

**A STRATEGY TO DEVELOP A PILOT
STATE/FEDERAL COOPERATIVE MARINE
RECREATIONAL FISHERY
STATISTICS PROGRAM
FOR THE
SOUTHEASTERN UNITED STATES**



PURPOSE

This document proposes a strategy for developing a cooperative program that will provide the recreational statistical information needed to conserve and manage marine fishery resources in the southeastern United States. State and Federal fishery management agencies, Regional Fishery Management Councils, and Interstate Marine Fisheries Commissions often deal with the same resources or stocks. These resources occur in neighboring jurisdictions and are harvested by many types of users. Thus, all managers face similar problems in conserving important marine resources while at the same time providing satisfying recreational fishing opportunities to their constituents. The major purpose of a statistical program is to supply information on catch, effort and participation so that the risks of overharvesting fishery resources are reduced and optimal use of these resources is maintained.

The premise of this document is that development of a cooperative statistics program for marine recreational fisheries in the Southeast will avoid duplication of effort, reduce overall costs, and provide a better base of information for formulating management policy, strategy, and tactics. All parties to fishery management would benefit by participation in such a program. Southeast fishery management agencies recognize the need to develop and implement a program for the cooperative collection and management of recreational fishery statistics. A long-standing partnership exists among fishery management organizations in the Southeast. These organizations have similar or related mandates to conserve and manage living marine resources and their habitat in their respective jurisdictions and areas of responsibility.

BACKGROUND

Recreational fisheries are extremely important in the southeastern United States. In 1991 recreational anglers in the Southeast took an estimated 34 million fishing trips and caught approximately 201 million fish weighing about 38 thousand metric tons (mt). Thus, recreational anglers in the Southeast account for about 50% of the nation's total sportfishing effort, 51% of the recreational catch in numbers of fish, and 41% of the recreational landings by weight (Figure 1). Many species caught by recreational fishermen, such as mackerels, snappers and groupers, are also sought by commercial fishermen. Furthermore, these species generally inhabit both inshore and offshore areas during parts of their life and therefore come under State and Federal jurisdiction at some time.

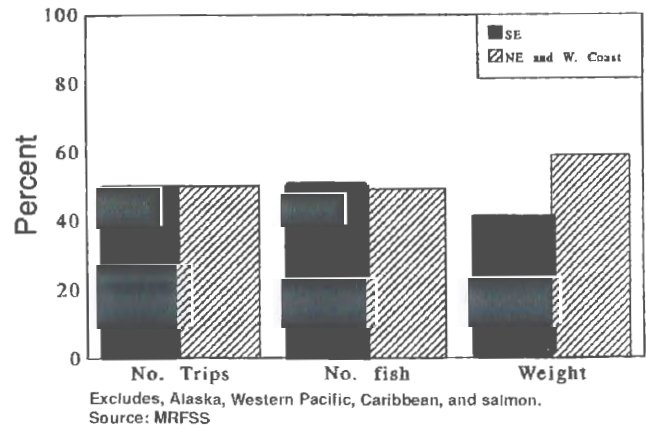


Figure 1. Proportion of recreational trips and catch in the Southeast Region.

Of the 21 fishery units of major concern to Federal managers (NMFS, 1991, *Our Living Oceans*), seven units are centered in the southeastern United States. Species in these units are managed under 13

Federally-developed Fishery Management Plans, 17 Interstate Marine Fisheries Commission plans, and some State-developed plans.

