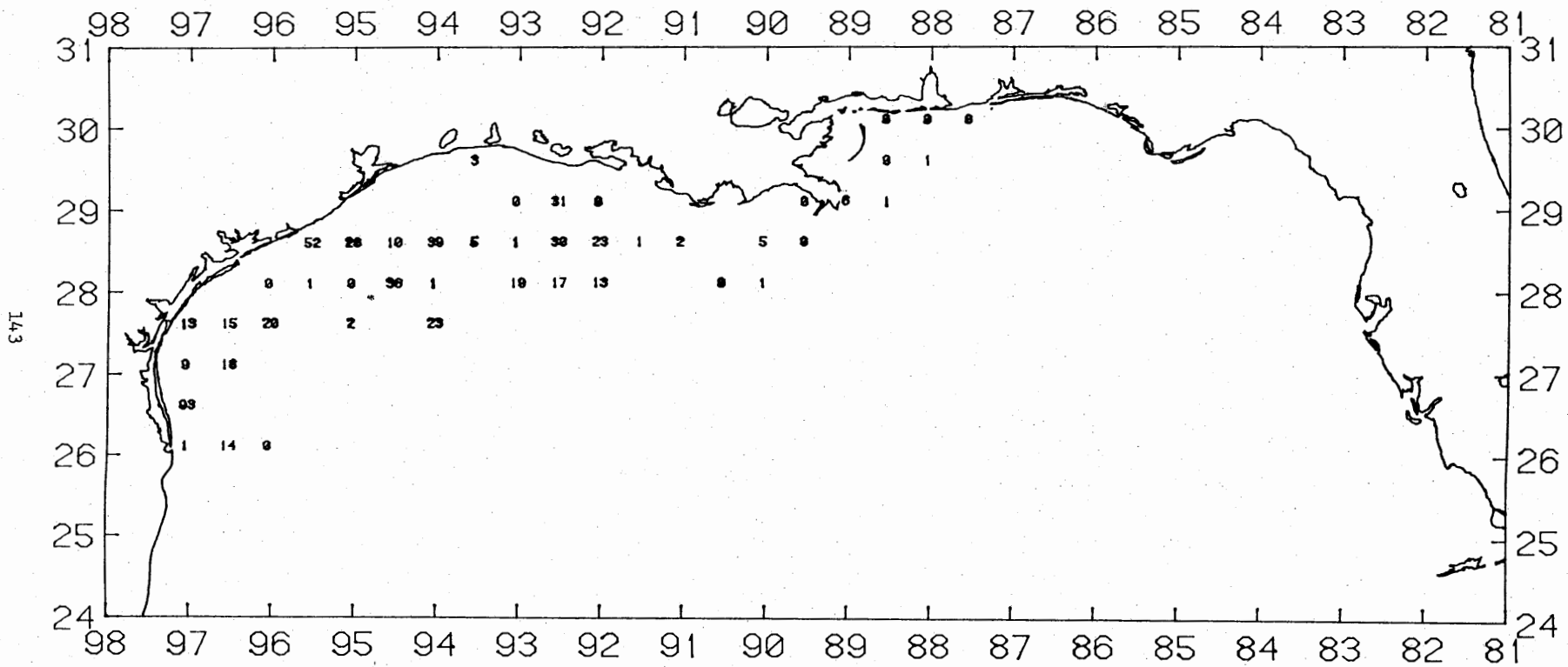


Figure 28. Rough scad, *Trachurus lathami*, lb/hour for June-July 1984.

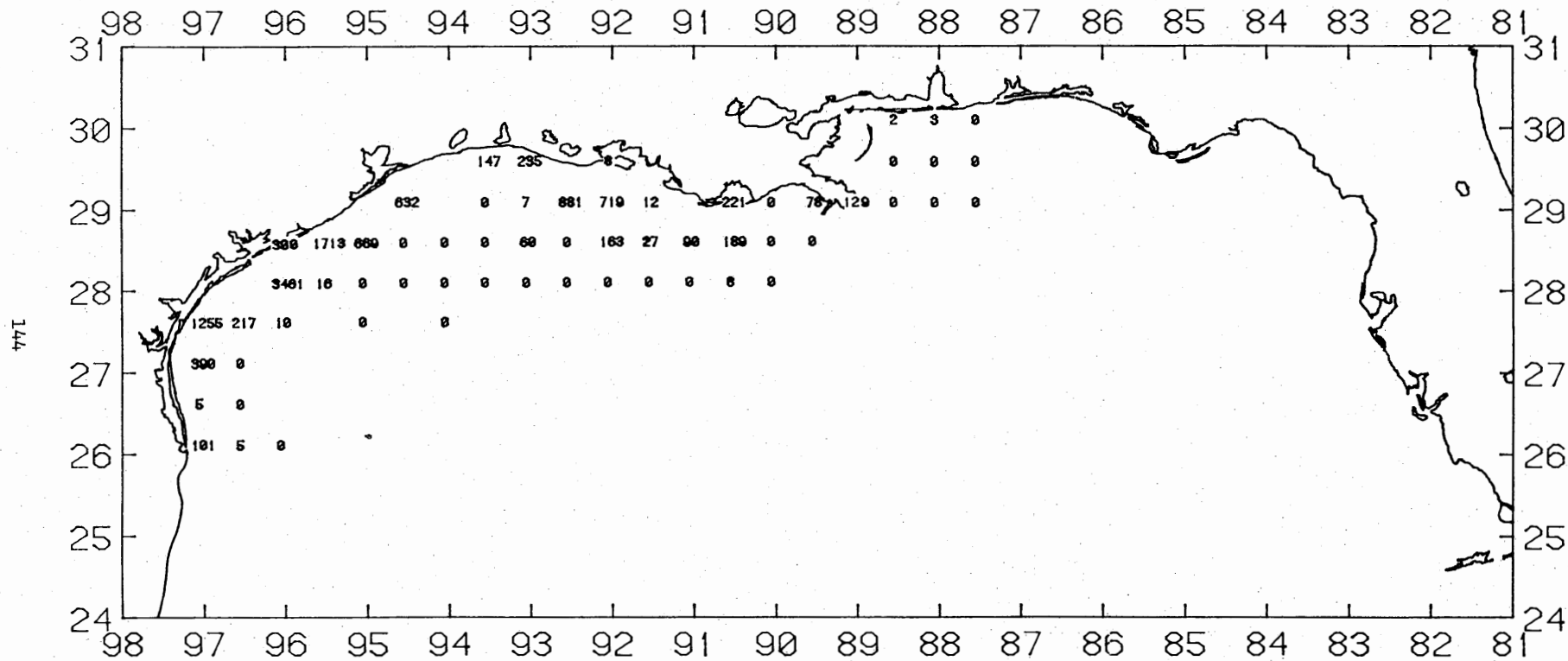


Figure 29. Atlantic threadfin, *Polydactylus octonemus*, number/hour for June-July 1984.

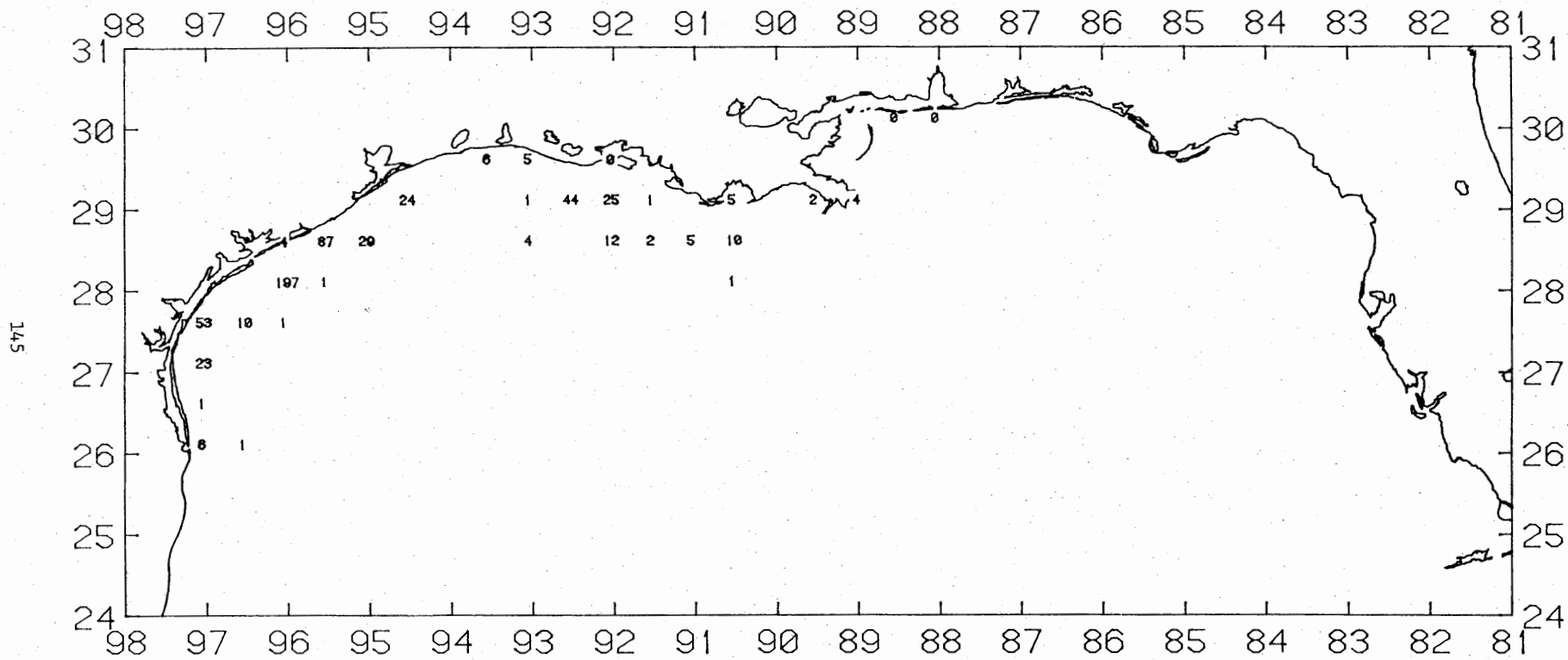


Figure 30. Atlantic threadfin, *Polydactylus octonemus*, lb/hour for June-July 1984.

