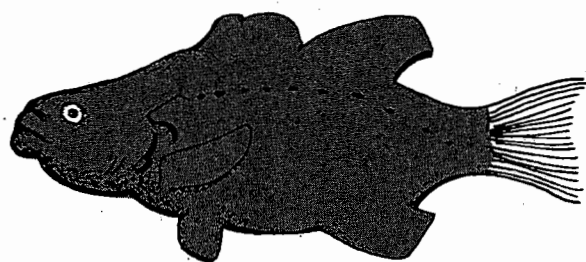


Gulf States Marine Fisheries Commission



THIRTY-FOURTH ANNUAL REPORT



MEMBER STATES
ALABAMA
FLORIDA
LOUISIANA
MISSISSIPPI
TEXAS

The GULF STATES MARINE FISHERIES COMMISSION is an organization of the five states, whose coastal waters are the Gulf of Mexico. This compact, authorized under Public Law 81-66, was signed by the representatives of the Governors of the five Gulf states on July 16, 1949, at Mobile, Alabama. It has as its principal objective the conservation, development, and full utilization of the fishery resources of the Gulf of Mexico, to provide food, employment, income, and recreation to the people of these United States.

GULF STATES MARINE FISHERIES COMMISSION
THIRTY-FOURTH ANNUAL REPORT (1982-1983)

To the

CONGRESS OF THE UNITED STATES

And to the

GOVERNORS AND LEGISLATORS

of Alabama, Florida, Louisiana, Mississippi, and Texas

Presented in compliance with the terms of the Compact and
the State enabling Acts creating such Commission and
Public Law 66 - 81st Congress assenting thereto.

GULF STATES MARINE FISHERIES COMMISSION
P.O. Box 726
Ocean Springs, Mississippi 39564

(601) 875-5912

ACKNOWLEDGMENT

In submitting this Thirty-Fourth Annual Report, the Commissioners wish to express their most sincere appreciation for the splendid cooperation of the Members of Congress and the Governors and Legislators of the compact states. The Commission fully appreciates that such measure of success as has been attained in the past thirty-four years could not have been possible without such valued assistance. This acknowledgment is also extended to the directorates and staffs of federal, state and interstate agencies, and to representatives of all organizations and individuals who have contributed toward the realization of the objectives of the GULF STATES MARINE FISHERIES COMMISSION.

Respectfully submitted,

Taylor F. Harper, Chairman
Robert J. Kemp, Vice Chairman
Charles H. Lyles, Executive Director

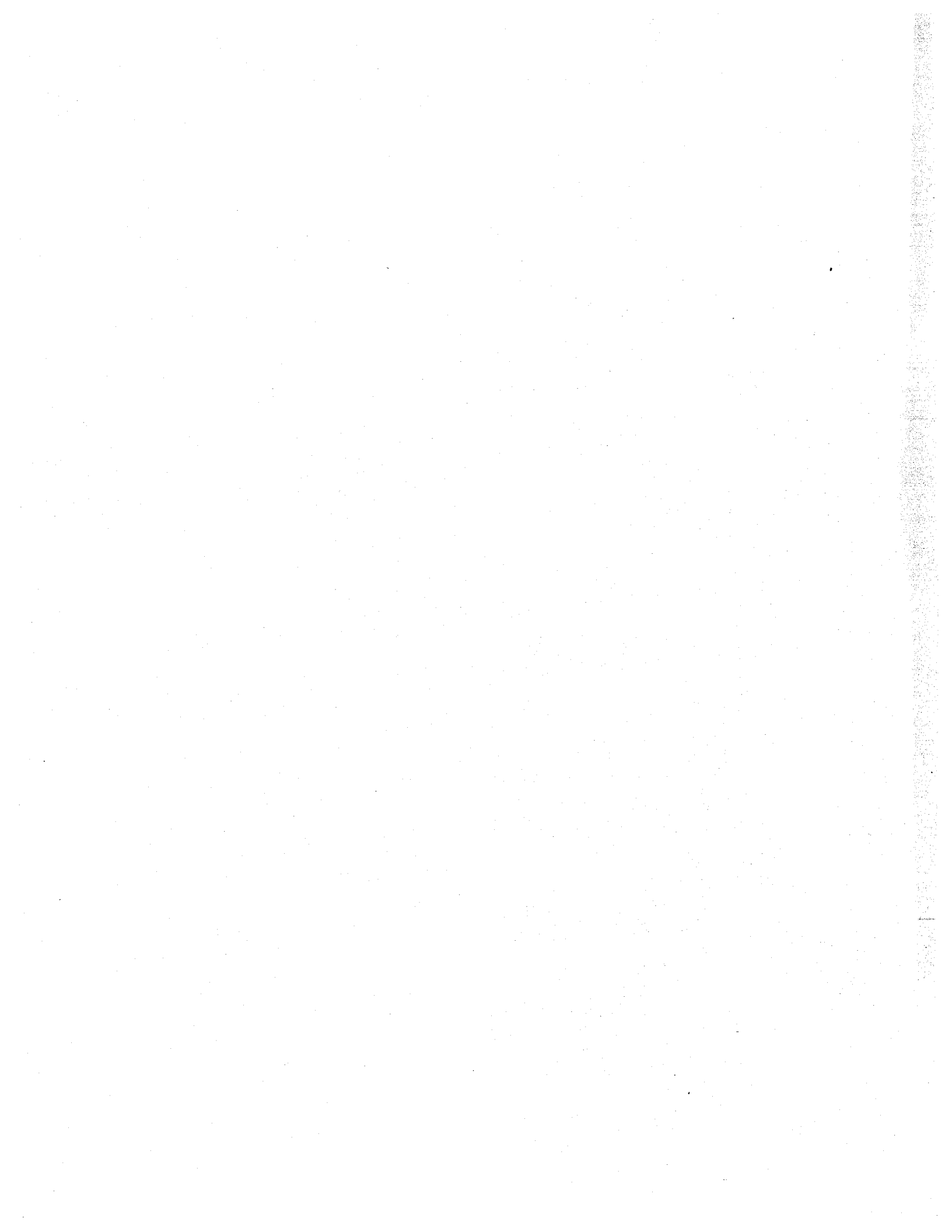
Published March 1984

GULF STATES MARINE FISHERIES COMMISSION

Thirty-fourth Annual Report (1982-1983)

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Roster of the

GULF STATES MARINE FISHERIES COMMISSION

October 1, 1982 - September 30, 1983

Chairman: Taylor F. Harper

Vice-Chairman: Robert J. Kemp

COMMISSIONERS

(order of listing - Administrator, Legislator, Governor's appointee)

ALABAMA

John W. Hodnett, Commissioner
Alabama Department of Conservation
and Natural Resources
Montgomery, AL
Taylor F. Harper, Representative
State of Alabama
Grand Bay, AL
John Ray Nelson
Bon Secour Fisheries, Inc.
Bon Secour, AL

Sam Theriot, Representative
State of Louisiana
Abbeville, LA
Leroy Kiffe
Tom Kiffe & Son Boats
Lockport, LA

FLORIDA

Elton J. Gissendanner
Executive Director
Florida Department of Natural
Resources
Tallahassee, FL
Joseph B. Allen, Jr., Representative
State of Florida
Key West, Florida
Clyde Richbourg
American Seafood Company
Pensacola, FL

MISSISSIPPI

Lon Strong, Executive Director
Mississippi Department of
Wildlife Conservation
Jackson, MS
Ted Millette, Representative
State of Mississippi
Pascagoula, MS
Holton D. Turnbough
WGUF Radio Station
Gulfport, MS

TEXAS

Charles D. Travis
Executive Director
Texas Parks and Wildlife
Austin, TX
Leroy J. Wieting, Representative
State of Texas
Portland, TX
Walter W. Zimmerman
Marine Mart, Inc.
Port Isabel, TX

LOUISIANA

Jesse Guidry, Executive Secretary
Louisiana Department of Wildlife
and Fisheries
New Orleans, LA

GULF STATES MARINE FISHERIES COMMISSION STAFF

Charles H. Lyles
Executive Director

Virginia K. Herring
Administrative Assistant

Larry B. Simpson
Assistant to the Director

Lucia B. O'Toole
Publication Specialist

COMMISSION OFFICERS ELECTED FOR
YEAR 1982-1983

Chairman: Taylor F. Harper succeeding Jesse J. Guidry

Vice-Chairman: Robert J. Kemp succeeding Taylor F. Harper

STANDING COMMITTEES

Executive Committee.....Taylor F. Harper, Chairman
Technical Coordinating Committee.....Ted Ford, Chairman
Industry Advisory Committee.....Walter Zimmerman, Chairman
Recreational Fisheries Committee.....Walter Tatum, Chairman
Sea Grant Committee.....Willis Clarke, Chairman
Enforcement Committee.....Jerry Waller, Chairman

SUBCOMMITTEES

TCC SEAMAP Subcommittee.....Walter Tatum, Chairman
TCC Blue Crab Subcommittee.....Harriet Perry, Chairman
TCC Statistical Subcommittee.....Claude Boudreaux, Chairman

COMMISSION ACTIVITIES

OCTOBER 1982 - SEPTEMBER 1983

The Gulf States Marine Fisheries Commission was involved in many activities affecting the fisheries of the Gulf of Mexico during the 1983 fiscal year. The year saw Mr. Charles H. Lyles' retirement from the Commission as the Executive Director. He was replaced in that position by Mr. Larry B. Simpson, Assistant to the Director since 1978. Mr. Lyles' service and dedication to the fishing community is widely known and all who have worked with him over the years hold a deep respect for his advice. Mr. Lyles' service in almost every facet of fisheries spans over 45 years. He had been involved in data collection, administration, management, law enforcement, international as well as domestic. It is interesting to note that Mr. Lyles had been present at the original signing of the Gulf States Marine Fisheries Commission's compact legislation by the Governors back in 1949 and would later serve the same compact as its Executive Director. Many issues have come and gone during his career and he has offered a wealth of sound advice. The Commission held a retirement dinner in his honor and over 100 of his many friends, associates and fellow workers paid him tribute. At the October meeting of the Commission in Key West, Florida, an annual award was established to be given for outstanding work on behalf of fisheries entitled "The Charles H. Lyles Award for Excellence in the Field of Fisheries." Fittingly, the first recipient of that award which will be presented at the March, 1984 Commission meeting is Charlie Lyles.

Early in the year the Commission began a year-long effort to update and revise the Menhaden Management Plan first published in 1977. This effort was a state/federal cooperative project in which the Commission, States, National Marine Fisheries Service, industry and universities contributed funds, time and manpower. The result was "The Menhaden Fishery of the Gulf of Mexico United States: A Regional Management Plan" published in September 1983. Limited single copies are available by contacting the Commission office.

Also early in the year, the Commission further solidified its working partnership with its sister compacts, the Atlantic States Marine Fisheries Commission (ASMFC) and the Pacific Marine Fisheries Commission (PMFC). Efforts by the three fishery commissions; Gulf, Atlantic, and Pacific; provides the states with a strong voice in Congress because the three organizations represent a total of 24 coastal states. A plaque was presented to Irwin Alperin, Executive Director of the ASMFC, in gratitude and recognition of his past cooperation on issues of mutual concern. A plaque in recognition of retiring Executive Director John Harville of the PMFC was presented at his retirement dinner in Portland, Oregon.

The October 1982 meeting of the Commission was held in Mobile, Alabama. The newly reactivated Recreational Fisheries Committee organized a superb program on "Recreational Fishing in the Gulf of Mexico." A series of five panels discussed: 1) data harvest information, 2) common property resources allocation/access, 3) education/communication, 4) artificial reefs, and 5) future actions. Speakers from all over the United States

along with excellent audience question and answer exchange made for a meaningful general session.

The Commission's Blue Crab Subcommittee released the proceedings of their colloquium at the Mobile, Alabama meeting. They began work immediately on the formalization of their profile on that species and expect to publish that document next year.

The year saw a long awaited ground-breaking ceremony and construction of a 600K addition to the Pascagoula laboratory of the National Marine Fisheries Service (NMFS). This lab is responsible for the research vessel OREGON II which provides data on shrimp, bottomfish and other species of importance to the Gulf. They provide information on gear development and food technology. Also housed at the lab is the National Seafood Inspection Office. This field laboratory and some other NMFS labs are in much need of expansion and renovations to adequately address the research problems facing fisheries in the Southeast.

The Southeast Area Monitoring and Assessment Program (SEAMAP) Subcommittee completed its second year of activities in the Gulf of Mexico. They coordinated three major surveys; ichthyoplankton, environmental, and shrimp and bottomfish. The shrimp and bottomfish survey included the weekly distribution of fishing and environmental data to fishermen and fishery managers on a real-time basis. They completed and distributed a Marine Directory of ongoing state/federal/university research programs in the Gulf. Finally the Subcommittee developed an Operational Plan which describes the program's goals and objectives over the next five years.

In an effort to promote awareness of the Commission and its functions a color slide show with sound narration was developed. The slide show can be sent out in high impact mailers free of charge to anyone who requests it. The program is approximately 15 minutes in length and details the history of the Commission, its committees, and its current activities.

The Commission met jointly with the Texas Shrimp Association for the regular March 1983 meeting in Austin, Texas. In the past joint meetings with the ASMFC and Louisiana Shrimp Association (LSA) had been held, and as expected, the Texas people, the shrimp industry and their association made the meeting very rewarding. Two general sessions concerning the topic "Fisheries Trade - Opportunities on the Horizon" were held. Speakers provided valuable information on export/import markets, statistical modeling, export/import bank services, state department policies and NOAA/NMFS activities in fisheries trade. A special sampling gear workshop was held to document how various size vessels and gear could be calibrated for statistical comparison of their respective data bases. The proceedings of that workshop will be published next year.

A new Statistical Subcommittee of the Technical Coordinating Committee (TCC) was established to facilitate the new cooperative fishery statistics initiative between the states and the federal fishery agency. A series of technical workshops are planned to resolve problems with the new computer equipment, software, etc.

The Commission was also involved with Secretary of Interior Watt's Rigs to Reefs initiative. Input from the States was given at meetings which Secretary Watt personally chaired. This program was to convert obsolete oil and gas structures into artificial fishing reefs. The Commission strives to balance the needs of recreational fishing with the bottom trawling industry on these issues.

During the year the Executive Director is called on to provide input at various state, federal and industry levels. One such testimony was required in support of the Grant-in-Aid programs 88-309 and 89-304. The team of the three interstate compacts (Gulf, Atlantic, Pacific) provided their support in testimony before the Senate Appropriations Subcommittee on State, Justice, Commerce and the Judiciary. We were successful in our efforts to restore the Reagan administration's cuts proposed for these two important programs. Funds which support many of the professional staffs in the states and their scientific projects will be restored. The rest of the Executive Director's time was spent working with the Gulf of Mexico Fishery Management Council, trade associations, and preparing and delivering speeches representing the Commission and administrative duties for day to day functions of the Commission headquarters office.

MEETINGS/ACTIVITIES OF THE EXECUTIVE DIRECTOR

Gulf States Marine Fisheries Commission (GSMFC) Meetings

- 33rd Annual Fall Meeting, Mobile, Alabama - October 1982
- 33rd Annual Spring Meeting, Austin, Texas - March 1983
- Meeting with Ted Ford and Jesse Guidry regarding 33rd Annual Fall Meeting, Baton Rouge, LA - November 1982
- Meeting with Gary Knight, Bobby O'Barr and Larry Simpson regarding EEZ legislation, Biloxi, Mississippi - November 1982
- Meeting with Ted Millette and George Brumfield to discuss status of Mississippi dues to GSMFC, Pascagoula, Mississippi - January 1983
- Meeting with Holton Turnbough, new Commissioner appointed by Governor Winter, Biloxi, Mississippi - February 1983
- Meeting with Commission Chairman Taylor Harper to discuss 33rd Annual Spring Meeting, Bayou La Batre, Alabama - March 1983

Gulf State-Federal Fisheries Management Board Meetings and Activities

- GS-FFMB Meeting, Mobile, Alabama - October 1982
- GS-FFMB Meeting, Austin, Texas - March 1983
- Marine Fisheries Advisory Committee (MAFAC) Meeting, La Jolla, California - April 1983
- NMFS/Interstate Commission Meeting regarding Interjurisdictional Fisheries Policy, Washington, DC - June 1983
- State Fish and Wildlife Directors Meeting, Tampa, Florida - April 1983
- Meeting with Andy Kemmerer and Perry Thompson regarding SEAMAP 1983 and Mr. Thompson's IPA loan agreement, Gautier, MS - October 1982
- Meeting with Jack Brawner and Bill Fox to discuss research direction of the Gulf of Mexico by NMFS, Tampa, Florida - October 1982
- Meeting with NMFS Regional personnel to discuss fishery research and development, Tampa, Florida - January 1983

Industry Meetings and Activities

- Gulf and Caribbean Institute Meeting, Nassau, Bahamas - November 1982
- Louisiana Shrimp Association Quarterly Meeting, New Orleans, Louisiana - December 1982
- Louisiana Shrimp Association Annual Convention, New Orleans, Louisiana - March 1983
- Louisiana Shrimp Association Quarterly Meeting, Galliano, Louisiana - August 1983
- National Fisheries Institute Meeting, New Orleans, Louisiana - April 1983

Congressional Meetings and Activities

- Meeting with Congressional delegation of the Gulf States and key persons within the industry regarding fishery legislation, Washington, DC - December 1982
- Meeting with Congressman John Breaux regarding EEZ legislation, Lafayette, Louisiana - December, 1982

Meeting with key Congressional people regarding support of fishery legislation,
Washington, DC - April 1983

Meeting with Congressional leaders regarding fishery research funds and
development of Gulf fisheries, Washington, DC - September 1983

Other Meetings and Activities

Meeting with Compact Directors regarding federal funding for fishery legislation,
Washington, DC - April 1983

Presented paper at Marine Recreational Fisheries Symposium, San Diego, California -
April 1983

Meeting with Stewart Springer for the purpose of discussing the history of labs
in the Gulf Region, Ocean Springs, Mississippi - December 1982

Presented testimony regarding research and development at the Louisiana Department
of Wildlife and Fisheries, Baton Rouge, Louisiana - February 1983

Gulf of Mexico Fishery Management Council Meeting, Biloxi, Mississippi - March 1983

Meeting with IAFWA Ad Hoc Budget Committee to develop priorities when dealing
with the Federal budgets of Agencies, Washington, DC - February 1983

MEETINGS/ACTIVITIES OF ASSISTANT TO THE DIRECTOR

Gulf States Marine Fisheries Commission (GSMFC) Meetings

33rd Annual Fall Meeting, Mobile, Alabama - October 1982
33rd Annual Spring Meeting, Austin, Texas - March 1983
Meeting with Consultants regarding Menhaden Plan, Ocean Springs, Mississippi -
October 1982
Meeting with Commission Hospitalization Insurance Agent regarding new policy,
Ocean Springs, Mississippi - November 1982
Meeting with Hotel Staff regarding Commission March meeting, Austin, Texas -
November 1982
Menhaden Plan Task Force Workshop, New Orleans, Louisiana - November 1982
Southeastern Area Monitoring and Assessment Program (SEAMAP) Subcommittee
Meeting, New Orleans, Louisiana - November 1982
Meeting with Gary Knight and Bobby O'Barr regarding EEZ legislation, Biloxi,
Mississippi - November 1982
Meeting with Consultants regarding Menhaden Plan, Ocean Springs, Mississippi -
December 1982
Menhaden Plan Task Force MSY Workshop, Atlanta, Georgia - January 1983
Meeting with John Watson Spring Meeting Gear Workshop Chairman, Ocean Springs,
Mississippi - January 1983
Testimony to Mississippi Department of Wildlife Conservation Commission Meeting
regarding SEAMAP, Cleveland, Mississippi - January 1983
Meeting with Consultants regarding Menhaden Plan, Ocean Springs, Mississippi -
January 1983
Meeting with NMFS Pascagoula Laboratory regarding SEAMAP, Pascagoula, Mississippi -
January 1983
Meeting with Consultants regarding Menhaden Plan, Ocean Springs, Mississippi -
January 1983
Menhaden Plan Task Force Workshop, New Orleans, Louisiana - February 1983
Meeting with Consultants regarding Menhaden Plan, Ocean Springs, Mississippi -
February 1983
Meeting with Commission Chairman Taylor Harper, Bayou La Batre, Alabama -
March 1983
Menhaden Plan Task Force Workshop, New Orleans, Louisiana - May 1983
GSMFC Presentation to Pacific Marine Fisheries Commission Executive Director
John Harville regarding retirement, Portland, Oregon - June 1983
Meeting with Regional Director regarding access to Mexican waters for United
States shrimpers, St. Petersburg, Florida - July 1983

Gulf of Mexico Fishery Management Council (GMFMC)

October 1982	Cape Canaveral, Florida
October 1982	Tampa, Florida
December 1982	Brownsville, Texas
February 1983	Biloxi, Mississippi
April 1983	Panama City, Florida
July 1983	Duck Key, Florida
September 1983	New Orleans, Louisiana

Gulf State-Federal Fisheries Management Board (GS-FFMB)

GS-FFMB Meeting, Mobile, Alabama - October 1982
GS-FFMB Meeting, Austin, Texas - March 1983
Marine Fisheries Advisory Committee (MAFAC), Tampa, Florida - November 1982
NMFS Galveston Laboratory Shrimp and Bottomfish Program Review, Galveston, Texas -
April 1983
NMFS Charleston Laboratory Microconstituents Program Review, Charleston, South
Carolina - May 1983
NMFS/Interstate Commission Meeting regarding Interjurisdictional Fisheries Policy,
Washington, DC - June 1983

Industry Meetings

Louisiana Shrimp Association Meeting, New Orleans, Louisiana - March 1983
American Shrimp Cannery and Processors Association Speaker, Biloxi, Mississippi -
April 1983

Congressional Meetings

Testimony before Senate Appropriations Subcommittee on State, Justice; Commerce
and the Judiciary, Washington, DC - April 1983
Meeting with Congressman Breaux's staff and Japanese Delegation regarding Joint
Ventures, New Orleans, Louisiana - August 1983
Marine Fisheries Advisory Committee (MAFAC), Alexandria, Virginia - September 1983

Other Meetings and Activities

Atlantic States Marine Fisheries Commission Meeting, Baltimore, Maryland -
October 1982
Ground-Breaking Ceremony/New Building NMFS Mississippi Laboratories, Pascagoula,
Mississippi - November 1983
Pascagoula Public Schools Career Day Speech, Gautier, Mississippi - March 1983
Louisiana Department of Wildlife and Fisheries regarding Setting the Shrimp Season,
New Orleans, Louisiana - April 1983

ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

Marine Resources Division

The Marine Resources Division (MRD) is responsible for management, production and enhancement of the state's marine fishery resources. The MRD conducts fisheries research aimed at increasing and protecting fishery resources, increasing the accessibility of fishery stocks to resource users and provides protection of these resources through enforcement of laws and regulations promulgated by the Commissioner.