Federal Management Units
Atlantic Highly Migratory Pelagics
Atlantic Sharks
Atlantic Coastal Migratory Pelagics
Atlantic, Gulf of Mexico, Caribbean Reef Fish
Southeast Drums and Croakers
Southeast Menhaden and Butterfish
Southeast and Caribbean Invertebrates

Catch and effort statistics are fundamental for assessing the influence of fishing on these stocks (Figure 2). Information on the harvest, fishing effort, and seasonal and geographical distribution of the catch and effort is required for the development of rational management policies and plans. Accurate and timely catch statistics, along with associated biological studies, provide management agencies with the information necessary to plan for the wise use of the fishery resources. These statistics are integral components of long-term data series needed for fishery modeling and forecasting, and are used by the National Marine Fisheries Service (NMFS); the South Atlantic, Gulf of Mexico, and Caribbean Fishery Management Councils; State

Federal Fishery Management Plans	Gulf States Marine Fisheries Commission Plans	Atlantic States Marine Fisheries Commission Plans
Reef Fish	Blue Crab	Weakfish
Snappers and Groupers	Oyster	Atlantic Menhaden
Coral and Coral Reefs	Menhaden	Atlantic Croaker
Stone Crab	Spanish Mackerel	Atlantic Sturgeon
Shrimp		Bluefish
Caribbean Lobster		Red Drum
Atlantic and Gulf of Mexico Spiny Lobster		American Shad
Coastal Migratory Pelagics		Southern shrimp
Shallow-Water Reef Fish		Spanish Mackerel
Atlantic Billfishes		Spot
Gulf of Mexico Red Drum		Spotted Seatrout
Atlantic Red Drum		Striped Bass
Sharks		Summer Flounder

State Agency Fishery Management Plans
North Carolina - Weakfish
Mississippi - Red Drum
Louisiana - Spotted Seatrout, Black Drum
Texas - Shrimp, Oysters

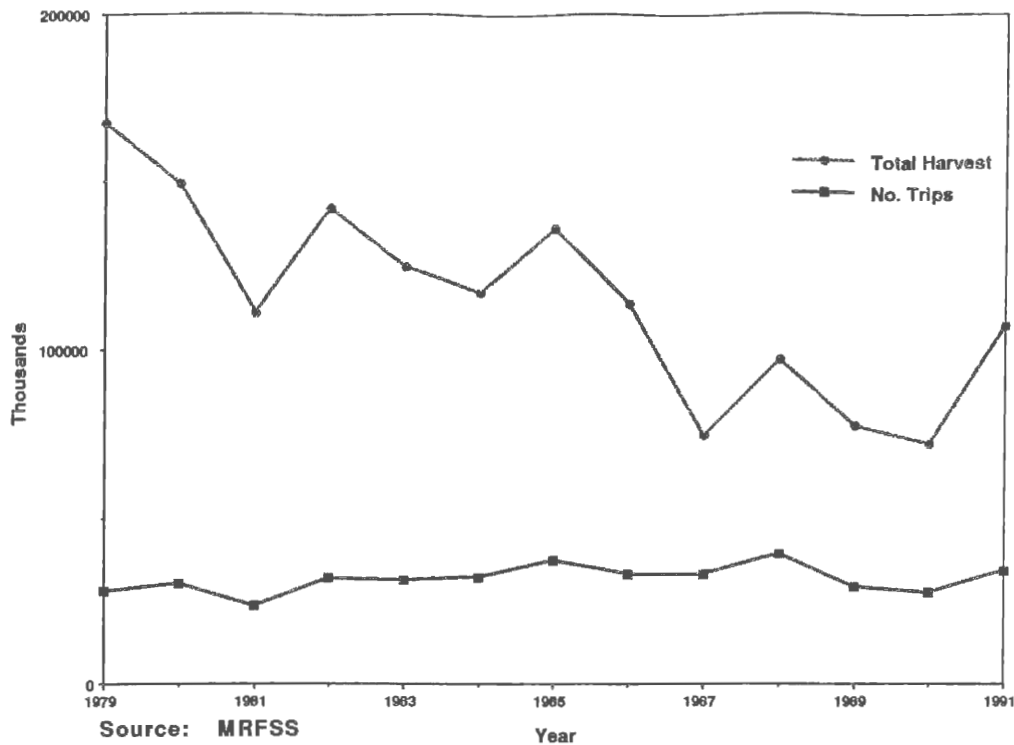


Figure 2. Trends in the recreational fishery in the Southeast.

fishery management agencies; Atlantic States Marine Fisheries Commission (ASMFC); Gulf States Marine Fisheries Commission (GSMFC); and other organizations responsible for the conservation or management of living marine resources in the Southeast (e.g., National Park Service, U.S. Fish and Wildlife Service, NOAA Marine Sanctuaries Program).