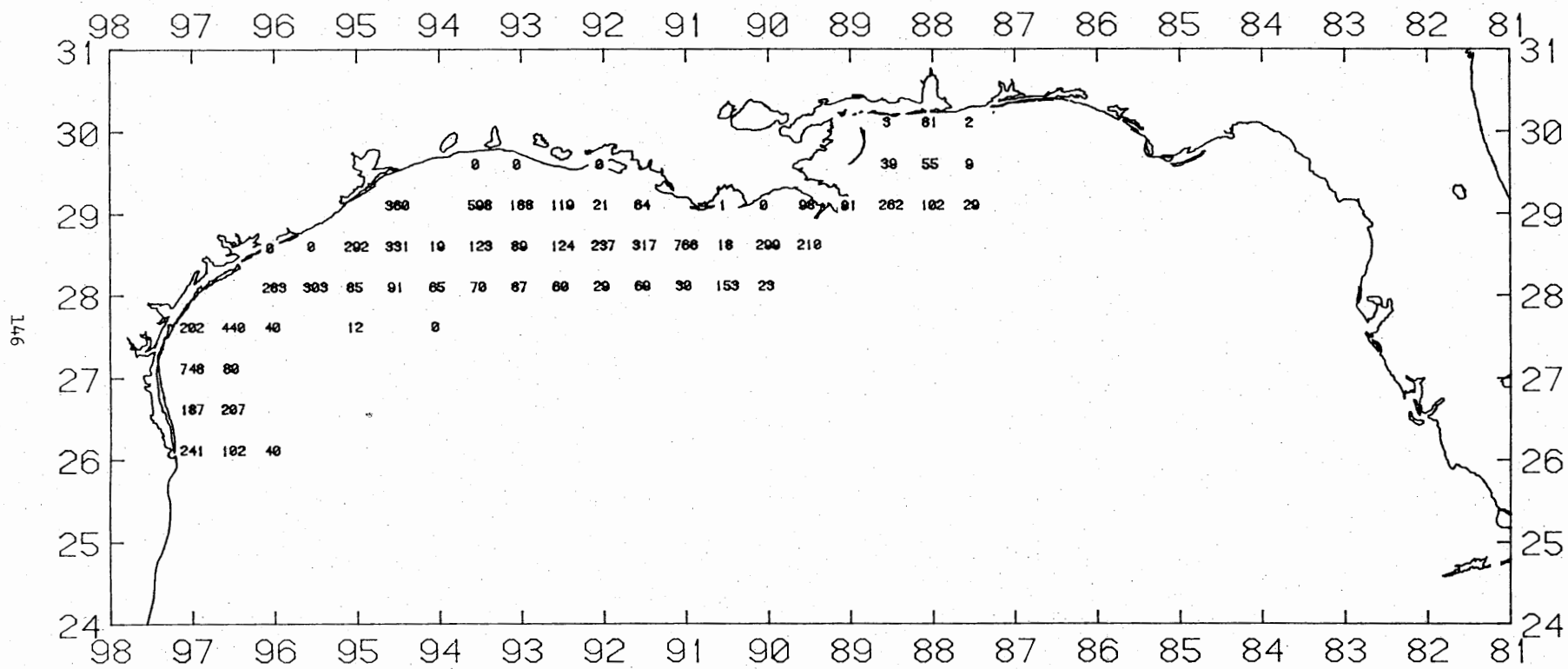


Figure 31. Rock sea bass, *Centropomus philadelphicus*, number/hour for June-July 1984.

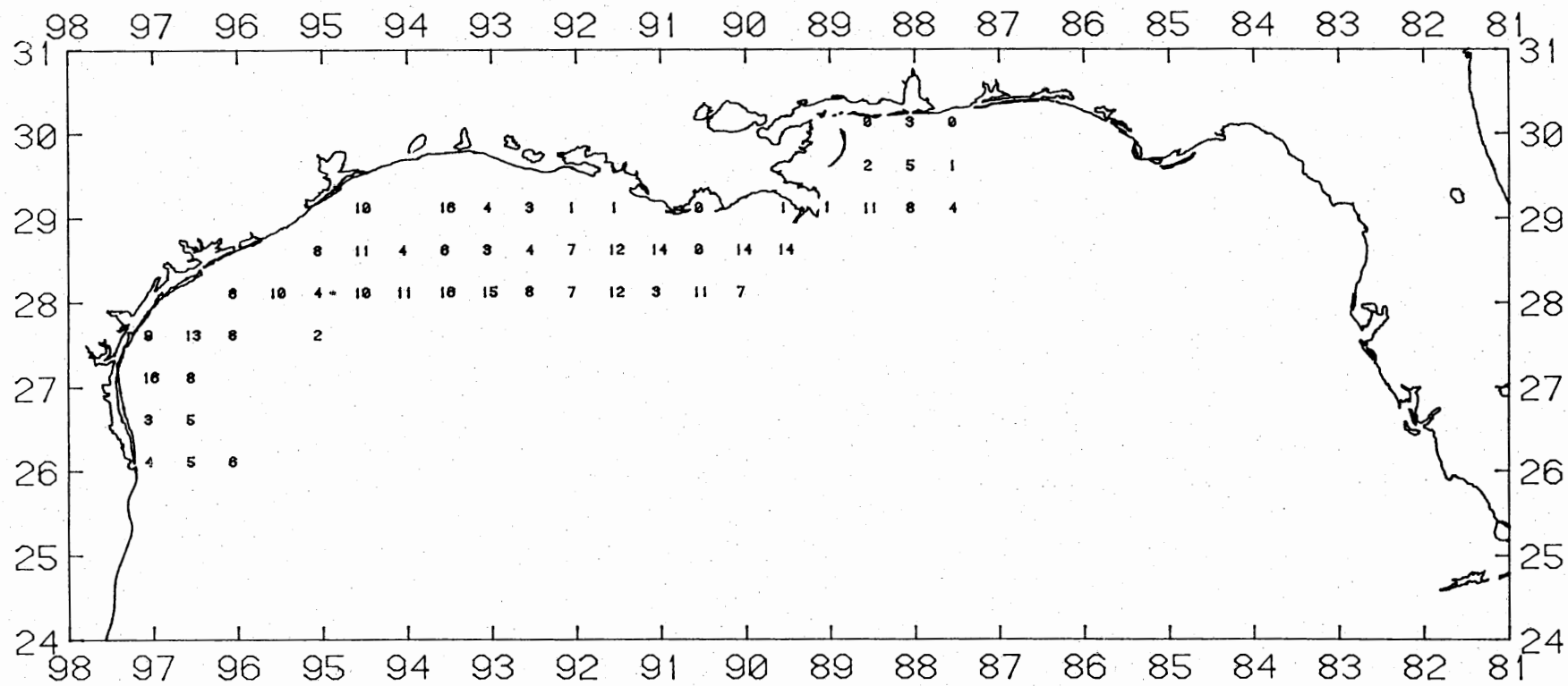


Figure 32. Rock sea bass, *Centropristis philadelphica*, lb/hour for June-July 1984.

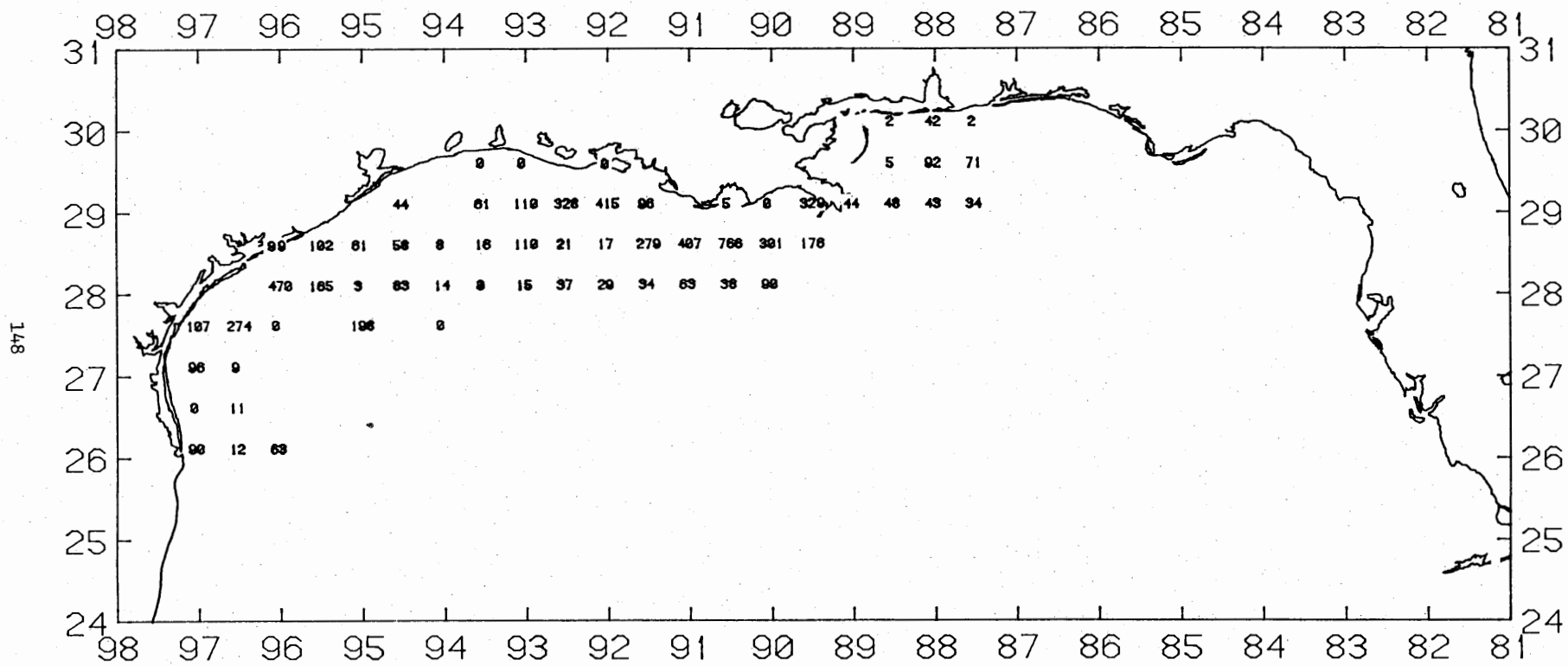


Figure 33. Blackfin searobin, *Prionotus rubio*, number/hour for June-July 1984.

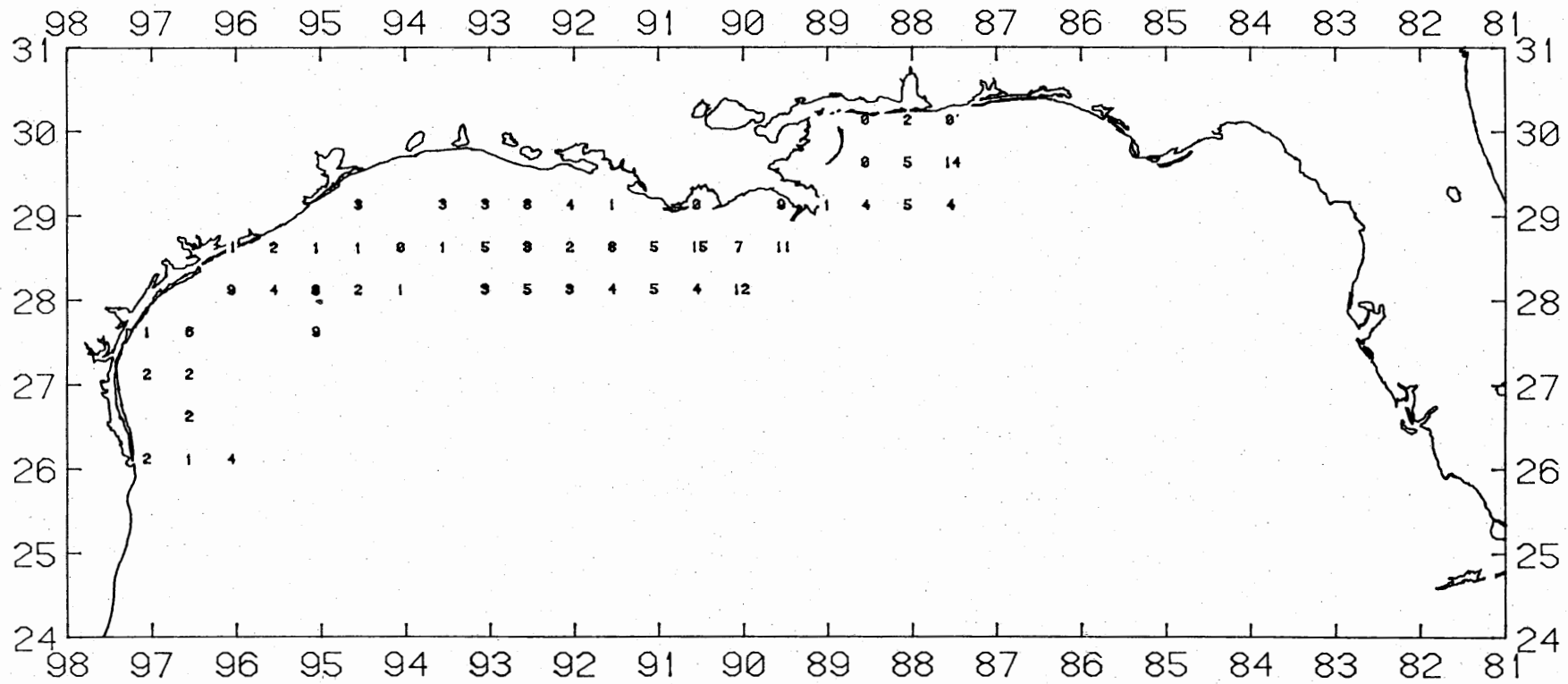


Figure 34. Blackfin searobin, *Prionotus rubio*, lb/hour for June-July 1984.

