



**NATIONAL MARINE FISHERIES SERVICE
SOUTHEAST REGION**

COOPERATIVE RESEARCH PROGRAM 2004 ANNUAL REPORT



Cooperative Research Program

2004 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 Cooperative Research Program (CRP) 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), CRP 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. Subsequently, research directions have expanded to include bycatch reduction methodology for sea turtles and other species, development of electronic logbook systems, distributional patterns and life history characteristics of various billfish species, and cooperative shark research.

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 were presented in the 2003 CRP Annual Report.

As a result of the 2002 workshop, the focus of work during Fiscal Years 2002 and 2003 were as follows:

- Cooperative research on development of gear modifications and fishing practices to reduce turtle takes in U.S. Atlantic pelagic longline fisheries.

- Cooperative research with the Gulf and South Atlantic Fisheries Foundation on BRD effectiveness and on the effectiveness of high opening Turtle Excluder Devices.

- Cooperative research to obtain reef fish biological samples from the Gulf of Mexico.

- Cooperative research with the Southeast Area Monitoring and Assessment Program.

- Cooperative statistics data collection.

- Cooperative research on age structure of adult red drum in the Gulf of Mexico.

- Cooperative shark research.

- Cooperative research on essential habitat requirements for blue and white marlin and associated species.

- Cooperative research on characterization of shrimp and reef fishery bycatch.

- Cooperative research to collect biological specimens from sea bass in the South Atlantic Fishery Management Council's region of concern.

- 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. This report describes the FY2004 Program Highlights/Ongoing Research 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

*Fiscal Year 2005 - \$4,250,000

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 (Panel). Each member of the 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.

- Availability of funding
- Balance/distribution of funds

- Geographically

- By type of institutions

- By type of partners

- By research areas

- By project types

- Duplication of other projects funded or considered for funding by NOAA/Federal agencies.

- Program priorities and policy factors

- Applicant’s prior award performance

- 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 2004 PROGRAM HIGHLIGHTS/
OVERVIEW OF ON-GOING RESEARCH PROJECTS

FY2003 Funded Projects

The projects listed below were funded in FY2003 and are still active. Projects funded in FY2004 are listed after the FY2003 projects.

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**

C. Recreational and Charter Fishery

1. 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 NA03NMF4540418**

FY2004 Funded Projects

The following projects were 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 \$477,900 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 NA04NMF4540212**

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 NA04NMF4540213**

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 \$191,160 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 NA04NMF4540208**

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 \$47,753 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 NA04NMF4540210**

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 \$143,370 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 NA04NMF4540211**

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 \$74,110 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 NA04NMF4540209**

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 \$95,580 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 NA04NMF4540214**

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

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Appendix 2. FY2003 Active CRP Project Summaries

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	\$ 77,094
Non-Federal	
Total	\$ 77,094

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

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

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	\$349,971
Non-Federal	\$ 36,304
Total	\$386,275

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 sub-adult red drum. Objectives include: document the type of hook used by recreational anglers; determine the penetration site of the hook (jaw, gills, gut) in sub-adults; determine the gear and site of hook penetration in the deep water fishery for adult red drum; determine the site of hook penetration in sub-adult 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 sub-adults 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 sub-adults 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

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

This 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

Appendix 3. FY2004 CRP Project Summaries

NA04NMF4540208

CRP PROJECT SUMMARY

Project Title: 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

Project Start Date: June 1, 2004

Name, Address and Telephone Number of Applicant:

Mote Marine Laboratory
Sarasota, FL 34236
(941) 388-4441

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. Dr. Bradley D. Robbins is the Manager of the Landscape Ecology Program within Mote Marine Laboratory's Center for Coastal Ecology.

Industry Partner: Captain Don DeMaria and Captain Peter Gladding are commercial fishermen, who have worked with NMFS and the Councils to improve management of reef fish resources.

SEFSC Partner: Dr. Anne-Marie Eklund, Southeast Fisheries Science Center

Project Goals and Objectives: The major project goals and objectives include: (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) collect biological samples (otoliths and gonads) for the purpose of obtaining life history information for black grouper within the FKNMS; (4) characterize essential reef fish habitat within the FKNMS, especially for black grouper; and (5) 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.

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

This project responds directly to priority A (Commercial Finfish); 1. Monitor the effects of closed marine protected areas; 2 (e) Projects are needed to determine the effects of increasing size limits or reducing possession limits on discard rates; and 2 (f) Projects are needed to help improve the information on life history and biological investigations on commercial finfish species are needed.

Summary of Work:

MML personnel will collect up to 1,500 otoliths from black grouper and up to 1,800 gonads to determine the age structure and reproductive status of black grouper. The study will tag five species to determine their movement and rate of exploitation. In addition, the survival rate of undersize fish, captured by commercial and recreational-for-hire, will be studied. Habitat data of the species being studied will be entered in a WAAS-capable GPS allowing all data to be spatially registered. All data will be stored, manipulated, and analyzed within a geographical information system. Project information will be provided to NMFS and the Gulf of Mexico and

South Atlantic Fishery Management Councils.

Project Funding

Federal	\$191,160
Non-Federal	
Total	\$191,160

NA04NMF4540209

CRP PROJECT SUMMARY

Project Title: Reproductive Aspects and Age and Growth of Two Deep Water Snappers: Queen Snapper and Wenchman at the West Coast of Puerto Rico

Project Start Date: July 1, 2004

Name, Address and Telephone Number of Applicant:

Eugenio Pineiro
P. O. Box 616
Rincon, PR 00677
(787) 312-1921

Principal Investigator(s) and Brief Statement of Qualifications:

Mr. Eugenio Pineiro has been a commercial fisher for over twenty years. He is a member of the Caribbean Fisheries Management Council and has been involved in marine conservation efforts for about fifteen years. Ms. Aida Rosario is a fishery biologist and director of the DNER Fisheries Research Laboratory (FRL). She has been in charge of the SEAMAP Program of the FRL for the past nineteen years.

Industry Partner: Mr. Eugenio Pineiro

SEFSC Partner: Dr. Josh Nowlis, Southeast Fisheries Science Center

Project Goal and Objectives: The primary goal of the project is to obtain data on age and growth and reproductive potential of the wenchman and queen snapper in waters of Puerto Rico. Also, data on catch per unit effort will be determined for buoy fishing.

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

This project responds to B (Caribbean Fisheries); 1 Habitat and fisheries.

Summary of Work:

Fish will be collected by the use of buoy gear. Gonads and reproductive materials will be collected from wenchman and queen snapper. Existing data for wenchman and queen snapper will be summarized and added to data collected by the project. Results of the study will be provided to NMFS and the Caribbean Fishery Management Council.

Project Funding:

Federal	\$74,110
Non-Federal	
Total	\$74,110

NA04NMF4540210

CRP PROJECT SUMMARY

Project Title: Cooperative Hook and Line Sampling Project Identifying Catch Composition, Life History, and Bycatch of the Eastern Gulf of Mexico Deep Water Reef Fish Complex

Project Start Date: October 1, 2004

Name, Address and Telephone Number of Applicant:

Fish Master Inc.
1462 Xavier Ave.
Ft. Myers, FL 33919
(239) 437-1630

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 aging and reproductive materials from deep-water reef fish and to make discard and bycatch observations.

