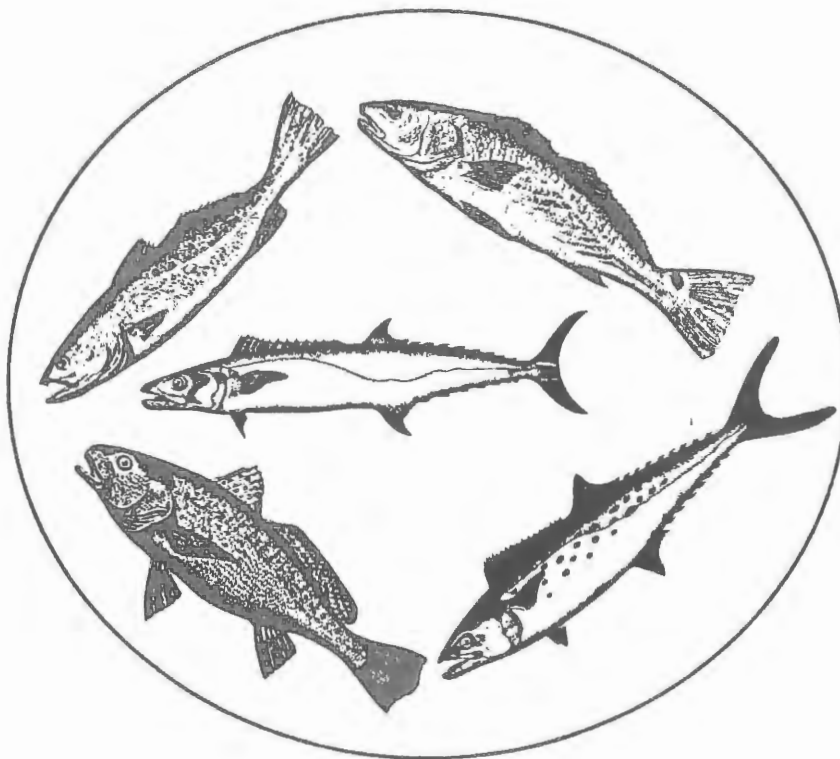


A PROFILE OF STATE AND FEDERAL MARINE RECREATIONAL FISHERIES PROGRAMS OF THE GULF OF MEXICO



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INTRODUCTION

The Gulf States Marine Fisheries Commission (GSMFC) is an organization of the five States whose coastal waters border on the Gulf of Mexico. The principal objective of this compact, which is authorized under Public Law 81-66 of 1949, is to provide a mechanism for the conservation, development, and full utilization of the fishery resources of the Gulf of Mexico in order to provide food, employment, income, and recreation to the people of the United States.

In addition to other committees and subcommittees which form the working body of GSMFC, the establishing legislation, in Article VII, specifically makes provisions for an advisory committee to address issues related to saltwater angling (Public Law 81-66). The GSMFC Recreational Fisheries Committee fulfills this provision.

Marine recreational angling has grown, in terms of participation, threefold since 1955 (SFI Bulletin #400, 1988). This reflects increased expendable income, increased leisure time, and advances in fishing related technologies. One consequence of this increased participation in marine recreational fishing is a concurrent effect of this activity on marine resources. A concomitant result of this phenomenon is the need for marine resource management agencies to address marine recreational fisheries to a greater degree in their programmatic activities.

Recreational Fisheries Committee Areas of Concern

Each of the marine fisheries resource agencies in the five Gulf States conducts activities to manage, protect, enhance, develop, and evaluate fisheries resources which are available to the citizens and tourists of their respective States. These programmatic efforts are necessarily aimed at problems and opportunities that are particular to those respective States; however, the interjurisdictional nature of most of the fisheries resources, and issues which surround them, require a knowledge and understanding of all of the activities (research, monitoring, education, etc.) which affect those resources. The GSMFC Recreational Fisheries Committee provides the mechanism through which to attain the knowledge and understanding of marine recreational fisheries

activities in the Gulf of Mexico, and provides the opportunity for a coordinated approach to address those issues which cross state and federal boundaries.

In October 1988, at the Annual Fall Meeting of GSMFC in San Antonio, Texas, the Recreational Fisheries Committee discussed the need to develop a firm foundation to help guide the Committee's activities. An initial result of the effort was the development of the Recreational Fisheries Committee Areas of Concern. These are six broad areas under which most marine recreational fisheries issues can be categorized. They are, in unprioritized order, as follows: 1) environmental issues, 2) recreational fisheries research, 3) fisheries management issues, 4) recreational fishing opportunities, 5) angler information and education, and 6) funding opportunities. As activities within the Committee progress, it is expected that issues under the Areas of Concern will become more focused and refined. It is anticipated that this document will serve as a foundation for future Committee activities by providing the mechanism for state/state, state/federal, and public/private cooperation in planning and implementation of marine recreational fisheries activities in the Gulf of Mexico.

