

ANNUAL REPORT
OF THE
SOUTHEAST AREA MONITORING
AND ASSESSMENT PROGRAM
(SEAMAP)

OCTOBER 1, 1990 - SEPTEMBER 30, 1991

SEAMAP - Gulf of Mexico
Gulf States Marine Fisheries Commission

SEAMAP - South Atlantic
Atlantic States Marine Fisheries Commission

SEAMAP - Caribbean
Caribbean Fishery Management Council

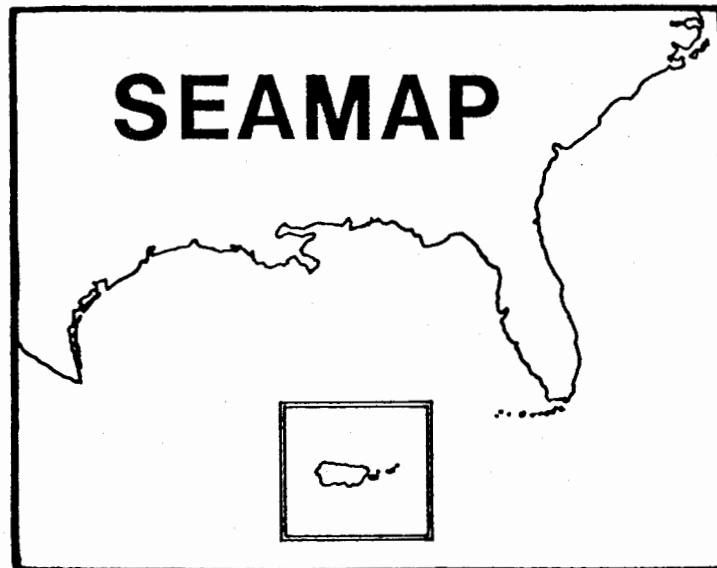
DECEMBER 1991

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DECEMBER 1991

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Annual Report Preparation By:

David Donaldson
Coordinator, SEAMAP-Gulf of Mexico

Dianne Stephan
Coordinator, SEAMAP-South Atlantic

Sandra Laureano
Coordinator, SEAMAP-Caribbean

Design and Layout:

Cheryl R. Noble Lucia B. Hourihan
Gulf States Marine Fisheries Commission

ANNUAL REPORT of the Southeast Area Monitoring and Assessment Program October 1, 1990 - September 30, 1991

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 three operational components, SEAMAP-Gulf of Mexico, which began in 1981, SEAMAP-South Atlantic, implemented in 1983 and SEAMAP-Caribbean, formed in mid-1988.

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). Agencies and organizations directly involved with the Program are shown in Table 1.

Federal programmatic funding for SEAMAP activities and administration was appropriated in Federal Fiscal Years 1985-1991. Funding allocations to participants for FY1986-FY1991 were handled through State-Federal cooperative agreements, administered by SERO and the Southeast Fisheries Center (SEFC), National Marine Fisheries Service (NMFS).

This report provides an overview of the SEAMAP Gulf, South Atlantic and Caribbean programs. It outlines the resource survey operations, administrative activities and publications for FY1991 and proposed activities for FY1992.

PROGRAM MANAGEMENT

Activities and operations of each SEAMAP component are wholly defined by the respective managing units: the SEAMAP-Gulf Subcommittee of the Gulf States Marine Fisheries Commission's Technical Coordinating Committee, the SEAMAP-South Atlantic Committee of the Atlantic States Marine Fisheries Commission's South Atlantic Board, and the SEAMAP-Caribbean Committee of the Caribbean Fishery Management Council. The Gulf and South Atlantic committees consist of designated representatives from each member State and NMFS and the Gulf of Mexico and South Atlantic Fishery Management Councils. The Caribbean component consists of members from Puerto Rico Department of Natural Resources, Virgin Islands Division of Fish and Wildlife, Puerto Rico Sea Grant College Program, NMFS, U.S. Fish and Wildlife Service and the National Park Service. Each committee meets several times yearly to review operations, examine priorities, and

plan future activities. Daily operations are carried out by the respective SEAMAP Coordinators, assisted by staffs of the two Commissions and Caribbean Council and personnel associated with the SEAMAP Information System, SEAMAP Archiving Center (SAC) and SEAMAP Invertebrate Plankton Archiving Center (SIPAC).

