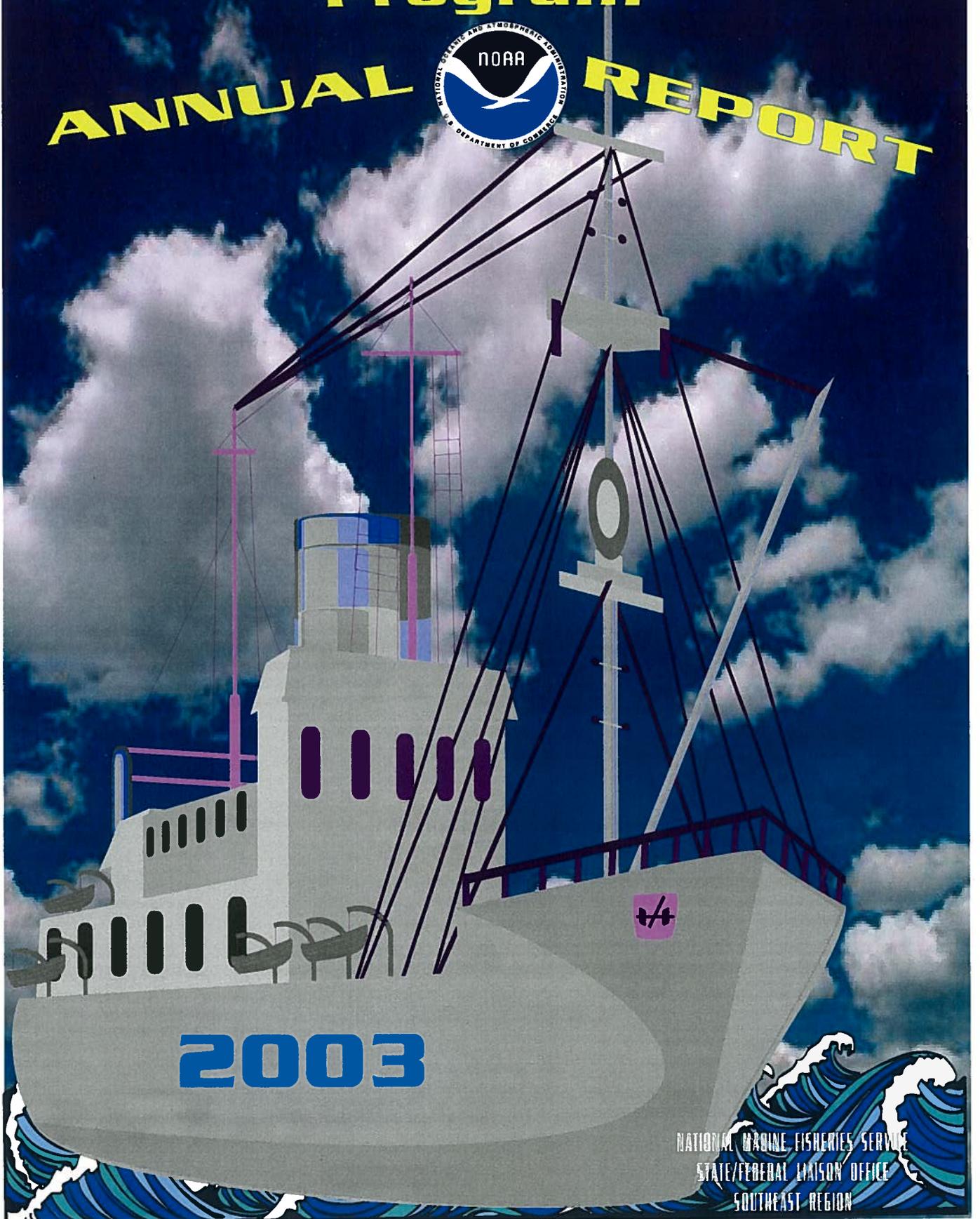


Cooperative Research Program

ANNUAL



REPORT



2003

NATIONAL MARINE FISHERIES SERVICE
STATE/FEDERAL LIAISON OFFICE
SOUTHEAST REGION

Cooperative Research Program

2003 ANNUAL REPORT

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PREFACE

Cooperative research programs allow scientists and fishermen to bring valuable tools and experience to the objectives of a research project. Scientists realize that fishermen have knowledge, skills, and vessels that would not otherwise be available for research. Fishermen, willing to work with scientists, recognize that the information collected will not be used in management decisions unless it is scientifically credible. The interaction between fishermen and scientists not only improves the design and implementation of research studies, but also improves the knowledge and acceptance of scientific results that are produced by such studies. Working together, fishermen and scientists can improve our understanding of the complex interactions between fishery resources and fishing practices.

The intent of the cooperative research program in the Southeast Region is to utilize the collective experience of fishermen and scientists to produce the best advice to fishery managers based on fishing experience and sound scientific research procedures. The program focuses upon critical management needs that have been identified by managers and the National Marine Fisheries Service (NMFS) Strategic Plan for Fisheries Research¹. Goals one, two and five are particularly important. As with the Marine Fisheries Initiative (MARFIN) program, this program is coordinated with other programs to provide regional assessments of fishery resources. The cooperative research program provides the necessary programmatic integration through cooperative planning, accomplishment of program activities and sharing of results.

The cooperative research program was created to utilize the total spectrum of knowledge concerning the marine fishery resources of the Southeast Region. The results of this program will result in improved management and acceptance of management decisions in the southeast. Results will be disseminated and made available to managers in a timely manner. The initial focus of the program includes research on life history studies of important commercial and recreational species, release mortality of red drum as influenced by hook type, characterization of the commercial catch of snapper-grouper in the south Atlantic, description and characterization of the pelagic longline fishery for highly migratory species, and fishers views in the Caribbean concerning vessel capacity and effort reduction programs.

¹NMFS Strategic Research Goals:

- Provide scientifically sound information and data to support fishery conservation and management.

- Through conservation engineering research contribute to efforts to reduce bycatch and adverse effects on EFH, promote efficient harvest of target species, and to improve data from fishery surveys.