Historic Programs

Cooperative programs for collecting and managing fishery information are well established in the South Atlantic, Gulf of Mexico, and Caribbean. For example, the Southeast Region's Cooperative Fishery Statistics Program focuses on commercial fishery-dependent data while its SEAMAP program collects fishery-independent data. Federal programs such as MARFIN, as well as special surveys, are used to cooperatively collect statistical information on specific southeastern sport fisheries.

Federal Data Collection

Programs for the collection of information on Southeast recreational fisheries started with small, local creel surveys in the 1950s. Early programs in-

cluded saltwater angling surveys conducted every five years from 1960 to 1970 by the Department of Interior in conjunction with its national Survey of Hunting and Fishing, and regional surveys conducted by the NMFS in 1974.

Since 1972 the National Marine Fisheries Service has conducted a survey of headboats in the South Atlantic. The purpose of this survey is to collect biological information for the management of reef fish resources in the South Atlantic Bight. The survey expanded in 1986 to include headboats operating in the northern Gulf of Mexico. The NMFS has also conducted numerous specialized surveys to gather information on species of special interest, such as bluefin tuna, billfish, king mackerel, red drum, and spiny lobster.

There was no unified coastwide sampling program of the marine recreational fisheries until initiation of the Federally-funded Marine Recreational Fishery Statistics Survey (MRFSS) in 1979. The MRFSS has been conducted by the NMFS continuously in the South Atlantic and Gulf of Mexico since 1979. The survey was conducted in Puerto Rico and the U.S. Virgin Islands from 1979 through 1981 but was discontinued after 1981 due to lack of funds.

The MRFSS makes use of a carefully researched survey design of on-site interviews with anglers at fishing sites and telephone interviews with fishing households in coastal counties to produce estimates of total fishing effort and total catch by species. The design permits catch and effort estimates to be calculated for distinct sectors of the recreational fishery. Information produced by the MRFSS is used by stock assessment scientists to estimate population sizes, mortality rates, and other parameters, and to predict the effects of various management regulations such as bag and size limits.

State Data Collection

Individual States have conducted numerous surveys to provide information for the management of important species within their jurisdiction. North Carolina has modified and expanded the NMFS survey to collect data for use by State fishery managers. South Carolina, Georgia, Florida, and Louisiana have conducted specialized surveys to gather information on various sectors of the recreational fishery within each State's jurisdiction. Alabama conducted an intensive roving creel survey in its waters for a two-year period to measure recreational fishing activity.

Texas has conducted a creel survey of private vessel and charterboat angling since 1974. Shore angling was surveyed using a similar methodology from 1974 to 1976, 1979 to 1980, and 1990 to 1991. Bay headboat fishing was surveyed continuously from 1978 to 1991 using on-board surveys and

telephone surveys to determine total fishing trips. Gulf headboats were surveyed from 1978 to 1983, and then discontinued since most of the effort and harvest occurred in Federal waters.

Since 1980 many States in the Southeast have enhanced the MRFSS by providing funds for increased sampling effort to improve the precision of the catch and effort estimates or to collect information for use by the State's fishery managers. Unavailability of funding at the State and Federal level has made the development of long term cooperative data collection programs difficult. Although Federal and State management authorities require similar kinds of information on recreational fisheries to fulfill their management missions, different levels of timeliness, precision or detail of the data are common. For example, some agencies may need information for the entire range of a resource to estimate its health and ensure that overfishing of the stock is not occurring. Other agencies may give priority to information on a more restricted geographic area to deal with questions concerning local availability. Too often, existing programs to collect recreational fisheries data have not been coordinated to maximize the usefulness and availability of results.

