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**ANNUAL REPORT
TO THE
TECHNICAL COORDINATING COMMITTEE**

GULF STATES MARINE FISHERIES COMMISSION

OCTOBER 1, 1986 to SEPTEMBER 30, 1987

SEAMAP SUBCOMMITTEE

WALTER M. TATUM, CHAIRMAN

OCTOBER 19, 1987

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REPORT PREPARED BY:

TOM VAN DEVENDER

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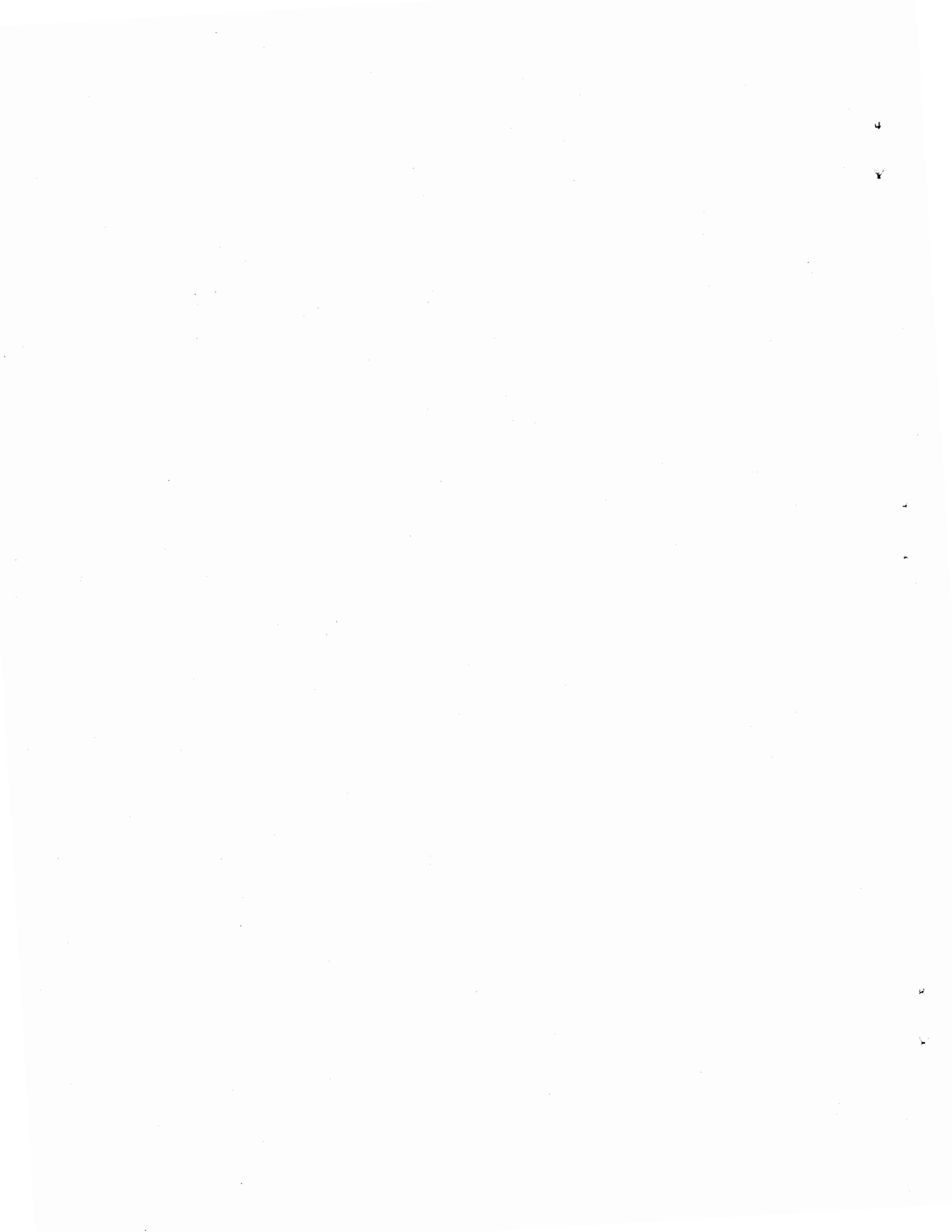
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INTRODUCTION

The Southeast Area Monitoring and Assessment Program (SEAMAP) is a State/Federal/university program for collection, management and dissemination of fishery-independent data and information in the southeastern United States. The program presently consists of two operational components, SEAMAP-Gulf of Mexico, which began in 1981, and SEAMAP-South Atlantic, implemented in 1983. A third component, SEAMAP-Caribbean, is in the planning phase.

Each SEAMAP component operates independently, planning and conducting surveys and information dissemination in accordance with administrative policies and guidelines of the National Marine Fisheries Service's Southeast Regional Office (SERO).

Federal programmatic funding for SEAMAP activities and administration was appropriated in Fiscal Years 1985, 1986, and 1987 (October 1, 1986 through September 30, 1987). State and commission funding allocations for FY1986 and FY1987 were handled through State-Federal cooperative agreements, administered by NMFS/SERO and NMFS/SEFC.

In FY1987, SEAMAP operations continued for the sixth consecutive year. SEAMAP resource surveys included the Fall Shrimp/Groundfish Survey, Louisiana seasonal trawl surveys, Spring Plankton Survey, Spring Squid/Butterfish Gear Comparison, Summer Shrimp/Groundfish Trawl Survey, September Plankton Survey and plankton and environmental data surveys. Special projects for FY1987 consisted of the Status and Trends Benthic Surveillance Project, Program Review of SEAMAP, and Passive Gear Workshop. Other FY1987 activities included SEAMAP information services and program management. Resource survey areas in FY1987 are shown in Figure 1.

This report is the seventh in a series of annual SEAMAP Subcommittee reports to the Technical Coordinating Committee (TCC) of the Gulf States Marine Fisheries Commission. It is intended to inform the TCC of SEAMAP-Gulf of Mexico activities and accomplishments during FY1987, from October 1, 1986 through September 30, 1987, and proposed SEAMAP activities for FY1988.

Appreciation is gratefully extended to the staff of the Gulf States Marine Fisheries Commission, and to the NMFS-Mississippi Laboratories, for their considerable assistance in the preparation of this document.

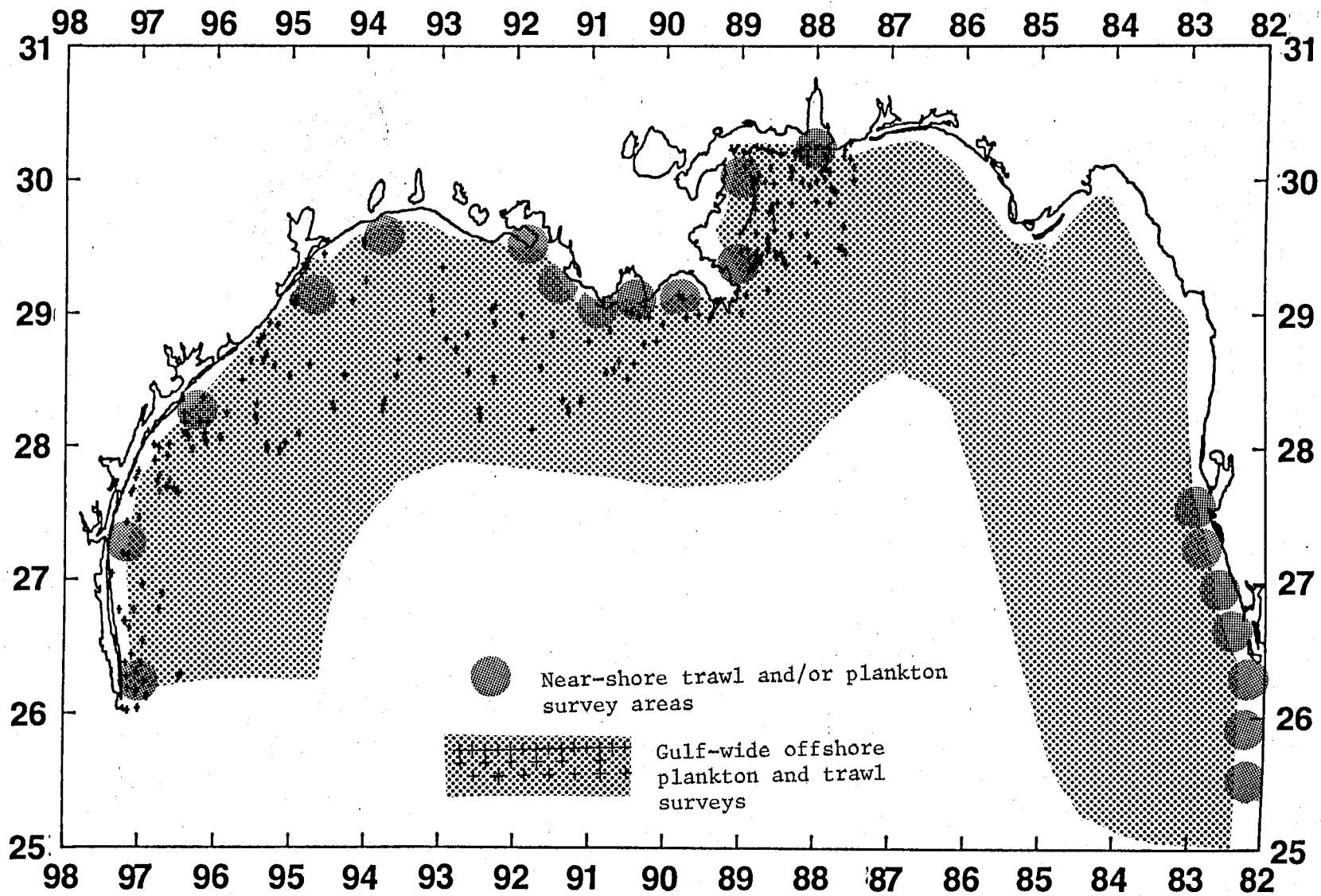


Figure 1. 1987 SEAMAP Survey Areas

1987 SEAMAP RESOURCES SURVEYS

FALL SHRIMP/GROUNDFISH SURVEY

The 1986 Fall Shrimp/Groundfish Survey was conducted from October 16 - November 26, 1986, from off Apalachicola, Florida to the U.S.-Mexican border. Vessels from NMFS, Alabama, Mississippi, Louisiana and Texas sampled inshore and offshore waters to 100 fm, covering a total of 388 trawl stations, in addition to plankton and environmental sampling.

Sampling design was basically unchanged from the initial fall 1985 survey; objectives of the survey were:

- (1) sample the northern Gulf of Mexico to determine abundance and distribution of demersal organisms from inshore waters to 100 fm;
- (2) Obtain length frequency measurements for major finfish and shrimp species to determine population size structures;
- (3) Collect environmental data to investigate potential relationships between abundance and distribution of organisms and environmental parameters.

SURVEY SUMMARY

During the survey the NOAA Ship OREGON II sampled offshore waters and territorial Louisiana, Texas and Florida waters. The R/V TOMMY MUNRO sampled Mississippi territorial and offshore waters. The R/V PELICAN sampled Louisiana territorial and offshore waters, and the R/V VERRILL sampled territorial Alabama waters. Texas vessels sampled within territorial waters.

Of the total 388 trawl samples taken, NMFS completed 306 stations; Alabama 6, Mississippi 18, Louisiana 24 and Texas 34 trawl stations. Areas of trawl stations are indicated on Figure 2. All vessels took environmental data, including temperature, salinity and oxygen.

Brown shrimp was the most abundant species of shrimp caught in offshore survey trawl hauls (3 lb/hr), with higher catch rates reported for night samples. Greatest catches occurred off the Texas-Louisiana border (26 lb/hr).

Atlantic croaker, the most abundant finfish species, comprised 15% of the total catch weight. Largest catch rates occurred inshore of 29 fm between Southwest Pass and the Atchafalaya River.

Longspine porgy was the second most abundant species in offshore waters comprising 14% of the total catch weight. They were most abundant from 10-49 fm between south of Mobile Bay to the Mississippi River delta.

