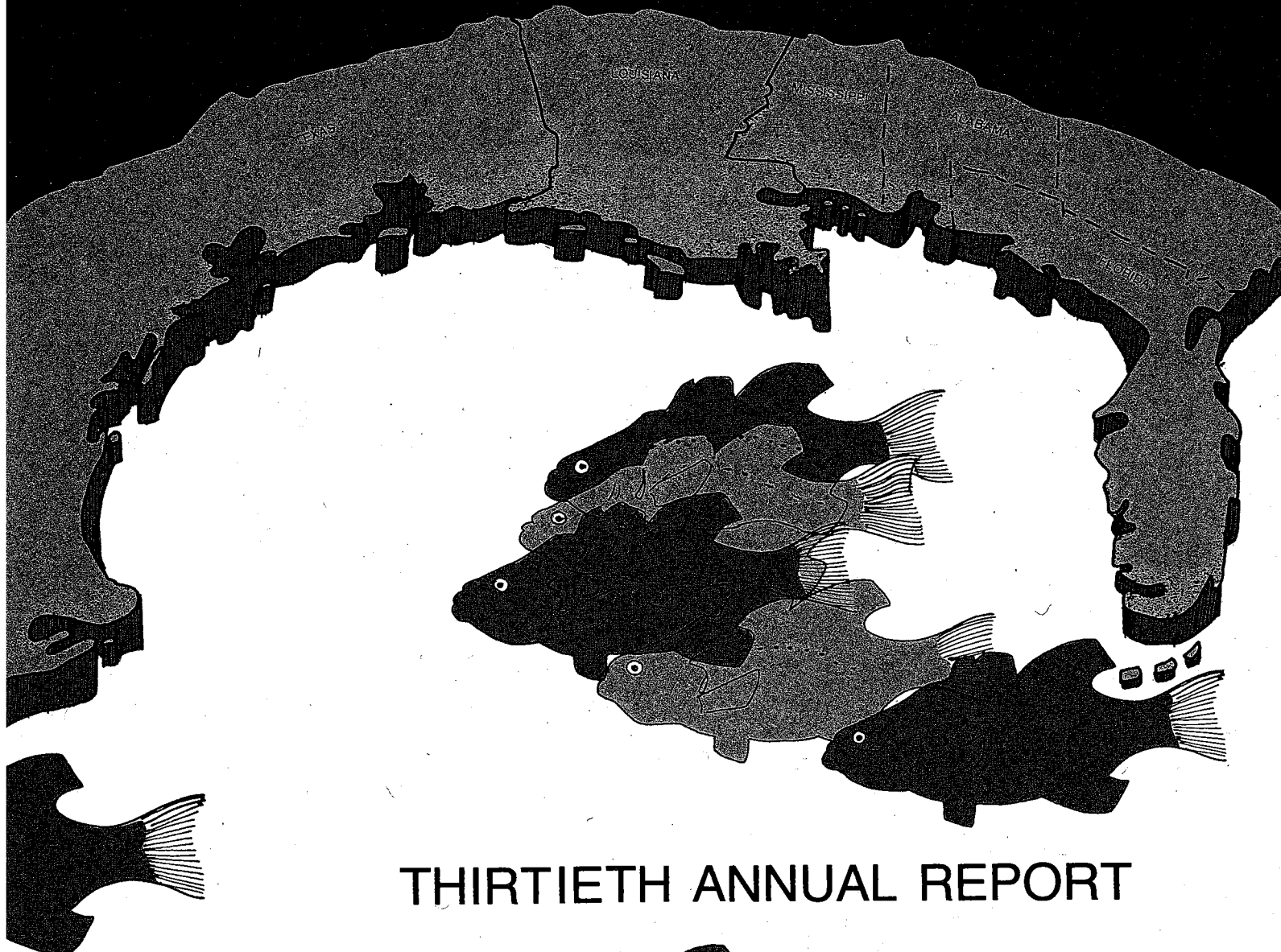
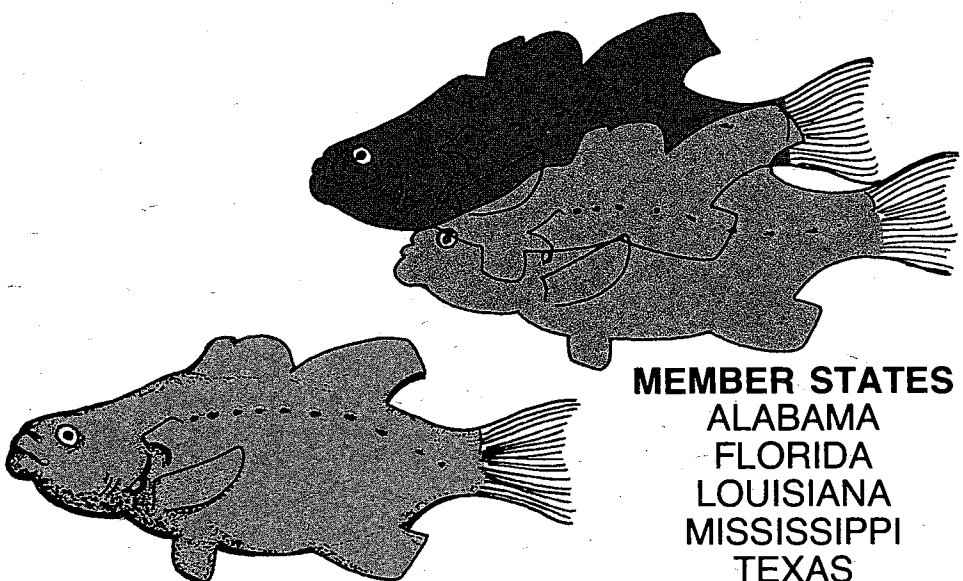


Gulf States Marine Fisheries Commission



THIRTIETH ANNUAL REPORT



MEMBER STATES
ALABAMA
FLORIDA
LOUISIANA
MISSISSIPPI
TEXAS

GULF STATES MARINE FISHERIES COMMISSION
THIRTIETH ANNUAL REPORT (1978-1979)

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

ACKNOWLEDGEMENT

In submitting this Thirtieth 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 twenty-nine years could not have been possible without such valued assistance. This acknowledgement 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,

Leroy Wieting, Chairman
Richard Yancey, Vice Chairman
Charles H. Lyles, Executive Director

**GULF STATES MARINE FISHERIES COMMISSION
THIRTIETH ANNUAL REPORT**

CONTENTS

Roster of the Gulf States Marine Fisheries Commission	1
Commission Officers Elected for Year 1978-1979	2
Commission Activities—October 1978—September 1979	3
Summary of Committee Activity	7
Meetings/Activities of Executive Director	9
Alabama Department of Conservation and Natural Resources	12
Florida Department of Natural Resources	14
Louisiana Department of Wildlife and Fisheries	16
Mississippi Marine Conservation Commission	17
Texas Parks and Wildlife Department	20
Gulf State—Federal Fisheries Management Board	21
Southeast Region—National Marine Fisheries Service	22
Gulf of Mexico Management Council	30
Audit Report as of September 30, 1979 by Charles Edgar Rasor, Certified Public Accountant	32

Roster of the

GULF STATES MARINE FISHERIES COMMISSION

October 1978—September 1979

Chairman: Leroy Wieting

Vice-Chairman: Richard Yancey

Executive Director: Charles H. Lyles

COMMISSIONERS

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

ALABAMA

Richard A. Forster, Director
Alabama Department of Conservation and Natural Resources
Montgomery, Alabama

L. D. Owen, Senator
State of Alabama
Bay Minette, Alabama

Thomas H. Clark
Orange Beach, Alabama

FLORIDA

Harmon Shields, Director
Florida Department of Natural Resources
Tallahassee, Florida

Joseph B. Allen, Jr., Representative
State of Florida
Tallahassee, Florida

Clyde Richbourg
Pensacola, Florida

LOUISIANA

J. Burton Angelle, Director
Louisiana Department of Wildlife and Fisheries
New Orleans, Louisiana

Conway LeBleu, Representative
State of Louisiana
Cameron, Louisiana
Leroy Kiffe
Lockport, Louisiana

MISSISSIPPI

Richard K. Yancey, Director
Mississippi Department of Wildlife Conservation
Biloxi, Mississippi

Ted Millette, Representative
State of Mississippi
Pascagoula, Mississippi

William Gray Slay
Biloxi, Mississippi

TEXAS

Charles D. Travis, Executive Director
Texas Parks and Wildlife Department
Austin, Texas

Leroy Wieting, Representative
State of Texas
Portland, Texas

John A. Mehos
Galveston, Texas

**COMMISSION OFFICERS ELECTED FOR
YEAR 1978-1979**

Chairman: **Leroy Wieting** succeeding Nat Sonnier
Vice-Chairman: **Richard K. Yancey** succeeding Leroy Wieting

STANDING COMMITTEES

Executive Committee	Leroy Wieting, Chairman
Technical Coordinating Committee	Ted Ford, Chairman
Industry Advisory Committee	Leroy Kiffe, Chairman
Recreational Fisheries Committee	Guy Billups, Jr., Chairman
Sea Grant Committee	Willis Clarke, Chairman
Committee to Correlate Fishery Laws	Wings Benton, Chairman

COMMISSION ACTIVITIES

OCTOBER 1978-SEPTEMBER 1979

The Gulf States Marine Fisheries Commission operates on a Fiscal Year (F.Y.) basis beginning October 1, and ending September 30 the following year. Two annual meetings are held each year during this period, one beginning the third Thursday in October, and the other beginning the third Thursday in March. The meetings are rotated among each of the five Gulf states.

The activities of this Commission during the 1978-79 F.Y. are briefly described in the following pages. One of the missions of the Gulf States Marine Fisheries Commission is to promote conservation of its fishery resources through better management practices and to insure full utilization of these resources for the good of the peoples of the five Gulf States and the Nation. Achieving these objectives requires that studies and planning be directed to those species that inhabit the states territorial waters and that are under the heaviest fishing pressure. Two of these species are the spotted seatrout and the red drum or red fish. Accordingly a committee was established for the explicit purpose of assembling all the known facts and management experience of these species and developing with this material a profile of the fish and its fishery. From this profile a management plan can be easily and quickly developed. In order to back up this committee and its work, a colloquium on the Spotted Seatrout and Red Drum was held in Tampa, Florida in October of 1978. The proceedings of this colloquium and the profile of the species has been edited and is now in the process of being printed. These two documents will doubtless provide an excellent basis for management strategy for these two important species.

The blue crab that inhabits the coastal waters of all five Gulf states supports a substantial commercial industry as well as a considerable recreational fishery. One of the principal problems in this fishery is the tendency to over protect the animal, particularly the egg bearing

females. Persons not familiar with the fecundity of various animals have a tendency to equate the productivity of the female blue crab to that of the four-legged vertebrates with which they are familiar. This kind of thinking frequently results in protecting the blue crab far beyond any need to insure maximum yield, thus limiting the harvest of the animal and in some cases severely restricting the commercial industry. Over-protection is a major problem in blue crab management.

The Gulf States commission created a committee to produce a profile of the blue crab and its fishery. A colloquium was planned for Biloxi in the fall of 1979. From these activities it is hoped management structure can be developed which will protect the animal where protection is necessary and yet permit maximum harvest in an efficient manner.

Future meetings of the Gulf States Marine Fisheries Commission are planned to address the problems of the Fisheries of the Gulf and the Environment. This topic of concern and importance to all users of the resource will be the theme of the March 1980 meeting in Mobile, Alabama.

Of major concern to the Commission has been an increasing tendency for the states to enact legislation which restricts the citizens of other states more severely than its own citizens. This condition has doubtless been brought about because of the increasing pressure on fishery resources thus creating a demand for each state to protect its own citizens and their economic interest. The laws of this nation and the ruling of the courts have stated clearly that no law is constitutionally enforceable that denies all citizens equal protection under the law. Still some of the legislatures have reacted to pressure from their constituents for this kind of legislation. The Commission takes the stand that the resources are property of all the people and there-

fore should be open to all who pay for the privilege and abide by harvesting regulations.