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

This project responds directly to priority A (Commercial Finfish); 2 (a) Projects are needed to collect detailed information on the composition and disposition of bycatch and discards; 2 (d) Projects are needed to fully utilize scientific observers on-board vessels as a means of collecting detailed catch, effort and disposition data; 2 (f) Data collection projects are needed to help improve the information on life history and biological investigations on commercial finfish.

Summary of Work:

The project will conduct eight ten-day trips to collect samples and information from a traditional fishing area for deep-water species of the reef fish complex. Otoliths and gonads will be collected, processed and given to the NMFS Panama City Laboratory. Standard, catch, discard and bycatch information will be given to the NMFS and the Gulf of Mexico Fishery Management Council for use in assessments and development of fishery regulations.

Project Funding:

Federal	\$47,753
Non-Federal	
Total	\$47,753

NA04NMF4540211

CRP PROJECT SUMMARY

Project Title: Comparison of a Closed Marine Area to Similar Adjacent Habitats: Do Small Estuarine Reserves Impact Local Fisheries Dynamics?

Project Start Date: June 1, 2004

Name, Address and Telephone Number of Applicant:

Florida Fish and Wildlife Conservation Commission
100 Eighth Avenue SE
St. Petersburg, FL 33701
(727) 896-8626

Principal Investigator(s) and Brief Statement of Qualifications:

Mr. Richard Lehnert and Mr. Ed Sherwood are marine research scientists, who have monitored juvenile and young-of-the-year fish assemblages in Tampa Bay, Florida.

Industry Partner: Mr. George Manion, recreational fisherman and Captain Cliff Martin of World Class Outfitters

SEFSC Partner: Dr. James Bohnsack, Research Fishery Biologist

Project Goal and Objectives: The goal of the project is to investigate species recruitment, richness, abundance and movement of snook and red drum within a protected estuarine area and compare these parameters with a similar, adjacent habitat. Information from the project can be used to determine the utility of estuarine protected areas.

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

This project responds directly to priority A (Commercial Finfish); 1. Monitor the effects of closed Marine Protected Areas.

Summary of Work:

Young-of-the-year (YOY) snook and red drum will be collected in the protected and unprotected areas for comparison purposes. YOY fish will be tagged to determine abundance and movement of snook and red drum. Statistical tests will be conducted to determine if differences in size and abundance exist. Multi-variate species analysis will be performed to assess any differences in species assemblages between the protected and unprotected areas.

Project Funding:

Federal	\$143,370
Non-Federal	
Total	\$143,370

NA04NMF4540212

CRP PROJECT SUMMARY

Project Title: Evaluation of Pelagic Longline Bycatch Reduction Technology in the Gulf of Mexico, Florida East Coast, South Atlantic Bight, Mid-Atlantic Bight and North East Coastal management areas.

Project Start Date: January 1, 2005

Name, Address and Telephone Number of Applicant:

Fisheries Research Institute
P.O. Box 398
910 Bayview Avenue
Barnegat Light, New Jersey 08006
(609)361-9229

Principal Investigator and Brief Statement of Qualifications:

Mr. Nelson Beiderman has extensive experience in the pelagic longline fishery and is the Executive Director of the Fisheries Research Institute. Dr. Steven Berkely has over 30 years of experience in pelagic fisheries and has published numerous articles on the subject. Dr. John Graves and Mr. David Kerstetter have been conducting research on the pelagic longline fishery since 2000 and have published articles on the subject.

Industry Partner: The Fisheries Research Institute in coordination with the Blue Water Fishermen's Association represents a majority of the active U.S. Atlantic pelagic longline fishery. These organizations have participated in the CRP and are ideally suited for this type of work.

SEFSC Partner: Mr. John Watson is the Harvesting Systems Team Leader of the NMFS Pascagoula Laboratory and has over 30 years experience in gear research.

Project Goal and Objectives: The goal of the project is to conduct research to develop and evaluate the efficacy of new technologies and changes in fishing practices to reduce the incidental take of endangered and threatened sea turtle species, and the incidental bycatch of white marlin, blue marlin, sailfish, bluefin tuna, marine mammals and undersize swordfish by pelagic longline gear. Also, the effectiveness of line cutters and de-hookers for releasing bycatch species will be evaluated. Information gained from the project will be provided to fishermen and fishery managers to reduce the bycatch of the pelagic longline fishery.

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

This project responds directly to priority A (Commercial Finfish); 4. Projects to develop and test gear and fishing strategy modifications to reduce or eliminate unintended catch.

Summary of Work:

The project will collect bycatch reduction data while testing various methods to avoid and reduce bycatch associated with the pelagic longline fishery. The project will vary baits, hook types and depths of fishing to determine methods to reduce bycatch of sea turtles, marine mammals, sailfish, white and blue marlins, bluefin tuna and undersized swordfish. Research will be conducted in three regions; namely, south of Cape Hatteras, north of Cape Hatteras and in the Gulf of Mexico. Two vessels will operate in each region.

Project Funding:

Federal	\$477,900
Non-Federal	
Total	\$477,900

NA04NMF4540213

CRP PROJECT SUMMARY

Project Title: Investigating Gag Recruitment Processes Using Otolith Chemical and Genetic Markers.

Project Start Date: June 1, 2004

Name, Address and Telephone Number of Applicant:

Florida State University
Dept. of Biological Science
97 S. Woodward Ave., 3rd Floor
Tallahassee, FL 32306-4166
(850) 644-2019

Principal Investigator(s) and Brief Statement of Qualifications:

Dr. Felicia Coleman and Dr. Chris Koenig have studied and published extensively on gag and the reef fish fishery. They have over 50 years of experience and are well qualified to complete the project. Dr. David Secor has expertise in marine fisheries ecology and otolith microconstituent analysis.

Industry Partner: Captain Robert Spaeth is a commercial grouper fisherman and has often worked with fishery managers to develop conservation measures for the reef fish fishery in the Gulf of Mexico.

SEFSC Partner: Dr. Peter Hanson's expertise is at the interface of chemical and contaminant systems with fish populations.

Project Goal and Objectives:

The primary goal is to determine the most significant source areas (essential seagrass habitat) for juvenile recruits to the adult gag fishery. A secondary goal is to investigate patterns of genetic diversity in juvenile cohorts to detail recruitment processes. Objectives include: (1) evaluate the relative contribution of juvenile nursery areas to the adult population using chemical signatures in otoliths; (2) evaluate regional levels of parentage and relatedness of juvenile cohorts using microsatellite marks; and (3) progress toward development of a predictive juvenile index of abundance of gag off the west coast of Florida.

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

This project responds directly to A (Commercial Finfish); 2 (f) improve life history information and biological investigations on commercial finfish species; especially about the age-structure of the catch based on otolith or other hard-part age readings; improve information on the reproductive characteristics of the stock to provide a basis for refining estimates of long-term potential productivity of the stock; and C (Recreational and Charter Fishery) 4 (c) investigations of essential fisheries habitat for gag.