The MRD contains the Administrative, Research and Management, and Enforcement Sections and had 32 full-time and 3 part-time employees during FY 1982-83.

The Administrative Division contained the Division Director, five full-time clerical, one part-time clerical and one custodial-mechanical personnel during 1982-83 with offices maintained at Dauphin Island and Bayou La Batre (Mobile County) and Gulf Shores (Baldwin County).

The Research and Management Section contained the Chief Marine Biologist, three Biologist III's, two Biologist II's, four Biologist Aide I's, three Biologist Aide III's, and two part-time biweekly laborers. The Section conducts applied marine fishery research, collects biological data from which management recommendations are made and provides supervision and recommendation on the maintenance and construction of public access areas and artificial reefs. The hatchery facility at Gulf Shores produces striped bass fingerlings for stocking into the estuarine area and additionally conducts mariculture research on a number of recreational and commercially important marine species, including red snapper, vermilion snapper, red drum, speckled trout, pompano, rainbow trout, bull minnows (bait fish) and shrimp. Federal funds supporting fisheries research and development projects authorized by PL 88-309 were authorized but not funded until 15 November 1982; funds supporting anadromous fish research were not funded until 31 January 1983. These two programs coupled with another federal aid grant were funded during the first and second quarters of calendar year 1983 with total federal funds amounting to over 60% of the Section's operations budget.

The Enforcement Section contained one CEO Assistant Chief, two District CEO's, four CEO Supervisors and five CEO's. Officers patrol 780 square miles of brackish and salt waters of the State while enforcing laws and regulations pertaining to seafood and boating safety and unlawful activities such as smuggling. In addition to law enforcement, the officers conduct numerous search and rescue operations and assist various agencies with seafood festivals, fishing rodeos, and sailboat races.

An obsolete oil well platform was donated to the MRD by Marathon Oil Company for an offshore fishing reef. The platform was towed from off Louisiana and was sunk at a location approximately 50 miles SSE of Mobile Bay on June 27, 1983. This was only the second time that an oil company had donated and sunk a platform for a fishing reef in the Gulf of Mexico.

Sampling of the oyster reefs following the spring flood which lasted from December-mid June showed a combined loss of 32% (9.6 million) of the oysters and 18% (378 million) spat. A federal grant through the National Marine Fisheries Service (NMFS) was applied for and approved for \$364,800 for shell planting during the summer of 1984. An additional \$100,000 grant was approved by the Economic Development Administration for additional work on the oyster reefs during FY 84. Sixty-four oyster fishermen participated in a small shell planting program during June and July which was financed by oil and gas revenues.

A new shrimp management procedure was begun in FY 82-83 due to the Administrative Procedures Act which requires a 72-day comment period except for emergency regulations. Shrimp management often requires a short reaction time to open and close areas because of the rapid movement of shrimp. A regulation was promulgated which divides coastal waters into shrimp management zones and subareas which are automatically opened and closed based upon the size of shrimp determined by trawl samples. This new procedure allows for immediate reaction to changes in the shrimp size and provides for protection of small, illegal shrimp.

Employees within the MRD participated in local, regional and national workshops, symposia, committees, councils, and commissions during the year. Hugh Swingle, Director, Marine Resources Division, represented Commissioner Hodnett on the Gulf of Mexico Fishery Management Council (GMFMC) and the Gulf States Marine Fisheries Commission (GSMFC), both of which play significant roles in the development of commercial and recreational fishery management strategies. Walter Tatum, Chief Marine Biologist, was elected Chairman of the SEAMAP (Southeast Area Monitoring and Assessment Program) Subcommittee and the Recreational Fisheries Committee of the GSMFC. As Chairman of both the committees, he participated in two task force meetings with Secretary James Watt, Department of Interior, on the development of a National policy on offshore artificial reefs and presented progress reports to the South Atlantic States Marine Fisheries Commission (SASMFC) and GSMFC on the results of the 1983 regional fishery assessment and monitoring program. Steve Heath, Biologist III, MRD, presented a paper at the SEAMAP gear calibration workshop on nearshore sampling strategies of management agencies in the Gulf of Mexico and was appointed member of the shrimp and bottomfish work group of SEAMAP. Vernon Minton, Biologist III, MRD, was a member of the striped bass committee, Southern Division American Fisheries Society. John Hawke, Biologist II, MRD, organized and hosted the 1983 Gulf Aquaculture Workshop and presented a report on Alabama's mariculture accomplishments. Walter Tatum presented a position paper on the role of the federal government in aquaculture to the International Association of Game and Fish Commissioners.

The biological staff participated in a week-long marine science education program conducted in Baldwin County and each biologist presented a seminar and provided research guidance to the students.

Enforcement officers gave presentations pertaining to Alabama's marine resources laws and regulations to Vietnamese, Cambodians, and Laotians at meetings sponsored by the Catholic Social Services in Mobile and Baldwin counties. Presentations by enforcement officers concerning recreational shrimping laws and regulations were given in Mobile and Fairhope at meetings sponsored by Alabama Sea Grant.

Major Jerry Waller served as Chairman of the GSMFC's Law Enforcement Committee and attended meetings in Mobile and Austin, Texas. He was also Alabama's representative on the Law Enforcement Committee of the GMFMC and attended a meeting in Tampa, Florida.

Major emphasis was placed during this fiscal year on broadening our biological data base for speckled trout (Cynoscion nebulosus). Increased efforts were devoted to developing dependable sampling stations from which spawning success and projected contribution to the fishery could be forecast. Similarly, efforts were increased at the Claude Peteet Mariculture Center to artificially induce spawning of wild caught spotted seatrout and efficiently culture the offspring to a size suitable for tagging. It is anticipated that both of these related projects dealing with this extremely popular marine fish will continue as ongoing projects for the next several years.

LAW ENFORCEMENT ACTIVITIES

MRD enforcement officers worked 22,389 boat and shore patrol hours, 169 search and rescue hours and issued 353 citations. Forty-two percent of the citations involved violations of shrimping regulations. There was a 94% conviction rate for cleared cases.

MRD enforcement officers assisted the Game and Fish Division in Butler, Lowndes, Monroe, Mobile and Baldwin counties during the deer season and in Conecuh, Escambia, Mobile and Baldwin counties during the dove season.

The MRD signed a cooperative enforcement agreement with NMFS. All the enforcement officers were deputized as United States Enforcement Officers of the NMFS. As part of the agreement, the NMFS presented the MRD with a computer terminal giving access, among other things, to the Fisheries Crime Information Center (FCIC) shared with NMFS, the U.S. Coast Guard, South Carolina, and the other four Gulf States. Under the terms of the agreement, other equipment will be made available as acquired by NMFS.

COMMERCIAL FISHERIES LANDINGS

Total seafood landings in Alabama during 1982 was 24,950,000 lbs. valued at \$46 million which was a decrease of 24% in volume but an increase of 5% in value over 1981 (Table 1). The decrease in quantity resulted from poor catches of shrimp and Atlantic croaker which offset increases in catches of oysters, red snapper and other species.

Shrimp landings were 16,797,000 lbs. valued at \$41.4 million accounting for 67% of the volume and 89% of the value of all landings during 1982. Of the total catch, 45% were taken from state waters of Alabama, Mississippi, Florida and Louisiana and 55% were taken from federal waters off the Gulf States.

Oyster landings were 1,497,000 lbs. of meats valued at \$2.2 million, which was the highest since 1977. The high catches during 1981 and 1982 resulted largely from the clam shell placed on the reefs during 1980 which was funded by a \$1.25 million federal grant. A small amount (4375 yd³) of clam shell was placed on reefs west of the Dauphin Island bridge during June 27 - July 14, 1983. A total of 64 oyster fishermen participated in the planting program financed by oil and gas revenues. Fishermen were paid \$2/bbl to plant shell from their boats on the State Bed and Cedar Point. The shell received a good spat set during the summer and fall spawning periods and will be productive after 20 months; however, the cost considering transportation of shell to Cedar Point from Mobile, loading boats and paying fishermen was \$34.71/yd³ compared to about \$12/yd³ under competitive bid planting barges. While hiring fishermen to plant shell may temporarily benefit them financially, it is not cost effective.

Table 1

A SUMMARY OF COMMERCIAL FISHES LANDED IN ALABAMA

Quantity - Thousands of Pounds and Thousands of Dollars											
Year	Shrimp	Oysters	Crabs	Red				Total	%		
				Snapper	Mullet	Flounder	Others		Inc.	Value Inc.	
1979	20,500	455	1,300	535	624	671	5,845	29,955	0.7	\$52,000	47.0
1980	15,030	55	1,600	418	622	501	6,574	24,800	-17.3	31,800	-38.8
1981	21,250	1,330	2,462	503	524	585	6,396	32,900	27.7	44,000	39.0
1982	16,797	1,497	1,259	580	685	624	3,517	24,959	-24.1	46,397	5.4

COOPERATIVE STATE/FEDERAL STATISTICAL PROGRAM

The MRD/NMFS Cooperative Statistical Program evolved very nicely during the 1983 fiscal year. Accomplishments for the program included, (a) increased coverage of Alabama seafood dealers by MRD/NMFS port agents thereby providing more accurate seafood landings estimates, (b) production of acceptable confidentiality statutes and data collection authority, (c) recruited quality personnel to manage data and participate in a regional state/federal data collection program. This cooperative state/federal program is 100% funded by NMFS.

COMMERCIAL FISHERIES RESEARCH AND DEVELOPMENT PL 88-309

Research conducted under the auspices of the Commercial Fisheries Research and Development Act (PL 88-309) contributed the preponderance of federal research funds for the MRD during fiscal year 1982-83. Research funded by this Act included shrimp, crab, finfish, and oyster assessment and monitoring programs; an environmental assessment program; and a mariculture program.

The peak brown shrimp postlarvae catch per unit of effort (CPUE) of 169.2 identified by MRD's shrimp assessment and monitoring program in April 1983 indicated that shrimp production potential was the best since sampling began in 1977; however, the corresponding CPUE of juvenile brown shrimp in March, April, and May of 0.8, 0.2, and 2.9, respectively, accurately suggested an alarmingly high mortality between postlarvae and juveniles and subsequently a low production shrimp yield. The disastrous brown shrimp season was brought about by prolonged flooding in Alabama from December 1982 to June 1983. Trials continued during the year to develop multilinear regression equations for predicting shrimp catch as well as further refinement of growth curves for predicting the date at which brown shrimp will reach a count of 68 per pound.

The presence of large numbers of blue crab megalopae and juveniles in October, November, and December, accurately suggested a better than normal adult crab population available for harvest in 1983.

Oyster assessment dives and dredge samples substantiated a 32% oyster mortality attributable to severe flooding in 1983.

Tatum, W. M. In Press. What Should Be the Role of the Federal Government in the Aquaculture of Finfish? Position Paper. International Association of Fish and Wildlife Agencies.

Wade, C. W. 1983. Alabama Coastal Marshes. Alabama Conservation May/June 1983.

Wade, C. W. 1983. Environmental Assessment of Construction and Development in Coastal Alabama. Research and Mgt. of Alabama's Coastal Fisheries. Fed. Aid Progress Report 2-380-R-1. Mimeo. File Rep. pp 67-80.

FLORIDA DEPARTMENT OF NATURAL RESOURCES

DIVISION OF MARINE RESOURCES

BUREAU OF MARINE RESEARCH

The Florida Department of Natural Resources Bureau of Marine Research activities in Gulf and Atlantic fisheries management plans or bioprofiles included supplying research data and critiques of several species. Other advisory and research assistance was requested and given to various federal, state and local agencies. Biological and physical oceanographic data were compiled for use by the Governor's Office for comment on Eastern Gulf of Mexico and South Atlantic Mineral Management Service lease offerings. The Bureau has been involved in consistency determinations for Ocean Disposal Site Designations for Tampa Bay and Pensacola. The State of Florida has initiated a cooperative fisheries statistics program with the National Marine Fisheries Service to collect data on catch composition, poundage, area of catch, fishing effort, and gear. The State system is based on a trip ticket and saltwater products license system. Personnel assisted federal and state offices in developing and reviewing management plans for several marine sanctuaries. This included reviewing research proposals and evaluating ongoing research projects. Transects for data collection were established for Looe Key National Marine Sanctuary.

FINFISH

Several conclusions were reached about king mackerel populations in Florida waters. Migration analyses from tagging data have confirmed that there are at least two migratory groups. Their ranges overlap in the region from Cape Canaveral to Miami. Electrophoretic research has been contracted to determine if these groups are separate stocks. Length frequency monitoring of the king mackerel commercial fishery has been ongoing since 1975. Analysis of the resulting data suggests that annual recruitment is variable with dominant year classes evident in the fishery for several years. Fluctuations in recruitment affect year class strength and probably affect yield. It has been suggested that Gulf populations have been overfished. A king mackerel symposium, sponsored by the National Marine Fisheries Service and the FDNR, was held at Orlando, November 4-6.

Findings of snook tagging studies in Collier County revealed a 93% decrease in west coast snook populations over the last six years. The 1983 Legislature enacted a five year ban on snook fishing in peak spawning months, June and July, and winter months, January and February. Preliminary preparations were initiated for east coast tagging and life history studies. It is believed that there are life history differences between east and west coast populations. The second snook symposium, sponsored by the International Game Fish Association and FDNR met November 19 in Marco.

Collections of adult, juvenile, and larval red drum were completed this year. Age and growth data are being analyzed. Analysis of offshore adult red drum otoliths show that the median age is between 11-15 years. Juvenile habitat and diet preferences also are being analyzed. A Tampa Bay red drum tagging program will be implemented in 1984 to

assess fishing mortality of estuarine populations (up to 3 years). Laboratory studies on red drum to investigate the correlation of hormonal levels with gonadal condition were completed this year; the data are being analyzed. Diet experiments to improve nutrition in laboratory fish were initiated.

Life history studies were completed for gag grouper and scamp. Otolith analyses of scamp and yellowedge grouper continue. Female gag grouper have been artificially spawned in the laboratory using temperature and photoperiod alone. Techniques for successful spawns of male and female gag grouper without using hormones are being refined. Replication of experiments reversing females to males was accomplished.

Studies on occurrence and distribution of selected larval and juvenile fishes in Lake Worth and Loxahatchee River were completed. Data are being analyzed.

Age and growth analyses of silver mullet continued; second readings of scales continues. The systematics of silver mullets is under scrutiny. There are a combination of morphological and anatomical characters which separate Mugil curema from M. gaimardianus.

INVERTEBRATES

Studies on the effects of air exposure on the spiny lobster blood chemistry were initiated to evaluate causes of mortality due to various fisheries practices. Lobster trap escape gap design investigations continued. Testing of artificial bait continued in cooperation with the University of Florida.

A survey of an Indian River blue crab population is nearing completion. Data on size, sex, presence of eggs, injuries and parasites, and seasonal and long-term fluctuation were collected. The Tampa Bay tagging program was completed; more than 13,000 crabs were tagged and the tag return rate exceeds 23%. Findings to date indicate that female blue crabs migrate northward from Tampa Bay and move as far west as Mobile Bay, Alabama, with major concentrations of tag returns coming from Apalachee Bay, Cedar Key, and Crystal River, the major fishery areas along Florida's west coast. Tagging studies to determine sources of the migratory stock south of Tampa Bay and to determine migratory patterns from Apalachee Bay will be launched in 1984.

Several aspects of stone crab research were completed. Research findings indicate that although claw reversal, i.e., pincher to crusher, frequently occurs in juveniles it virtually never occurs in adult stone crabs. It has been determined that all regenerated claws can be identified as such in the landings. Exposure tests revealed that mortality of stone crabs upon claw removal is directly related to the length of exposure. Studies of processing and handling claws confirmed that the marketable quality of claws is reduced considerably if the claws are put on ice before cooking. Analysis and interpretation of data collected on stony and soft corals from Key Largo, Pennekamp, and Biscayne Bay continued. A major zooxanthellae expulsion in the Lower Keys was investigated and hypothesized to be caused by stress induced by high water temperatures concurrent with particularly low tides.

HABITAT

A Marine Resources Geobased Information System (MRGIS) has been installed at the Bureau headquarters in St. Petersburg. The MRGIS will be used primarily as a research tool for coastal zone resource management and for integrating coastal zone data bases.

The system is a research prototype for the State of Florida and is being used to demonstrate regional and state-wide applications. Under contract with the Florida Department of Environmental Regulation, the Bureau has begun work on developing an assessment of fisheries habitat loss; this and MRGIS are federally funded through the Office of Coastal Zone Management. Areal fisheries habitat loss for estuarine and coastal bottoms is being documented through time series evaluations of aerial photographs and maps. Such losses are being compared to fisheries data to study trends and impacts. Several Florida coast sites were selected as pilot study areas. Data have been compiled for Charlotte Harbor and Lake Worth. The data are computerized, and have been statistically manipulated to ascertain the total amount of habitat loss and the amount of loss of each habitat type, as well as changes in adjacent land use. For example, between 1945 and 1982 there has been a 10% increase in mangrove acreage, a 51% decrease in saltmarsh acreage and a 29% loss of seagrass acreage in Charlotte Harbor. Although available commercial fisheries landings are inadequate for statistical correlations with habitat alterations and loss, general trends in fisheries landings for target species are being used for comparative purposes.

PLANKTON, PLANTS, AND TURTLES

Further applications of MRGIS include using this system to correlate the distribution of ichthyoplankton and red tide with ocean currents and fronts in the Gulf of Mexico. Acquisition of ichthyoplankton samples was undertaken as a cooperative effort with five Gulf states and NMFS under the SEAMAP program. Ichthyoplankton samples collected during SEAMAP cruises are being curated at the Bureau. The second data set in this program, including oceanographic environmental ground truth data, has been collected.

Additionally, MRGIS can use satellite imagery from the Coastal Zone Color Scanner and LANDSAT sensors. This will provide a method of predicting and monitoring Florida red tides caused by the dinoflagellate, Ptychodiscus brevis. Prediction is now impossible due to the large hydrographic boundaries in which either initiating oceanic fronts develop, or in which the red tide blooms may be transported. A 1983 red tide occurred offshore in October and remained offshore through the remainder of the year; it has periodically re-inoculated nearshore areas.

Life history and ecological studies of Prorocentrum, a dinoflagellate implicated in diarrhetic shellfish poisoning and ciguatera, continued.

Mass culture of algae, rotifers, and Artemia continued. Experiments on rotifer size preference in larval fish feeding were initiated.

Seagrass research continues to investigate population differences. Research also included studies of suitability and success of various planting units, i.e., peat pellets, horticultures; physical and chemical gradients in seagrass beds; and refinement of axenic culture techniques.

The green sea turtle headstart program continued. Nest sightings recorded in 1982 were over 14,000; this included loggerhead, green and leatherback turtles. Greater than 500 km of beach were surveyed. The Bureau is assisting the Florida Institute of Oceanography in sea turtle research programs necessitated by offshore oil and gas lease sales off the Florida coast. This will include studies of oil effects on marine turtles.

BUREAU OF MARKETING AND EXTENSION SERVICES

The seafood industry today is a large and important part of Florida's economy and the Florida Department of Natural Resources, through its Bureau of Marketing and Extension Services, is a vital factor in its continuous growth. With headquarters in Tallahassee, the Bureau's prime function is to spearhead the state's seafood marketing activities, not only in Florida, but in existing and potential markets nationwide and foreign.

To effectively operate, the Bureau consists of three distinct sections: industry consultation and assistance; seafood promotion; and, consumer education.

While these functions are separate entities, each with its specific responsibilities, there is complete coordination and reliability among staff personnel to implement the overall marketing program. With seven Merchandising Specialists strategically located throughout Florida; Atlanta, Georgia; and Little Rock, Arkansas; consumers are made aware of Florida seafood through personally conducted group demonstrations, television demonstrations, radio spots, and interviews, plus newspaper and magazine articles containing recipes and photographs.

However, consumer education goes much further than directly to the consumer. Two Marketing Specialists are in constant touch with food chain seafood merchandisers, brokers, wholesalers and retail seafood dealers making these people aware of species availability, promotional efforts and materials, "tie-ins," and market trends. Full knowledge of existing conditions in both Florida and the Nation's seafood industry, plus knowledge of and potential marketing possibilities is essential. This is accomplished by the continuous analysis of "catch" statistics, current market reports, freezer holdings, pertinent data relating to consumer trends, and direct contacts with producers and processors. Also, Marketing staff members engage in specific seasonal promotions of seafood in midwestern states under a special contract utilizing Federal funds. The Bureau's continuing programs take all of these essentials in consideration.

Educating consumers and professional food people on the nutritional value, selection, handling and storage techniques of Florida seafood products is another essential function of staff members. Reaching further to enhance the use of Florida seafood, School Lunch Program directors, institutional food directors and buyers, local food committees, and other groups receive educational demonstrations and information to guide them in making cost-effective seafood selections. In addition, Florida seafood products are displayed, cooked and served by Marketing staff personnel at national trade shows. At these events, thousands of restaurant, chain store and institutional buyers are provided with pertinent information and samples of the actual seafood products. Moreover, continuous study and research are being carried out in the Bureau's test kitchens to develop new seafood recipes and handling techniques.

BUREAU OF MARINE RESOURCE REGULATION AND DEVELOPMENT

The primary responsibilities of the Bureau include the classification and monitoring of shellfish growing waters and the inspection of shellfish and blue crab processing plants to insure that shellfish and blue crabs are processed in a sanitary manner. Other programs include oyster culture, shellfish leasing, derelict vessel removal and disposal, and artificial reef construction.

The Processing Plant Inspection Program is staffed by five sanitarians responsible for ensuring that oyster, clam and blue crab processing plants throughout Florida maintain strict adherence to sanitary standards. During the 1983-84 period a total of 230 oyster processing plants and 39 blue crab processing plants were certified.

