ANNUAL REPORT

TO THE

TECHNICAL COORDINATING COMMITTEE

GULF STATES MARINE FISHERIES COMMISSION

OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SEAMAP Subcommittee

Richard S. Waller, Chairman

Jeffrey K. Rester

SEAMAP Coordinator

September 30, 1998 **GSMFC No: 60**

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

Federal programmatic funding for SEAMAP activities and administration was appropriated in Federal Fiscal Years 1985-1998 (October 1 through September 30). State and Gulf States Marine Fisheries Commission (GSMFC) funding allocations for FY1985-FY1998 were handled through State/Federal cooperative agreements, administered by SERO and the Southeast Fisheries Science Center (SEFSC), National Marine Fisheries Service (NMFS).

In FY1998, SEAMAP operations continued for the seventeenth consecutive year. SEAMAP resource surveys included the Fall Shrimp/Groundfish Survey, Spring Plankton Survey, Summer Shrimp/Groundfish Survey, Fall Plankton Survey and plankton and environmental data surveys. Other FY1998 activities included SEAMAP information services and program management.

This report is the fifteenth 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 FY1998 and proposed SEAMAP activities for FY1999.

Appreciation is gratefully extended to the staff of the Gulf States Marine Fisheries Commission for their considerable assistance in the preparation of this document.

FY1998 SEAMAP RESOURCE SURVEYS

In FY1998, collection of resource survey information continued for the seventeenth consecutive year. The surveys conducted during the year address distinct regional needs and priorities and provide information concerning the marine resources in the Gulf of Mexico.

Fall Shrimp/Groundfish Survey

The Fall Shrimp/Groundfish Survey was conducted from October 8, 1997 to December 4, 1997, from off Mobile, Alabama to the U.S.-Mexican border. Vessels sampled waters out to 60 fm, covering a total of 254 trawl stations, in addition to plankton and environmental sampling.

Sampling design was similar to the Summer Shrimp/Groundfish Survey. The objectives of the survey were to:

(1) sample the northern Gulf of Mexico to determine abundance and distribution of demersal organisms from inshore waters to 60 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; and

(4) collect ichthyoplankton samples to determine relative abundance and distribution of eggs and larvae of commercially and recreationally important fish species.

During the survey, the NOAA Ship OREGON II sampled 191 stations from Mobile Bay, Alabama to Brownsville, Texas at depths out to 60 fm. The R/V VERRILL sampled 8 stations at the mouth and outside Mobile Bay. The R/V TOMMY MUNRO sampled 31 stations south of Mississippi Sound along a 30-minute grid. The R/V PELICAN sampled 24 stations in Louisiana territorial waters. Texas vessels sampled 80 stations within their territorial waters.

In addition, ichthyoplankton data were collected by NMFS and Louisiana vessels at sample sites occurring nearest to half-degree intervals of latitude/longitude. A total of 50 stations was sampled with bongo and/or neuston nets, as encountered along cruise tracks. NMFS completed 43 ichthyoplankton stations and Louisiana completed 7 stations. The samples, except those taken by Louisiana, will be sorted by the Polish Sorting and Identification Center. Once sorted, the specimens and data will be archived at the SEAMAP Archiving Center.

Spring Plankton Survey

For the seventeenth year, plankton samples were collected during the spring in the northern Gulf of Mexico. The NOAA Ship CHAPMAN and Florida's R/V SUNCOASTER sampled offshore waters

from the western edge of the West Florida Shelf to the Texas-Louisiana border from April 19 to June 26, 1998. A total of 175 stations was sampled. The CHAPMAN sampled 157 stations and the R/V SUNCOASTER sampled 18 stations along the west Florida shelf.

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 degrees. 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. In addition, hydrographic data (surface chlorophylls, salinity, temperature and dissolved oxygen from surface, midwater and near bottom, and Forel-ule color) were collected at all stations.

Right bongo and neuston samples collected from SEAMAP stations will be transshipped to the Polish Sorting and Identification Center. Left bongo samples will be archived at the SEAMAP Invertebrate Plankton Archiving Center (SIPAC). Salinity data from the Florida vessel were sent to the NMFS Mississippi Laboratories for interpretation.

Summer Shrimp/Groundfish Survey

During the spring of 1998, there was communication between the Shrimp/Groundfish Work Group members to examine the design for the Summer Shrimp/Groundfish Survey and determine the random station locations for each participant.

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 Fishery Management Plan; and

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

The overall sampling strategy during the 1998 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 entire survey occurred from June 2 to July 16, 1997.

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 266 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.

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 1986-1997 and in the current year covered Gulf waters from Florida Bay to Brownsville, Texas. Vessels from Florida, Alabama, Mississippi, Louisiana and NMFS surveyed Gulf waters from September 4, 1997 and continued until October 7, 1997. Stations are located along a 30-minute latitude/longitude grid from inshore waters to the shelf edge.

In the fall of 1997, the NOAA Ship CHAPMAN sampled 123 stations from Tampa Bay, Florida to Brownsville, Texas at depths from 5 to 100 fm. The R/V VERRILL sampled 9 stations at the mouth and outside Mobile Bay. The R/V TOMMY MUNRO sampled 50 stations south of Mississippi Sound along a 30-minute grid. The R/V PELICAN sampled 7 stations in Louisiana territorial waters, and Florida's R/V SUNCOASTER sampled 20 stations off Tampa Bay south to the Florida Straits area.

Stations are sampled with standard SEAMAP bongo nets with 333-micron mesh and/or 1 x 2-meter neuston nets fitted with 947-micron mesh. In addition, hydrographic sampling includes chlorophylls, salinity, temperature and dissolved oxygen from surface, mid-water, and bottom, water transparency and water color was conducted at each station. Right bongo samples collected by NMFS and the Gulf States will be transshipped to the Polish Sorting and Identification Center. Left bongo and neuston samples will be stored at the SIPAC 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.

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, wind speed and wave height were taken at all trawl stations.

Samples from the right side of the bongo nets and neuston samples were shipped to the NMFS-Pascagoula Laboratory for shipment to the Polish Sorting and Identification Center, where they 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 SIPAC.

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 FY1998, as detailed earlier.

INFORMATION SERVICES

Information from the SEAMAP activities is provided to user groups through the program administration and three complementary systems: the SEAMAP Information System, SEAMAP Archiving Center and SIPAC. Products resulting from SEAMAP activities can be grouped into two major categories: data sets (including broadly, digital data and collected specimens) managed by the SEAMAP Information System, SEAMAP Archiving Center 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-Gulf surveys are included in the SEAMAP Information System, managed in conjunction with NMFS-SEFSC. 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 1982-1997 have been entered into the system and data from 1998 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 requesters, although the highest priority is assigned to SEAMAP participants. A total of 216 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, all requests have been completed.

Requested SEAMAP data were used for a multitude of purposes in FY1998:

- 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 dissolved oxygen;
- Identifying environmental parameters associated with concentrations of larval finfish;
- Compiling the 1996 and 1997 SEAMAP Biological and Environmental Atlas; and
- Comparing catches of shrimp and groundfish captured by 40-ft versus 20-ft trawl nets.

Data Management

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) a modular implementation plan which includes costs and schedule.

Work was completed during FY1990 on the new distributed SEAMAP DMS. New modules completed include those for data entry, edit, upload, data query and download. All of the Gulf States are now equipped with the necessary computer hardware and software.

The system is decentralized, i.e., distributed. Thus, the SEAMAP users are able to locally, and directly, enter and retrieve data. Software for the system has been distributed to participants for trial runs of data input.

This system decreases the time necessary to enter and retrieve data and provides powerful and flexible local data analysis and display capabilities. Under the system, each SEAMAP site enters, verifies and edits their data, eliminating the mail-oriented loop necessary to enter/edit/verify data. 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 system, outside users (e.g., Minerals Management Service, U.S. Army Corps of Engineers, etc.) may request special data sets for research or study. The outside users submit the request to the SEAMAP Subcommittee through the SEAMAP-Gulf Coordinator for approval to proceed. Once the request is approved, the 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.