Summary of Work:

The project will determine the most significant source areas for juvenile recruits to the adult gag fishery. Patterns of genetic relatedness and parentage in juveniles will be examined to add to a time-series data set that can be used to develop a fisheries-oriented model of juvenile abundance. Otoliths will be examined using inductively-coupled plasma mass spectrometry to determine

origin of juveniles. Information from the project will be used to begin development of a model to estimate recruitment of juvenile gag and to determine the utility of marine protected areas.

Project Funding:

Federal	\$300,000
Non-Federal	
Total	\$300,000

NA04NMF4540214

CRP PROJECT SUMMARY

Project Title: A Pilot Program to Assess Methods of Collecting Bycatch, Discard, and Biological Data in the Commercial Fisheries of the U.S. Caribbean

Project Start Date: June 1, 2004

Name, Address and Telephone Number of Applicant:

MRAG Americas Inc.
Suite 212
110 S. Hoover Blvd.
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 groups.

Dr. Graeme Parkes is a fisheries resource management specialist with over 15 years of international experience. His specialties include resource assessment and survey design; marine fisheries policy development and strategic planning; fisheries information systems; and fisheries monitoring, control and surveillance.

Industry Partner: Mr. Hector Rivera, who is a commercial fisherman.

SEFSC Partner: Ms. Nancie Cummings, Southeast Fisheries Science Center

Project Goal and Objectives:

The purpose of the project is to assess the potential for obtaining information on bycatch, discards, and biological data from the commercial fisheries of the U.S. Caribbean. 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.

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

This project responds to priority A (Commercial Finfish); 2 (a, d and f). Characterize the total catch (from all fleets affecting the stocks), including catch composition and disposition of the catch.

Summary of Work:

Selected captains and crews will be trained in methods of collection of catch data including bycatch and discards at sea. Logbooks will be developed for storing data. Observers will be trained and placed aboard selected vessels. All data will be given to MRAG for data entry and analysis. Biological samples will be collected. All information from the project will be provided to NMFS and the Caribbean Fishery Management Council.

Project Funding:

Federal	\$95,580
Non-Federal	
Total	\$95,580

Appendix 4. FY2005 CRP Project Summaries

On July 14, 2004, NOAA Fisheries published a notice of solicitation for applications for the Cooperative Research Program (CRP) Grant Program (Appendix 5). The notice informed researchers and the public that approximately \$2.0 million would be available in FY2005 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.

NA05MF4540043

CRP PROJECT SUMMARY

Project Title: Cooperative Hook and Line Discard Mortality Study of Vermilion Snapper in the Northeastern Gulf of Mexico Commercial Fishery

Project Start Date: May 1, 2005

Name, Address and Telephone Number of Applicant:

Patzig Marine Services, Inc.
34 Oregon Drive
Fort Walton Beach, FL 32548
Phone: (850) 244-4643

Principal Investigator(s) and Brief Statement of Qualifications:

Nicholas P. Patzig, Captain of Charter Vessel, who has participated in cooperative research with NMFS in the past.

Industry Partner: Captain Nicholas P. Patzig; Captain Patzig has been a charter and commercial fishermen for over 30 years.

SEFSC Partner: June Weeks, NMFS Port Agent

Project Goal and Objectives:

The primary goal of the research is to collect information on the discard mortality of vermilion snapper, using three methods of discard: (1) swim bladder puncture at a 45 degree angle one to two inches back from the base of the pectoral fin with an approved puncture tool acquired from Mote Marine Lab; (2) swim bladder puncture with a fillet knife; and (3) no swim bladder puncture.

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

This project responds directly to priority A (Commercial Finfish); 1 (e). Characterize the total catch (from all fleets affecting the stocks), including catch composition and disposition of the catch. Research is needed to improve estimates of discard mortality rates and must account for the effects of fish size, gear, area, season and depth of fishing.

Summary of Work:

The project will collect data in traditional fishing grounds for vermilion snapper in the northeastern Gulf of Mexico. Thirty fishing trips will be made to collect data on all fish landed. Vermilion snapper will be measured, swim bladder punctured and released into a holding pen for observation. Area fished, depth, type of sea bottom, latitude/longitude readings, date and water temperatures will be recorded. Cameras positioned at the top and bottom of the holding pen will record and document the survival time of each tagged fish. After sufficient recovery time has elapsed, dead fish will be preserved for onshore analysis and live fish will be released. Information obtained by this project will be given to NMFS for analysis. The benefits of the project will be to provide better information on discard mortality on vermilion snapper taken by hook and line gear. Survival rates of vermilion snapper undergoing puncture of swim bladder will be compared to determine ways to reduce mortality rates. Information obtained from the project will be used by fishery managers to determine appropriate minimum size limits for

vermilion snapper. Also, information on procedures that reduce the discard mortality rate of vermilion snapper obtained from this project will be provided to commercial and recreational information for their use.

Project Funding:

Federal	\$114,072
Non-Federal	
Total	\$114,072

NA05NMF4540039

CRP PROJECT SUMMARY

Project Title: Cooperative Project Sampling of the Vertical Line Fishery Sampling Reproductive and Hard Part Tissues of Vermilion Snapper and Red Grouper in the Eastern Gulf of Mexico

Project Start Date: January 1, 2006

Name, Address and Telephone Number of Applicant:

Fish Master Inc.
1462 Xavier Ave.
Ft. Meyers, FL 33919
Phone: (239) 437-1630

Principal Investigator(s) and Brief Statement of Qualifications:

Mr. Eric Schmidt is an experienced commercial fisherman, who has been collecting biological samples for several years for the NMFS Panama City Laboratory. He has been trained in NMFS protocol for collecting and storing data for later analysis by NMFS personnel.

Industry Partner: Captain Eric Schmidt

SEFSC Partner: Dr. Gary Fitzhugh, Panama City Laboratory

Project Goal and Objectives:

The primary goal is to collect life history information on red grouper and vermilion snapper. The project will focus on collecting reproductive samples from red grouper and age samples from vermilion snapper. The samples will be taken from the central and southwestern shelf of west Florida, which will complement samples from other areas. Information on habitat will be collected to compare possible differences in life history parameters among different habitat types.

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

This project responds directly to priority A (Commercial Finfish); 1 (f). Data collection projects are needed to improve life history information on commercial finfish species.

Summary of Work:

The project will conduct 14 eight-day trips over 18 months to collect gonads and otoliths from red grouper and vermilion snapper. Samples, including length and weight of individual fish, will be collected according to NMFS protocol and delivered to NMFS for analyses. Specific sites will be sampled to allow NMFS scientists to identify potential differences between growth and reproductive rates among the selected sites.