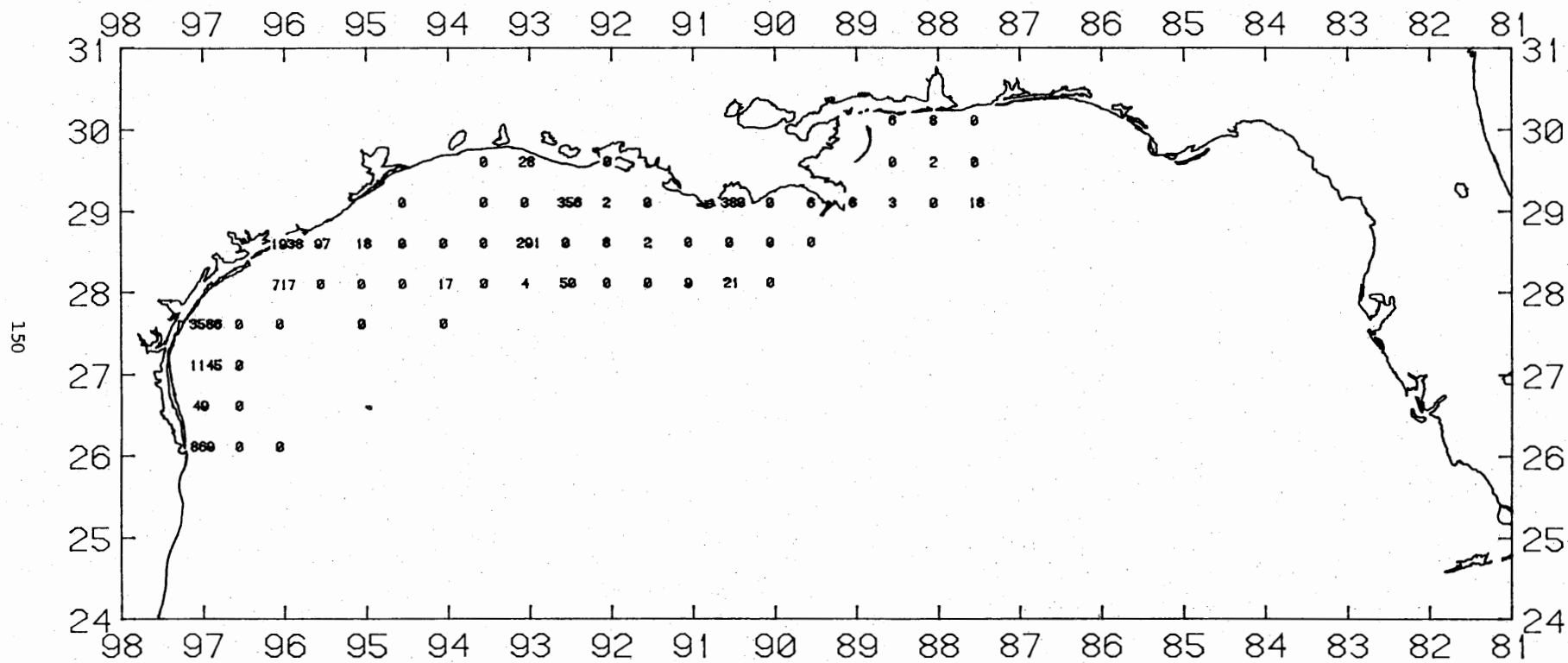


Figure 35. Spot, *Leleostomus xanthurus*, number/hour for June-July 1984.

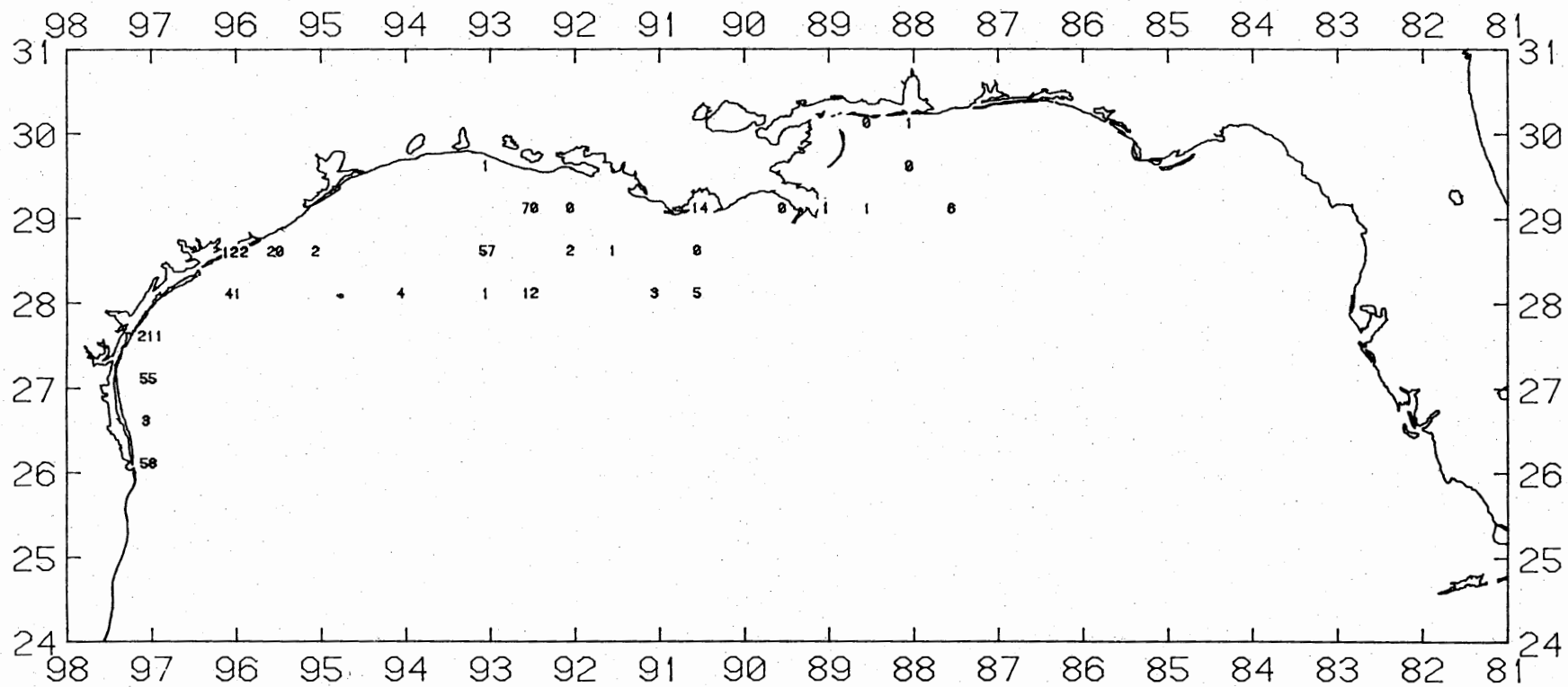


Figure 36. Spot, *Leiostomus xanthurus*, lb/hour for June-July 1984.

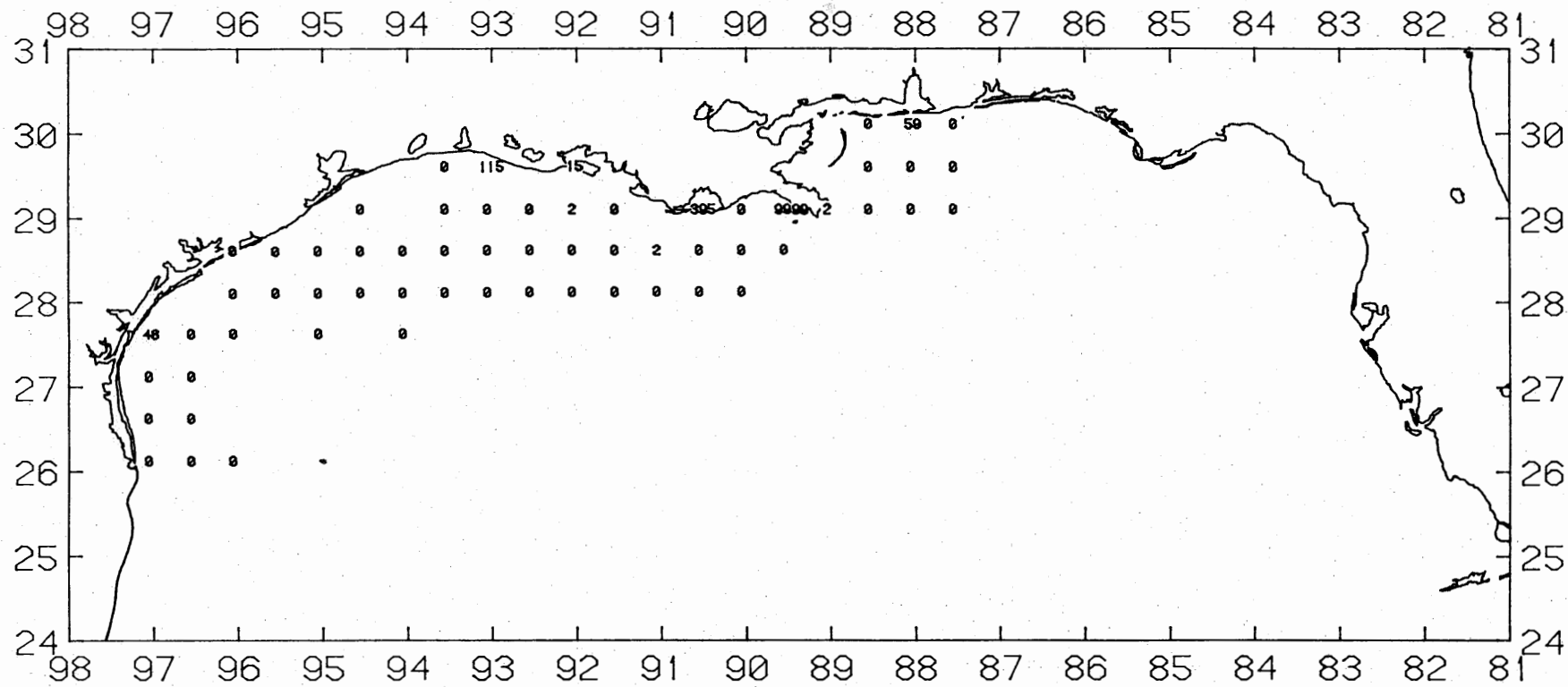


Figure 37. Bay anchovy, *Anchoa mitchilli*, number/hour for June-July 1984.