Real-time Data

A major function of the SEAMAP Information System in the past 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, squid 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. These plots were also available through the SEAMAP home page. Management agencies also received comprehensive data listings showing penaeid shrimp length frequencies, sampling parameters and environmental conditions.

In the summer of 1998, discussions with representatives from the shrimp industry led the NMFS to request that near-real-time data not be produced during the 1998 survey. At their request, only one near-real-time mailing was produced in the summer of 1998.

SEAMAP Archiving Center

Larval fish and fish egg samples sorted to the lowest taxa level possible by the Polish Sorting and Identification Center are returned to the SEAMAP Archiving Center for archiving and loan to researchers. For 1998, samples were returned from the Polish Sorting and Identification Center. Data entry for the returned sorted samples has been completed in an improved and simplified SEAMAP DMS. Samples cataloged to date represent 18 orders, 126 families, 235 genera and 245 species. The SEAMAP Archiving Center received 13,770 lots from the Polish Sorting and Identification Center during 1998.

The SEAMAP Archiving Center, which is managed in conjunction with Florida Department of Environmental Protection (FDEP) in St. Petersburg, Florida, processes both specimen loans and requests for associated plankton survey environmental data. Fourteen requests have been accommodated in the present fiscal year to seven different researchers. The SEAMAP Archiving Center personnel, in cooperation with other staff from FDEP, have completed the fall ichthyoplankton survey (October 2 - 7, 1997) and spring ichthyoplankton survey (June 20 - 26, 1998). The SEAMAP Archiving Center personnel will also be participating in the fall ichthyoplankton cruise. The fall cruise is scheduled to depart in September 1998.

SEAMAP Invertebrate Plankton Archiving Center

The SIPAC is in its fourteenth year of operation. Ken Stuck at the USM/IMS/GCRL serves as SIPAC curator. The overall mission of the SIPAC, to archive and manage the large collection of plankton samples acquired during SEAMAP cruises and to obtain specimens and/or data on selected invertebrate larval stages from those samples, continued during the year but at a reduced level of activity. The SIPAC continues to provide unsorted plankton samples and data or specimens of larval invertebrates to qualified researchers upon request.

Due to a lack of funding during this reporting period, there were no students or technicians employed by SIPAC. Therefore, activities were limited to maintenance and curation of the existing collection. The number of samples currently catalogued in the SIPAC collections is 6,268, with 146 samples currently on loan.

In an effort to keep the space required to house the SIPAC collection of unsorted plankton samples to a minimum, samples that have been in the collection for over 7 years and duplicate samples sorted and received from the Polish Sorting and Identification Center, are aliquoted to ¼ their original volume and placed into 100 ml vials. When possible, the remaining ¾ aliquots are donated to educational institutions for use as teaching materials. If the remaining sample must be discarded, sample jars are cleaned and returned to NMFS-Pascagoula for reuse. To date, approximately 1,450 samples collected from 1982 - 1985 have been aliquoted and prepared for long-term storage. Due

to the recent addition of samples to the collection during the year, there is currently no space available for additional samples to be deposited into the SIPAC archives. During the next year, the SIPAC will continue to manage SEAMAP plankton collections and generate specimens and data on selected invertebrate species.

During the next fiscal year, the SIPAC will continue to manage SEAMAP plankton collections, accession samples, and provide unsorted samples, sorted specimens and data from the collection to qualified researchers as requested. Efforts with sorted materials will concentrate on curation and analysis of current holdings and publication of distribution patterns of selected taxa by cruise.

PROGRAM MANAGEMENT

The SEAMAP program is administered by the SEAMAP Subcommittee of the TCC through the SEAMAP Coordinator, who is under the technical direction of the Subcommittee Chairman and administrative supervision of the GSMFC's Executive Director.

Personnel associated with SEAMAP program management include the Coordinator, Data Manager, SEAMAP Archiving Center Curator, SIPAC Curator and the NMFS-Pascagoula Laboratory Director, serving as Program Monitor.

Planning

Major SEAMAP-Gulf Subcommittee meetings were held in October 1997 and March 1998, in conjunction with the Annual Meetings of the GSMFC and a meeting is planned for October 1998 in conjunction with the Annual Fall Meeting of the GSMFC. All meetings included participation by various work group leaders, Coordinator, Data Manager, Program Monitor and the GSMFC Executive Director. Subcommittee members and proxies are listed in Table 1.

Representatives from the Gulf program also met with the South Atlantic and Caribbean representatives in August 1998 to discuss respective program needs and priorities for FY1999. Minutes for all the meetings are listed in Appendix A.

The Environmental Data Work Group met in February 1998 (via conference call) to discuss issues related to the examination of the quality of environmental data sets and historical use of the data. The Environmental Data Work Group also developed recommendations for future data acquisition that would meet the needs of data users and resource managers. The Environmental Data Work Group also met in April to review the Environmental Section of the SEAMAP Operations Manual, to discuss potential problems with the historical environmental data with solutions to rectify the problems, and to discuss the compilation of metadata. Work group members are listed in Table 2.

Coordination of program surveys and distribution of quick-report summaries of a Gulf-wide survey to management agencies and industry were major functions of SEAMAP management in 1998. 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 1999 Activities

Preliminary 1999 SEAMAP-Gulf budget allocations are shown in Table 3. Last year, total program allocations for all three SEAMAP components, Gulf, South Atlantic and Caribbean, was approximately $1.2 million. At the August meeting, the SEAMAP components based their allocations on level funding for 1999. At this level, the share to be allocated for SEAMAP-Gulf activities (including GSMFC) will be $512,403.

Proposed 1999 activities for all Gulf participants are shown in Table 4. The approved 1999 Operations Plan for SEAMAP-Gulf is contained in Appendix B.

Information Dissemination

The following documents were published and distributed in 1998:

- *1998 SEAMAP Marine Directory*. Inventories of marine agency contacts (State, Federal and university) concerned with fishery research in the Gulf of Mexico, and summaries of information provided by these organizations: target species, types of fishery-independent sampling gear and platforms, annual sampling effort, and other materials.

- *SEAMAP Subcommittee Report to the GSMFC Technical Coordinating Committee -October 1, 1997 to September 30, 1998*. A detailed summary of program accomplishments, emphasizing survey design, material collected, data dissemination, budget information, and future survey activities.

- *Annual Report of the SEAMAP Program - October 1, 1997 to September 30, 1998*. A summary of FY1997 activities and proposed FY1998 events for the SEAMAP-Gulf, South Atlantic, and Caribbean Programs.

- *Environmental and Biological Atlas of the Gulf of Mexico, 1996*. A compilation of information obtained from the 1996 SEAMAP survey including catch rates of shrimp and finfish, abundance and distribution of plankton in the Gulf of Mexico and environmental data from all surveys.

FY1998 Financial Report

Total allocations for FY1998 program administration were $80,564. The GSMFC has arranged and paid for all expenses associated with personnel, meetings, travel and operating expenses to date. The remaining balance will be used to provide administration of the SEAMAP-Gulf program through December 31, 1998.

TABLE 1.

SEAMAP REPRESENTATIVES FOR FY1998

Richard Waller, Chairman
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

James Hanifen, Vice Chairman
Louisiana Department of Wildlife and Fisheries

Stevens Heath
Alabama Department of Conservation and Natural Resources

Mark Leiby
Florida Department of Environmental Protection
Florida Marine Research Institute

Terry Cody
Texas Parks and Wildlife Department

Joanne Lyczkowski-Shultz
National Marine Fisheries Service
Pascagoula Laboratory

Richard Leard (non-voting)
Gulf of Mexico Fishery Management Council

TABLE 2.