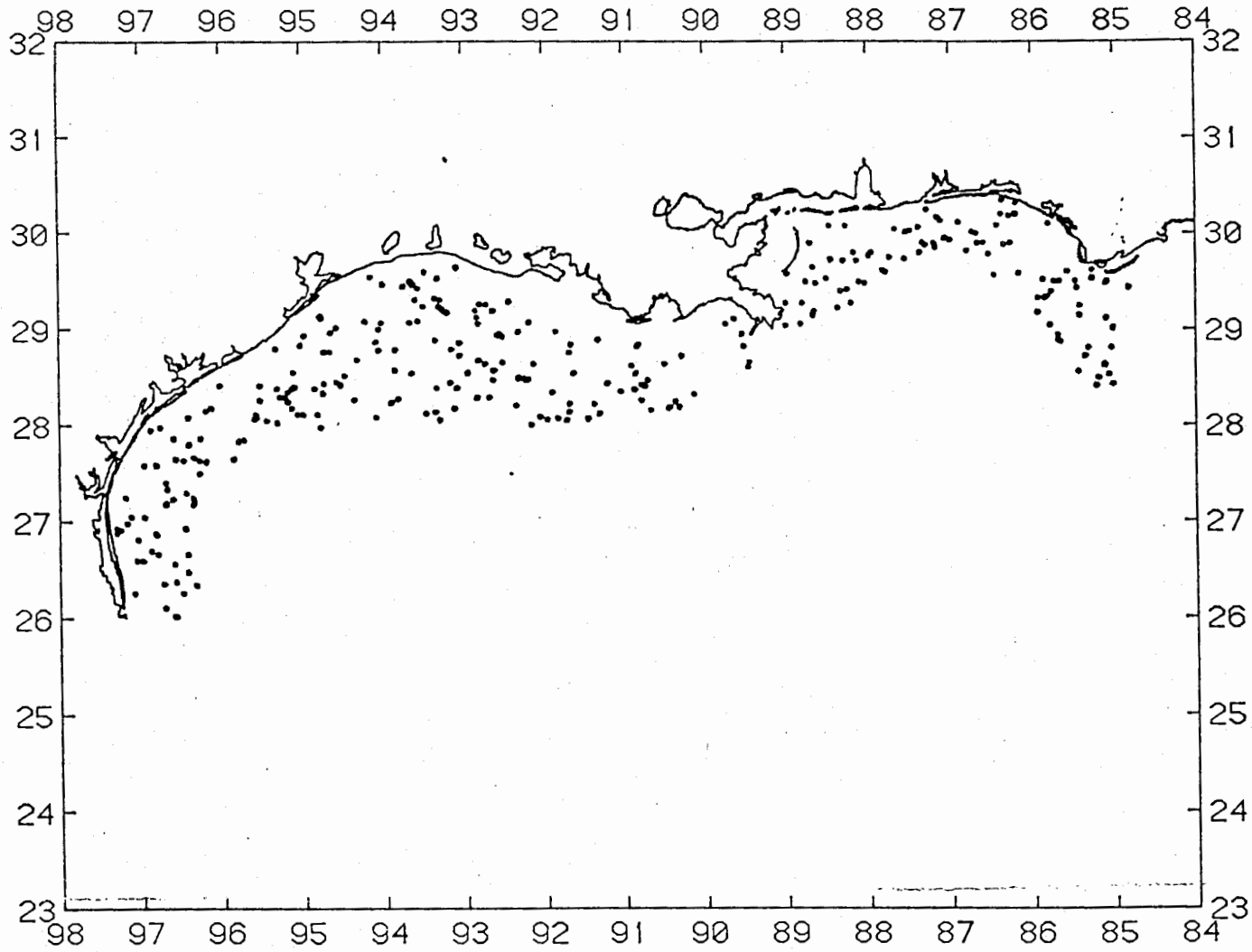


Figure 2. Fall 1986 SEAMAP Shrimp/Groundfish Survey

SQUID SURVEY

A survey to assess distribution of the squid Illex coindetti in the southeastern Gulf of Mexico was conducted by the NOAA Ship CHAPMAN from February 12-March 9, 1987. The survey was conducted near the Dry Tortugas (82°20' W. long.-84°30' W. long.) in 100-300 fm.

Specific objectives included:

- (1) Conduct exploratory survey to assess distribution of the squid, Illex coindetti.
- (2) Conduct acoustic survey and temperature profile of the survey area.
- (3) Conduct bottom or midwater trawl tows in areas of squid and/or fish concentrations.
- (4) Collect hydrographic and environmental data at trawl site.
- (5) Collect length-frequency data for squid and major target species.

SURVEY SUMMARY

Two types of gear, the large mesh, high-opening bottom trawl (HOBT) and the Shuman squid/butterfish trawl were used during the survey. The 137-ft high-opening bottom trawl has a vertical opening of 18-25 ft, and mesh size (stretched) tapers from 16 in. in the fore part of the net to 2 in. at the cod end. The HOBT is designed to fish over rough-bottom areas. The 123-ft Shuman trawl has a vertical opening of 30-36 ft and is fished slightly above the bottom and can be used for midwater trawling. Both trawls were used with Super "V" doors.

An acoustic survey was conducted over the area along twenty-nine preselected transect lines. Instrumentation included depth sounder, two vertical search chromoscopes and a sonar for horizontal search. A hardwire netsonde attached to the trawl monitored fishing depth, fishing temperature and trawl performance. Preselected trawling sites were randomly chosen to sample various depths of the area with additional trawls made when acoustic targets were detected. One hour tows were made along slope contours.

Satellite infrared imagery and charts depicting Yucatan Loop Current boundary were obtained and plotted to examine correlation of thermal front circulation to distribution patterns of target species.

Forty-three trawl stations, 28 with the HOBT and 15 with the Shuman trawl, were completed during the survey. (Figure 3.) The broadtail shortfin squid, I. coindetti, was irregularly distributed in low numbers, appearing in 71% of all tows; catch rates ranged from 1-99 lb/hr. Largest catches of shortfin squid occurred at depths of 138-150 fm at an average bottom temperature of 11°C.

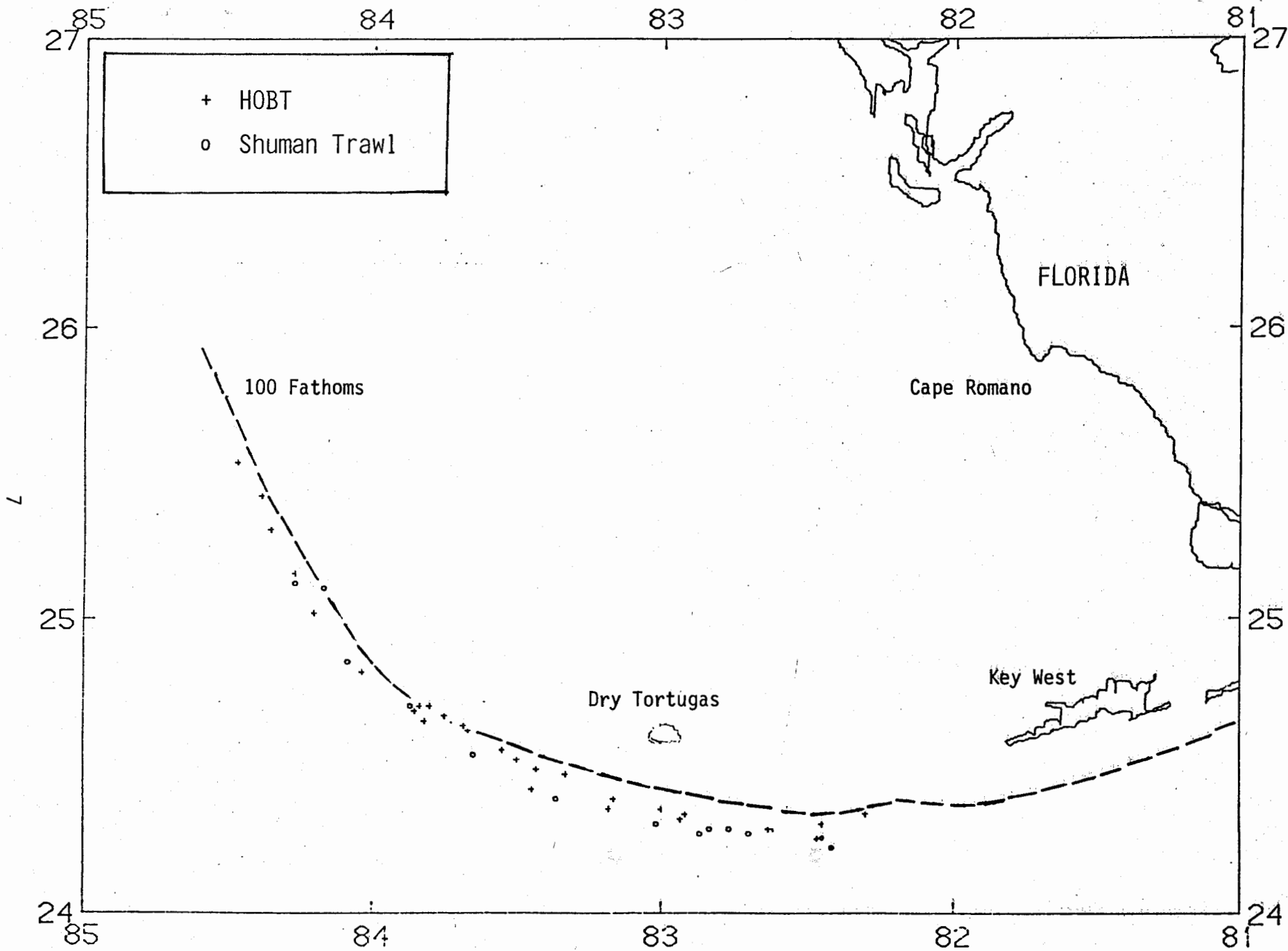


Figure 3. -Locations of Trawling Sites, 1987 Squid Survey

LOUISIANA SEASONAL DAY/NIGHT TRAWL SURVEYS

The Louisiana Department of Wildlife and Fisheries is conducting seasonal day and night surveys as part of its continuing effort to provide comparative information on the abundance and distribution of critical life states of major Gulf species, especially shrimp, and associated environmental parameters. The sampling design for these surveys has changed little from similar day/night surveys in past years.

SURVEY SUMMARY

Sampling was conducted in October and December 1986 and April and July 1987 the RV PELICAN. A stratified random station selection design was maintained, varying from the transects previously surveyed. A total of 48 stations was sampled day and night at depths to 15 fm. The July sampling was completed as part of the SEAMAP Summer Shrimp/Groundfish Survey.

All seasonal trawls were completed with the standard SEAMAP 40-ft net and doors. All organisms captured were identified, counted, measured and weighed; environmental data and plankton/neuston sampling were conducted at all trawl stations. The area sampled covered Louisiana territorial and FCZ waters both east and west of the Mississippi River.

Additionally, LDWF conducted separate, territorial sea shrimp/groundfish surveys to provide coastwide monitoring and assessment information on the abundance and distribution of shrimp and groundfish in this area. These were conducted in conjunction with NMFS summer and fall shrimp/groundfish trawling surveys in the FCZ, using, however, a 16-ft otter trawl on state vessels. Sampling was done along 7 transects (Figure 4), to depths of 5 fm. All organisms were identified, weighed and measured. Transects corresponded to seven coastal study areas sampled previously. Plankton and environmental sampling was conducted at all stations.

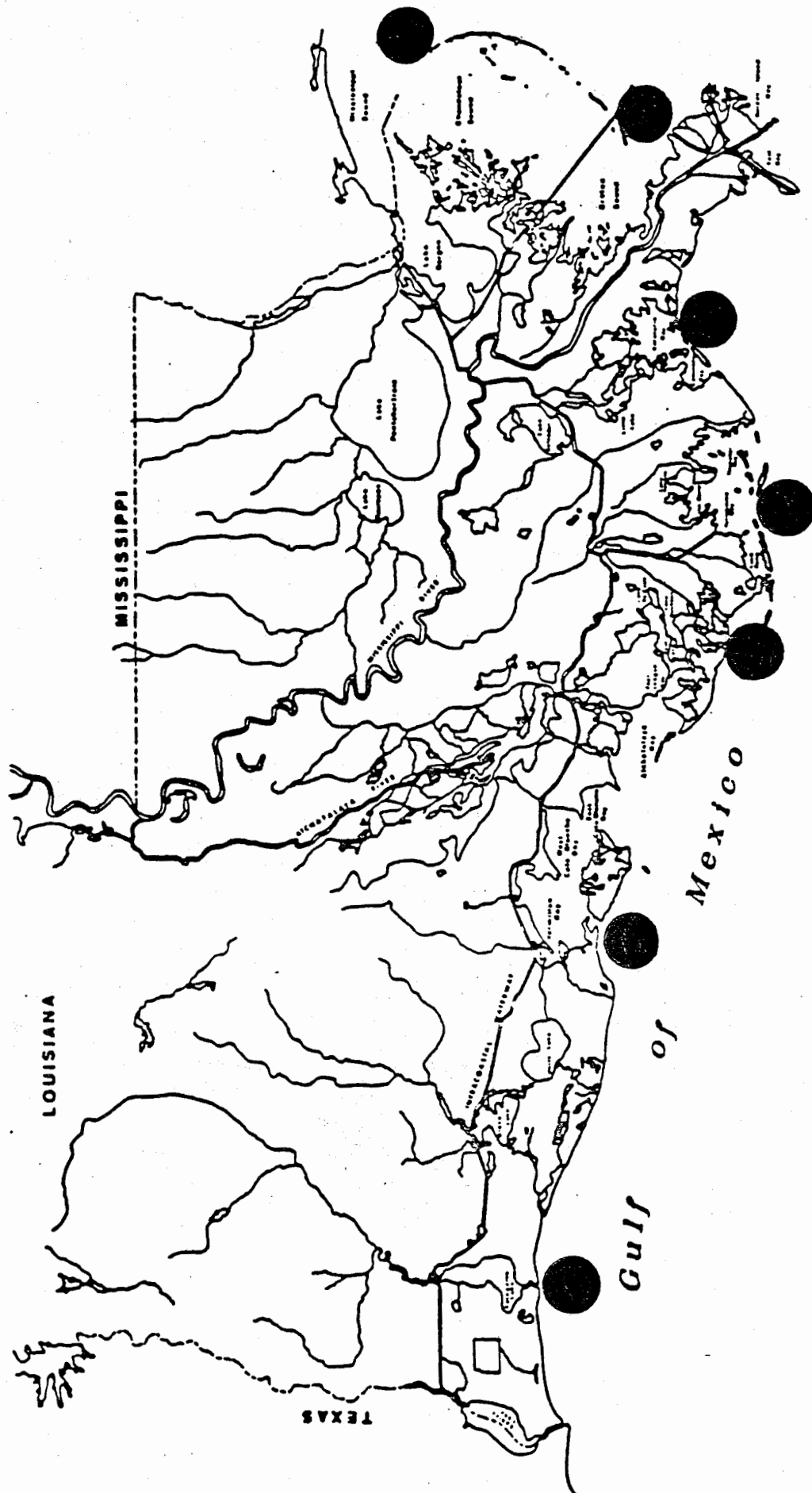


Figure 4. General Location of Territorial Sea Transects, 1987 Louisiana Seasonal Trawl Surveys.