SEAMAP - CARIBBEAN

Action taken at the Joint SEAMAP-Gulf and South Atlantic meeting held in Mayaguez, Puerto Rico, August 1987, resulted in the approval of a SEAMAP-Caribbean component. An invitation was extended to the Caribbean Fishery Management Council (CFMC) to implement the program. The CFMC endorsed the concept and created a task force to determine the appropriateness of SEAMAP activities in the Caribbean fisheries. The task force met on March 30, 1988 and agreed to establish a SEAMAP-Caribbean program under the guidance and supervision of the Caribbean Council. A series of goals and objectives was developed by the participating agencies and presented at the August 1988 Joint SEAMAP meeting held in St. Petersburg, Florida. The first SEAMAP-Caribbean survey of reef resources, including longlining and plankton sampling activities, was planned for November 1988.

The SEAMAP-Caribbean Committee met three times this year to decide on recommendations made by the work group and discuss budget matters.

The SEAMAP-Caribbean Reef Resources Work Group met during the year to establish final procedures for the Reef Resource Pilot Study. The purpose of the meeting was to develop a statistically valid fishery independent survey to monitor the reef resources of the waters around Puerto Rico and the U.S. Virgin Islands. The work group submitted a working draft for a reef resources survey project which was approved by the SEAMAP-Caribbean Committee. The document will be used as a guide for reef resources research. Beginning in 1992, the survey will focus on a preliminary pilot study to assess the survey design and to standardize sampling methodologies between U.S. Virgin Islands and Puerto Rico. The research will be conducted in three-year cycles. The Reef Resources Work Group supervised a multivariate analysis of the data set collected by the Fisheries Research Laboratory in a fisheries-independent sampling program. The results were used in defining

- (3) provide information on shrimp and bottomfish stocks across the northern Gulf of Mexico from inshore waters to 50 fm.

The overall sampling strategy during the 1991 SEAMAP summer survey was to work from the eastern Gulf to the Texas/Mexico border, in order to sample during or prior to migration of brown shrimp from bays to the open Gulf area. The survey was conducted from June 3 to July 13, 1991.

During the survey, the NOAA Ship OREGON II and R/V TOMMY MUNRO sampled offshore and inshore Gulf waters with 40-ft trawls. Alabama's R/V VERRILL sampled offshore Alabama waters with 40-ft trawls. The R/V PELICAN sampled both Louisiana state waters and offshore waters with 40-ft trawls, and Texas vessels sampled Texas state waters and offshore waters with 20-ft trawls.

A total of 370 trawl samples was taken from coastal and offshore waters out to 50 fm from Mobile Bay, Alabama, to Brownsville, Texas. All vessels took environmental data, including temperature, salinity, oxygen and chlorophyll at each station.

In June, with one station sampled on July 13, catch rates of brown shrimp east of the River were very low, with a maximum catch of 14.7 lb/hr of 13-count shrimp. White shrimp catches east of the River were all less than 2 lb/hr. The largest pink shrimp catch rate east of the River was 21.9 lb/hr of 51-count shrimp taken in 17 fm of water off Mobile Bay, Alabama. Finfish catch rates east of the River were moderate, with the largest catch of 2,020 lb/hr with Atlantic croaker predominating.

Moderate catches of brown shrimp were also made off Texas from June 3 to June 30. The largest catch rate occurred June 20 in waters between Corpus Christi and Brownsville in 13 fm (372.5 lb/hr of 62-count shrimp). White shrimp catches off Texas were low with the largest catch, 39.7 lb/hr of 15-count shrimp, taken southeast of Galveston in 9 fm. Catch rates for pink shrimp were low off Texas, though the largest catch was 84.8 lb/hr of 40-count shrimp southeast of Galveston Bay in 12 fm. Finfish catch rates were moderate in Texas inshore and offshore waters. The largest catch of finfish was 2,799 lb/hr in 13 fm between Corpus Christi and Brownsville with silver eels predominating. Several areas of low bottom dissolved oxygen were located along the Texas coast inside 10 fm.