The crowded condition in the harvesting sector of some of our fisheries serves notice that if these fisheries are to remain economically viable, management strategy must be developed which will include the use of any or all options open to the managers to insure that the standard of living of those engaged in the fishery does not deteriorate to such a level that they are economically second class citizens. Efficiency in harvesting must be stressed and waste must be reduced to a minimum. Based on these principles the commission is working towards the objective of developing management strategy for those fisheries within the states territorial waters which will be compatible with the management strategy in the fishery conservation zone.

This Commission serves as a watchdog agency for Federal actions which affect the interest of the Gulf states and the fishing community. One such example during the year included efforts to obtain meaningful implementing regulations for Title IV of the Outer Continental Shelf Act. While the statute has been signed into law for more than a year, no payments for damages caused from underwater obstruction have yet been made. Efforts to correct this situation are continuing.

While this Commission reviewed the proposed regulations governing payment for damage under Title IV of the OCS Act as published in the Federal Register, the final regulations contained four specifics which we believe render the law almost useless. These are:

- 1) The fund refuses to pay for more than one hang-up on the same obstruction.

- 2) If it has been determined that an oil company is responsible for the obstruction, the fund will not pay. We believe a poor fisherman has precious little chance in a lawsuit against a major oil company with its vast economic resources.

- 3) The settlement for economic loss or lost time is based on 365 days fishing time when any individual with fishing knowledge of the Gulf knows that about 180 days is the average working time in the Gulf. Thus payment is much less than is due.

- 4) There is no payment for the fisherman who does his own work. This means that the average lost time is further reduced because he is using

his own time away from fishing to repair his damage and without compensation. We believe this is unfair.

The Commission requested that an office be established in New Orleans for the explicit purpose of dealing locally and quickly with Title IV payment problems. This has not been done and is doubtless one of the reasons why payments have been so slow. Bureau of Land Management has an office in New Orleans and coordination could be more easily effected if National Marine Fisheries Service did likewise.

While the Assistant to the Director of this Commission is normally assigned the responsibility for attending Council meetings, the Executive Director attended four meetings in 1979, as follows: January - New Orleans, April - Biloxi, June - New Orleans, August - Corpus Christi. While the August meeting in Corpus Christi was for the specific purpose of dealing with the question of interstate management within the states waters, the other meetings were primarily of a monitoring nature to determine the drift of Council activities.

In order to stay abreast of industry problems and in an effort to work closely with trade associations in the Gulf, the Executive Director attended principal trade association meetings in the Gulf during 1979. Considerable information and guidance was obtained from these meetings. An example of this was the assistance given the industry during the fuel oil shortage in the spring and summer of 1979. Working through the National Shrimp Congress organization which gave much valuable help, we were able to alleviate the immediate shortages in several coastal communities.

One of the major achievements of this commission during the year was the successful efforts to obtain \$3.6 million in disaster funds to replant oyster reefs destroyed by spring flooding. Normally it requires from 9 months to 1 year to obtain this kind of disaster funding, but because of the efforts of Congressman John Breaux, (D-LA) and the co-operation of the Regional Office of National Marine Fisheries Service, we were able to secure the funding in sufficient time to permit the states to plant shells in time to obtain a fall spat set. These funds were obtained from Section 4(b) of P.L. 88-309. The states received the following amounts:

Alabama	\$1,275,000
Mississippi	\$ 675,000
Louisiana	\$1,000,000
Texas	\$ 624,000
Total	<hr/> \$3,574,000

Of major concern to this Commission in recent years has been the increasing participation of subsistence and so called recreational fishermen in the shrimp fishery. This has grown enormously in Louisiana, Mississippi, Alabama and Texas. Lack of adequate and uniform licensing systems in the various states makes it difficult to determine the extent of this harvest and so management strategy is difficult to formulate. During the year the Commission signed a contract with Human Sciences Research, Inc. to conduct a survey of the so called recreational shrimp fishery in the Gulf States (GSMFC #00003). Although the job was very difficult without a base figure from which to select a sample the survey seems to have gone very well and after some minor adjustments it appears some very enlightening data will be forthcoming at the conclusion of the survey in December 1979. A continuation of the survey is anticipated in 1980.

The Commission also contracted with the Louisiana Dept. of Wildlife and Fisheries for a study of "Tagging Mortality and Tag Shedding of Juvenile Gulf Menhaden, *Brevoortia patronus*." The study measured the differences in tag shedding and tagging mortality rates among size classes of juvenile Gulf menhaden and between taggers for each of two tag sizes. No significant differences were detected between taggers except for menhaden 50-67 mm in the laboratory experiment. No significant differences were detected between tag sizes for fish of the same size. There were significant differences in tag losses among the size classes of menhaden tested in the field experiment where 50-69 mm fish experience almost total mortality. A successful system for holding menhaden for laboratory experiments was developed.

In March 1978 the Menhaden Advisory Committee recommended that the Gulf State-Federal Fishery Management Board adopt a "Captain's daily fishery report" designed to provide improved catch and effort data from the Gulf menhaden industry. The Board, after finding that all menhaden plants in the Gulf

menhaden fishery were required by State laws to maintain daily fish reports, approved the proposed reporting form. All menhaden companies operating in the Gulf agreed to collecting the completed reports at their respective plants during the 1978 fishery season. The recommendation was approved by the full Commission and subsequently, using funds supplied by National Marine Fisheries Service, under the State-Federal program, signed a contract with the Gulf Coast Research Lab to conduct a pilot study for a menhaden catch/effort log. The study was completed during this fiscal year and a revised form was recommended which will correct problems identified in the study. The data developed in the pilot study was computerized and made a part of the permanent files of the Beaufort lab's data collection banks. Copies of the new form were purchased and distributed to the menhaden plants prior to the beginning of the 1979 season.

The Commission acting on recommendations of the GS-FFMB, felt there was a need for menhaden information data and so in January 1979, the Commission signed a contract with the Center for Wetland Resources, Louisiana State University to create the instrument. The objectives of the contract were to: (1) determine the location and accessibility of information pertaining to the biological, social, economic and other factors of importance to the Gulf menhaden fishery; (2) compile the reference list and verify its completeness with interested scientists and representatives of the Gulf menhaden industry; (3) evaluate the benefits and costs of computerizing and accessing the references as well as the mechanics required for annually updating the system; and (4) to evaluate the need for a centralized repository of this information and suggest a possible location. The project was nearing completion at the end of this fiscal year.

The Executive Director is an advisor to the Marine Fisheries Advisory Committee of the Department of Commerce. The Committee was first established under the Saltonstall-Kennedy Act to advise in the use of funds provided by this Act. In recent years the composition of and function of the committee has changed considerably. It now acts as an advisory group to the Assistant Administrator on program emphasis for the total program of National Marine Fisheries Service. It is important that we keep in touch with this committee to see that our inter-

ests are heard before the budget process has reached the point of no return.

In October 1978 the committee met in Kona, Hawaii since one of the topics to be discussed was fishery development in the Pacific Islands and the present obstacles to the full use of the fishery resources by the people of these islands. One of the obstacles stressed by the island natives is the statute which prohibits foreign built bottoms from landing fish in U.S. ports. It was pointed out that considerable floating stock, capable of fishing in that part of the world, is available in the world market at bargain prices but they are all foreign built. The people from the trust territories also want tuna brought under the Fisheries Conservation and Management Act in order that they may fully develop their own resources, and utilize them for the better life. My position was that we should go slow on letting foreign vessels land in the U.S. If we find it necessary to build some vessels for these people that would be acceptable, but that we already have enough of an unfavorable balance of trade without adding vessel construction to it.

Mr. Leitzell reported on a number of activities in National Marine Fisheries Service, particularly in the area of fishery development and consumer affairs, a division which he had recently created within National Marine Fisheries Service. The recent trade mission to Japan was discussed particularly as it relates to opening Japanese markets for U.S. fish products. Leitzell indicated pretty clearly that trade barriers which the Japanese have against U.S. fishery products, (and there are many in fish as well as all other U.S. goods) will be taken into account when foreign fishing allocations are made under the terms of Fishery Conservation and Management Act.

Mr. Leitzell discussed his Program Emphasis Document (P.E.D.) for FY 81. While no figures were shown he made it abundantly clear that he considered habitat protection, including research and environmental assessment activities as the top priority. He gave as his second priority for increased emphasis product quality and safety indicating quality is critical if the U.S. industry is to grow.

Some time was devoted to the activities of the councils since the council chairman had just completed their meeting at the same place. The scientific and statistical committee activities and

how they interface with the councils was discussed by Dr. Dayton L. Alverson, National Marine Fisheries Service, Seattle, Washington.

The MAFAC committee again met in Washington, D.C., March 6-8, 1979. One of the major topics for discussion was the fish nomenclature program which National Marine Fisheries Service has under way. An attempt will be made to use suitable and acceptable names on all products.

Terry Leitzell briefed the committee on the status of the budget and indicated where most of the emphasis is to be placed. He also discussed the proposed reorganization which would create a Department of Natural Resources. William Gordon and William Aron discussed implementation of their recently reorganized office of Resource Conservation and Management and the office of Marine Mammals and Endangered Species respectively.

The Committee met again in May, 1979 in Ft. Lauderdale, Florida in conjunction with the Sport Fisheries Institute and the International Game Fish Association. The Subcommittee on Fish Inspection met and discussed the voluntary program being carried out by National Marine Fisheries Services. Several recommendations were made by the committee on the operation of the present program. Mainly these were that it should be voluntary and that because of its self supporting nature it should be exempt from personnel ceilings.

The Subcommittee dealing with Effluent Guidelines asked Department of Commerce, NOAA-NMFS by Resolution to combine expertise and resources to address concerns related to the Clean Water Act (P.L. 95-217) with respect to: (1) the effluent guidelines for seafood processors, and (2) the section 74 study on the environmental effects of seafood waste discharges. The objective of this study should include the determination of the Legislative intent of the act and to develop short and long term efforts which consider both technology-based and environmental aspects of seafood waste disposal for future policies. Seafood waste disposal requirements are becoming both expensive and in some cases detrimental to the best interest of the environment and a thorough review of the matter from the standpoint of cost to the consumer and the loss of these biodegradable effluents in the environment is badly needed.

SUMMARY OF COMMITTEE ACTIVITY

The Technical Coordinating Committee (T.C.C.) acts as the scientific advisory arm for the Commission. At the October meeting of the Commission in Tampa, Florida, Dr. Ted B. Ford was unanimously elected Chairman of the T.C.C. and he in turn appointed J. Y. Christmas as Vice-Chairman.

The T.C.C. is composed of state scientists from the five Gulf States which make up the Commission.

The personnel of the State agencies have developed a vast amount of expertise in the areas of fishery management and are of tremendous service to the Gulf of Mexico Regional Councils, the Commission as well as their own State. The Spotted Seatrout and Red Drum Subcommittee, and the Blue Crab Subcommittee of the T.C.C. are composed of just such people. These two very active subcommittees are responsible for the development of the Spotted Seatrout/Red Drum profile and the proposed Colloquium on Blue Crabs set for the October 1979 meeting at Biloxi, Mississippi.

In addition the T.C.C. has monitored as well as supplied input on projects that affect all the fisheries of the Gulf. Examples include the study of freshwater introduction into the Eastern Louisiana marshes, the statistical collection system in the Southeast as well as the contracts for work in the Gulf under the State-Federal Fisheries Management Plan.

The Spotted Seatrout/Red Drum Subcommittee met 3 times during the period of this report. The subcommittee worked very hard during this period continuously reviewing, revising, and updating their sections for the profile through two of the joint meetings.