Project Funding:

Federal	\$121,352
Non-Federal	
Total	\$121,352

NA05NMF4540045

CRP PROJECT SUMMARY

Project Title: Population Abundance, Demographics and Predation Effects of Adult Goliath Grouper

Project Start Date: March 1, 2005

Name, Address and Telephone Number of Applicant:

Dr. Felicia Coleman
Department of Biological Science
Florida State University
Tallahassee, FL 32306-1100
Phone: (850) 644-2019; FAX: (850) 644-9829

Principal Investigator(s) and Brief Statement of Qualifications:

Dr. Felicia Coleman is the Principal Investigator of numerous publications concerning reef fish and Gulf of Mexico MARFIN projects. She is an expert on fishery management practices and ecology of exploited species. Dr. Christopher Koenig has conducted many reef fish reproductive and recruitment studies. He has an extensive publication record and routinely provides management advice to both the South Atlantic and Gulf of Mexico Fishery Management Councils. Dr. Jeffrey Ueland is an expert in remote sensing, spatial analysis and fisheries. Industry Partner: Mr. Don Demaria, Eddie Toomer, Peter Gladding and at least eight other commercial fishermen, who have extensive experience with goliath grouper. SEFSC Partner: Dr. Paul Richards, Southeast Fisheries Science Center

Project Goals and Objectives:

The overall goal of the project is to estimate the regional population size of goliath grouper in the southeastern United States, emphasizing those populations occurring on the West Florida Shelf and the Atlantic coast of Florida. The objectives include: (1) determine the current distribution of goliath grouper throughout the historical range; (2) estimate regional abundance of goliath grouper in areas of historically high population density in coastal regions of Florida; (3) directly estimate size, age and sex ratio structure of goliath grouper in each region; (4) determine the seasonal dietary composition of goliath grouper in each coastal region; and (5) classify, map and structurally characterize adult goliath grouper habitat and describe associate species in primary study sites.

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

This project responds directly to priority A (Commercial Finfish); 1 (f). Data collection projects to improve life history information on commercial finfish species; and C (Recreational and Charter Fishery) 4 (c). Investigations are needed to determine essential fishery habitat for goliath grouper.

Summary of Work:

Goliath grouper have been protected since 1990, however, there is very little information concerning the abundance of goliath grouper either historically or today. This study will establish a benchmark of abundance and distribution of goliath grouper. This information will

allow scientists to estimate a recovery time and to determine the potential effect of recovery of this top predator on prey species. Mark and recapture experiments will be used to estimate population size, and through non-extractive sampling to determine dietary composition of adults. The project will also identify precisely essential fish habitat for adults. Empirical information on spatial and temporal differences in diet will be used to develop a bioenergetics model. No fish will be killed during this two-year project.

Project Funding:

Federal	\$358,155
Non-Federal	
Total	\$358,155

NA05NMF4540040

CRP PROJECT SUMMARY

Project Title: Integrating Life History, Mating System, Fishing Effects, and Habitat of Hogfish, *Lachnolaimus maximus*, a Harem Spawning Reef Fish in the Southeast U.S.

Project Start Date: July 1, 2005

Name, Address and Telephone Number of Applicant:

Dr. Richard McBride
Florida Fish and Wildlife Conservation Commission
100 Eighth Avenue SE
St. Petersburg, FL 33701-5020
Phone: (727) 896-8626; FAX (727) 893-2947

Principal Investigator(s) and Brief Statement of Qualifications:

Dr. McBride has approximately ten years of experience in fisheries research in the Gulf of Mexico and has published numerous papers on the life history of hogfish.

Industry Partner: Mr. O'Hern is the Executive Director of the Fishing Rights Alliance, a Florida Corporation engaged in the protection of marine resources and protection of access to those resources by fishermen. Also, he is the Vice-President and President-elect of the St. Pete Underwater Club, a 52-year-old spearfishing club in St. Petersburg, FL.

SEFSC Partner: Douglas A. DeVries, Panama City Laboratory

Project Goals and Objectives:

The general goal of the project is to describe mating systems and habitat associations, and to estimate life history parameters relevant for a stock assessment of the hogfish resource.

Objectives of the project include: (1) characterize size and sex structure, spawning and non-spawning behaviors, and spatial and temporal variations in habitat associations; (2) produce age-length keys, growth models, and mortality rate estimates for hogfish using validated aging methods; (3) describe reproductive biology; and (4) synthesize fisheries information and life history parameters for Florida's hogfish population with other regions in the western North Atlantic, Caribbean Sea, and Gulf of Mexico.

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

This project responds directly to priority A (Commercial Finfish); 1 (f). Data collection projects are needed to improve life history information on commercial finfish species.

Summary of Work:

This project will involve commercial and recreational fishermen to collect fundamental fisheries information on hogfish. The principal investigator will work with fishermen to obtain reproductive and aging materials for analyses. These materials will be used to estimate growth, mortality and reproductive parameters of hogfish. In addition, divers will observe spawning harems to note behavior and determine the habitat associated with spawning. The observations will be used to define essential fish habitat for hogfish spawning sites. Information from this project will be made available for a stock assessment of hogfish.

Project Funding:

Federal	\$169,388
Non-Federal	
Total	\$169,288

NA05NMF4540041

CRP PROJECT SUMMARY

Project Title: The Capture Depth, Time and Hooked Survival Rate for Bottom Longline Caught Large Coastal Sharks

Project Start Date: May 1, 2005

Name, Address and Telephone Number of Applicant:

Mr. George H. Burgess and Alexia C. Morgan
Florida Museum of Natural History
University of Florida
Gainesville, FL 32611
Phone: (352) 392-2360; FAX (352) 392-7158
e-mail: gburgess@flmnh.ufl.edu

Principal Investigator(s) and Brief Statement of Qualifications:

Mr. Burgess has over 30 years of experience with marine fisheries and has published extensively on sharks and shark fisheries. Currently, he is the Director, Florida Program for Shark Research. Industry Partner: Captains Mike Egner and Charles Browne are commercial shark longline fishermen.
SEFSC Partner: Dr. John K. Carlson, Panama City Laboratory

Project Goal and Objectives:

The goal of this project is to work with commercial bottom longline shark fishers to collect more detailed data pertaining to the relationship between soak time and capture depth on fishing mortality and catch per unit effort of individual shark species and shark species aggregates. Objectives include: (1) determine what length of time the fishing gear is in the water prior to a shark biting and being hooked and at what point during the fishing process, i.e. deployment, fishing or retrieval, individual sharks are hooked; (2) obtain more accurate data pertaining to the length of time individual shark species remain alive after being hooked on bottom longline fishery gangions; and (3) using depth stratified sampling, record the accurate depths of capture of sharks and provide a description of the depth range and catch per unit effort by depth for up to 25 species of sharks. Fishers will use gear and fishing techniques currently employed in the large coastal shark fishery.

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

This project responds directly to priority A (Commercial Finfish); 3. Projects are needed to develop and test gear and fishing strategies designed to reduce or eliminate unintended catch.

Summary of Work:

Scientists will work with two commercial shark longliners to obtain catch information. Hook timers will be used to identify how long individual sharks remain on the line after being caught on hooks. Time depth recorders will be used to record the depth at which the bottom longline is fishing and will be used to indicate the total time between the setting and retrieval of the gear. Time and depth will be recorded at one minute intervals. Information will be delivered to NMFS for analysis and use by fishery managers to develop strategies to minimize the catch of unwanted shark species. Also, information will be distributed to commercial fishermen to assist them in

reducing catch of unwanted shark species.