This strategy is intended to assist in the coordination and integration of diverse State and Federal projects and objectives, through cooperative planning, innovative uses of statistical theory and design, and consolidation of appropriate data into a useful data base system.

NEED FOR A COOPERATIVE PROGRAM

The 1976 Magnuson Fishery Conservation and Management Act assigned Federal fishery management responsibility to the U.S. Department of Commerce, created Regional Fishery Management Councils, and greatly increased the involvement and participation of harvesters, conservation groups, and others concerned with fishery management

decision making. *Our Living Oceans* (NMFS, 1991) notes that the vital information needed to meet minimum management information needs is lacking for many important fishery resources, especially in the Southeast. Although considerable progress has been made in the collection of fishery statistics, the continuing changes in the nature and

status of marine recreational fisheries in the Southeast, and the increasingly complex management regimes, are creating ever-increasing demands for more comprehensive, accurate, and timely data.

Many southeastern stocks traditionally targeted by anglers are now depleted, due primarily to the effects of increased harvest by commercial and recreational fishermen, and habitat loss and degradation. In response, State and Federal fishery managers have developed and implemented fishery management programs to rebuild these depleted stocks and to prevent overfishing of other species. Indeed, more and more Southeast species have been brought under direct management control and associated regulations have become more diverse and complex. In some cases, resources like king mackerel and red snapper (Figure 3) have become so severely depleted that combinations of size limits, bag limits, seasons and quotas have been implemented to reduce recreational catches and to restore the stocks. In these cases, management requirements exceeded the capabilities of most existing statistical information systems.

Data Collection Needs

In response to the growth in management requirements, State and Federal fishery managers in the Southeast have increased efforts to improve marine recreational fisheries data collection to meet their shared fishery management mandates. Several efforts have been made to identify specific data collection problems. These efforts revealed the following major problems:

1. Better information on length frequencies and catch-at-age by time/area strata are needed for the level of statistical confidence required by managers and the precision required by stock assessment scientists;
2. State and Federal data bases are not always compatible or continuous over time or area;
3. Significant recreational fisheries for shellfish and other crustaceans are not covered regularly by any survey;