- Through economic and ecological research on marine communities and ecosystems, provide scientific data and information to increase long-term economic

and social benefits to the Nation from living marine resources.

- Improve the fishery information system.
- Improve the effectiveness of external partnerships with fishers, managers, scientists, conservationists, and other interested groups.

HISTORY OF THE COOPERATIVE RESEARCH PROGRAM

The Cooperative Research Program (CRP) is a competitive Federal assistance program that funds projects seeking to increase and improve the working relationship between researchers from the National Marine Fisheries Service (NMFS), state fishery agencies, universities, and fishermen. Congress has initiated the cooperative research funding to assist the NMFS to improve the confidence that both commercial and recreational fishermen have in the data and analyses performed in support of fisheries management. The authorizing statute for the Cooperative Research Program is 15 U.S.C. 713c-3(d).

The CRP has as its principal goal to provide a means of involving commercial and recreational fishermen in the collection of fundamental fisheries information to support the development and evaluation of management and regulatory options.

Funding for the program began in the northeast and was extended to the southeast in FY2001 with an initial funding level of \$2.5M for the southeastern component of the CRP. Because of the long history of cooperative research efforts between the Gulf & South Atlantic Fisheries Foundation, Inc. (Foundation) and the Southeast Fisheries Science Center (SEFSC), the SEFSC funded a project to the Foundation to hold a cooperative research constituency workshop in Tampa, Florida on April 17-18, 2002. The purpose of the workshop was to establish objectives and research priorities for the southeastern CRP. The results of that meeting are presented here.

After considerable discussion, participants developed the following program objectives: improve scientific information; encourage collaboration; improve communication; use fishermen's expertise and vessels; and involve all sectors of the fishing industry in the cooperative program. Particular areas of interest included measurement of fishing effort data for the Gulf shrimp fishery; using electronic logbooks to enhance data collection of catch and effort in the south Atlantic snapper-grouper fishery; collaboration between the recreational fishing industry and state agencies to establish and maintain artificial reef structures for angling; development of Turtle Excluder Devices and Bycatch Reduction Devices for the shrimp fishery; and projects designed to minimize bycatch for pelagic longline fisheries.

Participants at the conference were divided into groups to identify research needs for commercial finfish, Caribbean fisheries, recreational/charter fishing and commercial shrimp harvests. The objectives and research priorities developed by the respective groups are given below.

A. Commercial Finfish Group

1. Monitor the effects of closed Marine Protected Areas (MPAs).
2. Characterize the total catch (from all fleets affecting the stocks) including catch

composition and disposition of the catch.

3. Monitoring stock abundance through study-fleet applications.
4. Projects to develop and test gear and fishing strategy modifications to reduce or eliminate unintended catch.
5. Fishing capacity investigations.

B. Caribbean Fisheries Group

1. Habitat and fisheries research (socioeconomics, optimal designs for MPAs; Measurement of MPA effectiveness; Effects on recruitment related to MPAs; Protected Resource issues).
2. Corals (Impacts due to fishing, both recreational and commercial).

C. Recreational and Charter Fishery Group

1. Socioeconomic research (Participation and effort characteristics; Socioeconomic characteristics of charter industry; Recreational economic impacts and costs).
2. Research on management alternatives (Effects of seasonal closures or MPAs; Cost-benefit evaluations for the stock and participants; MPA protection potential for spawning stock and recruitment; Size-limit alternatives; By-catch and post release mortality).
3. Catch/effort data (Increases in precision needed for recreational fishing).
4. Habitat research (Artificial reef effectiveness; Harmful algal bloom impacts; Essential Fish Habitat for species of concern).

D. Commercial Shrimp Harvest Group

1. Social and economic impact of fluctuations in domestic shrimp values.
2. Identification of non-trawlable areas (Impacts due to fishing).
3. Quantification of effort.
4. Bycatch Reduction Device (BRD) testing protocols.
5. Quantification of bycatch rates.

As a result of the above research priorities, the focus of work during Fiscal Years 2001 and 2002 were as follows:

1. Cooperative research on development of gear modifications and fishing practices to reduce turtle takes in U.S. Atlantic pelagic longline fisheries.
2. Cooperative research with the Gulf and South Atlantic Fisheries Foundation on BRD effectiveness and on the effectiveness of high opening Turtle Excluder Devices.

3. Cooperative research to obtain reef fish biological samples from the Gulf of Mexico.
4. Cooperative research with the Southeast Area Monitoring and Assessment Program.
5. Cooperative statistics data collection.
6. Cooperative research on age structure of adult red drum in the Gulf of Mexico.
7. Cooperative shark research.
8. Cooperative research on essential habitat requirements for blue and white marlin and associated species.
9. Cooperative research on characterization of shrimp and reef fishery bycatch.
10. Cooperative research to collect biological specimens from sea bass in the South Atlantic Fishery Management Council's region of concern.
11. Cooperative archival tagging of bluefin tuna.

It should be noted that because of time constraints, most of the initial work was done via contracts. In FY2003, the SEFSC, recognizing the need to involve all participants fully, announced a call for proposals for funding under the Southeast Cooperative Research Program. The results of that effort is summarized in the FY2003 Program Highlights/ Ongoing Research Projects section.

The following list represents funding in the southeast from the start of the CRP program through the current year:

*Fiscal Year 2001 - \$2,500,000

*Fiscal Year 2002 - \$3,000,000

*Fiscal Year 2003 - \$3,000,000

*Fiscal Year 2004 - \$3,250,000

COOPERATIVE RESEARCH PROGRAM ORGANIZATION AND ADMINISTRATION

The cooperative research program is sponsored by the Southeast Fisheries Science Center, assisted by the State/Federal Liaison Office located in the Southeast Regional Office. Each year a solicitation for proposals is published in the Federal Register. Applications must be received by the State/Federal Liaison Office no later than 60 days after the solicitation notice has been published. Applications received after that time will not be considered for funding. The earliest award date is about 210 days after the publication date of the notice. Applicants must have a NMFS partner; address one of the funding priorities for federally managed species; and include a budget, statement of work, milestones and identify the principal investigator. Deficiencies in the application can be corrected prior to the submission deadline. After the deadline, the application must remain as submitted. No changes can be made to it. Applications under this program are subject to the provisions of Executive Order 12372, "Intergovernmental Review of Federal Programs."

