The Saltonstall-Kennedy Grant Program: Fisheries Research and Development

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U.S. DEPARTMENT OF COMMERCE
Donald L. Evans

National Oceanic and Atmospheric Administration
Vice Admiral Conrad C. Lautenbacher, Jr., U.S. Navy (Ret.)
Under Secretary of Commerce for Oceans and Atmosphere
and NOAA Administrator

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I. INTRODUCTION

This report to Congress on the Saltonstall-Kennedy (S-K) Grant Program, administered by the National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, covers fiscal year (FY) 2002. The report contains information on the S-K Program regarding its legislative authority, the application solicitation and grant selection process, recipients, and funding information.

A notice was published in the *Federal Register* on May 14, 2002, to solicit applications contingent on the FY 2002 allocation. The application review process was initiated in FY 2002, and the S-K Program expects to have approximately $10 million available for grant awards for the FY 2002 program.

Appendix I contains addresses of NMFS Headquarters and Regional Offices from which information regarding the S-K Program may be obtained. Appendix II contains a list of applications approved for funding from the FY 2001 S-K solicitation, and Appendix III contains a list of applications disapproved. This information was not available in time for publication in the FY 2001 report to Congress. Appendix IV contains the *Federal Register* notice soliciting applications for the FY 2002 program, which is ongoing. Appendix V lists proposals received in response to the FY 2002 S-K solicitation. (NOTE: Appendices appear in PDF version of online report only.)

This report is submitted pursuant to the S-K Act, as amended, which requires that the following information be submitted annually to Congress:

1. The fisheries development goals and funding priorities for a national program of research and development for the next fiscal year

2. A description of all pending fisheries research and development projects

3. A list of those applications approved and disapproved and the total amount of grants made (Appendices II and III–in PDF version only)

4. A statement of the extent to which available funds were not obligated or expended by the Secretary for grants

5. An assessment of each project that was completed in the preceding fiscal year regarding the extent to which objectives of the project were attained and the project contributed to

fishery development

II. BACKGROUND

The S-K Act, as amended (15 U.S.C. 713c-3), established a fund (known as the S-K fund) that the Secretary of Commerce uses to provide grants or cooperative agreements for fisheries research and development projects. Under this authority, grants and cooperative agreements are made annually on a competitive basis to assist in carrying out projects related to U.S. commercial and recreational fisheries.

The S-K Grant Program funding priorities are based on the NOAA Strategic Plan, which was developed in consultation with the public. Further, a request for comments on the scope and funding priorities for the FY 2001 S-K Program was published in the *Federal Register* on February 25, 2000 (65 Fed. Reg. 10051). The funding priorities and the NOAA Strategic Plan are consistent with the goals and objectives of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). The objective of the S-K Grant Program is to address the needs of fishing communities (as defined in the Magnuson-Stevens Act) in optimizing economic benefits within the context of rebuilding and maintaining sustainable fisheries, and in dealing with the impacts of conservation and management measures. Specific priorities for the FY 2002 S-K Program are: Atlantic salmon aquaculture considering the Endangered Species Status of Atlantic salmon; Fishing capacity reduction under section 312(b)-(e) of the Magnuson-Stevens Act; Conservation engineering; Optimum utilization of harvested resources under Federal or state management; Marine aquaculture; and Fisheries socioeconomics. The solicitation for proposals under the Grant Program, including funding priorities, application requirements, and proposal evaluation criteria, is published each year in the *Federal Register*. (See Appendix IV for the solicitation for the FY 2002 program, which is ongoing; Appendix V lists proposals received in response to the FY 2002 S-K solicitation [PDF version only].)

Proposals received in response to the notice are evaluated for technical merit by appropriate private and public sector experts. Comments are then solicited from representatives of various fisheries constituencies selected by the NOAA Assistant Administrator for Fisheries. These individual panelists rank proposals in terms of importance of the problem or need for funding and provide recommendations on the level of funding. After proposals have been evaluated and ranked, recommendations for funding are developed and submitted to the Assistant Administrator, who determines the projects to be funded.

In addition, 15 U.S.C. 713c-3(d) provides authority for the Secretary of Commerce to carry out a national program of research and development (National Program) to address aspects of U.S. fisheries that are not adequately addressed by projects assisted under the Grant Program. In FY 2001, NMFS transferred $0.25 million to the Food and Drug Administration (FDA) to fund an award to the Interstate Shellfish Sanitation Conference (ISSC) for activities related to shellfish safety education. NMFS will transfer an additional $0.25 million of FY 2002 funds to the FDA to continue funding for the ISSC project. This funding for the ISSC is at Congressional

direction. NMFS plans to make all other funds available only under the competitive Grant Program.

The S-K fund is capitalized through annual transfers by the Secretary of Agriculture to the Secretary of Commerce of amounts equal to 30 percent of the gross receipts collected under the customs laws on imports of fish and fish products. Table 1 indicates the total duties collected on fishery products; the total receipts in the S-K fund for FY 2002; the amount appropriated to offset some of NOAA's costs related to operations, research, and facilities (ORF); and the amount allocated for the S-K Program, including the competitive Grant Program, the National Program, and program administrative costs. In FY 2002, the S-K allocation was $11.13 million. The carryover amount shown was committed to the FY 2001 S-K Program, which was not concluded until the first quarter of FY 2002. Therefore, the funds were obligated in FY 2002.

Table 1. S-K Funding for FY 2002 ($ in millions)

Funding Item	Amount
Total Duties Collected on Fishery Products	$263.77
Total S-K Transfer	79.13
ORF Offset	68.00
S-K Allocation	11.13
Carryover*	4.26
Total S-K Program	15.39
S-K Program Obligations/Commitments	
FY 2001 Grant Program	3.94
FY 2002 Grant Program	To be determined
National Program**	0.50
Program Administration	0.50
Estimated Unobligated Balance***	10.45
Total	15.39

*Includes unanticipated prior year recoveries and FY 2001 balances obligated in FY 2002.
**Includes $250,000 of FY 2001 program funds awarded to the Interstate Shellfish Sanitation Conference (ISSC) for activities related to shellfish safety. These funds were transferred at Congressional direction to the Food and Drug Administration (FDA). In addition, $250,000 of FY

2002 funding will be transferred to the FDA to continue the ISSC project.
***FY 2002 funds will be committed to the FY 2002 competitive program. However, the FY 2002 program will not be concluded until FY 2003. Therefore, the committed FY 2002 funds will be carried over for obligation in FY 2003.

As indicated in Table 2 (next page), the available S-K allocation devoted to the competitive grant program has increased to its highest level since the S-K Act was amended in 1980. The S-K Program's FY 2002 allocation as a percentage of the total transfer is the highest since FY 1995.

However, this high level of funding is unlikely to continue as duty collections are projected to decrease for the next S-K funding cycle.

Table 2. S-K Funding, 1993–2002 ($ in millions)

Fiscal Year	Total Duties	Total S-K Transfer	ORF Offset	Available S-K Allocation	Allocation as % of Transfer
1993	204.70	61.40	55.00	6.40	10.42
1994	215.89	61.94	54.80	7.14	11.53
1995	242.98	64.77	55.50	9.27	14.31
1996	221.27	72.89	63.00	9.89	13.57
1997	221.27	66.38	66.00	0.38	0.57
1998	219.11	65.73	62.38	3.35	5.10
1999	221.42	66.43	63.38	3.05	4.59
2000	233.07	69.92	68.00	1.92	2.75
2001	242.76	72.83	68.00	4.83	6.73
2002	263.77	79.13	68.00	11.13	14.07

III. PROGRAM HIGHLIGHTS

THE SALTONSTALL-KENNEDY GRANT PROGRAM'S COMMITMENT TO WEST COAST FISHERIES HEALTH

Introduction

Two of the S-K Program's very successful projects that came to an end in late 2001 helped contribute to ensuring healthy populations of two important West coast fisheries species: white abalone, *Haliotis sorensoni* and manila clams, *Tapes philippinarum*. The National Marine Fisheries Service listed white abalone as endangered in 2001. A lack of information and size structure had created difficulties for managers trying to assess alleged impacts of fishing on the species. In addition, ignorance of habitat use and husbandry techniques had hindered the ability of managers to develop effective restoration strategies for white abalone. In the case of manilla clams, the aquaculture industry identified enormous potential for growth in terms of market-ready product and seed product (for which there is a large demand worldwide), assuming the seed meets minimum health requirements. However, industry growth on the West coast of the United States had been constrained by the manilla clam's sporadic mortality and poor growth due to unknown causes. The S-K Program provided critical support to address problems related to these important species.