In July's samples west of the river (Louisiana) brown shrimp catches were low with the largest catch rate of 47.3 lb/hr of 37-count shrimp occurring southeast of Barataria Bay in 22 fm. White shrimp catches were low, with a maximum catch rate of 17.1 lb/hr of 29-count shrimp taken in 4 fm southeast of Calcasieu Lake. Catches of pink shrimp were very low off the Louisiana coast with a maximum catch rate of 5.8 lb/hr of 18-count shrimp. Finfish catch rates were also low with the largest catch rate of 774 lb/hr taken on July 5 with Atlantic croaker predominating.

An area of low bottom dissolved oxygen (less than 2 ppt) occurred off Louisiana between Cameron,

Louisiana and the Mississippi River in depths of 6 to 22 fms.

Spring Plankton Survey

For the ninth season, 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 sampled offshore waters from the western edge of the West Florida Shelf to the Texas-Louisiana border from April 16 to May 23, 1991.

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. Right bongo and neuston samples were initially preserved in 10% buffered formalin and after 48 hours were transferred to 95% ethyl alcohol for final preservation. Left bongo samples were preserved via an ethanol/ethanol transfer to aid in preservation of larval otoliths.

A total of 150 stations was sampled. The OREGON II sampled 137 stations and the R/V HERNAN CORTEZ II sampled 13 stations along the West Florida Shelf. Inclement weather prevented the OREGON II from sampling 19 station sites.

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

Right bongo and neuston samples collected by Florida from SEAMAP stations will be stored until an alternative sorting center can be selected to replace the Polish Sorting Center (PSC). Left bongo samples are currently archived at the Gulf Coast Research Laboratory in Ocean Springs, Mississippi. Salinity data from the Florida vessels were sent to the NMFS Mississippi Laboratories for interpretation.

Fall Plankton Survey

The first fall ichthyoplankton survey to assess abundance and distribution of king mackerel eggs and larvae occurred in August 1984. No sampling survey was conducted in 1985, however expanded surveys in 1986-1990 and in the current year covered Gulf waters from Florida Bay to Brownsville, Texas. Vessels from Florida, Alabama, Mississippi, Louisiana and NMFS surveyed from August 21 through October 4, 1991 for a total of 261 stations.

The NOAA Ship OREGON II sampled 96 stations from Tampa Bay, Florida to Brownsville, Texas at depths from 5 to 100 fm. Florida's R/V HERNAN CORTEZ sampled 23 stations from off Tampa Bay south to the Ten Thousand Island area. Stations were located along a 30-minute latitude/longitude grid from inshore waters to the shelf edge. An Alabama vessel sampled 10 stations at the mouth and outside Mobile

Bay. The R/V TOMMY MUNRO sampled 118 stations south of Mississippi Sound along a 30-minute grid. The R/V PELICAN sampled 14 stations in Louisiana territorial waters.

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 chlorophyll, salinity, temperature and dissolved oxygen from surface, mid-water, and bottom, water transparency and water color. Right bongo samples collected by the states will be stored until an alternative sorting center can be selected. Left bongo and neuston samples will be stored at the SEAMAP Invertebrate Archiving Center at the Gulf Coast Research Laboratory for possible future sorting. Louisiana plankton samples will be sorted by LDWF according to SEAMAP protocols and specimens and data provided to the SEAMAP Archiving Center.

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, plankton tows were piggybacked on the NMFS and state vessels, sampling randomly generated trawl stations within the standard 30-minute 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, mid-depth and bottom waters, and chlorophyll from surface and bottom waters) were collected during the shrimp/groundfish surveys. Wind direction and speed and wave height were taken at all trawl stations.