State and Federal Marine Recreational Fishery Programs Which Impact the Gulf of Mexico

FLORIDA

In Florida there is not an organizationally discrete marine recreational fisheries program. The Florida Marine Fisheries Commission and the Department of Natural Resources (DNR) Divisions of Marine Resources (Marine Research Institute; Bureau of Marketing and Extension Services; the Artificial Reef Program), Recreation and Parks (Office of Recreational Services; Bureau of Park Operations; Bureau of Construction and Park Planning and Design), and Law Enforcement (Florida Marine Patrol Bureau of Operations) address all marine fisheries issues within the realm of their statutory and delegated responsibilities without reference to user group.

Funding for activities that benefit, directly or indirectly, marine recreational fisheries is received from a variety of sources: general revenue, documentary stamp revenue from real estate transactions, a

portion of boat registration fees (Florida Boating Improvement Program), and Federal grants (Department of Commerce: NOAA, NMFS; Department of Interior: National Park Service, Fish and Wildlife Service). As of 1989 Florida has a marine recreational fishing license. License fee revenues will support many activities.

In Florida marine recreational fishery research has been the major beneficiary of the Wallop-Breaux amendment to the Sport Fish Restoration Act. With these additional funds the Florida Marine Research Institute has:

- 1) Organized an interdisciplinary response team to efficiently investigate and (hopefully) diagnose causes of reported fish kills and diseases.
- 2) Developed a reference collection (literature, histological slides, preserved specimens) of normal and pathological conditions in fish species. Specimens are obtained from field collections and laboratory studies.
- 3) Initiated a study to develop methods of identifying, controlling and/or preventing pathogens in fish hatchery stock.
- 4) Continued the studies on red tide: monitoring its occurrences; maintaining an international collection of red tide organisms; consulting and advising other states and countries during outbreaks, as requested.
- 5) Initiated a study of tarpon that is designed to genetically identify and define the Florida population(s), gather data on life history characteristics, population structure, food habits and habitat requirements, assess the statistical merits of using existing tournament records in evaluating the present status of the population(s), and evaluate relative abundance using fishery dependent and independent procedures.
- 6) Expanded a project to assess the economic and biological feasibility of rearing and releasing key recreational species such as snook and red drum.
- 7) Initiated a recreational fishery statistics project which emphasizes population assessments through fishery independent techniques. This project includes development of sampling gear and

procedures that will efficiently provide statistically reliable data and will monitor the juvenile finfish populations in selected bay systems.

- 8) Initiated a survey of coastal boating access points and an evaluation of the fishery around those sites. Information will be plotted on county maps and made available to the public.

Other Institute research activities that will benefit recreational fisheries include studies on seagrass, mangrove and marsh community dynamics and restoration techniques, documenting and monitoring losses in the coastal wetland, mangrove and seagrass bed habitats, monitoring water quality, and efforts to correlate habitat loss with fishery trends. Information from these activities can be used in managing all marine resources.

The Division of Marine Resources artificial reef program has also benefited significantly from receipt of Wallop-Breaux funds. Through grants to local governments, the program now annually funds an average of twenty reef construction projects to enhance the local recreational fishery. The reef program also provides advice and assistance, as appropriate, for anyone (private citizen, organization, government unit) interested in developing an artificial fishing reef. Reef maintenance and management are the responsibility of the permittee and the appropriate regulatory body (i.e., Florida Marine Fisheries Commission, Gulf of Mexico Fishery Management Council), respectively. Reef monitoring and research projects are conducted by volunteer SCUBA divers and university scientists, respectively, at a few reef sites.

Boating access projects are supported by several DNR programs. The Division of Recreation and Parks builds and maintains boating access and support facilities in many State parks as well as provides Boating Improvement and Florida Recreational Development grants to counties for various projects, many of which address boating and fishing needs. Wallop-Breaux funds, administered by the Division of Marine Resources, are used for both State park and local government projects.

Education and information activities in the Division of Marine Resources are designed to promote public awareness of the diversity, interrelationships and fragility of the marine resources as well as offer suggestions on how to prepare the catch of the day for dinner.

Such information is conveyed through the development and distribution of brochures and pamphlets, talks given to civic and school groups, messages on highway billboards, and providing assistance to others who are developing environmental education materials.

Florida is very progressive in one other arena that will directly benefit the marine fishery: land acquisition. Through the Save Our Coasts and Conservation and Recreation Lands acquisition programs of DNR and the Save Our Rivers acquisition program of the regional water management districts, thousands of coastal and riverine floodplain acres have been placed in public ownership. These acquisitions will play a major role in protecting the estuarine and offshore habitats and water quality from degradation or loss.