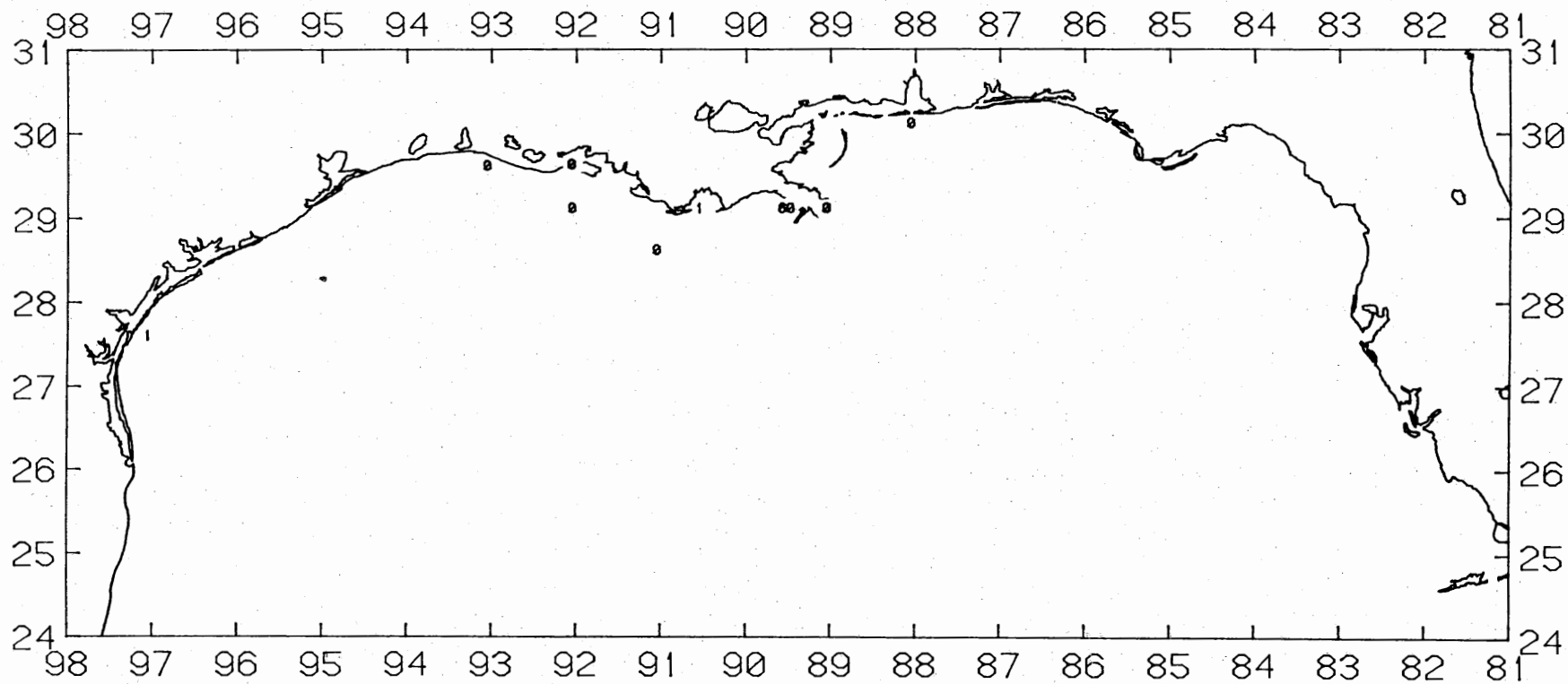


Figure 38. Bay anchovy, *Anchoa mitchilli*, lb/hour for June-July 1984.

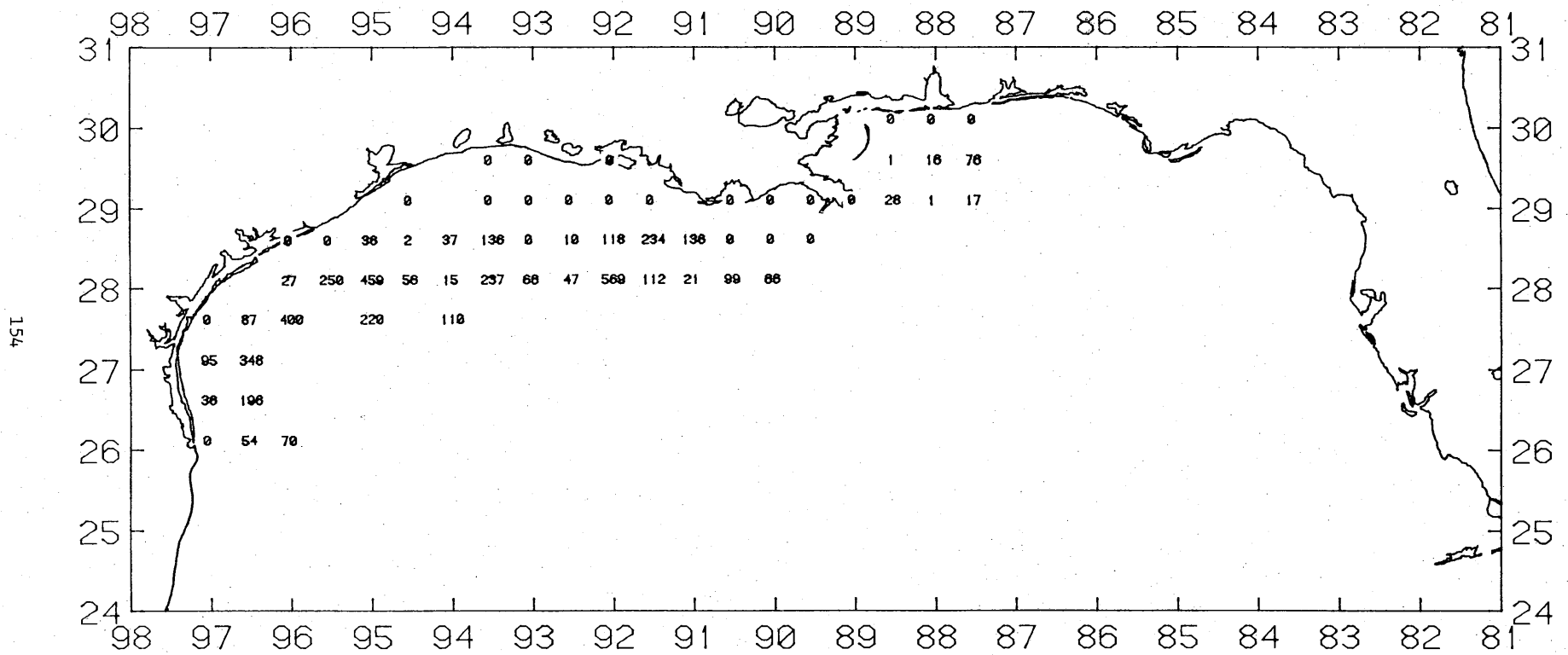


Figure 39. Shortwing searobin, *Prionotus stearnsi*, number/hour for June-July 1984.

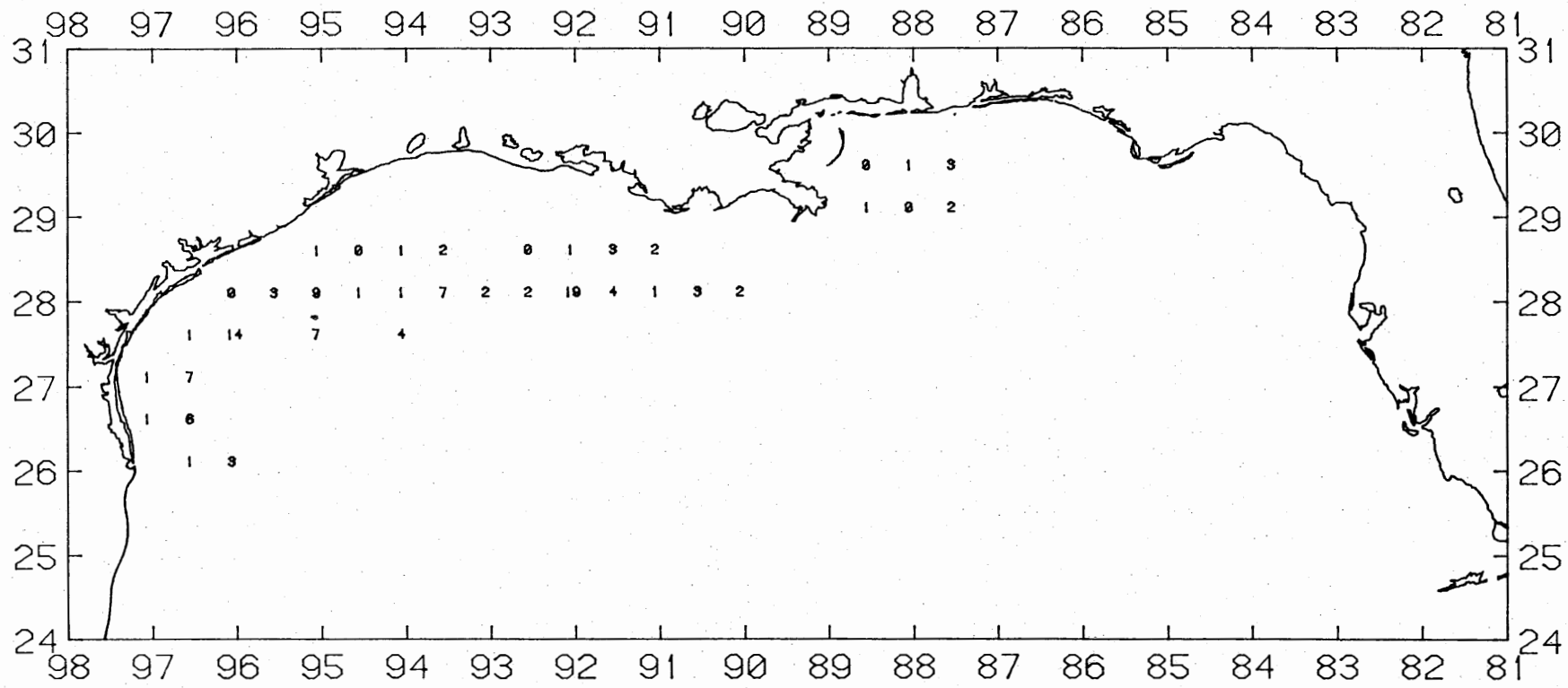


Figure 40. Shortwing searobin, *Prionotus stearnsi*, lb/hour for June-July 1984.