Samples from the right side of the bongo nets and neuston samples are being stored at state facilities until an alternative sorting center can be selected. Once a new center has been chosen, the samples will be sorted to the family level (both ichthyoplankton and selected crustacean and molluscan species). The left bongo sample from each station is retained as a back-up in the event of damage or loss of the specimens 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 1991, detailed earlier.

SEAMAP - South Atlantic

Shallow Water Trawl Survey

The major SEAMAP-South Atlantic survey in FY1991 was the continuing Shallow Water Trawl Survey (formerly known as the Nearshore Regional Trawl Survey) conducted by the South Carolina Wildlife and Marine Resources Department. Initiated as a pilot project in 1986, this is a fishery-independent study designed to monitor the distribution and abundance of coastal species in the South Atlantic Bight and to measure associated environmental parameters in nearshore coastal waters. The overall goal is to obtain a long-term database to facilitate management of stocks in the South Atlantic Bight.

Specific objectives of the survey are:

- (1) to collect data on size, abundance, distribution and seasonality of target finfish and decapod crustaceans;
- (2) to record species composition, biomass and abundance in order to assess latitudinal and seasonal fluctuations;
- (3) to collect data on size, sex and gonadal condition of white, pink and brown shrimp and attempt to locate spawning grounds.

Three multi-legged seasonal cruises were conducted between Cape Hatteras, North Carolina and Cape Canaveral, Florida, during FY1991: Fall 1990 (October 8 - November 16), Spring 1991 (April 22 - May 28) and Summer 1991 (July 15 - August 7). Inshore strata (4.6- to 9.2-m depths) were sampled during each cruise. Offshore strata (9.2- to 19-m depths) were sampled only during fall and spring when penaeid shrimp spawning is thought to occur. All samples were collected during daylight hours to maximize the opportunities for collecting juvenile mackerel.

The Fall 1990 cruise completed the second full year of standardized sampling under a stratified random survey design. Sampling was conducted at 91 stations and emphasized 24 target species. For the second consecutive year, large catches of sciaenids usually present in the fall were absent. The Spring 1991 and Summer 1991 cruises sampled 78 stations each.

A brief summary of the preliminary results of each FY1991 cruise is available as a cruise report. Data from the spring and summer 1991 cruises are being processed by the South Carolina Wildlife and Marine Resources Department. The results of the entire 1990 cruise season (Spring and Summer 1990 cruises in addition to the Fall 1990 cruise discussed above) are documented in the final 1990 project report, Results of Trawling Efforts in the Coastal Habitat of the South Atlantic Bight by Boylan, Webster, Beatty and Wenner (1991).

Pamlico Sound Survey

During FY1991, the North Carolina Division of Marine Fisheries continued the ongoing Pamlico Sound Survey (formerly known as the Pamlico-Albemarle Sounds Survey) with cruises that sampled 53 stations each in June and September 1991. This seasonal trawl survey is designed to provide a long-term fishery-independent database on the distribution, relative abundance and size composition of target species of estuarine fish and decapod crustaceans for the waters of Pamlico Sound. Samples were collected with a 9.1-m falcon trawl towed for 20 minutes during daylight hours. Sampling was conducted according to a stratified random design using depth strata (less than 3.7 m, greater than 3.7 m) and one-minute grids. Environmental data were recorded at each station. The data are being processed and are made available to the SEAMAP Data Management System.

Benthic Characterization

During FY1991, the Florida Department of Natural Resources continued work to characterize the structure and general ecology of South Atlantic benthic communities. Invertebrates were collected on four SEAMAP survey cruises in the region during 1983-1986. Selected invertebrate groups from northeast Florida are being identified to the lowest appropriate taxonomic level and the data are provided to the SEAMAP database.

All crustaceans (265 species) and mollusks (308 species) have been identified and enumerated. Analysis of lobsterettes revealed the presence of previously unknown species. Descriptions of these new species are in preparation. The distribution and relative abundance by depth of economically important crustaceans are being mapped.

Bottom Mapping Survey

Lack of funding again prevented implementation of the data entry and analysis for the first element in this study, mapping the extent and location of hard-bottom areas off Georgia and north Florida. This project remains a high priority for SEAMAP-South Atlantic, but it must be postponed until funds are available. The Bottom Mapping Work Group continues to investigate extraneous funding sources.