ALABAMA

Marine recreational fisheries programs are directed by the Department of Conservation and Natural Resources specifically through the Marine Resources Division (MRD). There is no organizationally discrete unit within the MRD to handle marine recreational fisheries efforts, but rather they are carried out as a part of the regular duties of the MRD which is responsible for management and regulation of both marine recreational and commercial fisheries programs.

The MRD has received Wallop-Breaux funding since 1986. These funds have been used: 1) to produce and release tagged spotted seatrout (Cynoscion nebulosus) in order to monitor the movement, growth and survival of the released fish for the development of a data base for evaluation of natural stocks, 2) to support research to develop optimum techniques for rearing of spotted seatrout, 3) to develop, renovate, and maintain public boating access sites, and 4) to initiate a project in 1988 to provide for the coordinated management of all recreational fisheries programs in the coastal areas and the Gulf of Mexico off Alabama.

Alabama does not license resident marine anglers; however, all nonresidents are required to purchase a license to fish in any waters of Alabama, fresh or marine. A 10% share of the funds collected from the resident and nonresident freshwater fishing license is allocated to the MRD.

From 1983 to 1986 the MRD contracted with Auburn University to conduct a marine recreational creel survey with a stratified non-uniform probability design. That survey produced total catch and catch-per-unit-effort data for target species. Currently, length measurements are being gathered on species in a non-random fashion to generate length frequency data. A monitoring and assessment program utilizing 16-foot otter trawls, 150-foot seines, and beam plankton trawls sample larval and juvenile fish and crustaceans to ascertain population abundance and distribution.

In addition to the stocking of spotted seatrout, as mentioned above, the MRD also releases tagged striped bass and red drum in an effort to gather data on survival, growth, and movement. Field sampling for red drum, Spanish mackerel, and king mackerel is conducted to assist the Gulf of Mexico Fishery Management Council in the development and monitoring of fishery management plans. The MRD also reviews Corps of Engineers permit applications for dredge and fill activities in marine wetlands.

All information and education efforts are managed through the Department's Information and Education Section located in Montgomery, Alabama. A cooperative program, funded by MARFIN, between the MRD and the Mississippi-Alabama Sea Grant office has been initiated to produce an information series and a video tape which will describe the evolution of the red drum fishery and regulations affecting that fishery. The program is being produced by Auburn University to air on public television.

To provide greater public awareness of the MRD's activities, any personnel funded from Wallop-Breaux monies spend as much as 5% of their time in public seminars, tours of the MRD facilities, and yearly marine science classes taught at the MRD's Claude Peteet Mariculture Center.

A recreational artificial reef program was initiated in Alabama in 1953 with the placement of 250 car bodies off the Alabama coast. This was reported to be the first man-made reef intentionally built in the Gulf of Mexico. Since this beginning several structures have been placed to create reefs, the most notable being the placement of Liberty ships from the Reserve Fleet of the U.S. Maritime Commission.

In 1987 and 1988 two areas were secured under a general permit to facilitate the enhancement of recreational fishing through the placement of artificial reefs. The areas are located in Baldwin County (360 square miles) and Dauphin Island (100 square miles). The MRD inspects all materials to be used to build reefs for hazardous and noxious substances and issues permits for construction within the areas. Inadequate funding has caused the program to be intermittent in nature. Wallop-Breaux funds are being sought to transport and deposit approximately 16 railroad boxcars. It is anticipated that more secure funding will allow this program to continue.

MISSISSIPPI

The Mississippi Department of Wildlife, Fisheries, and Parks, Bureau of Marine Resources, has no dedicated functional unit that deals specifically with recreational fisheries. Rather, sports fisheries programmatic aspects are included within the work of a number of operational divisions. The Division of Saltwater Fisheries is largely responsible for matters of data collection and analysis. The Coastal Programs Division administers all construction projects that are funded under the Wallop-Breaux program. A newly-formed Public Relations Department is responsible for developing public awareness programs for all agency work, including recreational fisheries activities; and the Enforcement Division provides law enforcement for both commercial and recreational fishing regulations. Thus, each of the agency's functional divisions plays an integral part in the overall marine recreational fisheries program of the State.

Since the passage of the Wallop-Breaux amendment to the Sport Fish Restoration Act, the Bureau of Marine Resources (BMR) has channeled most of its research efforts towards describing the state's marine recreational fisheries. Since there is only scant information available here, and since there is only one historical record of creel survey work having been conducted in State waters, a statewide saltwater creel survey was high on the priority listing of work to be funded.

Starting in March 1987, the BMR began a roving creel survey of sport boat fishermen. This project, now in its third year, has provided considerable data to help evaluate the state's marine recreational

fishery and to help augment the information provided through the National Marine Fisheries Service. It is a roving creel survey using a non-random probability distribution of each of the major boating access sites in the three coastal counties, and is funded at a total cost of \$80,000 through the Wallop-Breaux program. Intercept data are combined with aerial pressure estimates to provide for an overall picture of the sport boat fishery. As data collection and analysis methodologies continue to be refined and improved, it is anticipated that these data collection efforts will be broadened to include other modes of fishing, such as shoreline or pier fishing.