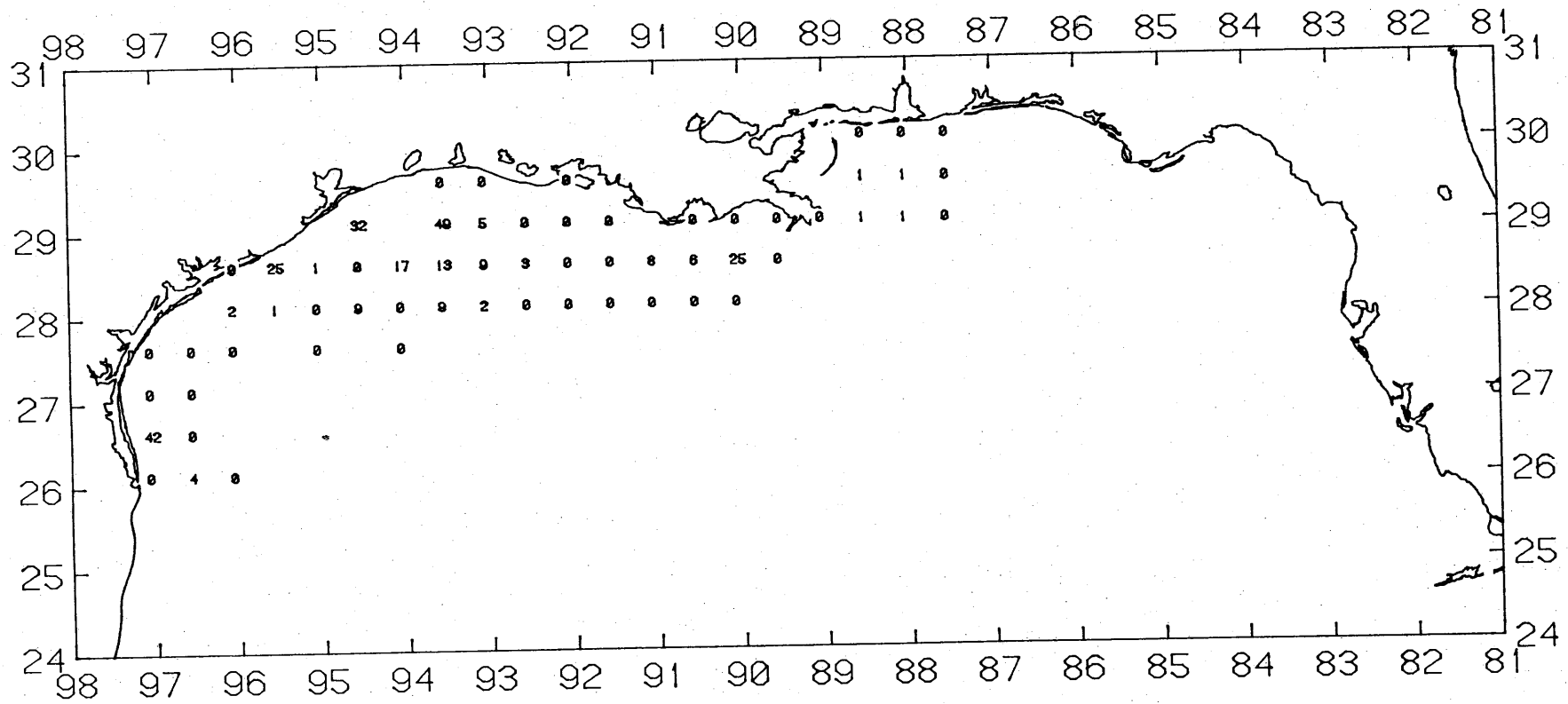


Figure 41. Red snapper, Lutjanus campechanus, number/hour for June-July 1984.

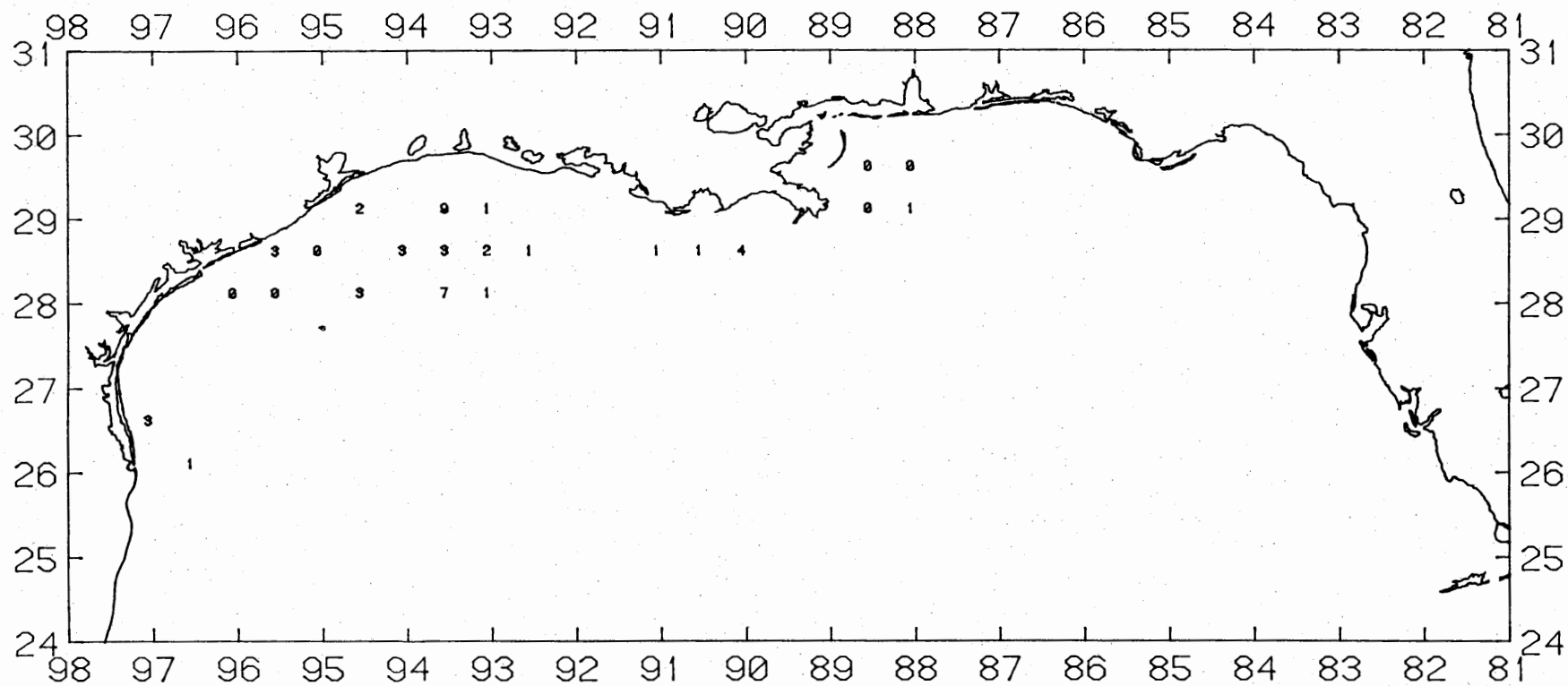


Figure 42. Red snapper, *Lutjanus campechanus*, lb/hour for June-July 1984.

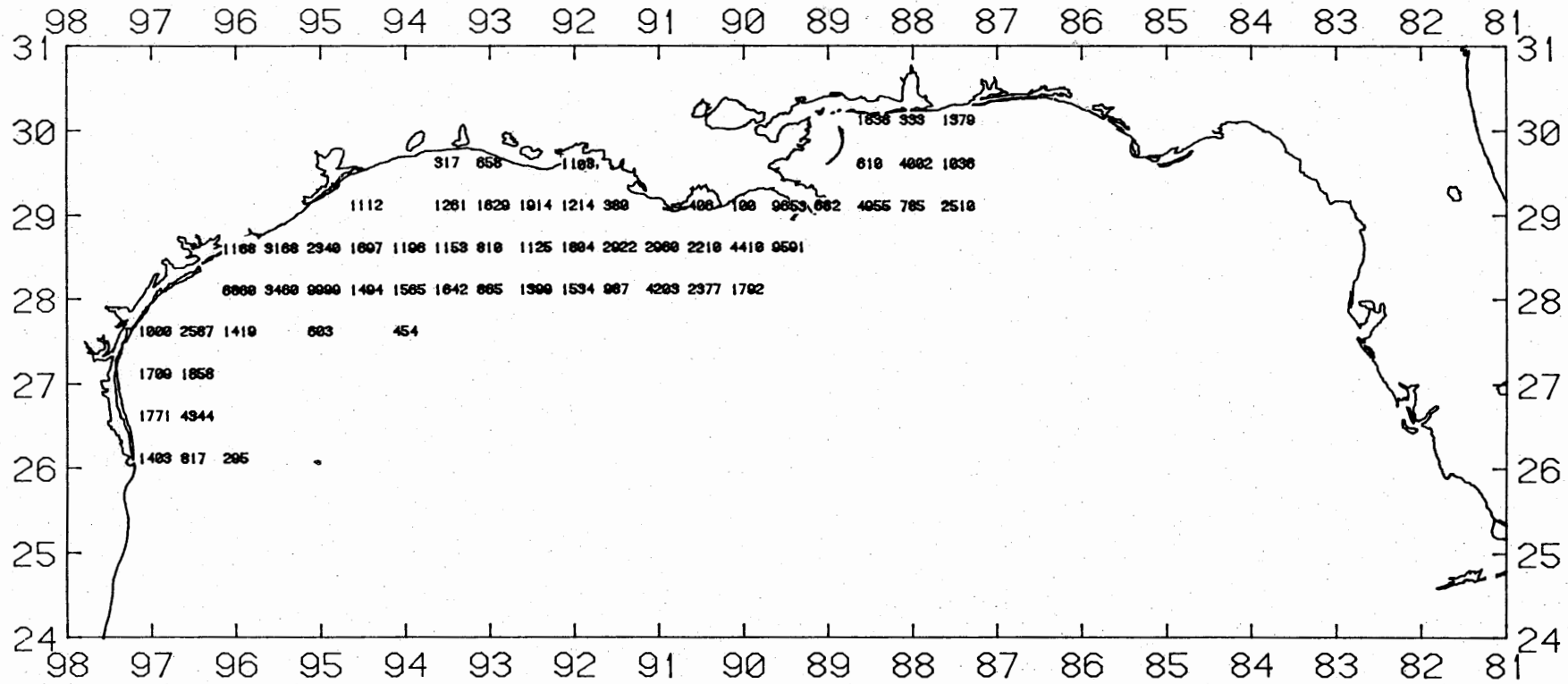


Figure 43. Roughneck shrimp, *Trachypenaeus* spp., number/hour for June-July 1984.

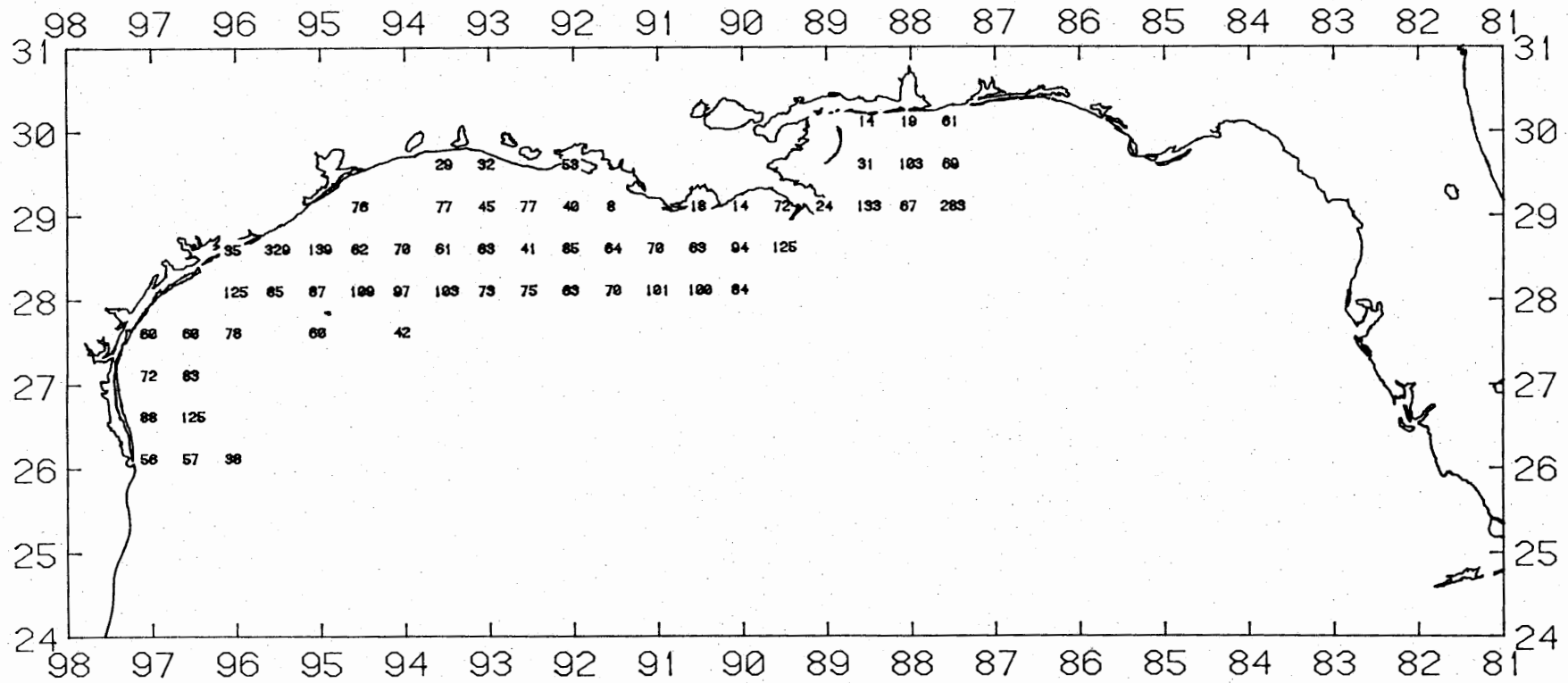


Figure 44. Roughneck shrimp, *Trachypenaeus* spp., lb/hour for June-July 1984.