Project Funding:

Federal	\$144,264
Non-Federal	
Total	\$144,264

NA05NMF4540042

CRP PROJECT SUMMARY

Project Title: A Program to Assess Methods of Collecting Bycatch, Discard, and Biological Data in the Commercial Fisheries of St. Thomas, U.S. Caribbean

Project Start Date: April 1, 2005

Name, Address and Telephone Number of Applicant:

Robert J. Trumble
MRAG Americas Inc.
110 S. Hoover Blvd., Suite 212
Tampa, FL 33609
Phone: (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. Dr. Uwate, Chief of the Bureau of Fisheries, Division of Fish and Wildlife, U.S. Virgin Islands. Dr. Uwate is an economist and has extensive experience in tropical fisheries. Industry Partner: Ms. Monica Lester has been a commercial fisher since 1985. Currently, she is a member of the Caribbean Fishery Management Council. SEFSC Partner: Ms. Nancie Cummings, Southeast Fisheries Science Center

Project Goal and Objectives:

The goal of the project is to assess the potential for obtaining information on bycatch, discards, and biological data from the commercial fisheries of the U.S. Caribbean. The project will focus on methods for obtaining information on composition and disposition of bycatch and discards at sea, opportunities for collecting information on composition and disposition of bycatch and discards, opportunities for collecting biological data from retained catch, and the use of captain or crew for collecting data if space or safety on vessels does not allow observers on board.

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

This project responds directly to priority A (Commercial Finfish); 1(a). Projects are needed to collect detailed information on the composition and disposition of bycatch and discards; 1(d). Projects are needed to utilize fully scientific observers on-board vessels as a means of collecting detailed catch, effort and disposition data.

Summary of Work:

This project will work with commercial fishermen and the U.S. Virgin Islands Division of Fish and Wildlife to obtain information on composition and disposition of bycatch and discards at sea, opportunities for collecting biological data from retained catch (gonads and otoliths), and the use of captain or crew for collecting data if space or safety on vessels does not allow observers on board. Information obtained from the project, including recommendations concerning observer data collection procedures, will be provided to territorial and federal fishery managers for management of U.S. Caribbean fishery resources.

Project Funding:

Federal	\$105,441
Non-Federal	
Total	\$105,441

NA05NMF4540044

CRP PROJECT SUMMARY

Project Title: A Project to Augment the Data Collection and Development of an Electronic Logbook System (ELB) Used within the Gulf of Mexico Shrimp Fishery

Project Start Date: February 1, 2005

Name, Address and Telephone Number of Applicant:

Gulf & South Atlantic Fisheries Foundation, Inc.
5401 W. Kennedy Blvd., Suite 740
Tampa, FL 33609
Phone: (813) 286-8390; FAX (813) 286-8261

Principal Investigator(s) and Brief Statement of Qualifications:

Ms. Judy Jamison has over 24 years of administrative and grants management experience. Industry Partner: Ms. Wilma Anderson, Texas Shrimp Association; Dr. Benny Gallaway, LGL Ecological Research Associates, Inc. SEFSC Partner: Dr. James M. Nance, Galveston Laboratory

Project Goal and Objectives:

This project will: (1) complement the current ELB study with onboard observers to collect data on fishing effort, red snapper bycatch, and shrimp landings; (2) analyze all observer collected data to further ensure that ELB landings estimates are accurate and defensible; (3) determine the spatio-temporal abundance of juvenile red snapper, compute a total mortality (Z) estimate for shrimp-trawl red snapper bycatch, and conduct a formal cohort analysis (VPA) on all observer collected red snapper data; and (4) further develop the ELB system to make the device more robust and accommodating to commercial fishermen.

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

This project responds directly to priority D (Commercial Shrimp Harvest); 3. Quantification of Effort: Research is needed to improve shrimp effort data. Projects need to consider recommendations derived from negotiations with the shrimp industry. Areas of concern are insurance for at-sea observers, acceptable gear and protection of confidential data collected by the project.

Summary of Work:

This project will complement an existing ELB project with contracted observers. Each observer will collect shrimp total shrimp landings (no subsample) and total red snapper bycatch data. All observers will be placed randomly on vessels cooperating in the ELB project. Data collected during the project will be used to conduct a formal cohort analysis (VPA) and compute mortality estimates for all Foundation collected red snapper data (both past and present). Results will be used to validate ELB landings estimates by region (statistical zone) and to assist fisheries managers in the assessment of the red snapper stock.

Project Funding:

Federal	\$368,284
Non-Federal	
Total	\$368,284

Appendix 5. Federal Funding Opportunity for the FY 05
Cooperative Research Program

**COOPERATIVE RESEARCH PROGRAM (CRP) FY 2005
FEDERAL FUNDING OPPORTUNITY**

Overview Information

Federal Agency: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce

Funding Opportunity: Cooperative Research Program, Research and Development Projects in the Gulf of Mexico and off the U.S. South Atlantic Coastal States

Announcement Type: Notice of solicitation for applications

Catalog of Federal Domestic Assistance Number: 11.454 Unallied Management Projects

Dates: We must receive your application by close of business (5 p.m. eastern daylight time) on September 13, 2004. Applications will be date stamped to show date and time received. Applications received after that time will not be considered for funding. The earliest start date of awards (1st of a month) is about 215 days after the date of publication of this notice.

Addresses: You can obtain an application package from, and send your completed application(s) to: National Marine Fisheries Service, State/Federal Liaison Office, 9721 Executive Center Drive, N., St. Petersburg, FL 33702. You may also obtain the application package from the CRP homepage at: <http://sero.nmfs.noaa.gov/grants/csp.htm>
For Further Information Contact: Ellie Francisco Roche, Chief, State/Federal Liaison Office, (727)570-5324.

Executive Summary

Subject to the availability of funds, NMFS (hereafter referred to as “we” or “us”) announces the availability of Federal assistance under the Cooperative Research Program (CRP) Grant Program. This announcement provides guidelines, evaluation criteria, and selection procedures for the program.

The CRP program provides financial assistance for projects that seek to increase and improve the working relationship between researchers from the NMFS, state fishery agencies, universities, and fishermen. The program is a means of involving commercial and recreational fishermen in the collection of fundamental fisheries information. Collection efforts support the development and evaluation of management and regulatory options.

Full Text of Announcement

I. Funding Opportunity Description

The CRP is a competitive Federal assistance program that funds projects seeking to increase and improve the working relationship between researchers from the 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.

You are encouraged to address one of the priority areas listed below as they pertain to Federally managed species or species relevant to Federal fisheries management plans, but proposals in other areas will be considered. If you select more than one priority, you should list first on your application the priority that most closely reflects the objectives of your proposal. Projects should focus on the greatest probability of collecting data that aids in recovering, maintaining, or improving the status of stocks upon which fisheries depend; improving the understanding of factors affecting recruitment success and long-term sustainability of fisheries; and/or generating increased values and opportunities for fisheries.

Projects are evaluated as to the likelihood of achieving these objectives, with consideration of the magnitude of the eventual economic or social benefits that may be realized.

A. Commercial Finfish:

There are several priorities within this general category that pertain to the collection of catch, effort, size frequency, bycatch, and detailed data on fishing area by vessels in the commercial fisheries for finfish species.