The BMR has made a firm commitment to recreational fishing access site construction and improvement using available Wallop-Breaux monies. In the initial phase of this program, two boat launches were constructed - one at Popp's Ferry in Harrison County and a second in Pearlington in Hancock County. A new fishing pier at Gulf Park Estates in Jackson County completed the work carried out in the first year. Currently, three additional access site projects are under way. It is anticipated that a significant amount of Wallop-Breaux funds will continue to be returned to the recreational fishermen through access site construction and maintenance.

The BMR has also used Wallop-Breaux funding in the creation of both offshore and nearshore fishing reefs. In cooperation with the Mississippi Gulf Fishing Banks, Inc., supplemental reef material was deposited on several offshore Liberty Ship Reef sites during the first phase of this work. Plans are to provide additional offshore reef material with each annual Wallop-Breaux allocation to continue this beneficial program. At the same time, the creation of nearshore low-profile fishing reefs using clam and oyster shell material is being planned. In the first two years of Wallop-Breaux funding, the BMR developed low-profile reefs at key access sites in each of the three coastal counties. At this time, virtually all of the state's public fishing piers enjoy improved fishing as a direct result of reefs that have been sited nearby; and, because of the popularity of this program, additional low-profile reefs are being planned for the future.

In 1989, a new Wallop-Breaux project to elucidate the life history and migratory habits of cobia in State waters was begun. The work will be carried out by biologists at the Gulf Coast Research Laboratory in Ocean Springs, Mississippi.

Mississippi does not currently require a marine recreational fishing license, although there have been a number of legislative bills in recent years that would have brought such a license about. Beginning in July 1989, however, an out-of-state marine recreational fishing license is required for all nonresident anglers fishing in the state's marine waters.

The agency's Information and Education (I & E) program is largely in its infancy; consequently, little has been little done in the area of marine recreational fisheries. Wallop-Breaux funding was used in the development of a sportsfishing poster that describes the major nearshore gamefishes of the State. Other I & E activities are currently in the planning stages.

Mississippi has participated in the development of fisheries management plans for Spanish and king mackerel, other migratory pelagic species, reef fishes, billfishes, and other species of recreational interest, through its membership and involvement with the Gulf of Mexico Fishery Management Council. The State has adopted Gulf Council management recommendations for State waters in a number of cases.

Currently, the BMR is developing strategic management plans for each of the major finfish species in State waters. Through these plans, management policies for both commercial and recreational fisheries will be developed and implemented. Ongoing monitoring and assessment projects target both commercial and recreational fish species. These include fisheries independent monitoring of juvenile distribution and relative abundance as well as mark-recapture work with selected species such as spotted seatrout and red drum. Data from the monitoring and assessment programs will assist in future evaluation and updating of the strategic management plans now under development.

Minimization of habitat loss and mitigation for such losses is a function borne by the BMR Wetlands Division and carried out under the auspices of the state's Wetlands Protection Act. This long-standing

program plays a major role in shaping the future of the state's marine recreational fisheries by protecting the estuarine and offshore fisheries habitats from further encroachment, loss, and degradation.

LOUISIANA

The Louisiana Department of Wildlife and Fisheries (LDWF) does not have an organizational unit devoted solely to marine recreational fisheries activities. Marine recreational finfish management activities are carried out by the Saltwater Finfish Management Section, and recreational shrimp and crab management activities are carried out by the Shellfish Management Section. Both of these organizational units are contained within the Marine Fisheries Division. Enforcement activities are carried out by the Enforcement Division, and marine habitat issues are addressed by the Habitat Conservation Division.

A major activity funded by Wallop-Breaux monies in recent years has been the development and implementation of a State artificial reef plan. Funding for this program is supplemented by money from various offshore petroleum companies which cooperate by providing retired oil structures as artificial reef material. Other major areas of Wallop-Breaux activities include aquatic education and boating and access development in coastal areas.

In 1985 Louisiana implemented legislation establishing a marine recreational fishing license program. Anyone fishing in the saltwater areas of the State as defined in the statutes are required to purchase a saltwater license in addition to a basic recreational fishing license. Persons fishing solely for freshwater species in the designated saltwater area are exempt from the saltwater license requirement.

Currently the LDWF does not have a formal ongoing marine recreational fisheries harvest data collection survey, although a comprehensive survey was completed in 1984. The only formal data collected are from licensing information. A long term harvest data collection program is currently being developed and will hopefully be implemented during 1989.