Applications will be evaluated by a minimum of three fishery experts to determine their technical merit. The reviewers will provide individual evaluations of the proposals. During the FY2003 competition, reviewers provided comments and assigned scores to the applications based on the following criteria that were published in the solicitation notice:

1. Does the proposal have a clearly stated goal(s) with associated objectives that meet the needs outlined in the project narrative? (30 points maximum)
2. Does the proposal clearly identify and describe, in the project outline and statement of work, scientific methodologies and analytical procedures that will adequately address project goals and objectives? (30 points maximum)
3. Do the principal investigators provide a realistic timetable to enable full accomplishment of all aspects of the research? (20 points maximum)
4. How effective are the proposed methods in enabling the principal investigators to maintain stewardship of the project performance, finances, cooperative relationships and reporting requirements? (10 points maximum)
5. Does the budget appropriately allocate and justify costs? (10 points maximum)

The technical review begins the selection process. The individual reviews are collated to produce a weighted average score for each project. Then, the projects are ranked in descending order by their final technical score. A cutoff score of 70% will be used and those projects that score below the cutoff are eliminated from further consideration.

The applications at or above the cutoff score are presented to a panel of non-NOAA fishery experts known as the CRP panel. Each member of the CRP panel (Panel) individually considers if needs of the Agency are addressed in each proposal, if the project assists industry,

and if the project addresses issues that are important to regional fisheries management. Individuals on the Panel comment and rate each of the proposals as either “Recommended for Funding” or “Not Recommended for Funding.” No consensus advice will be given by the Panel. The Program Manager ranks the proposals in the order of preferred funding based on the number of Panel members recommending the proposal for funding.

The ranked proposals are provided to the Fisheries Science Center Director (Director), who is the selecting official, in the order of preferred funding, based on the number of Panel members recommending the proposal for funding. If there are ties in the rankings, those ties will be distinguished by the peer review score. The Director also receives the Panel members’ individual comments. The Director, in consultation with the Assistant Administrator for Fisheries, selects proposals after considering the technical reviews and the selection factors listed below. The Director may negotiate the funding level of the proposal. The Director makes final recommendations for award to the Grants Officer who is authorized to obligate funds.

Selection Factors - The merit review ratings shall provide a rank order to the Director for final funding recommendations. The Director shall award in the rank order unless the proposal is justified to be selected out of rank order based on below factors. The Director will justify in writing any such selection.

1. Availability of funding
2. Balance/distribution of funds
 - a. Geographically
 - b. By type of institutions
 - c. By type of partners
 - d. By research areas
 - e. By project types
3. Duplication of other projects funded or considered for funding by NOAA/Federal agencies.
4. Program priorities and policy factors
5. Applicant’s prior award performance
6. Partnerships with/Participation of targeted groups.

Successful applications generally are recommended within 210 days from the date of publication of the solicitation notice. The earliest start date of awards average 90 days after each project is selected and after all NMFS/applicant negotiations of cooperative activities have been completed. The earliest start date of awards is about 300 days after the date of publication of the notice. Applicants should consider the selection and processing time in developing requested

start dates for their applications. Unsuccessful applications will be returned to the applicant.

The exact amount of funds awarded, the final scope of activities, the project duration, and specific NMFS cooperative involvement with the activities of each project are determined in pre-award negotiations between the applicant and the NMFS Program Officer.

Each successful applicant must submit a final report within 90 days after completion of the project to the NMFS Program Officer. The final report must describe the project and include an evaluation of the work performed, and the results and benefits in sufficient detail to enable NMFS to assess the success of the completed project. Also, all data collected as part of the project must be submitted to the SEFSC partner. Project data must be edited and verified as accurate by the applicant prior to being submitted to the SEFSC. Data must be submitted in the agreed upon format and medium.

FISCAL YEAR 2003 PROGRAM HIGHLIGHTS/
OVERVIEW OF ON-GOING RESEARCH PROJECTS

On December 17, 2002, NOAA Fisheries published a notice of solicitation for applications for the Cooperative Research Program (CRP) Grant Program (Appendix 2). The notice informed researchers and the public that approximately \$2.0 million would be available in FY2003 for funding projects. This amount included possible in-house projects. A number of excellent proposals were received and the projects described below were selected for funding. These projects are listed under the research priority areas identified in the notice of solicitation for applications.

A. Commercial Finfish

2. Characterize the total catch (from all fleets affecting the stocks), including catch composition and disposition of the catch.

a. "Characterization of commercial reef fish bycatch of the southeast coast of the U.S."- project start date October 1, 2003. This is a \$100,000 project that will provide a complete characterization of fishes caught in the snapper-grouper complex by commercial fishermen that can be compared to that sampled by the fishery-independent MARMAP program. The program will measure release mortality and will enable stock assessment biologists to determine better if regulations are rebuilding stocks. **CRP Award NA03NMF4540416**

b. "Assessing the use of electronic logbook reporting in the South Atlantic snapper-grouper fishery."- project start date October 1, 2003. This is a \$250,000 project that will assess the use of electronic logbook reporting for the South Atlantic snapper-grouper fishery. The project will collect data on the total catch including discards (bycatch). **CRP Award NA03NMF450421**

c. "Cooperative long-line sampling of the west Florida shelf shallow water grouper complex: characterization of life history, undersized bycatch and targeted habitat."- project start date October 1, 2003. This is a \$349,971 project that will engage a fishing community (Madeira Beach fishers) in survey design, consultation and sample collection; refine estimates of release mortality by gear type; provide habitat characterization from the perspective of fishermen targeting shallow water grouper; and provide age and reproductive samples for assessment purposes. **CRP Award NA03NMF4540417**

d. "Cooperative hook and line sampling of the eastern Gulf reef fish fishery."- project start date October 1, 2003. This is a \$77,094 project that will conduct a series of eight-day fishing trips to collect hard parts and reproductive tissues for assessment purposes. Red grouper and gag collections will be emphasized although other reef fishes will be sampled. **CRP Award NA03NMF4540414**

e. "Yellowedge grouper age, growth and reproduction."- project start date June 1, 2003.