SPECIAL STUDIES

BENTHIC SURVEILLANCE PROJECT

For the eighth 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-Gulf of Mexico and SEAMAP-South Atlantic supplied personnel from state fishery management agencies to provide guidance in locating concentrations of the target species, Atlantic croaker and spot.

Managed regionally through the SEFC's Beaufort, North Carolina Laboratory, the survey team sampled six South Atlantic and eight Gulf sites in the Summer and Fall of 1991. The Cape Fear River, North Carolina was sampled August 27-29, Charleston Harbor, South Carolina was sampled August 30 and September 3, Sapelo Sound, Georgia was sampled September 4-6, St. John's River, Florida was sampled September 9-10, St. Lucie River, Florida was sampled September 12-13 and 16-17, Biscayne Bay, Florida was sampled September 19, Charlotte Harbor, Florida was sampled September 24-26, St. Andrews Bay, Florida was sampled September 28 and 30, Choctawhatchee Bay, Florida was sampled October 1-2, Pensacola Bay, Florida was sampled October 3-4, Pascagoula River, Mississippi was sampled October 8-11, Heron Bay, Mississippi was sampled October 16-18, San Antonio Bay, Texas was sampled October 21-24 and Lower Laguna Madre, Texas was sampled October 28-29.

The NOAA Ship FERREL was the primary platform and the sampling methodologies in 1991 were identical to those of the previous years. Analyses of trace metals, aromatic and chlorinated hydrocarbons, and other contaminants and indicators in the samples were coordinated by the Beaufort Laboratory.

A list of publications produced under NOAA's National Status and Trends Program is available from NOAA, National Status and Trends Program, N/OMA32, 11400 Rockville Pike, Rockville, MD 20852. A report on the findings of the project's first four years will soon be available as a NOAA Technical Memorandum.

WINTER TRAWLING AND FISH TAGGING CRUISE

During January 23-February 2, 1991, personnel from the States of North Carolina and Maryland, U.S. Fish and Wildlife Service (FWS) and NMFS/SEFC participated in a striped bass tagging cruise. This was the third year of the cooperative project, initiated in 1988 at the request of SEAMAP-South Atlantic. Adult striped bass overwintering in the area between False Cape, Virginia and Wimble Shoals, North Carolina were tagged to assess the population structure and exploitation rates of the migratory Atlantic Coast stock.

A color video sounder was used to locate targets and reduce bycatch. A total of 1,810 striped bass was captured in 182 tows made at depths of 10-18 m. Of these, 1,780 healthy fish were measured, tagged with FWS internal anchor tags and released. Four hundred ninety-two striped bass were doubled tagged with American Littoral Society tags as part of a study to test tag retention. Summer flounder (102) and Atlantic sturgeon (20) were tagged opportunistically. Scales were collected from tagged fish for age and growth determinations. A database for the striped bass tag returns is managed by the FWS in Leetown, West Virginia.

DATA MANAGEMENT

Biological and environmental data from all SEAMAP-Gulf 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-Gulf surveys during 1982-1989 have been entered into the system and data from 1990 and 1991 surveys are in the process of being verified, edited and entered for storage and retrieval. Data from the South Atlantic surveys have not been entered into the SEAMAP Data Management System. Currently, the States of South Carolina and North Carolina utilize their own computer facilities to store and analyze their SEAMAP data. The South Atlantic Data Management Work Group and the SEAMAP Data Manager have finished preparing the computer programs necessary for converting the Shallow Water Trawl Survey data to the SEAMAP Data Management System format. Complete conversion of 1989-1990 data is anticipated by December 1991.

Verified, non-confidential SEAMAP data are available conditionally to all requestors, although the highest priority is assigned to SEAMAP participants. A total of 104 SEAMAP data requests have been 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. To date, 102 requests have been completed and work is being performed on those remaining.

The requirements report for an integrated data system, Data Management System Design Study for Gulf and South Atlantic, 1987, was completed in March 1987. 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 DMS Requirements Document 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.