Information and education activities are handled by the LDWF Information and Education Division. These activities include an aquatic education program, articles published in a monthly magazine, a weekly

television program, news releases, and special presentations. A number of these activities are funded through Wallop-Breaux monies.

Currently, marine recreational fisheries research efforts include coastwide fishery independent sampling utilizing bag seines, gill nets, and trammel nets, and red drum research. The red drum studies include tagging, age and growth, reproductive biology, and stock assessment. Although no species specific fishery management plans (FMP) have been completed to date, an overall management plan is in place. Individual FMPs for red drum, spotted seatrout, black drum, sand seatrout, and flounder have been initiated. Louisiana has also participated in the development of FMPs through the Gulf of Mexico Fishery Management Council and the GSMFC.

TEXAS

In Texas, marine recreational fisheries programs are managed by the Coastal Fisheries Branch of the Fisheries Division within the Parks and Wildlife Department. Marine habitat issues, which indirectly affect recreational fishermen, are generally addressed by the Resource Protection Division of the Parks and Wildlife Department and by other State agencies including the Department of Health and the General Land Office.

The Coastal Fisheries Branch was funded at nearly \$4 million in 1988-1989 (September-August) with 101 permanent employees stationed at eight field laboratories and the Austin headquarters. The Branch performs duties and research associated with over \$1 million of Federal aid monies with Wallop-Breaux contributing \$376,552 of that total. Additional funding comes from State appropriations that, in part, originate with the sale of fishing licenses and stamps. A fishing license is generally required of all fishermen except those under 17 or over 64 years of age. A saltwater sport fishing stamp is also required to fish in coastal waters.

Wallop-Breaux monies are received for an ongoing project entitled "Monitoring of Coastal Finfish Resources for Sport Fish Management" that includes programs to monitor the populations and the landings of sport fish. Relative abundance of sport fish populations have been monitored coastwide since 1975 with up to 760 overnight gill net samples annually

using multi-mesh monofilament webbing. Other long-term marine resource monitoring programs in Texas include the collection of 1,632 bag seine samples, 462 beach seine samples, 2,760 bay and gulf trawl samples, and 4,992 oyster dredge samples.

The sport fish landings program, begun in 1974, has the objective of determining seasonal and annual landings, catch per unit effort and size of finfish landed by sport boat fishermen using public ramps, marinas, and charter boats in Texas. These data are obtained through on-site interviews of fishermen returning to randomly selected boat access sites. A stratified proportional sampling strategy consisting of nearly 1,300 8-hour daylight surveys is used to increase harvest estimate precision. Angling activity at a site (based on roving counts of all boat access sites) is used to weigh the selection of survey sites, thus assuring that sites with higher fishing pressure are surveyed more often.

Social and economic data have also been collected on sport boat fishermen during on-site interviews since 1987. Fishermen are asked about their motivations, extent of satisfaction with the trip, species targeted, frequency of fishing trips, zip code, trip-related expenditures, and willingness to pay. Additional social and economic information has been collected annually since 1986 from a mail survey questionnaire sent to holders of a saltwater sport fishing stamp.

Data from both the resource and harvest monitoring programs are used to manage for optimum yield from the fisheries. This goal includes the current development of long range management plans for Eastern oyster, brown and white shrimp, blue crab, red drum, spotted seatrout, southern flounder, and black drum. The Eastern oyster management plan has already been completed and adopted. Additionally, an artificial reef management plan is being prepared to provide for the effective use of this management tool to ensure maximum economic benefit for the State of Texas. To aid in the development of these long range management plans, the Coastal Fisheries Branch has aggressively pursued the dissemination of their research results through peer reviewed publications and presentations.

Stocking of organisms into Texas salt water continues to be a major focus for fisheries enhancement. From 1988 to 1993 management goals

call for annually stocking nearly 24 million fingerlings and 220 million fry of red drum, spotted seatrout, striped bass, snook, tarpon, and white shrimp. Other fisheries enhancement efforts include the revitalization of oyster reefs and the construction and maintenance of boat ramps. A major portion of Texas' Wallop-Breaux monies are currently being used to renovate existing hatcheries and construct new ones.

The Department's information and education efforts toward marine recreational fishermen are extensive and include articles published in a monthly magazine, television documentaries, audio-visual presentations, public service news releases and a toll free information telephone service. Other related activities include radio broadcast fishing reports, sports show exhibit booths, boating safety training and the dissemination of posters, brochures, recipe cards, and student conservation education packets. Currently, none of these efforts are funded with Wallop-Breaux monies.

U. S. FISH AND WILDLIFE SERVICE

The U.S. Fish and Wildlife Service (Service) conducts marine recreational fisheries activities through its Washington Office and a system of regional offices and field stations. On the gulf coast, the Southeast Region (Florida, Alabama, Mississippi, and Louisiana) and the Southwest Region (Texas) are involved in a variety of anadromous and marine recreational fisheries projects. Anadromous fish activities are particularly important with regard to the restoration of striped bass and sturgeon.