SEAMAP WORK GROUP MEMBERS FOR 1998

ADULT FINFISH WORK GROUP

Terry Henwood, Leader
National Marine Fisheries Service
Pascagoula Laboratory

Billy Fuls
Texas Parks and Wildlife Department

Mark Leiby
Florida Department of Environmental Protection

John Roussel
Louisiana Department of Wildlife and Fisheries

Robert Shipp
University of South Alabama

Joanne Lyckowski-Shultz
National Marine Fisheries Service
Pascagoula Laboratory

Rick Leard
Gulf of Mexico Fishery Management Council

James Warren
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

DATA COORDINATING WORK GROUP

Kenneth Savastano, Leader
SEAMAP Data Manager
National Marine Fisheries Service
Stennis Space Center

Stevens Heath
Alabama Department of Conservation
and Natural Resources
Shrimp/Groundfish Work Group

Terry Henwood
National Marine Fisheries Service
Pascagoula Laboratory
Adult Finfish Work Group

Mike Murphy
Florida Department of Environmental Protection
Red Drum Work Group

Joanne Lyczkowski-Shultz
National Marine Fisheries Service
Pascagoula Laboratory
Plankton Work Group

Perry Thompson
National Marine Fisheries Service
Pascagoula Laboratory
Environmental Data Work Group

Richard Waller
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory
SEAMAP Chairman
Reef Fish Work Group

Michelle Kasprzak
Louisiana Department of Wildlife and Fisheries

ENVIRONMENTAL DATA WORK GROUP

Michelle Kasprzak, Leader
Louisiana Department of Wildlife and Fisheries

Charles Eleuterius
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

Mark Van Hoose
Alabama Department of Conservation
and Natural Resources

Rob Ford
National Marine Fisheries Service
Pascagoula Laboratory

Thomas Leming
National Marine Fisheries Service
Pascagoula Laboratory

Joanne Lyczkowski-Shultz
National Marine Fisheries Service
Pascagoula Laboratory

Carmelo Tomas
Florida Department of Environmental Protection

Richard Waller
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

PLANKTON WORK GROUP

Joanne Lyczkowski-Shultz, Leader
National Marine Fisheries Service
Pascagoula Laboratory

Churchill Grimes
National Marine Fisheries Service
Panama City Laboratory

Alonzo Hamilton
National Marine Fisheries Service
Pascagoula Laboratory

James Hanifen
Louisiana Department of Wildlife and Fisheries

Don Hoss
National Marine Fisheries Service
Beaufort Laboratory

Mark Leiby
Florida Department of Environmental Protection

Harriet Perry
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

Ken Stuck, Curator
SEAMAP Invertebrate Plankton Archiving Center
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

RED DRUM WORK GROUP

Mike Murphy, Leader
Florida Department of Environmental Protection

Phil Goodyear
National Marine Fisheries Service
Miami Laboratory

Joseph Shepard
Louisiana Department of Wildlife and Fisheries

Joanne Lyczkowski-Shultz
National Marine Fisheries Service
Pascagoula Laboratory

Mark Van Hoose
Alabama Department of Conservation and Natural Resources

James Warren
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

Larry McEachron
Texas Parks and Wildlife Department

REEF FISH WORK GROUP

Richard Waller, Leader
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

Billy Fuls
Texas Parks and Wildlife Department

Chris Gledhill
National Marine Fisheries Service
Pascagoula Laboratory

Richard Kasprzak
Louisiana Department of Wildlife and Fisheries

Mark Leiby
Florida Department of Environmental Protection

Mark Van Hoose
Alabama Department of Conservation and Natural Resources

SHRIMP/GROUNDFISH WORK GROUP

Stevens Heath, Leader
Alabama Department of Conservation and Natural Resources

Bruce Comyns
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

Billy Fuls
Texas Parks and Wildlife Department

James Hanifen
Louisiana Department of Wildlife and Fisheries

Butch Pellegrin
National Marine Fisheries Service
Pascagoula Laboratory

Nate Sanders
National Marine Fisheries Service
Pascagoula Laboratory

TABLE 3.

PRELIMINARY 1999 PROGRAMMATIC BUDGET

Alabama Department of Conservation and Natural Resources	68,000
Florida Department of Environmental Protection	93,840
Louisiana Department of Wildlife and Fisheries	120,700
University of Southern Mississippi/Institute of Marine Sciences/ Gulf Coast Research Laboratory	94,495
Texas Parks and Wildlife Department	54,804
Gulf States Marine Fisheries Commission	80,564
TOTAL	$512,403

TABLE 4.

PROPOSED SEAMAP-GULF ACTIVITIES, 1999

	Fall	Winter	Spring	Summer
Resource Surveys:				
Spring Plankton Survey			X	
Shrimp/Groundfish Surveys	X			X
Louisiana Seasonal Surveys	X	X	X	X
Fall Plankton Survey	X			
Plankton & Environmental Data Surveys	X	X	X	X
Information Operations:				
Biological and Environmental Atlas				X
Marine Directory			X	
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

APPENDIX A

MINUTES FOR 1997 AND 1998 SEAMAP MEETINGS

SEAMAP Subcommittee Meeting
MINUTES
Gulf Shores, AL
Monday, October 13, 1997

Chairman Richard Waller called the meeting to order at 1:07 p.m. The following members and others were present:

Members:
Richard Waller, USM/IMS/GCRL, Ocean Springs, MS
Mark Leiby, FDEP/FMRI, St. Petersburg, FL
Richard Leard, GMFMC, Tampa, FL
Steve Heath, ADCNR/MRD, Dauphin Island, AL
Terry Cody, TPWD, Rockport, TX
Jim Hanifen, LDWF, Baton Rouge, LA

Others:
Scott Nichols, NMFS, Pascagoula, MS
Ken Savastano, NMFS, SSC, MS
Mike Ray, TPWD, Austin, TX
Wendel Lorio, MSU, SSC, MS

Staff:
Larry Simpson, GSMFC, Ocean Springs, MS
Ron Lukens, GSMFC, Ocean Springs, MS
Dave Donaldson, GSMFC, Ocean Springs, MS
Jeff Rester, GSMFC, Ocean Springs, MS
Cheryl Noble, GSMFC, Ocean Springs, MS

J. Shultz will not be in attendance at this meeting but she submitted a letter stating S. Nichols will be her proxy (ATTACHMENT I).

Adoption of Agenda

The agenda was approved with no changes.

Approval of Minutes (8/3/97)

***** J. Hanifen asked that the Louisiana section under Activities and Budget Needs for FY 1998 be changed to read:

Louisiana - will attempt to continue all surveys at level funding. Historically, Louisiana has not charged any indirect costs to SEAMAP but the financial office is charging all new projects approximately 31% in indirect costs. Since SEAMAP is an established project, they have been able to argue against charging indirect costs. Also, ship expenses have increased. If SEAMAP is charged with indirect costs and if ship time increases too much, Louisiana will only be able to do the summer and fall surveys. Level funding is $120,700.

T. Cody moved to accept the minutes as amended. J. Hanifen seconded it and it passed unanimously.

Administrative Report

The Reef Fish Survey began in July and is continuing to date. The purpose of the survey is to assess relative abundance and compute population estimates of reef fish using a video/trap technique. Vessels from NMFS, Alabama and Texas participate in the survey.

The Fall Plankton Survey was conducted from September 3rd through October 4th and approximately 180 stations were sampled. The purpose of the survey is to assess the abundance and distribution of king mackerel and red drum eggs and larvae in the Gulf of Mexico. Vessels from NMFS, Florida, Alabama, Mississippi and Louisiana participated in the survey.

The Fall Shrimp/Groundfish Survey is scheduled to be conducted from October through December 1997. The purpose of the survey is to determine abundance and distribution of demersal organisms in the Gulf of Mexico. Vessels from NMFS, Louisiana, Mississippi, Alabama and Texas will participate in the survey.

Both the 1994 and 1995 Atlases have been completed and will be distributed this month. Work has begun on the 1996 Atlas and should be completed by the end of the year. The TCC Report has been completed and will be distributed at this meeting. Work is currently being done on the Joint Annual Report and will be completed by the end of the year.

D. Donaldson said the plots from the Shrimp/Groundfish cruise were on the home page and had an average of 10 hits a week. He also asked the Subcommittee to put links on their home page to SEAMAP's.

Also, the letter to Admiral Toban informing him of SEAMAP activities was mailed.