The separate states were charged with the drafting of specific sections of the profile and the rough draft of the composite was reviewed at the March 13, 1979 meeting in New Orleans, Louisiana. The subcommittee discussed their charge and by reviewing the organizational meetings determined the product they developed was to be a profile not a complete man-

agement plan. The published document will be of considerable interest to the Gulf area when completed and may eventually lead to the development of a management plan.

The Blue Crab Subcommittee of Gulf States Marine Fisheries Commission met twice during the period covered by this report. The first meeting was a joint session of the GSMFC and ASMFC Blue Crab Subcommittees held in Tampa, Florida on October 17, 1978. At that meeting the group indicated that the red crab, rock and Jonah crab are under the jurisdiction of the regional councils and therefore would not be open for consideration as secondary species within the committee. The group discussed the need for an improvement of fishery information and more uniformity in regulations affecting interstate commerce of blue crabs. One method to accomplish this could be accomplished through workshops in the two regions. The group made the following resolution: "a state/federal blue crab program be established to develop a crab management plan(s)." The issue was passed on a split vote because of higher priorities for funds and was referred to the respective commissions.

At the next meeting in March the Subcommittee plans were discussed for the upcoming Colloquium on blue crabs to be held October, 1979 in Biloxi, Mississippi. The Committee shared their thoughts on the future of the blue crab subcommittee and decided to recommend the authorization and continuation of at least semi-annual meetings. These meetings would enable the states to share general information and new developments to better serve the public on the subject of blue crabs.

The Menhaden Advisory Committee met three times during the period covered by this report. This very active committee has worked closely to improve the status of knowledge and general condition of the fishery. This committee heard and provided input on contracts which the commission administered for such studies as juvenile tagging and mortality, a catch/effort

log, formulation of a menhaden data base, and simulated implementation of the menhaden management system. In addition, the committee addressed current problems in the fishery and proposed solutions to meet those needs. Mr. W. Borden Wallace with Wallace Menhaden Products, Inc. served as chairman for the group through this period.

The Industry Advisory Committee has dealt mainly with the problems associated with underwater obstructions as they relate to fishing. The Major concern of this committee has been to provide input and monitor the developments in the Outer Continental Shelf Lands Act Amendment in Title IV. This is the Fisherman's Contingency Fund which is to pay fishermen for their gear losses associated with oil and gas developments. Although the bill is not exactly what the fishing industry needs this committee working with oil company representatives has been somewhat successful in their efforts to produce

a tool which will someday provide relief to the fishermen who have losses. They continue to provide input on this piece of legislation in its present and future forms.

The Law Enforcement Committee was chaired by Colonel Clifford A. Willis, Director of the Division of Law Enforcement in the Florida Department of Natural Resources. They met at the two regular Gulf States Marine Fisheries Commission meetings during the year. This group heard reports on the current problems with enforcement efforts on a national basis, the new foreign observer program as well as sharing regional observations concerning their own states enforcement efforts. The National Marine Fisheries Service has asked for cooperation in the enforcement of FCMA (200 mile limit law) with the enforcement personnel. This group has discussed the issue and is kept abreast of these and other developments in current trends by these meetings.

MEETINGS/ACTIVITIES OF EXECUTIVE DIRECTOR

Gulf States Marine Fisheries Commission

Meetings (GSMFC)

29th Annual Fall Meeting, Tampa, Florida—10/78
Call Meeting—RE: Administration of Title IV of Outer Continental Shelf Bill, New Orleans, LA.—11/78
29th Annual Spring Meeting, New Orleans, LA.—3/79

Gulf of Mexico Fishery Management Council (GMFMC)

January 1979 New Orleans, LA.
April 1979 Biloxi, MS.
June 1979 New Orleans, LA.
August 1979 Corpus Christi, TX.

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

GS-FFM Board Meeting, Tampa, Florida—10/78
Meeting with Human Sciences Research, Inc. and Board representatives RE: Shrimp Recreational Statistics Contract, New Orleans, LA.—11/78
GS-FFM Board Meeting, New Orleans, LA.—3/79
Meeting with Human Sciences Research, Inc. and Louisiana representatives RE: Shrimp Recreational Statistics Contract, New Orleans, LA.—7/79

Marine Fisheries Advisory Committee (MAFAC)

October 1978 Kona, Hawaii
March 1979 Washington, D.C.
May 1979 Ft. Lauderdale, FL.

Industry Meetings

Shellfish Institute of North America, Orlando, Florida—November 1978
Louisiana Shrimp Association, New Orleans, LA.—December 20, 1978
Southeastern Fisheries Association, Tampa, Florida—January 1979

Gulf and South Atlantic Research and Development Foundation, Tampa, Florida—January 1979
National Fish Meal and Oil Meeting, San Antonio, Texas—January 1979
Louisiana Fisheries Federation, Baton Rouge, LA.—February 1979
Texas Shrimp Association, Austin, Texas—March 1979
Louisiana Shrimp Association, New Orleans, LA.—March 1979
American Shrimp Cannery Meeting, Biloxi, Mississippi—March 1979

Dept. of Energy—Brine Disposal Advisory Committee

Public Hearing, Cameron, Louisiana—April 1979
Committee Meeting, Baton Rouge, LA.—June 1979

P.L. 88-309 Legislation

April 1979 Arkansas Representatives—
 Little Rock, Ark.
January 1979 W/Compact Directors
 NMFS—
 Washington, D.C.
May 1979 W/NMFS Representatives—
 Washington, D.C.

Other

LSU Shrimp Management Plan Meeting, New Orleans, LA.—October 1978 Meeting W/Bureau of Land Management re: pipeline cover, New Orleans, LA.—November 1978
Present testimony before House Merchant Marine and Fisheries Sub-committee on Fish, Wildlife and the Environment re: Anadromous Fish Act, Washington, D.C.—February 1979
Present testimony before Department of Defense's Appropriations Committee re: feasibility study of introduction of freshwater into the Mississippi Sound—Washington, D.C.—April 1979

A Review of Louisiana's shrimp processing industry, Houma, LA.—April 1979
 Meeting W/Louisiana Dept. of Wildlife and Fisheries to be briefed on Louisiana Shrimp situation, New Orleans, LA.—April 1979
 Fourth Annual Marine Recreational Fisheries Symposium, Springfield, Virginia—April 1979
 Public Hearing re: Outer Continental Shelf, Title IV, New Orleans, Louisiana—June 1979

Biloxi Rotary Club, guest speaker re: GSMFC, Biloxi, MS.—August 1979
 Presentation at Senator Thad Cochran's request re: fuel situation, Tupelo, MS.—August 1979
 Presented testimony before the House Merchant Marine and Fisheries Committee re: H.R. 4360 (Underutilized Species), Washington, D.C.—September 1979.

**MEETINGS/ACTIVITIES
 ASSISTANT TO THE DIRECTOR**

OCTOBER 1, 1978—SEPTEMBER 31, 1979

Gulf States Marine Fisheries Commission Meetings (GSMFC)

29th Annual Fall Meeting, Tampa, Florida—10/78
 Call Meeting—RE: Administration of Title IV of the Outer Continental Shelf Bill, New Orleans, LA.—11/78
 29th Annual Spring Meeting, New Orleans, LA.—3/79

Gulf of Mexico Fishery Management Council (GMFMC)

October 1978	Galveston, TX.
October 1978	Tampa, FL.
November 1978	New Orleans, LA.
December 1978	Tampa, FL.
January 1979	Tampa, FL.
January 1979	Tampa, FL.
February 1979	New Orleans, LA.
February 1979	New Orleans, LA.
March 1979	Houston, TX.
April 1979	Biloxi, MS.
April/May 1979	Tampa, FL.
May 1979	New Orleans, LA.
May 1979	Biloxi, MS.
May 1979	Tampa, FL.
June 1979	New Orleans, LA.
July 1979	Key West, FL.
July 1979	Tampa, FL.
August 1979	Corpus Christi, TX.
August 1979	St. Thomas, Virgin Islands
September 1979	New Orleans, LA.

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

GS-FFM Board Meeting, Tampa, Florida—10/78
 Meeting with Human Sciences Research, Inc. and Board representatives RE: Shrimp Recreational Statistics Contract—New Orleans, LA.—2/79
 Spotted Seatrout/Red Drum Subcommittee Meeting—New Orleans, LA.—2/79
 GS-FFM Board Meeting, New Orleans, LA.—3/79
 Meeting with Human Sciences Research, Inc. and Board representatives RE: Shrimp Recreational Statistics Contract—New Orleans, LA.—7/79

Industry Meetings

American Shrimp Cannery Meetings, Biloxi, MS.—3/79
 Sea Grant Fishermen's Symposium, Biloxi, MS.—4/79

Dept. of Energy-Brine Disposal Advisory Committee

April 1979	New Orleans, LA.
May 1979	New Orleans, LA.
June 1979	Baton Rouge, LA.
August 1979	Baton Rouge, LA.

Other

Participant on Oregon II Research Vessel
Cruise, NMFS—November 1978

Met with NMFS Turtle Recovery Team, St.
Petersburg, FL.—December 1978

Public Hearing RE: Brine Discharge, Baton
Rouge, LA.—December 1978

Meeting W/NMFS RE: P.L. 88-309 Legisla-
tion, Washington, D.C.—January 1979

Meeting W/NMFS RE: Socio-Economic Data
needs, New Orleans, LA.—January 1979

Meeting W/NMFS RE: OCS—Title IV, New
Orleans, LA.—February 1979

Meeting W/NMFS RE: Review of Shrimp Re-
search Program, Houston, TX.—March
1979

Attended meeting of the House Merchant
Marine and Fisheries Committee RE: H.R.
4360 (Underutilized Species), Washington,
D.C.—September 1979.

ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

Marine Resources Division

OYSTER LOSSES

Alabama lost 87% of the oysters on the public reefs during 1979. The Flood of 1979 resulted in a loss of 38 million (49%) and Hurricane Frederic which struck the coast on September 12 caused the loss of the remainder. Alabama received an authorization of \$1.275 million for shell planting following the spring losses and will submit a disaster report on losses from the hurricane. Sand Reef was covered by 2-3 inches of sand and the other reefs also experienced major damage. Alabama will have to rely mainly upon imported oysters for the next two years.

A total of 2500 cubic yards of clam shell was planted on Cedar Point in June 1979. Federal funds will be used to plant during the spring of 1980. A spat set study is into the second year in coastal Alabama. Approximately one-half million hatchery reared seed oysters were planted on Shellbank and Bayou Cour reefs in Bon Secour Bay in December 1978. Alabama oysters were spawned at a Maryland oyster hatchery and returned to the Marine Resources Division hatchery at Gulf Shores where they were reared to the size of 1 inch. None of the seed oysters were alive 8 months after planting on the reefs.

ARTIFICIAL REEFS

Four artificial snapper reefs were constructed by the Marine Resources Division during the year off Dauphin Island and Orange Beach. The effects of Hurricane Frederic on the artificial reefs have not been evaluated but many small privately constructed reefs are reportedly moved from their original location. Age and growth studies were completed on red snapper and speckled trout.

SHRIMP

The shrimp monitoring program started in 1977 was continued. The program includes beam trawl sampling of postlarvae and 16-foot trawl sampling of the distribution and abundance of juveniles. Areas are opened and closed based upon juvenile sampling. All Alabama waters were closed on May 19 and most was reopened on June 18. The spring flood had less effect on the brown shrimp crop than expected. Alabama shrimp landings were down 1.1 million pounds from 1978 through the month of October. Exceptional catches were made in inside waters immediately following Hurricane Frederic.

MARICULTURE

Mariculture studies with pompano, Gulf killifish, and four species of shrimp were continued during the year. More than 200,000 killifish were reared for the local bait minnow industry. One trial bait production hatchery established earlier in the year was inundated during the hurricane resulting in the loss of all minnows. While the local restaurants desire pompano of one pound a demand was developed inland for the smaller sized pompano that can be reared in coastal Alabama during one growing season. Shrimp production varied up to 2300 lbs./acre of 36-40 count shrimp.