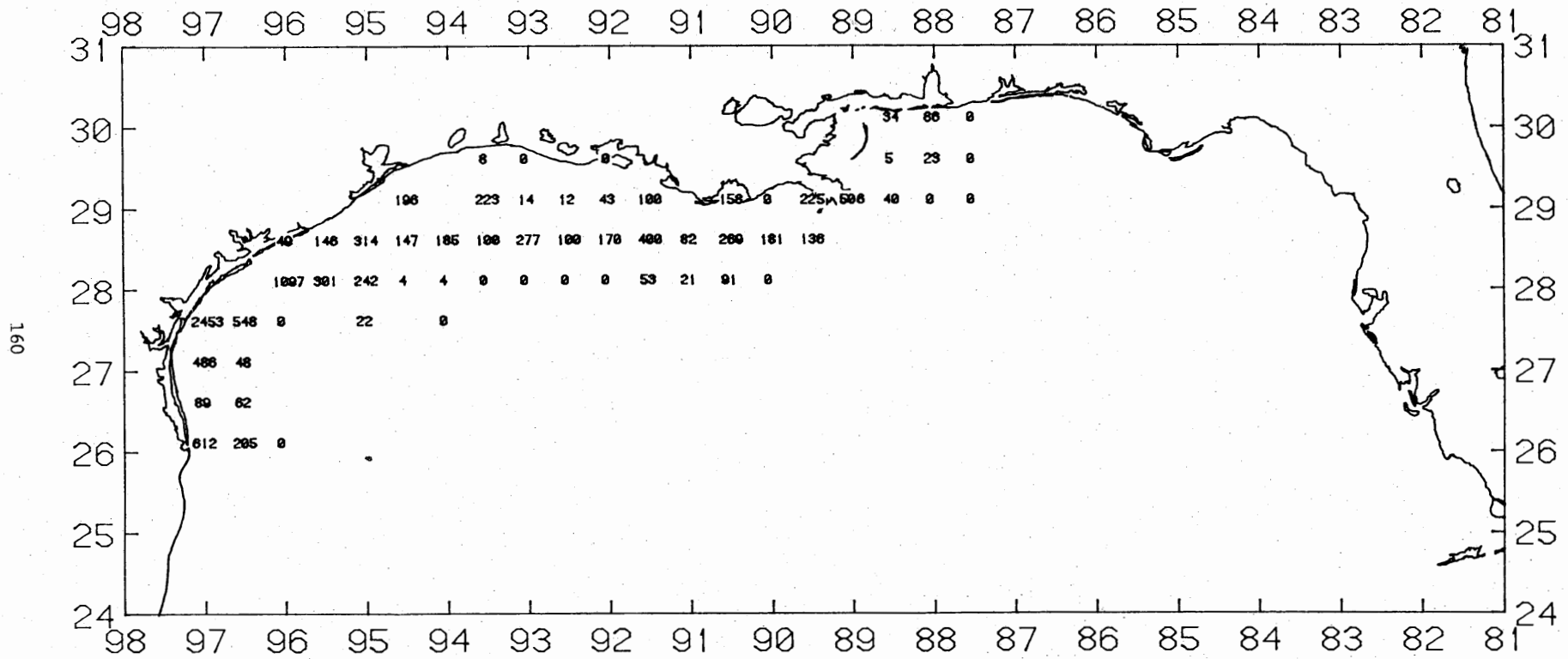


Figure 45. Lesser blue crab, *Callinectes similis*, number/hour for June-July 1984.

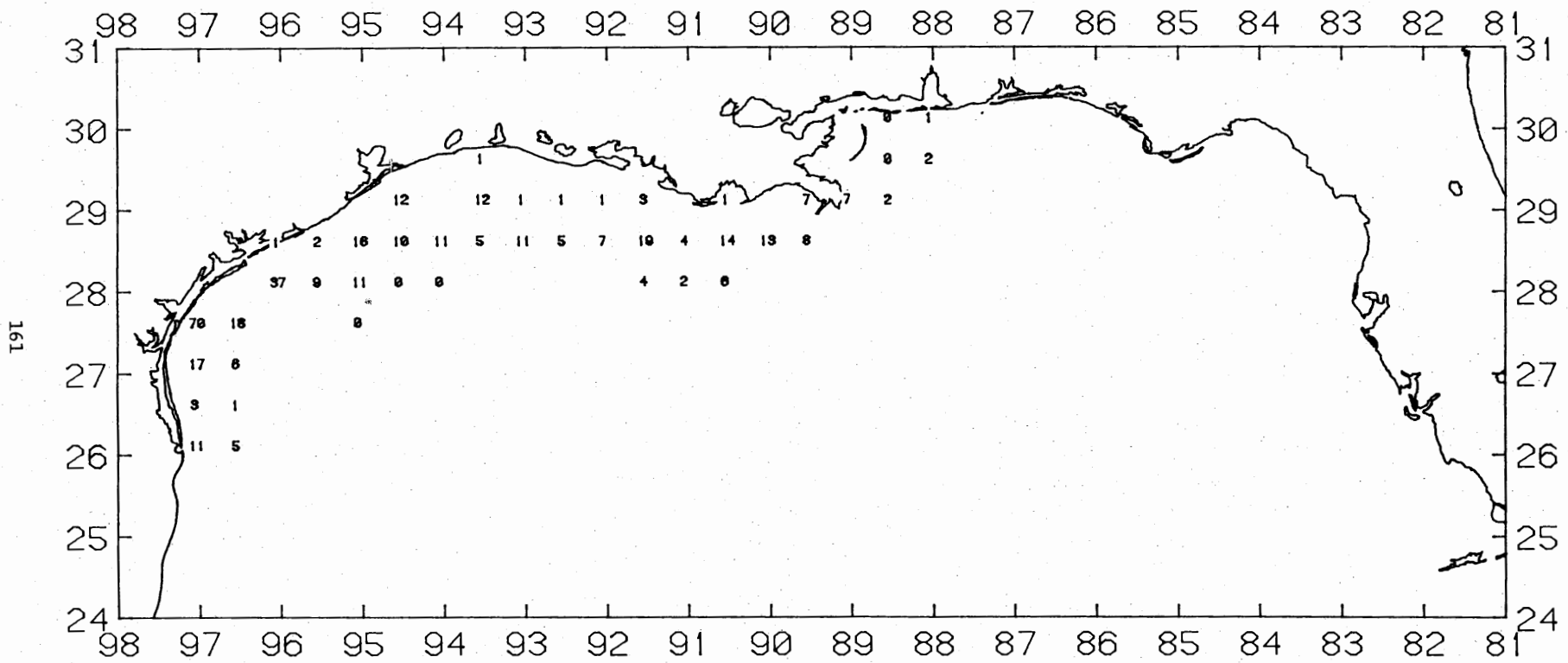


Figure 46. Lesser blue crab, *Callinectes similis*, lb/hour for June-July 1984.

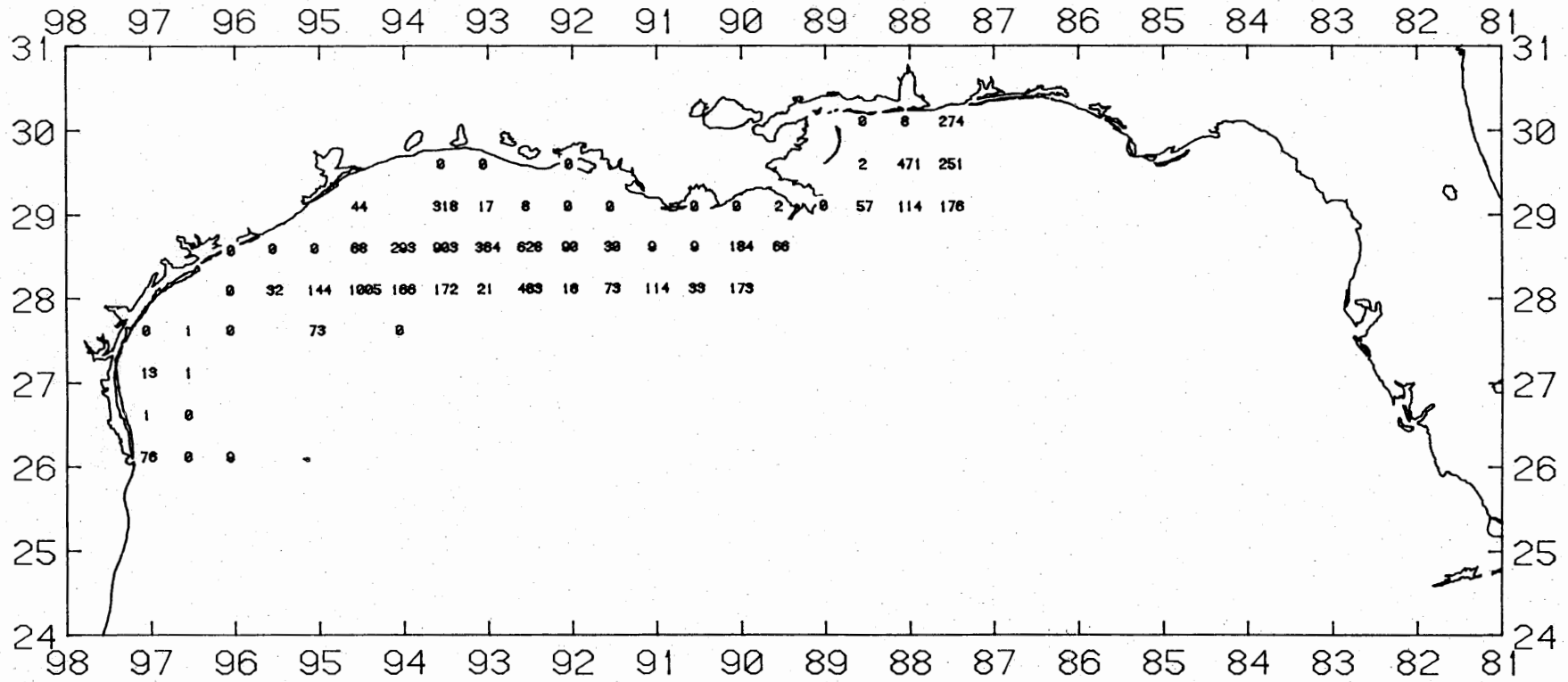


Figure 47. Rock shrimp, *Sicyonia brevirostris*, number/hour for June-July 1984.