Update on SEAMAP chlorophyll Sampling Issues

* J. Hanifen submitted a report and recommendations (ATTACHMENT II) on the chlorophyll data analysis. He reviewed each item/figure of the report and suggested the Subcommittee take action on these items. **J. Hanifen moved to adopt the recommendations in the report and to charge the Environmental and Data Coordinating Work Groups to meet and fulfill the recommendations. D. Donaldson will meet with J. Hanifen and R. Waller to write other specific charges besides the recommendations in the report, to the Work Groups. The Subcommittee also wants the work groups to develop a quality control/quality assurance document for all of the data sets.** S. Nichols seconded and after extensive discussion on the specific charges, it passed unanimously. Because of budgetary constraints, the Environmental Work Group and the Data Coordinating Work Group will have to meet via conference call to get organized on the recommendations and then have a meeting to finalize their suggestions to the Subcommittee.

Discussion regarding Coordination with the Gulf of Mexico Program

D. Donaldson said that R. Waller, K. Savastano and himself met with Gene Meyer with the EPA Gulf of Mexico Program (GOMP). His group has been charged with developing a document that describes the "state of the Gulf" and he's interested in using SEAMAP data and other existing databases to help develop this document. He also asked if SEAMAP and GOMP could develop a partnership to gain additional information to assist in describing the Gulf. The main focus in their program at this time is nutrients and he asked if the Subcommittee would discuss the possibility of collecting nutrient samples (surface) in water bottles and provide them to the GOMP to do the analysis. He asked if the Subcommittee approved, how much would it cost to collect the samples. In reference to collecting nutrients, the GOMP will have to be more specific on exactly what they want the Subcommittee to do. After discussion, the Subcommittee decided that D. Donaldson and R. Waller will continue to provide information to the GOMP when applicable.

Work Group Reports

a. Data Coordinating - K. Savastano submitted the DCWG report (ATTACHMENT III) and reviewed each item. He stated the 1996 data is complete with the exception of the Caribbean data; processing of the 1996 Atlas is in progress; 210 requests have been received and 209 have been completed -- he also mentioned he is getting more requests for SEAMAP data (approximately 30/year and expects it to increase); work is being done on re-engineering the system for the new software and expects it to be completed by March 1998; the on-line data base now contains 375 cruises with a total of 2,498,051 records. Also, several one day workshops for SEAMAP data base access are planned/in progress for the Gulf participants.

b. Red Drum - D. Donaldson said the RDWG had a conference call at the end of August to discuss fish kills during the red drum tag/recapture project. A. Kemmerer requested the group meet to discuss the issue and explore possible alternatives or maybe even potentially ending the project. The RDWG reviewed the procedures that are in place and felt confident that the safeguards that are being used are significant enough to help minimize the fish kills and supports the project. A summary of the conference call was forwarded to A. Kemmerer stating this. Actually, the amount of fish that were killed was only one-tenth of a percent of the entire red drum population and the recreational fishery kills 10 times that each day. S. Nichols said sampling has been completed for the year and he thanked the group and L. Simpson for their support of the project. He said they tagged approximately 10,000 fish.

c. Plankton - D. Donaldson updated the Subcommittee on the status of the use of SEAMAP bluefin tuna larvae for genetics work. He said those larvae have not been used that preliminary analyses of other samples has been disappointing. The results are not what they had expected. Apparently, there is not enough genetic material to extract from the larvae for the replicates and backups that they need. They are continuing work on this but they haven't used SEAMAP larvae yet and they are trying different methods to see if they can get better results. J. Shultz will keep the

Subcommittee informed on the status of this. D. Donaldson distributed a report (ATTACHMENT IV) from NMFS which outlines the samples that have been sent to the PSIC for the Subcommittee's review. J. Shultz also wanted to inform the Subcommittee that if SEAMAP does not supply the PSIC with additional funding, they may have to reduce effort in the coming years. The PSIC has been sorting the same amount of samples for years without additional funding and it is time to increase funding. Also, J. Shultz presented a paper at the International Council of Exploration of the SEA (ICES) in Baltimore on mackerel plankton sampling.

Election of Chairman

* The nominating committee nominated Richard Waller for Chairman and Jim Hanifen for Vice Chairman. **T. Cody moved to accept these nominations by acclamation**. S. Heath seconded and it passed unanimously.

Other Business

The SEAMAP Subcommittee discussed investigating putting SEAMAP data on the Internet because with such a wide access, this will be a good way to get information out on SEAMAP. D. Donaldson has several ideas on how to do this and informed the Subcommittee of the MRFSS web page and stated this could be used as a model for setting up the SEAMAP page. The Subcommittee likes the idea and agreed to wait and see how MRFSS' page works. They also agreed to only use summaries and possibly use the data sets that are produced for the Atlas' tables and plots and design a query system around that. D. Donaldson will continue investigating this idea and keep the Subcommittee informed on his progress.

Terry Cody asked the Subcommittee for permission to give a presentation at the Texas Chapter AFS meeting on SEAMAP longline data. The Subcommittee agreed that this was a good idea. T. Cody stated that he and other TPWD personnel will work on the presentation and keep the Subcommittee informed.

T. Cody said R. Blankenship called him and said he had what he thinks is a larval lobster and wonders if there's anybody interested in it. M. Leiby told him B. Lyons at FMRI has been working on them for years and would be interested.

There being no further business, the meeting adjourned at 3:43 p.m.

SEAMAP SUBCOMMITTEE MEETING
MINUTES
Monday, March 16, 1998
Destin, FL

Chairman Richard Waller called the meeting to order at 1:15 p.m. The following members and others were present:

Members:
Richard Waller, USM/IMS/GCRL, Ocean Springs, MS
Mark Leiby, FDEP/FMRI, St. Petersburg, FL
Steven Atran (proxy for Rick Leard), GMFMC, Tampa, FL
Steve Heath, ADCNR/MRD, Dauphin Island, AL
Jim Hanifen, LDWF, Baton Rouge, LA

Others:
Scott Nichols, NMFS, Pascagoula, MS
Ken Savastano, NMFS, SSC, MS
Michelle Kasprzak, LDWF, Baton Rouge, LA
Skip Lazauski, ADCNR/MRD, Gulf Shores, AL

Staff:
Larry Simpson, GSMFC, Ocean Springs, MS
Ron Lukens, GSMFC, Ocean Springs, MS
Dave Donaldson, GSMFC, Ocean Springs, MS
Jeff Rester, GSMFC, Ocean Springs, MS
Cheryl Noble, GSMFC, Ocean Springs, MS

Terry Cody's flight was canceled so he will not attend this meeting and he gave his proxy to R. Waller. Also, Chairman Waller read Perry Thompson's resignation letter from the Environmental Data Work Group. Rob Ford will replace him as the NMFS representative on the Work Group.

Adoption of Agenda

* Under "Other Business" add Florida's Contribution to the Spring Plankton Survey; under "Data Coordinating Work Group Report," J. Hanifen will discuss data availability and uses of data; and under "Other Business" Scott Nichols will discuss reef fish. **With these changes, J. Hanifen moved to accept the agenda, S. Heath seconded it and it passed unanimously**.

Approval of Minutes (10/13/97)

* **J. Hanifen moved to approve the minutes as written.** S. Heath seconded it and it passed unanimously.

Administrative Report

The Spring Plankton Survey will be conducted in April/May of this year. The survey will cover Gulf waters from Florida Bay to Brownsville, Texas. Vessels from Florida and NMFS are scheduled to participate in this survey but Florida may not be able to participate - this will be discussed under "Other Business." The purpose of the survey is to assess abundance of Bluefin Tuna eggs and larvae in the Gulf of Mexico.

The Summer Shrimp/Groundfish Survey is scheduled for June/July of this year. Vessels from NMFS, Louisiana, Mississippi, Alabama and Texas will participate in the survey. The purpose of the survey is to determine abundance and distribution of demersal organisms in the Gulf of Mexico. The real-time data distribution is also a part of this survey.

The 1998 Marine Directory and the FY97 Joint Annual Report have been completed and distributed. The 1994 and 1995 Atlases have been completed and distributed and the 1996 Atlas will go to the printer by the end of this month and will be distributed as soon as it is received. D. Donaldson asked that everyone get their data to Ken for the 1997 Atlas so it can be processed and then the atlas will be only one year behind which has been the goal for the Subcommittee.