SPRING PLANKTON SURVEY

For the fifth season since 1982, plankton samples were collected during the spring in the northern Gulf of Mexico. The NOAA Ship OREGON II and Florida's R/V HERNAN CORTEZ II samples offshore waters from 24°-30°N. lat. and 84°-94° W. long. from April 14 to May 23, 1987. (Figure 5.) At irregular intervals during the survey, the NOAA vessel departed from the scheduled cruise track to run a series of stations across ocean fronts and other physical features. Time and location of these special stations were determined from satellite imagery processed by NMFS Mississippi Laboratories, NSTL facility. Samples taken at special frontal boundary stations consisted of bongo and neuston tows, chlorophyll and environmental data.

Plankton samples were taken with standard SEAMAP bongo and neuston samplers. The bongo sampler consisted of two conical 61-cm nets with 333 micron mesh. Tows were oblique, surface to near bottom (or 200 m) and back to surface. Wire angle was maintained at 45°. Neuston samples were taken with 947 micron mesh nets on 1 x 2 meter frames towed at the surface for ten minutes. All plankton samples were initially preserved in 10% buffered formalin and after 48 hours were transferred to 95% ethyl alcohol for final preservation.

A total of 240 stations was sampled. Of these, 156 were predetermined stations and 84 were special stations located on eight transects across the Loop Current boundary. Gear loss aboard the Florida vessel prevented 11 planned neuston samples from being taken and reduced planned total station number to 29.

Hydrographic data at all stations included surface chlorophylls, salinity, temperature and dissolved oxygen from surface, midwater and near bottom and forel-ule color.

Right bongo samples from predetermined stations will be transhipped by the NMFS Miami laboratory to the Polish Sorting Center in Szczecin, Poland. Left bongo and neuston samples are archived at the Gulf Coast Research Laboratory in Ocean Springs, Mississippi. Samples from the special frontal boundary stations will be sorted at the Miami Laboratory. Salinity data from the Florida vessels were sent to the NMFS Pascagoula Laboratory for interpretation.

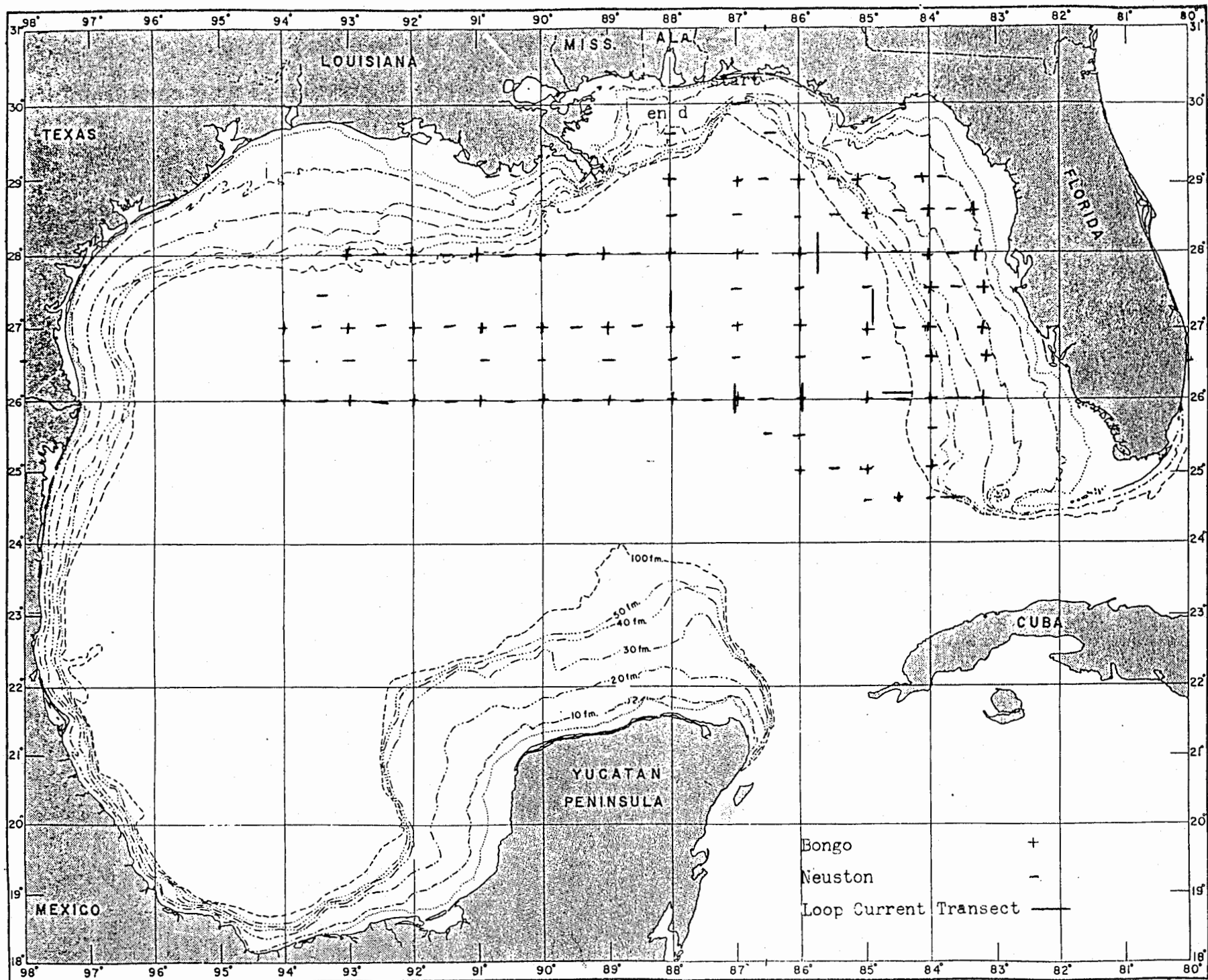


Figure 5. Survey Stations, 1987 Spring Plankton Survey

SQUID/BUTTERFISH GEAR EVALUATION

Analysis of the 1985 and 1986 squid/butterfish survey data indicated a need for development of a standard strategy in procedures to reduce sampling variability and provide for accurate latent resource stock assessment capability. A two phase fishing experiment was conducted to define measurement errors introduced by differences in vessels, crews, gear and how the gear is fished. A comparative gear and vessel study between the NOAA Ship CHAPMAN and the chartered R/V TOMMY MUNRO was conducted from April 7-18, 1987 offshore Mobile Bay in waters 60-120 fm. Nine stations with three replicate, side-by-side tows at each station were made by both vessels pulling 80-ft trawls with 3-sq. meter "V" doors. During the second phase of the experiment, the NOAA vessel pulled a 123-ft Shuman trawl with 4-sq. meter Super "V" doors while the TOMMY MUNRO continued sampling with the 80-ft net.

SURVEY SUMMARY

The results of the comparative trawling experiment found mean catch per 30-minute tow was 322 lb/tow and 209 lb/tow, respectively, for the CHAPMAN and the TOMMY MUNRO (Table 1). Total catch was significantly different between vessels. Catches of silver rag, chub mackerel, and rough scad by the CHAPMAN were over twice the catches made by the TOMMY MUNRO, but were not significantly different between the vessels.

The mean catches per 30-minute tow by the TOMMY MUNRO for the two time periods, utilizing the 80-ft net are given in Table 2. Total catch between time periods was not significantly different; however catches of round herring, snipefish, butterfish, chub mackerel and rough scad differed between periods.

Examination of catches between the 80-ft butterfish net and the Shuman trawl found mean catch per 30-minute tow by the Shuman trawl more than double that of the butterfish trawl, 845 lb/tow and 322 lb/tow, respectively (Table 3). By species, largest increases in catch were noted for round herring (<1 lb/tow with the butterfish trawl to 74 lb/tow with the Shuman trawl), butterfish 17 lb/tow and 154 lb/tow), chub mackerel (25 lb/tow and 86 lb/tow) and rough scad (57 lb/tow and 138 lb/tow).

Three commercial New England stern trawlers fished the grounds for butterfish during the cruise. Catch information and bottom water temperatures were provided to the trawler captains and a NMFS observer on-board. Locations of two butterfish catches totaling 16,000 lb by the NOAA vessel was supplied to the industry and resulted in commercial hauls by the fleet.

TABLE 1.

CATCH IN POUNDS BY VESSEL USING 80 FT TRAWL¹

Species	CHAPMAN			TOMMY MUNRO			F ² test
	N	Mean	SD	N	Mean	SD	
Silver rag	27	20.93	61.86	26	8.80	34.27	n.s.
Round herring	27	0.33	0.96	26	0.07	0.18	n.s.
Spot	27	5.96	15.72	26	2.59	6.83	n.s.
Swipefish	27	14.01	49.84	26	5.96	24.42	n.s.
Croaker	27	20.02	48.34	26	14.36	39.38	n.s.
Broad flounder	27	7.54	8.97	26	7.54	14.63	n.s.
Butterfish	27	16.87	37.46	26	12.80	26.42	n.s.
Longspine scorpionfish	27	3.88	6.60	26	0.03	0.13	**
Chub mackerel	27	25.47	93.38	26	12.62	30.09	n.s.
Rough scad	27	56.89	145.68	26	22.52	42.90	n.s.
Longspine porgy	27	22.59	40.67	26	23.12	63.02	n.s.
Wenchman	27	18.86	23.81	26	14.25	23.68	n.s.
Arrow squid	27	.98	3.30	26	0.59	1.71	n.s.
Longfin squid	27	2.18	4.54	26	2.27	7.24	n.s.
Total Catch	27	322.37	280.87	26	209.08	207.13	*

¹ N = number of tows

Mean = mean catch (lb) per 30 min tow

SD = standard deviation

² F-test: test for differences between vessels

n.s. = not significant

* = p 0.05

** = p 0.01

TABLE 2.

CATCH IN POUNDS BY TIME PERIOD BY THE R/V TOMMY MUNRO

	Time Period						F ² test
	1			2			
	N	Mean	SD	N	Mean	SD	
Silver rag	26	8.80	34.27	24	3.52	10.45	n.s.
Round herring	26	0.07	0.18	24	6.70	14.52	*
Spot	26	2.59	6.83	24	4.93	12.69	n.s.
Swipefish	26	5.96	24.42	24	51.37	121.61	**
Croaker	26	14.36	39.38	24	28.75	72.06	n.s.
Broad flounder	26	7.54	14.63	24	9.41	11.43	n.s.
Butterfish	26	12.80	26.42	24	26.29	44.73	*
Longspine scorpionfish	26	0.03	0.13	24	0.56	1.51	n.s.
Chub mackerel	26	12.67	30.09	24	0.68	1.54	*
Rough scad	26	22.52	42.90	24	13.90	15.59	n.s.
Longspine porgy	26	23.12	63.02	24	10.63	20.56	n.s.
Wenchman	26	14.25	23.68	24	16.04	22.34	n.s.
Arrow squid	26	0.59	1.71	24	0.36	0.50	n.s.
Longfin squid	26	2.27	7.24	24	2.62	3.20	n.s.
Total catch	26	209.08	207.13	24	259.00	175.19	n.s.

¹ Time period 1 = First 3 replicates at each station.

Time period 2 = Replicates 4-6 at each station.

N = Number of tows.

Mean = Mean catch (lb) per 30-min tow.

S.D. = Standard deviation

² F-test: Test for differences between periods.

n.s. = not significant

* - p 0.05

** - p 0.01

TABLE 3.