Approximately 10,000 shellfish growing water samples were tested for fecal coliform contamination to monitor Florida's shellfish harvesting areas. Florida has, as of 1980, 512,227 acres of Approved waters, 110,281 acres of Conditionally Approved waters, 292,484 acres of Prohibited waters, and 1,352,635 acres of unclassified waters as calculated by the Food and Drug Administration's Northeast Technical Services Unit. Six environmental specialists routinely monitor open and prohibited areas. In addition to routine water monitoring, personnel are responsible for red tide sampling and comprehensive shellfish area surveys or reappraisals. A comprehensive survey for Gasparilla Sound was updated, completed, and approved, resulting in the reclassification and opening of 14,144 acres to shellfish harvesting. The utilization of aerial photographs and land use maps has been incorporated into shoreline surveys. Special aerial photography has provided useful information during dye release tracer studies designed to determine fecal coliform dispersion and dilution. The shellfish harvesting area survey team, staffed by two environmental specialists, is conducting surveys of Choctawhatchee Bay, Estero Bay, and selected areas of Dixie County. Shellfish Harvesting Area Atlas maps should be completely updated and revised in 1984.

Staff has continued to assist and support university research on the occurrence of pathogenic Vibrio bacteria in Florida coastal waters and shellfish. This research is designed to evaluate sources, reservoirs, and significance of such bacteria in estuaries.

One full-time staff member is utilized in the Shellfish Leasing Program and is responsible for the inspection of existing shellfish leases for compliance with state law in the cultivation of oysters and clams in State waters. Additionally, proposed leases are inspected to insure that the requested lease areas are compatible with those conditions favorable for oyster or clam cultivation. During the 1983 fiscal year, twelve new shellfish leases were issued for a total of 65.74 acres. This brings the total shellfish leased acreage to 2,323.61 acres. This generates a total revenue of \$11,338.50.

The Artificial Reef Construction Program, implemented August 7, 1979 by the Governor and Cabinet, had 12 projects funded between the first year and 1981. By June, 1983, that figure jumped to 51.

The Exxon Corporation donated an oil/gas platform for use as an artificial fishing reef. In 1980, this platform was sunk 35 miles offshore of Carrabelle. Due to the tremendous success of this reef, a gas platform, donated by Tenneco, was sunk 22 miles south of Pensacola in September, 1982.

A number of boats and vessels were sunk at reef sites by governmental agencies with the aid of State funds granted through the derelict vessel program. The Derelict Vessel Removal and Disposal Program makes use of one full-time staff member and the assistance of the Division of Law Enforcement Marine Patrol to accomplish program goals. The program is responsible for the cleanup of junked, abandoned, and dismantled vessels in State waters. Many of these were used for the construction of artificial fishing reefs. A total of 521 vessels have been removed at State expense; 387 others were removed without State funds.

Nine staff members are assigned to the Oyster Culture Program and are responsible for the construction of artificial oyster reefs to enhance the production of oysters in selected areas around the State. Shucked oyster shells are collected from selected oyster

shucking establishments, stockpiled and "cured" before being used as cultch for the "planting" of these reefs. During 1983, approximately 40 acres of oyster reefs were planted in Apalachicola Bay, utilizing 308,664 bushels of cultch. During the same period the oyster culture staff collected 353,632 bushels of oyster shells from shucking houses.

Removal of oysters from polluted areas to areas with good water quality for purification is justifiable in terms of public health considerations and wise resource management. Likewise, the transplanting of small intertidal oysters to areas more hospitable for growth and survival is a good management practice. In the last decade, five public oyster relaying projects have received legislative approval, and appropriation, for the Cedar Key--Horseshoe Area in Dixie and Levy Counties near the mouth of the Suwanee River. Participants were paid a per-bushel wage to move oysters from polluted areas and/or tops of intertidal reefs to gaps of deeper water throughout the reefs. A study of that year's planting concluded that: "From a biological standpoint the planting has been highly successful, and there is no reason why the planting would not be commercially successful also." From these modestly-funded (\$25,000 - \$50,000) projects, came the 1982-83 appropriation of \$300,000 for relaying oysters in Franklin County, and adjacent Wakulla County; \$250,000 was allocated for Franklin County and the remainder for Wakulla County. The 1983-84 Legislature appropriated \$100,000 for relaying projects in Franklin and Wakulla Counties and \$50,000 for projects in Dixie and Levy Counties. The Department contracted with the Wakulla County Commercial Fisherman's Association, the Franklin County Seafood Workers' Association, the City of Horseshoe Beach, and the City of Cedar Key to assist in informing the local industry of the project, to assist in selecting harvest and relay areas, and to be responsible for paying project participants.

In Franklin County, about 41,000 bushels of live oysters were relayed from the Prohibited area adjacent to Eastpoint to an Approved area approximately one-half mile offshore. An additional 126,000 bushels of intertidal ("coon") oysters were harvested from an area near Rattlesnake Cove and transplanted in deeper waters offshore. In Wakulla County, more than 85,000 bushels of intertidal oysters have been transplanted into deeper gaps. Intertidal oysters were also transplanted in Dixie and Levy Counties; a total of 19,800 and 58,000 bushels were transplanted respectively.

The 1983-84 Legislature approved a senior biologist position for the Bureau. This employee will serve as a shellfish biologist to monitor and determine the cost/benefit of reef construction and transplanting projects. This individual will also conduct statewide quantitative shellfish resource surveys to identify estuarine areas which should be classified for shellfish harvesting and would be suitable for oyster reef construction.

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES

Seafood Division

The year of 1983 was characterized by redirection of some of the Office's efforts to address developing issues and by environmental perturbations which had severe impacts on the fisheries. These perturbations in the form of large amounts of rainfall at inopportune times, affected production of shrimp and oysters, and resulted in the closure of large amounts of oyster grounds because of high coliform levels. The Office re-evaluated its programs in order to address several issues more completely; these issues included an expansion of effort in the management of finfish (particularly redfish and speckled trout), increased efforts in the gathering of fishery dependent statistics, and increased efforts in the regulation of shell dredging.

FINFISH MANAGEMENT

Continuing and increasing controversy over the nature and impact of commercial finfisheries, particularly those for redfish and speckled trout, has resulted in attempts to collect the information available for these species and attempts to set up a section within the Seafood Division specifically charged with managing these resources. In early 1983 a Department task force completed "Spotted Seatrout and Red Drum - An Overview." This paper summarized existing information on those species. A bill was introduced in the legislature which would have funded a new section devoted to the management of coastal finfishes; this section would have been funded through the creation of a new saltwater recreational fishery license. The bill did not pass. The Governor subsequently directed the Department to reassess its priorities and increase efforts in coastal finfish management. As a result of the overview paper, it was determined that the information most needed was a coastwide creel survey of recreational finfishermen. As the year drew to a close the Division was conducting a pilot study to finalize the design of a survey scheduled to begin in January, 1984. Late in 1983 the Governor created another task force, this one composed of representatives of all elements interested in the resource, i.e. commercial fishermen, recreational fishermen, processors, restaurateurs, consumers, university, researchers, and the Department. This task force was charged with reviewing what had been done before and preparing recommendations for further action which would take into account all viewpoints.

SHELL DREDGING

Shell dredging has been occurring in Louisiana's coastal waters since the early 1900's. Prior to 1944, few restrictions were placed on the shell dredging industry. However with the growth of Louisiana's oyster industry, the Wildlife and Fisheries Commission began restricting shell dredging to areas in which significant oyster production did not occur. Shell dredging was then eliminated from the major portion of coastal Louisiana. Conflicts with other user groups, such as the crab fishermen of Lake

Pontchartrain and Lake Maurepas, are reduced by developing and publishing schedules of future dredging activities; this allows the crabbers to move their traps, preventing damage from dredging activities.

A significant controversy developed in 1983 when environmentalists claimed that shell dredging activities were damaging Louisiana's coastal environment and affecting the productivity of Louisiana's coastal fisheries. The Department exerted considerable effort in documenting the long term history of its regulatory efforts and in investigating complaints and rebutting charges. Shell dredging has been occurring along the central Louisiana coast for over 60 years. There is no evidence that the fishing industry has been affected, although oyster production in some areas has decreased as a result of increased discharge rates of the Atchafalaya River.

STATISTICS

Before 1983, Louisiana did not collect fishery dependent fishery statistics; it relied on National Marine Fisheries Service (NMFS) for that information. For several years, it has been evident that more effort was needed in this field; the proposed finfish management section discussed previously would have included as many as five state funded port agents. The development of this section was unsuccessful; however, Louisiana did begin to collect fishery dependent data as a result of a Statistical Cooperative Agreement signed with NMFS under the new State/Federal Statistics Initiative. Under this agreement Louisiana began gathering catch and effort data and length frequencies of king mackerel landed at Louisiana ports. Secondary goals of this project are to obtain catch and effort data, length frequencies and biological data on other coastal pelagic fishes of Louisiana, including Spanish mackerel, cobia, and little tunny. The sampling effort is based at Grand Isle, the center of Louisiana's mackerel fishery.

Port sampling began September 12. During the rest of September, 607 king mackerel weighing 6755 pounds were landed at Grand Isle. In October, 1132 king mackerel were landed, weighing a total of 20,615 pounds. In November, 241 kings were landed, weighing 4376 pounds. The king mackerel price dropped so low in November that fishermen quit fishing for this species. Prices remained low in December and intensive fishing was not expected to resume until January 1984.

MARKETING BOARD

Recognizing that many of the problems of the seafood industry are economic in nature, and that a comprehensive seafood promotion and marketing effort would have a beneficial impact on the seafood industry, the Legislature created the Louisiana Seafood Promotion and Marketing Board. This Board was convened in 1983 with an initial grant from the Gulf and South Atlantic Fisheries Development Foundation, Inc. The Board is appointed from lists of names submitted by prominent Louisiana fisheries organizations. It has the regulatory powers and will plan and conduct a campaign for advertising, publicizing, and promoting the increased consumption of Louisiana seafood, including contracting for advertising, publicity and sales promotion services. The Board may make loans to residents for "purchase, construction or necessary improvement of any equipment, machinery or structure used in the catching, harvesting, processing or packaging of seafood in Louisiana." The Board may also underwrite or guarantee loans from lending institutions for that purpose. By the end of 1983, the Marketing Board had made good progress toward the development of an advertising campaign; however it had not secured funding in amount which would allow it to make or secure loans to the industry.

SEAMAP

The Department participated in the Southeast Area Monitoring and Assessment Program (SEAMAP) for the second year. The focus of this year's participation was the finalization of a five year operations plan (1985-1990). The plan delineated SEAMAP organization, goals, operations, survey plans, program management and budgetary information. The Subcommittee also produced a 1983 SEAMAP Marine Directory to inform marine agencies of the ongoing research programs in the Gulf of Mexico.

The SEAMAP has established work groups to address particular needs. The Coastal and Marine Resource Office is represented on the following work groups: Environmental Data, Shrimp/Groundfish, and Red Drum. The recently established Red Drum Group will assess current techniques available for identification of red drum stocks throughout their life cycles in the Gulf of Mexico.

All coastal areas participated in the SEAMAP survey of the northern Gulf of Mexico done in June and July 1983. The Department surveyed shrimp, groundfish, larval fish and environmental parameters in nearshore waters while the federal vessel surveyed the deeper waters (5-45 fathoms). A fall larval fish and environmental parameter was also completed.

The Department has begun a study of the larval sciaenids taken during 1982 SEAMAP sampling.

OYSTER MORTALITIES

As a result of record rainfall in December 1982, water levels of the Mississippi, Atchafalaya, and Pearl River Systems rose to above flood stages in January 1983. This heavy rainfall overtaxed the sewage systems of some municipalities in the coastal areas, resulting in runoff of untreated sewage into the estuaries. This caused the closure of additional oyster harvesting areas as a result of high fecal coliform levels in January 1983.

Record rainfalls in April 1983 eventually led to the opening of the Bonnet Carre floodway on May 20 to relieve pressure on the Mississippi River levees. For a period of approximately 37 days, 300,000 cubic feet of water per second entered Lake Pontchartrain and flowed into Lake Borgne and the surrounding estuarine zone. In addition, large volumes of silt-laden waters breached the lower east side of the Mississippi River levee at several openings from Bohemia to Baptiste Collette near the mouth of the Mississippi River. This overflow deposited as much as 25 millimeters of silt over the natural oyster reefs of the area. Salinities were reduced to below tolerances of oysters resulting in significant mortalities. Studies indicated that in July all oysters in Lake Borgne were dead; high mortalities were observed in areas adjacent to the Mississippi River, in west-central Terrebonne Parish and near the western edge of Marsh Island in Vermilion Parish.

Oyster production in Louisiana is heavily dependent on production of public oyster seed grounds east of the Mississippi River. The oyster mortality survey of mid-1983 indicated losses of over 240,000 sacks of seed oysters (1-3 inches in length) and 185,000 sacks of commercial size oysters (3+ inches). This represents a loss of about 450,000 sacks of marketable oysters; in the 1982-83 oyster season the public reefs east of the Mississippi River produced about 1.5 million sacks of oysters. As fishermen were receiving about \$10.00 per sack of oysters at the time, it is estimated that high water conditions of 1983 cost the fishery approximately 4.5 million dollars.

SHRIMP

In early 1983, hydrological and biological sampling indicated that shrimp production for the spring brown shrimp season would be below that of 1982 and below the long term average. Mississippi River stages were high; persistent spring rains reduced the optimum nursery habitat to about 1 million acres, considerably below the 3 million acres available in 1981 and the 1.5 million acres available in 1982. In addition the cold water of river discharges and rains and persistence of cold fronts suppressed water temperatures to below optimum range for growth. The middle portion of the state (Zone 2) was opened on May 23. The western portion of the state (Zone 3) was opened at this time for five days to harvest a large population of white shrimp which had moved into the estuaries. During the first ten days of the brown shrimp season in Zone 2 a survey of selected dealers and processing plants indicated that the harvest of the opening week was as much as 50% below that of the two previous years; dockside prices, however, were among the highest of accord.

The five day special white shrimp season in Zone 3 produced a total landing of 162,500 pounds of 26-30 count white shrimp; these shrimp had a dockside value of \$450,000. Sampling by Department personnel indicated that brown shrimp made up less than 2% of this catch.

The inshore season in Zone 1 (east of Mississippi River) opened on June 6. At this time the Bonnet Carre floodway was open; water temperatures were 3-4°C below normal; salinities were very low. As a result brown shrimp were concentrated in the outer marshes, lakes, and bays, and were small in size.

The inshore season in Zone 3 opened on June 13. Heavy local rainfall significantly reduced salinities and caused a premature emigration of large numbers of brown shrimp.

Hydrological conditions across coastal Louisiana were improving prior to August 1; the hypoxic area in the Gulf of Mexico off Louisiana did not appear to cover as extensive an area nor to persist as long as in 1982. This led to speculation that the white shrimp season would be better than that of 1982. However, during the first week of August a slow-moving low pressure system dumped large areas of rain on coastal Louisiana. By late September it was evident that white shrimp recruitment was not keeping pace with previous years. From August 1 through November 29, 9.6 million pounds of white shrimp (heads off) were landed in Louisiana. This was below the 10.7 million pounds landed in 1982 and the 15.4 million pounds landed in 1981 during the period. As a result of adverse hydrological conditions the Louisiana shrimp landings for 1983 are expected to be below those of 1982.

MISSISSIPPI DEPARTMENT OF WILDLIFE CONSERVATION

Bureau of Marine Resources Saltwater Fisheries Management Division

The Bureau of Marine Resources (BMR) is responsible for the management of saltwater fisheries, coastal wetlands and the Outer Continental Shelf (OCS) oil and gas program. The Bureau is also involved in addressing oil and gas related activities in Mississippi coastal waters, coastal aquaculture projects, developmental and technical assistance to the processing industry and implementing the state's coastal resources management program called the Mississippi Coastal Program. The Bureau is responsible for marine enforcement and fund projects in the three coastal counties under the Coastal Energy Impact Program (CEIP).

In addition to these duties, the Bureau administers grants and contracts which are designed to help in the management of Mississippi's coastal and marine resources for the benefit of the citizens of Mississippi. More detail about these contracts and programs is given in the following section.

SALTWATER FISHERIES

In Fiscal Year 1983, Saltwater Fisheries Division personnel continued their technical support to the Mississippi Commission on Wildlife Conservation (MCWC) in all phases of marine fisheries management. In order that the Division's recommendations, and hence, the Commission's actions, can be based upon the best available scientific information, fisheries staff members conduct a weekly survey of the latest fisheries publications, extracting and cataloging any literature that might be relevant to the activities of the Bureau. In addition, Division scientists maintain close liaison with their counterparts at the Gulf Coast Research Laboratory in Ocean Springs, the Southeast Fisheries Center in Miami, and the National Marine Fisheries Service's (NMFS) Pascagoula Laboratories.

Fisheries Division scientists are linked with other fisheries management agencies via Telenet and the EDIS computer conference system which provide electronic mail conveniences for interagencies communication. In addition to that capability, which is new for FY83, the Saltwater Fisheries Division's microcomputer has been linked with the NMFS's Northwest and Alaska Fisheries Center Burrough's B7800 mainframe computing facility. This linkage provides for the storage and retrieval of commercial fisheries landings data, being gathered and compiled in a joint effort between NMFS and Saltwater Fisheries Division personnel. The federal grant which provided funding for this joint project and acquisition of the data processing hardware is now in its second year.

A second federal grant compensates Bureau staff for work conducted in support of Gulf of Mexico Fisheries Management Council (GMFMC) activities. Active participation in the Gulf States Marine Fisheries Commission (GSMFC) completes the Fisheries Division's liaison work.

In other related work, the staff has continued its program of routine shrimp sampling, monitoring, and assessment; oyster reef monitoring and rehabilitation; and attendance at fishing symposia, workshops, and scientific meetings.

Among the new work initiated in this fiscal year, the Division implemented a system of monitoring oyster catch by using sequentially numbered tags; the new methodology permits the accurate identification of the reef area, fisherman, and purchaser of any oysters harvested from state waters. The tags also permit state fisheries biologists to maintain an accurate and up-to-date record of oyster harvest by reef area.

Other new work includes the development of several computer Basic and Pascal programs to store and retrieve seafood licensing data, bait shrimp harvest data, oyster landings data, and to produce summary reports of each. Other newly-developed programs utilize the Division's microcomputer to produce annual updates of "Mississippi's Saltwater Fishing Regulations," a public information brochure, and to otherwise improve the Division's ability to respond to MCWC or public information requests in a timely and accurate fashion.

DESCRIPTION OF FISHERIES

Landings of commercial marine fish and shellfish during FY 83 amounted to 302,196,665 pounds valued at \$34,863,281. This represents a .108 decimal percent increase in volume and a .123 percent increase in value over the previous time period. The following is a brief summary of each of the State's major fisheries for which data are available.

MENHADEN

Menhaden landings of 289,396,500 pounds in FY 83 represent a .112 percent increase over the landings in FY 82. The total value of \$10,773,956 was up over the total value in FY 82. The unit cost (price per pound) for menhaden, at 0.37, was down some -.06 percent over the unit cost in FY 82.

This depressed price of menhaden is attributable to a great extent to increases in world supply for all high-protein meals, high exports of fish oil, and general economic slowdowns in the fishery.

OYSTERS

The Mississippi oyster season in FY 83 was opened on October 4, 1982 and closed on April 30, 1983. A daily possession limit of 18 sacks per commercial tonging vessel, 3 sacks per recreational license, and 36 sacks per commercial dredge vessel was imposed. Landings of Mississippi oysters during FY 1983 totalled over 3.12 million pounds of oyster meats; this represents a 96 percent increase over the landings of the previous fiscal year. An estimated dockside value of \$2.74 million in FY 83 represents an increase of \$1.30 million over the value of the previous fiscal year harvest.

The significant increase in Mississippi oyster landings occurred despite the several closures of major reef areas due to the deterioration of water quality. Efforts of the Saltwater Fisheries Division's continuing reef rehabilitation program have proven themselves highly successful. Since the opening of the Bonnet Carre Spillway in 1979, over 110,905 cubic yards of clam shells have been planted over some 700 acres of Mississippi Sound waterbottoms. Sampling results continue to show that the majority of

harvested oysters did, in fact, stem from the planted clam shells which provided the necessary substrate for them to grow.

Mississippi Oyster Landings for Fiscal Year 1983

Month	Sacks (x 1000)	Dockside Value
October, 1982	8.9	\$ 66,750.
November, 1982	78.0	585,000.
December, 1982	67.2	504,000.
January, 1983	102.6	769,500.
February, 1983	47.7	357,750.
March, 1983	52.9	396,750.
April, 1983	9.2	61,500.
TOTAL FY 83	366.5	\$2,741,250.

Unfortunately, in May, the Bonnet Carre Spillway was reopened as a result of heavy spring flooding in the Mississippi River basin. Once again, the State's oyster reefs suffered virtually 95 percent mortality rates. As was the situation after the 1979 flooding and associated reef mortality, the Division of Saltwater Fisheries has formulated plans to rehabilitate the destroyed reef areas with considerable quantities of supplemental cultch materials. Federal disaster funding is anticipated to defray the costs of the proposed work, the results of which will not be felt in terms of a harvest increase for some 18 months thereafter.

SHRIMP

Heads-off landings of Gulf shrimp were 5,352,000 pounds in FY 83, a -.07 percent decrease from heads-off landings in FY 82. Traditionally Mississippi's most valuable fishery, total dockside value of the FY 83 shrimp catch was \$19,355,390.

The average dockside value increased from \$2.98 per heads-off-pound in FY 82 to \$3.61 in FY 83.

The total shrimp landings of 5,352,000 pounds in the FY 83 shrimp season represents a better than average year based upon the 25-year-mean landings figure for Mississippi (4.9 million pounds).

The Mississippi Commission on Wildlife Conservation opened the FY 83 shrimping season in June upon the recommendations of Division biologists who conducted a biweekly trawl-sampling program. Data from this sampling effort were used to calibrate a least-squares regression model which was used to mathematically project the time at which shrimp could be expected to reach the legal size of 100 mm (68 shrimp to the pound).

BLUE CRABS

Landings of hard, blue crabs decreased to 921,510 in FY 83. Processed crab meats were reported down at each of the principal ports of Pascagoula and Biloxi. The total value of blue crab landings fell to \$250,040, down -.29 percent from FY 82. The price per pound for blue crabs rose to .271 representing a 4.95 percent increase.

A decline in the abundance of blue crabs as evidenced by decreased trawl catches of this species is the most probable explanation for the drop in landings for FY 83.

EDIBLE FINFISH

Fluctuating changes in finfish landings are typical in northern Gulf of Mexico fisheries. Landings trends for the major indicator species are as follows.

Black drum landings showed a -.92 percent decrease in FY 83 over the landings in FY 82. The total dockside value of this species decreased -.93 percent between FY 82 and FY 83. Unit prices (price per pound) fell to .140740284, representing a -.12 percent decrease in that indicator.