In February the Louisiana and Mississippi Chapters of the American Fisheries Society had a meeting and D. Donaldson gave a presentation on SEAMAP. He developed a slide presentation which will be discussed under the next agenda item.

After the last meeting, representatives from Mississippi and Texas went to a training session at K. Savastano's office to log on to the system and to query the data. After this meeting, Florida and Alabama representatives will go for the same type training session. Louisiana and GSMFC representatives will schedule a session for later this year.

The 1999 preliminary budget is out and SEAMAP has again been level funded but D. Donaldson said work is in progress to try to get an increase.

Discussion of Generic SEAMAP Presentation

D. Donaldson brought to everyone's attention the generic slide presentation he developed that gives a basic overview of the program. The presentation is in Harvard Graphics and it can be used with the "In-focus" projector or as a regular slide presentation. The Subcommittee decided to send updated slides/pictures to D. Donaldson (by April 3) to incorporate into the presentation. This presentation focuses on the Gulf but he will send a copy of the presentation to the South Atlantic and Caribbean to show them what has been developed if they would want to use it as a template. The Subcommittee asked D. Donaldson to have the final presentation ready for the August meeting and to give the presentation to all three components for their information.

Discussion Concerning Real-time Survey and Pulse Fishing

The Subcommittee reviewed Public Testimony from the Texas Shrimp Association (ATTACHMENT I) to the GMFMC concerning the Texas Closure and pulse fishing related to the real-time data distribution. The GMFMC did not take action or have a major discussion on

the testimony. After discussion, the Subcommittee decided the real-time data are very useful and valuable information and is not only being used for shrimp management but also in regards to the hypoxia issue, and the mail-outs will continue.

Work Group Reports

d. Data Coordinating - K. Savastano submitted the DCWG report (ATTACHMENT II) and reviewed each item. He stated the processing of the 1996 data are complete with the exception of the Caribbean data; processing of the 1997 data are in progress and the 1982-1987 Gulf data are in progress. Two one-day workshops for SEAMAP data base access have been completed and more are planned; processing of the 1996 Atlas is complete and processing of the 1997 Atlas will begin upon the completion of acquisition/edition of all of the 1997 data; re-engineering of the main frame SEAMAP software is in progress and development work is being performed on the SGI work station in Pascagoula. Integration testing between the PC and main frame was completed in January and integration testing for an entire year (1996) of data was initiated in February. He briefly explained how the new system works and what type queries can be done. 216 requests have been received and all have been completed; work is being done on re-engineering the system for the new software and is expected to be completed by March 1998; the on-line data base now contains 392 cruises with a total of 2,608,684 records.

   The Subcommittee discussed several ways to make SEAMAP data access easier to the general public. People now realize the SEAMAP data are there and there are several current issues where SEAMAP data and other historical data will be useful. D. Donaldson will investigate putting the data on a server and eventually having the SEAMAP data available on a web page.

   The Subcommittee then discussed SEAMAP data use. R. Waller and J. Hanifen told the Subcommittee of a recent Hypoxia Workshop held in Baton Rouge where a Duke University researcher was using SEAMAP data in hypoxia investigations; the data being presented were from NMFS vessels, only. Similarly, the red snapper assessment used only NMFS data for the juvenile abundance index, and the document contained references to lack of comparability and calibration between state and NMFS vessels. S. Nichols was asked if he would clarify these issues, especially since the Subcommittee was under the impression after B. Pellegrin's presentation of comparative tow data in March 1997 that inter-vessel calibration issues had been laid to rest. S. Nichols stated that that was only one experiment that came to that conclusion but others show there is still a trawl calibration problem and you can not pick the one experiment you want to use. He also stated that more analytical work needs to be done in terms of setting calibration but NMFS does not have the fiscal resources to do this and the states need to find a way to do this. After discussion, the Subcommittee decided to have an ad hoc work group meeting consisting of R. Waller, J. Hanifen, S. Nichols, B. Pellegrin, A. Shaw, M. Van Hoose and D. Donaldson to discusses the state/federal comparability issues. The group needs to define the scope of the problem and to decide what resources will be needed to resolve this problem.

The meeting will be April 7th at GCRL and a report will be presented to the Subcommittee at the next meeting.

b. Environmental Data Work Group

M. Kasprzak reviewed the summary of the conference call on February 19, 1998 (Attachment III) which addressed the charge from the Subcommittee to examine the quality of environmental data sets and historical uses of the data, and to develop recommendations for future acquisition that will meet the needs of data users and resource managers. Also, M. Kasprzak was elected Work Group Leader and Rob Ford replaced Perry Thompson as the NMFS representative. The Work Group and a representative from Texas will meet April 28-29 in New Orleans to discuss the issues and then report their conclusions to the Subcommittee at the next meeting.

Also, J. Hanifen said that the Work Group is in the process of developing a QA/QC manual for the environmental data and asked if the Subcommittee should consider doing this for all of the data sets. K. Savastano said they have initiated documentation on the edit program for all of the data sets but it will take some time to complete. The Subcommittee decided that this was a good idea and will continue to pursue it.

Other Business

J. Shultz stated she is concerned with Florida's contribution to the Spring Plankton Survey being so late because technically it will not be spring. M. Leiby said the problem is that they no longer have a vessel and that is the only time-frame they could get. After discussion, M. Leiby along with J. Shultz and R. Waller will investigate the possibility of chartering another vessel and will inform the Subcommittee of their progress.

S. Nichols informed the Subcommittee that the vessel they usually use for the reef fish survey will be used instead for mammals. He is checking on several possibilities including chartering another vessel and will inform the Subcommittee if they will be able to do the survey.

There being no further business, the meeting adjourned at 4:40 p.m.

SEAMAP Subcommittee Meeting
MINUTES
Lajas, Puerto Rico
Friday, August 7, 1998

Chairman Richard Waller called the meeting to order at 8:40 a.m. The following members and others were present:

Members:
Jim Hanifen, LDWF, Baton Rouge, LA
Terry Cody, TPWD, Rockport, TX
Richard Waller, USM/IMS/GCRL, Ocean Springs, MS
Joanne Lyczkowski-Shultz, NMFS, Pascagoula, MS
Kim Williams (proxy for Mark Leiby), FDEP/FMRI, St. Petersburg, FL
Michelle Kasprzak (Environmental Data Work Group Leader), LDWF, Baton Rouge, LA
Richard Leard, GMFMC, Tampa, FL
Steve Heath, ADCNR/MRD, Gulf Shores, AL

Staff:
Dave Donaldson, GSMFC, Ocean Springs, MS
Jeff Rester, GSMFC, Ocean Springs, MS
Cheryl Noble, GSMFC, Ocean Springs, MS

Adoption of Agenda

The agenda was adopted as submitted.

Approval of Minutes

* Under "Discussion of Generic SEAMAP Presentation" capitalize and put "In-Focus" in quotes as this is a brand name. **With that change, J. Hanifen moved to approve the March 16, 1998 minutes.** J. Shultz seconded and it passed unanimously.

Administrative Report

D. Donaldson informed the Subcommittee that he will no longer be the GSMFC's SEAMAP-Gulf Coordinator and introduced Jeff Rester who will replace him as the SEAMAP-Gulf Coordinator.

The Summer Shrimp/Groundfish Survey was conducted June/July of this year. Vessels from NMFS, Louisiana, Mississippi, Alabama and Texas participated in the survey. The purpose of the survey is to determine abundance and distribution of demersal organisms in the Gulf of Mexico. There were approximately 350 samples taken.

The 1996 Atlas has been completed and distributed. Processing of the 1997 Atlas is on-going and will hopefully be completed by the end of the year. D. Donaldson asked all the members to please get data in as soon as possible so processing will not be delayed.

Only one real-time mailing was distributed and this will be discussed under the next agenda item.

SEAMAP will again be level funded ($1.2 million) for FY1999.