CATCH IN POUNDS BY NET/DOOR COMBINATION MADE BY THE NOAA SHIP CHAPMAN

	N	<u>80-ft</u> Mean	SD	N	<u>123-ft</u> Mean	SD	F ² test
Silver rag	27	20.93	61.86	24	60.48	61.87	n.s.
Round herring	27	0.33	0.92	24	73.80	167.26	NA
Spot	27	5.96	15.72	24	41.70	108.39	n.s.
Swipefish	27	14.01	49.34	24	42.58	113.76	NA
Croaker	27	20.02	48.34	24	11.88	32.35	
Broad flounder	27	7.54	8.97	24	3.63	6.96	*
Butterfish	27	16.87	37.46	24	154.39	436.31	NA
Longspine scorpionfish	27	3.88	6.60	24	3.44	5.47	n.s.
Chub mackerel	27	25.47	93.38	24	85.81	351.69	NA
Rough scad	27	56.89	145.68	24	138.77	253.40	**
Longspine porgy	27	22.59	40.67	24	57.60	137.19	n.s.
Wenchman	27	18.86	23.81	24	22.31	36.79	n.s.
Arrow squid	27	0.98	3.30	24	1.81	3.64	n.s.
Longfin squid	27	2.18	4.54	24	7.85	12.20	**
Total catch	27	322.37	280.87	24	844.86	936.06	**

¹ The CHAPMAN used an 80-ft net with V-doors during first time period at all nine stations; and used a 123-ft trawl with super V-doors during the second time period at all stations.

N = Number of tows.

Mean = Mean catch (lb) per 30-min tow.

SD = Standard deviation

² F-test: Test for difference between net/door combination.

NA = Not applicable because TOMMY MUNRO data indicated differences between time periods.

n.s. = Not significant.

* = p 0.05

** = p 0.01

SUMMER SHRIMP/BOTTOMFISH TRAWL SURVEY

Design of the 1987 Summer Shrimp/Bottomfish Trawl Survey was recommended by the Shrimp/Bottomfish Work Group to the SEAMAP Subcommittee following work group meetings in January and March 1987. Objectives of the survey were to: (1) monitor size and distribution of penaeid shrimp during or prior to migration of brown shrimp from bays to the open Gulf; (2) aid in evaluating the "Texas Closure" management measure of the Gulf Council's Shrimp Management Plan; and (3) provide information on shrimp and bottomfish stocks across the northern Gulf of Mexico from inshore waters to 50 fm.

SURVEY SUMMARY

The overall sampling strategy during the 1987 SEAMAP summer survey was to work from the eastern Gulf to the Texas/Mexico border. The overall survey occurred from June 2 to July 16, 1987. SEAMAP sampling conducted east of the Mississippi River, from July 10 to July 15 re-surveyed eastern areas after emigration of brown shrimp from inshore waters.

During the survey, the NOAA Ship OREGON II and R/V TOMMY MUNRO sampled offshore and inshore Gulf waters with 40-ft trawls. An Alabama vessel sampled offshore Alabama waters with 16-ft trawls. The R/V PELICAN sampled both Louisiana state waters and offshore waters with 40-ft nets, and Texas vessels sampled Texas state waters and offshore waters with 20-ft nets. Additional trawl stations were completed by Louisiana during this period as part of its SEAMAP day/night survey (see Seasonal Day/Night Survey). Trawl stations are indicated on Figures 6-9.

A total of 375 trawl samples was taken from coastal and offshore waters out to 50 fm from Perdido Bay, Alabama, to Brownsville, Texas. Approximately 67 plankton tows were also piggybacked during the cruise. All vessels took environmental data, including temperature, salinity, oxygen, and chlorophyll at each station.

In June catch rates of brown shrimp east of the river were low, with a maximum catch of 27.8 lb/hr of 48 count shrimp. White shrimp catches east of the River were all less than 3 lb/hr. The largest pink shrimp catch rate east of the River was 9.2 lb/hr of 13-count shrimp in Gulf waters southwest of Mobile Bay. Other pink shrimp catches east of the River were 5.0 lb/hr or less. Finfish catch rates east of the River were generally low to moderate, with the largest catch on June 13 of 443 lb/hr of longspine porgy.

Moderate catches of brown shrimp were made off Texas from June 23 to June 30. The largest catch rate occurred offshore east of Port Mansfield in 17 fm (224 lb/hr of 83-count shrimp). White shrimp catches off Texas were low with the largest catch, 11 lb/hr of 15-count shrimp, taken east of Boliver Peninsula in 7 fm. Catch rates for pink shrimp

were generally very low off Texas; the largest catch was 25 lb/hr of 56-count shrimp north of the Port Mansfield Channel in 6 fm; all other catches of pink shrimp were less than 5 lb/hr. Finfish catch rates were moderate to low, with croaker dominating the catch off Texas. The largest catch of finfish was 600 lb/hr east of Galveston Bay entrance.

In samples west of the River (Louisiana) brown shrimp catches were low with the largest catch rate of 20 lb/hr occurring south of Barataria Pass in 9 fm; the average catch was 60-count. White shrimp catches were low, except for one catch of 13 lb/hr of 18-count shrimp taken in 5 fm southwest of Calcasieu Pass. Catches of pink shrimp were very low off the Louisiana coast with a maximum catch rate of only 5 lb/hr of 18-count shrimp. Finfish catch rates were generally low with the largest catch rate of 946 lb/hr with sea catfish predominating.

On July 10 and 11 an area of hypoxia (less than 3 ppm of oxygen) was found from 10 to 14 fm between 90°05' and 90°19' W. long. (east of Timbalier Bay). No other hypoxic waters were noted.

In July sampling east of the Mississippi River, brown shrimp catches were low with the highest rate of 17 lb/hr of 44-count shrimp taken south of Mobile Point in 9 fm. Catches of white shrimp were 3 lb/hr or less in all areas sampled. Catches of pink shrimp also were very low with a single catch rate of 14 lb/hr of 23-count shrimp occurring in 8 fm southeast of Mobile Point. Finfish catches were generally low. A maximum catch rate of 709 lb/hr was reported with longspine porgy predominating.