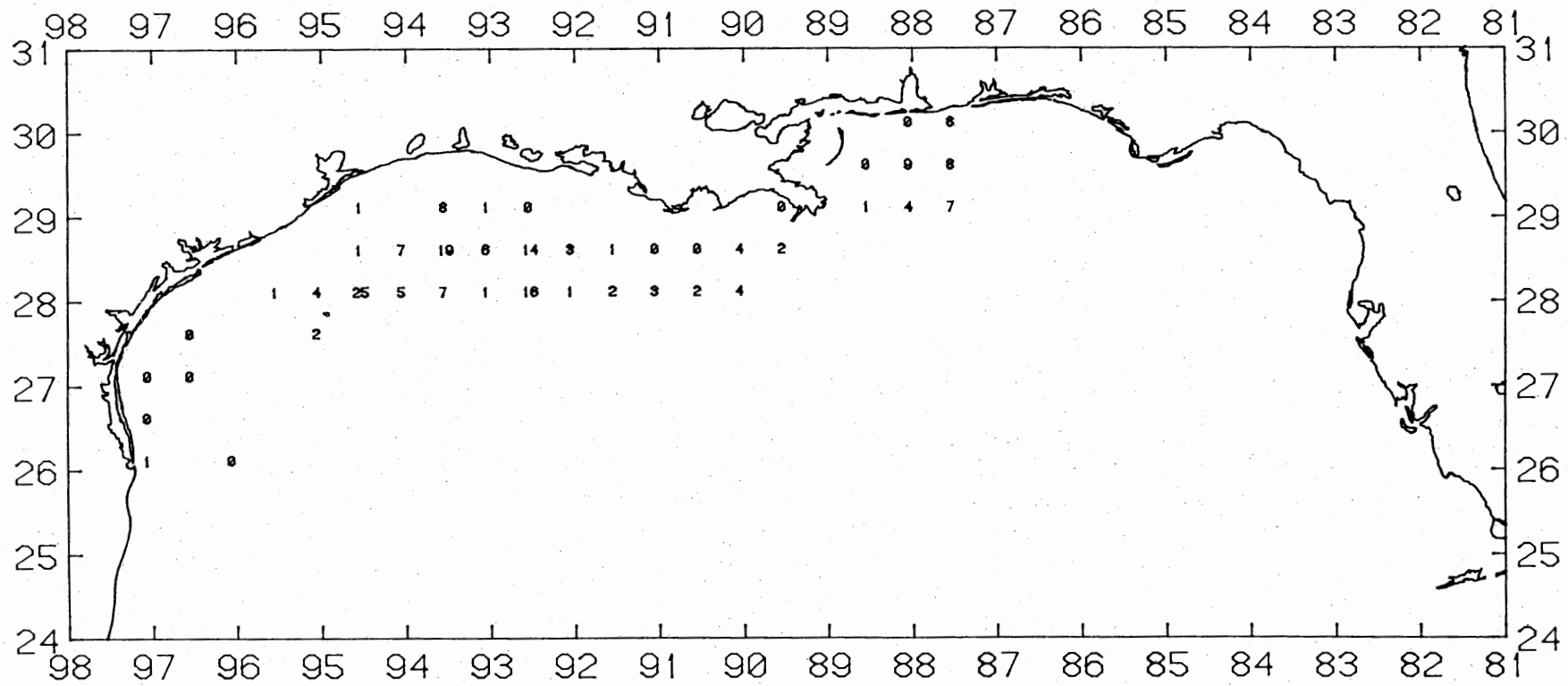


Figure 48. Rock shrimp, *Sicyonia brevirostris*, lb/hour for June-July 1984.

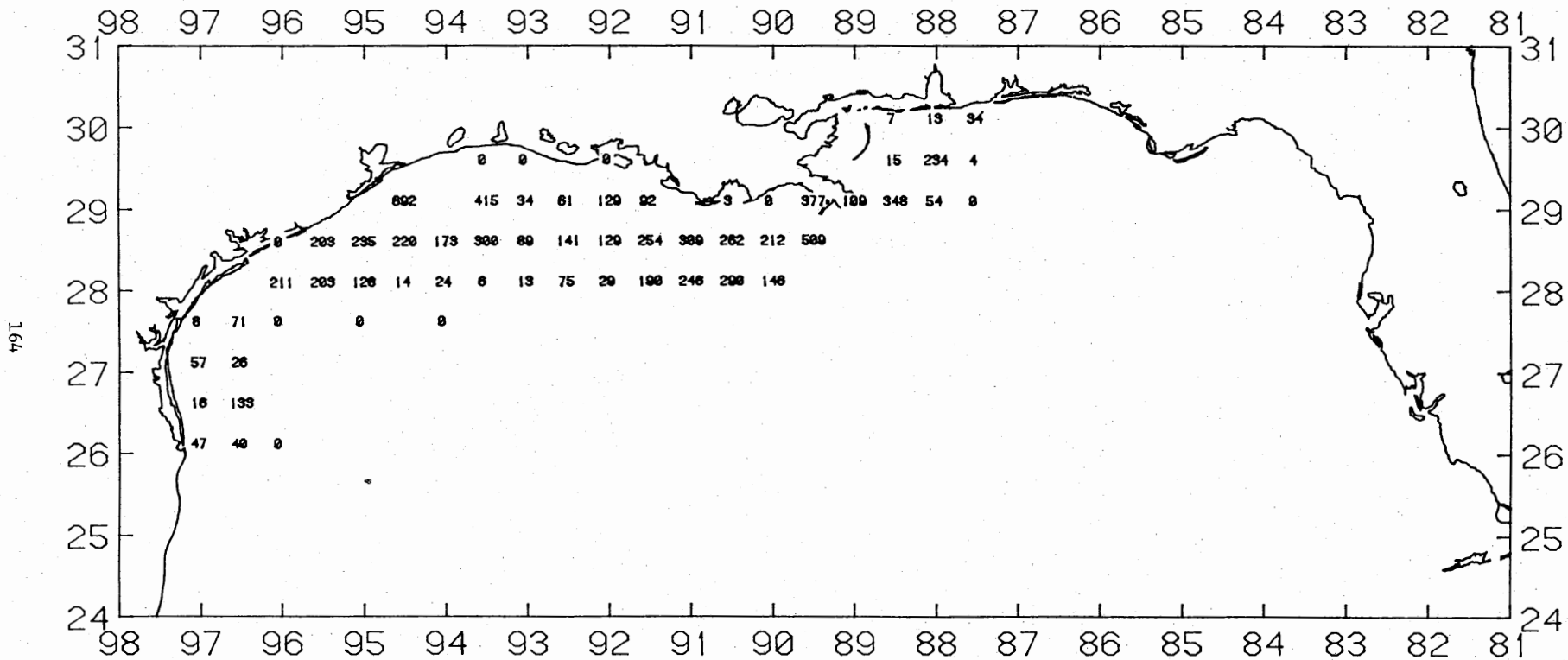


Figure 49. Mantis shrimps, *Squilla* spp., number/hour for June-July 1984.

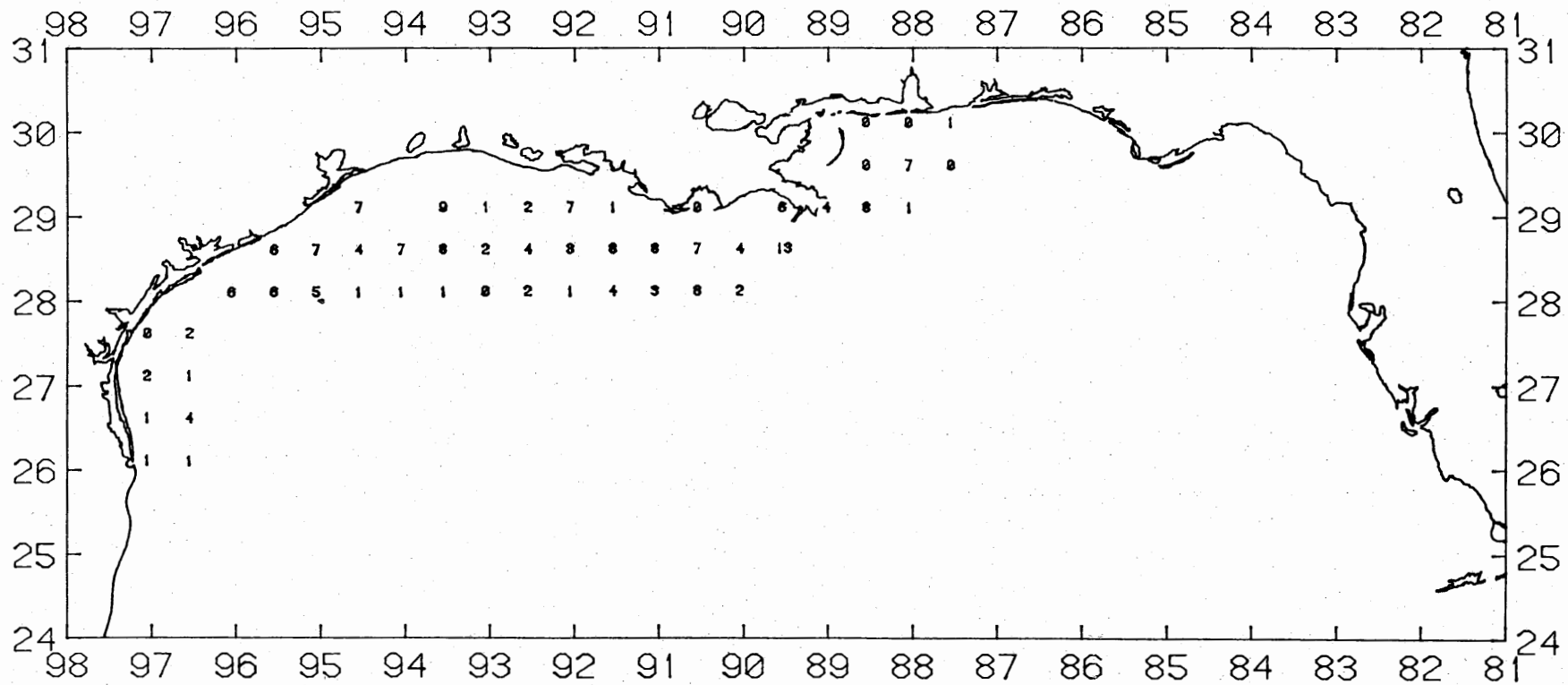


Figure 50. Mantis shrimps, *Squilla* spp., lb/hour for June-July 1984.

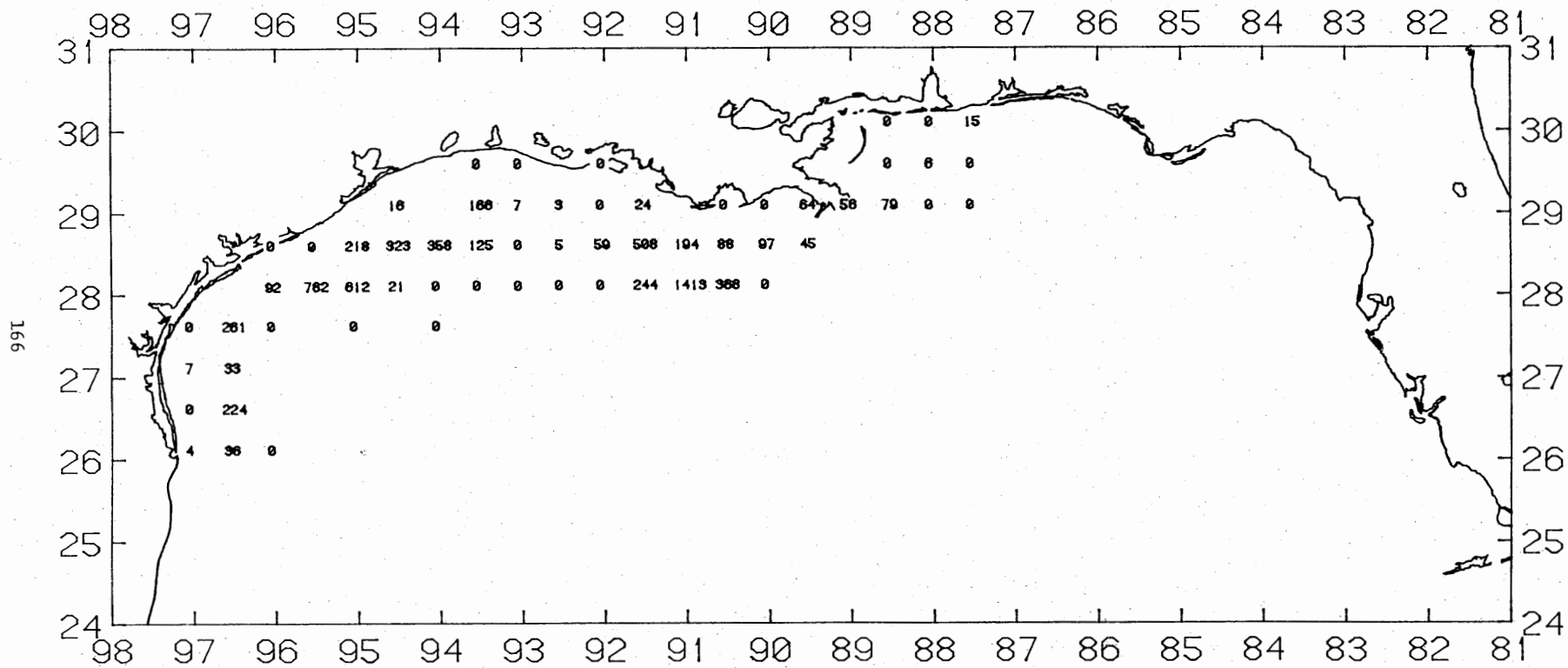


Figure 51. Rock shrimp, *Sicyonia dorsalis*, number/hour for June-July 1984.