Discussion of Real-time Mailings

D. Donaldson stated that only one real-time mailing was distributed this year. NMFS stopped the mailings per request of the Council. The Texas Shrimp Association (TSA) asked the GMFMC's Shrimp Advisory Panel to stop the mailings because it causes pulse fishing. TSA has always been against the mailings and with the imminent implementation of BRDs the Council did not want to exacerbate the situation by providing the real-time data. T. Cody submitted an article (ATTACHMENT I) from the local Corpus Christi newspaper which discusses shrimpers receiving the "good news" of the federal decision not to distribute a map outlining where shrimp are concentrated in Texas waters prior to the season opening this year. The Subcommittee discussed the importance of the mailings and if there will be future mailings. D. Donaldson said a summary report will still be distributed after the survey. After extensive discussion on this issue, the Subcommittee directed J. Rester to contact J. Nance to give a report on the preliminary data of not publishing the real-time data. After J. Nance's report in October, the Subcommittee will discuss exactly what they should ask of NMFS in their final analysis of this situation. The Subcommittee feels that they should have been part of the decision to stop the mailings because this is suppose to be a cooperative effort.

The Subcommittee then discussed changing the SEAMAP real-time data software to analyze juvenile red snapper bycatch in the research trawls. The Subcommittee feels this is something the Council and other management agencies would be interested in and should be able to start doing this in the fall. They discussed putting the data on plots on the web page initially and then developing a mailing list after interested parties realize it is available.

Discussion of Red Snapper Activities for the GSAFDF

The Subcommittee discussed the Gulf and South Atlantic Fisheries Development Foundation's draft summary report of the Red Snapper Workshop (Attachment II) held on June 29-July 1, 1998. The foundation has funds available for red snapper work and one aspect is a winter sampling effort similar to the SEAMAP summer and fall shrimp/groundfish surveys. The Subcommittee discussed submitting a proposal when the RFP is distributed. The Subcommittee is concerned that the RFP will be for short term funding but it's possible to turn into long term funding because more fishery-independent data is needed in order to make important management decisions.

Status of 1999 Budget

S. Nichols was not there to give a report but D. Donaldson said the SEAMAP Program will be level funded again.

Activities and Budget Needs for FY1999

After discussion, all the states agreed to try to do the same activities as last year at level funding. Both Mississippi and Louisiana informed the Subcommittee that indirect costs may affect their cruises next year. J. Shultz expressed her concern that the Archiving Center needs

more funding in order to enter data. She feels that Florida's contribution to the Spring Plankton Survey is redundant and maybe those funds could go to the Archiving Center. She will discuss this with S. Turner and keep the Subcommittee informed. The breakdown is as follows:

a.	Florida	$93,840.00
b.	Alabama	68,000.00
c.	Mississippi	94,495.00
d.	Louisiana	120,700.00
e.	Texas	54,804.00
f.	GSMFC	80,564.00
	TOTAL	$512,403.00

Work Group Reports

a. Data Coordinating - K. Savastano was not in attendance but he will mail the report before the next meeting in October.

b. Environmental Data - M. Kasprzak said the work group met in New Orleans in April 1998 to discuss the collection of chlorophyl data and to update the SEAMAP Procedures Manual. The Subcommittee then reviewed the report (Attachment III) and M. Kasprsak discussed the proposed changes. The Subcommittee will review the report again at the next meeting after all changes have been incorporated. R. Waller then asked M. Kasprsak to have the work group meet via conference call to develop a standard metadata form to be used for each cruise.

Preparation of Cooperative Agreements

a. Review of Annual Operations Plan - D. Donaldson distributed the Operations Plan and stated there were no major changes. He asked the Subcommittee to review and send changes before September 1st . The reef fish survey is still in the Operations Plan but it will not be done this year. This will stay in the document because NMFS plans to do the survey next May or June. S. Nichols will send a letter to the Subcommittee informing them of the status of this survey.

b. NMFS Portion of Cooperative Agreement - There were no major changes and C. Pierce will give a presentation at the joint meeting.

Other Business

R. Waller reminded everyone to send D. Donaldson pictures and other information for the SEAMAP generic presentation.

R. Waller gave a brief overview on the April 7th meeting with NMFS personnel regarding SEAMAP data use. He said S. Nichols is still concerned with the calibration between vessels and the Subcommittee will discuss calibration comparisons at the next meeting.

J. Hanifen stated that according to N. Rabalias hypoxia measurements, the "Dead Zone" in the Gulf estimated to be 4,800 sq. miles which is down from 6,000 last year. He also stated that he has been gathering SEAMAP data on hypoxia but it is too soon to give a definite analysis.

J. Shultz said the red drum tag and recapture effort is progressing. So far, 1,200 fish east of the River have been sampled but only 22 tagged fish were recovered. They've also sampled 1,000 fish west of the river but none were tagged.

There being no further business, the meeting adjourned at 11:57 a.m.

APPENDIX B

1999 SEAMAP OPERATIONS PLAN

SEAMAP-GULF OF MEXICO

OPERATIONS PLAN

January 1, 1999 - December 31, 1999

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 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.

Organizations directly involved in planning and managing the Gulf's program are the marine fishery management agencies of Florida, Alabama, Mississippi, Louisiana, and Texas, the National Marine Fisheries Service (NMFS), the Gulf of Mexico Fishery Management Council (GMFMC) and the Gulf States Marine Fisheries Commission (GSMFC) which administers the Gulf program. Sea Grant Directors are also asked to attend and participate in SEAMAP-Gulf Subcommittee meetings.

A five year *Southeast Area Monitoring and Assessment Program (SEAMAP) Management Plan: 1996-2000* has been developed for the SEAMAP outlining goals and objectives; management structure and responsibilities; data collection activities along with management and dissemination of the data; and financial and personnel resources necessary for successful operation of the program. This Management Plan, along with the *1981 SEAMAP Strategic Plan, SEAMAP Operations Plan: 1985-1990 and SEAMAP Management Plan: 1985-1990* should be considered as charter documents defining and guiding operations of the Gulf program. An external review of SEAMAP-Gulf and South Atlantic was performed in 1987, and endorsement of specific recommendations was adopted by consensus of the joint SEAMAP-Gulf Subcommittee and SEAMAP-South Atlantic Committee. These recommendations, as implemented, will guide activities and operations of SEAMAP-Gulf, as well as the South Atlantic and Caribbean components.

Five major goals were outlined in the *Southeast Area Monitoring and Assessment Program (SEAMAP) Management Plan: 1996-2000* and remain as key missions:

(1) Collect long-term standardized fishery-independent data on the condition of regional living marine resources and their environment;

(2) Cooperatively plan and evaluate SEAMAP-sponsored activities;

(3) Identify and describe existing non-SEAMAP data bases and activities that are of value in fishery-independent assessments of regional living marine resources;

(4) Operate the SEAMAP Information System for efficient management and timely availability of fishery-independent data and information; and

(5) Coordinate and document SEAMAP activities, and disseminate programmatic information.

Each of these goals is implemented by several objectives requiring specific tasks and events, e.g. a Summer Shrimp/Groundfish Survey. By intent, some specific tasks may fulfill more than one objective. Each of the participants in the Gulf program receives a portion of the annual Congressional allocation to perform tasks associated with the goals. Participants also contribute significant in-kind support for activities.

The SEAMAP-Gulf and South Atlantic committees, meeting jointly in January 1988, accepted the Program Review recommendation to develop separate annual operations plans. This ninth SEAMAP-Gulf Annual Operations Plan describes planned activities and events for the period January 1, 1999 through December 31, 1999. Detailed information on Gulf program objectives, activities, administrative procedures, data management protocols, information dissemination and funding requirements are found in the *Southeast Area Monitoring and Assessment Program (SEAMAP) Management Plan: 1996-2000*.

SURVEYS

Spring and Fall Plankton Surveys

The objectives of the spring and fall plankton surveys are to provide data on the distribution and abundance of eggs and larvae of commercial and recreational species such as bluefin tuna, mackerels, carangids, sciaenids and clupeids. Station locations are in a systematic grid across the northern Gulf in increments of 30 minutes latitude/longitude. Frontal satellite-determined boundary locations are also sampled during the spring survey.