Figure 6

1987 Summer Shrimp/Groundfish Survey Stations

June 2 - June 29

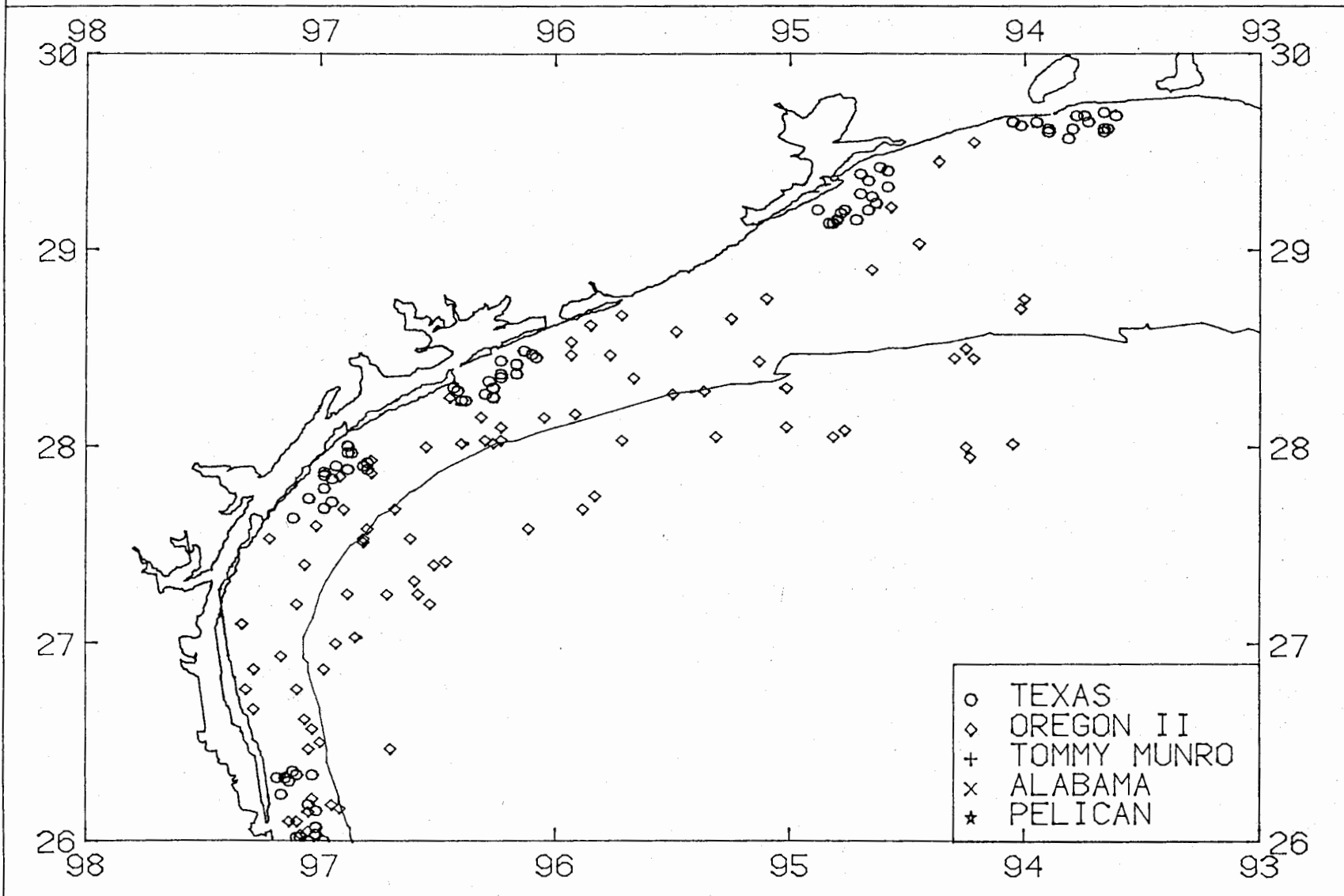


Figure 7

1987 Summer Shrimp/Groundfish Survey Stations

June 11 - June 15

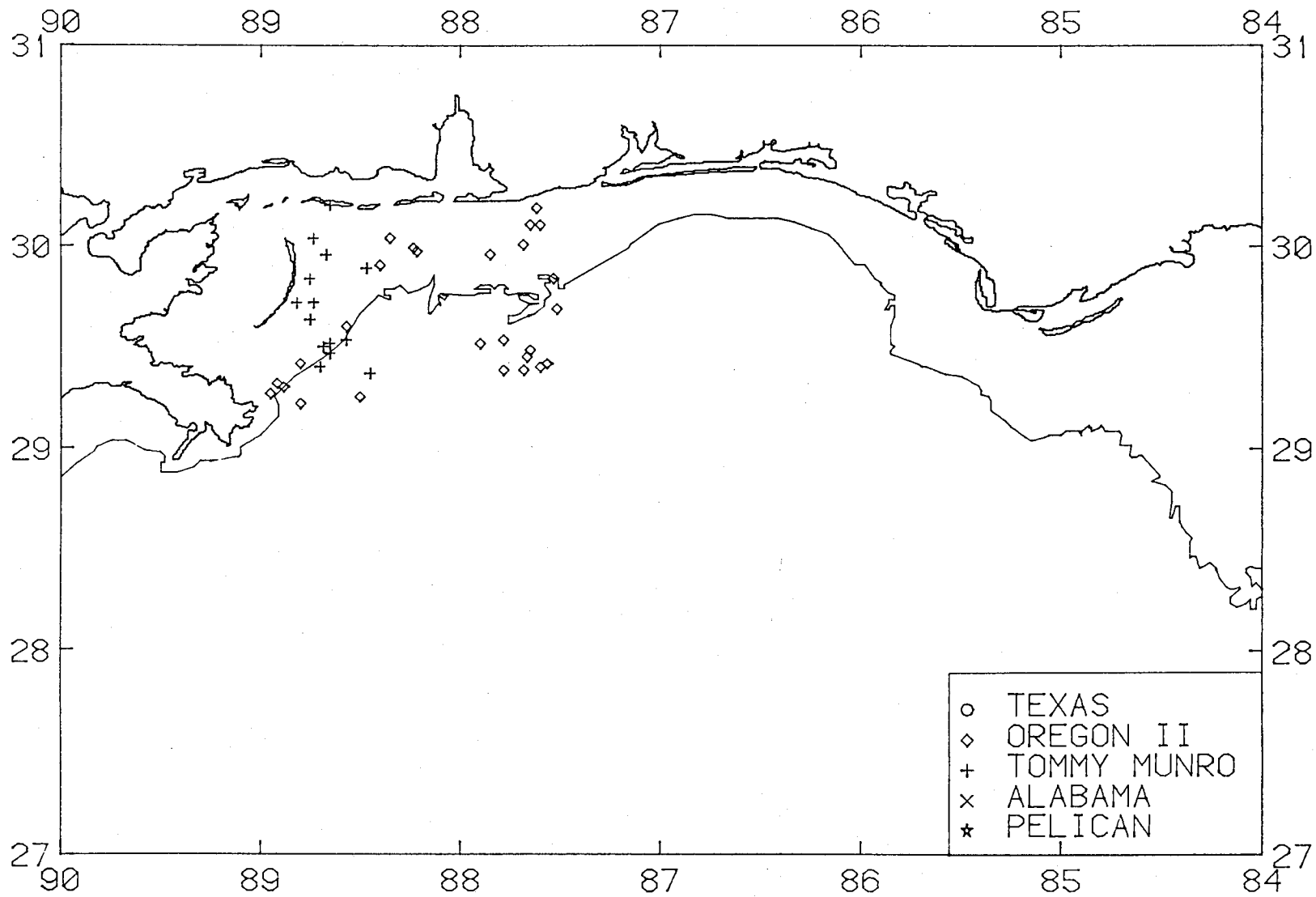


Figure 8

1987 Summer Shrimp/Groundfish Survey Stations

June 30 - July 14

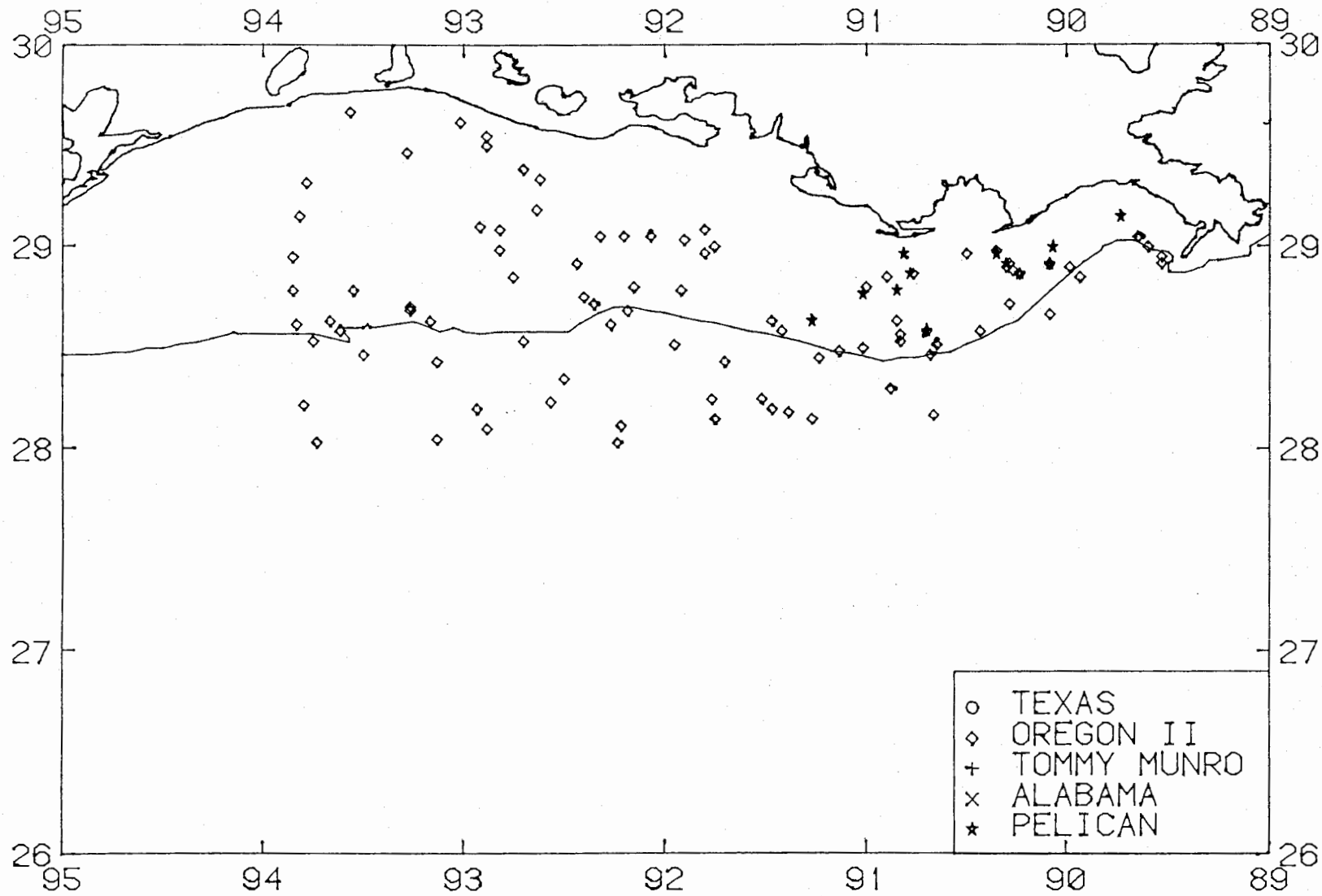
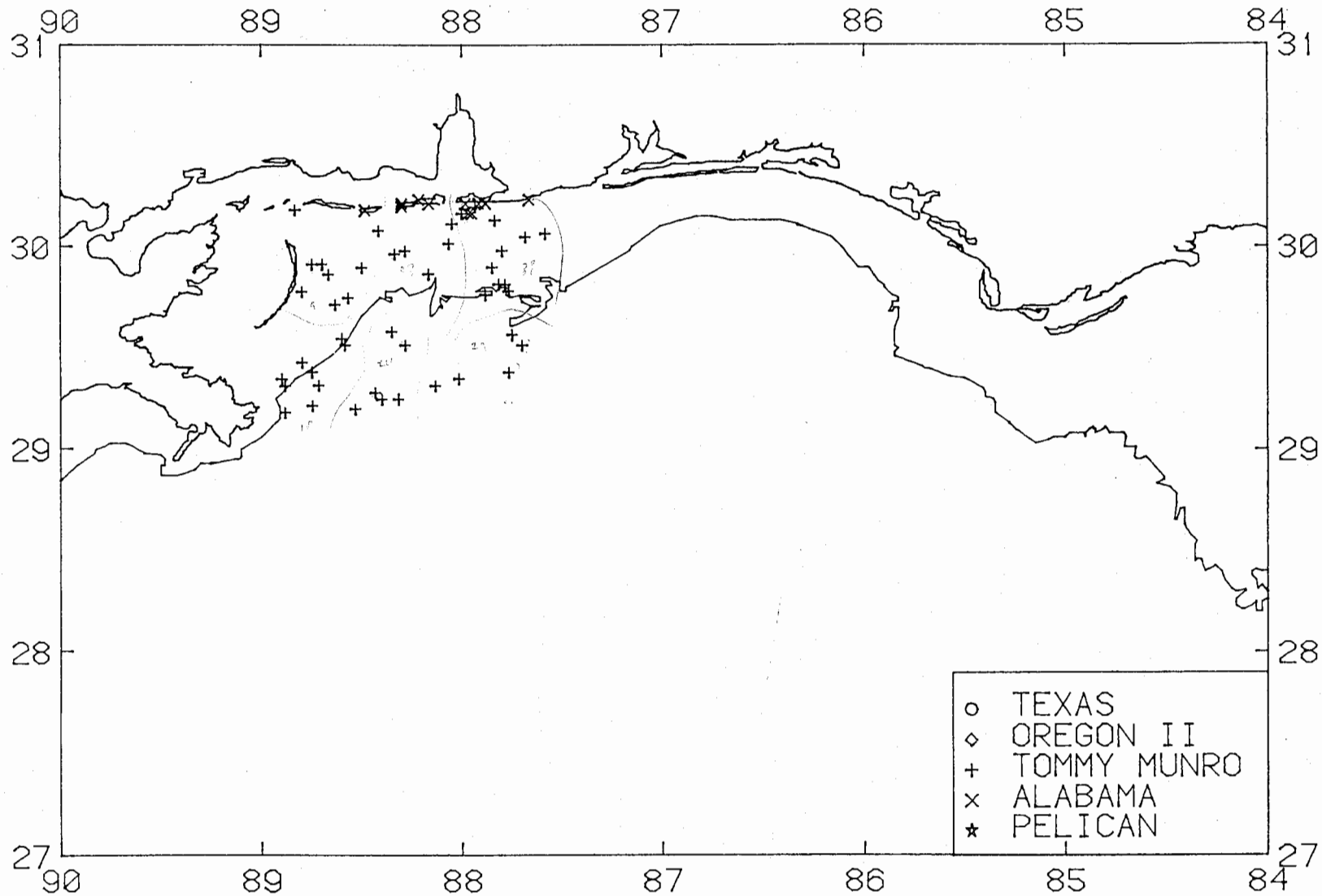


Figure 9

1987 Summer Shrimp/Groundfish Survey Stations

July 10 - July 16



FALL PLANKTON SURVEY

Following the first fall survey to assess abundance and distribution of king mackerel eggs and larvae in August 1984 and a second, expanded survey in 1986, the September 1987 Fall Plankton Survey covered Gulf waters from Florida Bay to Brownsville, Texas. Vessels from Florida, Alabama, Mississippi Louisiana and from NMFS surveyed from September 1-30, 1987 using standard bongo and neuston nets at a total of 154 stations (Figure 10).

The NOAA Ship OREGON II sampled 91 stations from 83°00' to 97°00' W. long. and 26°00' to 30°30' N. lat., at depths from 5 to 100 fm. A total of 88 CTD casts and 24 XBT's were taken in addition to the 91 neuston and 182 bongo samples. Chlorophyll samples were filtered at each station. Florida's R/V HERNAN CORTEZ II sampled 36 stations from off Tampa Bay southward to the Florida Straits. Stations were located along a 30-minute latitude/longitude grid from inshore waters to the shelf edge. An Alabama vessel sampled 10 stations along three transects inside, at the mouth, and outside Mobile Bay. The R/V TOMMY MUNRO sampled 5 stations south of Mississippi Sound along a 30-minute grid, and the R/V PELICAN sampled 12 stations off Louisiana, taking 24 bongo net samples.

Stations were sampled with standard SEAMAP bongo nets with 333 micron mesh and/or 1 x 2 meter neuston nets fitted with 947 micron mesh. Hydrographic sampling included chlorophylls, salinity, temperature and dissolved oxygen from surface, mid-water, and bottom, water transparency and water color. Right bongo samples will be transhipped by the NMFS Miami Laboratory to the Polish Sorting Center; left bongo and neuston samples will be stored at the SEAMAP Invertebrate Archiving Center at the Gulf Coast Research Laboratory for possible future sorting.

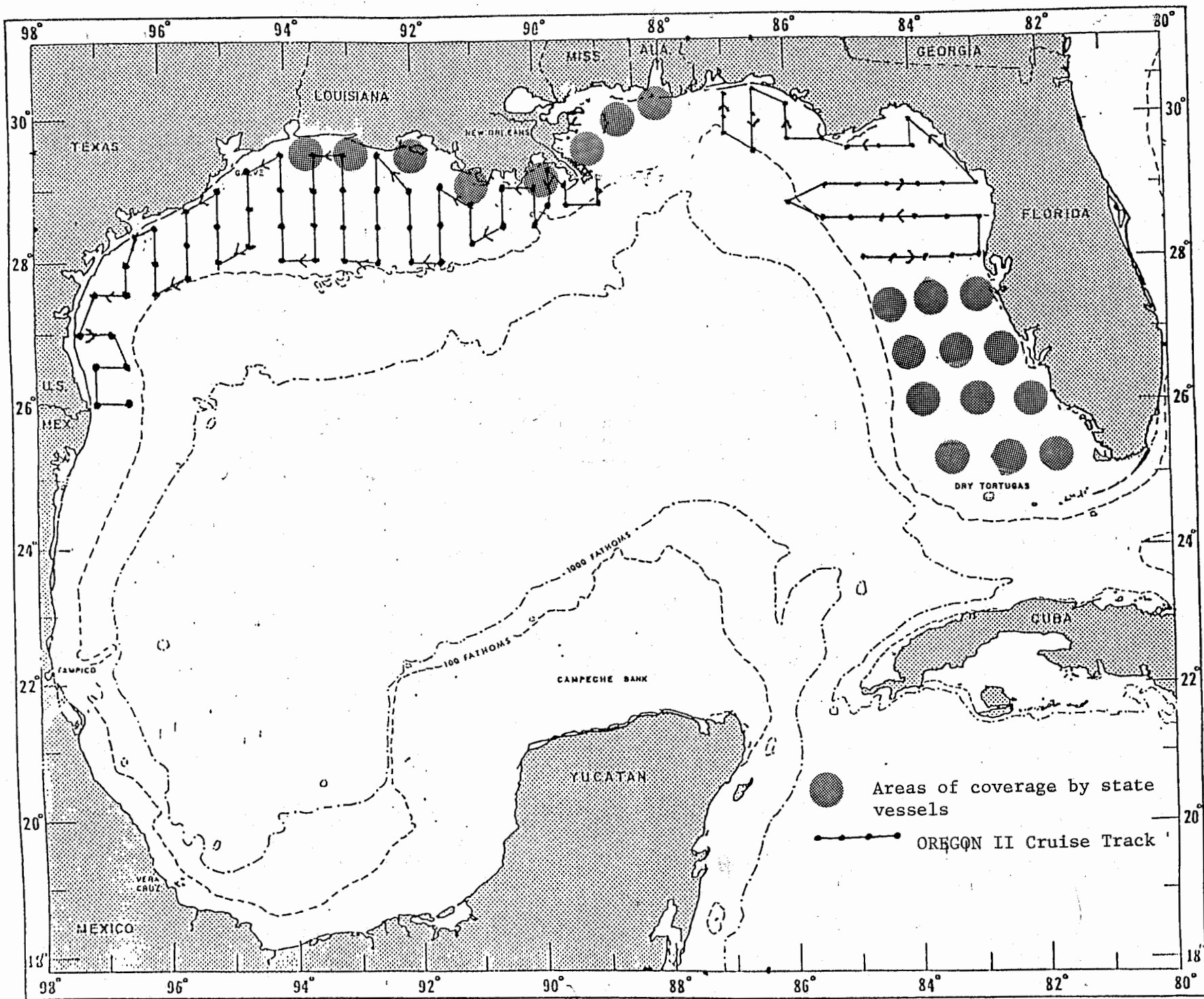


Figure 10. Fall Plankton Survey

PLANKTON AND ENVIRONMENTAL DATA SURVEYS

As in previous years, plankton samples and environmental data were collected routinely during most SEAMAP trawling surveys. During the Summer Shrimp/Groundfish Survey, 67 plankton tows were piggybacked on the NMFS and state vessels, sampling randomly-generated stations within the standard 30-min SEAMAP grids. Plankton and environmental data were also taken by Louisiana at all of its Seasonal Day/Night Survey stations. Samples were taken by participants with a 60-cm bongo net and a standard NMFS neuston net.