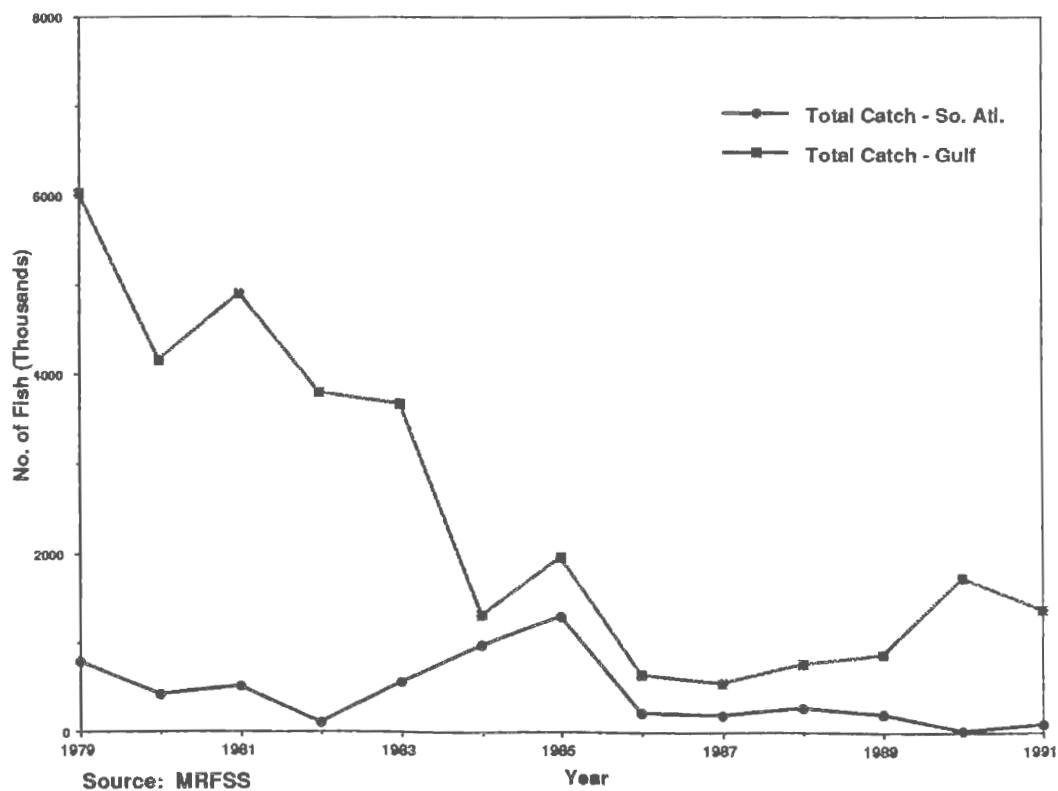


Figure 3. Decline in Southeast recreational red snapper catches.

4. Information on highly migratory species (e.g., tunas) and for "rare-event" species (e.g. billfishes) is not sufficient to determine the impact of recreational fisheries on the resources;
5. Some duplication and field sampling conflicts may still be occurring between different surveys;
6. Improvements in the estimation of fishing effort and catch for some sectors of the recreational fishery are needed;
7. Information about discarded catch and the disposition of landed catch, including consumption, has not been verified or routinely collected;
8. The nature and extent of tournament catches is poorly known;
9. Social and economic data on recreational fisheries are very limited and, in some cases, nonexistent;
10. Access and analytical capabilities are limited for most recreational fishery survey data bases; and
11. There is no common forum among all concerned agencies in the Southeast for planning and evaluating region-wide recreational statistics activities.

Proposed Program

The extent of the needs suggests that a comprehensive program to collect and manage statistics on marine recreational fisheries in the Southeast is critical. Such a comprehensive program would include, but is not necessarily limited to, the following:

1. Examination of total information needs including quantifying statistical and measurement goals;
2. Coordination or integration of existing data collection programs, such as the MRFSS and State efforts;
3. Development of alternate survey designs, when appropriate, to meet special information needs; and
4. Development of a comprehensive data management and retrieval system that would provide information to managers.

GOALS AND OBJECTIVES

Having determined that there is an urgent and compelling need for comprehensive data on the marine recreational fisheries of the southeastern United States, the National Marine Fisheries Service confirms its intent to develop, in conjunction with State and Territorial fishery management agencies, and with the Regional Fishery Management Councils, Interstate Marine Fisheries Commissions,

and other organizations concerned with marine fishery management, a cooperative State-Federal program to collect and manage recreational fishery statistics in the Southeast Region. The purpose of this document is to offer a strategy for developing such a program. Below are strategic goals, objectives, and recommendations.

PLANNING DEVELOPMENT: GOALS, OBJECTIVES AND RECOMMENDATIONS

GOAL 1. TO ESTABLISH AN ORGANIZATIONAL FRAMEWORK FOR DEVELOPING A COOPERATIVE SOUTHEASTERN RECREATIONAL FISHERIES STATISTICS PROGRAM.

Objective 1. Identify regional agencies and management-related organizations whose mandates, activities and interest would significantly benefit from development of the program.

Recommendation: Primary and cooperating participants in the development of the proposed cooperative program should include agencies listed below.

Objective 2. Determine the functions and roles of participants in the planning process.

Recommendation: Roles and functions of participants in the planning process should include:

- Defining and updating their respective agency's recreational fisheries data needs and priorities;
- Identifying agencies' current data collection and management formats and protocols;
- Defining specific roles of participating agencies/organizations in the program, including proposed levels of participation in program-associated activities; and
- Identifying facilities and equipment available for use in the program.