ANADROMOUS FISH

Alabama striped bass were spawned by joint efforts of the Marine Resources Division and

Game and Fish Division for the first time in 1979. A total of 70 adult brood fish captured from the Alabama River produced 12 million eggs and 1.4 million fry. A total of 754,600 fingerlings were stocked into Alabama coastal waters. More than 200 striped bass from earlier stockings were reported caught during the year. More than 4.1 million striped bass have been stocked since 1974.

ENFORCEMENT

A total of 282 arrests were made during the year resulting in a 96% conviction rate. Regulation 79-MR-1 made it unlawful to transport oysters through closed waters at night. Regulation 79-MR-4 requires that nets fished in all Alabama waters be constantly attended. Regulation 79-MR-7 lowered the creel limit of speckled trout from 50 to 25/person/day.

FLORIDA DEPARTMENT OF NATURAL RESOURCES

Division of Marine Resources Bureau of Marine Science and Technology

Personnel of the Department of Natural Resources Bureau of Marine Science and Technology were active in several aspects of Gulf and Atlantic Fisheries Management Plans. Research data and critiques were proffered for development of coral-reef, reef fish, stone crab, spiny lobster, billfishes, swordfish, and coastal migratory pelagic fish plans.

More than 14,000 king mackerel were tagged over a five year period. Return of Florida tags from North Carolina, Texas, and Mexico prompted additional assessment of migratory routes of kings. Marine Research Laboratory biologists travelled to out-of-state tag return areas to tag additional specimens. The location of tag recoveries demonstrates the interstate and international migrational circuit of this important resource.

Snapper and grouper life history studies (e.g. age, growth, reproduction, spawning and nursery areas) were continued and enlarged. Documentation of larval development was initiated by efforts to induce spawning in a mariculture system. Induction of sex reversal in gag grouper was addressed to provide reproductive males. Collection and analyses of gonads and otoliths of selected grouper and snapper from the eastern Gulf were continued to document age and sexual development of these stocks. Various gear are being tested and evaluated for quantifying larval and juvenile abundance and distribution in inshore areas of grouper, red drum, sea trout, and others.

A cooperative fish trap project with National Marine Fisheries Service was initiated to describe the fishery, establish catch and effort data, and determine species and size composition. The Florida Keys and Tortugas area are covered by staff of the Field Laboratory in Marathon.

Swordfish longlining fishing effort on the lower east coast is being documented by

monthly aerial surveys by the West Palm Beach Field Laboratory staff. This is part of a cooperative program with the University of Miami to describe the fishery, determine CPUE, and obtain life history data. A description of the silver mullet fishery in southeast Florida was completed and work on the life histories of several species known as silver mullets was begun.

With the completion of tagging of 20,000 spiny lobsters in 1977-78, tag return data were entered into the computer to determine growth rates and migrational patterns. Continuing studies at the Marathon Field Laboratory include morphometric data, population structure of juvenile and subadult stocks, and estimation of the recreational fishery.

Stony coral and octocoral assemblages of the deep reef area of Key Largo Coral Reef Marine Sanctuary were documented by submersible reconnaissance. The program was conducted by the Office of Coastal Zone Management, NOAA, and Harbor Branch Foundation. Field work in the third annual survey of reefs at Biscayne National Monument was completed to evaluate changes in community structure, particularly those changes induced by human activities, in Florida Keys reefs.

More than 1400 green sea turtle eggs were hatched in the Laboratory at Jensen Beach and distributed to various growout facilities for a head-start program prior to tagging and release into the sea. This project is designed to evaluate head-start programs, migratory routes, and survival at sea.

Data collected from an extensive stone crab tagging program were analyzed and published, documenting stone crab population dynamics of southwest Florida. Laboratory experiments on stone crab claw regeneration and its recognition in the fishery were initiated.

Selected specimens of fish and invertebrates collected during Project Hourglass, a 28 month

systematic sampling program on the west Florida shelf, were subject to intensive study, including the occurrence, distribution, and ecology of hard and soft corals, penaeid and sergestoid shrimps, echinoids, isopods, groupers and drums.

Publications on such diverse subjects as: an inventory of estuarine fauna of Pensacola Bay; comparative efficacy of natural and artificial reefs in the Gulf; identification of polychaetes, copepods, and larval eels; observations on zooxanthellae in corals; conditioning, induced spawning, and larval rearing of red drum; hypothermal mortality in marine fishes; turtle grass reproduction; ecology of reef fish communities; and the effects of red tide toxin(s) on mollusks and crustaceans, all have added to better understanding of Gulf of Mexico ecosystems for wise management decisions.

Funds for the Shellfish Center in Apalachicola were appropriated by the Florida Legislature with completion of the facility scheduled for April, 1980. The Center is located on a wooded, 5 acre tract donated by the City of Apalachicola. It will house the Oyster Culture and Shellfish Sanitation Units.

Thirty-five acres of new oyster reefs were constructed by the Oyster Culture Unit in Bay, Brevard, Franklin and Gulf Counties using 193,024 bushels of shucked oyster and scallop shell as cultch. These reefs were constructed in the general configuration of natural reefs and are expected to be harvestable in 12 to 18 months. A new pushboat was acquired enabling the Unit to expand reef construction to more widespread areas in the future.

A total of 19,981 shellfish and blue crab processing plants and shellfish harvesting water inspections and evaluations were conducted by the Shellfish Sanitation Unit to assure compliance with State and National Shellfish Sanitation program standards.

An Artificial Fishing Reef Construction program was initiated and funded by the Florida Legislature and the Coastal Plains Regional Commission. The purpose of the program is to assist Florida coastal governments in the construction of artificial fishing reefs by providing grant funds for reef site selection and engineering and for reef material transportation to reef sites. Great interest has been shown and the first of the new reefs are expected to begin to be constructed during Spring, 1980.

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES

Seafood Division

The principal programmatic responsibilities of the Seafood Division involves the protection, management, development and understanding of Louisiana's vast coastal and marine areas and the renewable resources produced therein. The Division is directly responsible for the management of this area and its related harvest which produces approximately 20% of the total U. S. commercial fishery tonnage. Our annual production of commercial fishes exceeds one billion pounds with a value of \$250 million after processing. The direct economic gain at dockside to the fishing industry is approaching \$150 million annually. Our principal commercial fisheries include shrimp, oysters, menhaden, crabs, and finfish.

In addition to this vast commercial fishery, some 240,000 recreational fishermen are also dependent upon this Division to maintain the stability of the natural resources supporting their interests. In managing and protecting these natural resources, we directly serve some 24,000 commercial shrimpers, 57 shrimp plants and 11 canneries; 41 oyster-shucking houses, 1 oyster cannery; 8 menhaden plants; and numerous developing crab-packing houses.

At the Division's Marine Laboratory on Grand Terre Island, experiments continued on length/weight relationships and gonadal conditions of spotted seatrout, red drum, and black drum. Additionally, numerous field trips, tours, and lectures were given to visiting college and high school classes.

A study to determine seasonal availability of eels was initiated. This study will determine areal abundance and bait preference of eels caught in traps.

Striped bass were raised in ponds at the Grand Terre laboratory for release in the Barataria Bay complex. Approximately 20,000 fingerlings were stocked in the Barataria Bay system as part of a statewide re-stocking program.

Triangulation stations (monuments) were placed in the coastal zone for the purpose of providing permanent markers from which oyster surveys could be made. A total of 168 monuments were placed during the 1978-79 fiscal period. These monuments control approximately 154,000 water bottom acres.

An evaluation of gillnets of various mesh sizes was initiated. This study will determine the efficiency of mono and multi-filament material, as well as that of various mesh sizes.

A survey of the recreational shrimp and finfish harvest in Vermilion Bay and its impact on commercial fishery resources continued. Preliminary results indicate high rates of effort by the recreational group on both shrimp and finfish.

A white and brown shrimp mark-recapture program continued in cooperation with Louisiana State University and the National Marine Fisheries Service, for the purpose of obtaining growth data and to quantitatively define this growth rate. An alternate objective is to determine natural mortality. Approximately 20,000 white shrimp and 40,000 brown shrimp were tagged and released.

A study detailing the distribution of the oyster drill *Thais* was completed. This study verified a lack of oyster drills on the oyster public grounds east of the Mississippi River.

MISSISSIPPI MARINE CONSERVATION COMMISSION

Landings data for January 1 - June 30, 1979 have not yet been made available by the National Marine Fisheries Service. As a consequence, the following landings summary represents only the first two quarters of Fiscal Year 1979.

Total landings of commercial marine finfish and shellfish in Mississippi during the first two quarters of Fiscal Year 1979 amounted to 186.3 million pounds valued at \$13.8 million, representing a 58 percent increase in volume and a 37 percent increase in value over the same period in the previous fiscal year. Total finfish landings were 180.9 million pounds valued at \$8.9 million, an increase of 62 and 58 percent respectively. Menhaden comprised 98.4 percent of the total finfish landings and accounted for 90.0 percent of the finfish value. Shellfish landings amounted to 5.3 million pounds valued at \$4.9 million, representing a 6 percent decrease in landings and a 9 percent increase in value in comparison with FY '78. Shrimp accounted for 90 percent of the shellfish landings and 73 percent of the shellfish value. Overall, total volumes and values for shellfish do not differ appreciably from similar periods in previous years. A steep decline in oyster landings, however, is expected during the second two quarters of the fiscal year as a result of heavy oyster mortality. Finfish landings reflect a substantial gain, principally as a result of exceptionally high menhaden catches. Some differences are evident among certain other species as well. Notable is the 74 percent decline in red snapper landings. Increases of particular interest include 300 percent gains in both spanish mackerel and red drum landings and a 33 percent increase in mullet landings. A brief summary of each of the major fisheries in Mississippi for first half of FY '79 follows:

MENHADEN

Menhaden landings in the first half of FY '79 amounted to 178 million pounds valued at \$8.0 million. This represents a significant 63 increase

in landings and a 63 increase in value over the same period last fiscal year. For the second consecutive year, the menhaden fishery has experienced substantial gains during the first six months of the year. Production of menhaden meal, solubles and oil in 1979 was well above the production in the previous year (3 percent above 1978 levels and 38 percent above the 1973-77 average). Monthly average prices for menhaden meal rose from \$318. per short ton in the beginning of the fiscal year to \$401. in April may appear encouraging, much depends on the success of the fishery during the latter part of the season. Two severe tropical storms prevented fishing for menhaden for two separate weeks in what is normally the peak part of the season. Despite these setbacks, NMFS projections indicate the strong possibility of yet another excellent year.

SHRIMP

Heads-on landings of shrimp were 8.0 million pounds for FY 1979 (NMFS data) representing a value of \$ 9.0 million, an 18 percent decrease in landings and a 1 percent increase in value over the previous fiscal year. This represents a 28 percent decrease in landings over the record catch in FY '77. The 1979 season was opened on June 15; analysis of data collected by Gulf Coast Research Laboratory Fishery Monitoring and Assessment personnel originally indicated a probable June 18 opening date. However, pressure for an earlier opening from fishing lobbyists resulted in a compromise agreement for the earlier June 15 date. Average dockside value of shrimp landed increased to \$1.12 per pound over the FY '78 average of \$.95 per pound.

OYSTERS

Landings of 216 thousand pounds of meats valued at \$233. thousand were down 40 percent in volume and 23 percent in value over the same period in 1977-1978. The majority of the oysters were utilized by firms producing raw,

shucked oysters. Unit prices were 29 percent higher, reflecting the continuing decline in production.

This decline in landings is attributed to a number of factors, chief among these are over-fishing, saltwater intrusion, and excessive predation. At the close of Fiscal Year 1978, the prognosis for the upcoming season remained grim. Sampling results indicated that most oyster reefs in the western portion of Mississippi Sound suffered extensive mortalities as a result of the heavy spring rains.