The Service's Fisheries Assistance offices located in Florida, Louisiana, and Texas provided cooperative management efforts with the States and the GSMFC in developing the Striped Bass Fishery Management Plan, prepared by the GSMFC Anadromous Fish Subcommittee. In addition, cooperative efforts continue with watershed investigations including creel censuses, tagging studies, and fish stocking evaluations.

The restoration of the gulf race striped bass population in the Apalachicola River basin involves wild broodstock collection for spawning and rearing. Captive striped bass broodstock development and spawning are currently underway at National Fish Hatcheries to

supplement the collection and spawning of wild fish. Also, National Fish Hatcheries contribute to the gulf recreational fisheries programs by stocking up to 2 million striped bass annually, and by recently initiating an experimental rearing program for sturgeon. The restoration and enhancement of gulf sturgeon in the Apalachicola and Suwannee Rivers in Florida are currently being initiated by the Service.

Several ongoing research projects are now conducted by the Service and cooperating states relating to stock performance evaluation, genetic studies, and habitat evaluation. The National Fisheries Research Center, Gainesville, Florida, is involved in genetic studies of both gulf striped bass and sturgeon, using modern DNA techniques to identify nuclear DNA polymorphism that can be used as population genetic markers for determining genetic variation present within populations and the genetic distinctness of geographically separated populations.

The Service is involved in a variety of activities to conserve coastal wetlands, an area that impacts recreational fishing both directly and indirectly. Research units such as the National Wetlands Research Center, Slidell, Louisiana, contribute to wetlands inventory and research by monitoring and providing comparisons with historical habitat data, investigating causes and the extent of wetland losses, contaminant effects, vegetation dynamics, management practices, the ecology of sea grasses, and establishing a geographical information system. The National Wetlands Inventory, St. Petersburg, Florida, has completed the mapping of gulf coastal wetlands by remote sensing using high altitude aerial photography that effectively identifies nursery and rearing habitats and contributes to the identification, inventory, and forecasting of the dynamics of wetlands.

Under the authority of the Fish and Wildlife Coordination Act, through the Fish and Wildlife Enhancement offices located in all gulf coast states, the Service is involved in planning and evaluating water resource development projects permitted or funded by the U.S. Army Corps of Engineers. The Act requires the Corps to consult with the Service before issuing any permit under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Through its consultative role, the Service recommends measures to mitigate the loss of wetlands. Another important Service consultative role includes

activities authorized under the Coastal Barrier Resources Act involving Federal expenditures and financial assistance for development activities within the Coastal Barrier Resource System.

In addition, the Service manages several National Wildlife Refuges throughout the gulf coast states. A principal function of these refuges is the conservation and management of coastal wetlands for waterfowl and other fish and wildlife. The Service is also working with other Federal and State agencies in the development of a Regional Wetlands Concept Plan under the Emergency Wetlands Resources Act of 1986. This plan will include a list of potential wetlands areas for acquisition by Federal or State agencies.

A major initiative recently completed by the Service has been its role as the lead agency in the development of a National Recreational Fisheries Policy. The Policy focuses on the specific issues and social and economic benefits related to recreational fisheries. It represents the collective efforts of State, Tribal and Federal governments, private sector constituency groups, and the recreational fishing industry. The Policy is not a strategic plan or action, but rather provides long term common goals for conserving and enhancing the Nation's recreational fisheries. The document's guiding principles, goals, and objectives provide a conceptual foundation for each interest upon which to build.

While the National Recreational Fisheries Policy has led to a new emphasis on sport fisheries, it does not provide any additional funding sources for recreational fisheries programs. Other Federal legislation has provided some of the needed funds. The most notable is the Federal Aid in Sport Fish Restoration Program. Administered by the Service, these funds result from a manufacturer's excise tax on sport fishing equipment, electric trolling motors, flasher type fish finders, import duties on yachts and pleasure crafts, and motor boat fuel taxes. These funds are collected at the Federal level and apportioned to the state agency that is responsible for managing the state's sport fishery resources. Coastal states must distribute the funds between marine and freshwater projects based on the relative proportion to their resident fresh and saltwater anglers. The Federal Aid in Sport Fish Restoration Program is a matching grant program with the Federal Government providing up to 75% of the funds and the States supplying the balance.

In fiscal year 1988, more than \$155 million was apportioned to the States for work on sport fish projects, and approximately \$179 million is available in fiscal year 1989. Of this amount, over \$18 million was apportioned to the five gulf coast States in fiscal year 1988, and about \$21 million is available in fiscal year 1989.