1. Characterize the total catch (from all fleets affecting the stocks), including catch composition and disposition of the catch.
 - (a) Projects are needed to collect detailed information on the composition and disposition of bycatch and discards.
 - (b) Investigations are needed to determine more efficient methods to record catches accurately on a real-time basis during fishing operations (*e.g.* electronic logbooks).

- (c) Projects are needed to develop methods to increase the amount of at-sea observations utilizing imaging systems.
 - (d) Projects are needed to utilize fully scientific observers on-board vessels as a means of collecting detailed catch, effort and disposition data. In cases where vessel space does not permit adding an observer, it may be possible to designate the captain or a crew member to record these data. Projects must specify the type of training and equipment that is required to assure that reliable data are collected.
 - (e) Data collection projects are needed to determine the effects on discard rates of increasing size limits or reducing possession limits. If discard mortality rates are high, changes in size or bag limits may unintentionally lessen conservation benefits. Discard mortality rates currently used in assessments are generally based on small numbers of observations or are unknown. Research is needed to improve estimates of discard mortality rates and must account for the effects of fish size, gear, area, season and depth of fishing.
 - (f) Data collection projects are needed to improve life history information on commercial finfish species. Improved information about the age-structure of the catch (both retained and discarded), based on otolith or other hard-part aging techniques, will provide insight on a stock's resilience to fishing. Improved information on the reproductive characteristics of the stock will provide information to refine estimates of long-term biological productivity of the stock.
2. Monitoring stock abundance through study-fleet applications. This type of cooperative research requires long-term commitment in terms of funding and application.
- (a) One objective is to develop a consistent sampling methodology that will permit monitoring of the relative abundance of a fishery resource over time. An initial step for such a project is to develop sampling designs and protocols for sampling fleet catches to estimate relative abundance, including standardization of fishing power of individual vessels.
 - (b) Projects are needed to develop methods to determine appropriate sampling designs and pilot studies to estimate recruitment to selected fisheries. An example is the development of a recruitment index for Young-of-the-Year swordfish in the Gulf and along the southeastern U.S. coast - areas that are now closed to longlining.
3. Projects are needed to develop and test gear and fishing strategies designed to reduce or eliminate unintended catch.
4. Fishing Capacity Investigations: There appears to be a wide disparity between the current capacity of regional fishing fleets and the productivity of regional stocks. Cooperative research to optimize the capacity of regional fishing fleets is needed. A number of possibilities ranging from Individual Quota Systems to Vessel Capacity Control programs should be considered. It is likely that regional/fishery differences may require different approaches.

5. Monitor the effects of closed Marine Protected Areas: Research is needed to measure the response of marine resources to creation or expansion of Marine Protected Areas (MPAs). Projects should utilize fishermen's knowledge of critical habitat of harvested species. An example is the large MPA designed to protect small swordfish and other highly migratory species off the US southeastern coast.

(a) Projects are needed to assess the impacts of time/area closures in the Southeast Region that have been designated to protect finfish spawning aggregations and/or concentrations of sub-legal fish.

(b) Projects are needed to collect fine-scale catch-effort data to define the spatial and temporal dimensions of MPAs.

B. Caribbean Fisheries:

1. Habitat and fisheries:

(a) Research and data are needed to estimate the social and economic impacts that are associated with MPA closures. Currently the Caribbean has five seasonal closures in the exclusive economic zone (EEZ) for spawning aggregations of fish and one no-take zone consisting of an annual closure. The size of these areas is small compared to MPAs established on the mainland, but constitute a significant portion of the fishing grounds in the Caribbean. Although research has been conducted on the biological impacts of several no-take zones, little, if any, research has been done to estimate the impacts of closures on fishing communities.

(b) Projects are needed also to investigate the biological and socioeconomic effects of alternating either temporal or spatial closures of MPAs.

(c) Cooperative projects between scientists and industry members are needed to enhance studies of the effectiveness of MPAs. Industry members can provide useful information concerning siting of MPAs, especially relating to spawning aggregations and nursery grounds of juvenile fishes. In addition, mark and recapture experiments can employ industry members, especially concerning recovery of tags.

2. Corals:

(a) Research is needed to determine the impact on coral reefs from commercial fishing operations. Industry participation is needed to determine the impacts of gear on coral reefs.

(b) Research is needed to determine the impacts on coral reefs from recreational fishing activities. Information on recreational fishing activities is sparse and there

are approximately 60,000 recreational vessels in the Caribbean. Research should focus on diving, recreational boating and anchoring on coral reefs.

C. Recreational and Charter Fishery:

1. Socioeconomic research:
 - (a) Research is needed to determine the number of recreational fishermen and related trips.
 - (b) Data needs to be collected to identify the socioeconomic characteristics of the recreational and charter boat industries.
 - (c) In addition to data collection activities, research is needed to determine the economic benefits and costs associated with recreational fishing.
2. Research on Management Alternatives: Investigations should include benefits and costs to the stocks, as well as socioeconomic benefits/costs to participants in the fishery.
 - (a) Research is needed to determine the effects of seasonal closures and MPAs on the recreational and charter boat industries.
 - (b) Research is needed to determine the effects of seasonal closures and MPAs on spawning stocks and resulting recruitment.
 - (c) Research is needed to determine the impacts of bag and size limits on species that are important to recreational and charter boat industries. Projects should emphasize the effects of alternatives size limits.
 - (d) Research is needed to determine discard mortality rates. At-sea observers on recreational and charter boat trips are one way to perform this type of research and should be considered.
3. Catch/Effort Data: Projects are needed to improve catch and effort data for private recreational fishermen. The projects should identify sample sizes, including number of intercept interviews and dock samples, required to achieve standard statistical levels of accuracy and precision.
4. Habitat Research:
 - (a) Research is needed to evaluate the effectiveness of artificial reefs. Projects should examine the value of artificial reefs to fishing communities, and estimate associated economic impacts.
 - (b) Research is needed to determine the impacts and effects of harmful algal blooms, such as red tide, on recreational and charter boat fisheries.

- (c) Investigations are needed to determine essential fishery habitat for certain species such as gag, goliath grouper and sharks.

D. Commercial Shrimp Harvest:

1. Social and economic impact of fluctuations in domestic shrimp values:
 - (a) Research is needed on the effects on the domestic shrimp fishery of shrimp imports from foreign countries.
 - (b) Research is needed to determine the social and economic impacts of imports on fishermen and fishing communities. Research should include impacts on communities and the industry as a whole.
2. Identifying Non-Trawlable Areas: Research is needed to investigate how habitat enhancements of non-trawlable areas could benefit shrimp fisheries. For example, artificial reefs could be established in non-trawlable areas and the impacts on shrimp and finfish populations could be evaluated. Such research should determine if enhancements would increase habitat for juvenile and adult fish, i.e. red snapper.
3. Quantification of Effort: Research is needed to improve shrimp effort data. Projects need to consider recommendations derived from negotiations with the shrimp industry. Areas of concern are insurance for at-sea observers, acceptable gear and protection of confidential data collected by the project.
4. Bycatch Reduction Device Testing Protocols: There is a need to develop more efficient methods to certify finfish reduction devices. Protocols should benefit both the resource and the shrimp industry.
5. Quantification of Bycatch Rates: Statistical research is needed to ensure that extrapolation of the results of individual trawl bycatch surveys to the fleet are statistically valid. The procedures should account for the total range of conditions found in all major fishing areas. The research should estimate the number of scientific fishery observers that should be employed to collect bycatch information for prevailing conditions and areas. The project should describe the statistical accuracy and precision of estimates for each major fishing area in addition to the total fishing area.