This is a \$26,625 project that will collect yellowedge grouper otoliths and gonads each month. The weight and length of each fish will be recorded and histological techniques will be used to determine the sexual stage. Otoliths will be sectioned and age estimates obtained for each fish. **CRP Award NA03NMF4540415**

f. “Description and evaluation of the U.S. commercial fishery interactions between pelagic fishes and longline fishing gear in the Gulf of Mexico, Mid-Atlantic and Georges Bank.”- project start date October 1, 2003. This is a \$225,000 project that will investigate the interactions of pelagic fishes with commercial pelagic longline gear in the western North Atlantic. The project will compare catch rates and mortality rates of all species caught on circle and straight-shank hooks; evaluate the post-release survival of billfishes caught on longline gear; compare the catch rate of billfish on deep and shallow longline sets; analyze time-of-capture using recently developed hook timers; and analyze longline gear behavior using a combination of small time-depth recorders and GPS receivers. Data obtained from this research will allow scientists to evaluate selected management measures, such as mandating particular hook types or set durations. **CRP Award NA03NMF4540420**

B. Caribbean Fisheries

1. Habitat and fisheries

a. “Workshops to determine fisher’s attitudes toward potential effort reduction programs in the U.S. Caribbean.”- project start date November 1, 2003. This is a \$68,222 project to conduct a series of workshops in Puerto Rico and the U.S. Virgin Islands. The workshops will cover the current assessment of fishery resources, the role of capacity and effort reduction programs relative to other management measures, and information about various capacity and effort reduction programs. The project will describe fisher’s concerns; determine opinions on the need for a capacity and/or an effort reduction program; and seek to obtain a consensus (to the degree possible) on the most practical programs to implement a reduction in effort, should one become necessary. **CRP Award NA03NMF4540419**

C. Recreational and Charter Fishery

2. Research on management alternatives

a. “Estimates of catch-and-release mortality for red drum, *Sciaenops ocellatus*, in the recreational fishery of South Carolina.”- project start date October 1, 2003. This is a \$90,000

project to determine various aspects of release mortality. Logbooks kept by guides will note size and type of hook as well as hook penetration location. An independent holding study of adult

red drum will determine the validity of the assumption that mature fish experience little, if any, release mortality. The project will produce outreach materials for recreational anglers that will enable them to minimize catch and release mortality. **CRP Award NA03NMFS4540418**

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Appendix 1. NMFS Southeast Region State/Federal Liaison Office Staff

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Appendix 2. FY2003 Notice of Solicitation for Applications
for Research and Development Projects in
the Gulf of Mexico and off the U.S. South
Atlantic Coastal States; Cooperative
Research Program (CRP)

Appendix 3. FY2003 CRP Project Summaries

NA03NMF4540416

CRP PROJECT SUMMARY

Project Title: Characterization of Commercial Reef Fish Bycatch off the Southeast Coast of the United States

Project Start Date: October 1, 2003

Name, Address, and Telephone Number of Applicant:

South Carolina Department of Natural Resources
Marine Resources Research Institute
P.O. Box 12559
Charleston, SC 29422-2559
Phone: (843) 953-9058

Principal Investigator(s) and Brief Statement of Qualifications:

Patrick J. Harris, Ph.D.; Associate Marine Scientist, SCDNR; experience with life history studies and project management.

Industry Partner: Captain Mark Marhefka; Chairman of the Snapper-Grouper Advisory Panel, South Atlantic Fishery Management Council; Mr. Marhefka has over 20 years of experience as a commercial fisher

SEFSC Partner: Michael Burton, Beaufort Laboratory

Project Goal and Objectives: The primary goal of the research is to characterize the entire (retained and discarded) catch of snapper-grouper species from a selected commercial fisherman including the disposition of fishes that are released. The project has the following objectives: Develop a system that will allow a captain to record rapidly their entire catch including species composition, length frequency and disposition of released fishes; provide estimates of discard mortality rates for different species, and demonstrate how mortality rates vary with depth, size of fishes, season, etc.; quantify the proportion of the catch discarded by species (regulatory and non-priority species); compare CPUE of commercially caught fishes with CPUE of fishes caught by the MARMAP program; provide estimates of gear selectivity by area and species for fishes caught with fishery-dependent and fishery-independent gear; provide baseline data for species composition and diversity in a proposed no-reef fish take Marine Protected Area based on collection with fishery-dependent and fishery-independent gear; and provide these data in a timely fashion to NOAA Fisheries and the South Atlantic Fishery Management Council.

Specific Priority(ies) in Solicitation to which Project Responds:

This project responds directly to priority A (Commercial Finfish); 2 (a). Characterize the total catch (from all fleets affecting the stocks), including catch composition and disposition of the catch (detailed information on the composition and disposition of bycatch and discards).

Summary of Work:

The benefits of the project will be the development of a program that will provide a complete

characterization of fishes caught in the snapper grouper complex by commercial fishermen that can be compared to that sampled by the fishery_independent MARMAP program. This program has the potential to characterize better the impact that commercial fishing has on the community of fishes in the snapper grouper complex and to determine if changes are occurring in the snapper grouper complex. The program is intended to measure release mortality that is an important and virtually unknown component of stock assessments. The proposed research will enable stock assessment biologists to determine more accurately if regulations that have been implemented are actually rebuilding stocks. In addition, valuable comparisons of commercial harvests will be made to the catches of the fishery_independent MARMAP program. Sampling will be conducted in the same areas so that differences in gear selectivity, age composition, and species composition can be more accurately compared.