Plankton samples will be taken with standard SEAMAP bongo and neuston samplers. The bongo sampler consists of two conical 61-cm nets with 333 micron mesh. Tows are oblique, surface to 5 m above the bottom (or 200 m maximum) and back to surface. Wire angle will be maintained at 45E. Neuston samples will be taken with 947 micron mesh nets on 1 x 2 meter frames towed at the surface for ten minutes. All plankton samples are to be initially preserved in 10% buffered formalin and after 48 hours transferred to 95% ethyl alcohol for final preservation. Hydrographic data at all stations will include at a minimum chlorophylls, salinity, temperature and dissolved oxygen, and water color, using the Forel-ule test.

Right bongo samples and neuston samples collected in 1999 from SEAMAP stations will be transshipped by the NMFS Pascagoula Laboratory to the Polish Sorting and Identification Center for sorting and identification, after which they will be returned to the SEAMAP Archiving Center at Florida Marine Research Institute in St. Petersburg, Florida. Left bongo and neuston samples from previous surveys are currently archived at the SEAMAP Invertebrate Plankton Archiving Center (SIPAC) housed at the USM/IMS Gulf Coast Research Laboratory in Ocean Springs, Mississippi.

Reef Fish Survey

The objectives of the survey are to:

(1) assess relative abundance and compute population estimates of reef fish using a trap/video technique;

(2) determine habitat using an echo sounder and video camera;

(3) determine if bioacoustics assessment methodology can be applied to reef fish communities;

(4) collect environmental data at each station; and

(5) collect ichthyoplankton samples at selected reef sites.

The primary purpose of this survey is to assess the relative abundance and compute population estimates of reef fish. Stations are randomly-selected 100 m^2 sites which are designated as "reef areas". Data is collected using the trap/video methodology where a fish trap containing a video camera is deployed onto the selected reef site. Trap soak time is one hour. In addition, hydrographic and plankton data will be collected.

Summer Shrimp/Groundfish Survey

Objectives of this survey are to:

(1) monitor size 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 GMFMC's Shrimp Fishery Management Plan;

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

(4) obtain length frequency measurements for major finfish, shrimp and other important invertebrate species to determine population size structures; and

(5) collect ichthyoplankton samples to determine abundance and distribution of eggs and larvae of commercial and recreationally important species.

The sampling strategy will include sites chosen randomly in three areas (east of the Mississippi River, west of the River to the Texas-Louisiana border and off Texas) stratified by depth and statistical area. Trawls will be towed perpendicular to the depth contours and cover a specified depth stratum at each station. Plankton samples will be taken along a ½ degree grid system. Louisiana will take plankton samples at each trawl station.

Fall Shrimp/Groundfish Survey

Objectives of this survey will be to:

(1) sample the northern Gulf of Mexico to determine abundance and distribution of white shrimp and other demersal organisms from inshore waters to 60 fm;

(2) obtain length frequency measurements for major finfish, shrimp and other important invertebrate species to determine population size structures;

(3) collect environmental data to investigate potential relationships between abundance and distribution of organisms and environmental parameters; and

(4) collect plankton samples to determine relative abundance and distribution of eggs and larvae of commercial and recreationally important species.

Trawl sample stations and plankton sampling will be conducted as described for the Summer Shrimp/Groundfish Survey.

OPERATIONS

The following activities and events by participant comprise the SEAMAP-Gulf of Mexico operations schedule for the period January 1, 1999 to December 31, 1999:

Texas Parks and Wildlife Department

(1) Summer Shrimp/Groundfish Survey: June-July, nearshore and offshore Texas waters

(2) Fall Shrimp/Groundfish Survey: November, nearshore and offshore Texas waters

(3) Reef Fish Survey: sampling in Texas waters

(4) Adult Finfish Survey: March-May, nearshore Texas waters

(5) Attend SEAMAP Subcommittee and work group meetings as scheduled and provide assistance to SEAMAP Subcommittee

(6) Data inventory, entry, edit and transmit to mainframe all SEAMAP cruise information

Louisiana Department of Wildlife and Fisheries

(1) Plankton sampling in conjunction with trawl surveys

(2) Plankton sample sorting and identification

(3) Attend SEAMAP Subcommittee and work group meetings as scheduled and provide assistance to SEAMAP Subcommittee

(4) Process sediment and chlorophyll samples

(5) Data inventory, entry, edit and transmit to mainframe all SEAMAP cruise information

University of Southern Mississippi/Institute of Marine Sciences/Gulf Coast Research Laboratory

(1) Summer Shrimp/Groundfish Survey: June and July, Gulf waters

(2) Fall Plankton Survey: September, nearshore and offshore Gulf waters

(3) Fall Shrimp/Groundfish Survey: November, Gulf waters

(4) Plankton sampling in conjunction with trawl surveys

(5) SEAMAP Invertebrate Plankton Archiving Center operations

(6) Attend SEAMAP Subcommittee and work group meetings as scheduled and provide assistance to SEAMAP Subcommittee

(7) Data inventory, entry, edit and transmit to mainframe all SEAMAP cruise information

Alabama Department of Conservation and Natural Resources

(1) Summer Shrimp/Groundfish Survey: June and July, nearshore Gulf waters

(2) Fall Plankton Survey: September, nearshore Gulf waters

(3) Fall Shrimp/Groundfish Survey: November, nearshore Gulf waters

(4) Reef Fish Survey: sampling in nearshore Alabama waters

(5) Plankton sampling in conjunction with trawl surveys

(6) Quarterly estuarine shrimp/groundfish sampling

(7) Attend SEAMAP Subcommittee and work group meetings as scheduled and provide assistance to SEAMAP Subcommittee

(8) Data inventory, entry, edit and transmit to mainframe all SEAMAP cruise information

Florida Department of Environmental Protection

(1) Spring Plankton Survey: May, nearshore/offshore Gulf waters off Florida

(2) Fall Plankton Survey: September, nearshore/offshore Gulf waters

(3) SEAMAP Archiving Center operations

(4) Attend SEAMAP Subcommittee and work group meetings as scheduled and provide assistance to SEAMAP Subcommittee

(5) Data inventory, entry, edit and transmit to mainframe all SEAMAP cruise information

National Marine Fisheries Service, Southeast Fisheries Science Center

(1) Reef Fish Survey: July-August, offshore Gulf waters

(2) Spring Plankton Survey: April-May, offshore Gulf waters

(3) Summer Shrimp/Groundfish Survey: June-July, offshore Gulf waters

(4) Fall Plankton Survey: September-October, offshore Gulf waters

(5) Fall Shrimp/Groundfish Survey: October-November, offshore Gulf waters

(6) Plankton sampling in conjunction with trawl surveys

(7) SEAMAP Information System implementation and operations

(8) Processing and transshipment of SEAMAP plankton samples to the Polish Sorting and Identification Center

(9) Environmental sample processing

(10) Real-time data processing

(11) Attend SEAMAP Subcommittee and work group meetings as scheduled and provide assistance to SEAMAP Subcommittee

Gulf of Mexico Fishery Management Council

(1) Attend SEAMAP Subcommittee and work group meetings as scheduled and provide assistance to SEAMAP Subcommittee

(2) Annual review of fisheries-independent data needs

Gulf States Marine Fisheries Commission

(1) Coordination of meetings for Subcommittee and work groups

(2) Provision of SEAMAP-Gulf Coordinator, clerical and office support

(3) Publication and distribution of SEAMAP Environmental and Biological Atlas, SEAMAP Marine Directory, SEAMAP Subcommittee Report to the GSMFC Technical Coordinating Committee, Real-time data summaries, minutes of Subcommittee meetings and co-production of the SEAMAP Joint Annual Report

(4) Attend SEAMAP Subcommittee and work group meetings as scheduled and provide assistance to SEAMAP Subcommittee

(5) Annual Operations Plan development

INFORMATION DISSEMINATION

Data produced from SEAMAP-Gulf of Mexico surveys and studies will be entered into the SEAMAP Information System, in accordance with procedures and protocols stated in the *Southeast Area Monitoring and Assessment Program (SEAMAP) Management Plan: 1996-2000*. User policies and procedures are also defined in this document.