Work was completed during FY1990 on the new distributed SEAMAP Data Management System. New modules completed include those for data entry, edit, upload, data query and download. Delivery of the remaining PS/2's has been completed. All Gulf and South Atlantic States are now equipped with the necessary computer hardware and software.

The new system is decentralized, i.e., distributed. Thus, the SEAMAP users are able to locally and directly enter and retrieve data. Software for the new system has been distributed to participants for trial runs of data input. This new system overcomes the deficiencies of the current system (i.e., the time necessary to enter and

retrieve data) and provides powerful and flexible local data analysis and display capabilities. Under the new system, each SEAMAP site enters, verifies and edits their data, eliminating the mail-oriented loop necessary to enter/edit/verify data under the old system. Secondly, each site has the capability of locally accessing SEAMAP data, utilizing a user-friendly system. Local data retrieval allows the data to be accessed in a timely manner with a minimum amount of effort and programming skills.

Under the new system, outside users (e.g., Minerals Management Service, U.S. Army Corps of Engineers, etc.) may continue to request special data sets for research or study. They can 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. 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.

SEAMAP data collected during surveys were used for a multitude of purposes in FY1991:

- Evaluation of the abundance and size distribution of penaeid shrimp in Federal and state waters to assist in determining opening and closing dates for commercial fisheries by NMFS.
- Evaluation of shrimp fishery bycatch and weakfish stock assessment by NMFS.
- Assessment of shrimp and groundfish abundance and distribution and their relationship to such environmental parameters as temperature, salinity, and dissolved oxygen by NMFS.
- Identification of environmental parameters associated with concentrations of larval finfish by NMFS.
- Compilation of the 1989 SEAMAP Biological and Environmental Atlases by NMFS and GSMFC.
- Comparison of catches of shrimp and groundfish captured by 40-ft versus 20-ft trawl nets by NMFS.
- Compilation of the 1987 SEAMAP Ichthyoplankton Atlases by NMFS.
- Development of weakfish fishery management plan and striped bass stock assessment by the ASMFC.
- Weakfish stock identification by the Virginia Institute of Marine Sciences.
- Development of striped bass regulations by the North Carolina Division of Marine Fisheries.
- Development of age/growth and reproductive analysis of southern flounder and various life history aspects for red drum, sheepshead and summer flounder by the SCWNRD.

REAL-TIME DATA

A major function of the SEAMAP Information System in 1991 was the processing of catch data from the Summer Shrimp/Groundfish Survey as near-real-time data. Data were transmitted three times weekly via cellular phone to the NMFS Mississippi Laboratories from the NOAA vessel, while the states' data were entered into the system weekly. Plots of station locations and catch rates of shrimp and dominant finfish species were prepared and edited at the NMFS Mississippi Laboratories, 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. In addition, a questionnaire concerning the usefulness of SEAMAP real-time data was included in the first mailing. The results show the majority of participants view SEAMAP data as very beneficial to their efforts.

SPECIMEN ARCHIVING

Larval fish and fish egg samples sorted to the family level by the PSC are returned to the 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. Samples cataloged to date represent 18 orders, 125 families, 234 genera and 244 species.

The SAC is managed in conjunction with FDNR in St. Petersburg, Florida and processes both specimen loans and requests for associated plankton survey environmental data. Merging of these files within the SEAMAP Information System will greatly facilitate managing the environmental data, presently a cumbersome manual procedure. Due to logistical problems with the Polish Sorting Center, plans call for SEAMAP samples to be stored at state facilities until an alternative sorting center can be selected. In anticipation of a possible switch from the PSC, the Atlantic Reference Center (ARC) has been contacted about a possible sorting opportunity. Representative archived samples have been sent to ARC so they can get an estimate for sorting times, costs, etc. As of the fall of 1987, plankton samples taken by Louisiana vessels were sorted by LDWF and sorting has continued for 1990-1991 samples. All specimens and data will be provided to the SAC.