II. Award Information

This document describes how you can apply for an award under the CRP Grant Program and how we determine which applications we will fund. We are soliciting applications for Federal assistance pursuant to 15 U.S.C. 713c – 3(d). Proposals selected for funding through this solicitation will be implemented through a cooperative agreement.

NMFS is substantially involved as a partner in the cooperative research activities with the

recipient. Substantial involvement includes planning, scheduling, conducting, and analyzing proposed project activities through semi-annual reports and frequent contact with the grantee to help solve technical problems/situations as they arise during performance of the award.

Funding Availability: Approximately \$2.0 million may be available in fiscal year (FY) 2005 for projects. The NMFS Southeast Regional Office anticipates that typical project awards will range from \$45,000 to \$480,000. The average award is \$190,000. Publication of this notice obligates neither NMFS to award any specific grant or cooperative agreement nor all or any part of the available funds. Project proposals accepted for funding will need to be completed within 24 months.

III. Eligibility Information

Eligible applicants include: Institutions of higher education, other nonprofits, commercial organizations, state, local and Indian tribal governments and individuals. Federal agencies or institutions are not eligible. Foreign governments, organizations under the jurisdiction of foreign governments, and international organizations are excluded for purposes of this solicitation since the objective of the CRP is to optimize research and development benefits from U.S. marine fishery resources.

Applicants who are not commercial or recreational fisherman must have commercial or recreational fishermen participating in their project. There must be a written agreement with a fisherman describing the involvement in the project activity.

Cost Sharing: Cost-sharing is not required for the Cooperative Research Program.

IV. Application and Submission Information

Address to Request Application Package: You can obtain an application package from, and send your completed application(s) to: Ellie Francisco Roche, Chief, State/Federal Liaison Office, Southeast Regional Office, NMFS, 9721 Executive Center Drive, N., St. Petersburg, FL 33702. You may also obtain the application package from the CRP homepage at: <http://sero.nmfs.noaa.gov/grants/csp.htm>

You must submit one signed original and two copies of each application (including supporting information). We will accept neither facsimile applications, nor electronically forwarded applications.

Content and form of Application Submission - We will award cooperative agreements for a maximum period of up to 24 months. The award period depends upon the duration of funding requested in the applications, the decision of the NMFS selecting official on the amount of funding, the results of post-selection negotiations between the applicant and NOAA officials, and pre-award review of the application by NOAA and DOC officials.

All applicants must include a written agreement with a person employed by the National Marine Fisheries Service (NMFS), who will act as a partner in the proposed research project. The NMFS partner will assist the applicant to develop a design for the project to assure that the outcome will provide suitable, scientific data and results to support needed fisheries management information.

National Environmental Policy Act - NOAA must analyze the potential environmental impacts, as required by the National Environmental Policy Act (NEPA), for applicant projects or proposals which are seeking NOAA federal funding opportunities. Detailed information on NOAA compliance with NEPA can be found at the following NOAA NEPA website: <http://www.nepa.noaa.gov/>, including our NOAA Administrative Order 216-6 for NEPA, http://www.nepa.noaa.gov/NAO216_6_TOC.pdf, and the Council on Environmental Quality implementation regulations, http://ceq.eh.doe.gov/nepa/regs/ceq/toc_ceq.htm. Consequently, as part of an applicant's package, and under their description of their program activities, applicants are required to provide detailed information on the activities to be conducted, locations, sites, species and habitat to be affected, possible construction activities, and any environmental concerns that may exist (e.g., the use and disposal of hazardous or toxic chemicals, introduction of non-indigenous species, impacts to endangered and threatened species, aquaculture projects, and impacts to coral reef systems). In addition to providing specific information that will serve as the basis for any required impact analyses, applicants may also be requested to assist NOAA in drafting of an environmental assessment, if NOAA determines an assessment is required. Applicants will also be required to cooperate with NOAA in identifying and implementing feasible measures to reduce or avoid any identified adverse environmental impacts of their proposal. The failure to do so shall be grounds for the denial of an application.

The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements contained in the Federal Register notice of October 1, 2001 (66 FR 49917), as amended by the Federal Register notice published on October 30, 2002 (67 FR 66109), is applicable to this solicitation. Your application must be complete and must follow the format described in the CRP Federal Register Notice. Applicants should contact the NMFS Southeast Regional Office for copies of the solicitation's CRP application forms (see Addresses). You may also obtain the application forms from the CRP homepage at: <http://sero.nmfs.noaa.gov/grants/csp.htm>

Project applications must identify the principal participants, and include copies of any agreements describing the specific tasks to be performed by participants. Project applications should give a clear presentation of the proposed work, the methods for carrying out the project, its relevance to managing and enhancing the use of Gulf of Mexico and Atlantic fishery resources, and cost estimates as they relate to specific aspects of the project. Budgets must include a detailed breakdown, by category of expenditures, with appropriate justification for both the Federal and non-Federal shares. The budget must also include estimates of the time and cost for participation of the NMFS partner, separate from the Federal funds being requested.

Applications should exhibit familiarity with related work that is completed or ongoing. Proposals should state whether the research applies to the Gulf of Mexico, South Atlantic or North Atlantic for highly migratory species or multiple areas. Successful applicants are

required to collect and manage data in accordance with standardized procedures and format approved or specified by NMFS and to participate with NMFS in specific cooperative activities that are determined by consultations between NMFS and successful applicants before project grants are awarded. All data collected as part of an awarded grant must be provided to the National Marine Fisheries Service/Southeast Fisheries Science Center.

Applications must be one-sided and unbound. Incomplete applications will be returned to the applicant. Three copies (one original and two copies) of each application are required and should be submitted to the NMFS Southeast Regional Office, State/Federal Liaison Office (see Addresses).

Submission Dates and Times - We must receive your application by close of business (5 p.m. eastern daylight time) on September 13, 2004. Applications will be date stamped to show date and time received. Applications received after that time will not be considered for funding.

Intergovernmental Review - Applications under this program are subject to the provisions of Executive Order 12372, "Intergovernmental Review of Federal Programs."

Funding Restrictions - If you have a negotiated rate with a Federal agency, the total dollar amount of the indirect costs awarded under this program will not exceed the indirect cost rate negotiated and approved by a cognizant Federal agency prior to the proposed effective date of the award or 25 percent of the Federal share of the total proposed direct costs dollar amount in the application, whichever is less. A copy of the agreement with the a Federal agency for the current negotiated indirect cost rate must be included with the application. If the applicant does not have a negotiated indirect cost rate agreement, then they may direct cost all charges, or submit a request to establish a rate.

Construction is not an allowable activity under this program. Therefore, applications will not be accepted for construction projects.