Restoration of the White Abalone in Southern California

The first objective of the white abalone project, which was carried out by the University of California (Santa Barbara), was to describe the distribution, abundance, and habitat characteristics of the remaining white abalone populations in southern California; assess whether white abalone demographics had changed since early studies in the 1980s; and obtain basic natural history information that might be useful in managing and restoring the species. The second objective was to develop technology for husbandry, a process that included evaluating collecting and handling techniques, developing holding protocols, establishing spawning protocols, determining successful settling methodology, and finding ways to effectively raise large numbers of juveniles.

To better understand habitat use, the investigators conducted survey dives off southern California rocky substrate at appropriate depths where recreational and commercial divers indicated white abalone populations once were abundant. The investigators found white abalone to be at densities three orders of magnitude lower than historically reported and estimated that 3,000 individuals (or < 2.3 metric tons) remain in California.

SCUBA divers with the California Department of Fish and Game searched areas of potential white abalone habitat within safe diving depths and delivered 18 animals to holding facilities for examination. All animals were found to be healthy, and all had gonads sufficiently large as to be candidates for

spawning. In April 2001, two females and one male were spawned, producing 6 million fertilized eggs. Survival from egg to settlement was 60 percent, and 3.2 million larvae were settled on microalgae in outdoor tanks using standard large-scale cultivation techniques. At 71 days, a survey of growth and survival indicated that average survival from settled larvae was 7 percent. At an age of 6 months, the juvenile white abalone averaged 8 mm in length, and survival from settlement had dropped slightly to 5 percent. This figure was well within the range expected for mass cultivation of juvenile abalone. Future research on white abalone restoration and husbandry should focus on developing commercial-scale grow-out techniques and outplanting strategies.

Manilla Clam Mortality and Health Evaluation

Over 3,000 tons of manila clams, valued at over $22 million, were produced on the West coast of the United States in 1996. The Pacific Shellfish Institute (Olympia, Washington) speculated that if manila clam production could be increased, high-value manila clam production could replace demand for imported clams (almost 8,000 tons in 1996); provide wholesome product to domestic consumers; and help alleviate the U.S. trade imbalance through exports of manila clams. However, manila clam mortalities, which have been reported in fall and winter months, have been a constraint to industry growth. Due to the timing of the mortalities, it was thought that freezing damage may be a factor in some cases. Further, some winter mortality appeared to be related to freezing temperatures and excessive freshwater inflows, although insufficient data existed to confirm this diagnosis in specific cases. In order to initiate the establishment of production standards and a health baseline for intensive clam production on the West coast, this S-K project carried out a cooperative industry clam survival and performance study; a survey of clam health and disease in Washington, Oregon, and California; an evaluation of short-term freezing and freshwater exposure effects on clams; and responses to clam mortalities.

Among the different tasks constituting this S-K project, the evaluation of short-term freezing and freshwater exposure effects on clams yielded some of the most interesting results. Freezing damage to manila clam tissue was evaluated by subjecting groups of clams to freezing temperatures. The investigators' initial hypothesis was that clams exposed to low-salinity water might be more susceptible to freezing damage than clams in high-salinity seawater. However, initial tests with low-salinity exposures indicated that the low-salinity response occurred in a higher salinity than expected. The investigators determined that a greater focus on low-salinity exposures than freezing damage was merited. Large numbers of clams were held in an apparatus at constant levels of reduced salinities for extended periods of time, typically around one month. To separate the physiological response of the clams from the survival response, the investigators conducted several experiments in which they removed a portion of the clam's shell, which proved very useful in helping to establish the lower physiological limits of salinity tolerance.

The investigators conducted a total of 13 low-salinity experiments, which determined a physiological tolerance range of manila clams to salinity. Variation in tolerance to low salinity appeared to be a function of survival response. In addition, low salinity caused recognizable tissue damage.

Conclusion

The S-K Program continues to fund high-quality, successful fisheries research and development projects. Groundbreaking projects like the white abalone habitat and reproduction project described above are important to dealing with the impacts of conservation and management measures as they related to the fishing industry. Likewise, new findings like those of the manila clam health project contribute to optimizing the economic benefits of our nation's fisheries resources.

IV. PENDING GRANT PROGRAM PROJECTS

This section contains a description of all pending (ongoing) projects under the S-K Grant Program, along with the name of the grantee, grant number, project title, federal funding level, recipient funding level (i.e., cost share), and the NMFS contact, addresses of whom are in Appendix I. The projects are listed by grantee within each subject area.

FISHERIES UTILIZATION

Grantee: University of Alaska Fairbanks, Fairbanks, AK
Grant No.: NA16FD2387 *NMFS Contact*: F/AKR
Project Title: Utilizing Bycatch: Developing Products from Arrowtooth Flounder and Other Economic Discards
Funding: *Federal*: $78,636 *Recipient*: $16,545

Description: To develop a mince/washed mince/surimi from arrowtooth flounder that will have textural properties similar to beef sausages for use in food service products. Specific objectives include determining processing protocols that will produce a texture acceptable for food service application; evaluating the need for additives to achieve the appropriate texture, color, and flavor; determining frozen shelf life of finished products; testing the product in a food service operation; and conducting a marketing and economic analysis of the process.

Grantee: Cornell University, Ithaca, NY
Grant No.: NA16FD2389 *NMFS Contact*: F/AKR
Project Title: Optimizing the Utilization of Pollock Byproducts Focusing on Skin, Bones, Scales, and Viscera
Funding: *Federal*: $150,613 *Recipient*: $49,648

Description: To better utilize the pollock harvest in Alaska, using Dutch Harbor as a model, in order to increase the economic return on the fishery and increase the total amount of fish material that is beneficially used. The major expected impact of this project is to provide fish processors in Alaska with a set of alternative value-added products that can use parts of the pollock not currently used. This should have a number of benefits, including increased yield from harvest, increased economic return to the fishers and fish processors, less environmental damage, and a favorable impact on our balance of trade.

Grantee: University of Alaska, Fairbanks, AK
Grant No.: NA06FD0172 *NMFS Contact*: F/AKR
Project Title: Utilization Options for Bitter Crab
Funding: *Federal*: $76,669 *Recipient*: $16,111

Description: To (1) identify the chemical compound(s) responsible for the flavor found in bitter crab and develop a bitterness scale for product evaluation; (2) develop processing methods that can be used prior to cooking, during cooking, or during cooling and/or subsequent handling to eliminate, reduce, or mask bitter flavors; and (3) develop a secondary product from picked crab meat should results from earlier tests be only partially successful.

Grantee: University of Maine, Orono, ME
Grant No.: NA16FD2298 *NMFS Contact*: F/NER
Project Title: Optimizing Crustacean Resources with the Development of Extruded Snacks from Processing Byproducts and Green Crab
Funding: *Federal*: $79,735 *Recipient*: $55,225

Description: To investigate the use of lobster, shrimp, and crab processing waste and the currently non-commercialized green crab in the production of a co-extruded snack food. Millions of pounds of byproduct are generated by crustacean processors annually. Crustacean processing byproduct (CPB) of rock crab and lobsters, which consists of shell and unpicked meat, is currently of low commercial value. Green crab is a marine nuisance species that has become increasingly pervasive in the nearshore areas of the the North Atlantic. The crab is edible, but picking out its small amount of meat is tedious; therefore, green crab has little commercial value. The investigators' previous research indicates that both wet and dried CPB could be successfully extruded. This research will further investigate the feasibility of using lobster, shrimp, and rock crab and incorporate green crab into existing studies being conducted on the utilization of CPB as a primary ingredient in the production of a tasty and nutritious high-value snack food product.