Objectives of these piggybacked surveys were: (1) to collect plankton samples throughout the survey area; and (2) to collect associated hydrographic and environmental data at each plankton station. Additionally, environmental data (salinity, temperature, and oxygen from surface, middepth and bottom waters, and chlorophyll from surface and bottom waters) were collected during the shrimp/groundfish surveys; salinity, temperature, and oxygen were taken at the surface, middepth and bottom. Wind direction and speed and wave height were taken at all trawl stations.

Samples from the right side of the bongo tows were shipped to the NMFS-Miami Laboratory for transshipment to Poland, where they will be sorted to the family level (both ichthyoplankton and selected crustacean and molluscan species). The other sample from each station is retained as a back-up in the event of damage or loss of the specimens sent to Poland, and maintained at the Gulf Coast Research Laboratory.

Chlorophyll samples were filtered at each station using GF/C filters. All filters were put in petri disks and wrapped in foil for onboard storage in the freezer. Chlorophyll analysis will be completed ashore. Preservation of plankton samples was in buffered Formalin prior to transfer to ethanol.

In addition to these piggybacked surveys, two major SEAMAP plankton surveys were conducted in FY1987, detailed earlier.

1987 SEAMAP SPECIAL PROJECTS

STATUS AND TRENDS BENTHIC SURVEILLANCE PROJECT

For the fourth year, the SEAMAP Program actively participated in the nationwide sampling for contaminants in coastal fishes and sediments, as part of the NOAA National Status and Trends Benthic Surveillance Project. Both SEAMAP components (Gulf of Mexico and South Atlantic) supplied personnel from state fishery management agencies to provide guidance in locating concentrations of the target species, Atlantic croaker and spot. Sampling sites for the Gulf are shown in Figure 11.

SURVEY SUMMARY

Sampling methodologies in the 1987 Benthic Surveillance Project were identical to those of the three previous surveys; however the number of Gulf sites was reduced to five areas: Pensacola Bay, Round Island (Mississippi Sound), Mississippi River Delta, Barataria Bay and Galveston Bay.

Sampling in the Gulf of Mexico was conducted during August and September, 1987, with the NOAA Ship FERREL serving as the primary platform. Ongoing analyses of trace metals, aromatic and chlorinated hydrocarbons and other contaminants in fish tissues and sediments are being conducted by the NMFS Beaufort and Charleston laboratories, while the Oxford Laboratory performs histopathological studies on collected spot and croaker from the Gulf.

Many of the sites are large, complex estuarine systems with a variety of microenvironments which may vary from relatively pristine to heavily impacted. This within-site variability led to an intensive examination in Galveston Bay during the 1987 survey. Galveston Bay was selected for (1) an abundance of target fish, Atlantic croaker and spot; (2) a complex bay system with a number of sites with man-made impacts; (3) a site where relatively strong metal and organic signals were obtained from 1984 samples; and (4) a major maritime population center with industrial, shipping and fishing activities. A total of five subsites were selected in the Galveston Bay system with fish and sediment samples collected at each.

A draft report of the results of the 1984 cooperative sampling effort was distributed to the SEAMAP Subcommittee in August 1987. A national scope report for the 1984 data for all regions is available from NOAA and titled "The National Status and Trends Program for Marine Environmental Quality - Progress Report and Preliminary Assessment of Findings of the Benthic Surveillance Project -- 1984."

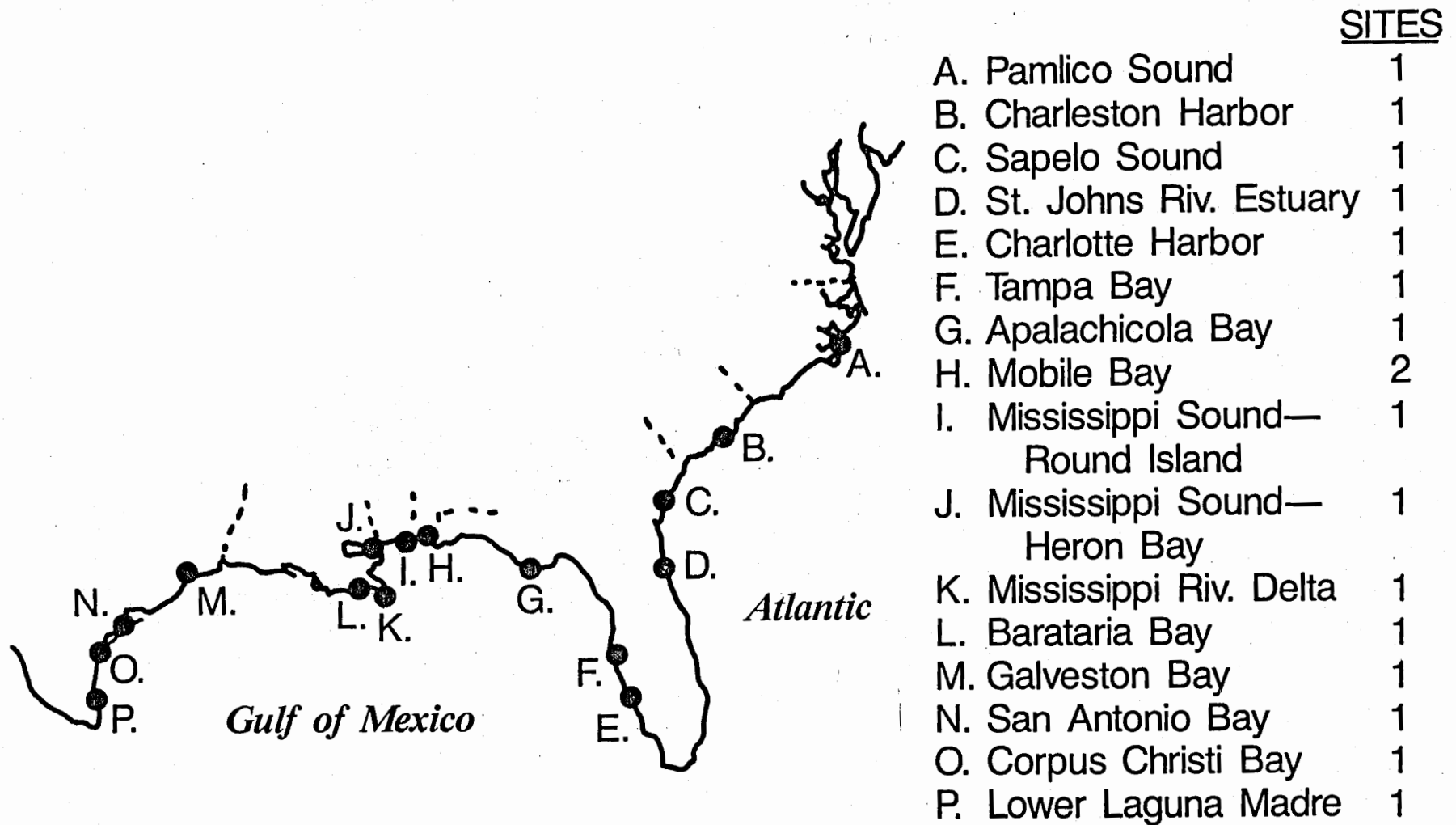


Figure 11. 1987 Status and Trends Benthic Surveillance Project Sampling Sites in the Gulf of Mexico

PROGRAM REVIEW

A major FY1987 event in SEAMAP was the Program Review, a comprehensive external evaluation of the program relative to goals and objectives outlined in the two Operations Plans. The review was endorsed by both programs at the March joint meeting, and a preliminary work plan developed to define review objectives, events and schedules. Subsequent to modifications by the Committee and Subcommittee, a final project plan was approved and a four-member Review Panel designated to conduct the activity. The panel members, distinguished leaders in science program management and evaluation were: Dr. Howard Clonts, Auburn University (Panel Chairman); Mr. William G. Gordon, Executive Vice-Chairman of the New Jersey Marine Science Consortium, and former NOAA Assistant Administrator for Fisheries; Mr. Robert Shepard, Associate Director, National Sea Grant College Program; and Mr. Richard C. Hennemuth, Chief of Research Planning, NMFS Northeast Fisheries Center.

The Panel met with each of the two program sections, assisted by the program coordinators and resource personnel from the Gulf of Mexico Fishery Management Council, NMFS Southeast Regional Office, and program associates, to examine functions, components, procedures, policies and events of SEAMAP administrative and operational aspects. The overall review mission was to provide specific recommendations on which organizational and functional aspects of the program should be maintained or modified to ensure efficient achievement of program goals and objectives.

Progress of the review was reported at the joint August SEAMAP meeting, with a preliminary report of findings to be prepared for program participants' review in October. A report of findings and recommendations will be presented at the Fall 1987 Gulf States Marine Fisheries Commissions meeting in Key West. The printed report will be available for distribution in late fall.

PASSIVE GEAR WORKSHOP

The August Joint Meeting of the two SEAMAP components was held in Mayaguez, Puerto Rico, in conjunction with a SEAMAP/Puerto Rico Sea Grant Passive Gear Assessment Workshop. Both components of the SEAMAP program, which conducts most of its current monitoring and assessment activities with trawl gear, had determined in 1986 to sponsor a workshop that would address the feasibility of using longlines, traps, visual techniques and other passive methodologies to achieve program objectives. Leading experts in the field were invited to present formal papers, which will be published as a joint SEAMAP/Puerto Rico Sea Grant proceedings.

Presenters included: Robert J. Miller, Government of Canada; Joseph Kimmel, CODREMAR (Puerto Rico); James Bohnsack, Walter Nelson, Andrew Kemmerer and John Merriner, SEFC; Karen Foote, Louisiana Department of Wildlife and Fisheries; Charles Barans, South Carolina Wildlife and Marine Resources Department; Richard Appeldoorn, University of Puerto Rico; Charles Wilson, Louisiana State University, and G.P. Patil, Pennsylvania State University.

Three major sessions were held in the two-day workshop, encompassing shallow water, middepth and deepwater habitats. A discussion period followed each session, with a summary dialogue and statistical consideration section completing the event. An integral component of the activity was participation by the South Atlantic Committee's recently formed Passive Gear Work Group, which, along with the Gulf program's subcommittee will consider workshop findings to determine the feasibility of using passive gear for SEAMAP assessment activities.

Participants in the workshop also included representatives of Puerto Rico's fishery management agency (CODREMAR), Virgin Islands Department of Fish and Wildlife, the three regional Fishery Management Councils, the University of Puerto Rico at Mayaguez, and others interested in sampling and survey techniques.

INFORMATION SERVICES

INFORMATION SERVICES

Information from SEAMAP activities is provided to user groups through the program administration and three complementary systems: the SEAMAP Information System (SIS), SEAMAP Archiving Center, for ichthyoplankton (SAC), and SEAMAP Invertebrate Plankton Archiving Center (SIPAC). Products resulting from SEAMAP activities can be grouped into two major categories, data sets (including, broadly, digital data and collected specimens) managed by SIS, SAC and SIPAC, and program information. Program information is discussed in the Program Management section of this report.

SEAMAP INFORMATION SYSTEM

Biological and environmental data from all SEAMAP surveys are included in the SEAMAP Information System, managed in conjunction with NMFS/SEFC. Raw data are edited by the collecting agency and verified by the SEAMAP Data Manager prior to entry into the system. With final verification of environmental data complete for 1984, all SEAMAP surveys in 1982 through 1984 have been entered into the system. Data from 1985 and 1986 surveys are in the process of being verified, while data entry and edit continues for 1987 surveys. Verified, non-confidential SEAMAP data are available conditionally to all requestors, although the highest priority is assigned to SEAMAP participants. A total of 59 requests have been received to date. Fifty-seven have been completed and work is being performed on the remaining requests.

Requested SEAMAP data were used for a multitude of purposes:

- Evaluating the abundance and size distribution of penaeid shrimp in Federal and state waters to assist in determining opening and closing dates for commercial fisheries.
- Assessing shrimp and groundfish abundance and distribution and their relationship to such environmental parameters as temperature, salinity and oxygen.
- Identifying environmental parameters associated with concentrations of larval finfish.
- Compiling the 1983, 1984, and 1985 SEAMAP Biological and Environmental atlases.
- Comparing catches of shrimp and groundfish captured by 40-ft versus 20-ft trawl nets.
- Compiling the 1984 SEAMAP Ichthyoplankton Atlas.
- Identifying optimized gear for squid and butterfish.