In efforts to replenish and revitalize the Mississippi oyster industry, the Mississippi Marine Conservation Commission planted 4,500 cubic yards of clam shells as cultch materials. Additionally, the Commission relayed 24,000 barrels of oysters from restricted areas to approved state reefs. Despite these efforts, projections for the coming fiscal year are unfavorable.

CRABS

Landings of hard, blue crabs were somewhat reduced from the high FY 1978 catch. These landings amounted to 1.2 million pounds for the first half of the fiscal year in comparison with 1.3 million pounds for the same period last year. The value of crabs landed dropped from \$323. thousand in FY 1978 to \$264. thousand in 1979. These declines are on the order of 8 and 18 percent respectively. Average dockside value dropped from \$0.24 per pound in 1978 to \$0.22 per pound in 1979.

EDIBLE FINFISH

Landings of edible finfish amounted to 2.8 million pounds, up from 2.3 million pounds for the first half of the 1978 Fiscal Year. This represents a 22 percent increase in landings volume. The landings value of \$896. thousand represents a 30 percent increase over that of FY 1978. For the second consecutive year, landings of red drum have increased dramatically. The FY 1978 landings showed a 263 percent increase over the previous year. This year, the red drum fishery has once again experienced a 300 percent increase with total landings of 393. thousand pounds valued at \$108. thousand. There is continued concern among fishermen that such high yields are unsustainable and that fishing pressure should be reduced for this species.

Mississippi gill netters experienced a severe

74 percent decline in spotted seatrout landings. The catch for the first half of FY 1979 was 23.7 thousand pounds, down from 90.5 thousand pounds the previous year. Spotted seatrout landings have steadily declined from the 393. thousand pounds of 1971. The value of spotted seatrout landed by the commercial sector during July-December 1978 is \$12.6 thousand.

In addition to the substantial gains in red drum landings, black drum, spanish mackerel, and mullet landings were up 1,000, 360, and 33 percent respectively. Black drum landings amounted to 297. thousand pounds valued at \$40.6 thousand. Spanish mackerel landings totaled 28.3 thousand pounds valued at \$6.9 thousand; and mullet landings of 979.2 thousand pounds are valued at \$168.9 thousand.

Other than the previously-mentioned spotted seatrout declines, the most notable decreases in catch occurred in the snapper and grouper fishery, down 30 and 58 percent respectively. Croaker landings of 88.4 thousand pounds reflect a 29 percent decline over the previous year.

RECREATIONAL FISHING

Sportsfishing followed the usual seasonal fishing patterns. There were many reported large catches of red drum in the vicinity of the barrier island passes during fall months. Artificial reefs created by sunken "Liberty Ships" produced many nice catches of snapper, grouper, spadefish, and cobia.

Inshore fishermen experienced varying degrees of success with kingfish, croakers, "rat" reds and sheepshead. Spotted seatrout, however, were reported to be fewer than in previous years, although some good catches were recorded. Samples taken by the Fisheries Monitoring and Assessment personnel of the Gulf Coast Research Laboratory in July 1977 indicated a large number of spotted seatrout fry. These individuals should recruit into the fishery in the coming fiscal year and provide an increased catch at that time.

Saltwater sports fishermen contribute significantly to Mississippi sales and income through the purchase of bait, tackle, boats, motors and other items associated with this fine sport. Unfortunately, adequate data on the marine recreational catch is not available. There is presently

no accurate list of marine recreational fishermen in Mississippi because the state does not require a saltwater fishing license. It would be wise to consider the possibility of requiring marine recreational anglers to purchase licenses similar to those required by freshwater fishermen. In the long run, it would be of direct benefit to the fishermen in two respects. First, it would provide badly needed data on the number of people involved in marine recreational fishing in the state and second, it would provide information with which to better manage both recreational and commercial fisheries.

INDUSTRIAL BOTTOMFISH

Landings data for the industrial bottomfish fishery are unavailable at this time. Preliminary discussions with industry representatives, however, indicate a slight decline over last year's landings. This is probably reflecting the relative decrease in Atlantic croaker which comprises the bulk of the industrial bottomfish catch.

ENFORCEMENT ACTIVITIES

The enforcement personnel of the Mississippi Marine Conservation Commission made 135 arrests in FY 79 which resulted in \$7,290.50 in fines.

In FY 78 there were 186 arrests resulting in fines amounting to a total of \$9,493.00. The total fines in FY 79 represent a 23 percent decrease over the previous fiscal year.

The majority of the arrests were made in relation to shrimping activities. The most frequent violations were for shrimping in closed waters and use of illegal gear. A number of arrests were made for illegal oystering as well. Patrols were stepped up during the first part of June to prevent the harvest of shrimp before they reached the legal size of 68 per pound. In addition, pa-

trol efforts were increased in restricted areas to prevent the illegal harvest of "polluted" oysters.

DEPARTMENT OF WILDLIFE CONSERVATION

Looking ahead to FY 1980, the Mississippi Marine Resources Council will no longer exist. Its successor will be the Department of Wildlife Conservation (DWC) which will be governed by the following gubernatorial appointees to the Commission on Wildlife Conservation.

Mr. Allen Bruton
Shuqualak, Mississippi

Mr. L. C. "Billy" Gollott
Biloxi, Mississippi

Mr. J.E. "Rusty" Hobgood, Chairman
Grenada, Mississippi

Dr. Johnny Ouzts
Cleveland, Mississippi

Mr. Fred K. Rogers
Clinton, Mississippi

The DWC will be subdivided into two Bureaus, formed by the merger of four incumbent marine related agencies. The Mississippi Marine Resources Council and the Marine Conservation Commission, will merge into the Bureau of Marine Resources. The Game and Fish Commission and the Boat and Water Safety Commission will combine to form the Bureau of Fisheries and Wildlife.

Effective July 1, 1979 Dr. Richard L. Leard, former Director of the Mississippi Marine Conservation Commission, will be the Director of the Bureau of Marine Resources. Offices of the Bureau will be located on the Gulf Park Campus of the University of Southern Mississippi in Long Beach at the site of the Mississippi Marine Resources Council. The Enforcement Division of the Bureau will be located in Biloxi at the site of the Mississippi Marine Conservation Commission.

TEXAS PARKS AND WILDLIFE DEPARTMENT

Texas Parks and Wildlife Coastal Fisheries Research Management Programs

During 1979 there were three major projects 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.

During 1979, 600-foot long gill nets with individual 150-foot sections of 3-, 4-, 5- and 6-inch stretched mesh were used to monitor the relative abundance of adult finfish in eight Texas bays. Trammel nets were also used to determine the availability of adult finfishes. Bag seines (60 feet long) were used to determine the abundance of juvenile finfishes. Over 3700 fish were tagged including 1850 red drum and 1148 black drum. Growth, movement and mortality data were obtained from returned tagged fish.

During 1979 catch rates of commercial fishermen were determined from both interviews with fishermen and from Individual Sales Transaction receipts. Catch rates of recreational fishermen fishing in boats on weekends in Texas bays were determined through interviews. Catch rates of recreational fishermen using Gulf piers, jetties and charter boats were also obtained.

During 1979 adult red drum were made to

spawn 55 times by altering the temperature and photoperiod of their brood tanks; 7.1 million fry were stocked directly into Texas bays and 1.2 million red drum were raised to fingerling size and stocked into Texas bays; 31,060 of the fingerlings were tagged with magnetic nose tags before stocking. Growth and dispersion of the stocked fingerlings were monitored through the use of various sampling gear. In addition, feeding studies, temperature and salinity tolerance tests, stocking density studies and food web relationship studies of fry and fingerlings were conducted.

The shellfish program consists of five major projects including: 1) shrimp penaeid population monitoring in bays for availability, size and movements, 2) penaeid shrimp population monitoring in the Gulf of Mexico, 3) oyster population monitoring and enhancement, 4) blue crab population monitoring, and 5) monitoring of mud-shell operations to assure that damage to fish and wildlife habitat does not occur. Population monitoring of valuable commercial and sport species is carried out to determine trends in relative abundance and factors that affect abundance in order to recommend closed seasons and other management options.

GULF STATE-FEDERAL FISHERIES MANAGEMENT BOARD

During the period covered by this report 5 meetings were held under the authority of the Gulf State-Federal Fisheries Management Board. They were as follows:

- October 1978 — Tampa, Florida
- March 1979 — Biloxi, Mississippi
- February 1979 — New Orleans, Louisiana
- February 1979 — New Orleans, Louisiana
- July 1979 — New Orleans, Louisiana

Major accomplishments of the Board during this report period were the signing, developing, monitoring and revision of contracts dealing with:

1. Management planning Profile for Spotted Seatrout and Red Drum in the Gulf of Mexico, U.S.
2. Shrimp recreational fisheries statistics—Data collection and analysis
3. Simulated Implementation of the Menhaden Management System
4. Menhaden Tagging Mortality Study
5. Formalization of a Menhaden Information Data Bank
6. Pilot Study for Menhaden Catch/Effort Log.

The Gulf State-Federal Fisheries Management Board is composed of two Commissioners of the Gulf States Marine Fisheries Commission 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 and the Executive Director of the Gulf States Marine Fisheries Commission are nonvoting members of the Board. The Board is advised on technical, scientific matters and industry views by the same advisory arms as the Commission. These advisory 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 (NMFS).

Procedures were established to have the Gulf States Marine Fisheries Commission as the prime contractor for all the State-Federal Fisheries Management Plan contracts in the Gulf of Mexico. This has resulted in greater involvement by the Commission in State-Federal management plans and implementation in the territorial seas. The activities of the Commission complement those of the Gulf of Mexico Regional Fisheries Management Council and help to provide an effective system for addressing the management of the fisheries throughout the extent of their range.

The Gulf States Federal Fisheries Management Board again unanimously elected Mr. William H. Stevenson (Director, NMFS Southeastern Regional Office) as Chairman, and Dr. Lyle St. Amant (Assistant Secretary, Louisiana Wildlife and Fisheries Commission) as the Vice-Chairman.

**SOUTHEAST REGION
NATIONAL MARINE FISHERIES SERVICE**

**National Oceanic and Atmospheric Administration
U.S. Department of Commerce**

INTRODUCTION

This report highlights the fiscal year activities and accomplishments of the various NMFS organizations geographically located in the Southeastern United States. As active partners in the effective management and utilization of marine resources of the Western Central Atlantic and the Caribbean, they have contributed directly to the economic welfare of the people of the United States. These contributions, as well as our close working relationship with the three Regional Fishery Management Councils located in the Southeast Region, combined to significantly advance the cause of fishery resource management, development, and utilization.

The Southeast Fisheries Center has continued its research through its seven laboratories: Galveston, National Fisheries Engineering Laboratory, Pascagoula Laboratory, Panama City Laboratory, Miami Laboratory, Charleston Laboratory, and Beaufort Laboratory. Details of the accomplishments of the Center and Laboratories are included in this report.

Activities of the Southeast Regional Office have been carried out through four principal divisions: Fisheries Development Division, Fisheries Management Division, Environmental and Technical Services Division, and Law Enforcement. Highlights of the divisions' programs are included.

This consolidated report is being made available to both Commissions, the three Regional Fishery Management Councils, and other interested parties.

**SOUTHEAST REGIONAL OFFICE
ST. PETERSBURG, FLORIDA**

Fisheries Development Division

The Fisheries Development Division began

implementation of a region-wide cooperative program for coastal pelagic and demersal underutilized species involving several state agencies, academic institutions, other Federal agencies, and industry. NOAA/NMFS released \$600K of Saltonstall-Kennedy funds to the Gulf and South Atlantic Fisheries Development Foundation to match industry funding for this program. The latest NOAA Fisheries Development Policy was announced at the well-attended National Fisheries Development Conference in May, 1979.

The Financial Services Branch celebrated its 500th Fishing Vessel Obligation Guarantee on June 19, 1979, and is processing its 580th application. The program is running at an annual rate of about 225 applications, or 33 percent above last year. The Branch processed 129 new Capital Construction Fund agreements in FY79, depositing \$11.2 million in their accounts, with about \$44.4 million in scheduled acquisitions.