Landings of mullet for FY 83 totalled 409,660 pounds, representing a -.56 percent decrease over landings in the previous time period. Average total dockside value decreased -.58 percent in FY 83; and the price per pound of fresh whole mullet fell about -.05 decimal percent to \$.198.

Red snapper landings in FY 83 underwent a rise of .245 percent, from 747,900 to 931,570 in the time interval. Total dockside value rose .390 percent, from \$904,959 in FY 82 to \$1,258,597 in FY 83. Average unit prices during FY 83 stood at \$13,510,493, up .116 percent from the previous period.

Changing patterns in the finfisheries are evident both in the short term and over long periods of time. These trends are the result of any number of factors, chief among which is the switching of target species by fishermen. Unusual changes in landings (either increases or decreases) in other waters (deepwater fisheries in the New England states, for example), can also precipitate significant shifts in Mississippi's finfish landings. Demands for frozen fishery products are of particular importance in determining finfish prices.

In addition to black drum and mullet, Spanish mackerel contribute significantly to the composition of frozen fish products. In FY 83 landings of Spanish mackerel totalled 71,700 pounds. The total dockside value of these landings was \$21,510, representing a 7.33 percent increase in landings and a rise of 7.33 percent in value. The price per pound of Spanish mackerel in FY 83 was .3, the same as FY 82's referenced average price.

Landings of premium inshore market species (i.e, red drum, spotted seatrout, and flounder) were as follows: red drum landings in FY 83 showed a rise of 8.79 percent, from 4,700 pounds in FY 82 to 46,020 pounds. The total dockside value of red drum landings rose by 3.92 percent in FY 83, the final tally standing at some \$12,499. The average price per pound of redfish in the round was \$.271, down -.49 percent from the FY 82 average.

Commercial landings of spotted seatrout during FY 83 totalled 42,740 pounds, valued at \$39,521. If the results of Texas Parks and Wildlife studies are correct in indicating that the sportsfishing catch of this species may exceed the commercial catch 2 to 3-fold, then the estimated combined catch (sports and commercial) of spotted seatrout in Mississippi would total some 170,960 pounds. One of the higher-priced and consumer-preferred species, speckled trout prices averaged about \$.924/lb in FY 83, representing a .038 percent increase over the \$.89/lb of FY 82.

Flounder landings, as collected by Saltwater Fisheries Division and NMFS port agents under cooperative agreement, include a number of different species. In FY 83 the landings

MISSISSIPPI BUREAU OF MARINE RESOURCES
DIVISION OF SALTWATER FISHERIES

LANDINGS COMPARISON REPORT

Species List	Pounds	FY 1982			FY 1983			Percent Change		
		Value	\$/lb		Pounds	Value	\$/lb	lb	\$	\$/lb
Black Drum	1,059,900	\$ 169,584	.16	81,050	\$ 11,407	.140	-.92	-.93	-.12	
Bluefish	2,800	700	.25	2,800	730	.260	0	.042	.042	
Blue Runner	332,200	46,508	.14	542,200	75,908	.14	.632	.632	0	
Crevalle Jack	41,200	6,150	.149	22,000	3,300	.15	-.46	-.46	0	
Croaker (Food)	428,100	149,835	.35	324,790	138,051	.425	-.24	-.07	.214	
Flounder	11,700	4,680	.4	48,245	20,508	.425	3.12	3.38	.062	
Grouper (Uncl.)	51,400	29,008	.564	47,500	27,075	.57	-.07	-.06	0	
King Whiting	63,500	19,050	.3	224,280	59,857	.266	2.53	2.14	-.11	
Menhaden	260,100,600	10,304,164	.039	289,396,500	10,773,956	.037	.112	.045	-.06	
Mullet	940,100	197,421	.21	409,660	81,170	.198	-.56	-.58	-.05	
Pompano	26,300	87,316	3.32	1,800	5,976	3.32	-.93	-.93	0	
Red Drum	4,700	2,538	.54	46,020	12,499	.271	8.79	3.92	-.49	
Red Snapper	747,900	904,959	1.21	931,570	1,258,597	1.35	.245	.390	.116	
Sheepshead	90,900	14,544	.16	189,600	27,558	.145	1.08	.894	-.09	
Spanish Mackerel	8,600	2,580	.3	71,700	21,510	.3	7.33	7.33	0	
Spotted Seatrout	1,300	1,157	.89	42,740	39,521	.924	31.8	33.1	.038	
Sea Catfish	1,000	150	.15	1,000	150	.15	0	0	0	
White Seatrout	13,100	2,882	.22	72,000	24,789	.344	4.49	7.60	.564	
Shrimp	5,813,000	17,322,740	2.98	5,352,000	19,355,390	3.61	-.07	.117	.213	
Oysters	1,589,000	1,412,700	.889	3,467,700	2,675,289	.771	1.18	.893	-.13	
Blue Crabs	1,317,000	355,590	.27	921,510	250,040	.271	-.30	-.29	0	
Total	272,644,300	\$31,034,256	.113	302,196,665	\$34,863,281	.115	.108	.123	.013	

volume totalled 48,245 pounds, representing a 3.12 percent increase over those landed in FY 82. The total dockside value of these landings was up 3.38 percent from \$4,680 in FY 82 to \$20,508 in FY 83.

Landings of kingfish (ground mullet, as they are locally known) amounted to 224,280 pounds in FY 83, valued at some \$59,857. The average price of kingfish was down to \$.266/lb, from the \$.3 of FY 82.

Grouper landings, which include spotted, nasau, and black grouper, totalled 47,500 pounds in FY 83, down -0.7 percent from the 554,001 pounds in FY 82. Total dockside value of grouper fell -.06 percent from FY 82 to FY 83. The price per pound of this species averaged \$.57 in FY 83, up 9.99 percent from FY 82.

In summary, of the major finfish indicator species, ten showed landings gains in FY 83: sheepshead, blue runner, Spanish mackerel, flounder, spotted seatrout, king whiting, menhaden, white trout, red drum, and red snapper.

SALTWATER SPORTSFISHING

Saltwater recreational fishing generally followed the normal seasonal trends with the exception of very poor fishing in the western half of the Sound during late spring and early summer. Spring floods and the opening of the Bonnet Carre Spillway virtually freshened Mississippi Sound waters, driving most estuarine species eastward. Salinities dropped to zero from the Mississippi/Louisiana state line to the Gulfport Ship Channel. As the freshwater advanced eastward, excellent catches of flounder, spotted seatrout, white trout, and small red drum were reported on the fringes of the encroaching fresh water. During this same period, fine catches of all marine species were taken from the Biloxi-Ocean Springs area and eastward into Alabama waters.

During the springtime fishing rodeos, several good catches of nearshore and offshore pelagic species were reported from waters around Petit Bois and east Horn islands.

The fall and winter of FY 83 were marked with better than average inshore and nearshore fishing. Creels included a mixture of saltwater and freshwater species such as spotted seatrout, red drum, flounder, striped bass, bluegill, shellcracker, and black bass, all of which were caught in the same general area. Of the most notable catches, several large speckled trout and redbait, including an eight and one-half pound trout, were taken in the waters of Fort Bayou.

During the fiscal year, Marine Fisheries Division personnel, in cooperation with Enforcement Division officers, created commercial oyster reefs, seed oyster reefs, and recreational fishing reefs in numerous locations along the coast. These fish havens were sited at the Whitehouse Reef, the Biloxi Lighthouse Pier, Biloxi Smallcraft Harbor, Gulfport's Moses Pier, Westside Community Pier, and the Long Beach Harbor jetties. All sites have resulted in a significant improvement in fishing, with the Biloxi Lighthouse and Whitehouse Reef areas yielding some of the best fishing around.

Local fishing rodeos constitute one of the best media for interfacing with the recreational fishing sector. All Divisions of the Bureau of Marine Resources continued active participation in the Mississippi Deep Sea Fishing Rodeo. Fisheries Division biologist Ron Herring also served as weighmaster of the Ocean Springs Jaycees Fishing Rodeo. The recent rodeo season resulted in a number of new unofficial state saltwater fishing records. Amberjack, black drum, red snapper, and jack crevalle are the species for which new records were established; in addition, the record for kingfish was tied.

ORDINANCES ADOPTED IN FY 83 BY THE COMMISSION ON WILDLIFE CONSERVATION

During the 1983 fiscal year, the MCWC adopted only three new ordinances. These new regulations are as follows:

Ordinance No. 110 - An Ordinance to prohibit the taking of Atlantic bluefin tunas in the waters of the State of Mississippi. Adopted August 17, 1982. This ordinance was adopted to comply with federal regulations governing the taking of bluefin tunas in the Fisheries Conservation Zone.

Ordinance No. 111 - An Ordinance to repeal Ordinances Nos. 71, 105, and 107 and establishing statistical reporting requirements and providing for the confidentiality of statistical data for marine fisheries in the State of Mississippi. Adopted October 19, 1982. The intent of this Ordinance is to comply with federal regulations governing the collection and dissemination of fisheries landings data. Because of a cooperative state/federal landings data management program, equivalent data management authority was required, and Ordinance No. 111 was designed to accommodate this provision.

Ordinance No. 112 - An Ordinance to repeal Ordinance No. 110 and to prohibit the taking of Atlantic bluefin tuna in the waters of the State of Mississippi. This provided for an amendment to Ordinance No. 110.

All three of these Ordinances were adopted to comply with new federal mandates, and no changes in the current state fishery management regime were deemed necessary, indicating that the existing management strategy is working well.

OTHER ACTIVITIES

GULF STATES MARINE FISHERIES COMMISSION

The Gulf States Marine Fisheries Commission (GSMFC) is a compact of the Gulf States: Florida, Alabama, Mississippi, Louisiana, and Texas. Authorized by Public Law 81-66, this compact was signed by representatives of each of these five states on July 19, 1949, in Mobile, Alabama. The primary objectives of the Commission are the conservation, development, and full utilization of the fisheries resources of the Gulf region by providing food, employment, income, and recreational opportunities.

The GSMFC provides a medium for the exchange of information and ideas concerning marine fisheries management, research and development, and other critical fisheries-related issues. The principal species that are dealt with are those transboundary species which migrate across state lines and hence are subject to various different regulatory policies. In addition, the Commission assists in obtaining funding for numerous research and public information projects, symposia, workshops, and the like.

Mississippi's three members on the GSMFC are Mr. Lon Strong, conservation administrative commissioner; Representative Ted Millette, Legislative commissioner; and Holton Turnbough, commissioner appointed by the Governor.

GULF OF MEXICO FISHERIES MANAGEMENT COUNCIL

Fiscal year 1983 marked the sixth year of Magnuson Act (the Fisheries Conservation and Management Act of 1976) operations. Implementation of the Act by the Gulf of Mexico

Fisheries Management Council (GMFMC) has resulted in the development of 12 Fishery Management Plans (FMP's) or management profiles. These include shrimp, stone crab, spiny lobster, mackerel, reef fish, coral billfish, swordfish, scallops, sharks, and coastal herring. Of these, the proposed groundfish, shark, and coastal herring plans have been withdrawn because of an apparent lack of need for management of these fisheries at this time.

Development of these and future FMP's involves the cooperative work of Council members, staff, advisory panels, and scientific and statistical committees, as well as NMFS and other state and federal agencies.

Other major GMFMC activities include the development of a public information program, highlighted by the publication of a monthly newsletter and a narrated slide presentation explaining the Magnuson Act and its significance to the Nation's fisheries. GMFMC members also attend congressional hearings and other testimony on Magnuson Act amendments and otherwise comment on proposed rulemakings by the Federal government which may affect the fisheries of the Gulf of Mexico. The GMFMC also hosted information workshops on law enforcement, limited entry, conditional fisheries, and other fisheries-related matters.

GMFMC representatives participated as advisors in several negotiations with foreign nations regarding fisheries actions affecting Gulf fisheries. These negotiations specifically included discussions with the Cubans over fishing rights for sharks and reef fish, negotiations under the International Convention for the Conservation of Atlantic Tunas, over tuna and billfish fishing, and negotiations with the Mexican and Bahamian governments. Direct negotiations with the Japanese tuna fishing industry resulted in alleviating fishing pressure on Gulf billfish stocks and in reducing gear conflicts with American fishermen.

GMFMC activities further extend to include cooperative research with Mexico under the auspices of the MEXUS-Gulf Program and planning sessions with the Food and Agriculture Organization (FAO) Western Atlantic and Caribbean Fishery Development programs.

The goal of the GMFMC remains to develop FMP's for all major fisheries occurring in the Gulf Fishery Conservation and Management Zone by the end of the 1980's. Since its inception with the passage of the Magnuson Act in 1976, the State of Mississippi has actively participated in the GMFMC's work. For these liaison activities, the State annually receives some \$25,000 in federal funds in addition to reimbursement of expenses incurred by Fisheries Division personnel while engaged in official GMFMC activities.

Mississippi's members on the GMFMC in FY 83 included Dr. Richard Leard, Director of the Bureau of Marine Resources, Mr. Sherman Muths of Gulfport and Mr. George Brumfield of Moss Point.

ENFORCEMENT

In FY 1983, the Enforcement Division of the Bureau of Marine Resources was involved in the following arrests and incidents. Incidents include such things as administrative details, assistance to motorists, assistance to other agencies, boating accidents, overdue vessels, capsized boats, drownings, marine mammal or sea turtle strandings or deaths, rescue missions, tow-ins, sinkings, and miscellaneous violation complaint investigations.

Seafood related arrests were up some 12 percent over the previous fiscal year, while game and fish-related arrests decreased 36 percent. The incident reports also indicated a 10 percent decline in the number of incidents requiring enforcement division assistance over this figure for the previous fiscal year.

Enforcement Division officers continue to become more involved with assisting both other state and federal law enforcement officials. Routine duties include conducting public relations talks, providing information to the general public, issuing licenses, and assisting boat owners and waterfront property owners. Because BMR's law enforcement officers are the only enforcement operation in coastal waters, routine assistance to sheriff offices, police departments, civil defense, narcotics officers, and others is an integral part of the marine enforcement scene.

The Enforcement Division also coordinates its activities with the federal enforcement officers of the NMFS, the U.S. Fish and Wildlife Service, the United States Coast Guard, and the National Park Service. These agencies, the Enforcement Division of the Bureau, and the Division of Saltwater Fisheries are all linked via EDIS CONFER, an environmental data and information service computer conference system. This mutual cooperation is intended to insure effective enforcement of all applicable regulations.

Arrest & Incident Summary - FY 1982-83

Month	ARRESTS				Incidents
	Seafood	Boat & Water	Game & Fish	Other	
June	65	13	0	2	77
July	32	2	0	0	85
August	30	25	7	0	81
September	33	11	7	1	67
October	24	1	0	0	48
November	39	7	0	0	32
December	24	1	0	2	66
January	7	0	16	0	60
February	7	1	6	1	47
March	25	1	1	0	54
April	11	2	0	0	55
May	19	8	0	0	95
Total	316	72	37	6	767

WETLANDS

Mississippi's coastal area is made up of approximately 66,000 acres of tidal marsh and approximately 370,000 acres of submerged waterbottoms. These public trust wetlands serve as a valuable and irreplaceable natural resource of great economic and aesthetic value to the State of Mississippi.

The tidal marshes serve as a natural habitat and nursery area for approximately two-thirds of the state's commercial and recreational fish and shellfish. Additionally, these areas provide shelter and habitat for numerous species of waterfowl and mammals.

Tidal wetlands produce large quantities of plant material annually which serve as a source of organic materials which are in turn consumed by finfish and shellfish. These species make a significant commercial crop. Furthermore, these marshes serve as a buffer in protecting the shoreline against erosion and help reduce the damages as a result of floods. Perhaps more importantly, they protect the public health and welfare by absorbing silt and certain types of pollutants in our estuarine waters. The overall value of wetlands is well documented in the scientific literature and has an estimated capital value of \$82,000 per acre.

The rapidly growing coastal region has suffered a loss in total acreage of coastal wetlands. Uncontrolled use and destruction of valuable wetlands areas in the past has resulted in losses of over 10,000 acres of tidally-influenced wetland.

Through the efforts of the Wetlands Division, the Bureau of Marine Resources has been able to limit the unnecessary alterations of the coastal wetlands by encouraging projects and activities which are environmentally acceptable.

Under provisions of the Wetlands Law, persons wishing to perform dredge and fill operations in the wetlands or to undertake major construction in the wetlands must first obtain a permit from the MCWC. The Wetlands Division of the BMR evaluates all proposed activities in the coastal area and makes reports of their findings to the MCWC.

During FY 83 the BMR Wetlands Division processed 318 cases. This case load included the evaluation of several major development projects which may have had serious impacts on the integrity of the coastal resources. Working with the applicants, the Wetlands Division was able to incorporate modifications to their proposals to reduce serious environmental impacts.

The Wetlands Division has continued throughout the year to maintain a high level of coordination between the BMR and other state and federal regulatory agencies. Most notable is their participation in Corps of Engineers sponsored "Interagency Meetings." These meetings provide a forum where agencies such as the U.S. Fish and Wildlife Service, the NMFS and the Environmental Protection Agency, can evaluate projects in Mississippi's coastal area and develop appropriate solutions.

Surveillance activities during FY 83 were increased to monitor work in the coastal wetlands. Unauthorized projects were discovered in numerous cases and BMR Wetlands personnel were able to work closely with the Corps of Engineers and those responsible for the work to see that the violation was resolved in a responsible manner.

During FY 83 an amendment to the Coastal Wetlands Protection Law dealing with unauthorized activities was implemented. The amendment which enabled the Wetlands Division and the MCWC to grant after-the-fact authorization for certain minor projects initiated without proper permits also gave the MCWC the authority to levy fines from fifty dollars (\$50.00) to one thousand dollars (\$1,000.00) as punitive damages for these violations.

MISSISSIPPI COASTAL PROGRAM

The Mississippi Coastal Program (MCP) was approved by Governor Winter, the MCWC, and the Federal Office of Coastal Zone Management, NOAA, Department of Commerce during September, 1980. The program became operational as state policy on September 29, 1980. The provisions of the Coastal Program apply to Hancock, Harrison and Jackson Counties.

In FY 83 the Bureau received a grant from the Office of Coastal Zone Management (now the Office of Ocean and Coastal Resource Management) in the amount of \$706,000 for implementation of the MCP for an eighteen month period starting October 1, 1982.

In addition to the financial support of the Coastal Program, federal approval maintains the federal consistency provisions of the Coastal Zone Management Act, PL 92-583. The consistency provisions require that all federal activities that may affect land and water resources in the coastal area, including Federal Licenses and Permits, Direct Federal Activities and Development Projects, Outer Continental Shelf (OCS) Exploration Development and Production Activities and any federal assistance to state and local governments, be compatible with the guidelines of the Program.

The responsibilities of the BMR in program implementation can be divided into five areas. These are:

The Wetlands Management function which includes wetlands permitting as well as regulatory authority over designated waterfront industrial sites.

For eligibility of federal funding and coordination purposes, Fisheries Management is incorporated into the Coastal Program; however, the program makes no change to the state's existing fisheries management efforts.

The ten broad goals on which the Coastal Program was established necessitated a procedure for Policy Coordination in wetlands management, industrial development, waterfront conservation, fisheries management, pollution control, water conservation, archaeological and historical preservation, preservation of natural scenic qualities, national interest, assistance to local governments and the coordinated implementation of public policy. The legislation on which this function was based requires that all state agencies comply with the program and these ten goals. In addition to compliance by state agencies, activities proposed by federal agencies are also required to comply under "federal consistency" provisions of the Coastal Program.

From July 1, 1982 through June 30, 1983, 130 actions were subject to policy coordination procedures and submitted to the state A-95 Clearinghouse Office, the instrument used in state agency reviews for policy coordination activities.

Of these 130 actions, 60 were for activities requiring a wetlands permit or were subject to formal wetlands review. Three activities were determined to be inconsistent with the Coastal Program and one action was issued a conditional consistency, meaning that additional conditions had to be met before a full consistency finding could be issued. Fifty-six wetlands were determined to be consistent with the program and received either a wetlands permit or were issued a waiver of permit requirements.

The remaining 70 actions (of the 130 actions) consisted of projects submitted by state agencies such as Coastal Energy Impact Program projects from the BMR; federal assistance to local and city government through such programs as community development block grants; and direct federal actions, such as Outer Continental Shelf (OCS) oil and gas drilling applications submitted by the Minerals Management Service and Corps of Engineers federally authorized channel maintenance dredging. Each of these actions was determined to be consistent with the Mississippi Coastal Program.

Because of their localized development problems and opportunities, many areas on the coast require site-specific planning and management. Such areas are designated as Special Management Areas. The Coastal Program recognizes three such areas: industrial and port

areas, urban waterfronts, and shorefront access areas. Just as the general provisions of the program govern activities in the coastal area in general, special management plans govern in the specific areas for which they are adopted.

At the request of a local governmental entity, BMR may begin Special Management Area (SMA) planning. The Bureau provides grants to participating entities for planning in their respective areas. The advance planning in SMA's insures that development will occur in an orderly manner avoiding the problems of piece-meal decisions.

In FY 83, BMR concentrated SMA planning efforts on the Port Bienville Industrial Park, the Pascagoula Urban Waterfront, the Port of Pascagoula and the Pass Christian Industrial Park.

Early in 1982, BMR retained a consultant to assist and facilitate SMA planning. During this same time period, the Bureau formed a SMA Task Force to actually develop the SMA plan. This Task Force is composed of representatives from the U.S. Army Corps of Engineers, Environmental Protection Agency, NMFS, Fish and Wildlife Service, BMR, Mississippi Bureau of Pollution Control, Mississippi Department of Archives and History, as well as representatives from the local entities.

Significant achievements in SMA planning during FY 83 were the completion of a Draft SMA Plan for the Port of Pascagoula, and an outline for the Port Bienville SMA plan. Also, alternative development proposals were drafted and initial preparatory planning conducted for Pass Christian. Five Task Force sessions convened by BMR and the planning consultant were needed to complete these achievements.

To complement the regulatory provisions of the Coastal Program, Affirmative Management Activities were developed and include efforts in areas such as energy facility planning, shoreline erosion work, designation of preservation/restoration areas, the Coastal Energy Impact Program, marine research, one-stop permitting and public education on marine and coastal resources.