Grantee: University of Rhode Island, Kingston, RI
Grant No.: NA16FD2299 *NMFS Contact*: F/NER
Project Title: Bioconversion of Squid Processing Waste for the Production of Specialty Aquaculture Feed Ingredients
Funding: *Federal*: $108,848 *Recipient*: $25,644

Description: To utilize squid processing waste and finfish waste as needed through bioconversion into fish feed ingredients for target fish species of commercial importance and indigenous to the Northeast. Squid protein is known to have properties of growth promotion, better digestibility, feed attractant, and increased survival rate. Squid or squid–fish hydrolysates produced under optimum conditions will be formulated as a complete or partial replacement of fish meal and tested for their feed quality on starter and juvenile Atlantic salmon and summer flounder. This study will help the regional fishing and marine aquaculture industries by developing an environment-friendly waste conversion technology for better utilization of pollution-causing solid waste.

Grantee: Bigelow Laboratory for Ocean Sciences, Lincoln, ME
Grant No.: NA16FD2300 *NMFS Contact*: F/NER
Project Title: Developing Stock Assessment Methods for the New England Deep Sea Red Crab Fishery
Funding: *Federal*: $85,302 *Recipient*: $9,555

Description: To (1) Employ trawl- and camera-based sampling methods to assess changes in red crab populations since the last NMFS survey in 1974; (2) evaluate the spatial correlation between fishery-dependent data and -independent estimates of abundance for red crabs; (3) obtain much-needed information on red crab growth and movement; and (4) employ three stock assessment modeling approaches to evaluate the dynamics of the red crab stock, estimate current status of the fishery, and evaluate alternative management strategies. This harvester–scientist collaboration, in which fishing vessels will be employed to conduct research, should result in data that can contribute to the development of a Federal fishery management plan for red crab.

Grantee: Virginia Institute for Marine Science, Gloucester Point, Virginia
Grant No.: NA17FD2365 *NMFS Contact*: F/SER
Project Title: A Delineation of Winter Nursery Grounds, Migratory Patterns, and Critical Habitat of

Juvenile Sandbar Sharks, *Carcharhinus plumbeus*, in the Western Atlantic Ocean
Funding: *Federal*: $186,939 *Recipient*: $86,983

Description: To provide fisheries-independent assessment of the relative abundance, species, size, and sex composition of Virginia sharks so that the current population status of individual shark species may be compared with historical trends. Another goal of this project is to provide a close characterization of the seasonal and geographical extent of the sandbar shark pupping and nursery grounds within Virginia waters. Included in this study are tagging and telemetry studies to define the wintering areas of juvenile and adult sandbar sharks while they are away from Virginia waters and to determine sources of mortality within their wintering grounds. This information is critical to the management of sharks found within Northwest Atlantic waters.

MANAGEMENT ALTERNATIVES AND FISHERIES USER CONFLICTS

Grantee: University of Alaska, Fairbanks, AK
Grant No.: NA06FD0171 *NMFS Contact*: F/AKR
Project Title: Population Structure of Rougheye, Shortraker, and Northern Rockfish Based on Analysis
of Mitochondrial DNA Variation and Microsatellites: Completion
Funding: *Federal*: $135,466 *Recipient*: $28,624

Description: To combine the use of mitochondrial DNA (mtDNA) and microsatellite variation to characterize additional collections of rougheye and northern rockfish and complete analyses of shortraker rockfish. With S-K funding (in part), the PI has developed PCR-based techniques for analysis of variation in rockfish mtDNA. Preliminary analysis of North Pacific rougheye revealed strong genetic heterogeneity among collections of fish in the Gulf of Alaska and Aleutian Islands. These differences indicate a population structure that most likely results from reproductive isolation. In contrast, a cursory examination of shortraker rockfish revealed little variation and, hence, no basis for making conclusions. Preliminary analysis of mtDNA and microsatellites from northern rockfish show variation, but sample sizes are too small to infer population structure. Population structure is often revealed from patterns of genetic variation. To accomplish this, the investigators have developed primers to amplify rockfish mtDNA regions that they have not analyzed and have developed primers to analyze variation at available microsatellite loci. An increased number of collections and individuals and the addition of microsatellite analysis will provide improved information that should more clearly delineate the nature of stock structure of these rockfish species in the Gulf of Alaska and Aleutian Islands.

Grantee: University of Washington, Seattle, WA

Grant No.: NA96FD0055 *NMFS Contact*: F/AKR
Project Title: The Effects of Fishery-Induced Directional Selection on Run Timing in Sockeye Salmon
Funding: *Federal*: $80,903 *Recipient*: $8,467

Description: To (1) quantify selection pressure on run timing by comparing the temporal pattern of escapement with that of the total run (catch plus escapement) in five fishing districts for the last 35-40 years; (2) examine whether the selective pressure on run timing increases with the systems by compiling the data on total run and compare predicted change to absolute change per system; (3) estimate the heritability of run timing within these populations; and (4) measure the potential correlated effects of selection for run timing on selection for spawning time through two related field studies.

Grantee: Massachusetts Fishermen's Partnership, Inc., Gloucester, MA
Grant No.: NA16FD2302 *NMFS Contact*: F/NER
Project Title: Institutionalizing Social Science Data Collection: A Pilot Project
Funding: *Federal*: $136,250 *Recipient*: $17,900

Description: To bring fishermen, researchers, community members, educators, and coastal managers together on panels that will work together to develop a process for the ongoing collection of social science information pertinent to both fisheries management and coping with change. Such a process, if successful, will provide NOAA Fisheries with a model to meet Sustainable Fisheries Act requirements of National Standard 8.

Grantee: Virginia Institute of Marine Science, Gloucester Point, VA
Grant No.: NA06FD0182 *NMFS Contact*: F/NER
Project Title: Community-Based Area Management Strategies and Capacity Reduction Programs for the Sea Scallop Industry
Funding: *Federal*: $179,565 *Recipient*: $76,914

Description: To develop a collaborative or community-based adaptive response program to permit communities and individuals associated with the northwest Atlantic sea scallop fishery to plan for area management strategies and capacity reduction programs. The study also proposes to develop a framework to allow communities and individuals to be more involved in area management and capacity reduction programs. This is the only way to ensure that the needs of the communities and individuals are adequately considered.

Grantee: University of Maryland, Cambridge, MD
Grant No.: NA96FD0071 *NMFS Contact*: F/NER
Project Title: Test of Two Stock Hypotheses for Atlantic Bluefin Tuna Using Otolith Elemental Fingerprints
Funding: *Federal*: $88,374 *Recipient*: $22,207

Description: To determine the spatial and temporal stability of elemental fingerprints classified for Mediterranean and western Atlantic bluefin tuna nurseries, using results from a previous S-K project on otolith microconstituent analysis. Juvenile otoliths collected over two years and among several sites within each nursery will be analyzed. Inductively coupled plasma mass spectrometry will also be evaluated to determine the elemental fingerprints associated with the first year of life.

Grantee: University of Maryland, Cambridge, MD
Grant No.: NA96FD0073 *NMFS Contact*: F/NER
Project Title: Recruitment Dynamics of Northern Shrimp (*Pandalus borealis*)
Funding: *Federal*: $92,789 *Recipient*: $21,871

Description: To investigate the influence of physical factors, excluding temperature, on northern shrimp recruitment. The match-mismatch hypothesis in relation to shrimp recruitment will also be investigated. A stock-recruitment model, incorporating the effects of significant environmental and ecological variables, will be developed. In addition, potential overfishing definitions of northern shrimp, with explicit consideration of the impact of environmental and ecological variation, will be explored.

Grantee: Rhode Island Lobstermen's Association, Wakefield, RI
Grant No.: NA96FD0074 *NMFS Contact*: F/NER
Project Title: Tagging Study to Improve Biological Information Concerning the Overfished Status of the American Lobster
Funding: *Federal*: $70,508 *Recipient*: $37,500

Description: To enhance data collection for American lobster stock assessment purposes. Fishermen will tag and v-notch sublegal and legal female lobsters (60,000) during the year. Upon recapture, information concerning growth, movement, molting probability, and egging frequency will be collected. Biologists from the University of Rhode Island and the Rhode Island Department of Environmental Management will analyze the data and provide biological information to the Atlantic States Marine Fisheries Commission Lobster Technical Committee. The data will be used in the eggs per recruit model

for Area 2 and may also prove useful for Areas 3 and 6.