Project Funding:

Federal	\$100,000	
Non-Federal		\$ 4,130
Total		\$104,130

NA03NMF4540421

CRP PROJECT SUMMARY

Project Title: Cooperative Research Program: Assessing the Use of Electronic Logbook Reporting in the South Atlantic Snapper Grouper Fishery

Project Start Date: October 1, 2003

Name, Address, and Telephone Number of Applicant:

Perot Systems Government Services (PSGS)
8550 Arlington Boulevard
Fairfax, VA 22031
(207) 967-0098

Principal Investigator(s) and Brief Statement of Qualifications:

David McCarron, M.A. in Fisheries Economics; Mr. McCarron is the Fisheries Program Manager for PSGS managing information programs for NOAA Fisheries, fishery councils and commissions throughout the Atlantic and Gulf states. He has been working in fisheries management and with fisheries information systems since 1988. He is experienced in electronic field data collection, systems development and integration, and seafood markets and auction systems.

Industry Partner: Mark Marhefka, Chairman of the Snapper-Grouper Advisory Committee, South Atlantic Fishery Management Council, Mr. Marhefka has over 20 years of experience as a commercial fisher.

SEFSC Partner: John R. Poffenberger, Sustainable Fisheries Division, Miami.

Project Goal and Objectives: The primary goal is to improve fishery-dependent data collection in the South Atlantic snapper-grouper fishery by collecting data that will be more accurate, timely and useful to scientists and managers in the decision making process; to ease the burden of reporting on fishermen; and to provide the information collected back to fishermen for their use in making better business decisions. The objectives of the project are to expand the initial electronic logbook pilot program in the South Atlantic snapper-grouper fishery and to determine whether electronic reporting is an effective method of data collection for all vessels and gear types in this fishery.

Specific Priority(ies) in Solicitation to which Project Responds:

This project responds directly to priority A (Commercial Finfish); 2 (b). Characterize the total catch (from all fleets affecting the stocks), including catch composition and disposition of the catch (e.g. electronic logbooks).

Summary of Work:

The project will have four phases: 1) Development, 2) Outreach, 3) Data Collection, and 4) Data Transfer. The Program Manager, David McCarron, will manage all aspects of the project and will maintain communications and collaboration with the SEFSC and the SAFMC. The Outreach Coordinators and Thistle Marine will be contracted by PSGS and will be under the direct supervision of the Program Manager.

The project will work with the SEFSC and Thistle Marine to make programming changes to the Thistle electronic logbook to accommodate the needs of all size vessels using all types of gear. Two vessel captains will engage in outreach that will allow the project to identify vessel owners who are willing to participate in the data collection phase of the project. When the logbook units are developed, six months of data collection will be conducted. When fishermen return to port, they will transmit their data via a toll-free telephone number. PSGS will format the data such that they are acceptable to the SEFSC and compatible with other logbook data. SEFSC and South Atlantic Council staff will have access to the detailed raw data generated by the electronic logbook system.

Project Funding:

Federal	\$250,000
Non-Federal	
Total	\$250,000

NA03NMF4540417

CRP PROJECT SUMMARY

Project Title: Cooperative Long_line Sampling of the West Florida Shelf Shallow Water Grouper Complex: Characterization of Life History, Undersized Bycatch and Targeted Habitat

Project Start Date: October 1, 2003

Name, Address, and Telephone Number of Applicant:

Mote Marine Laboratory
1600 Ken Thompson Parkway
Sarasota, FL 34236
Phone: (941) 388-4441; FAX: (941) 388-4441
e-mail: Kburns@mote.org

Principal Investigator(s) and Brief Statement of Qualifications:

Karen M. Burns is the Principal Investigator of eight successfully completed and one recently awarded MARFIN project; as well as the Principal Investigator of MML's Reef Fish and Coastal Pelagic Tagging Program. She supervised a Master's thesis on red snapper survival in 1997. Dr. Bradley D. Robbins is the Manager of the Landscape Ecology Program within Mote Marine Laboratory's Center for Coastal Ecology. Dr. Robbins is a marine ecologist and is recognized as an expert in the application of landscape ecology techniques to marine intertidal and subtidal systems. He also has extensive experience in the use of geographical information systems. Industry Partner: Mr. Robert Spaeth, Industry spokesperson and vessel fleet owner who has 20 plus years experience with the reef fish fishery in the Gulf of Mexico. SEFSC Partner: Dr. Gary Fitzhugh, Panama City Laboratory

Project Goals and Objectives: Project goals include: Evaluate the use of minimum size limits as a management tool for red grouper, gag and scamp (target species); develop estimates of discard mortality rates for target species caught using two types of commercial fishing gear - long-lines and fish traps; obtain life history information for target species; and provide data for stock assessments of the three target species. Project objectives include: Provide bycatch information collected during long-line fishing trips for red grouper, gag and scamp; obtain catch and release mortality rates relative to depth and gear for target species; obtain movement and migration patterns for target species; collect biological samples (otoliths and gonads) for target species; collect swimbladder samples from fish caught on long-lines and by fish traps; and characterize essential fish habitat for red grouper from the southwest Florida shelf.

Specific Priority(ies) in Solicitation to which Project Responds:

This project responds directly to priority A (Commercial Finfish); 2 (a). Characterize the total catch (from all fleets affecting the stocks), including catch composition and disposition of the catch; 2(e). Determine the effects of increasing size limits on discard rates; and 2(f). Collect data to improve information on life history and age structure of commercial finfish species.

Summary of Work:

The proposal is innovative and important in several ways. First and foremost, it seeks to engage a fishing community (Madeira Beach fishers) in survey design, consultation and sample collection. Second, it seeks to refine estimates of release mortality specific to commonly used commercial gear. Third, it provides habitat characterization from the perspective of fishermen targeting the shallow water grouper fishery (gag, scamp and red grouper). Fourth, it provides samples needed for assessments and used to characterize the age and reproductive attributes of the shallow water groupers. Field work will be conducted primarily off southwest Florida. Data analysis will be conducted at Mote Marine Laboratory. Sample processing (otoliths and gonads) will be conducted at NMFS_Panama City, swim bladders at Mote. Habitat analyses will be conducted at Mote Marine Lab and sent to NMFS_Panama City.