The Commercial Development Services Branch continued to shift emphasis toward export markets where southeastern species have more immediate potential for expansion. Branch personnel and industry representatives participated in a USDA sponsored food show in Tokyo and the world's largest food show, ANUGA, in Cologne, Germany. These activities will result in significant sales of U.S. fishery products. The Branch also participated in the Foundation's Midwest Marketing Program in the spring and fall.

The Fisheries Development Analysis Branch has been actively developing its analytical capability in cooperation with the Information Management and Analysis Branch and TIMS staff in the Southeast Fisheries Center. Economic analysis of projects is provided for the Gulf and South Atlantic Fisheries Development Foundation, Inc., NMFS offices engaged in fishery develop-

ment activities and other government units. The Branch also oversees the development of regulatory analyses for Fishery Management Plans and conducts the Fishery Market News Service in the Southeast.

The Recreational Development Services Branch has made substantial progress in implementing its program. Branch activities during the past year included development of a regional recreational fishing mailing list, interface and communications with saltwater sport fishing constituents, assistance to the South Atlantic and Gulf of Mexico Fishery Management Councils in development of Mackerel and Reef Fish FMPs, assistance in design and implementation of marine recreational fishing surveys and studies, assistance to states in artificial reef development matters, and representation of marine recreational fishing interests in state comprehensive outdoor recreation planning programs. Activities during the coming year will continue to focus on eliminating impediments to optimum development of marine recreational fisheries in the South Atlantic, Gulf of Mexico and Caribbean areas.

International Program

The Mexican Government approved applications allowing 23 snapper/grouper vessels and 95 shrimp vessels to fish in Mexico's 200-mile economic zone. In compliance with the U.S.-Mexico Bilateral Fisheries Agreement, shrimping by the U.S. fleet in Mexican waters will be phased out by December 31, 1979. Scientists from both countries will meet in December to determine shrimp stocks which could lead to continued access to the Mexican shrimp grounds by the U.S. fleet.

Fisheries Management Division

Marine Mammals and Endangered Species

Nearly 100 persons from public and private sectors met in Tampa, Florida on January 24, 1979, to review and modify a draft plan for marine turtles for the Southeast Region. A marine turtle recovery team was formed and held three meetings in 1979. Eleven section 7 consultations were held and completed with several Federal agencies and the Gulf of Mexico Fishery Management Council. The Cape Canaveral Navigation Channel was closed to shrimp trawling under emergency regulations

for a 120-day period ending March 22, 1979. Initial work was begun to survey bottlenose dolphin populations in the Southeast Region.

Law Enforcement

A total of 30 Japanese longline vessels operated in the Gulf of Mexico Fishery Conservation Zone (FCZ). Thirty-one (31) boardings were conducted by NMFS agents since January 1, 1979, resulting in the detection of thirty-three (33) fisheries violations and two (2) marine mammal violations.

Emergency regulations were in effect from March 26, 1979, to June 19, 1979, for the Stone Crab Fishery Management Plan. Seven violations were detected but a strong initial enforcement effort coordinated between Coast Guard, the Florida Marine Patrol and NMFS agents resulted in an estimated 95 percent compliance level with regulations that established a dividing line between stone crab and shrimp fishing areas in Florida Bay.

A significant Lacey Act case was resolved with the conviction of the Commander and Executive Officer of a Naval vessel for taking lobsters and lobster traps off the east coast. The officers were tried under the Uniform Code of Military Justice with the matter drawing the attention of the Secretary of the Navy and the Attorney General. The NMFS case agent served as an advisor to the Navy prosecutors.

Two individuals pleaded guilty to the charge of four counts of taking marine mammals in Key West, Florida after hearing testimony of witnesses. Both individuals were sentenced to fines of \$1,000 and one year probation. The vessel involved was seized under a Federal warrant resulting in a civil fine of \$10,000.

In July, 1979, NMFS agents arrested a crew member of a shrimp vessel for taking a sea turtle. The subject was charged with "taking, possessing and attempting to import into the United States an endangered species". The initial bond was set at \$25,000 and a trial is scheduled in Corpus Christi, Texas in November 1979.

Plans are being developed for the establishment of a formal enforcement agreement with Florida Marine Patrol and Coast Guard for FCMA enforcement. An experimental State/Federal voice communications system with a data processing and case monitoring system is

planned in order to facilitate cooperative law enforcement. The system is designated as the Southeast Area Enforcement System (SEAES). Future plans will be to incorporate all states in the Southeast Region in the SEAES System.

Environmental and Technical Services Division

Environmental Assessment Branch

During the past year, we received for review 6,387 applications for permits to perform work in navigable waters, 76 environmental impact statements, 113 Federal water development projects, and 1,388 permit applications for discharge of various pollutants into U.S. waters under the Environmental Protection Agency's National Pollutant Discharge Elimination System Program. We also reviewed and commented on nine draft documents concerning Coastal Zone Management plans being developed by coastal states, Puerto Rico and the Virgin Islands.

Grant Program Administration Branch

PL 88-309 and PL 89-304 Grants: The Branch assists states with the execution of grants funded under the Commercial Fisheries Research and Development Act (PL 88-309) and the Anadromous Fish Conservation Act (PL 89-304). The eight South Atlantic and Gulf States of the Southeast Region obligated \$1,330,000 in PL 88-309) funds on 25 projects in FY 1979. Alabama, Louisiana, Mississippi and Texas received \$3,574,000 in PL 88-309 4 (b) funds to restore oyster resources destroyed by spring 1979 flooding. Grants-in-Aid supported fishery research activities to provide a data base for management of the Territorial Sea and the Fishery Conservation Zone.

State-Federal Fisheries Management Program: The Gulf States Marine Fisheries Commission continued to develop a data base for interstate fisheries management through the following work efforts: (1) menhaden tagging mortality study; (2) pilot study for a menhaden catch/effort log; (3) formalization of a menhaden information data bank; (4) simulated implementation of a menhaden management system; (5) shrimp recreational fisheries data collection and analysis; and (6) development of a management planning profile for spotted seatrout and red drum in the Gulf of Mexico.

Information Management and Analysis Branch

During the past year the Information Man-

agement and Analysis Branch of the Environmental and Technical Services Division continued to pursue the improvement of information flow among partners in the Southeast Region. The Branch implemented an operational approach to maintain data and information flow for the national information system of NMFS and NOAA. Working with the Councils, the Branch aided the Gulf of Mexico Fishery Management Council in developing their communication capability with NMFS headquarters, the Regional Office, the Southeast Fisheries Center, and other Councils using word processing equipment. Information management systems were implemented to aid division managers in their program management activities. The Branch continues to work with the Technical Information Management Services (TIMS) operation of the Center to broaden the data base and the dissemination of information to our partners.

SOUTHEAST INSPECTION OFFICE

St. Petersburg, Florida

The objective of the Southeast Inspection Office is to provide a voluntary fishery products inspection service to the fishing industry in the Southeast Region and thereby assist the industry to improve and upgrade the sanitation of their plants and the quality of their products.

Eighteen fishery processing plants, operating under the voluntary inspection program in the four Gulf states and the west coast of Florida, produced 108,754,600 pounds of products of which 28,351,400 pounds were inspected. In addition, seven plants and three shrimp boats in this (GSMFC) area participated in the SIFE program. Several plants changed from one program to the other during the year, so were counted twice. Total number of plants in both classifications at present is nineteen.

The National Marine Fisheries Service, Seafood Quality and Inspection Division assists industry in the production of high quality fishery products, certifies the grade and other pertinent factors of such products to bear USDC inspection marks, and assists in the maintenance of good sanitation and hygienic practices in plants under Federal inspection.

Lot inspection services are provided in Miami and Tampa, Florida; Pascagoula, Mississippi;

**NATIONAL MARINE FISHERIES SERVICE
SOUTHEAST REGIONAL OFFICE PROGRAM**

FY 1979 FUND ALLOCATIONS

(Dollars in Thousands)

Conserving Marine Resources	\$1,564
Environmental Impact Analysis	\$1,261
Marine Mammals Conservation	144
Endangered Species Conservation	159
Restoring & Increasing Fishery Resources	281
Anadromous Fisheries Grants	124
Aquaculture Research & Development	157
Managing & Using Fishery Resources	3,908
International Fisheries Management	77
State-Federal Fisheries Management	562
Fisheries Grants to States	1,903
Fisheries Enforcement & Surveillance	323
Increasing Use of Resources	972
Marine Recreational Fisheries	71
Fisheries Financial Support Services	166
Capital Construction Fund	14
Fisheries Loan Fund	5
Federal Ship Financing Fund	147
Administration	780
Allocation for Space Rental Costs	104
TOTAL	\$6,803¹

¹ Includes \$710.0 in one-time allocations for special projects.

Brunswick, Georgia; New Orleans, Louisiana; and in Dallas and Brownsville, Texas.

The costs of these services are paid for by the participating firms.

SOUTHEAST FISHERIES CENTER

Miami, Florida

The NMFS Southeast Fisheries Center (SEFC) is comprised of the Center Director, the Technical and Information Management Services (TIMS), the Center Director, his staff, and seven supporting laboratories. The Center headquarters is located in Miami, Florida, near the coastal geographic center of the area of its responsibilities. The principal area in which the SEFC is responsible for NOAA/NMFS research extends from the U.S.-Mexican border through the Gulf of Mexico and the Caribbean Sea to the Atlantic coast of South America (to the Southern extent utilized by U.S. fishermen) and up

the U.S. Atlantic coast to Cape Hatteras, North Carolina. It has national responsibilities for fisheries engineering research, the application of remote sensing and satellite technology to national fisheries problems, and U.S. research on the Atlantic bluefin tuna. In the order of their location from west to east, the SEFC laboratories are:

1. Galveston Laboratory—Galveston, Texas
2. National Fisheries Engineering Laboratory—Bay St. Louis, Mississippi
3. Pascagoula Laboratory—Pascagoula, Mississippi
4. Panama City Laboratory—Panama City, Florida
5. Miami Laboratory—Miami, Florida
6. Charleston Laboratory—Charleston, South Carolina
7. Beaufort Laboratory—Beaufort, North Carolina

The permanent staff comprises 285 scientific, technical and support people. As many as 100 additional people provide support on a less than full time basis. The total budget from all sources in FY 79 was \$15.6 million. Other Federal agencies provided \$2.5 million of the total for research of mutual interest. Twenty-five percent of the total, \$3.5 million, goes into contract research with state agencies and universities in the southeast. Two large fisheries research vessels were available for SEFC work in FY79. The NOAA FRS *Oregon II*, based at Pascagoula, made surveys throughout the year. The M/V *Lady Weesa* was under charter for the year providing a platform for sea turtle surveys and turtle excluder trawl work.

Research programs concentrate on groups of like fishes. Each program makes an effort to collect catch and fishing effort, socioeconomic, and environmental data, and biological samples in areas where the fish occur. In the laboratory, each program conducts fishery analyses of samples and evaluates field data to determine age, growth, sex, maturation, food habits, migration patterns, stock densities, etc. These data are placed into the computer data base and then used to describe the stocks of fish and shellfish, to determine the population dynamics of the stocks and to develop models that will permit predictions of maximum sustainable yield (MSY) and optimum yield (OY).

Each research program is planned to provide the necessary information 1) to support the Fisheries Management Councils and the Secretary of Commerce for fishery management plan formulation and review, implementation and operation, and evaluation; 2) to support the U.S. in international negotiations regarding use of fisheries resources; and 3) to provide constituency services for effective utilization of fisheries resources.

The research this year was concentrated in programs for Groundfish, Mackerels and Bluefish, Marine Mammals and Endangered Species, Menhaden and Herrings, Oceanic Pelagics, Reef Fish, invertebrates (other than Shrimp and Shrimp programs for Aquaculture, Habitat Protection, Contaminant Assessment and four fishery development and utilization programs—Groundfish, Menhaden, Pelagic Fish, Shellfish. The national program research areas include fisheries engineering research and the National Microconstituents Task.