Grantee: University of Maryland, Cambridge, MD
Grant No.: NA96FD0076 *NMFS Contact*: F/NER
Project Title: Density-Dependent Growth and Reproduction of Chesapeake Bay Striped Bass
Funding: *Federal*: $88,702 *Recipient*: $23,404

Description: To estimate the age and year class-specific growth rates of Chesapeake Bay striped bass juveniles, pre-migrant sub-adults, and migratory females. Evidence for density dependence in growth will also be examined. In addition, fecundity and age at first maturation for females of year classes varying in initial abundance will be estimated, and the density effects on these rates will be tested. Finally, the importance of these density-dependent effects in calculating biological reference points and overfishing thresholds will be evaluated.

Grantee: Community Economic Development Center of Southeastern Massachusetts, New Bedford, MA
Grant No.: NA96FD0080 *NMFS Contact*: F/NER
Project Title: Fishing Industry Cooperative Enterprises Co-Production Training Program
Funding: *Federal*: $103,202 *Recipient*: $94,344

Description: To develop an innovative training program for the transition of displaced fishers to aquaculture, hydroponics, and other related professions, while promoting hybrid striped bass aquaculture. This three stage comprehensive training program will be implemented on a continuous basis, with each stage lasting three months. The stages will be presented in the following sequence: (1) basic concepts (12 students); (2) apprenticeship (8 students); and (3) internship (4 students). Bristol Community College will provide education assistance and aquaculture courses. Eastern Fish Farms, Inc. will provide both the hydroponics/aquaculture training program and facility supervision. The demonstration facility will be constructed coincidental to program start-up with funds from the Hitachi Foundation.

Grantee: University of Delaware, Lewes, DE
Grant No.: NA46FD0329 *NMFS Contact*: F/NER
Project Title: Rapid Detection of Genetic Variation for Fisheries Stock Identification
Funding: *Federal*: $91,284 *Recipient*: $12,388

Description: To develop a simple and rapid procedure for quantifying DNA sequence variation in regions of mitochondrial and nuclear genomes. This screening method will allow for efficient selection of genes for amplification and efficient selection of individuals for further examination by restriction fragment length polymorphism analysis or direct DNA sequencing.

Grantee: Gulf & South Atlantic Fisheries Foundation, Inc., Tampa, Florida
Grant No.: NA17FD2367 *NMFS Contact*: F/SER
Project Title: Development of a Vessel Buyout Business Plan for the Southeastern U.S. Commercial Shark Fishery
Funding: *Federal*: $366,560 *Recipient*: $43,999

Description: To involve industry representatives to work along with Gulf & South Atlantic Fisheries Foundation, Inc., project staff and sub-contracted experts to draft a Preliminary Commercial Shark Fishery Vessel Buyout Business Plan. This will be followed by integrated research involving field data collection, processing, and analysis to evaluate the technical, financial, socio-economic, and management feasibility of the preliminary plan as well as different commercial shark fishing vessel buyout options. The results of this multi-disciplinary study will then be used to develop and refine the Final Commercial Shark Fishery Vessel Buyout Business Plan that would be acceptable to the majority of those engaged in the industry, the Gulf of Mexico and the South Atlantic Fishery Management Councils, and NOAA Fisheries.

Grantee: South Carolina Department of Natural Resources, Charleston, SC
Grant No.: NA07FD0174 *NMFS Contact*: F/SER
Project Title: Evaluation of an Alternative Harvesting Methodology for Horseshoe Crabs and Determination of Juvenile Life History Parameters in a Nursery Habitat
Funding: *Federal*: $52,994 *Recipient*: $5,998

Description: To compare the methodology of hand harvesting to current harvesting methods and a control group at three sites in South Carolina. Hand harvest of spawning animals 30 minutes after time of predicted high tide may allow most animals to successfully spawn before being harvested without affecting harvesting totals. Juvenile horseshoe crabs in three nursery habitats will be studied to determine growth rates, survivability, age class structure, and behaviors. Preliminary experimental design work for each study has been completed by the South Carolina Department of Natural Resources. Information obtained within these studies will be presented to the Atlantic States Marine Fisheries Commission's (ASMFC's) Horseshoe Crab Technical Committee for dissemination and management use. These research needs are specified within the ASMFC Horseshoe Crab Fisheries Management Plan.

Grantee: Texas A&M Research Foundation, College Station, TX
Grant No.: NA07FD0176 *NMFS Contact*: F/SER
Project Title: Assessment of Natal Origin and Stock Structure of Atlantic Bluefin Tuna Using Otolith Elemental Fingerprints
Funding: *Federal*: $61,165 *Recipient*: $18,334

Description: To continue sampling efforts to complete the assessment of spatial and temporal "stability" of otolith elemental fingerprints and to quantify trace element signatures of juvenile bluefin tuna from 2000 and 2001 from both the western and eastern Atlantic. This research builds on two previously funded otolith microconstituents studies funded by the S-K Program. First-year support was obtained to develop otolith handling and cleaning protocols and standardization of procedures for otolith microconstituent analysis of Atlantic bluefin tuna using inductively coupled plasma mass spectrometry. A second year of support has been used to examine spatial and temporal scales to determine whether differences in elemental fingerprints are consistent over time or within a given spawning ground. This current research project is the next logical step in evaluating the reliability of elemental fingerprints for discriminating stocks of Atlantic bluefin tuna. By collecting specimens from several year classes and regional nurseries, the reproducibility or stability of trace element signatures can be rigorously tested. In addition, samples from two additional age classes will also provide the necessary data to construct a database of elemental fingerprints that can be used in the future to determine the natal origin of Atlantic bluefin tuna.

Grantee: University of South Carolina, Columbia, SC
Grant No.: NA97FD0064 *NMFS Contact*: F/SER
Project Title: Spatial and Temporal Analyses of Genetic Variability in Bigeye and Yellowfin Tuna Larvae
Funding: *Federal*: $80,000 *Recipient*: $13,120

Description: To assess samples of larval tuna obtained from the Gulf of Guinea for genetic variation at both mitochondrial and nuclear DNA loci. Nuclear markers will include both restriction fragment length polymorphisms and microsatellite loci. The resulting data will be analyzed to determine whether the genetic variation observed in single samples is representative of that found in the adult population. Also, samples obtained at different seasons or in successive years will be compared to determine seasonal and temporal variation. Ultimately, these results will be used to develop a monitoring scheme for the assessment of tuna reproduction in the Gulf of Guinea, off the west coast of Africa. In addition, the data will be useful for establishing monitoring schemes for other tuna spawning areas for other large pelagic fish.

FISHERIES BYCATCH

Grantee: William E. Donaldson, Dublin, NH
Grant No.: NA16FD2388 *NMFS Contact*: F/AKR
Project Title: Development of a Field Techniques Manual for the Collection of Data on King Crabs, Lithodes and Paralithodes
Funding: *Federal*: $29,800 *Recipient*: $7,055

Description: To develop a manual of field sampling techniques for *Lithodes* and *Paralithodes* king crabs that will be used by biological agencies and fishery observers, thereby allowing standardization of data collected and improved fisheries management. After this project is completed, (1) research and management agencies and shellfish observers will have an objective and descriptive field manual of techniques for data collection on king crabs in Alaskan waters, and (2) the fishing industry will be able to avail itself of the same techniques and instructions. This project has the potential to significantly and directly benefit the Alaskan crab fishing community and groundfish fisheries that are affected by bycatch caps.

Grantee: University of Alaska, Fairbanks, AK
Grant No.: NA76FD0037 *NMFS Contact*: F/AKR
Project Title: Quantitative Evaluation of Species-Specific Flatfish Behavior: Basis for Bycatch Reduction and Selective Trawl Development
Funding: *Federal*: $62,076 *Recipient*: $12,415

Description: To analyze existing videotapes of fish capture archived at the University of Alaska Fishery Industrial Technology Center, to quantify species-specific flatfish behavior. This information will provide a more comprehensive understanding of how individual flatfish species are captured and how the capture process can be adapted to separate flatfish species.