Project Funding:

Federal	\$350,000
Non-Federal	\$ 20,606
Total	\$370,606

NA03NMF4540414

CRP PROJECT SUMMARY

Project Title: Cooperative Hook and Line Sampling of the Eastern Gulf Reef Fish Fishery

Project Start Date: October 1, 2003

Name, Address, and Telephone Number of Applicant:

Fish Master, Inc.
1462 Xavier Avenue
Ft. Meyers, FL 33919
(239) 437-1630
e-mail: capter@earthlink.net

Principal Investigator(s) and Brief Statement of Qualifications:

Mr. Eric Schmidt, Member of the Gulf of Mexico Fishery Management Council Reef Fish Advisory Panel, collecting reef fish samples for NOAA Fisheries since 2001, leader in commercial reef fish community with over 20 years of fishing experience in this area. SEFSC Partner: Dr. Gary Fitzhugh, Panama City Laboratory

Project Goals and Objectives: The primary goals of the project are to collect biological samples (reproductive tissues and otoliths) of red grouper and gag for assessment purposes; characterize catch and bycatch of vertical line (bandit) gear in the reef fishery; and collect samples of vermilion snapper at specific sites to improve understanding of why port sampling is showing such a high degree of variance in size-at-age. The objectives of the project are to conduct ten eight-day fishing trips that will focus on collection of biological samples for red grouper and gag; and conduct thirteen fishing trips to focus on red grouper, gag and vermilion spawning sites.

Specific Priority(ies) in Solicitation to which Project Responds:

This project responds directly to priority A (Commercial Finfish); 2 (a). Characterize the total catch from the vertical line (bandit) gear sector of the reef fish fishery, including catch composition and disposition of the catch; and 2(f). Collect data to improve information on life history and age structure of commercial finfish species, specifically red grouper, gag and vermilion snapper.

Summary of Work:

Objective 1. Ten fishing trips over the course of 18 months each trip eight days. Collection of hard parts and reproductive tissues. An average of three hours per day devoted to sampling of reef fish, including removal of otolith, recording measurements and recording data. One hour per day measuring and recording data on discarded fish. One hour per day recording all data on data sheets, entering all site specific catch locations and habitat description and comments on other factors such as weather, current etc.

Objectives 2 and 3. Thirteen fishing trips, eight days in duration, directed at red grouper and gag

spawning, and as much as five hour per day collecting hard parts and reproductive tissue. One hour a day will be dedicated to photography and documentation of pigment patterns. At least one hour per day to use the drop camera to record habitat features.

Project Funding:

Federal	\$ 78,000
Non-Federal	
Total	\$ 78,000

NA03NMF4540415

CRP PROJECT SUMMARY

Project Title: Yellowedge Grouper Age, Growth and Reproduction

Project Start Date: June 1, 2003

Name, Address, and Telephone Number of Applicant:

University of Southern Mississippi
P.O. Box 5157
Hattiesburg, MS 39406
(228) 872-4267
e-mail: Bruce.comyns@usm.edu

Principal Investigator(s) and Brief Statement of Qualifications:

Bruce Comyns, Ph.D., Assistant Professor, Dept. of Coastal Sciences, College of Marine Sciences, University of Southern Mississippi; over 20 years of experience of life history studies of marine fishes. Industry Partner: Mr. Ken Daniels, Jr., Commercial longline fisherman, St. Petersburg, Florida SEFSC Partner: Dr. Tyrell Henwood, Mississippi Pascagoula Laboratory

Project Goal and Objectives: The goal of this project is to obtain a maximum of 60 yellowedge grouper each month for eighteen months utilizing commercial longline gear. Otoliths and gonads will be taken from each sampled fish. Reproductive and aging studies will be conducted on these samples.

Specific Priority(ies) in Solicitation to which Project Responds:

This project responds directly to priority A (Commercial Finfish); 2 (f). Collect data to improve information on life history and age structure of commercial finfish species, specifically yellowedge grouper.

Summary of Work:

Ken Daniels Jr., a commercial grouper fisherman from St. Petersburg, FL, has agreed to collect yellowedge grouper biological samples. A maximum of sixty fish of varying sizes (30 fish < 650 mm TL and 30 fish > 650 mm TL) will be collected each month. Weight and length of each fish will be recorded and otoliths and gonads will be removed from each sampled fish. Histological techniques will be used to determine sexual stage for each fish, the gonadosomatic index and fecundity estimates including batch fecundity, spawning frequency and annual fecundity. Otoliths will be sectioned and age estimates for each fish will be determined. Study results will be made available to NOAA Fisheries for use in the next yellowedge grouper stock assessment.

Project Funding:

Federal	\$ 26,625
Non-Federal	\$ 4,004
Total	\$ 30,629

NA03NMF4540420

CRP PROJECT SUMMARY

Project Title: Description and Evaluation of the US Commercial Fishery Interactions between Pelagic Fishes and Longline Fishing Gear in the Gulf of Mexico, Mid_Atlantic, and Georges Bank

Project Start Date: October 1, 2003

Name, Address, and Telephone Number of Applicant:

Virginia Institute of Marine Science (VIMS)
P.O. Box 1346
Gloucester Point, VA 23062-1346
(804) 684-7352

Principal Investigator(s) and Brief Statement of Qualifications:

Dr. John E. Graves, Ph.D., Chair, Department of Fisheries Science;
Mr. David Kerstetter, Graduate Student, VIMS
Industry Partner: Mr. Vincent F. Pyle, President, Carol Ann Sword Corporation
SEFSC Partner: Dr. Gerald Scott

Project Goal and Objectives: This project will investigate the interactions of pelagic species with commercial pelagic longline gear in the western North Atlantic. This project has five objectives: 1) compare catch rates and mortality of all species caught on circle and straight-shank hooks; 2) evaluate post-release survival of billfishes caught by longline gear; 3) compare billfish catch rates on deep and shallow longline sets; 4) analyze time-of-capture using recently developed hook timers; and 5) direct analysis of longline gear behavior using a combination of small time-depth recorders and GPS receivers.

Specific Priority(ies) in Solicitation to which Project Responds:

This project responds directly to priority A (Commercial Finfish); 2(e). Data collection projects are needed to determine the effects of increasing size limits or possession limits on discard rates. Research is needed to develop estimates of discard mortality rates as a function of size, gear, area, season, and depth of fishing; and 4. Projects to develop and test gear and fishing strategy modifications to reduce or eliminate unintended catch..