<i>Fishery Management Agencies</i>	<i>Cooperating Organizations</i>
National Marine Fisheries Service Alabama Department of Conservation and Natural Resources Florida Department of Natural Resources Georgia Department of Natural Resources Louisiana Department of Wildlife and Fisheries Mississippi Department of Wildlife, Fisheries and Parks North Carolina Department of Natural Resources and Community Development Puerto Rico Department of Natural Resources South Carolina Wildlife and Marine Resources Department Texas Parks and Wildlife Department Virgin Islands Department of Natural Resources	South Atlantic Fishery Management Council Gulf of Mexico Fishery Management Council Caribbean Fishery Management Council Atlantic States Marine Fisheries Commission Gulf States Marine Fisheries Commission NOAA Marine Sanctuaries Program U.S. Fish and Wildlife Service U.S. National Park Service

Objective 3. Determine appropriate coordinating mechanisms for developing the program.

Recommendation: Three coordinating mechanisms for the planning process are recommended:

- A Program Planning Committee should be established consisting of designees from the above agencies and organizations that wish to participate in the planning process;
- The NMFS Southeast Region should have responsibility for coordinating participation of the NMFS, and for coordinating preparation of an operations plan; and
- The Atlantic States Marine Fisheries Commission and the Gulf States Marine Fisheries Commission should provide support in organizing meetings, preparing and distributing Planning Committee minutes, and producing program reports.

Objective 4. Identify costs associated with the development of the program, and funding sources for each of these.

Recommendation: Costs and responsibilities associated with the preparation of the program plan are:

- Salaries: Costs are to be paid by the participating agencies/organizations;
- Travel and per diem: Expenses are to be paid by the participating agency, unless there is inadequate agency funding, in which case limited invitational travel costs may be available from other cooperative program participants;
- Copying, telephone, and other overhead costs: Individual agency expenses are to be paid by the involved agencies;
- Meeting costs, except travel and per diem, will be the responsibility of NMFS; and
- Special studies and surveys: Proposals for such activities should be submitted to the Committee, evaluated on merit, and appropriate recommendations made for pursuing implementation.

Objective 5. Identify the operations plan coordinator.

Recommendation: The National Marine Fisheries Service will provide a plan coordinator.

GOAL 2. TO DETERMINE TASKS ASSOCIATED WITH DEVELOPING THE OPERATIONS PLAN.

Objective 1. Identify group activities, studies, surveys and other tasks that will be necessary to develop the plan.

Recommendation: The major task necessary to complete the program plan is development of an Operations Plan, based on this strategic planning proposal, that would include the following sections:

- Program goals and objectives;
- Data and information needs;
- Recommended activities and operations under the plan; and
- Program management procedures.

Objective 2. Identify products and reports that will result from the development of the operations plan, and identify responsibility for their completion.

Recommendation: The Planning Committee, with staff support, will complete the following tasks:

- Identification of existing information and data from previous studies that will assist in preparation of the program operations plan;
- Preparation of summary reports of Committee and task force meetings;
- Preparation of reports/presentations/briefings on the planning process as requested for Commission and Council meetings;
- Formulation of recommendations and preparation of the Program Operations Plan; and
- Recommendation and review of contracted and other special studies, as required.

GOAL 3. TO DETERMINE A SCHEDULE OF MEETINGS, INFORMATION GATHERING, DOCUMENTATION, AND OTHER TASKS NECESSARY TO COMPLETE THE OPERATIONS PLAN.

Recommendation: The time schedule below is perceived as reasonable and appropriate.

April 1992	Acceptance of program strategy document by participating agencies
Early May	First meeting of Planning Committee
June	Draft Section I (information needs)
Early July	Second meeting of Planning Committee, to review draft Section I and develop goals and objectives
July	Draft proposed activities and operations (Section II)
Early August	Third meeting of Planning Committee, to review Section II, and draft management section (Section III)
Late August	Completion of draft program operations plan
September	Review and revision of draft report by participating agencies
September October	Presentation of Report to ASMFC, GSMFC, CFMC