Other Submission Requirements - You must also be available to respond to questions during the review and evaluations of the proposal(s). You can send your completed application(s) to: Ellie Francisco Roche, Chief, State/Federal Liaison Office, Southeast Regional Office, NMFS, 9721 Executive Center Drive, N., St. Petersburg, FL 33702.

V. Application Review Information

When we receive applications, we will screen them to ensure that they were received by the deadline date (see Dates); include SF 424 signed and dated by an authorized representative; were submitted by an eligible applicant, either a commercial or recreational fisherman or contains a written agreement with a commercial or recreational fisherman; includes a written agreement with a NMFS partner; address one of the funding priorities for federally managed species; and include a budget, statement of work, and milestones, and identify the principal investigator. We do not have to screen applications before the submission deadline in order

to identify deficiencies that would cause your application to be rejected so that you would have an opportunity to correct them. However, should we do so and provide you information about deficiencies, or should you independently decide it is desirable to do so, you may correct any deficiencies in your application before the deadline. After the deadline, the application must remain as submitted; no changes can be made to it. If your application does not conform to these requirements and the deadline for submission has passed, the application will be returned without further consideration.

Evaluation Criteria - Applications responsive to this solicitation will be evaluated by three or more appropriate private and/or public sector experts to determine their technical merit. These reviewers will provide individual evaluations of the proposals. No consensus advice will be given. These reviewers provide comments and assign scores to the applications based on the following criteria, with the weights shown in parentheses:

1. Importance/relevance and applicability of proposed project to the program goals (40%): This criterion ascertains whether there is intrinsic value in the proposed work and/or relevance to NOAA, federal, regional, state, or local activities. For this competition, this includes: Does the proposal assist industry? Does the proposal address issues that are important to regional fishery management?

2. Technical/scientific merit (40%): This criterion assesses whether the approach is technically sound and/or innovative, if the methods are appropriate, and whether there are clear project goals and objectives. For this competition, this includes: Does the proposal have a clearly stated goal(s) with associated objectives that meet the needs outlined in the project narrative? 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? Do the principal investigators provide a realistic timetable to enable full accomplishment of all aspects of the research?

3. Overall qualifications of applicants (0%): This criterion ascertains whether the applicant possesses the necessary education, experience, training, facilities, and administrative resources to accomplish the project. This program does not use this criterion.

4. Project costs (20%): This criterion evaluates the budget to determine if it is realistic and commensurate with the project needs and time-frame. For this competition, this includes: How effective are the proposed methods in enabling the principal investigators to maintain stewardship of the project performance, finances, cooperative relationships, and reporting requirements? Does the budget appropriately allocate and justify costs?

5. Outreach and education (0%): This criterion assesses whether the project provides a focused and effective education and outreach strategy regarding NOAA's mission to protect the Nation's natural resources. This program does not use this criterion.

Review and Selection Process - Following the technical review, we will determine the weighted score for each individual review and average the individual technical review score to determine the final technical score for each application. Then, we will rank applications in descending order by their final technical scores. A cutoff score of 70% will be used and those applications that score below the cutoff will be eliminated from further consideration.

CRP Panel: Those applications at or above the cutoff technical evaluation score will be presented to a panel of non-NOAA fishery experts known as the CRP panel. Each member of the CRP 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. The individuals on the Panel provide comments and rate each of these 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.

Science Center Director: The ranked proposals are provided to the Science Center 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 Science Center Director also receives the Panel members’ individual comments. The Science Center Director, in consultation with the Assistant Administrator, selects proposals after considering the technical reviews and the selection factors listed below. The Selecting Official may negotiate the funding level of the proposal. The Selecting Official 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 Selecting Official for final funding recommendations. The Selecting Official shall award in the rank order unless the proposal is justified to be selected out of rank order based on below factors. The Science Center 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
7. Adequacy of information necessary for NOAA staff to make a NEPA determination and draft necessary documentation before recommendations for funding are made to the Grants Officer.

VI. Award Administration Information

Award notices - Successful applications generally are recommended within 215 days from the date of publication of this 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 this notice. Applicants should consider this 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, the NOAA Grants Office and the NMFS Program Office. Projects must not be initiated by recipients until a signed award is received from the NOAA Grants Office.

Administrative and National Policy Requirements - This notice contains collection-of-information requirements subject to the Paperwork Reduction Act. The use of Standard Forms is identified in the Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements contained in the Federal Register notice of October 1, 2001 (66 FR 49917), as amended by the Federal Register notice published on October 30, 2002 (67 FR 66109). The public reporting burden for the collections of information is estimated to average one hour for an application, one hour for a semi-annual report, and one hour for a final report. These estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding these burden estimates or any other aspect of these collection of information, including suggestions for reducing this burden to Ellie Francisco Roche (see Addresses).

Notwithstanding any other provisions of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information requirements subject to the Paperwork Reduction Act, unless that collection displays a currently valid OMB control number.

If you are selected to receive a grant award for a project, you must:

- Manage the day-to-day operations of the project, be responsible for the performance of all activities for which funds are granted, and be responsible for the satisfaction of all administrative and managerial conditions imposed by the award.
- Keep records sufficient to document any costs incurred under the award, and allow access to these records for audit and examination by the Secretary of Commerce, the Comptroller General of the United States, or their authorized representatives, and submit financial status reports (SF 269) to NOAA Grants in accordance with the award conditions.

Reporting – If you are selected to receive a grant award for a project, you must:

- Submit semiannual project status reports on the use of funds and progress of the project to us within 30 days after the end of each six-month period. You will submit these reports to the individual identified as the NMFS Program Officer in the funding agreement.
- Submit a final report within 90 days after completion of each project to the NMFS Program Officer. The final report must describe the project and include an evaluation of the work you performed and the results and benefits in sufficient detail to enable us to assess the success of the completed project.
- Submit all data collected as part of the project to the NMFS partner. Project data must be edited and verified as accurate by the applicant prior to being submitted to the NMFS. Data must be submitted in the agreed upon format.

- In addition to the final report, we request that you submit any publications printed with grant funds (such as manuals, surveys, etc.) to the NMFS Program Office for dissemination to the public.

We are committed to using available technology to achieve the timely and wide distribution of final reports to those who would benefit from this information. Therefore, you are encouraged to submit final reports in electronic format, in accordance with the award terms and conditions for publication on the NMFS CRP Home Page. You may charge the costs associated with preparing and transmitting your final reports in electronic format to the grant award.

VII. Agency Contact(s)

For questions regarding the application process, you may contact: Ellie Francisco Roche, Chief, State/Federal Liaison Office, (727) 570-5324, or Ellie.Roche@noaa.gov.

VIII. Other Information

We are strongly committed to broadening the participation of Historically Black Colleges and Universities, Hispanic Serving Institutions, and Tribal Colleges and Universities in its educational and research programs. Department of Commerce (DOC)/NOAA's goals are to achieve full participation by Minority Serving Institutions (MSI) in order to advance the development of human potential, to strengthen the nation's capacity to provide high quality education, and to increase opportunities for MSIs to participate in and benefit from Federal financial assistance programs. DOC/NOAA encourages all applicants to include meaningful participation of MSIs.