The **Groundfish program** consolidates research on groundfish and the industrial bottomfish fishery in the Gulf. Historical and current fisheries data are being examined for assessment of the industrial bottomfish fishery for croaker, spot, and seatrout.

The fall groundfish biomass was estimated. A preliminary analysis of trawl mensuration cruise data was made and indicates that 40 and 55 foot semi-balloon trawls open horizontally approximately 75% of headrope length, whereas 70 foot trawls open only 65% of the headrope length. A cooperative U.S./Mexican agreement was initiated to determine relative abundance of groundfish off the Yucatan slope and shelf.

The **Mackerels and Bluefish program** is conducting studies on the age, growth, and food habits of king mackerel, Spanish mackerel and bluefish. A contract study, initiated by Florida's Department of Natural Resources, of king mackerel fallout from gill nets was completed. Electrophoresis studies on stocks of bluefish were initiated. The field sampling and laboratory processing of king mackerel parts was completed: bones for age and growth studies, ovaries for reproductive studies, and stomachs for food studies.

The **Marine Mammals and Endangered Species program** has the responsibility for conducting research to provide methods for the conservation and protection of these animals. The major endangered species in the Southeast are the sea turtles. Research trawlers conducted surveys of turtle habitats from the Florida Keys north to the Carolinas. Only scattered records of turtles were found except in the Cape Canaveral, Florida, Ship Channel where intense concentrations were observed.

Excluder trawl design research progressed with a major success being obtained from a reverse panel tongue trawl design which reduces turtle capture by 75% over standard trawling gear while maintaining small loss of shrimp catch.

Experiments with raising Kemp's Ridley sea turtles yielded more than a 75% survival rate. Twelve hundred hatchlings were released to the ocean. Radio tracking of hatchlings generally indicates an offshore movement after release. A methodology for identifying turtles by biochemical means was established and four species of western Atlantic sea turtles were the method.

The principal marine mammal being re-

searched at this time is the porpoise. Contract work began to evaluate the inshore populations of porpoises and to determine local herd biology.

The *Menhaden and Herrings program* continued research on Gulf and Atlantic menhaden. A yield per recruit model for Atlantic menhaden was developed which allows evaluation of effects of fishing on yield by area and for the entire fishery. MSY estimates for both the Gulf and Atlantic fisheries were developed. A fecundity study for Gulf menhaden was completed. This program developed the information and analysis which resulted in agreement on the data base, status stocks and recommendations by a State-Federal-Industry population dynamics group for Atlantic menhaden. A profile of the coastal herrings was developed for the Gulf of Mexico Fishery Management Council.

The *Ocean Pelagics program* studies Atlantic bluefin tuna and billfishes. Its primary goal is to provide scientific information on the status of stocks of these species for U.S. commissioners of the International Commission for the Conservation of Atlantic Tunas (ICCAT), the Regional Fishery Management Councils, and the Director, NMFS Northeast Region, who is responsible for management of the U.S. bluefin tuna fisheries.

Bluefin tuna research is directed at tagging, aging, catch/effort, and catch composition studies of U.S. fisheries. The resulting data are used to make population analyses which currently show downward trends in the size of the bluefin populations.

Stock assessment documents on bluefin tuna, blue marlin, white marlin and sailfish were prepared for the 1979 ICCAT meetings.

The results of a 1978 survey of the recreational billfish and shark fisheries were published. The estimated total recreational catch of billfish in the Atlantic Ocean off the U.S. coast was in the range of 70,000 to 100,000 fish. In addition, the survey estimated that the range of recreational catch for sharks was 190,000 to 270,000 fish. A shark field guide designed for rapid visual identification was prepared and distributed.

The *Reef Fish program* conducts research on fish which inhabit rough bottom and reef areas on the Continental Shelf. Life histories, population dynamics, food, feeding habits, kinds and numbers of fish on a reef are among the data

parameters being collected. The reef communities are extremely complex, with more than 50 species being important. The area of live-bottom and reefs in the South Atlantic Ocean and the eastern and central Gulf of Mexico was measured. Red Snapper larva was described for the first time. Yield per recruit models for eleven species of reef fishes were devised. A survey of recreational fish catches by party boats was initiated throughout the region. Two investigations by submersible boats off Carolina Shelf reef habitats were successfully complete.

The *invertebrates program* handles research on all shellfish species except shrimp which are handled by a separate program.

The calico scallop investigations begun in 1969 were completed in their entirety. Nine reports were published. Contributions of knowledge were made to the publication of the Stone Crab Fishery Management Plan. This program was terminated at the end of the year.

The *shrimp program* is responsible for research on shrimp in the Gulf of Mexico, South Atlantic and Caribbean Sea. Major resources presently under investigation are the white and brown shrimp stocks in the western Gulf of Mexico and the brown and pink shrimp stocks of northeastern South America.

The field phase of mark and recapture studies designed to determine growth, migration, mortality, and stock boundaries by area and season of brown shrimp in the western Gulf of Mexico was completed. Over 107,000 brown shrimp and more than 5,000 white shrimp were tagged and released during the field phase. A predictive model of the Tortugas pink shrimp fishery which maximizes net, gross, and biological yields was developed this year. An initial study of the socio-demographic aspects of the shrimp fishery in a Tri-Parish area of Louisiana was completed.

An evaluation of the status of shrimp stocks in the Brazil-Guiano fishery was made and a proposed cooperative research program was designed.

The *Aquaculture program* goal is to encourage the development of public and private aquaculture for selected fish species. The SEFC has two aquaculture facilities for this purpose.

At the Galveston Laboratory new shrimp maturation facilities were completed and current facilities were renovated for use in evaluating marine culture systems. Limited mating and

spawning of blue shrimp in captivity was accomplished. A second Gulf Coast Aquaculture Workshop was held and a aquaculture newsletter was published.

At the Charleston Laboratory facilities for conducting nutrition research was completed.

The **Habitat Protection program** is gaining a better understanding of basic ecological principles and processes and applying this understanding to the evaluation of existing and proposed environmental impacts in estuarine and coastal waters of the southeast and Gulf.

Over 80% of the commercial and recreational species harvested in the region are dependent on estuaries to complete some phase of their life cycle and this habitat is being subjected to a variety of environmental impacts due to a rapid expansion of industrialization and population growth along the entire coastline.

A mathematical model of trophic dynamics in seagrass communities was developed. The relationship between geochemical processes and bioavailability of trace metals was reviewed, including research strategies necessary to develop more realistic water quality criteria for protection of fishery resources. One researcher was assigned for a full year to review permits required by the Clean Water Act of 1977. Assistance was provided in assessing the oil spill in Port Neches, Texas, a pesticide incident in Chesapeake Bay and the Mexican oil spill which fouled Texas coasts.

Work continued to provide a comparative environmental assessment of an active oil field in the northwestern Gulf of Mexico. This was the fourth year of a five-year study, and the study this year emphasized the effects of materials discharged from platforms. Shrimp and Redfish studies for the Bryan Mound Brine Disposal sites were begun under a Department of Energy contract.

A biological and chemical survey of proposed salt dome brine disposal sites off Louisiana continued this year. Much of the work of the Habitat Protection program is funded by other Federal agencies—Environmental Protection Agency, Department of Energy, Department of the Interior-Bureau of Land Management and Department of Health, Education and Welfare-National Institutes of Health.

The **Contaminant Assessment program** is developing information on the identity, levels and significance of biological and chemical contami-

nation of important commercial and recreational species of fish and shellfish. Animal feeding studies to evaluate toxicological and physiological effects of dietary arsenic present as a contaminant in fish were completed. An analytical capability for determining chlorinated pesticides and PCB's in fish was developed. It was used to complete and initial screening of chlorinated pesticides in South Florida reef fishes. The analytical methodology for methylmercury determinations was re-established. Studies on the chemical form of arsenic compounds isolated from northern lobster tissue were completed.

SEFC currently has four Fisheries Development and Utilization programs—Groundfish Development, Pelagics Development, Menhaden Utilization, Shellfish Utilization.

The **Groundfish Development program** research is directed at increasing the shelf life of whole, headed and gutted fish and fillets. A study was completed which determined the effect of seasonal variations on the chemical composition and frozen storage characteristics of minced and fillet croaker blocks. A utilization information profile on fresh and frozen gray trout, and fresh and frozen spot was prepared.

The **Menhaden Utilization program** is working to provide information on new development options to upgrade the current industrial uses of menhaden to uses which have a higher market value and to permit menhaden oil to be used in products consumed by humans.

Research results were published on the preparation of menhaden hydrolipate for use in milk replacer rations for domestic animals. Technology transfer to industry was completed. Four detailed research protocols were submitted to Food and Drug Administration as part of a Direct Food Additive petition for hydrogenated fish oils in human food. Feeding studies began. Analyses of 16 selected fish meals was completed to determine protein level and amino acid profiles.

The **Pelagics Development program** determined the chemical composition of selected pelagic species. Edibility characteristics of twenty species were determined. A nutritional data bank was acquired and placed in the regional computer. An improved method for analysis of iodine value, free fatty acids and total lipids from a single fish tissue extract was developed and tested.

The *Shellfish Utilization program* is identifying and researching factors which impact on the supply, quality, safety and value of shellfish products.

An improved, rapid analytical procedure for the measurement of coliforms in oysters and crabs was developed. An evaluation of the South Carolina conch for yield, organoleptic characteristics and microbiological quality was completed. The shelflife of fresh and frozen pasteurized oysters with/without antioxidants was determined.

The SEFC has a number of activities which do not fit regular research programs. The *Observer* program places people aboard Japanese longline tuna vessels to monitor the catch of tuna and the by-catch of other species, principally billfish and shark.

The observers obtain catch and effort data at sea for 20% of the vessels fishing the Gulf and

Atlantic. The Japanese government reimburses the cost of the 500 observer days.

During 1979 the Charleston Laboratory took the lead role for the National Microconstituents Task. The Task is to develop improved methodology for measuring lead in fishery samples, determine levels of PCB's in fishery products, accelerate research on toxicity of cadmium found in seafood, and develop specifications for a National Contaminant Data Base System.

After review of the research results of FY79 and the resources to be available in FY80, some adjustments to the SEFC research effort are being made. The *Groundfish and Shrimp* programs were consolidated into the *Shrimp and Groundfish* program. The *Invertebrates* program was terminated because its work was completed. The *Mackerels and Bluefish* program sets a name change to *Coastal Pelagics* program. The four fishery development and utilization programs are being combined in to a single *Fisheries Development and Utilization* program.

SEFC PROGRAMS	TOTAL ESTIMATED OBLIGATIONS FY 1979 (THOUSANDS OF DOLLARS)	ESTIMATED DISTRIBUTION OF FUNDS TO IMPACT AREAS		
		ATLANTIC OCEAN	GULF OF MEXICO	OTHER AREAS
1. Groundfish	900	10%	90%	
2. Mackerels and Bluefish	600	10%	90%	
3. Menhaden and Herrings	1000	50%	50%	
4. Marine Mammals and Endangered Species	1700	10%	90%	
5. Oceanic Pelagics	950	80%	20%	
6. Reef Fish	700	50%	50%	
7. Invertebrates	450	60%	40%	
8. Shrimp	2370	10%	90%	
9. Aquaculture	470	10%	90%	
10. Habitat Protection	2900	20%	80%	
11. Contaminant Assessment	570	60%	40%	
12. Groundfish Development	320	20%	80%	
13. Pelagics Development	240	20%	80%	
14. Menhaden Utilization	180	50%	50%	
15. Shellfish Utilization	150	10%	80%	10%
16. Special National Programs	2100	10%	10%	80%
TOTAL	15,600	25%	65%	10%

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

Tampa, Florida

SUMMARY OF MEETINGS

January 9-13, 1979 Tampa, Florida—Amended SOPP's regarding public comments at Council meetings, decided that no action would be taken on four Japanese fishing permits, final review and acceptance of Reef Fish FMP and review of mackerel and shrimp FMP's.