DATA MANAGEMENT

Biological and environmental data from all SEAMAP surveys are included in the SEAMAP Information System, managed in conjunction with NMFS-SEFC. Raw data are edited by the collecting agency and verified by the SEAMAP Data Manager prior to entry into the system. Data from all SEAMAP surveys in 1982 through 1986 have been entered into the system and data from 1987 surveys are in the process of being verified, edited and entered for storage and retrieval.

Verified, non-confidential SEAMAP data are available conditionally to all requestors, although the highest priority is assigned to SEAMAP participants. During 1987, more than 12 requests were received and processed. In some instances, requests were filled promptly; in many cases, however, a substantial lag occurred because of the extremely large amount of data being collected on an increased number of surveys over those of past years.

The requirements report for an integrated data system, Data Management System Design Study for Gulf and South Atlantic, 1987, was completed in March. The document identifies the high-level design specifications and recommended implementation plan for a module-based SEAMAP Data Management System (DMS). The design is based on information contained in the SEAMAP Gulf and South Atlantic MDS Requirements Document, dated September 1986, developed through a cooperative effort between NMFS and other SEAMAP participants. The document has five sections: (1) background, and brief descriptions of current centralized and proposed distributed systems; (2) summary of the Requirements Survey; (3) overview of the system's architecture; (4) description of developmental modules constituting the DMS design; and (5) modular implementation plan which includes costs and schedule.

A centralized data management system is presently being used by NMFS for SEAMAP-Gulf Program. This system operates on a Burroughs 7811 computer located in Seattle, Washington, and depends on skilled programmers and computer operators for data entry, retrieval and display. SEAMAP participants submit their data to the SEAMAP Data Manager for system entry, who then assures the entry of data to the Burroughs. To verify the data, printed listings of newly entered data are produced and returned to the SEAMAP participant. Entry errors are corrected on the listing and the data are resubmitted. This mail-oriented loop iterates until all data are verified.

To retrieve data, SEAMAP participants must submit a Data Request and Use Agreement Form to the Data Manager. The Data Manager approves the request, and ensures the data are retrieved from the system by skilled programmers.

Outside users (e.g., Minerals Management Service, U.S. Army Corps of Engineers, etc.) may request listing of particular data sets. The information provided is used for efforts such as environmental impact statements, life histories studies, oceanographic process research, and long-term ecological trends strategy evaluation. Outside users, like

the SEAMAP participants, submit the request to the SEAMAP Subcommittee through the SEAMAP-Gulf Coordinator for approval to proceed. Once the request is approved, information is provided by the Data Manager and staff members through a priority based, mail-oriented system.

The proposed system is decentralized, i.e., distributed. Thus, the SEAMAP users will be able to locally, and directly, enter and retrieve data.

This proposed system will overcome the deficiencies of the current system (i.e., the time necessary to enter and retrieve data) and will provide powerful and flexible local data analysis and display capabilities. Under the proposed system, each SEAMAP site will enter, verify and edit their data, eliminating the mail-oriented loop necessary to enter/edit/verify data under the current system. Secondly, each site will have the capability of locally accessing SEAMAP data, utilizing a user-friendly system. Local data retrieval will allow the data to be accessed in a timely manner with a minimum amount of effort and programming skills.

Under the proposed system, outside users may continue to request special data sets for research or study. Also, SEAMAP participants may use the Special Request mechanism for data sets too large for economical downloading by telephone. These requests will be handled by a Central Operations staff in the same priority based, mail-oriented manner as noted above.

REAL-TIME DATA

A major function of the SEAMAP Information System in FY1987 was the processing of catch data from the Summer Shrimp/Groundfish Survey as near-real-time data. Data were transmitted daily via satellite to the NMFS/NSTL facility from the NOAA vessel, while the states' data were entered into the system weekly. Plots of station locations and catch rates of shrimp, squid and dominant finfish species were prepared and edited at the NMFS Pascagoula Laboratory, and processed by GSMFC for weekly distribution to management agencies, fishermen, processors and researchers. Management agencies also received comprehensive data listings showing penaeid shrimp length-frequencies, sampling parameters and environmental conditions. Representative listings are shown in Figures 12 and 13.

Figure 12

Representative Real-Time Data Listing, 1987 Shrimp/Bottomfish Survey

PLAT	STATION	DATE	LAT	LONG	TIME	FMS	SUR	BOT	DEP	TEMPS,C	CHLOR	GEAR	MIN	FISH	TOWS	SHRIMP	FINFISH	CRK	SPT	TRT	CAT	OTHER	LBS
1	WD14	7/ 6/87	28-45.7	92-24.2	07	18	29.3	21.6	4.0	ST	18	1	0.3	35	0	0	1	0	109	26			

SPECIES: BROWN WEIGHT: 0.3 NUMBER: 8 MODE: 134/ 2
 LEN(MM)/FREQ. 110/ 2 120/ 2 130/ 3 140/ 1

PLAT	STATION	DATE	LAT	LONG	TIME	FMS	SUR	BOT	DEP	TEMPS,C	CHLOR	GEAR	MIN	FISH	TOWS	SHRIMP	FINFISH	CRK	SPT	TRT	CAT	OTHER	LBS
1	WD15	7/ 6/87	28-43.7	92-21.9	08	19	29.1	21.8	4.8	ST	10	1	0.3	18	0	0	0	0	109	8			

SPECIES: BROWN WEIGHT: 0.3 NUMBER: 3 MODE: 0/ 0
 LEN(MM)/FREQ. 130/ 3

PLAT	STATION	DATE	LAT	LONG	TIME	FMS	SUR	BOT	DEP	TEMPS,C	CHLOR	GEAR	MIN	FISH	TOWS	SHRIMP	FINFISH	CRK	SPT	TRT	CAT	OTHER	LBS
1	WD13	7/ 6/87	28-48.0	92-09.2	10	17	29.2	22.9	4.0	ST	28	1	0.2	11	0	0	0	0	005	4			

SPECIES: BROWN WEIGHT: 0.2 NUMBER: 6 MODE: 0/ 0
 LEN(MM)/FREQ. 110/ 3 120/ 2 150/ 1

PLAT	STATION	DATE	LAT	LONG	TIME	FMS	SUR	BOT	DEP	TEMPS,C	CHLOR	GEAR	MIN	FISH	TOWS	SHRIMP	FINFISH	CRK	SPT	TRT	CAT	OTHER	LBS
1	WD34	7/ 6/87	28-47.6	91-55.9	13	15	29.2	25.4	5.3	ST	24	1	0.1	23	0	0	0	0	056	68			

SPECIES: BROWN WEIGHT: 0.1 NUMBER: 2 MODE: 0/ 0
 LEN(MM)/FREQ. 120/ 2

PLAT	STATION	DATE	LAT	LONG	TIME	FMS	SUR	BOT	DEP	TEMPS,C	CHLOR	GEAR	MIN	FISH	TOWS	SHRIMP	FINFISH	CRK	SPT	TRT	CAT	OTHER	LBS
1	WN40	7/ 6/87	28-31.8	91-57.1	21	22	29.1	20.3	4.8	ST	34	1	0.8	152	5	36	4	1	022	57			

SPECIES: BROWN WEIGHT: 0.8 NUMBER: 7 MODE: 0/ 0
 LEN(MM)/FREQ. 120/ 1 140/ 2 170/ 2 180/ 1 190/ 1

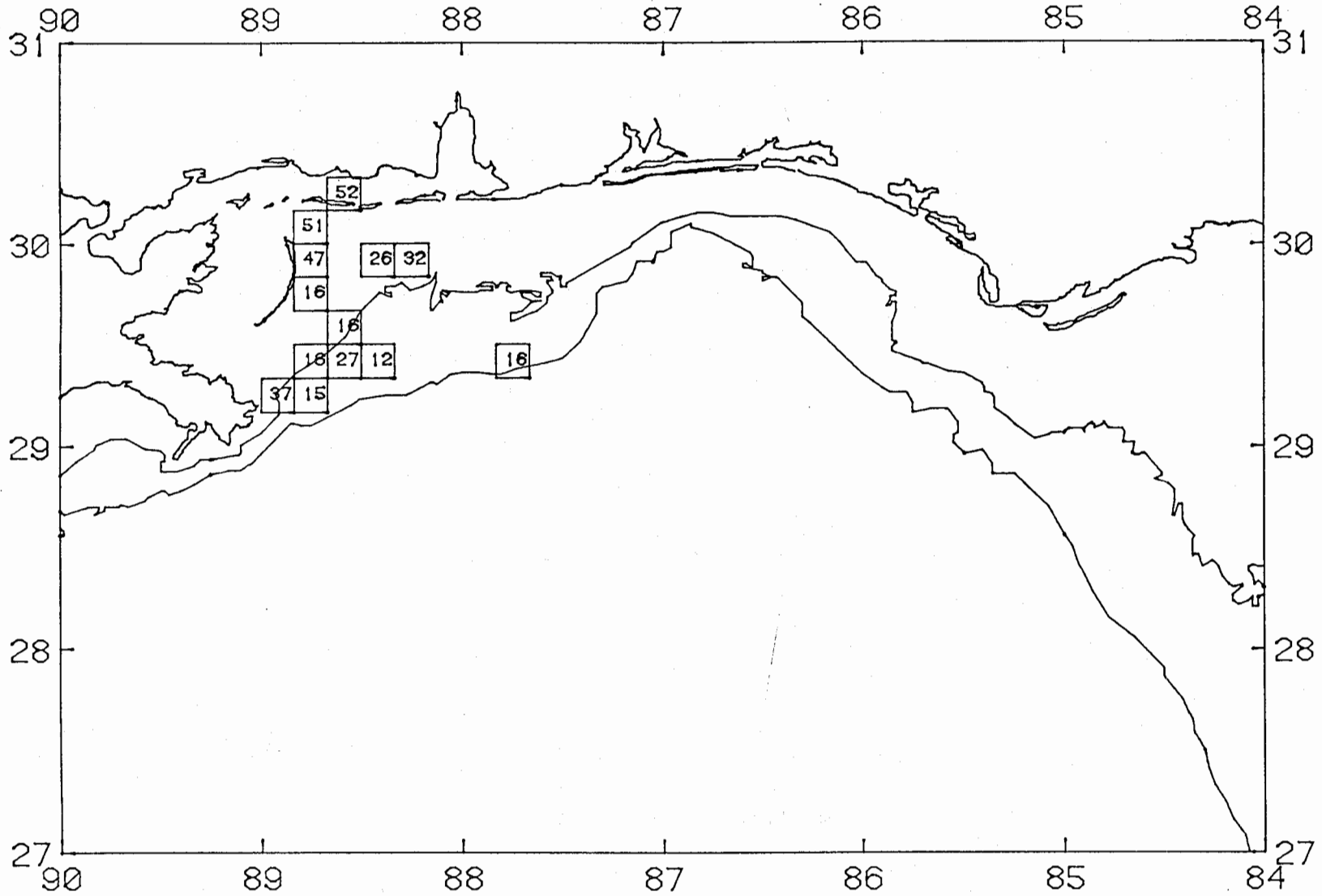
PLAT	STATION	DATE	LAT	LONG	TIME	FMS	SUR	BOT	DEP	TEMPS,C	CHLOR	GEAR	MIN	FISH	TOWS	SHRIMP	FINFISH	CRK	SPT	TRT	CAT	OTHER	LBS
1	WN16	7/ 7/87	28-41.0	92-11.0	00	20	29.1	21.6	4.0	ST	46	1	3.6	30	0	0	0	0	087	14			

SPECIES: BROWN WEIGHT: 3.6 NUMBER: 37 MODE: 124/ 4
 LEN(MM)/FREQ. 110/ 4 120/ 16 130/ 4 140/ 6 150/ 5 160/ 1 170/ 1

Figure 13

Representative Real-Time Catch Plots, 1987

Shrimp/Groundfish Survey



RED DRUM STUDIES

In response to the rapidly growing red drum fishery, and the urgent need for scientific information on the size and identification of the offshore Gulf red drum resource, as well as the species' age/growth and migration patterns, the Gulf Subcommittee in May 1986 charged the Red Drum Work Group with developing a plan to provide this information. Scientists from the entire region collaborated to produce in June the State- Federal Cooperative Program for Red Drum Research in the Gulf of Mexico: A Three-Year Plan, a cost-effective program designed specifically to address these questions. Many of the projects in the plan, funded through the cooperative, State-Federal Marine Fisheries Initiative (MARFIN), were implemented immediately, and have yielded valuable data on age and growth, and stock size. Overall reporting of the cooperative program's results and progress, and program planning and evaluation are being managed through the SEAMAP-Gulf Program.

The first program review was planned to coincide with formal implementation of the cooperative program. A Fall Conference in October 1986 at the Fall GSMFC Meeting in New Orleans, featured presentation on project objectives and preliminary research results by all participants in the Cooperative program. SCIAENOPS, the newsletter of the cooperative program, was developed and sent to more than 550 interested persons. Subsequent issues of SCIAENOPS have been mailed to approximately 360 individuals. A second conference on Status Reports of Red Drum Research Projects was held during the Spring GSMFC meeting in March 1987. Participants from state agencies, universities and NMFS presented updates on their research projects, reviewing areas of stock identification, age and growth, stock assessment and fishery-independent assessment techniques. From information gathered during the first year of the coordinated red drum effort, additional areas of research were identified by the Red Drum Work Group including:

- increased effort in collecting recreational landings data;
- determination of juvenile escapement rates from estuarine areas around the Gulf to the offshore stock;
- socio-economic factors of the fishery.