Summary of Work:

The proposed study will investigate the interactions of pelagic fishes with commercial pelagic longline gear in the western North Atlantic. This proposal incorporates five components: 1) a comparison of catch rates and mortality of all species caught on circle and straight_stank hoods, 2) an evaluation of post_release survival of billfishes captured by longline gear, 3) a comparison of billfish catch rate on deep and shallow longline sets, 4) analyses of time of capture utilizing recently developed hook timers, 5) direct analyses of longline gear behavior using a combination

of small time_depth recorders and GPS receivers. Data obtained from this research will allow the evaluation of selected management measures such as mandating particular hook types or set durations. Other data obtained through this work may be used to evaluate recent habitat_based stock assessment modeling efforts for billfish and other pelagic fish species. Research will be conducted upon the F/V Carol Ann, a U.S._registered commercial longline fishing vessel. Three separate locations will be used to compare the effects of different water conditions on the gear: Gulf of Mexico (spring), the U.S. south_Atlantic Bight (summer), and Georges Bank (fall). Each location will include 20 separate sets, with each set consisting of two mainline segments of approximately 150 hooks each.

Project Funding:

Federal	\$225,000
Non-Federal	\$ 32,254
Total	\$257,254

NA03NMF4540419

CRP PROJECT SUMMARY

Project Title: Workshops to Determine Fishers' Attitudes Toward Potential Effort Reduction Programs in the US Caribbean

Project Start Date: November 1, 2003

Name, Address, and Telephone Number of Applicant:

Graeme Parkes
MRAG Americas Inc.
110 S. Hoover Blvd., Suite 212
Tampa, FL 33609
(813) 639-9519

Principal Investigator(s) and Brief Statement of Qualifications:

Robert J. Trumble, Ph.D., Dr. Trumble has over 35 years of experience in marine fishery science and management. Dr. Trumble has extensive experience working with governmental agencies, commercial and recreational fisheries groups, and national and international advisory grouper.

Walter R. Keithly, Jr., Ph.D., Associate Professor, School of the Coast & Environment. Dr. Keithly has over 20 years of experience analyzing fisheries in the southeast.

Industry Partner: Mr. Eugenio Pineiro is a commercial fisher from San Juan, Puerto Rico and a voting member of the Caribbean Fishery Management Council.

Industry Partner: Mr. Gearson Martinez is a commercial fisher and is the Chairman of the Fishermen's Advisory Committee on St. Croix.

SEFSC Partner: Dr. Juan J. Agar, Miami Laboratory

Project Goal and Objectives: The goal of the project is to assess the potential for using capacity and/or effort reduction as components of the fisheries management strategy for regulating fisheries in Federal waters of the U.S. Caribbean. The project will conduct workshops with fishers in Puerto Rico and the U.S. Virgin Islands. The workshops will result in a summary of views concerning the use of capacity and/or effort reduction programs and will attempt to obtain a consensus (to the degree possible) on the most practical programs to implement an effort reduction program should one be required.

Specific Priority(ies) in Solicitation to which Project Responds:

This project responds to priority A (Commercial Finfish); 5. Fishing capacity investigations.

Summary of Work:

For this project, MRAG Americas, Inc. and the Southeast Fisheries Science Center (SEFSC) will team with a commercial fisher from Puerto Rico and a commercial fisher from the US Virgin Islands to conduct a series of workshops in Puerto Rico and the US Virgin Islands. During the workshops, the project will briefly present background information on the current assessment of fishery resources, the role of capacity and effort reduction programs relative to other

management programs, and information about various capacity and effort reduction programs. Facilitated by MRAG Americas and SEFSC staff, discussion by fishers of these issues will make up most of the workshops, leading to a detailed description of fishers' concerns, opinions on the need for capacity and/or effort reduction, and an attempt to obtain a consensus (to the degree possible) on the most practical ways to implement an effort reduction program, should one become necessary. Progress and final reports will describe the results of the workshops, assess options for capacity and effort reduction programs, and develop recommendations from the fishers' discussions.

Project Funding:

Federal	\$ 68,222
Non-Federal	
Total	\$ 68,222

NA03NMF4540418

CRP PROJECT SUMMARY

Project Title: Estimates of Catch_and_Release Mortality for Red Drum, *Sciaenops ocellatus*, in the Recreational Fishery of South Carolina

Project Start Date: October 1, 2003

Name, Address, and Telephone Number of Applicant:

South Carolina Department of Natural Resources
Marine Resources Research Institute
PO Box 12559
Charleston, SC 29422-2559
Phone: (843) 953-9232

Principal Investigator(s) and Brief Statement of Qualifications:

Charles A. Wenner, Ph.D.; 30 years experience in fisheries including research surveys; age, growth, reproduction; former member of several ASMFC Technical Committees including red drum, spotted seatrout, weakfish and Atlantic croaker.

Industry Partner: Mr. Scott Whitaker, Executive Director, CCA South Carolina; Mr. Gene Bixon, Delta Guide Service

SEFSC Partners: Dr. Douglas Vaughn and Dr. Erik Williams, Beaufort Laboratory

Project Goals and Objectives: The project will document the type of hook used by recreational anglers and the subsequent release mortality of adult and subadult red drum. Objectives include: document the type of hook used by recreational anglers; determine the penetration site of the hook (jaw, gills, gut) in subadults; determine the gear and site of hook penetration in the deep water fishery for adult red drum; determine the site of hook penetration in subadult red drum smaller than the minimum size limit and the effect upon survival of released fish.

Specific Priority(ies) in Solicitation to which Project Responds:

This project responds directly to priority C (Recreational and Charter Fishery) 2(f). Bycatch post-release mortality closely relates to alternative management measures and research is needed to adequately measure these mortality rates.

Summary of Work:

The ultimate goal of the management measures in place for Atlantic coast red drum is to reduce fishing mortality on the subadults thereby increasing their survival and subsequent recruitment into the spawning population. This proposed study addresses various aspects of catch and release mortality (discards). Log books kept by the guides will provide an estimate of penetration location with size and type of hook. The fishery-independent holding study of subadults will provide a comparison of catch and release mortality with hook type and penetration site. The fishery-independent holding study of the adults should determine the

validity of the assumption that there is little, if any, fishing mortality on released mature fish. The final product of this study will be to produce a variety of outreach materials for the recreational angling public that will enable them to take the necessary steps to reduce catch and release mortality.