February 7-8, 1979 New Orleans, Louisiana—Reviewed mackerel and shrimp FMP's. Urged South Atlantic Council to proceed rapidly in development of billfish FMP, agreed to implement emergency regulations in stone crab FMP.

March 6-7, 1979 Houston, Texas—Agreed to forward records to South Atlantic Council documenting Gulf reasons for modification of billfish FMP to preclude hooking of billfish by Japanese vessels. Reviewed spiny lobster FMP, developed policies for habitat protection and project reviews and adopted a policy on public testimony.

April 3-5, 1979 Biloxi, Mississippi—Adopted the shrimp FMP, reviewed mackerel and spiny lobster FMP's, recommended limiting the number of Japanese vessels in the Gulf and selected members for the Advisory Panel and S&S Committee.

May 1-2, 1979 Tampa, Florida—Reviewed groundfish FMP and approved the mackerel FMP. Adopted a Memorandum of Understanding with Office of Coastal Zone Management and were advised that the Dade/Monroe boundary would remain between this and the South Atlantic Council.

June 5-7, 1979 New Orleans, Louisiana—Discussed billfish bycatch and measures for its reduction with members of the Japanese fishing industry. Review of the groundfish and shark FMP's. Adopted the DEIS/FMP for spiny lobster, discussed two environmental projects, selected sites for shrimp and mackerel public hearings and decided that a member of the S&S Committee should attend management committee meetings.

July 10-12, 1979 Key West, Florida—Reviewed changes to the reef fish FMP based on public comments, amended SOPP's regarding annual leave and travel authorization approval. Extended the coral and shark contracts, reviewed the shark, groundfish and mackerel FMP's. Adopted a policy for authorized travel, identified tropical reef fish and squid for plan development and a decision was reached to employ a part-time public information consultant.

August 7-9, 1979 Corpus Christi, Texas—Reviewed the groundfish, shark and reef fish FMP's, discussed a monitoring system, supported development of Phase I of the purse seine evaluation, adopted the 1980 budget and modified the retirement plan.

September 4-6, 1979 New Orleans, Louisiana—Reviewed mackerel, groundfish and shrimp FMP's. Selected shark hearing sites, developed a criteria for selection of environmental projects for Council consideration, discussed research priorities and elected chairman and vice chairman.

October 1-3, 1979 Galveston, Texas—Restructured Council committees and appointed new members. Final approval of shrimp and shark DEIS/FMP's. Reviewed coastal herring profile, spiny lobster, reef fish and mackerel FMP's and selected hearing sites for shrimp. Discussed NMFS funding requirements.

November 7-9, 1979 Miami, Florida—Reviewed coral and reef fish FMP's, revised travel allowances and reviewed a tentative agreement for an I&E position.

December 4-6, 1979 Mobile, Alabama—Selected research priorities, agreed to write Congressman Slack supporting NMFS funding requirements, discussed policy on confidentiality of statistics and reviewed reef fish and billfish FMP's.

In addition public hearings on reef fish were held around the Gulf in May and on shrimp during the months of November and December.

SIGNIFICANT ACTIVITIES RELATED TO MANAGEMENT

During 1979 the Gulf of Mexico Fishery Management Council completed FMP's for shrimp, reef fish, coastal migratory pelagics, spiny lobster, groundfish and sharks. Public hearings will be held on these and a management plan for corals during 1979-1980.

The reef fish FMP is cited here as an example of FMP development and the problems encountered. The reef fish DEIS/FMP was completed in January of 1979 and was submitted to public review in hearings held in May. Because of the public and federal comments and additional information on the draft plan, the management regime was modified to include major changes in the proposed management measures. The Council elected to submit the revised document to further public review which will be scheduled in 1980.

EFFORTS TO FOLLOW UP ON DOC REPORTS

In 1978 the Department of Commerce performed an audit on the administration of grants to the Councils. The audit revealed problems that to a large extent were due to the new and unique nature of the Councils. While most of the audit exceptions were addressed to the need to improve the broad and general administration of Council grants, the DOC criticisms made of this Council's grant administration were largely on the need to conform with NOAA policies that were still to be formalized. Other exceptions listed were either withdrawn or corrected immediately, except for a few in the process of revision.

EFFORTS TO FOLLOW UP ON GAO REPORTS EFFORTS TO ENCOURAGE PUBLIC PARTICIPATION

At the request of the Committee on Merchant Marine Fisheries, the General Accounting Of-

fice (GAO) conducted a study in 1978 on the implementation concepts delineated in P.L. 94-265. The GAO study reported on progress made and problems encountered by the fishery management Councils. It also looked into selected fisheries of the Councils, including the shrimp fishery in the Gulf of Mexico.

Some of the problems of the Councils which were identified in the GAO report included the need for a more adequate data base to effectively manage fisheries, to successfully publicize meetings on fishery management plans and to speed up the FMP development process.

The Gulf of Mexico Fishery Management Council has identified to National Marine Fisheries Service its data requirements and has urged increases in their budget line items to provide the required research related to management.

In order to reach latent input into Council efforts on the development of fishery management plans, the Council's Public Information Committee is implementing a professional public relations program which will touch the interested constituencies for increased participation.

The Council engages in continued dialogue with NOAA/NMFS on ways to reduce required time constraints placed on the FMP and its components as they move through the development process.

P. L. 95-354 AND ITS AFFECT ON FMP'S

All the plans under development were modified to incorporate the required parameters expressing processing capacity and expected annual processing utilization. However, as the possibility of foreign fishing and the apparent possibility of joint ventures appeared unlikely for most fisheries, only the groundfish plan provided for joint ventures and for this plan only as it might relate to groundfish discarded by domestic fishermen.

21st
January
1980

To the Commissioners
Gulf States Marine Fisheries Commission
c/o Mr. Charles H. Lyles
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, 1979, 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.

As explained in Note 3 of the Notes to Financial Statements (Exhibit C) certain funds received under the Eastland Resolution Study Grant may be subject to reduction upon Federal Audit.

In our opinion, subject to the adjustment, if any, which may result from the matter referred to in the preceding paragraph, the accompanying financial statements present fairly the financial position of Gulf States Marine Fisheries Commission at September 30, 1979 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 basis consistent with that of the preceding fiscal year.

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.

Respectfully yours,


Charles Edgar Rasor
Certified Public Accountant

CER:lo

BALANCE SHEET

Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi

September 30, 1979

ASSETS

Cash		\$ 89,267.53
Furniture, fixtures and equipment	\$ 9,681.38	
Automotive equipment	5,570.43	
Total	\$ 15,251.81	
Less: Accumulated depreciation	<u>6,714.85</u>	<u>8,536.96</u>
Total		\$ <u>97,804.49</u>

LIABILITY

Payroll taxes withheld and accrued		\$ 1,237.32
------------------------------------	--	-------------

FUND BALANCES (Exhibit B)

Operating Fund	\$ 76,879.95	
Eastland Fund	10,002.35	
State-Federal Fisheries-Studies and Analysis Fund	(7,872.43)	
State-Federal Fisheries-Council Fund	3,766.13	
State-Federal Fisheries-Management Fund	<u>13,791.17</u>	<u>96,567.17</u>
Total		\$ <u>97,804.49</u>

See the accompanying Notes to Financial Statements (Exhibit C).

STATEMENT OF REVENUES, EXPENSES AND
CHANGES IN FUND BALANCES

Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi

For the Fiscal Year Ended September 30, 1979

	<u>Operating Fund</u>	<u>Eastland Fund</u>
<u>REVENUES:</u>		
Member states appropriations:		
Alabama	\$ 7,500.00	
Florida	15,000.00	
Louisiana	-0-	
Mississippi	7,500.00	
Texas	15,000.00	
Grants		
Interest	<u>2,656.82</u>	
 Total revenues	 \$ <u>47,656.82</u>	
 <u>EXPENSES:</u>		
Salaries	\$ 28,654.89	
Auto	1,092.40	
Dues and subscriptions	312.50	
Indirect costs		
Insurance	1,745.40	
Maintenance and repairs	60.90	
Meetings	476.88	
Office supplies and expense	1,781.12	
Postage	927.55	
Printing	3,268.51	
Professional fees	1,250.00	
Sub-contracts		
Taxes - payroll	2,673.05	
Telephone	2,163.30	
Travel and entertainment	4,043.48	
Depreciation	<u>1,430.00</u>	
 Total expenses	 \$ <u>49,879.98</u>	
 Excess of revenues over (under) expenses	 \$ (2,223.16)	 \$ -0-
Fund balance, October 1, 1978	<u>79,103.11</u>	<u>10,002.35</u>
Fund balance, September 30, 1979	<u>\$ 76,879.95</u>	<u>\$ 10,002.35</u>

<u>State-Federal Fisheries Studies and Analysis Fund</u>	<u>State-Federal Fisheries Council Fund</u>	<u>State-Federal Fisheries Management Fund</u>	<u>Combined</u>
\$	\$	\$	\$ 7,500.00
			15,000.00
			-0-
			7,500.00
			15,000.00
46,534.97	24,371.97	9,252.92	80,159.86
<u> </u>	<u> </u>	<u> </u>	<u>2,656.82</u>
\$ <u>46,534.97</u>	\$ <u>24,371.97</u>	\$ <u>9,252.92</u>	\$ <u>127,816.68</u>
\$ 13,069.69	\$ 16,144.08	\$	\$ 57,868.66
			1,092.40
			312.50
4,174.96			4,174.96
			1,745.40
			60.90
151.30		437.99	1,066.17
1,902.21	628.99	552.98	4,865.30
			927.55
			3,268.51
			1,250.00
29,132.00			29,132.00
			2,673.05
	1,000.00	450.00	3,613.30
4,141.14	756.88	4,066.42	13,007.92
<u> </u>	<u>906.00</u>	<u> </u>	<u>2,336.00</u>
\$ <u>52,571.30</u>	\$ <u>19,435.95</u>	\$ <u>5,507.39</u>	\$ <u>127,394.62</u>
\$ (6,036.33)	\$ 4,936.02	\$ 3,745.53	\$ 422.06
<u>(1,836.10)</u>	<u>(1,169.89)</u>	<u>10,045.64</u>	<u>96,145.11</u>
\$ <u>(7,872.43)</u>	\$ <u>3,766.13</u>	\$ <u>13,791.17</u>	\$ <u>96,567.17</u>

See the accompanying Notes to Financial Statements (Exhibit C).

NOTES TO FINANCIAL STATEMENTS

Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi

September 30, 1979

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 member 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 inter-state 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 - Eastland Resolution Study Grant

In June, 1975, the Commission received a grant-in-aid award entitled "Eastland Resolution Study" from the U. S. Department of Commerce. The grant provides for the survey of Federal agencies concerned directly or indirectly with the fishing industry for the period from June 1, 1975 to December 1, 1976 for an amount not to exceed \$200,000.00.

The Commission has allocated an aggregate of \$20,000.00 of indirect costs to this grant. That amount is subject to reduction upon Federal audit as provided in the grant.

NOTES TO FINANCIAL STATEMENTS

Note 4 - 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 5 - State-Federal Fisheries Council Support Program

Effective this fiscal year under review, the Commission entered into a contract with the U. S. Department of Commerce to provide administrative support of the State-Federal Fisheries Council in the Gulf of Mexico coastal states. The total contract is not to exceed \$21,500.00. The contract expires September 30, 1979.

Note 6 - State-Federal Fisheries Studies and Analysis Program

Effective this fiscal year under review, the Commission started receiving funds from a contract with the U. S. Department of Commerce to provide administrative support of the State-Federal Studies and Analysis Program in the Gulf of Mexico coastal states. The total contract is not to exceed \$100,000.00.