In summary, the Service's program as it relates to marine recreational fisheries, combines the following elements:

- 1) A national framework, directed by the Washington Office, of regional offices and field stations to accomplish agency roles and responsibilities, and
- 2) Grant programs to the States through the Anadromous Fish Conservation Act and the Federal Aid in Sport Fish Restoration Act.

NATIONAL MARINE FISHERIES SERVICE, SOUTHEAST REGION

The Marine Recreational Fisheries (MRF) program in the Southeast Region is a coordinated program involving personnel at both the Southeast Regional Office (SERO) and Southeast Fisheries Center (SEFC). The program is conducted in accordance with a jointly prepared MRF Program Development Plan (PDP), implemented in 1983, which outlines program goals and activities. The PDP will be revised and updated in 1989 to implement the National Recreational Fisheries Policy and NMFS' MRF Action Plan. While program activities are conducted by numerous personnel operating in the various divisions and laboratories, two full time SERO employees and one full time SEFC researcher are principally responsible for program direction and coordination. These individuals also carry out numerous specific program activities. Notably, a 19-member MRF Steering Committee was established in 1984 to provide effective involvement of the MRF constituency in program development and implementation. Major program discussion points are as follows:

- 1) Wallop-Breaux (W-B) Activities.

As outlined in a NMFS/U.S. Fish and Wildlife Service memorandum of understanding, SERO staff maintain program coordination with state W-B contracts providing technical assistance in project design and implementation as requested. Particular attention is given to data collection, research, artificial reef and interstate management activities.

2) Licensing.

While several Federal saltwater fishing license bills have been introduced in Congress, including the recent H.R. 5580, no Federal fishing license is currently required of anglers fishing in the EEZ. Vessel permit requirements have, however, been implemented in the Southeast Region pursuant to the coastal pelagic, swordfish, and reef fish fishery management plans. Under the coastal pelagic (mackerel) plan, over 830 charter boats have obtained the required vessel permit to participate in the mackerel fishery during the 1988-89 fishing season. In addition, SERO personnel participate in the MRF Committees of the Atlantic States and Gulf States Marine Fisheries Commissions to explore license issues.

3) Data Collection.

SEFC personnel perform numerous data collection efforts in support of the region's fishery management mission. SERO/SEFC personnel coordinate implementation of the National Marine Recreational Fisheries Statistics Survey in the region and continue to help refine and improve its implementation. SEFC Beaufort Laboratory personnel conduct a region-wide headboat catch/effort survey with nearly 100% participation rates. Other data collection efforts include dockside and tournament sampling programs, extensive fish tagging efforts, periodic special surveys, biological sampling surveys, fishery independent sampling programs for stock assessments, and other miscellaneous MRF related surveys. Notably, SEFC personnel also conduct a region-wide port sampling program to collect commercial fisheries statistics and assist the States in their efforts through the cooperative fishery statistics grant program.

4) Information/Education.

The SERO maintains a MRF mailing list including fishing clubs, charter and headboat captains, outdoor writers, tackle manufacturers, and other interested MRF concerns. The list is used to publish charter/headboat and fishing club directories and to distribute newsletters, news releases, research findings, and other materials of interest to recreational constituents. SERO/SEFC personnel host, sponsor and/or participate in numerous conferences and committees.

During the last several years, the region has initiated a strategic education effort to obtain greater active support of fishery conservation programs from the MRF community. This angling ethics program is designed to help anglers make more educated/enlightened decisions regarding the environment, the catching of fish, and use of their catch. Major dimensions of the program include brochures to inform anglers of Federal fishing regulations; a broadcast quality video and brochure to teach anglers how to properly release fish that either don't comply with bag or size limits or are simply released voluntarily, a broadcast quality video and a battery of literature (brochures, posters, cook books, etc.) to help anglers make better use of traditionally underutilized species; a cooperative NMFS/MRF industry sponsored expanded tagging program for the Atlantic, Gulf and Caribbean areas; and a video training series to help tournament organizers hold more effective, conservation-oriented fishing tournaments.

5) Artificial Reefs.

SERO and SEFC personnel are involved in various aspects of artificial reef research and development. SEFC biologists are participating in a cooperative reef research project with the University of Miami. Nicknamed "GROUPE" (Generalized Recruitment Optimization Using Prefabricated Experimental Reefs), the project examines the relative importance of recruitment, attraction, and production functions of artificial reefs, with special emphasis given to determining the importance of reefs in producing new reef fish biomass.

SERO personnel also provide substantial technical and some financial assistance to local governments, states and private entities in permitting, siting, constructing, monitoring, and managing artificial reefs. Particular emphasis has been given to assisting in the development of siting plans and in streamlining and improving the Federal permit process.

6) MRF Research.