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. Accessioning of back-logged material has been a priority for the SAC since the new curatorial assistant was hired. With most of the 1987 and 1988 samples accessioned at SAC, the catalogue is expected to contain approximately 45,900 lots, a collection of significant size.

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 and is managed in conjunction with Gulf Coast Research Laboratory in Biloxi, Mississippi.

During the FY1991, 319 unsorted SEAMAP samples were received and catalogued at SIPAC. As of August 28, 1991, a total of 4,337 unsorted fish larvae samples are held at SIPAC. In an effort to limit the space and costs of curating the growing SIPAC collection of unsorted samples, a protocol was adopted to retain only a 1/4 aliquot of samples that are more than 7 years old. As of August 28, 1991, 288 samples from the 1982 surveys and 270 samples from the 1983 surveys were aliquoted and retained in the collection. The remaining portions of these samples were donated to Dr. Pat Biesiot of the University of Southern Mississippi for use as teaching aids.

A total of 91 SEAMAP samples have been sorted for selected invertebrate taxa by the SIPAC and the PSC following established protocol. A total of 606 lots were obtained from these samples. Portunid megalopae and penaeid postlarvae from the sorted samples have been further identified to the lowest possible taxonomic level. Data from these samples have been provided to researchers at Louisiana State University, Louisiana Department of Wildlife and Fisheries and the Gulf Coast Research Laboratory. The portunid megalopal data are currently being used by the GSMFC Crab Subcommittee to develop an atlas of portunid megalopal distribution in the northern Gulf of Mexico.

During the next fiscal year, the SIPAC collection will continue to be maintained and additional samples will be sorted for invertebrates. Particular emphasis will be placed on providing data on the megalopae of Callinectes sapidus and postlarval Penaeus spp. as requested by several researchers. The ability of SIPAC to provide this data has been enhanced by the allocation of SEAMAP funds to support invertebrate sorting during FY1990.

INFORMATION DISSEMINATION

The following documents were published and distributed by the SEAMAP program in FY1991:

- Beatty, R. and E.L. Wenner. 1991. 1991 Spring SEAMAP Cruise Report. South Carolina Wildlife and Marine Resources Department, Charleston. 6 p.
- Boylan, J.M., R.P. Webster, H.R. Beatty and E.L. Wenner. 1991. Results of trawling efforts in the coastal habitat of the South Atlantic Bight. SEAMAP-SA Final Report, FY1990. South Carolina Wildlife and Marine Resources Department, Marine Resources Research Institute, Charleston. 48 p.

- Donaldson, D.M. 1991. SEAMAP Annual Report to the Technical Coordinating Committee (October 1, 1990 to September 30, 1991). Gulf States Marine Fisheries Commission, Ocean Springs, 42 p.
- Donaldson, D.M., C.D. Goodyear and S. Laureano. 1991. Annual Report of the SEAMAP Program (October 1, 1989 to September 30, 1990). Gulf States Marine Fisheries Commission, Ocean Springs, 15 p.
- Goodyear, C.D. 1990. SEAMAP-South Atlantic Annual Report (1 October 1989 - 30 September 1990). Submitted to the South Atlantic Board of the Atlantic States Marine Fisheries Commission. Atlantic States Marine Fisheries Commission, Washington, D.C. 112 p.
- Gulf States Marine Fisheries Commission. 1991. SEAMAP Marine Directory. Gulf States Marine Fisheries Commission, Ocean Springs, 11 p.
- Sanders, N., D.M. Donaldson and P.A. Thompson. 1990. SEAMAP Environmental and Biological Atlas of the Gulf of Mexico, 1987. No. 22. Gulf States Marine Fisheries Commission. Ocean Springs, 337 p.
- Sanders, N., D.M. Donaldson and P.A. Thompson. 1991. SEAMAP Environmental and Biological Atlas of the Gulf of Mexico, 1988. No. 23. Gulf States Marine Fisheries Commission. Ocean Springs, 320 p.
- Wenner, E.L. 1990. 1990 Fall SEAMAP Cruise Report. South Carolina Wildlife and Marine Resources Department, Charleston. 5 p.
- Wenner, E.L. 1991. 1991 Summer SEAMAP Cruise Report. South Carolina Wildlife and Marine Resources Department, Charleston. 5 p.