In 1981, the Bureau developed a Restoration and Preservation Plan for wetlands and shorefront access areas as part of its Affirmative Management Activities. This plan makes available funding for low-cost construction projects such as restoration of boat ramps, piers, bulkheads, stabilization of beaches, and improvements to shorefront facilities, cultural sites and waterways. Two grants totaling \$33,000 were awarded to local governments and included the projects for the Harrison County Beach Stabilization and Public Access Project and the Ocean Springs Inner Harbor Pier Restoration. During FY 83 the Harrison County project was completed and substantial progress was made on the Ocean Springs project.

Affirmative management efforts of the Bureau also include public information/education activities. The publication of a periodic newsletter continued with circulation increasing from 472 to 486. News releases, public speaking engagements, stories and photographs published in MS Outdoors, the writing and production of art work for an oyster brochure, participation in the Mississippi Deep Sea Fishing Rodeo, and the distribution of DWC educational material were also part of BMR's public information/education efforts.

Two grants were approved by the MCWC for educational projects. One grant will be used to produce a 20-30 minute videotaped educational program for use in informing the public about Mississippi's coastal resources and the need to conserve them. At least 25 copies of the program will be made and distributed throughout the state to interested

schools, civic groups and others. The second grant will provide for the writing and production of two illustrated marine education booklets discussing vertebrate and invertebrate animals on an elementary level. Three thousand copies of each booklet will be printed and distributed to the public. Both projects should be completed in FY 84.

A FY 82 grant was used to produce 2,000 sets of a five-booklet series entitled "Marine Discovery Series" which are intended to educate young people regarding Mississippi's marine resources and the importance of these resources to the state's economy, ecology and heritage. Final printing and distribution of these booklets was completed during FY 83. The Mississippi Coastal Program Guide was printed in FY 82 and distribution is continuing at the present time.

Three revisions to the MCP were approved during this reporting period. All were revisions to the Coastal Wetlands Use Plan (CWUP). The CWUP establishes use districts where only certain activities are allowed. The CWUP is a dynamic document and is utilized as a management tool when a developer proposes activities not allowed in a specific use district. The revision procedures allow for a close examination of the proposed activities to determine if significant impacts to surrounding uses and to the environment will occur.

The revisions approved allowed the construction of three marinas with a total of 129 boat berths. The marinas are associated with Anatole Bay, Pelican Bay and Harbor View Condominiums.

COASTAL ENERGY IMPACT PROGRAM (CEIP)

The Mississippi CEIP received neither a planning nor construction allotment in FY 1983. However, a number of projects funded in previous funding cycles were either started or concluded during the past year. These include:

CONSTRUCTION PROJECTS

Beach Road Repaving Project, Hancock County - \$260,000 to resurface the Beach Road and restore adjacent walk and curbing;

Pass Christian Harbor Improvements - \$181,000 to construct two new bulkheads at the southern and western terminus of the Pass Christian Harbor;

Long Beach Harbor Improvements - \$60,000 to rebuild the bulkhead at the western terminus of the harbor;

The Harbor Square Sewer Line Project - \$88,000 for a sewage line servicing the Gulfport commercial and small craft harbors;

Lighthouse Pier Project - \$80,000 to construct a pier across from the Biloxi Lighthouse;

Marble Springs Restoration - \$37,000 to rebuild the historic Marble Springs site in Ocean Springs;

Inner Harbor Park - \$111,000 to construct a park at the northern terminus of Ocean Springs Inner Harbor;

Ocean Springs Recreation Center - \$67,000 to construct a new community recreation center; and

Renovation of the Fishing Vessel "Scranton" - \$8,000 to help the City of Pascagoula remodel the "Scranton" into a floating museum.

PLANNING PROJECTS

Mississippi State Boat Slip Study - \$31,000 to compare the effects of indented vs. keyhole boat slips;

Hancock County Beach Road Study - \$9,250 to investigate reasons for the Beach Road's deterioration;

Bay St. Louis Drainage Plan - \$33,000 to study drainage problems in Hancock County/Bay St. Louis; and

Jackson County Drainage Study - \$76,000 to investigate commercial and residential drainage problems in western Jackson County.

OIL AND GAS ACTIVITIES

From an environmental perspective, the BMR addresses oil and gas activities proposed for and occurring in the state's coastal waters and in federal waters (Outer Continental Shelf). The staff of the Scientific-Statistical Division has a major responsibility for providing support to the Bureau Director in addressing environmental aspects of oil and gas development.

OUTER CONTINENTAL SHELF PROGRAM

The Outer Continental Shelf (OCS) begins at the seaward boundary of the coastal territorial waters of each state and extends seaward to the limits of the federal waters. The development of oil and gas resources in the Gulf of Mexico OCS Region has an influence upon the coastal states in this region. The influences, many of them indirect, affect the socio-economic and environmental conditions of the states whose coastal areas adjoin the Gulf of Mexico.

The U.S. Minerals Management Service (MMS) has the responsibility for managing oil and gas exploration, development and production activities as well as other mineral resource development on the OCS. For management purposes, OCS activities are divided into three categories (1) oil and gas leasing, (2) oil and gas transportation, and (3) environmental studies. Also for management purposes, the Gulf Region has been divided into the western, central and eastern planning sub-regions. The central planning region includes OCS waters south of the State of Mississippi.

In late 1982, there were 1,598 active Central Region OCS leases which encompassed over 7 million acres. The total undiscovered recoverable hydrocarbon resources in the central area are estimated at 3.1 trillion barrels of oil and 33.5 trillion cubic feet of gas. Of interest, 80 percent of the entire leased OCS acreage and 90 percent of the entire OCS production have been in the Gulf of Mexico.

The BMR provides advice to the MMS regarding oil and gas activities on the OCS, thus, providing the State of Mississippi the opportunity for input into OCS management matters.

The participation of the State in the formulation of decisions pertaining to development of oil and gas resources on the OCS is valuable to the state. The participation provides the opportunity for the state to receive maximum benefits from oil and gas activities that affect it socio-economically and that have the potential to impact its living coastal resources.

During FY 83 there were three OCS Lease Sales in the Gulf of Mexico. These sales generated over \$4.5 billion in revenues for the federal government. For the Central Region of the Gulf, \$3.67 billion in bids were accepted covering a total of 3.08 million acres. This lease offering broke all previous records for OCS lease sales in the Gulf and has been called the most successful OCS sale ever.

During FY 83, federal preparations and state reviews and comments were made for two future OCS sales for the Gulf Region.

The staff of the Scientific-Statistical Division participated in a total of 12 OCS-related meetings. The staff also developed a total of 13 OCS-related written responses. In addition, the staff reviewed a number of documents to maintain an awareness of OCS oil and gas activities in the Gulf in order to be aware of those activities which may have an influence on Mississippi.

OIL AND GAS-RELATED ACTIVITIES IN MISSISSIPPI'S COASTAL WATERS

During the latter part of FY 83 interest was shown in opening the southwestern coastal area of Mississippi for oil and gas leasing. The Mississippi Department of Natural Resources initiated efforts to consider aspects of leasing the area. As action progresses the Bureau will address aspects of oil/gas leasing in the area.

Throughout FY 83 the staff of the Scientific-Statistical Division participated in 15 technical meetings. These meetings pertained to oil/gas activities that may influence the coastal environments of Mississippi.

The staff also developed several comments for the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency. These comments concerned environmental aspects of oil/gas activities within the State's coastal waters.

GRANTS AND CONTRACTS

RESEARCH GRANTS AND CONTRACTS UTILIZING STATE FUNDS

The goal of these grants and contracts is to develop, through BMR-sponsored efforts and research projects, valuable information which is applicable to protecting, enhancing and utilizing Mississippi's coastal and marine resources to benefit the citizens of Mississippi. The developed information is utilized by the BMR staff to enhance existing business opportunities and to create new ones, to manage the coastal and marine resources and address problems related to them, and to aid in preparing recommendations to the MCWC who renders the management decisions.

Under the Grants and Contracts Program utilizing state funds, the staff of the Scientific-Statistical Division prepares detailed budget and technical specifications for each project. Through the duration of each project, the staff monitors project progress through progress reports required from the principal investigators. During FY 83 the MCWC approved the following project which was supported with state funds.

Production of Nematodes for Use as a Food for Larval Marine Organisms Having Commercial Aquaculture Potential. Mississippi State University - \$8,000.
(A continuation of BMR Project GR-SS-82-004)

INDUSTRY AND PRIVATE ENTERPRISE ASSISTANCE

The purpose of this activity is to provide technical advice and assistance to industries and individuals involved and interested in the appropriate development and utilization of Mississippi's coastal and marine resources. The technical advice and assistance are aimed at enhancing the quality and marketability of seafood (including underutilized species), encouraging intensive cultured production of aquatic organisms in the coastal area to supplement the harvest of food from the natural marine environment, reducing pollution to the coastal marine environment by transforming wastewaters into saleable products, and for Mississippi citizens, enhancing their income and maintaining consistent, profitable income from the sale of products derived directly or indirectly from coastal and marine resources.

During FY 83 the staff of the Scientific-Statistical Division continued working with Mississippi seafood processors regarding solid waste (shrimp shells) produced from peeling machine operations. Efforts have progressed from compacting and drying the shrimp shells to marketing them. Through the help of the Division's staff and based upon BMR-sponsored research, shells are now being marketed as a valuable soil amendment. BMR-sponsored research has shown that the dried shells, when incorporated into plant potting material or garden soils, negatively impact the fungi and nematodes which are harmful to economically valuable plants. In addition to this benefit the shells provide major and minor fertilizer components in a natural, slow release formula.

Working with a Mississippi seafood processor and two Mississippi crayfish growers, the staff of the Scientific division developed a simple and somewhat unique process for peeling crayfish. Based upon preliminary results, the process shows great promise for commercial peeling of crayfish. This could allow for expanded production of crayfish in Mississippi and expanded market development beyond the local market in which most Mississippi crayfish are now produced and sold.

The Division staff also worked with an individual considering the production of a fish sauce.

The staff of the Scientific-Statistical Division continues to provide technical assistance to persons involved or interested in becoming involved in aquaculture in the coastal area of Mississippi. Aquaculture is the controlled cultivation of aquatic animals and plants.

The Bureau's aquaculture program efforts continue to be aimed at providing an awareness of aquacultural opportunities and developing aquaculture operations which diversify and supplement an existing income base. Highly technical information developed by research organizations has been reviewed and evaluated and is being transformed by the Division's staff into information which can be readily understood and applied by aquaculturists located in the coastal region of Mississippi.

Requests for aquaculture assistance from the Bureau continues to escalate from year to year. During FY 83 the staff worked with a number of private individuals in providing aquacultural information, in evaluating available resources for aquaculture, in producing

new aquacultural species in the coastal area and in test marketing some of the products. All aquacultural assistance was rendered by the Bureau with the aim of enhancing jobs and income opportunities in the coastal area of Mississippi.

The Division's staff continued working with a large Mississippi coastal corporation in utilizing selected fish to remove suspended solids from their wastewater effluent stream. Highly satisfactory results have been achieved in solids removal.

The staff of the Division participated in two aquaculture workshops in conjunction with the Soil Conservation Service. Also, the staff prepared an aquacultural exhibit for the Pascagoula Arts League.

The Division's staff continued to communicate with an Israeli company which the Bureau identified as being interested in placing a freshwater shrimp production facility in Mississippi.

In addition to these aquacultural activities, the staff met with the Small Business Administration (SBA) and a seafood processor. Subsequent to the meeting, a proposal to the SBA was developed to investigate the use of naturally occurring chemicals which could significantly reduce weight loss when frozen shrimp are thawed. If the weight loss can be reduced, the seafood processor gains on product weight and the consumer gains in that valuable nutrients are not lost from the thawed product. The proposal was prepared in coordination with a staff member of the Gulf Coast Research Laboratory.

INTERAGENCY COORDINATION AND ASSISTANCE

During the course of a given fiscal year, the Bureau staff becomes involved in a number of special projects and services. Some of these projects and services occur routinely each year while others are one-time events.

During FY 83 the staff of the Scientific-Statistical Division participated in the Mississippi-Alabama Sea Grant Consortium Program serving on the Consortium's Advisory Committee. Assigned by the Bureau Director to serve on the Committee, the staff provided advice for program direction and reviewed and commented on research proposals which were submitted to the Consortium for funding. The staff also reviewed and provided comments and ratings for proposals submitted to the Water Resources Research Institute located in Jackson, Mississippi.

At the state level and with respect to oil and gas developmental activities, the staff of the Division contributed to communications and efforts involving the Mississippi Department of Natural Resources and the Office of the Governor, State of Mississippi.

The U.S. Corps of Engineers and the U.S. Environmental Protection Agency during FY 83 addressed potential oil and gas developmental activities in the state waters of Alabama and Mississippi. These federal agencies formed working committees and Dr. Richard Leard, Bureau Director and Dr. Cornell Ladner of the Scientific-Statistical Division participated in the activities and contributions of these committees. The staff of the Division also had frequent interaction with the U.S. Fish and Wildlife Service (Slidell, Louisiana) regarding ecological aspects of oil and gas development in coastal waters.

The Bureau Director and Dr. Cornell Ladner and Mr. James Franks of the Scientific-Statistical Division continued to interact with the MMS during FY 83. These interactions

involved considerable staff time and involved reviews and preparation of recommendations regarding oil and gas activities on the Outer Continental Shelf.

The staff of the Division worked in a complementary way with the Soil Conservation Service in developing inland coastal aquatic resources. The staff also worked with the Small Business Administration in helping to develop the potential of coastal resource utilization opportunities.

In addition to the previously mentioned coordination and assistance activities, the Bureau staff conducted numerous other reviews and provided comments on a variety of special topics, proposals and papers as responses were needed.

TEXAS PARKS AND WILDLIFE DEPARTMENT

Texas Parks and Wildlife Coastal Fisheries Research Management Programs

There were three major projects during fiscal year 1983 dealing with finfish resources. These included: (1) monitoring the availability of adult and juvenile finfishes; (2) monitoring the commercial and recreational harvest of finfish; and, (3) the enhancement of red drum in Texas bays.

Monitoring of the relative abundance of adult finfishes in eight Texas bay systems continued using 600-foot-long gill nets with individual 150-foot sections of 3-, 4-, 5-, and 6-inch stretched mesh. Bag seines (60 feet long) and 20- or 40-foot trawls were used to determine the abundance of juvenile finfishes. Assessment of the success of House Bill 1000 (67th Texas Legislature) in reducing overfishing on red drum and spotted seatrout is continuing through routine monitoring and special studies. A spotted seatrout tagging program using rod and reel initiated in 1981 to supplement mortality, growth and movement data of this recreationally important species continued. Approximately 4800 spotted seatrout were tagged in 1983. Approximately eight percent of the tags have been returned to date. Tagging and handling mortality studies on this species caught by rod and reel initiated in 1982 continued. No differences were found between tagging and handling mortalities or handling mortality alone. Total mortality (handling and tagging) of rod and reel caught spotted seatrout was approximately 25%.

Minimum finfish harvest by commercial fishermen was determined through a self-reporting system using Monthly Marine Products Reports. A cooperative agreement between the National Marine Fisheries Service (NMFS) and this Department provided for the gathering of complementary catch rate and harvest information of the recreational fisheries. Texas Parks and Wildlife Department obtained sport boat and charter fleet catch rate and harvest data, and NMFS obtained wade bank, pier, surf and jetty catch rate and harvest data. When these data are combined, it will be possible to estimate the total harvest of the sport fishery.

Red drum pond production exceeded 1.1 million fish in 1983. Age and growth studies using scales were completed on red drum and spotted seatrout and reports are currently being prepared. Pond fertilization studies were conducted to assess optimum fertilizer and salinity levels for the successful support of marine phyto- and zooplankton populations (critical food for young fish). Work on a manual detailing the procedural methods for the culture of red drum was continued. Approximately 50,000 spotted seatrout fingerlings were raised using hormone injections to assess the feasibility of artificial spawning techniques and pond production of this species. Approximately 900,000 striped bass fry yielding 23,500 fingerlings were produced utilizing artificial spawning techniques. Work was initiated to assess the feasibility of tank spawning and pond production of flounder. Initial work on red drum x black drum hybrids yielded 86,800 fingerlings which were stocked in freshwater reservoirs.

The shellfish program consisted of four major projects including: (1) penaeid shrimp population monitoring in bay for availability, size and movements; (2) penaeid shrimp population monitoring in the Gulf of Mexico; (3) oyster population monitoring and enhancement; and, (4) blue crab population monitoring. Population monitoring of valuable commercial and sport species was carried out to determine trends in relative abundance, and to determine the factors that affect abundance in order to recommend closed seasons and other management options. Shrimp, crabs and associated organisms were monitored with bag seines along shorelines; with 20' wide otter trawls in deeper (+ 3 ft) portions of bays and passes leading from the bays to the Gulf of Mexico; and with 40' otter trawls in the Gulf of Mexico. Texas also participated in the Southeastern Area Monitoring and Assessment Program (SEAMAP).

For over 20 years Texas has closed its territorial waters (9 nautical miles) in the Gulf of Mexico to shrimping during June 1-July 15 to allow small shrimp leaving the bays to grow to a larger size before harvest and minimize waste from discarding. These season dates may be changed if biologists find that there may be an earlier, later or prolonged emigration of brown shrimp. In 1983 the season was set for 30 minutes after sunset on May 27 to 30 minutes after sunset on July 15. Sampling in bays indicated similar numbers of brown shrimp as in 1982. Landings through August were 36.6 million pounds during the same period in 1982.

Biological monitoring of oyster reefs in Galveston Bay in 1983 indicated that pre-season abundance of market oysters was about average. This season follows a record setting season last year when reported landings were 7.1 million pounds of oyster meat. The previous high of 4.9 million pounds was landed in 1965-66. The average for the period 1977-81 was 1.7 million pounds. In 1978, biological samples revealed the lowest abundance of market size oysters since 1956. These were mixed with many undersize oysters and the Parks and Wildlife Commission closed the November 1-April 30 season on December 15. Mortality from flooding in 1979 exacerbated the problem and the season was delayed for 45 days. Recovery of oysters in 1982 is attributed to previous regulatory actions, favorable weather conditions, and the spreading of oyster shell for cultch over approximately 700 acres of bay bottom. It is estimated that spat setting was increased by 1.5 million per acre. Funds for spreading the shell were derived through P.L. 88-309, Project 2-352-D-1(4b).

Reported blue crab landings have fluctuated between 7 and 9 million pounds since 1977. Preliminary landings indicate that landings will be within the same range in 1983. No statistical differences have been detected in population abundance in recent years.

A total of 21 technical reports, 9 scientific journal articles and 6 newspaper/magazine articles about various aspects of the Texas coastal fishery resources were completed.

GULF STATE-FEDERAL FISHERIES MANAGEMENT BOARD

During the period October 1, 1982, to September 30, 1983, two (2) meetings were held by the Gulf State-Federal Fisheries Management Board (GS-FFMB): Mobile, Alabama - October 1982 and Austin, Texas - March 1983.

The GS-FFMB is comprised of Gulf States Marine Fisheries Commissioners, two from each of the five Gulf States. The Board members vote as a state with a single vote per state. The Regional Director of the National Marine Fisheries Service (or his designee), and the Executive Director of the Gulf States Marine Fisheries Commission (GSMFC) are nonvoting members of the Board. The Board is advised on technical, scientific matters, and industry views by the same advisory groups as the Commission. Among these groups are the Technical Coordinating Committee (scientific), the Menhaden Advisory and Management Committee, the Shrimp Management Committee, as well as the National Marine Fisheries Service.

The Gulf States Marine Fisheries Commission is the prime contractor for all management plan development and support in the Gulf of Mexico for the Board. This has resulted in coordinated involvement by the Commission in State-Federal management and information in the territorial seas. The activities of the Board and the Commission complement those of the Gulf of Mexico Regional Fishery Management Council, thereby providing an effective system for advising the management of the fisheries throughout the extent of their range.

The major activities and accomplishments of the Board are described in the following summary:

The Gulf States Marine Fisheries Commission in accordance with provisions included in Cooperative Agreement #SF-14 provided for administration, travel, communication, planning and other activities for the administration of the Gulf State-Federal Fisheries Management Board for FY 83. This agreement in the amount of \$16,500 provided financial support for the following.

The staff of the Gulf States Marine Fisheries Commission carried out many secretarial duties for the Board and its committees (Blue Crab Subcommittee and Menhaden Advisory Committee), which included: preparing and distributing minutes of all Board meetings as well as minutes of all committees of the Board, preparing and distributing meeting material, arranging and financially supporting meetings of the Board and its committees and all other duties as required by the Board. Travel reimbursements were made for members and other approved participants of State-Federal Board meetings in accordance with accepted government and Commission policy. Travel reimbursements were also made for attendance of other meetings related to State-Federal activities by authorized representatives of the Gulf States Marine Fisheries Commission.

"Proceedings of the Blue Crab Colloquium" was published and distributed. This publication resulted from the State-Federal colloquium held in Biloxi, MS, October, 1979.

The Board elected Mr. I. B. Byrd (NMFS, St. Petersburg, Florida) Chairman, and Mr. Hugh A. Swingle (Alabama) Vice-Chairman to serve in 1982-83.

SOUTHEAST REGION

NATIONAL MARINE FISHERIES SERVICE (NMFS)

National Oceanic & Atmospheric Administration (NOAA)
U.S. Department of Commerce

INTRODUCTION

NMFS is a service organization providing service to four constituent groups: consumers, environmentalists, the recreational community, and the commercial fishing industry. To provide maximum services, NMFS works with partner and constituent organizations, including academia, commercial fishing and trade organizations, conservation and environmental organizations, fishery commissions, fishery development foundations, recreational fishing organizations, regional fishery management councils, Sea Grant, and State marine agencies.

The Southeast Regional Office works with the Southeast Fisheries Center and its six laboratories to carry out four major programs:

- o Conserve and manage recreational and commercial fishery resources for the maximum benefit of the United States.
- o Maximize the economic and social benefits from United States fishery resources by contributing to the stability and growth of the Nation's fishing industry.
- o Conserve marine habitats and associated eco-systems necessary to sustain living marine resources.
- o Conserve populations of marine mammals and endangered species that are affected by domestic and international human activities.

SOUTHEAST REGIONAL OFFICE

Located in St. Petersburg, Florida, the Southeast Regional Office of the National Marine Fisheries Service (NMFS) is a focal point for marine fisheries and related activities occurring in seventeen Southeastern states, Puerto Rico and the U.S. Virgin Islands.