Grantee: Pacific Whiting Conservation Cooperative, Seattle, WA
Grant No.: NA16FD2447 *NMFS Contact*: F/NWR
Project Title: A Project to Evaluate the Influence of Oceanographic Variables on Non-Target Species of Bycatch in the At-Sea Pacific Whiting Fishery
Funding: *Federal*: $78,377 *Recipient*: $23,468

Description: To equip fishing vessels with conductivity, temperature, and depth (CTD) meters to collect physical oceanographic data. Annually, six vessels operate in the at-sea catch processor fleet in the

Pacific whiting fishery. These vessels have 100% observer coverage, and every haul is sampled for species composition. On each vessel a CTD meter will be deployed on the net and data recorded for each haul. The data will be downloaded daily to a computer for storage. A database for analysis will be constructed using the physical oceanographic data collected, along with observer data on catch composition. Two forms of statistical analysis will be utilized --- factorial analysis and principal components analysis. An analysis will also be conducted in which water mass characteristics and bycatch will be examined in a spatial construct. If a significant quantifiable relationship is found between physical oceanographic parameters and bycatch, then a bycatch warning program will be written to analyze CTD data during daily downloads to provide an alert to vessel masters.

Grantee: Washington Department of Fish and Wildlife, Olympia, WA
Grant No.: NA06FD0278 *NMFS Contact*: F/NWR
Project Title: Evaluate Tangle Nets for Selective Fishing
Funding: *Federal*: $78,377 *Recipient*: $23,468

Description: To fish tangle nets at several locations and estimate catch per set, species composition, and immediate mortality of all species caught. The tangle net is analogous to a small meshed gill net, but rather than gilling the fish, it entangles the fish by the teeth or maxillary bones. The fish are able to continue respiring and can be released live from the net. The investigators will compare our results to a conventional gill net to evaluate reductions in bycatch. All fish released from the tangle net will be tagged for later recovery at hatcheries and on spawning grounds for estimation of their long-term survival.

Grantee: Micronesian Fisheries Authority, Federated States of Micronesia
Grant No.: NA16FD2643 *NMFS Contact*: F/SWR
Project Title: Education and Training to Reduce Adverse Interactions between Commercial Fishing Operations and Marine Turtles in the EEZ of the FSM
Funding: *Federal*: $59,005 *Recipient*: $8,511

Description: To create, adapt, or refine existing materials including but not limited to identification sheets, instructions for release of captured turtles, correct tagging methods, and appropriate data collection forms for specific use in the Federated States of Micronesia (FSM). The investigators also will convene four workshops (one in each State) to instruct fisheries observers in sea turtle identification, basic sea turtle biology, appropriate tagging and release methods, and record keeping. In addition, the investigators will prepare and arrange for production of similar material for distribution to fishing vessel operators and others within the fishing community as a whole. The investigators will convene informational meetings in each FSM State with fishing vessel operators, captains, port officials, agents, and other relevant members of the fishing community to explain the importance of reducing adverse interactions between sea turtles and

commercial fishing operations. The investigators also will conduct a workshop for members of the Maritime Surveillance Wing to sensitize them to the need for inclusion of this subject in their regular boarding and inspection procedures. Finally, the investigators will produce a final report that contains recommendations for integrating the subject into the Micronesian Fisheries Authority's ongoing work program and its relationships with the fishing community.

Grantee: Pfleger Institute of Environmental Research, Oceanside, CA
Grant No.: NA16FD2470 *NMFS Contact*: F/SWR
Project Title: Can Leatherback Sea Turtle Bycatch Be Reduced in the Swordfish Longline Fishery by Modifying Fishing Methods?
Funding: *Federal*: $105,518 *Recipient*: $25,168

Description: To use pop-up satellite tags to map the habitat use of swordfish and leatherback turtles to search for regions in time and space where the overlap between the species is minimal. This will indicate if and how modifications to fishing methods can be used to reduce bycatch. The project will be conducted with fishermen and will be implemented such that the same methods are applicable for use by fishermen in other fisheries or regions.

Grantee: University of Maryland Center for Environmental Science, Cambridge, MD
Grant No.: NA16FD2290 *NMFS Contact*: F/NER
Project Title: Use of Otolith Microconstituent Analysis to Characterize Atlantic Bluefin Tuna Stock Structure
Funding: *Federal*: $173,406 *Recipient*: $24,025

Description: To addresses whether otolith microconstituent analysis can resolve Atlantic bluefin tuna stock structure issues. Scientific evidence has been insufficient to support stock structure assumptions in the management of Atlantic bluefin tuna. Through past S-K support, the investigators have developed otolith microconstituent analysis as a means to resolve stock structure. Early results have indicated that otolith elemental fingerprints are significantly different between bluefin tuna nurseries, but insufficiently distinct to allow precise study of mixing rates. This project will develop methods to allow measurement of a broader suite of elements in the core region of otoliths than is possible through current otolith microconstituent methodologies. Specifically, this project will develop and apply coupled methods–otolith micro-milling and preconcentration/separation methods–which should allow measurement of transition metals in the core regions of otoliths from adult bluefin tuna.

Grantee: University of Rhode Island, Kingston, RI

Grant No.: NA16FD2293 *NMFS Contact*: F/NER
Project Title: Effects of Increasing Mesh Size in the Multispecies Fisheries of New England Waters: Applied Research and Outreach
Funding: *Federal*: $128,750 *Recipient*: $34,570

Description: To conduct mesh size selectivity studies aboard a large, commercial fishing vessel and integrate the results of the study into yield-per-recruit (YPR) and spawing-stock-biomass-per-recruit (SSBPR) models evaluating the effects of incrementally increasing mesh sizes. Specifically, the investigators will (1) conduct mesh selectivity studies using an alternative tow method aboard commercial fishing vessels; (2) conduct selectivity analyses on resulting data and generate selectivity curves for each species by mesh size and shape; (3) conduct YPR and SSBPR analyses and generate isopleth diagrams; and (4) present results of analyses to resource managers and fishermen in various fora and prepare a report and article for fisheries stakeholders.

Grantee: Virginia Institute of Marine Science, Gloucester Point, VA
Grant No.: NA16FD2294 *NMFS Contact*: F/NER
Project Title: Population Structure Analysis of Atlantic Bluefin Tuna Using Hypervariable, Nuclear DNA Markers
Funding: *Federal*: $126,793 *Recipient*: $23,445

Description: To critically examine population structure of the Atlantic bluefin tuna. Through an ongoing Saltonstall-Kennedy award, the investigator has developed a suite of hypervariable, nuclear-DNA markers that reveal considerable genetic variation within the Atlantic bluefin tuna. The investigator will use these genetic tools to screen biologically meaningful collections of young bluefin collected from the western and eastern North Atlantic Ocean to determine whether there is significant spatial or temporal partitioning of genetic variation among collections. These tests will allow testing of hypotheses of stock structure of the Atlantic bluefin tuna. The investigators also will employ these markers to screen bluefin taken in the central North Atlantic.

Grantee: Massachusetts Division of Marine Fisheries, Boston, MA
Grant No.: NA16FD2297 *NMFS Contact*: F/NER
Project Title: Reducing Blue Shark Bycatch in Pelagic Longline Fisheries
Funding: *Federal*: $53,050 *Recipient*: $8,311

Description: To gain knowledge of blue shark behavior toward a variety of baits, both natural and artificial, to learn which bait characteristics are distasteful to that species. During 10 sea trials offshore, blue sharks will be presented with a series of natural and artificial baits. Shark responses will be recorded,

and comparisons will be made between reactions to artificial baits and control baits that are widely used by pelagic longliners for tunas and swordfish. A wide variety of artificial baits will be developed.