PROPOSED SEAMAP ACTIVITIES, FY1992

Annual program allocations for the SEAMAP programs, Gulf, South Atlantic and Caribbean total approximately \$1.4 million. Proposed FY1992 activities for all participants are shown in Table 2.

TABLE 2.
PROPOSED SEAMAP ACTIVITIES, FY1992

	Fall	Winter	Spring	Summer
<u>Gulf Activities</u>				
Resource Surveys:				
Spring Plankton Survey			X	
Shrimp/Groundfish Surveys	X			X
Louisiana Seasonal Surveys	X	X	X	X
Fall Plankton Survey	X			
Plankton and Environmental Data Surveys	X	X	X	X
Information Operations:				
1989 Biological and Environmental Atlas		X		
1991 Marine Directory			X	
1991 Joint Annual Report		X		
Data Input and Request Processing	X	X	X	X
Specimen Archiving and Loan	X	X	X	X
Real-time Data Summaries				X
Program Administration	X	X	X	X
<u>South Atlantic Activities</u>				
Resource Surveys:				
Shallow Water Trawl Survey	X		X	X
Pamlico Sound Survey			X	X
Winter Trawling and Fish Tagging Cruise		X		
Benthic Characterization - Northeast Florida				X
Information Operations:				
Specimen Archiving and Loan	X	X	X	X
1991 South Atlantic Annual Report	X			
1987 Passive Gear Workshop Proceedings				X
Program Administration	X	X	X	X
<u>Caribbean Activities</u>				
Resource Surveys:				
Reef Resources Survey			X	X
Information Operations:				
Fishery Independent Database Directory		X		
Coordination with Caribbean Countries Research Programs	X	X	X	X
Program Administration	X	X	X	X

SEAMAP-Gulf of Mexico Representatives

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

Richard Waller, Vice Chairperson
Mississippi Department of Wildlife, Fisheries
and Parks
Gulf Coast Research Laboratory

Barney Barrett
Louisiana Department of Wildlife and Fisheries

Scott Nichols
National Marine Fisheries Service
Pascagoula Laboratory

Joe Kimmel
Florida Department of Natural Resources

Gary Matlock
Texas Parks and Wildlife Department

Wayne Swingle
Gulf of Mexico Fishery Management Council

SEAMAP-South Atlantic Representatives

David Cupka, Chairperson
South Carolina Wildlife and Marine Resources
Department

J. Alan Huff, Vice Chairperson
Florida Department of Natural Resources

John Merriner
National Marine Fisheries Service
Beaufort Laboratory

Henry Ansley
Georgia Department of Natural Resources

Michael Street
North Carolina Department of Environment, Health and
Natural Resources

Roger Pugliese
South Atlantic Fishery Management Council

Laura Leach
Atlantic States Marine Fisheries Commission

SEAMAP-Caribbean Representatives

Manual Hernandez Avila, Chairperson
Puerto Rico Sea Grant College Program

James Beets, Vice Chairperson
Virgin Island Division of Fish and Wildlife

Carolyn Rogers
National Park Service

Ivan Sanchez
Puerto Rico Department of Natural Resources

James P. Oland
U.S. Fish and Wildlife Service

Nancy Thompson
National Marine Fisheries Service

SEAMAP Personnel

David Donaldson
SEAMAP-Gulf Coordinator
Gulf States Marine Fisheries Commission

Sandra Laureano
SEAMAP-Caribbean
Caribbean Fishery Management Council

Scott Nichols
National Marine Fisheries Service
SEAMAP Program Manager

Kenneth Savastano
National Marine Fisheries Service
SEAMAP Data Manager

C. Dianne Stephan
SEAMAP-South Atlantic Coordinator
Atlantic States Marine Fisheries Commission

John V. Gartner, Jr.
Curator
SEAMAP Archiving Center

Kenneth Stuck
Curator
SEAMAP Invertebrate Plankton Archiving Center