The Southeast Regional Director is responsible for carrying out national programs as they relate to its geographic jurisdiction area, and an array of programs that are aimed at achieving the mission. The Regional Director serves as the regional representative of the Assistant Administrator for Fisheries, National Oceanic and Atmospheric Administration, Washington, D. C., with state conservation agencies, recreational

interests, the fishing industry, consumers, other constituents, and the general public. He is also a voting member on each of the three Regional Fisheries Management Councils located in the Southeast Region, i.e. Gulf of Mexico, South Atlantic, and Caribbean. The Regional Director is responsible for planning, organizing, and implementing fisheries management and conservation programs. These programs include activities in support of fisheries management, regulatory requirements, fisheries development, recreational fisheries, international fisheries, habitat conservation, law enforcement operations, financial assistance services, and other services throughout the range of NMFS programs. In addition, the Director provides administrative and technical support to the three Regional Fishery Management Councils and is responsible for program planning, budgeting, and evaluation coordination with the NMFS Southeast Fisheries Center located in Miami, Florida.

FISHERIES MANAGEMENT DIVISION

The Fisheries Management Division has three branches - each carrying out programs dictated by mandates from Congress. The following responsibilities and accomplishments summarize the activities of each branch for FY 1983.

FISHERY OPERATIONS BRANCH

The Fishery Operations Branch serves as the Southeast Region's principal focal point for carrying out responsibilities under the Magnuson Fishery Conservation and Management Act (MFCMA) (PL 94-265). The branch provides staff advice and assistance in the formulation of regional fisheries management policies, coordinates and assists in the preparation and implementation of fishery management plans (FMPs) and amendments developed by the three Regional Fishery Management Councils (Caribbean, Gulf of Mexico, and South Atlantic), and reviews FMPs and regulations for content and compliance with the MFCMA and other applicable laws. One of the continuous, long-term functions of the branch is to monitor the effectiveness of FMPs and regulations to ensure achievement of management objectives and identify needs for future modification. Additional responsibilities include: conducting public hearings on FMPs and regulations, reviewing and processing domestic and foreign fishing applications, and serving as the focal point for the Atlantic bluefin tuna program for the Southeast Region.

Accomplishments

- o Published final regulations implementing the FMPs for Coastal Migratory Pelagics (Gulf and South Atlantic) and Snapper-Grouper (South Atlantic).
- o Published proposed regulations for the Reef Fish (Gulf) and Coral (Gulf and South Atlantic) FMPs.
- o Implemented emergency regulations to resolve serious gear conflicts between shrimp and stone crab fishermen.
- o Amended the Shrimp FMP to allow fishing in a portion of the Tortugas.
- o Amended regulations for the stone crab fishery to reduce reporting burden.
- o Assisted in amending the Preliminary Fishery Management Plan (PMP) for Atlantic Billfishes and Sharks to (1) revise the treatment of prohibited species and (2) require foreign longliners to stay out of broadcast fixed gear areas.

- o Conducted preliminary reviews of the Caribbean Council's Shallow Water Reef Fish FMP, Coastal Migratory Pelagics FMP, and provided suggestions for modification.
- o Reviewed the Mid-Atlantic Council's Bluefish FMP (plan also covers South Atlantic area) and provided comments to NMFS Northeast Regional Office.
- o Reviewed and approved the Work Plan for the FMP for Fishery Resources of the Puerto Rican and Virgin Islands Geological Platforms (a generic FMP approach).
- o Held public hearings to receive comments on the Swordfish FMP and bluefin tuna regulations.
- o Conducted preliminary reviews of the Swordfish and Billfish FMP's being prepared by the South Atlantic Fishery Management Council and provided suggestions for modifications.
- o Prepared a white paper introducing the concept of a Data Collection FMP which would identify all fisheries data needs and provide a mechanism for acquiring the essential data. All three Councils have adopted the concept and formed committees to pursue development of the FMP.
- o Substantial efforts have been made to enhance communications with all our management partners and constituents. Fifteen press releases describing a variety of fishery management activities were distributed to over 3000 agencies, organizations, and individuals.
- o Provided policy guidance leading to the adoption of revised procedures for streamlining the FMP review and implementation process.

STATE/FEDERAL AND GRANTS BRANCH

Federal financial assistance programs are administered in cooperation with 17 states, Puerto Rico, the U.S. Virgin Islands, the Gulf and South Atlantic State/Federal Fisheries Boards, and the Gulf and Atlantic States Marine Fisheries Commissions. The purpose of these programs is to develop fisheries resource information and management practices for use by the states, fishery management councils, marine fisheries commissions, the National Marine Fisheries Service, and others for the conservation and management of fisheries resources in states' waters and in the U.S. FCZ. The following programs are administered by the State/Federal & Grants Branch:

- o Commercial Fisheries Research and Development Grant-in-Aid Program (PL 88-309).
- o Anadromous Fish Conservation Grant-in-Aid Program (PL 89-304).
- o State Liaison to Fishery Management Councils Grant-in-Aid (PL 94-265).
- o State/Federal Cooperative Fisheries Statistics Program (PL 94-265).

A total of 67 grants was processed during 1983 under the four financial assistance programs administered by the branch.

FY83 FEDERAL FUNDS

<u>Participant</u>	<u>PL 88-309</u>	<u>PL 89-304</u>	<u>Cooperative Statistics</u>	<u>Council Liaison</u>	<u>State/Federal Boards</u>	<u>Total</u>
Alabama	\$ 119,700	\$ 91,400	\$ 67,643	\$ 25,000	\$ --	\$ 303,743
Florida	240,000	--	75,150	50,000	--	365,150
Georgia	66,700	--	80,587	25,000	--	172,287
Louisiana	240,000	--	59,860	25,000	--	324,860
Mississippi	164,900	36,000	47,875	25,000	--	273,775
North Carolina	74,100	40,000	84,700	25,000	50,000	273,800
South Carolina	25,300	45,500	65,000	25,000	--	160,800
Texas	240,000	--	--	25,000	--	265,000
Puerto Rico	240,000	--	119,000	25,000	--	384,000
Virgin Islands	20,000	--	114,635	25,000	--	159,635
Inland States	185,000	--	--	--	--	185,000
GSMFC	--	--	--	25,000	81,500 ^{3/}	106,500
Total	\$1,615,700	\$212,900	\$714,450^{1/}	\$300,000^{2/}	\$131,500	\$2,974,550

^{1/} Southeast Fisheries Center Funds

^{2/} Washington Funds

^{3/} Various Funding Sources

Accomplishments

The state/federal partners intensified cooperative efforts for marine fisheries conservation and management in state waters. The following highlights important fisheries conservation and management accomplishments.

- o Revised the Menhaden Management Plan for the Gulf of Mexico.
- o Completed a Blue Crab Management Planning Profile for the Gulf of Mexico.
- o Prepared fishery planning profiles for spotted seatrout, weakfish, and red drum in the South Atlantic.
- o Coastal state directors supported the Data Collection Fishery Management Plan for the management of marine fisheries in the Southeast.
- o Expanded the State/Federal Cooperative Fishery Statistics to include all ten coastal states.

PROTECTED SPECIES BRANCH

The Protected Species Branch administers the Endangered Species Act (ESA) (PL 93-205) and the Marine Mammal Protection Act (MMPA) (PL 92-522). Under these acts, management programs aimed at conserving and wisely using species such as sea turtles, whales, and bottlenose dolphins are developed and implemented. Populations of these species are monitored and in the case of declining stocks recovery actions are taken. Permits for scientific research and for controlled take are reviewed and issued.

Accomplishments:

- o A voluntary technology transfer program aimed at urging shrimpers to use a Trawling Efficiency Device (TED) which conserves sea turtles and improves shrimp trawling efficiency was developed and implemented. Between 100-200 shrimpers are using TEDs.
- o Foreign interest in the TED expanded with Indonesia requiring its use by Japanese shrimpers in Indonesian waters. TED demonstrations were scheduled for Honduras and Mexico, and Australia agreed to test the TED. Inquiries about TED were received from several other countries.
- o Over 100 Section 7 consultations were conducted during the year. Consultations are held with federal agencies to ensure that their actions do not jeopardize endangered species such as sea turtles, whales, and shortnose sturgeons.
- o Status reviews, required every five years, were conducted for five species of sea turtles and one specie of seal. Status reviews of whales and shortnose sturgeon were reviewed and commented on.
- o A library of technical reports on marine mammals and endangered species was developed. The library contains approximately 600 publications.
- o Fifteen permit applications were reviewed and ten letters of authorization governing scientific research on marine mammals were issued.
- o A recovery plan for marine turtles was prepared.
- o Live captures of bottlenose dolphins for public display were monitored and administrative arrangements made for the transfer of marine mammals between facilities.

LAW ENFORCEMENT GROUP

Serves as the Regional Director's investigative and enforcement arm with responsibilities for planning, organizing, and implementing law enforcement activities related to the conservation and protection of ocean fisheries, marine mammals, and endangered species. Investigates criminal and civil violations and refers cases to Assistant U.S. Attorneys and NOAA General Counsel for prosecution. Plans and participates with U.S. Coast Guard, U.S. Customs Service, and state agencies in patrol, inspection, and investigative activities for maximum effective application of the participating agencies, resources, and expertise. Provides staff advice, review, and assistance in formulating enforcement policies.

Provides technical assistance to Regional Fishery Management Councils. The following list sets forth the primary statutory authorities used in the Southeast Region under which special agents are authorized to conduct investigations, make arrests and seizures, with or without warrants, and to take such cases directly to a U.S. Attorney, U.S. Magistrate, or U.S. District Court Judge:

I

Title 16, U.S. Code

Atlantic Tunas Convention Act of 1975

Marine Mammal Protection Act of 1972

Endangered Species Act of 1973

Lacey Act Amendments of 1981

II

Title 18, U.S. Code

General criminal violations as related
to authorized duties.

Accomplishments:

- o Violations totalling 813 were documented with assessed penalties and seizures totalling \$1,107,292.
- o Demonstrated commitment to protect resources by enforcement efforts of the king mackerel closure.
- o Enforcement actions helped to eliminate opposing factors in the Crystal River, Florida area between the crabbers and shrimpers. NMFS gained recognition for an equitable and effective enforcement program.
- o Major Lacey Act enforcement actions against U.S. shrimpers fishing in the Mexican Economic Zone. Joint U.S. Coast Guard/NMFS enforcement actions resulted in controversial and widely-publicized events.
- o Expanded the number of cooperative enforcement agreements with the state agencies.
- o Continued to develop exceedingly close working relations with both the 7th & 8th U.S. Coast Guard Districts.

HABITAT CONSERVATION DIVISION

In tandem with its fisheries management and development activities, NMFS is an active participant with the U.S. Army Corps of Engineers under the Fish and Wildlife coordination Act, and through regulations, in programs directed toward the protection of the coastal and marine habitat which support fisheries resources. As a result of private and commercial development, hydroelectric power projects along the coastline, and offshore energy development, major losses of estuarine habitat and coastal wetlands have occurred. These areas are vital to the health and growth of living marine resources as spawning, nursery, and forage grounds. Contributing to a continuing loss or degradation of vital habitat are construction and maintenance of navigation channels, dredge and fill activities, draining, ditching, and impoundment of wetlands, offshore drilling, mining and lumbering, and ocean dumping and waste disposal. Non-point source marine pollution is potentially the most serious problem for coastal water quality management having both resource and public health implications since it is largely uncontrollable. These losses continued to accelerate in the 1970s as development efforts in the coastal zone and offshore intensified. The NMFS has an obligation to prevent or mitigate the loss of these habitats.

The division represents the Regional Director in all matters involving habitat conservation and technology transfer. Technical Services Branch provides ADP and word processing capability to the Regional Office. Technology transfer involves matching fisheries needs with technology available throughout the world.

TECHNOLOGY TRANSFER

Provides information on applicable technologies for transfer through various dissemination organizations to the commercial fishing industry. Identifies existing and new technology that may apply to commercial fishing, fish handling, and processing.

ENVIRONMENTAL ASSESSMENT BRANCH

Investigates and analyzes proposed environmental alterations and reviews of environmental impact analyses, provides technical consultation services to development interests, delineates environmental research requirements, develops criteria and guidelines, disseminates public information, as it relates to habitat protection, and conducts surveillance activities related to environmental alterations.

TECHNICAL SERVICES BRANCH

Manages the regional information management program, including provision of ADP capability.

Accomplishments:

- o Convinced the Corps of Engineers not to fill some 2,500 acres of bottomland in Neuces Bay, Texas.
- o Commented on approximately 6,000 permit applications.
- o Normally recommend approval of about 80 percent of the cases and recommend modification in the remaining 20 percent.
- o Recommended denial in less than one percent of permit applications that are reviewed.
- o Corps of Engineers has accepted recommendations in 90 percent of the cases.
- o Worked closely with the Gulf, Caribbean, and South Atlantic Fishery Management Councils in developing their increased involvement in habitat conservation.
- o Technology transfer program continued to expand in FY 83, due mainly to the increased efforts to aid shrimpers in adopting the Trawling Efficiency Device (TED).

FISHERIES DEVELOPMENT DIVISION

The division is responsible for the largest regional fisheries marketing program in the NMFS in terms of area coverage, manpower and dollar resources devoted to marketing, states having marketing programs, species coverage, export market development activity, and results with underutilized species. Plans, organizes, implements, and monitors commercial fisheries development activities. Administers the Fisheries Obligation Guarantee program, Fisheries Loan Fund, Capital Construction Fund, Fishermen's Protective Act, Fishing Vessel and Gear Damage Compensation Fund, and the Fishermen's Contingency Fund financial assistance programs. Conducts marketing and consumer service programs including field market development and market news services. The division also administers a wide range of service programs including export development and domestic programs.

Under the American Fisheries Promotion Act of 1980 (AFPA), to aid the industry in reducing technical, economic, legal, and policy constraints that limit the growth of the U.S. fishing industry in the Southeast Region by:

- (a) The Fisheries Obligation Guarantee program which facilitates financing, reconstruction, or reconditioning of eligible commercial/charter fishing vessels as well as shoreside facilities engaged in wholesale trade; Fisheries Loan Fund program which is designed as an emergency assistance activity directed on a need basis by this agency; the Capital Construction Fund program for the purchase of new/replacement/reconstruction of eligible vessels; the Fishermen's Protective Act program compensating fishermen for unlawful seizure of U.S. fishing vessels by foreign countries; the Fishing Vessel and Gear Damage Compensation Fund; the Fishermen's Contingency Fund; and the Commercial Fishing Vessel Safety and Insurance Services Program.
- (b) U.S. fisheries products for traditional products, defining new markets, upgrading U.S. products, introducing new products, introducing U.S. industry to new buyers, and otherwise encouraging the expansion of Southeast Region products in both domestic and export markets.
- (c) Market information to the fishing industry and others through the New Orleans Market News office, providing economics information and fisheries situation/outlook for use by NMFS, the industry and others, collecting and disseminating information on shrimp aquaculture and administering the Saltonstall-Kennedy Grants program and the Region's responsibilities under the Fishermen's Contingency Fund.

Accomplishments:

- o Received five shoreside financing applications which were reviewed and returned to the applicants with deficiency letters.
- o Made nine trips in connection with arrests, foreclosures, bankruptcy hearings, foreclosure sales, inspection of foreclosed vessels, and release of vessels.
- o Represented the agency at eight foreclosure sales; repurchased two of the vessels at the sale, one of which has been resold.
- o Handled three assumptions and one refinancing totalling approximately \$1,000,000.
- o Serviced 123 problem cases and consented to payment deferments on 58 of those.
- o Received and processed three new Fisheries Obligation Guarantee applications totalling \$673,000.
- o Received and processed 44 new Fisheries Loan Fund applications totalling \$2,006,858.
- o Furnished information on Southeast Region products and a directory of Southeast Region exporters to U.S. embassies around the world.
- o Participated in and published reports on the following trade and mass media conventions:

- National Frozen Food Convention, New Orleans, Louisiana

- Food Marketing Institute Convention, Chicago, Illinois
 - American Women in Radio & Television Convention, Toronto, Canada
 - National Association of Independent Retail Grocers of U.S. Convention, New Orleans, Louisiana
 - Newspaper Food Editors Conference, Chicago, Illinois
 - International Food & Drink Show, London, England
 - SIAL World Food Show, Paris, France
 - Foodex '83, Tokyo, Japan
 - FAS-sponsored U.S. Food Exhibit, Saudi Arabia
- o Provided assistance via mail and telephone to over 20 U.S. firms actively engaged in aquaculture enterprises.
 - o Published three reports of detailed findings of trips to New York, Texas, Brazil, Venezuela, and Panama.
 - o Conducted the review of 35 S-K proposals resulting in the approval of nine projects receiving \$1,448,000 in federal funds.
 - o Received 90 reports of gear damage eligible for the Fishermen's Contingency Fund and worked out a number of problems associated with individual claims.
 - o Monitored several S-K projects, developed a progress reporting system and distributed progress reports covering all active S-K projects.
 - o The Fisheries Obligation Guarantee program was expanded on December 23, 1982, to include not only commercial fishing/charter vessels, but also shoreside facilities engaged in wholesale activities.

INTERNATIONAL FISHERIES

The Magnuson Fishery Conservation and Management Act (MFCMA) mandated a restructuring of the existing international framework for fisheries management. Governing International Fisheries Agreements (GIFAs), by which foreign nations recognize U.S. fisheries management authority under the MFCMA, were negotiated and put into effect under the act. In addition, international treaties were modified or negotiated to reflect changes in jurisdiction brought about by the MFCMA, to ensure U.S. access to fisheries resources off foreign shores, to conserve and manage tuna, and to further the sound management of Antarctic living marine resources.

The International Fisheries Coordinator focuses on managing and coordinating Western Central Atlantic (WCA) fisheries programs to attain optimum U.S. interest in the fisheries commerce and management with WCA countries (which include the Caribbean Sea and the Gulf of Mexico). He serves as a member of international negotiating teams and works with international organizations such as: Western Central Atlantic Fisheries Commission (WECAFC), IOC Association for the Caribbean and adjacent regions (IOCARIBE), Gulf and Caribbean Fisheries Institute (GCFI), Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Project (UNDP); and Mexico-U.S. Cooperative Research Program (MEXUS-Gulf). The coordinator takes a strong role in coordinating efforts to collect and use needed management information.

Accomplishments:

- o The Regional Director was keynote speaker at the Gulf and Caribbean Fisheries Institute's annual meeting in the Bahamas.

- o The International Fisheries Coordinator made numerous trips to foreign countries on behalf of NMFS, and participated in the international turtle symposium Underwater Seminar Program, U.S.-Mexico Research, and social-economic study program.

- o A special meeting was held in the Regional Office resulting in industry-to-industry negotiations between U.S. and Mexico.

RECREATIONAL FISHERIES

The responsibilities of NMFS in the Southeast with respect to marine recreational fisheries is to resolve impediments to the stability and growth of marine recreational fisheries. In pursuit of this responsibility, regional program activities are conducted to increase satisfaction of recreational fishermen, to develop appropriate resource and utilization information to increase access to available fishery resources, and to support growth of recreational fishing support business.

As part of the Constituent Affairs Staff, the Special Assistant for Marine Recreational Fisheries serves as the regional focal point for recreational fisheries program matters. The duties include assisting in the formulation and implementation of national and regional recreational fisheries policy and programs, organizing, directing, and/or promoting intra-agency and interagency projects associated with the conservation, management and development of marine recreational fisheries, and facilitating, and assisting in state and local recreational fisheries programs and projects.

Examples of services rendered include assistance in planning and conduction of research and data collection programs, development and distribution of user information, assistance in artificial reef development projects, and assistance in design and construction of recreational fishing access facilities (piers, ramps, etc.).

Accomplishments:

Real progress was made this past year in establishing creditability with marine recreational fishing (MRF) community in the region. A MRF program development plan was developed and adopted by the Region which discusses ongoing MRF program activities and identifies future activities needed to resolve MRF conservation, management, and development problems. A special meeting was held with recreational fisheries leaders in the Regional Office to obtain their detailed comments on the plan. One outcome of this meeting was the creation of an ad hoc recreational fisheries steering committee to provide guidance in NMFS' program planning and budget activities. Another outcome was the establishment of a habitat conservation advisory panel by the Gulf of Mexico Fishery Management Council.

To help shift harvest pressure from traditional target species and to improve satisfaction of recreational anglers, the Region awarded two S-K grants to develop strategies for increasing the use of underutilized sport-caught species.

Other accomplishments included:

- o Conduction of one national and several regional MRF-related conferences;
- o Assistance in constructing several major artificial reefs;

- o Development of a general permit for artificial reefs for the Jacksonville District, U.S. Army Corps of Engineers;
- o Construction of a major NMFS exhibit for public education purposes;
- o Development of a computerized MRF mailing list (1900 entries);
- o Conduction of field surveys of charter and headboats in North Carolina, Florida, Texas, Puerto Rico, U.S. Virgin Islands; and
- o Development of a directory of sport fishing clubs in the Southeast.

CONSTITUENT AFFAIRS

Maintains liaison with a broad spectrum of federal and state officials and the general public on regional fisheries programs matters. Provides coordination and liaison between federal agencies and NMFS organizational elements in the Southeast. Coordinates intergovernmental programs and maintains continuous liaison with the three Regional Fishery Management Councils.

Accomplishments:

- o An all-out effort has been made to strengthen relations with partners and constituents. The key to strengthening these relations has been effective communications.
- o Special meetings were held in the Regional Office with partners and constituents e.g. Sea Grant directors and their staffs, commercial fishing interests, recreational fishing interests, and state conservation directors; plus many other smaller "leadership" meetings.
- o "Newsbreaker" newsletter and numerous press releases which were distributed to over 3,000 constituents have been effective in providing a continuous flow of information.
- o A brochure describing Southeast Regional Office activities was developed and distributed.

SOUTHEAST FISHERIES CENTER

The Southeast Fisheries Center (SEFC) conducts research in support of federal laws and international agreements relating to living marine resources in the Gulf of Mexico, Caribbean Sea, and Atlantic Ocean. Center headquarters offices are located in Miami, Florida. Research is conducted at laboratories in Beaufort, North Carolina; Charleston, South Carolina; Miami, Florida; Panama City, Florida; Pascagoula, Mississippi; Bay St. Louis, Mississippi; and Galveston, Texas. Research is also conducted from the 170-foot research vessels OREGON II berthed at Pascagoula and the 155-foot DELAWARE II which operates from Woods Hole, Massachusetts. Commercial fishing and oceanographic vessels are used as needed through contracts and cooperative research projects. Fishery data are collected throughout the Southeast Region by center agents located at numerous sites between North Carolina and Texas and through cooperative agreements with eight coastal states, Puerto Rico, and the Virgin Islands.