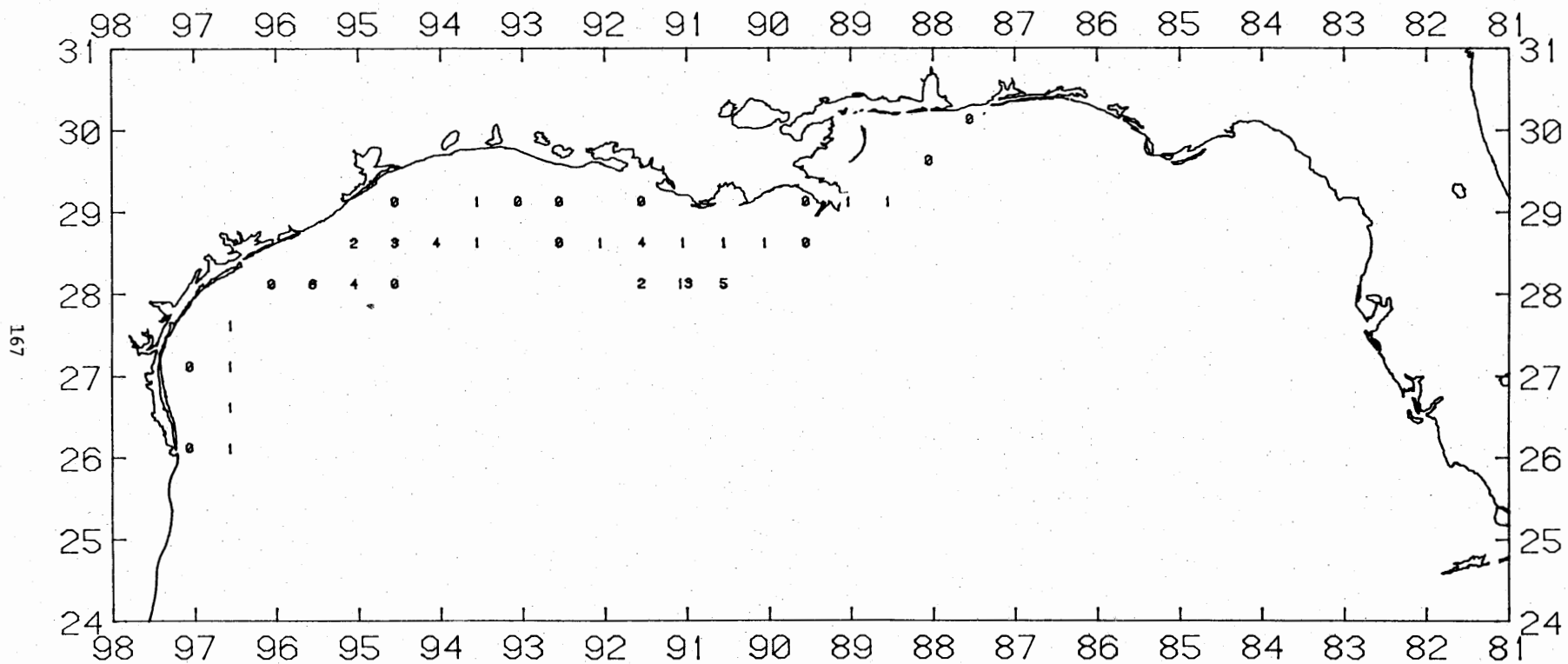


Figure 52. Rock shrimp, *Sicyonia dorsalis*, lb/hour for June-July 1984.

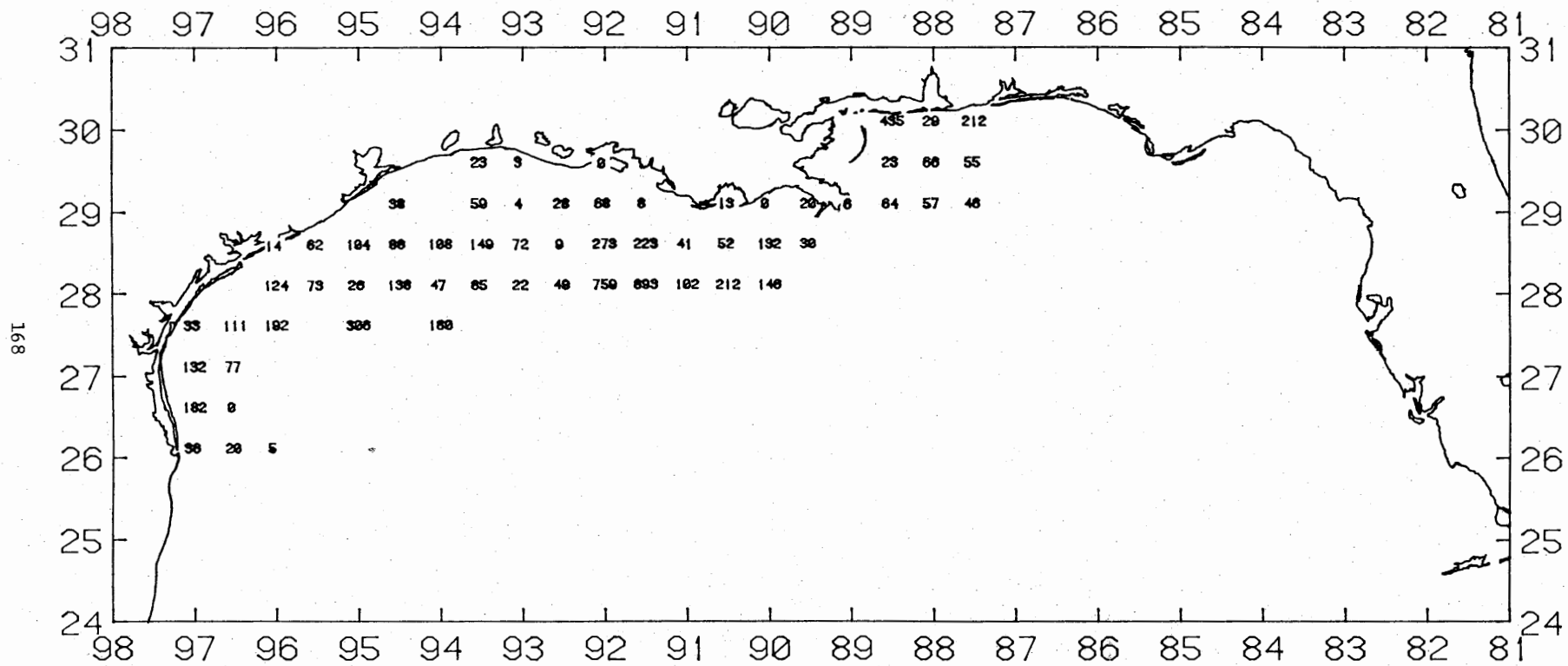


Figure 53. Common squid, *Loligo pealei*, number/hour for June-July 1984.

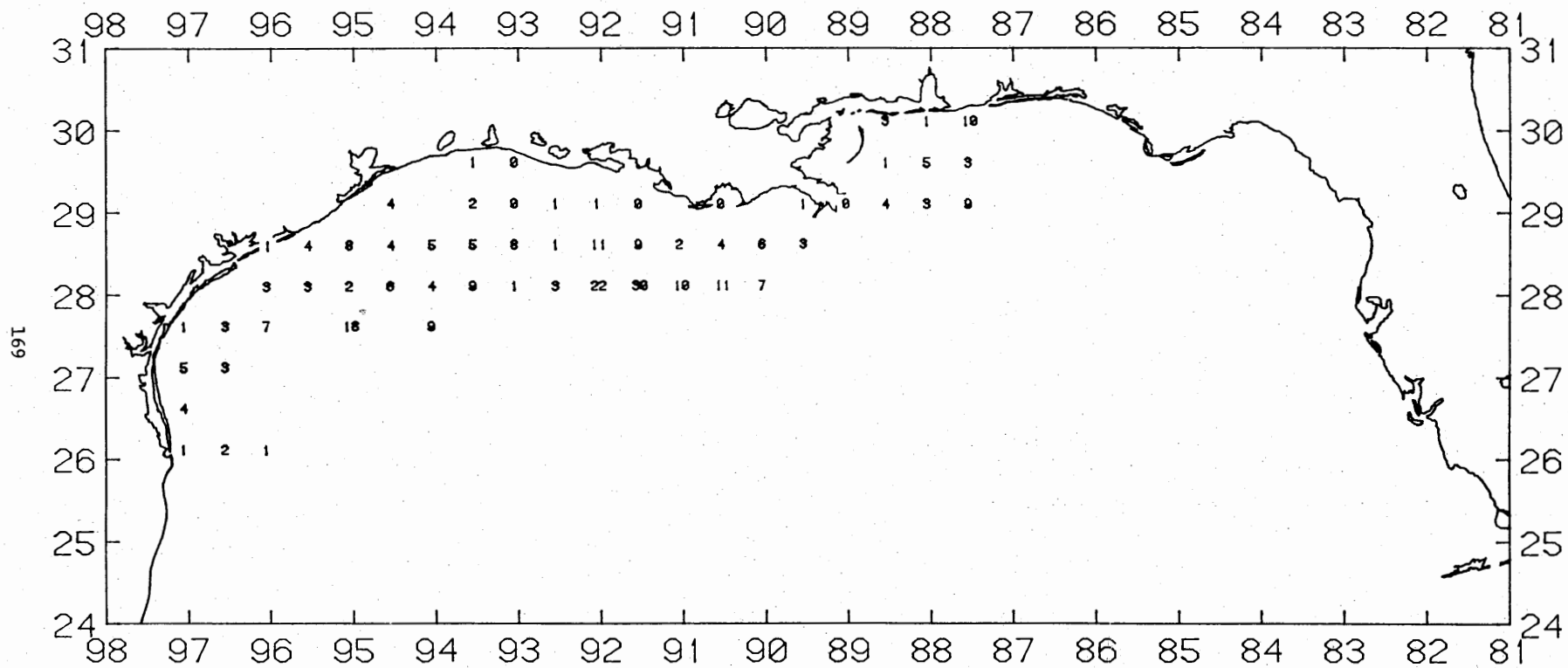


Figure 54. Common squid, *Loligo pealei*, lb/hour for June-July 1984.

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