SEAMAP ARCHIVING CENTER

Larval fish and fish egg samples sorted to the family level by the Polish Sorting Center (PSC) are returned to the SEAMAP Archiving Center (SAC) for archiving and loan to researchers. Data entry for most of the returned sorted samples is completed in an improved and simplified information management system. All data are now managed by a dual microcomputer/mainframe program which eliminates coding errors and facilitates faster data entry. Comprehensive data listings are now available for survey specimens from 1982-1984, consisting of approximately 25,800 specimen lots (more than 125 families), as well as many fish eggs and unsorted fish larvae.

The Center is managed in conjunction with FDNR in St. Petersburg, and processes both specimen loans and requests for associated plankton survey environmental data; merging of these files within the SEAMAP Information System in FY1988 will greatly facilitate managing the environmental data, presently a cumbersome manual procedure. Gulf collections in 1986 were extensive and were further expanded in 1987. Plans call for 631 SEAMAP samples (+ 25% quality control) to be sorted for ichthyoplankton during the PSC contract period of September 1987 through August 1988. Priorities for sorting these samples from the backlog at PSC have been determined.

Loan of SEAMAP specimens, and development of the system and its protocols, are supervised by SAC's curator, following policies outlined in the SEAMAP-Gulf Operations Plan. More than 1,000 specimen lots of fish larvae have been loaned, most of them species of commercial and recreational importance: mackerels, snappers, tunas, butterfish, bluefish, red drum, jacks, herrings, grunts and others; many other loan requests are presently being processed.

SEAMAP INVERTEBRATE PLANKTON ARCHIVING CENTER

With the determination in 1985 by SEAMAP-Gulf that the retained "back-up" bongo collections also contain valuable research materials, the SEAMAP Invertebrate Plankton Archiving Center (SIPAC) was established, managed in conjunction with Gulf Coast Research Laboratory in Biloxi, Mississippi.

To date, a total of 1,061 unsorted SEAMAP zooplankton samples have been catalogued and archived at the SIPAC. Additional shipments of approximately 700 samples have been received from 1987 surveys and are presently being catalogued.

PROGRAM MANAGEMENT

PROGRAM MANAGEMENT

The SEAMAP Program is administered by the SEAMAP Subcommittee of the Technical Coordinating Committee through the SEAMAP Coordinator, who is under the technical direction of the Subcommittee Chairman and administrative supervision of the Gulf States Marine Fisheries Commission's Executive Director.

Personnel associated with program management include the Coordinator, SEAMAP Data Manager, SEAMAP Archiving Center Curator, SEAMAP Invertebrate Plankton Archiving Center Curator, and the NMFS-SEFC Mississippi Laboratories Director, serving as Contracting Office Technical Representative.

SEAMAP management activities are designated in this report as either Administration or Information Dissemination.

ADMINISTRATION

PLANNING

Major SEAMAP-Gulf Subcommittee meetings were held in October 1986 and March 1987, in conjunction with the Annual Fall and Spring Meetings of the Gulf States Marine Fisheries Commission (GSMFC). Resource survey planning meetings of the Subcommittee were held in January and August 1987; all meetings included participation by the several work group leaders, Coordinator, Data Manager, curators, and the GSMFC Executive Director. Subcommittee members and proxies are listed in Table 4.

An annual joint meeting of the two programs was held in March 1987, in Biloxi, Mississippi with representatives from all participating agencies attending. Representatives from the Gulf program also met with the South Atlantic representatives in August 1987 to discuss respective program needs and priorities for FY1988.

The August Joint Meeting was held in Mayaguez, Puerto Rico, in conjunction with a SEAMAP/Puerto Rico Sea Grant Passive Gear Assessment Workshop. Both components of the SEAMAP program, which conducts most of its current monitoring and assessment activities with trawl gear, had determined in 1986 to sponsor a workshop that would address the feasibility of using longlines, traps, visual techniques and other passive methodologies to achieve program objectives. Leading experts in the field were invited to present formal papers, which will be published as a joint SEAMAP/Puerto Rico Sea Grant proceedings. (See Passive Gear Workshop.)

All of the SEAMAP-Gulf work groups met this past year to provide recommendations to the Subcommittee for survey and data management needs. The Red Drum Work Group met in October 1986 and March 1987; the Plankton Work Group also in October and March; the Shrimp/Bottomfish Work Group in January, March and August 1987; the Squid/Butterfish Work

TABLE 4.
SEAMAP REPRESENTATIVES 1987

Walter M. Tatum, Chairman
Alabama Department of Conservation and Natural Resources

Gary Matlock, Vice Chairman
Texas Parks and Wildlife Department

Barney Barrett
Louisiana Department of Wildlife and Fisheries

C.E. Bryan*
Texas Parks and Wildlife Department

Karen Jo Foote*
Louisiana Department of Wildlife and Fisheries

Stevens Heath*
Alabama Department of Conservation and Natural Resources

J. Alan Huff
Florida Department of Natural Resources

Andrew J. Kemmerer*
National Marine Fisheries Service
Southeast Fisheries Center

Mark Leiby*
Florida Department of Natural Resources

Thomas McIlwain*
Mississippi Department of Wildlife Conservation
Gulf Coast Research Laboratory

Scott Nichols
National Marine Fisheries Service
Southeast Fisheries Center

Richard Waller
Mississippi Department of Wildlife Conservation
Gulf Coast Research Laboratory

*Designated proxy

Group in February; the Environmental Data Work Group in May and the Data Coordinating Work Group in February 1987. Where additional discussion was needed, the Subcommittee and work groups also deliberated plans and needs via telephone conference calls. Work group members are listed in Table 5.

Coordinating program surveys and distributing quick-report summaries of two Gulf-wide surveys to management agencies and industry were major functions of SEAMAP management in FY1987. Other important management activities included coordinating data provision and specimen loans, preparing publications and documents, and assisting in the preparation of State-Federal cooperative agreements, including amendments to permit extension of activities previously not detailed in the agreements.

PROPOSED FY1988 ACTIVITIES

Preliminary FY1988 SEAMAP-Gulf budget allocations are shown on Table 6. Total program allocations for both SEAMAP programs, Gulf and South Atlantic, total \$1 million. However, anticipated reductions for the Gramm-Rudman-Hollings Deficit Spending Reduction, and NMFS surcharges will reduce the available funds. Of this, the share to be allocated for all NMFS and Gulf State activities (including GSMFC) is \$775,000.

Proposed FY1988 activities for all Gulf participants are shown in Table 7. It should be noted that the SEAMAP fiscal year begins on January 1, unlike the GSMFC/TCC fiscal years; thus, fall activities for FY1988 will be conducted from October-December, 1988.

TABLE 5.

SEAMAP WORK GROUPS MEMBERS, 1987

PLANKTON WORK GROUP

Joanne Shultz, Leader
Mississippi Department of Wildlife Conservation
Gulf Coast Research Laboratory

Tom Boullion
Louisiana Department of Wildlife
and Fisheries

Harriet Perry
Mississippi Department of Wildlife
Conservation
Gulf Coast Research Laboratory

Jack Gartner
Curator, SEAMAP Archiving Center
Florida Department of Natural Resources

Richard Shaw
Louisiana State University

Churchill Grimes
National Marine Fisheries Service
Panama City Laboratory

Ken Stuck
Curator, SEAMAP Invertebrate Plankton
Archiving Center
Mississippi Department of Wildlife
Gulf Coast Research Laboratory

Don Hoss
National Marine Fisheries Service
Beaufort Laboratory

SHRIMP/BOTTOMFISH WORK GROUP

C.E. Bryan, Leader
Texas Parks and Wildlife Department

Philip Bowman
Louisiana Department of Wildlife and
Fisheries

Terry McBee
Mississippi Department of Wildlife
Conservation
Gulf Coast Research Laboratory

Stevens Heath
Alabama Department of Conservation and
Natural Resources

Scott Nichols
National Marine Fisheries Service
Pascagoula Laboratory

Edward Klima
National Marine Fisheries Service
Galveston Laboratory

Butch Pellegrin
National Marine Fisheries Service
Pascagoula Laboratory

ENVIRONMENTAL DATA WORK GROUP

Warren Stuntz, Leader
National Marine Fisheries Service
Pascagoula Laboratory

Charles Eleuterius
Mississippi Department of Wildlife
Conservation
Gulf Coast Research Laboratory

Ken Haddad
Florida Department of Natural Resources

Ron Gouguet
Louisiana Department of Wildlife and
Fisheries

Thomas Leming
National Marine Fisheries Service
Mississippi Laboratories

TABLE 5 (CONT'D.)

RED DRUM WORK GROUP

Thomas McIlwain, Leader
Mississippi Department of Wildlife Conservation
Gulf Coast Research Laboratory

Richard Condrey
Louisiana State University

Walter Nelson
National Marine Fisheries Service
Miami Laboratory

Larry McEachron
Texas Parks and Wildlife Department

Mike Murphy
Florida Department of Natural Resources

Joseph Shepard
Louisiana Department of Wildlife and
Fisheries

Mark Van Hoose
Alabama Department of Conservation and Natural Resources

DATA COORDINATING WORK GROUP

Kenneth Savastano, Leader
National Marine Fisheries Service
Mississippi Laboratories
SEAMAP Data Manager

C.E. Bryan
Texas Parks and Wildlife Department
Shrimp/Groundfish Work Group

Warren Stuntz
National Marine Fisheries Service
Pascagoula Laboratory

Thomas McIlwain
Mississippi Department of Wildlife
Conservation
Gulf Coast Research Laboratory
Red Drum Work Group

Frederick "Buck" Sutter
Florida Department of Natural
Resources
Squid/Butterfish Work Group

Joanne Shultz
Mississippi Department of Wildlife
Conservation
Gulf Coast Research Laboratory
Plankton Work Group

Walter M. Tatum
Alabama Department of Conservation and
Natural Resources
Chairman, SEAMAP Subcommittee

SQUID/BUTTERFISH WORK GROUP

Frederick "Buck" Sutter, Leader
Florida Department of Natural Resources

Gilbert Bane
Louisiana State University

Terry McBee
Mississippi Department of Wildlife
Conservation

Chris Gledhill
National Marine Fisheries Service
Pascagoula Laboratories

Mark Van Hoose
Alabama Department of Conservation and
Natural Resources

TABLE 6.
PRELIMINARY FY1988 PROGRAMMATIC BUDGET

GSMFC	\$ 95,000
TPWD	45,000
LDWF	118,000
MDWC/GCRL	101,000
ADCNR	69,000
FDNR	77,000
TOTAL	\$505,000
NMFS	\$270,000

TABLE 7.
PROPOSED SEAMAP-GULF ACTIVITIES, FY1988

Activity	Fall	Winter	Spring	Summer
Resource Surveys:				
Spring Plankton Survey			X	
Shrimp/Groundfish Trawling Surveys	X			X
Louisiana Seasonal Surveys	X	X	X	X
Plankton Survey	X			
Plankton and Environmental Data Surveys	X	X	X	X
Information Operations:				
1985 Biological and Environmental Atlas		X		
1986 Biological and Environmental Atlas				X
1988 Marine Directory			X	
1988 Annual Report	X			
Data Management System Implementation	X	X	X	X
Data Input and Request Processing	X	X	X	X
Specimen Archiving and Loan	X	X	X	X
Real-time Data Summaries				X
Passive Gear Workshop Proceedings			X	
Program Administration	X	X	X	X

FY1987 FINANCIAL REPORT

Total allocations for FY87 program administration were \$98,500. This figure includes \$7,000 which was reprogrammed from the FY86 SEAMAP Cooperative Agreement. As of September 30, total expenditures and encumbrances were: \$76,166.17. The remaining balance of \$22,333.83 must be used to provide administration through December 31, 1987.

PUBLICATIONS

The following publications were published and distributed in FY1987:

- 1987 SEAMAP Marine Directory, September 1987. Inventories of marine agency contacts (State, Federal and university) concerned with fishery research in the Gulf, and summaries of information provided by these organizations: target species, types of fishery-independent sampling gear and platforms, annual sampling effort and other material.
- 1987 SEAMAP Subcommittee Report to the GSMFC Technical Coordinating Committee; a detailed summary of program accomplishments, emphasizing survey design, materials collected, data dissemination, budget information and future survey activities.
- Sciaenops, Newsletter of the State-Federal Cooperative Program for Red Drum Research in The Gulf of Mexico. Vol. 1, No. 2-10. 1987-88 program updates to be published and distributed to program participants and others interested in red drum research.
- SEAMAP Operations Manual for Collection of Data, May 1987. A manual presenting the procedures to be followed by all vessels that participate in SEAMAP surveys.
- Data Management System Requirements Document for Gulf and South Atlantic. November 1986.
- Data Management System Design Study for Gulf and South Atlantic. March 1987. A result of the system design study, this document describes the high level design of the proposed system and presents a five year implementation plan.

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