Grantee: New England Aquarium Corp., Boston, MA
Grant No.: NA06FD0177 *NMFS Contact*: F/NER
Project Title: Increasing Juvenile Cod Bycatch Survival in a Northwest Atlantic Longline Fishery
Funding: *Federal*: $99,457 *Recipient*: $88,307

Description: To (1) augment the survival data already collected on juvenile cod bycatch caught by demersal longlines, (2) quantify mitigated survival of juvenile cod bycatch caught by demersal longlines when treated by immersion in solutions of potassium chloride, (3) quantify the degree of physiological stress experienced by juvenile cod bycatch caught by demersal longlines through the analysis of biological parameters in the blood, and (4) continue to solicit advice from longline fishermen relative to increasing the survival of groundfish discards.

Grantee: Manomet, Inc., Manomet, MA
Grant No.: NA06FD0183 *NMFS Contact*: F/NER
Project Title: Development of Cod Excluder Devices for Northwest Atlantic Trawl Fisheries
Funding: *Federal*: $71,500 *Recipient*: $40,600

Description: To test the effectiveness of a new bycatch reduction device (Ex-It) in reducing the inadvertent catch of undersized fish in the northwest Atlantic. The study will focus primarily on retention of juvenile and undersized cod. This will be an international venture involving the Manomet Center for Conservation Sciences, Massachusetts Division of Marine Fisheries, Maine Department of Marine Resources, Canadian Department of Fisheries and Oceans, commercial fishermen, and industry input from Nordurnet, Iceland. Sea trials on board chartered commercial fishing vessels will be conducted in the Gulf of Maine and in Canadian territorial waters. Selectivity parameters of trawl nets with and without the Ex-It bycatch reduction device will be determined. Trials with different grid spacings will be conducted to determine the most appropriate configuration for small-cod exclusion. Video observations will be made on the behavior of fish in the vicinity of the bycatch reduction device, and detailed behavioral analysis will be carried out. Reports and videotapes will be made available to all interested parties. Recommendations on the effectiveness of the bycatch reduction device will be made available to fisheries managers in both the USA and Canada.

Grantee: Massachusetts Division of Marine Fisheries, Boston, MA

Grant No.: NA96FD0072 *NMFS Contact*: F/NER
Project Title: Developing a Low Impact Sea Scallop Dredge
Funding: *Federal*: $35,388 *Recipient*: $10,994

Description: To verify whether bay scallops and sea scallops respond to certain acoustic stimuli, and ascertain if a dredge could be developed that would take advantage of this behavior. Observations of bay scallops *in situ* have shown that they react to certain acoustic stimulation and will swim vertically off the sea bottom. The dredge would be of a type that lightly skims over the sea bottom, thus reducing impact to the benthos which would, if associated with bay scallop harvesting, include eel grass.

Grantee: New England Aquarium Corporation, Boston, MA
Grant No.: NA86FD0108 *NMFS Contact*: F/NER
Project Title: Increasing Survival of Juvenile Atlantic Cod (*Gadus morhua*) and Haddock (*Melanogrammus aeglefinus*) in the Northwest Atlantic Demersal Longline Fishery
Funding: *Federal*: $163,244 *Recipient*: $127,386

Description: To build upon the selectivity work already conducted and investigate how different hauling strategies might affect wound size and juvenile groundfish survivability. Preliminary survival statistics from current longline work suggest that survival of juvenile bycatch is correlated to hooking wound magnitude and that effective selectivity against juveniles can be accomplished using modified circle hooks.

PRODUCT QUALITY AND SAFETY

Grantee: University of Alaska, Fairbanks, AK
Grant No.: NA96FD0052 *NMFS Contact*: F/AKR
Project Title: Evaluation of Ozone for Ready-to-Eat Seafoods
Funding: *Federal*: $80,715 *Recipient*: $16,143

Description: To (1) determine ozone concentrations necessary for inactivating microbial biofilms on seafood equipment and reducing microbial counts on raw material used for ready-to-eat (RTE) production; (2) evaluate the effect of ozone on Listeria monocytogenes inoculated seafoods; (3) measure shelf life characteristics of ozone-treated RTE seafoods; and (4) compare ozone and chlorine treatments for RTE production in a commercial operation.

Grantee: University of Alaska, Fairbanks, AK

Grant No.: NA96FD0053 *NMFS Contact*: F/AKR
Project Title: Seafood HACCP Validation Using the ATP Bioluminescent Assay
Funding: *Federal*: $63,133 *Recipient*: $7,939

Description: To (1) compare adenosine triphosphate (ATP) bioluminescent assays to aerobic plate count methods to determine surface contamination levels on processing lines, equipment surfaces, and utensils after sanitation by plant personnel; (2) compare contamination load on surfaces after different processing and sanitation shifts and correlate residual sanitizer (chlorine and quaternary ammonium compounds) concentration on surfaces with ATP bioluminescence levels; (3) determine if the ATP bioluminescent assay distinguishes microbial contamination of raw materials from non-microbial ATP for use as a control point at receiving; and (4) conduct in-plant workshops and demonstrations of the ATP bioluminescent assay and determine if microbial quality of raw products improves after training of plant personnel.

Grantee: University of Washington, Seattle, WA
Grant No.: NA86FD0393 *NMFS Contact*: F/NWR
Project Title: Harmful Algal Blooms and their Impacts on Shellfisheries and Finfisheries in Western Washington
Funding: *Federal*: $216,551 *Recipient*: $38,668

Description: To provide approaches to the study and mitigation of harmful algal blooms. A field guide to the common phytoplankton in western Washington waters will be developed and published. The guide will contain light microscope and scanning electron microscope photographs of many phytoplankton species and short descriptions of characteristics. The guide will include many harmful species and serve as a guide for health managers who are examining water samples on site. Also, the researchers will continue their monitoring program for harmful algal species on Washington coastal beaches and the Puget Sound Basin. These data will allow researchers to better understand the temporal and spatial variability of various harmful species in the region.

Grantee: PacMar, Inc.
Grant No.: NA16FD2472 *NMFS Contact*: F/SWR
Project Title: Verification of a HACCP System for the Control of Histamine for the Fresh Tuna Industry
Funding: *Federal*: $199,143 *Recipient*: $22,238

Description: To verify previous findings that supported the HACCP-based approach to controlling histamine. Specifically, this project will (1) use temperature logger to monitor fish time and temperature profiles post-harvest; (2) sample, grade, and evaluate fish landings for odors of decomposition and

histamine analysis; (3) perform histamine analysis of fish with documented temperature histories and market sampling; and (4) conduct training workshops for fishers to understand histamine controls and the responsibility of the industry to ensure food saftey and HACCP compliance.

Grantee: University of Rhode Island, Kingston, RI
Grant No.: NA16FD2301 *NMFS Contact*: F/NER
Project Title: Quality and Safety Assessment of Commercially Produced Tasteless Smoked Seafood Products
Funding: *Federal*: $98,948 *Recipient*: $28,969

Description: To evaluate commercially processed, tasteless, smoked seafood products and assess the overall quality when compared to similarly stored untreated product. The controversy surrounding this product/process within the fishing industry raises issues that require investigation to verify or refute claims. Indicators of quality, safety, color, microbial growth, and sensory attributes will be studied over storage periods. Three species, treated and untreated, will be stored on ice, in refrigeration with no ice, and at room temperature. Samples will be collected over the storage period to obtain a full range of quality. Expert sensory assessment will be completed, and all results will be successfully analyzed.

Grantee: University of Massachusetts–Amherst, Amherst, MA
Grant No.: NA06FD0178 *NMFS Contact*: F/NER
Project Title: Improvement of Oxidative Stability of Encapsulated Fish Oil in Food Powders
Funding: *Federal*: $92,073 *Recipient*: $33,798

Description: To study the physical effects on lipid oxidation of fish oil in encapsulated systems. Lipid oxidation of powders is principally determined by the physico-chemical properties of the emulsion droplets and encapsulating matrix, the presence of antioxidants, and the processing condition. The information gained from this project will lead to future technological innovation for increased utilization of fish oil in commercial food products. These innovations will be of considerable benefit to U.S. fisheries.