The permanent staff comprises 278 full-time scientific, technical and support people. As many as 110 additional people provide support on an other than full-time permanent basis. The total budget from all sources in fiscal year 1983 was \$17.8 million. Other federal agencies provided \$0.8 million of the total for research of mutual interest.

Each SEFC laboratory is responsible for conducting research in specific subject areas and for providing services to facilitate the work of other center units. Annual research plans and resource allocations to the laboratories are based on priorities determined at national and regional levels. Extensive consultation and coordination to identify priorities of user groups is a continuing process. Likewise, results of the center's research are distributed continually to interested groups through periodic newsletters, oral and written reports, publications, and personal contacts.

RESOURCE ASSESSMENT PROGRAMS

COASTAL PELAGICS

An expanded charterboat survey was begun in April 1983, encompassing 100 charterboats located from North Carolina to Texas. Response through August was 90%, with 21,000 hours of trolling reported.

Numerous bioprofile studies were conducted on coastal pelagics species, including stock identification, age and growth analyses, and studies of reproduction. Bioprofile sampling was initiated in the Caribbean.

Landings of king mackerel were monitored on a weekly basis at major dealers and observers were aboard vessels purse seining for king mackerel. A stock reassessment on king mackerel was completed.

A cooperative investigation of king mackerel resources in Louisiana was initiated between the SEFC and Louisiana State University (LSU).

A king mackerel symposium organized by the Florida Department of Natural Resources and the National Marine Fisheries Service was held in November. Management of the species was discussed, including harvesting methods, minimum size consideration, catch statistics, licensing, and resource allocations.

ENDANGERED SPECIES

The program coordinated the structure and conduct of the Western Atlantic Turtle Symposium (WATS) which included participation of 35 of 38 area countries. In conjunction with WATS, a sea turtle manual of research and conservation techniques was produced. Both the U.S. National Report for WATS and the computerized WATS data base were developed. Planning for WATS-II and the Western Atlantic Lobster Symposium (WALS) was begun.

Aerial surveys of sea turtle nesting beaches during the nesting season, coordinated with ground-truth sampling, were conducted for estimating population numbers.

The first of a three-year quarterly aerial survey, from Cape Hatteras to Key Biscayne, was completed. Data collected yielded an index of relative abundance of sea turtles, and will be used to calibrate stock assessment models.

Two vessel surveys were made in Canaveral channel. The March cruise removed sea turtles from the channel prior to proposed dredging and captured, tagged, and released 46 sea turtles. The April cruise captured 96 sea turtles, with a sex ratio of one female to 24.3 males.

The 1982 stock for experimental headstarting of Kemp's ridley sea turtles was received, reared, and released and the 1983 stock was received for rearing.

Field research was continued on the Turtle Excluder Device (TED) to improve shrimp catch and trawling efficiency. Experiments were conducted on configurations and efficiencies of various designs of shrimp trawls. The Southeast Regional Office was assisted in transferring TED technology to commercial shrimp fishermen.

Development of the Cooperative Sea Turtle Tagging Program was completed. Tags were dispensed and returns reported.

HERRINGS

Bioprofile studies on herrings centered around stock identification and food studies, and intensive sampling required for specimens to be examined. During 1983 over 13,000 individuals of 8 species were collected and sampled. Stock identification studies were undertaken on the Spanish sardine, and electrophoretic profiles of muscle enzymes were examined in round scad, Spanish sardine, and Atlantic thread herring.

An investigation using the DELAWARE II was conducted in the northern Gulf in March and April to determine if midwater trawling techniques could be used to evaluate and assess pelagic fish stocks of the northern Gulf.

Monitoring of herring fisheries was completed and the data were analyzed to determine the species and size of fishes in purse seine catches, the catch per unit of effort, and the environmental conditions associated with fish catches.

MARINE MAMMALS

Aerial sampling surveys for estimating abundance of bottlenose dolphin in the waters of Pensacola and Choctawhatchee Bays, Florida, and in Port Royal and St. Helena Sounds, South Carolina, were completed. These were the last of the priority inshore sampling areas in the Southeast where live-capture quota recommendations needed to be established. The completion of these surveys represents the successful end of the first phase of the SEFC marine mammal program initiated in 1979.

Regional surveys, the next major phase of the program, were initiated to obtain seasonal data for regional density and abundance estimates of bottlenose dolphin and other cetaceans.

Estimates of seasonal abundance of bottlenose dolphin in the waters surrounding Key West, Pensacola, and Choctawhatchee Bay, Florida; in Timbalier and Terrebonne Bays, Louisiana; and in Port Royal and St. Helena Sounds, South Carolina were completed. These estimates, plus those completed in previous years for other priority areas were reviewed and used in recommendations for management of the live-capture dolphin fishery in the Southeast.

Investigation of genetic variability in bottlenose dolphin from various known capture locations was begun. This contract study will test the hypothesis of multiple dolphin stocks in the Southeast.

A photogrammetric aerial sampling survey designed to provide imagery of bottlenose dolphin from coastal and offshore regions off Cape Hatteras was conducted. The imagery obtained will be analyzed for animal length frequencies.

Boat-based resighting surveys of cryogenically marked bottlenose dolphin in the Mississippi Sound and the Indian/Banana River were continued to describe local herd biodynamics in these regions.

As in previous years, the Southeastern U.S. Marine Mammal Stranding and Salvage Network was continued with voluntary input from interested parties in the Southeast.

The Marine Mammal Commission (MMC) reviewed the SEFC marine mammal program at its annual meeting in Honolulu. Recommendations made by the MMC were incorporated into the research planning for 1984.

MENHADEN

The juvenile menhaden sampling program was continued on Atlantic menhaden for development of methodology for developing and testing a predictive index of year class strength. New data were developed relating the density of juvenile fish to phytoplankton distribution and interpretation of juvenile abundance indices.

A data bank was created on: 1) daily landings of purse-seine catches for estimating age and size of Gulf and Atlantic menhaden; 2) daily vessel catch statistics; 3) numbered ferromagnetic tags recovered from menhaden reduction plants; 4) recovered injected "salted" numbered tags from reduction plants for determining "wild" tag recovery efficiency rates; 5) purse-seine fleet fishing activity, fleet composition, and reduction plant activities; and 6) Captain's Daily Fishing Report.

OCEAN PELAGICS

Considerable effort was expended during the past year to improve our historical international billfish data base. Historical records of Pfleuger Taxidermy in Hallandale, Florida, were examined and as a result the number of samples previously available for the Atlantic Ocean was more than doubled. Computer longline data were standardized and sailfish/spearfish data were separated by incorporating Japanese estimates of each species within each area of the ocean. A two-year effort to complete a comprehensive stock assessment analysis of sailfish was begun.

The proceedings of the SEFC Stock Assessment Workshop held in August 1982 were compiled and published. The report provides a current appraisal of the status of stocks for all species under the SEFC's purview.

Data were collected, in cooperation with the Belle Baruch Institute of the University of South Carolina, for estimating age and growth rates of blue and white marlin since 1980.

Fishery statistics were collected from the recreational fishery by tournament and dock sampling. Catch, effort, size frequency, and sex data were routinely sampled and hard parts periodically taken for age and growth research.

Preliminary results indicate that the number of billfish tagged in 1983 is slightly ahead of 1982. Analysis is underway to estimate growth and mortality of sailfish and white marlin using tagging data.

Ichthyoplankton surveys for estimating the size of the bluefin tuna spawning population in the Gulf of Mexico were conducted. Plankton samples were sent to the Poland Sorting Center for processing.

The bluefin tuna data base and analysis of catch per unit of effort trends were revised and updated for the 1983 International Commission for the Conservation of Atlantic Tuna (ICCAT) meetings.

REEF RESOURCES

Research was conducted on the age and growth, reproduction, and food of 20 species of reef fishes. Samples and data were collected in a cooperative effort with federal and state agencies, commercial and recreational fishermen, and power plants.

Studies of age and growth of yellowtail snapper, reproductive biology of yellowtail and red snappers, and food studies of red snapper and gag grouper were completed.

The ecology of reef communities and the survival of released fish were studied. The ecology studies included underwater observations of feeding and species interactions.

Studies were carried out to examine factors that could affect species composition, catch rates, or cause mortalities of wire fish trap catches. Ghost traps were monitored to determine number of reef fish mortalities and the length of time they continue to capture fish.

Assessments of stock dynamics were conducted by monitoring communities of several reefs, by experimental removal of predators, and by mathematical modeling. Reef fish populations on several reefs near Miami were visually monitored to determine species present, their abundance, and size. Data were collected for a multispecies analysis of impact of offshore oil development on sizes and species of reef fishes.

A study of the North Carolina headboat fishery was expanded to include headboats from Cape Hatteras through Florida. Daily catch data were obtained from 75% of the headboat fleet in 1983.

Field work on a resource survey at Looe Key National Marine Sanctuary was completed. Results show which species are found in the various habitats and their size and abundance. The effect of the spearfishing ban on reef fish populations was examined by monitoring changes in reef populations and comparing results with data collected prior to sanctuary establishment.

Deep water reef fish assessment surveys and SEAMAP ichthyoplankton surveys were conducted and contracts for MARMAP surveys of South Carolina waters were monitored.

Comprehensive studies were conducted of reef fish, ichthyoplankton, and benthos populations on the Flower Garden Banks off Texas.

SHRIMP AND BOTTOMFISH

A tagging study was designed to monitor the effectiveness of management regulations on the Tortugas shrimp fishery by describing shrimp movement relative to the closed

sanctuary area. A survey of size distribution of pink shrimp covering most of the Tortugas fishing grounds was conducted.

Monitoring the shrimp size and abundance during the 1983 Texas closure was accomplished as part of SEAMAP and analytical studies on the biological and economic effects of the closure were completed.

Prior to the opening of the 1983 brown shrimp season, a forecast of the potential catch was issued to industry and other interested parties. Shrimp abundance was measured as postlarvae grew into juveniles.

Studies on the reproduction and foods of seven abundant Gulf of Mexico bottomfish resulted in new information concerning these species. Other fish feeding studies were conducted relating to commercial shrimp.

Estuarine studies were focused on the function of salt marshes in the ecology of juvenile shrimp. Predator-prey studies concentrated on the value of substrate as a protective cover for brown shrimp and on the role of alternative prey in fish/shrimp predator-prey relationships.

Spring and fall shrimp and bottomfish surveys were conducted in the north central Gulf of Mexico.

Research continued on modification of the TED to reduce incidental capture of fish in shrimp trawls.

FISHERY PRODUCT PROGRAMS

FISHERY UTILIZATION

During 1983 several major pieces of equipment were added to the experimental processing laboratory, resulting in a facility with extensive processing capabilities. An invitation to use the facility for small-scale processing was extended to user groups.

At the request of the SERO marketing staff approximately 310 pounds of salted, dried mullet and 240 pounds of salted, dried black drum were prepared and packaged as samples for distribution to importers in foreign countries.

A prototype microwave system equipped with a conveyor was obtained, on loan, to further test the survival of heat resistant microorganisms inoculated into fish flakes and crab meat.

Research was conducted on development and marketing of food product(s) from menhaden. Seasonal and geographic effects on fatty acid composition of commercial menhaden were studied. Scientists continued to work jointly with the menhaden industry on an intensive program to gather information on wholesomeness of partially hydrogenated, deodorized menhaden oil.

A sensory panel was trained in the standard procedures for texture and flavor evaluation of finfish species, and participated in a study of edibility characteristics.

Studies were carried out in conjunction with the University of Florida on effects of harvesting and processing on calico scallop quality.

Microbiological and organoleptic assessments were made on shrimp collected from shrimpers and seafood markets in the Gulf and in the Charleston, South Carolina area.

Data were collected on the significance of a variety of microorganisms in oysters, on process and handling procedures that affect the quality of oysters, including information on drip-loss in oysters, and levels of water and/or liquor in packed oysters.

NATIONAL MICROCONSTITUENTS

Experiments were conducted to examine the influence of several constituents which occur at high levels in edible oyster tissue. Studies also examined the reasons why oyster-cadmium is apparently more toxic than the common environmental form of cadmium. Scientific information was provided to public health authorities indicating that the vast majority of commercially-available oysters are quite safe for human consumption from a heavy metal point of view.

Studies were conducted on the role of selenium as an ameliorative agent for methyl mercury to search for effective indicators of early toxicity due to methyl mercury exposure.

An analysis was completed of a limited sampling (taken from known sites of petroleum pollution) for the presence in edible fish tissue of nitrogen- and sulfur-containing polynuclear aromatic hydrocarbons. Reef fish from the Caribbean were analyzed for petroleum hydrocarbons and other industrially related organic pollutants, such as PCBs. Rates of petroleum hydrocarbon accumulation and metabolism were measured in black sea bass.

Two three-day training courses on enteric virus extraction and assay procedures for oysters were presented to state health department personnel from Alabama, Florida, Louisiana, South Carolina and Texas, as well as members of industry, trade associations, and academia.

SPECIAL PROGRAMS

FISHERY ECOLOGY

Research on juvenile fish ecology emphasized habitat utilization and food web dynamics, and examined factors affecting production and abundance of estuarine fish and associated food web studies.

Investigations were initiated to validate otolith aging techniques and to establish predator-prey relationships.

The role of wetland plant detritus as food for fishery organisms was studied. Techniques developed to transplant eelgrass into damaged areas were modified and field-tested for several tropical species.

NASA and SEFC engaged in a project in Louisiana to determine the relationship between characteristics of estuaries and adjacent wetlands and the harvest of fish and shellfish that occur within the estuaries and in shallow offshore waters.

Cooperative fish larvae research was conducted with NOAA's Atlantic Oceanographic and Meteorological Laboratory to describe and quantify food-chain relationships that control survival of Gulf menhaden larval fish in coastal waters of the northern Gulf of Mexico.

Investigations were conducted concerning the effects of trace metals on food-chain organisms that lead to the production of important fishery organisms.

In conjunction with Duke University, studies on the mechanisms of trace metal detoxification by marine animals were conducted on organisms exposed to trace metals either in laboratory or field.

REGIONAL FISHERIES STATISTICS

During 1983 the program developed, maintained, and expanded the public data collection system in the Southeast Region to fill information needs of state and federal agencies.

The Data Collection Project Group (1) conducted monthly surveys of all commercial landings and prices by species, (2) conducted an annual general canvass, (3) conducted food and industrial fish surveys, (4) disseminated statistical data, and (5) provided data to Market News.

Cooperative agreements for statistical collection were renewed with North Carolina, South Carolina, Georgia, Alabama, Mississippi, Puerto Rico, and the U.S. Virgin Islands. New agreements were signed with Florida and Louisiana. A reef fish biostatistical sampling program was initiated in the Caribbean and additional information was collected on billfish through cooperative agreements.

A State/Federal Statistics Workshop was held in Miami during September 1983. A draft policy statement defining the intent and operation of the Cooperative Statistical Project was prepared.

INFORMATION MANAGEMENT

During 1983, two Burroughs 2800 computers were installed at the Miami Laboratory and will be used in conjunction with a NMFS computer system located in Seattle, Washington to process fisheries data. The new computer facility will provide processing for half of the Southeast's computer needs. The smaller, less complex jobs will be run on these midsize computers, leaving more capacity for larger more complex jobs on the Burroughs 7800.

In addition to the existing laboratory user groups, data access is being provided to the coastal Southeastern states that have cooperative agreements with the SEFC. These states, as well as Puerto Rico and the U.S. Virgin Islands have been provided APPLE microcomputers to assist them in data analysis and processing. Data access to the computer system is also provided to the Fishery Management Councils and to the Southeast Regional Office.

NATIONAL FISHERIES ENGINEERING

A surface layer transport model was developed to use satellite acquired surface wind data to determine how air-sea interactions affect the distribution and abundance of fish eggs and larvae. SEASAT-A satellite scatterometer (SASS) data were used in the model for computations of surface layer transport in the Gulf of Mexico.

A SEAMAP Data Management Plan was developed which provided standardized data collection and recording procedures, input and transmission requirements, and processing and integration techniques. In support of the plan, a data recorder and communication system were installed aboard the OREGON II. These systems were used to support SEAMAP objectives pertaining to near real-time issuance of fishery assessment data for use by commercial fishermen and state and federal fishery managers. In a different application, satellite data on surface chlorophyll and temperature were collected during SEAMAP cruises in the Gulf of Mexico.

Coastal Zone Color Scanner (CZCS) data on hypoxia off Louisiana were obtained and processed in near real-time for the 1983 SEAMAP cruises.

The Mini-MACH project continued which was designed to evaluate the potential of satellite remote sensing and spatial information systems in order to provide data on land cover/land use changes in coastal wetlands.

A microprocessor-controlled conductivity, temperature, and depth system was procured, calibrated, and installed on the OREGON II. All data from the system are transmitted to the resource survey data base on the NMFS computer in Seattle, Washington at the termination of a cruise.

SOUTHEAST INSPECTION OFFICE

The Southeast Inspection Office provides a voluntary fee-for-service inspection for brokers, wholesalers, importers, exporters, distributors, transporters, processors, military, schools, and institutions.

Inspections are made in warehouse and processing establishments. Sanitation inspections are performed and examinations are made on fishery products including shrimp, scallops, oysters, lobsters, finfish, canned or smoked fishery products, and farm raised catfish.

Forty-two fishery establishments, located throughout the Southeastern Region and Puerto Rico, participate in the inspection program.

Federally inspected plants in the Southeast Region produced 190 million pounds of which 72 million pounds were federally inspected. Inspectors inspected 13 million pounds of product located in warehouses and cold storage facilities throughout the United States to Europe, Africa, and South America.

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

Activities of the Gulf Council During 1983

During 1983, the remainder of the fishery management plans developed and submitted by the Gulf Council received approval by the Secretary of Commerce.

A joint plan with the South Atlantic Council for coastal migratory pelagic fish (mackerels) was approved in February and implemented. A winter commercial fishery for large king mackerel developed rapidly off Louisiana and landings there exceeded one million pounds. The Council conducted a workshop in Grande Isle to explain fishing regulations and the annual quotas to local fishermen in mid April. As a result of high catches of king mackerel by hook and line commercial fishermen through the region, an annual catch quota for that group was exceeded, and the fishery for that group was closed May 7th through June 30th, the remainder of the fishing year. A reassessment of the king mackerel stock has shown there are two migratory groups with excessive fishing pressure on the Gulf-South Florida group. The South Atlantic group, however, has not yet reached its full yield potential. The Councils have begun a revision of the FMP to provide more appropriate management.

The reef fish plan for the Gulf snapper-grouper complex was approved in June, and regulations are expected to be implemented toward the end of the year. Also approved was the joint South Atlantic and Gulf plan for coral and coral reefs.

In order to assess pink shrimp size distribution, the Council amended regulations to open temporarily a 44-square-mile portion of the Tortugas Sanctuary to trawling. The April 15, 1983, to August 14, 1984, opening will allow the National Marine Fisheries Service to conduct tagging studies and review catch patterns in that fishery. A seasonal adjustment in the closing date of the Fishery Conservation Zone off Texas was made to conform with the 1983 closing date in state waters. A statistical reporting system for the shrimp fishery in voluntary use since 1955 was adopted in the shrimp regulations to be effective toward the end of 1983.

A draft profile on the Gulf red drum fishery, developed in cooperation with the Gulf States Marine Fisheries Commission, was approved by the Council. The draft is being submitted to the Commission for approval.

Gear conflict problems between Florida west coast stone crab and shrimp fishermen continued. The Council addressed remedial options through an Ad hoc advisory panel of fishermen and later adopted recommendations developed by a state appointed panel. These recommendations were implemented in both state and federal waters by emergency action. Both the Shrimp and Stone Crab FMPs are to be amended to allow flexibility in setting gear-specific zones in the contested area.

The Council initiated development of a fishery data collection profile. The profile will analyze present state and federal procedures for collection of fishery statistics, determine what additional data may be needed, and recommend methods for collection.

The Council continued its activities with respect to the protection of habitat for the fisheries managed under Council plans. An advisory panel of environmentally conscious representatives of fishery, conservation, and industry groups was appointed and convened to review fishery environment issues.

1984 SEAMAP MARINE DIRECTORY

In March 1982 the SEAMAP Subcommittee recommended to the Technical Coordinating Committee of the Gulf States Marine Fisheries Commission that an annual SEAMAP Marine Directory be developed. This Directory describes survey activities, ongoing programs, vessel schedules, etc., conducted by state/Federal/university marine agencies and is published in the Thirty-fourth Gulf States Marine Fisheries Commission's Annual Report. The objective of the Directory is to inform regional marine agencies of current fisheries-independent research, in order to prevent redundant and wasteful data collection in the Gulf.

Agencies responding to the 1984 Directory were contacted in fall 1983 and requested to provide current information or projected changes in their survey programs. Tables 1, 2 and 3 are condensed summaries of information submitted by responding agencies and organizations, indicated as either Federal, state or university activities.