The SEAMAP Archiving Center and SIPAC have the responsibility of maintaining SEAMAP specimens and samples, processing specimen requests and insuring that archiving and loans are carried out in accordance with guidelines and policies established by the SEAMAP Subcommittee. Specific duties and responsibilities of the curators are found in the *Southeast Area Monitoring and Assessment Program (SEAMAP) Management Plan 1996-2000*.

Documents to be produced in the period covered by this Annual Operations Plan are:

(1) SEAMAP Annual Report, in conjunction with South Atlantic and Caribbean;

(2) SEAMAP Subcommittee Report to the GSMFC Technical Coordinating Committee;

(3) SEAMAP Marine Directory;

(4) Minutes of Subcommittee meetings;

(5) SEAMAP Environmental and Biological Atlas;

(6) Annual Operations Plan;

(7) Real-time Data Summaries of the Summer Shrimp/Groundfish Survey; and

(8) Other pertinent documents deemed appropriate by the Subcommittee

ADMINISTRATION

Program administration is achieved through coordination by the SEAMAP-Gulf Subcommittee and work groups, the SEAMAP Coordinator, and the Gulf States Marine Fisheries Commission. General responsibilities are described below.

SEAMAP-Gulf of Mexico Subcommittee

The Subcommittee will convene for three regularly-scheduled meetings during 1999:

(1) Spring meeting (in conjunction with the GSMFC Annual Spring Meeting): March;

(2) Joint meeting (with SEAMAP-Caribbean & SEAMAP-South Atlantic): August; and

(3) Fall meeting (in conjunction with the GSMFC Annual Fall Meeting): October.

Other meetings may be called at the discretion of the Chairman. Specific responsibilities of the Subcommittee and procedures of governance are described in the *Southeast Area Monitoring and Assessment Program (SEAMAP) Management Plan: 1996-2000*. Designated members for 1998 are:

Texas Parks and Wildlife Department:	Terry Cody
Louisiana Department of Wildlife and Fisheries:	James Hanifen
University of Southern Mississippi Institute of Marine Science Gulf Coast Research Laboratory:	Richard Waller
Alabama Department of Conservation & Natural Resources:	Stevens Heath
Florida Department of Environmental Protection:	Mark Leiby
National Marine Fisheries Service:	Joanne Lyczkowski-Shultz
Gulf of Mexico Fishery Management Council:	Richard Leard (non-voting)

Work Groups

SEAMAP work groups are formed to assist in planning, coordinating and evaluating program activities. Members of work groups are invited to serve by the Subcommittee and do not have to be members of the Subcommittee. SEAMAP-Gulf work groups and membership for 1999 are:

ADULT FINFISH WORK GROUP

Terry Henwood
National Marine Fisheries Service
Pascagoula Laboratory

Billy Fuls
Texas Parks and Wildlife Department

Mark Leiby
Florida Department of Environmental Protection

John Roussel
Louisiana Department of Wildlife and Fisheries

Robert Shipp
University of South Alabama

Joanne Lyczkowski-Shultz
National Marine Fisheries Service
Pascagoula Laboratory

Wayne Swingle
Gulf of Mexico Fishery Management Council

James Warren
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

DATA COORDINATING WORK GROUP

Kenneth Savastano, Leader
SEAMAP Data Manager
National Marine Fisheries Service
Stennis Space Center

Stevens Heath
Alabama Department of Conservation and Natural Resources
Shrimp/Groundfish Work Group

Terry Henwood
National Marine Fisheries Service
Pascagoula Laboratory
Adult Finfish Work Group

Mike Murphy
Florida Department of Environmental Protection
Red Drum Work Group

Joanne Lyczkowski-Shultz
National Marine Fisheries Service
Pascagoula Laboratory
Plankton Work Group

Perry Thompson
National Marine Fisheries Service
Pascagoula Laboratory
Environmental Data Work Group

Richard Waller
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory
Chairman, SEAMAP Subcommittee/
Reef Fish Work Group

ENVIRONMENTAL DATA WORK GROUP

Perry Thompson. Leader
National Marine Fisheries Service
Pascagoula Laboratory

Charles Eleuterius
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

Stevens Heath
Alabama Department of Conservation and Natural Resources

Michelle Kasprzak
Louisiana Department of Wildlife and Fisheries

Thomas Leming
National Marine Fisheries Service
Pascagoula Laboratory

Joanne Lyczkowski-Shultz
National Marine Fisheries Service
Pascagoula Laboratory

Carmelo Tomas
Florida Department of Environmental Protection

Richard Waller
Gulf Coast Research Laboratory
University of Southern Mississippi
Institute of Marine Sciences

PLANKTON WORK GROUP

Joanne Lyczkowski-Shultz, Leader
National Marine Fisheries Service
Pascagoula Laboratory

Churchill Grimes
National Marine Fisheries Service
Panama City Laboratory

Alonzo Hamilton
National Marine Fisheries Service
Pascagoula Laboratory

James Hanifen
Louisiana Department of Wildlife and Fisheries

Don Hoss
National Marine Fisheries Service
Beaufort Laboratory

Mark Leiby
Florida Department of Environmental Protection

Harriet Perry
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

Ken Stuck, Curator
SEAMAP Invertebrate Plankton Archiving Center
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

RED DRUM WORK GROUP

Mike Murphy, Leader
Florida Department of Environmental Protection

Phil Goodyear
National Marine Fisheries Service
Miami Laboratory

James Warren
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

Joseph Shepard
Louisiana Department of Wildlife and Fisheries

Joanne Lyczkowski-Shultz
National Marine Fisheries Service
Pascagoula Laboratory

Larry McEachron
Texas Parks and Wildlife Department

Mark Van Hoose
Alabama Department of Conservation and Natural Resources

REEF FISH WORK GROUP
Richard Waller, Leader
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

Billy Fuls
Texas Parks and Wildlife Department

Chris Gledhill
National Marine Fisheries Service
Pascagoula Laboratory

Richard Kasprzak
Louisiana Department of Wildlife and Fisheries

Mark Leiby
Florida Department of Environmental Protection

Mark Van Hoose
Alabama Department of Conservation and Natural Resources

SHRIMP/GROUNDFISH WORK GROUP
Stevens Heath, Leader
Alabama Department of Conservation and Natural Resources

Billy Fuls
Texas Parks and Wildlife Department

James Hanifen
Louisiana Department of Wildlife and Fisheries

Bruce Comyns
University of Southern Mississippi
Institute of Marine Sciences
Gulf Coast Research Laboratory

Butch Pellegrin
National Marine Fisheries Service
Pascagoula Laboratory

Nate Sanders
National Marine Fisheries Service
Pascagoula Laboratory

SEAMAP work groups will meet as determined by work group leaders. Specific responsibilities of the work groups are described in the *Southeast Area Monitoring and Assessment Program (SEAMAP) Management Plan: 1996-2000*.

SEAMAP-Gulf Coordinator

The Coordinator's primary responsibility is to assist the Subcommittee in ensuring that the SEAMAP-Gulf component functions efficiently and satisfies user requirements. The *Southeast Area Monitoring and Assessment Program (SEAMAP) Management Plan: 1996-2000,* schedule of events, survey plans, and GSMFC directives constitute the basic documents by which the Coordinator monitors program status, coordinates Subcommittee meetings and operations, anticipates potential problems, and initiates corrective action. Specific responsibilities of the Coordinator are described in the *Southeast Area Monitoring and Assessment Program (SEAMAP) Management Plan: 1996-2000*.

Gulf States Marine Fisheries Commission

Planning and funds disbursement for authorized SEAMAP-Gulf administrative activities (travel meetings, publications, information dissemination, etc.) are administered by the Gulf States Marine Fisheries Commission under a NMFS/GSMFC Cooperative Agreement, and in accordance with this Annual Operations Plan, GSMFC policies, and Department of Commerce/National Oceanic and Atmospheric Administration policies and procedures.