The SEFC conducts a comprehensive research program in support of NMFS' fisheries management, conservation, and development responsibilities related to fishery resources and related habitat occurring in the South Atlantic, Gulf of Mexico and Caribbean areas. Research activities are conducted at seven laboratories scattered

throughout the region and focus on species groupings affected by major recreational and commercial fisheries. These species groupings are as follows: Latent Resources (coastal herrings and related species), Mackerels, Menhaden, Molluscan Shellfish, Shrimp, Bottomfish, Red Drum, Reef Resources, Oceanic Pelagics, and Protected Species (marine mammals and endangered species). Each species-oriented or group-oriented program is responsible for developing data needed to assess and monitor stock characteristics and conditions and to help managers develop measures which prevent harvest levels from overtaxing the productive potential of species populations, without being overly restrictive. Other non-species-specific research programs include economics and statistics, fishery habitat, and product quality/safety.

In addition to NMFS conducted research, the agency also provides financial assistance to states, universities, industry, and others through the Saltonstall-Kennedy, MARFIN, State-Federal Cooperative Statistics, Interjurisdictional Fisheries, Anadromous Fisheries, SEAMAP, and MARMAP programs. Collectively, these programs provide financial resources for priority research and development activities.

Information on specific projects, conducted under internal and financially sponsored research and development programs, is provided in various annual reports available from SERO and SEFC.

7) Fisheries Management.

Under the auspices of the Magnuson Fisheries Conservation and Management Act, the Southeast Region assists and supports the South Atlantic, Gulf of Mexico and Caribbean Fisheries Management Councils in the development of FMPs. Upon their approval by the Secretary of Commerce, the NMFS implements and enforces regulations needed to achieve plan objectives. Currently the region monitors and enforces regulations under 12 approved FMPs (stone crab, shrimp, coastal migratory pelagics, spiny lobster, snapper-grouper, coral, reef fish, swordfish, shallow-water reef fish, Caribbean spiny lobster, red drum, and billfish) and one preliminary management plan (PMP - billfish and shark). Details on these FMPs can be obtained from the SERO in St. Petersburg, Florida.

In addition to Magnuson Act responsibilities, the SERO assists states and regional marine fisheries commissions in developing FMPs and

regulations for State and interstate fisheries. The habitat protection and protected species management programs are also integral parts of NMFS resource management responsibilities.

8) Fisheries Enhancement.

Substantial effort is expended by SERO and SEFC staff to enhance marine recreational fisheries at several levels. First, the Habitat Conservation Division and SEFC conduct an aggressive program implementing NMFS' habitat conservation policy. Of critical importance is NMFS' direct involvement in the regulatory and civil works programs of the Corps of Engineers as an advocate for the conservation of fishery resources and associated habitat. This involvement contributes to substantial reduction in the loss and impairment of valuable and, in some cases, irreplaceable aquatic habitat. Further, these same personnel are actively engaged in efforts to mitigate and restore/recreate lost habitat.

The second level of fishery enhancement efforts involves NMFS' programs to conserve, manage, rebuild, and enhance populations of marine fish, endangered species, and marine mammals. Much of this is achieved through ongoing research and management programs.

Research and development efforts geared to assisting the MRF industry to stabilize and grow constitute the third level of NMFS' fishery enhancement efforts. These programs include artificial reef development, improved utilization of underutilized sport-caught species, charter and headboat fishing assistance projects, MRF-related tourism development assistance, angler ethics programs, and social-economic analyses.

In summary, NMFS is making every effort to effectively and appropriately apply scientific and management expertise to resolve key issues affecting the stability and vitality of marine recreational fisheries in the South Atlantic, Gulf of Mexico, and Caribbean areas. This effort, when linked with other NMFS programs, helps ensure the orderly and wise use of the region's marine fishery resources.

Discussion

While the marine recreational fisheries (MRF) activities of each of the State and Federal agencies differ to varying degrees, it is

important to note that each of the Areas of Concern, as outlined above, are being addressed in some fashion by each of the agencies. This is indicative of the awareness of those agencies of the broad spectrum of activities which are required to properly conduct MRF management. It is also important to note that in those agencies which do not have a dedicated organizational unit for MRF, the impact of recreational activities on marine resources is recognized, evidenced by their involvement in MRF activities.

There is evidently little duplication of MRF research throughout the Gulf of Mexico, an important issue in this time of limited funding for agency activities. The Recreational Fisheries Committee can serve the important function of providing a forum through which duplication of research efforts can be minimized, or interjurisdictional issues on a broad geographic scale can be addressed.

While it is not necessary, nor in many cases desirable, for State and Federal agencies to conduct identical programs to address fisheries issues, it is important that those agencies not attempt to operate in a vacuum. Through cooperative programs which address interjurisdictional concerns of both State and Federal agencies involved in fishery management in the Gulf of Mexico, compatible initiatives which compliment one another can be developed and implemented which will better utilize the limited resources and funding of each agency and better serve our natural resources and the groups which use them.

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