Grantee: University of Rhode Island, Kingston, RI
Grant No.: NA06FD0179 *NMFS Contact*: F/NER
Project Title: Industry Pilot to Evaluate the Ammonia Ion Selective Electrode for Use as a Simple, Rapid Determination of Seafood Quality
Funding: *Federal*: $99,265 *Recipient*: $28,510

Description: To implement a pilot program to transfer ion selective electrode technology to the seafood industry. Ion selective electrode methodology has been successfully developed for routine monitoring of volatiles in seafood (AOAC 999.01) for quality, particularly characteristics of initial decomposition. Organization of the 6-month pilot will be accomplished with the cooperative efforts of the National Fisheries Institute, which will solicit the 8–10 companies for their involvement in the project. All meters, probes, and reagents necessary will be assembled in a kit form and donated by Orion Research, Inc. Additional chemical, microbiological, and sensory testing, as well as verification of industry results, will be done at the Food Science and Nutrition Department at the University of Rhode Island, the Rhode Island Department of Health, and/or the Sensory Division of the NMFS Inspection Branch to add to the existing seafood database. Results will be statistically analyzed, and information will be disseminated through participant survey and informal forums/workshops.

Grantee: University of North Carolina, Charlotte, NC
Grant No.: NA17FD2364 *NMFS Contact*: F/SER
Project Title: The Role of the *rpoS* Gene in Virulence of *Vibrio vulnificus.*
Funding: *Federal*: $87,725 *Recipient*: $14,265

Description: To characterize the conditions necessary for induction of *rpoS*, a gene involved in disease production by *V. vulnificus*. The goal is to develop conditions for oyster maintenance that would minimize the ability of *V. vulnificus* to initiate human infection. Project stages include (1) isolating the *rpoS* gene and constructing an *rpoS* mutant of *V. vulnificus*; (2) phenotypically characterizing the *rpoS* mutant as to virulence, stress adaptation, quorum sensing, and resistance to human serum; (3) developing conditions under which the expression of *rpoS* is minimal, thus providing conditions under which oysters could be maintained to minimize the infectivity of *V. vulnificus*.

Grantee: Virginia Institute of Marine Science, Gloucester Point, Virginia
Grant No.: NA17FD2366 *NMFS Contact*: F/SER
Project Title: Epidemiology Studies on Spiny Lobsters, *Panulirus argus*, Infected with a Pathogenic Herpes-like Virus
Funding: *Federal*: $183,444 *Recipient*: $36,823

Description: To clarify the threat of an emerging viral pathogen to the spiny lobster fishery in Florida by (1) documenting the current distribution and prevalence of the disease in lobsters in important nursery habitats in south Florida; (2) determining how the pathogen is transmitted and documenting mortality rates in lobsters exposed to the virus; (3) describing the pathology of lobsters infected with the virus; and (4) developing diagnostic immunoprobes for field identification of infected lobsters, especially during early stages of the disease. Preliminary studies indicate that this virus is widespread, infectious, and lethal.

Given that fishermen hold large numbers of juvenile lobsters and use them as "live bait" (social attractants), there is marked potential for the virus to spread throughout the region.

Grantee: University of Southern Mississippi, Hattiesburg, MS
Grant No.: NA07FD0175 *NMFS Contact*: F/SER
Project Title: A Histamine Dipstick Test for Spoilage in Fisheries Products
Funding: *Federal*: $57,023 *Recipient*: $23,723

Description: To incorporate a recombinant enzyme (the investigators currently are in the process of cloning and expressing kidney diamine oxidase) into a second-generation histamine dipstick, which then will be compared to the standard AOAC test in a method validation study. Scombroid poisoning is a form of chemical poisoning that occurs when consumers ingest spoiled tuna and related fish. It typically is associated with high levels of histamine produced by bacterial decomposition of these fish. Because odor and appearance do not reliably indicate this type of spoilage, a simple test for histamine that can be used in widespread quality-control testing of fisheries products is needed. The investigators have developed and published such a rapid test in the form of a dipstick. Before this dipstick can be produced on a large scale in a form suitable for widespread use, however, the histamine-specific enzyme component must be produced in large quantities and optimized for the currently allowed FDA levels for histamine.

Grantee: North Carolina State University, Raleigh, NC
Grant No.: NA67FD0500 *NMFS Contact*: F/SF2
Project Title: A New Toxic Dinoflagellate Affecting Cultured and Wild Estuarine Fish–Year 2
Funding: *Federal*: $149,953 *Recipient*: $38,932

Description: To characterize the ecological distribution, algal physiology, disease effects, and toxin of a toxic dinoflagellate recently discovered in the Albemarle–Pamlico Estuary. The data will provide critical information needed to assess the impact of this toxic dinoflagellate on wild and cultured fish populations.

AQUACULTURE

Grantee: Cook Inlet Aquaculture Association, Kenai, AK
Grant No.: NA16FD2386 *NMFS Contact*: F/AKR
Project Title: Evaluation of the Cook Inlet Regional Salmon Enhancement Plan 1981-2000
Funding: *Federal*: $112,878 *Recipient*: $50,969

Description: To evaluate salmon enhancement as a method to alleviate harvest pressure on wild salmon and still provide an economically viable fishery to the communities that depend on the salmon resource. Recent low returns and declining commercial fishing values are placing greater demand on wild salmon stocks. The current plan salmon enhancement plan was written in 1981 and detailed enhancement strategies through a 20-year period ending in 2000. This project will use this outdated plan as a guide to evaluate the past and current status of enhancement in the Cook Inlet watershed. This information will be disseminated to various local interest groups, tribal organizations, and Federal/state agencies. Feedback from these groups will be compiled into a final document to provide recommendations and strategies for the future of salmon enhancement within the Cook Inlet watershed.

Grantee: Taylor Resources, Inc., Shelton, WA
Grant No.: NA06FD0231 *NMFS Contact*: F/NWR
Project Title: Rock Scallop Culture in the Off-Shore Environment
Funding: *Federal*: $91,179 *Recipient*: $54,938

Description: To develop technology and methodology to culture the rock scallop to maturity and commercial harvest in high-energy, off-shore environments in an ecological and economically viable and cost-effective manner. Researchers will test a new technology (Scallop Spar) for a range of engineering considerations including installation, submersion, towing, system integrity, and harvest functions. In addition, the disc culture surfaces will be evaluated for survival of scallops, ability to attach to the surface, growth rates, and stocking densities. A separate set of hatchery culture studies will be carried out that include broodstock collection and conditioning, spawning and larval production, and juvenile seed and grow-out methods.

Grantee: Pacific Shellfish Institute, Olympia, WA
Grant No.: NA06FD0280 *NMFS Contact*: F/NWR
Project Title: Probiotics to Increase Shellfish Hatchery Production
Funding: *Federal*: $99,986 *Recipient*: $36,132

Description: To improve the production efficiencies and profits of national production of shellfish seed using beneficial bacteria to displace disease-causing bacteria. The recipient will use its large collection of shellfish hatchery bacteria and other bacteria, as well as new isolates, to select those bacteria with the strongest probiotic effect. The selected bacteria will be tested to determine whether the bacteria can prevent bacterial disease in oyster seed and larvae using a laboratory challenge system. If successful, the project will provide candidate probiotic bacteria for use in a future commercial-scale test.

Grantee: Black Pearls, Inc., Holualoa, HI
Grant No.: NA16FD2642 *NMFS Contact*: F/SWR
Project Title: Relief for Hawaii's Bottomfish: Solutions through Aquaculture
Funding: *Federal*: $159,040 *Recipient*: $17,850

Description: To address captive rearing and grow-out of three species of economically important deepwater snappers in Hawaii: *Pristipomoides filamentosus*, *Etelis carbunculus*, and *Aprion virescens*. Broodstock will be held at the Natural Energy Laboratory of Hawaii Authority (NELHA), where photoperiod and water temperature can be finely controlled. Attempts will be made to obtain maturation and spawning naturally and through hormone treatments during natural spawning periods. In addition, efforts will be made to stimulate out-of-season reproduction by manipulating photoperiod with artificial lights and by manipulating water temperature with cold deep seawater available at NELHA. New species of live feeds (ciliates and copepod nauplii) and rotifers will be tested as first feeds for larvae, in conjunction with a range of microalgal feeds and commercially available booster diets. These live feeds will be used along with brine shrimp to rear the larvae after first feeding following established practices for other tropical marine species. Net pen rearing trials will be carried out using resulting fry. If sufficient fingerlings can be reproduced, then fry will be used to stock an offshore sea cage.