TABLE 1. SUMMARY OF INFORMATION PROVIDED BY FEDERAL AGENCIES

Agencies	Target Species	Life Stages Samples	TYPES OF FISHERY-INDEPENDENT SAMPLING		ANNUAL EFFORT DEVOTED TO FISHERY-IND. SAMPLING BY ACTIVITY IN:			TYPES OF GEAR		Sample Strategy for Data Collection	Anticipated Changes in Direction of Fishery-Ind. Activities Over Next 5 Years	High Priority Species That are Presently Unable To Sample
			Area Sampled	Geographic Areas of Importance	Types of Platforms	No. of Days	No. of Samples	Fishing, Trawling	Plankton			
NOAA NMFS/SEFC Miss. Labs. Pascagoula, MS	All penaeid shrimp, croaker, spot, trout, catfish	Subadult-adult	U.S. Gulf of Mexico	Territorial, open ocean (FCZ)	170' R/V NOAA Ship OREGON II 127' R/V NOAA Ship CHAPMAN	135/yr toward target species 243/yr total sea days	1644/yr trawl stations, 180 ichthyo/yr 80 neustons/yr	Standard 40' semiballoon trawl	Bongo array w/ .333" mesh nets 15-cm neuston net .947 mm	Random (stratified)	None	Coastal & midwater pelagics Cannot adequately sample reef fish
NOAA, NMFS/SEFC Miami Lab. Miami, FL	All recreationally & commercially important species	Larval stages	U.S. Gulf of Mexico	Internal, territorial	170' R/V OREGON II & various small boats	35/yr	1500/yr	No fishing or trawling gear	Bongo nets 60 & 20-cm w/.333 µm mesh; neuston nets 1 x 2 m w/ 0.547-µm mesh	Systematic, grid basis, long-term station selection	Continuation of SEAMAP, continuation of SE Florida National Park monitoring	None
NOAA, NMFS/SEFC Beaufort, NC	All economically important fish	Larval stages	Galveston Bay, Mississippi Delta, Cape San Blas	Internal, territorial, FCZ	170 R/V OREGON II, 278' R/V RESEARCHER	24 days/yr 25 days/yr			505-µm nitex, 67-µm nitex	Short-term special studies	None	None
NOAA, NMFS/SEFC Galveston, TX	All penaeid shrimp, ocellated flounder, rock sea bass, dwarf sand perch, red snapper, lane snapper, southern kingfish, blackfin sea robin, bighead sea robin, inshore lizard fish	Post larval-adult	U.S. Gulf of Mexico	Internal, (FCZ)	170' R/V OREGON II (Texas Closure) Charter vessels, CAPT. EDDIE & MISS VIRGINIA, for Tortugas Sanctuary	117 days total Texas Closure & Tortugas Sanctuary		(Texas Closure) Same as OREGON II (CAPT. EDDIE & MISS VIRGINIA) 4-4 40' flat net	Same as OREGON II No plankton nets	Random (stratified) for Texas Closure & Tortugas Sanctuary Short-term special studies for estuarine ecology	None	None
U.S. Dept. of Interior, Fish & Wildlife, LSU, Baton Rouge, LA	All economically estuarine-dependent fishes & crustaceans	Larval-juvenile	SW Louisiana	Estuarine	(1) mudboat 275 hp (1) airboat 250 hp (1) outboard 35 hp	365/yr	Varies w/ project	16' flat otter trawl and traps	0.5-m 0000 plankton net, 6' beam trawl w/ 0000 mesh	Systematic, long-term station selection, short-term special studies	In 1 year, work will be decreased considerably	None
U.S. Army COE Mobile, AL	All commercial & recreational benthic species	All stages	Mobile Bay, MS Sound, U.S. Gulf of Mexico to the 20 fm contour	Internal, territorial	Charter research vessel	Varies w/ project	Varies w/ project	Varies		Systematic, random, short-term special studies	None	None

TABLE 2. SUMMARY OF INFORMATION PROVIDED BY STATE AGENCIES

Agencies	Target Species	Life Stages Samples	TYPES OF FISHERY-INDEPENDENT SAMPLING		ANNUAL EFFORT DEVOTED TO FISHERY-IND. SAMPLING BY ACTIVITY IN:		TYPES OF GEAR		Sample Strategy for Data Collection	Anticipated Changes in Direction of Fishery-Ind. Activities Over Next 5 Years	High Priority Species That are Presently Unable To Sample
			Area Sampled	Geographic Areas of Importance	Types of Platforms	No. of Days	No. of Samples	Fishing, Trawling			
Texas Parks & Wildlife	All penaeid shrimp, all other species	Juvenile-adult	TX internal coastal waters and territorial sea	Internal, territorial	30' inboard & 18' outboard skiffs, 40-45' inboard	365/yr	960/yr 1440/yr 520/yr 960/yr 666/yr 40/yr	60' bag seines (shoreline) 20' trawl (bay, open water) 20' trawl (bay to Gulf Pass) 26' trawl (Gulf waters) Gill nets for adult finfish (along shore) 40' trawl (Gulf waters)	Random	None	Include Sabine Lake and Gulf beaches in sampling
Louisiana Dept. Wildlife & Fisheries	All penaeid shrimp and groundfish	Larval to adult	LA inshore waters, territorial seas, FCZ	Internal, territorial	13-17' outboards for 6' trawl; 30' inboards for 16' trawls; 85' vessel (LOOP) for 50' trawl	137/yr state 92/yr LOOP	Plankton, 1165/yr; Benthos, 56/yr; Trawls: 1225/yr 1288/yr 494/yr 72/yr 12/yr	4-m surface ring nets (153 and 363 µm) 1-m surface ring (363 µm) 60-cm bongo nets (363 µm) Otter trawls: 6' (inshore) 16' (inshore) 16' (offshore) 50' (offshore) 50' (offshore)	Long-term station selection and LOOP monitoring	Reorganization of territorial sea sampling; increase emphasis on commercial and recreational finfish	Most of the important commercial and recreational catch
Mississippi Bureau of Marine Resources	All penaeid shrimp, speckled trout, redfish, mullet, black drum, flounder, snapper, grouper, white trout, ground mullet, menhaden, blue crab	Juvenile-adult	MS territorial sea	Internal, territorial (FCZ)	32' Laffitte 19' Cobia 65' Oyster Dredge Boat	50/yr 10/yr 50-60/yr	Varies Oyster 6/mo Shrimp 11-15/mo	12' and 16' trawl Oyster tongs and dredge	Long-term station selection, varies with opening and closing of areas	Increase and expand mackerel, snapper, grouper research with age and growth length frequency	Highest priority are shrimp and oysters; finfish inadequate personnel
Alabama Dept. of Conservation & Nat. Resources	All penaeid shrimp, bay anchovy, Gulf menhaden, croaker, spot, seatrout, red drum	Larval-adult	AL marshes to territorial sea	Internal, territorial	18' Seacraft, 115 hp; 23' Seacraft, 115 hp	108/yr	960/yr	50' bag seine 16' otter trawl	Long-term station selection	None	Increase level of sampling in AL territorial sea, presently prevented due to lack of appropriate vessel
Florida Dept. of Natural Resources	Red drum spotted trout, snook, king mackerel, mullets, gag grouper, tarpon, stone crab, blue crab, spiny lobster, oysters, hard clam	All stages, larval-adult	FL waters & offshore	Internal, territorial	37' R/V BONNIE "E", 27' Sea Star twin 1/0, 24' T-craft inboard, 2 small outboards used for inshore sampling, 1 mullet skiff	Varies Weekly intervals (annually)	Varies with project	100' bag seine Benthic sled w/net Tammel net, 600' x 8' Lobster & crab traps	Systematic, random (stratified), grid basis Long-term station selection, short-term special studies	Creation of Marine Fisheries Commission	Mainly applies to implementation of research phases on current species or topics w/additional personnel and increased funding

TABLE 3. SUMMARY OF INFORMATION PROVIDED BY UNIVERSITIES

Universities	Target Species	Life Stages Samples	TYPES OF FISHERY-INDEPENDENT SAMPLING			ANNUAL EFFORT DEVOTED TO FISHERY-IND. SAMPLING BY ACTIVITY IN:		TYPES OF GEAR					Anticipated Changes in Direction of Fishery-Ind. Activities Over Next 5 Years	High Priority Species That are Presently Unable To Sample
			Area Sampled	Geographic Areas of Importance	Types of Platforms	No. of Days	No. of Samples	Fishing, Trawling	Plankton	Sample Strategy for Data Collection				
FLORIDA														
Florida State Tallahassee	Benthic in-fauna Epibenthic fishes & invertebrates	Larval-adult	NE Gulf of Mexico	Internal, territorial	(3) 55 hp 25' skiffs, outboard	48/yr	Monthly samples; both trawl & environ.	Standard 5-m otter trawl	80µm plankton net	Systematic, random long-term station sel., short-term special studies	More environmental experimentation	Areas: Apalachicola Bay system & Apalachee Bay; species: all species in those areas		
Univ. West Florida Pensacola	Snappers groupers triggerfish	Subadult-adult	NE Gulf of Mexico	Internal	(1) 23' R/V ARGONAUT	7/yr trawling, 14/yr plankton neuston	50/yr 140/yr	16' otter trawl	2 (1-m) nets 3 (1-m) neustons	Systematic, random (stratified)	None	None		
Florida Sea Grant Gainesville	Oysters, spiny lobster, swordfish, tilefish, snowy grouper, shark and clams	All stages	FL waters	Estuarine, coastal	Industry, NMFS and F.I.O. contract vessels	Varies w/ project	Varies w/ project			Varies w/project	None	None		
Florida Institute of Oceanography St. Petersburg	All species	All stages	Gulf, Caribbean and South Atlantic	Internal, territorial	R/V. SUNCOASTER	20-30/project	Varies	40' otter trawl, Tucker Trawl, Shellfish dredge	Various plankton nets	Random, long-term station sel., short-term special studies	To continue w/SEAMAP; Expanded environmental	None		
ALABAMA														
Univ. So. Alabama Mobile	All finfish	Egg & larvae	Mobile Bay and nearshore waters	Internal, territorial	40' R/V DEBORAH "B"	15/yr	200/yr		Meter net 505-mm mesh demersal, & neuston	Systematic, grid basis, long-term station selection	None	None		
MISSISSIPPI														
Univ. So. Mississippi Hattiesburg	American eel, freshwater prawn, all estuarine finfish	All stages	MS estuarine Northern Gulf	Estuarine, territorial	Various small skiffs (outboard)	Varies	Varies	Standard basic equipment	Standard basic equipment	Short-term special studies	Increase development of a marine science program	None		
Gulf Coast Research Laboratory	All penaeid shrimp, blue crab, croaker, spot, searout, catfish, Gulf menhaden, At. bumper, sea mullet, butterflyfish, cutlassfish	Larval-adult	MS territorial sea	Internal, territorial (FCZ)	96' R/V TOMMY MUNRO (5) 24' skiffs (1) 30' R/V GANNET (1) 35' R/V HERMES	Semimonthly at 2-wk intervals	216 trawl stations/yr	50' bag seine 36' otter trawl 16' otter trawl 6' renfro beam trawl, Variable mesh gill net sampler	Tucker Trawl	Long-term station selection	Fishery Division anticipates its program of monitoring & assessment over the long term with appropriate increases in intensity & scope if funds become available.	The adult phases of most species (both finfish & shrimp) occur offshore where coherent long-term sampling is difficult due to current funding restrictions. These same restrictions preclude adequate inshore sampling of the adults of some species such as striped mullet.		

TABLE 3. (CONTINUED)

Universities	Target Species	Life Stages Samples	TYPES OF FISHERY-INDEPENDENT SAMPLING		ANNUAL EFFORT DEVOTED TO FISHERY-IND. SAMPLING BY ACTIVITY IN:			TYPES OF GEAR		Sample Strategy for Data Collection	Anticipated Changes in Direction of Fishery-Ind. Activities Over Next 5 Years	High Priority Species That are Presently Unable To Sample
			Area Sampled	Geographic Areas of Importance	Types of Platforms	No. of Days	No. of Samples	Fishing, Trawling	Plankton			
LOUISIANA												
Univ. New Orleans New Orleans	Blue crab, oysters, marine commercial finfish	All stages	Lake Pontchartrain	Internal		Varies				Short-term special studies	To analyze commercial fish pops. by use of protein electrophoresis & multivariate analysis of morphometric characters	None
McNeese St. University Lake Charles	All penaeid sp., Gulf menhaden, red drum	All stages	Nearshore Gulf off Cameron/Holly Beach, Calcasieu Lake, Calcasieu Pass	Estuarine, coastal	65' R/V CAPT. BRADY JOSEPH	12-24/yr for 4 disciplines 75/yr total	Benthic nekton, phytoplankton, Zooplankton	15-m balloon otter trawl, 5-m flat otter trawl	3-liter Van Dorn bottle, 67-cc bongo array, 0.333-mm & 0.505-mm mesh nitex nets, Ring net 1.0 m w/ .353 mesh	Grid basis Long-term station selection Short-term special studies	Scale down sampling activities from monthly to quarterly. Direction will remain essentially unchanged.	None
Nicholls St. University Thibodaux	Oysters	All stages	Terrebonne Bay, Barataria Bay	Estuarine	21' skiff 30' oyster dredge boat	48/yr	144/yr	Oyster dredge		Random, long-term station selection	Two more yrs. w/oyster project before it ends	None
Louisiana St. University Baton Rouge (9 projects):												
169-20-1014	Red drum, spotted sea trout	Juveniles	Caminada Bay,	Estuarine		Varies	Varies			Special study to compare sampling efficiency	Short-term special study	None
169-20-4108	All nekton	All stages	Upper Calcasieu	Estuarine	19' Boston Whaler	12-20	50	16' trawl w/ modified net		Stratified, short-term station select.	1-yr special study	None
169-20-0117	Benthic macrofauna	All stages	Caillou Is.	Internal, coastal	Oil rig	Varies	6	Box corer		Site-specific special study	Short-term special study	None
169-20-4112	King mackerel, other coastal pelagics	Juvenile, adults	Grand Isle	Internal, coastal	24' Aqua-sport	Varies	Varies	Trolling (4 lines)		Sample in areas of commercial activity	Increase tagging activity to include Mexican stocks	None
Pending	Shrimp	Larvae	Sabine and Rockefeller Refuges	Estuarine	Airboat w/ towed skiff	30	80	Drop net		Short-term station selection	Two additional years	None
169-20-1210	Snapper, grouper, tilefish	Adults	Cont. shelf of FCZ	Internal, territorial	Chartered shrimp	15	15	1000-hook longline		Exploratory	Short-term special study	None
Pending	Squid	Adults	LA Cont. shelf	Internal, territorial	Chartered shrimp	10	Varies	4-line squid jig		Exploratory	Short-term special study	None
169-20-4123	Nekton, benthos	All stages	Pt. Au Chien Mgmt. Area	Estuarine	Small Boston Whaler	30		Box corer, unspecified nets		Long-term station selection	None	None
169-20-0107	Nekton	Juveniles, adults	Calcasieu Ship Canal	Coastal, estuarine	Commercial wing-net shrimp	20-25	200	Wing-net		Areas of commercial	Short-term special study	None
Louisiana Universities Marine Consortium	Zooplankton, benthos	All stages	Terrebonne and Timbalier Bays, Inner Cont. shelf	Internal, territorial	Small out-boards 44' R/V R.J. RUSSELL	30/yr	Varies	5-m otter trawl	.33-µm, 0.5-m net	Fixed station transects	Expand effort using new 17-m and 32-m vessels	

TABLE 3. (CONTINUED)

			TYPES OF FISHERY- INDEPENDENT SAMPLING		ANNUAL EFFORT DEVOTED TO FISHERY-IND. SAMPLING BY ACTIVITY IN:			TYPES OF GEAR				
Universities	Target Species	Life Stages Samples	Area Sampled	Geographic Areas of Importance	Types of Platforms	No. of Days	No. of Samples	Fishing, Trawling	Plankton	Sample Strategy for Data Collection	Anticipated Changes in Direction of Fishery-Ind. Activities Over Next 5 Years	High Priority Species That are Presently Unable To Sample
TEXAS												
Univ. of TX Austin Marine Science Laboratory Port Aransas	All larval fishes Ecosystem/ benthic	All stages	Internal & territorial waters	Internal, territorial (FCZ)	80' R/V LONGHORN 57' R/V KATY	100/yr	Varies w/ project	42' semibal- loon shrimp trawl, 40' otter semi- balloon trawl	12' x 24" plankton net	Short-term special studies	Institute expansion on all present programs	None
Texas A & I Kingsville	All inshore bay species	All stages	Corpus Christi to Brownsville	Internal, coastal		24/yr	150/yr			Short-term special studies	None	None
Texas A & M College Station	All penaeid shrimp, all finfish	All stages	Bryan Mound, Freeport	Internal territorial (FCZ)	Shrimp vessel	40/yr	Monthly samples	40' shrimp trawl		Long-term station selection, short- term special studies, systematic, grid basis	Monitoring Hackberry Site	Groundfish species

FINANCIAL STATEMENTS

OF

GULF STATES MARINE FISHERIES COMMISSION
Ocean Springs, Mississippi

For The Fiscal Year Ended September 30, 1983

ROBERTS, COOPER & RASOR

CERTIFIED PUBLIC ACCOUNTANTS

4445 PASS ROAD
BILOXI, MISS. 39531

(601) 388-9533

PAUL E. ROBERTS, JR., C.P.A.
GERALD W. COOPER, C.P.A.
CHARLES EDGAR RASOR, C.P.A.

MEMBERS:
AMERICAN INSTITUTE OF CPA'S
MISSISSIPPI SOCIETY OF CPA'S

To The Commissioners
Gulf States Marine Fisheries Commission
c/o Mr. Larry B. Simpson, Executive Director
P. O. Box 726
Ocean Springs, Mississippi 39564

Gentlemen:

We have examined the balance sheet of Gulf States Marine Fisheries Commission as of September 30, 1983, and the related statement of revenues, expenses and changes in fund balances for the fiscal year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion the accompanying financial statements present fairly the financial position of Gulf States Marine Fisheries Commission at September 30, 1983, and the results of its operations and changes in fund balances for the twelve months then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

A separate management letter containing our observations pertaining to the internal administration of the Commission's financial affairs will be furnished to the Executive Director.

Charles Edgar Rasor
CERTIFIED PUBLIC ACCOUNTANTS

January 10, 1984
Biloxi, Mississippi

BALANCE SHEET
September 30, 1983

ASSETS

Cash		\$ 42,546
Accounts receivable [Note 6]		1,127
Furniture, fixtures & equipment	\$ 40,224	
Automotive equipment	<u>5,570</u>	
 Total	 \$ 45,794	
<u>Less: Accumulated depreciation</u>	<u>17,361</u>	<u>28,433</u>
 Total		 <u>\$ 72,106</u>

LIABILITY

Payroll taxes withheld and accrued		\$ 3,059
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FUND BALANCES [Page 79]

Operating Fund	\$ 40,152	
State-Federal Fisheries-Management Funds	16,782	
Administrative Support Funds	[41]	
Programmatic Funds	[3,917]	
SEAMAP Funds	17,929	
Council Funds	<u>[1,858]</u>	<u>69,047</u>
 Total		 <u>\$ 72,106</u>

See the accompanying Notes to Financial Statements (page 81).

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN FUND BALANCES
Fiscal Year Ended September 30, 1983

	Operating Fund	State-Federal Management Funds
<u>REVENUES:</u>		
Member states appropriations		
Alabama	\$ 11,250	\$
Florida	22,500	
Louisiana	-0-	
Mississippi	32,750	
Texas	15,000	
Grants		15,418
Refund on closed contract	7,189	
Interest earned	5,471	
Total Revenues	<u>\$ 94,160</u>	<u>\$ 15,418</u>
<u>EXPENSES:</u>		
Salaries	\$ 60,781	\$ 3,760
Auto	807	
Dues and subscriptions	1,370	
Indirect costs	5,340	
Insurance	1,045	
Maintenance and repairs	2,964	
Meetings	4,214	1,155
Office supplies and expense	2,905	490
Postage	3,512	400
Printing	271	5,103
Professional fees	1,685	
Rental of equipment	3,274	100
Sub-contracts		
Taxes - payroll	5,757	
Telephone	8,400	250
Travel and entertainment	20,088	5,242
Depreciation	2,840	
Total Expenses	<u>\$ 125,253</u>	<u>\$ 16,500</u>
Excess of Revenues Over/[Under] Expenses	<u>\$[31,093]</u>	<u>\$[1,082]*</u>
Fund Balances, October 1, 1982	<u>71,245</u>	<u>17,864</u>
Fund Balances, September 30, 1983	<u>\$ 40,152</u>	<u>\$ 16,782</u>

* To receive \$1,082 in next fiscal year on \$16,500 FY'83 contract.

** To receive \$8,959 in next fiscal year on \$25,000 FY'83 contract.

+ To receive \$3,250 in next fiscal year on \$17,000 FY'83 contract.

++ To receive \$7,275 in next fiscal year on \$12,000 FY'83 contract.

State-Federal Administrative Support Funds	State-Federal Programmatic Funds	State-Federal SEAMAP Funds	State-Federal Council Funds	Combined Funds
\$	\$	\$	\$	\$ 11,250
				22,500
				-0-
				32,750
				15,000
9,792	15,811	50,177	16,041	107,239
				7,189
				5,471
<u>\$ 9,792</u>	<u>\$ 15,811</u>	<u>\$ 50,177</u>	<u>\$ 16,041</u>	<u>\$ 201,399</u>
\$	\$	\$	\$	\$ 103,190
	7,613	8,371	22,665	807
	2,716			1,370
				8,056
				1,045
				2,964
		582		5,951
	731	443		4,569
		1,066		4,978
				5,374
	5,250			6,935
	225	1,786		5,385
		8,500		8,500
				5,757
		458		9,108
1,874	125	11,042	2,335	40,706
			221	3,061
<u>\$ 1,874</u>	<u>\$ 16,660</u>	<u>\$ 32,248</u>	<u>\$ 25,221</u>	<u>\$ 217,756</u>
\$ 7,918	\$[849]++	\$ 17,929+	\$[9,180]**	\$[16,357]
[7,959]	[3,068]	-0-	7,322	85,404
<u>\$[41]</u>	<u>\$[3,917]</u>	<u>\$ 17,929</u>	<u>\$[1,858]</u>	<u>\$ 69,047</u>

See the accompanying Notes to Financial Statements (page 81).

NOTES TO FINANCIAL STATEMENTS
September 30, 1983

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

[A] The accounting and reporting practices of the Commission conform to generally accepted accounting principles applicable to governmental units applied on a consistent basis between periods. The accrued basis of accounting is followed with these modifications:

[1] Revenues from members states' appropriations are recorded when received in cash.

[B] Depreciation of furniture, fixtures, equipment and the commission vehicle is calculated using the straight-line method.

NOTE 2 - ORGANIZATION:

Gulf States Marine Fisheries Commission was created with the consent of the 81st Congress of the United States, granted by Public Law 66, approved May 19, 1949, authorizing an interstate compact relating to the better utilization of the fisheries of the Gulf of Mexico. Parties to the agreement are the states of Alabama, Florida, Louisiana, Mississippi and Texas.

NOTE 3 - STATE-FEDERAL FISHERIES MANAGEMENT PROGRAM:

Effective August 15, 1975, the Commission entered into a contract with the U. S. Department of Commerce to provide administrative support of the State-Federal Fisheries Management Program in the Gulf of Mexico coastal states.

NOTE 4 - STATE-FEDERAL FISHERIES ADMINISTRATIVE SUPPORT PROGRAM:

Effective in prior fiscal years, the Commission entered into contracts with the U. S. Department of Commerce to provide administrative support of the State-Federal Fisheries Planning and Administrative Program in the Gulf of Mexico coastal states.

NOTE 5 - STATE-FEDERAL FISHERIES COUNCIL SUPPORT PROGRAM:

Effective in prior fiscal years, the Commission entered into contracts with the U. S. Department of Commerce to provide administrative support of the State-Federal Fisheries Council in the Gulf of Mexico coastal states.

NOTE 6 - ACCOUNTS RECEIVABLE:

Reimbursements due the Commission by organizations and individuals in relation to the retirement dinner for the Executive Director.