Project Funding:

Federal	\$ 90,000
Non-Federal	
Total	\$ 90,000

Appendix 4. List of CRP Projects Funded in FY2004

The following projects have been selected for funding in FY2004. The projects are listed under the research priorities identified in the solicitation for applications.

A. Commercial Finfish

1. Characterize the total catch (from all fleets affecting the stocks), including catch composition and disposition of the catch.

a. "Evaluation of pelagic longline bycatch reduction technology in the Gulf of Mexico and along the eastern seaboard of the United States." - start date June 1, 2004. This is a \$500,000 project that addresses commercial catches of swordfish, tunas and oceanic sharks, including bycatch, in the pelagic longline fishery in the western Atlantic. It will collect data on pelagic catches including regulatory discards and bycatch of fish and endangered species. The project will utilize observers and test the use of circle hooks and different baits to reduce bycatch. All research fishing sets in the project will note the time of hooking and employ time-depth recorder devices to determine the spatial/temporal variance of all hooked species. The project will provide information that will enable the industry to develop fishing practices that will minimize bycatch during fishing operations. **CRP Award 04CRP012**

b. "Investigating gag recruitment processes using otolith chemical and genetic markers." - start date June 1, 2004. This is a \$300,000 project to establish the relationships between the fishery on adult gag and juvenile populations of gag. Chemical otolith signatures in adult fish will be examined to determine the contribution of discrete estuarine nursery areas (primarily shallow seagrass beds) along the west coast of Florida. Information derived from the project could lead to developing a juvenile index for gag as well as provide information that could lead to the establishment of marine protected areas for juvenile gag. **CRP Award 04CRP016**

c. "Combining a partnership among researchers, commercial, recreational, and recreational-for-hire fishers with a cooperative tagging program to elucidate the life history and habitat utilization of the selected reef fish and coastal pelagic species in the Florida Keys." - start date June 1, 2004. This is a \$200,000 project with the following goals and objectives:

1. Develop a cooperative black grouper, red grouper, mutton snapper, greater amberjack and cobia tagging program in the Florida Keys National Marine Sanctuary (FKNMS).
2. Provide data for stock assessments of black grouper, red grouper, mutton snapper, greater amberjack and cobia from the Florida Keys.
3. Ascertain movement and migration patterns for black grouper, red grouper, mutton snapper, greater amberjack and cobia in and outside the FKNMS.
4. Provide movement and migration data for cobia and greater amberjack between the Gulf of Mexico and South Atlantic.
5. Collect biological samples (otoliths and gonads) for the purpose of obtaining life history

information (age, reproductive status, fecundity, sex ratio, spawning frequency, size at sexual transition and size/age at maturity for females and males) for black grouper within the FKNMS.

6. Evaluate the inconsistency of minimum size catch limits and size at reproductive maturation for black grouper with the FKNMS.
7. Estimate discard survivorship/mortality rates for black grouper, red grouper, mutton snapper, greater amberjack and cobia caught in the commercial, recreational-for-hire, and recreational fisheries.
8. Characterize essential reef fish habitat with the FKNMS, especially for black grouper.
9. Analyze the relationship between landscape features and black grouper, particularly spawning aggregations.
10. Evaluate the influence of no-take zones on take zones with respect to spillover of black grouper, red grouper, mutton snapper, greater amberjack and cobia.
11. This project will provide valuable information on stock structure, movements and life history information on key species in the FKNMS. **CRP Award 04CRP005**

d. “Cooperative hook-and-line sampling project identifying catch composition, life history and bycatch of the eastern Gulf of Mexico deep water reef fish fishery.” - start date June 1, 2004. This is a \$49,961 project that will collect life history and biological samples (gonads and otoliths) of deep water species in the eastern Gulf of Mexico. Samples will be taken by “bandit” gear. Sampled groupers will include Warsaw, yellowedge, scamp, misty and snowy. Sampled snappers will include silk, queen, red and vermilion. In addition, golden and blueline tilefish, greater amberjack, almaco jack, red porgy and speckled hind will be sampled when encountered. All specimens will be forwarded to the NMFS Panama City Laboratory for analysis and processing. **CRP Award 04CRP007**

5. Monitor the effects of closed Marine Protected Areas

a. “Comparison of a closed marine area to similar adjacent habitats: Do small estuarine reserves impact local fisheries dynamics?” - start date June 1, 2004. This is a \$150,000 project that will compare the abundance and size of common snook (*Centropomus undecimalis*) and red drum (*Sciaenops ocellatus*); movement of common snook and red drum; recruitment of red drum and/or other non-target species; and species richness between a protected and non-protected area in Tampa Bay, Florida. Fish will be tagged and released; the home range of common snook and red drum will be assessed for both the protected and unprotected area. The project is expected to provide insight on the effectiveness of small estuarine reserves for the management and enhancement of red drum and snook in the Tampa Bay region. **CRP Award 04CRP010**

B. Caribbean Fisheries

a. “Reproductive aspects and age and growth of two deep water snappers: queen snapper and wenchman at the west coast of Puerto Rico.” - start date June 1, 2004. This is a \$77,537 project that will collect life history and biological samples (gonads and otoliths) on queen snapper and the wenchman. These are important species in the deep water fishery. Information from the project will be made available to Federal and territorial fishery managers for management purposes. **CRP Award 04CRP006**

b. “A pilot program to assess methods of collecting bycatch, discard, and biological data in the commercial fisheries of the U.S. Caribbean.” - start date June 1, 2004. This is a \$100,000 project that will assess the potential for obtaining information on bycatch, discards, and biological data from the commercial fisheries of the U.S. Caribbean (St. Croix). The project will focus on methods for obtaining information on composition and disposition of bycatch and discards at sea, opportunities for collecting biological data at sea, and the use of captain or crew for collecting data if space or safety on vessels does not allow observers. **CRP Award 04CRP018**