Grantee: Black Pearls, Inc., Holualoa, HI
Grant No.: NA06FD0303 *NMFS Contact*: F/SWR
Project Title: Re-Training of Hawaiian Micronesian Fisherfolk as Pearl Culture Seeding Technicians
Funding: *Federal*: $97,903 *Recipient*: $29,880

Description: To provide basic training in all aspects of oyster biology and pearl farm husbandry and seeding of mabe pearls. Trainee technicians will be contracted to BPOM. Black Pearls, Inc., will provide the basic training, and a master seeding technician then will provide an intensive training course at the BPOM farm site, including one-on-one supervision of seeding. Results of seeding trials will be used to select the two most promising candidates for further training. These candidates then will continue on-the-job training at the BPOM farm site and assist in maintenance and conditioning of the oysters for a second set of seeding trials. Mabe and round pearls will be harvested to evaluate shape, color, and nacre quality.

Grantee: Regents of the University of California, Davis, CA
Grant No.: NA96FD0206 *NMFS Contact*: F/SWR
Project Title: Life History of an Exotic Sabellid Polychaete Pest in Cultured Abalone in California
Funding: *Federal*: $112,064 *Recipient*: $25,945

Description: To describe the life history of the fan worm which infests cultured abalone. All life stages and reproductive ability at temperatures experienced in California will be identified. Life stages of fan worms reared *in situ* and *in vitro* will also be identified, as will the timing of each developmental stage and the reproductive potential. Generation times at several temperatures between 9 and 23^0C will be determined. Using a combination of light and electron microscopy, and fertilization experiments, it will be determined whether the sabellid is capable of self and/or cross fertilization. The potential risk associated with the release of precompetent larval and embryonic stages will also be examined. In order to assess the possibility that infested abalone may have been outplanted, the researchers will survey several outplant sites for infested abalone and other gastropods. If found, mark and recapture studies will be conducted using initially uninfested gastropods to determine rates of fan worm transmission in the field. Based on the findings, changes will be recommended in abalone husbandry methods to aid in eradication of the fan worm from aquaculture facilities and reduce its potential establishment in the wild.

Grantee: Woods Hole Oceanographic Institution, Woods Hole, MA
Grant No.: NA16FD2291 *NMFS Contact*: F/NER
Project Title: Open-Ocean Aquaculture: Economic Measures for Mitigating Risk and Encouraging Development
Funding: *Federal*: $107,257 *Recipient*: $46,501

Description: To identify and characterize institutions and public policies appropriate for reducing the costs of risks and uncertainty that preclude the emergence and development of an open-ocean aquaculture industry. Specifically, the investigators will (1) identify specific sources of risk and uncertainty associated with open-ocean aquaculture development; (2) estimate the levels of those risks that are quantifiable; (3) describe uncertainties for which risks cannot be estimated; (4) estimate the expected net economic benefits from aquaculture operations under risk and uncertainty to firms and market sectors and develop estimates of potential industry investment levels; (5) identify institutions or specific policy instruments for managing risk and uncertainty; and (6)present findings to industry, natural resource management agencies, and the public.

Grantee: University of Rhode Island, Kingston, RI
Grant No.: NA16FD2292 *NMFS Contact*: F/NER
Project Title: Off-shore Aquaculture: Stress Reduction and Performance of Flatfish
Funding: *Federal*: $72,793 *Recipient*: $11,064

Description: To support offshore industry development by improving culture technology that affects the health and survival of cultured marine flatfish. The investigators have already demonstrated that transportation causes stress, as evidenced by disturbances in blood glucose and ion. The investigators also tested three anesthetics and developed one protocol using light anesthesia that prevents some of the stress-induced changes in blood chemistry. This project will provide optimized protocols by determining which works best to protect larvae and juveniles from stressed-induced reduction in growth and survival. Success will be measured by improved performance of flatfish in off-shore aquaculture.

Grantee: Texas A&M Research Foundation, College Station, TX
Grant No.: NA16FD2295 *NMFS Contact*: F/NER
Project Title: Estimation of Wave Conditions Influencing Distribution of Fish-farm Wastes and Structural Integrity of Aquaculture Units
Funding: *Federal*: $145,059 *Recipient*: $28,768

Description: To develop appropriate wave modeling methodology and determine wave conditions in four bays in Maine for aquaculture applications. A dynamic wave environment enhances the dispersal of net-

pen wastes. However, it also causes damage to fish farms, allowing escape of aquacultured fish. This project will use field data and models to estimate the frequency of various wave conditions in Maine.

Grantee: University of New Hampshire, Durham, NH
Grant No.: NA16FD2296 *NMFS Contact*: F/NER
Project Title: Development of Sea Urchin Hatchery System for Aquaculture
Funding: *Federal*: $116,377 *Recipient*: $24,436

Description: To refine and test a cost-effective hatchery system for green sea urchins that includes larval cultivation, cage grow-out of juvenile urchins, and procedures for maximizing survival of out-planted urchins for sea ranching and reseeding of overfished beds.

Grantee: University of Rhode Island, Kingston, RI
Grant No.: NA06FD0181 *NMFS Contact*: F/NER
Project Title: Stress and Performance of Finfish in Open-Ocean Aquaculture
Funding: *Federal*: $69,979 *Recipient*: $13,548

Description: To characterize the dynamics of stress response, identify practices that induce stress, and develop culture technology–including use of anesthetics–to mitigate stresses of handling and transportation. The project will produce new technology that improves the health and survival of cultured flatfish. The basic rationale is that handling and transportation of cultured marine flatfish to grow-out sites stresses them and reduces their performance capacity. Performance capacity includes the ability to resist disease, maintain metabolic homeostasis, and adapt to further perturbations.

Grantee: Virginia Institute of Marine Science, Gloucester Point, VA
Grant No.: NA96FD0075 *NMFS Contact*: F/NER
Project Title: Influence of Host Genetic Origin and Geographic Location on QPX Disease in Hard Clams (*Mercenaria mercenaria*)
Funding: *Federal*: $212,998 *Recipient*: $68,120

Description: To examine variation in the expression and pathogenicity of QPX disease in relation to genetic origin and geographic location of hard clams. The research will focus on identifying a strain(s) of hard clams resistant to QPX disease. The main objectives of the project are to (1) compare clam growth (size), condition, survival, and QPX prevalence and severity in five hatchery-reared strains of hard clams at three regionally separated QPX endemic locations; (2) determine the significance of the effect of strain

and region on hard clam growth, condition, survival, and QPX disease through time; and (3) determine the best strain for culture in QPX endemic areas, and recommend strains for future efforts to enhance resistance to QPX through selective breeding.

Grantee: Purdue University, West Lafayette, IN
Grant No.: NA76FD0149 *NMFS Contact*: F/NER
Project Title: Toward Sustainable Aquacultural Production Systems: Promoting Optimum Media for Nitrifying Bacteria in Recirculating Aquaculture Systems
Funding: *Federal*: $120,700 *Recipient*: $0

Description: To explore the potential for establishing a selective or optimal medium for nitrifying bacteria in recirculating system aquaculture. Five minerals, critical for the bacteria but rarely added to diets for fish, will be the focus of this research. The results of this research may lead to the development of sustainable recirculating systems for the mass production of a variety of species.

Grantee: Florida Marine Research Institute, St. Petersburg, FL
Grant No.: NA17FD2368 *NMFS Contact*: F/SER
Project Title: Bay Scallop (*Argopecten irradians*) Population Restoration on the West Coast of Florida
Funding: *Federal*: $206,753 *Recipient*: $41,798

Description: To (1) continue the successful bay scallop population restoration efforts along the Florida west coast between Anclote and Crystal River and (2) continue the recently initiated scallop restoration program in Sarasota Bay in an effort to expand the range of viable local populations that comprise the bay scallop metapopulation in the eastern Gulf of Mexico. The investigators will collect parental stock from the target site (Sarasota Bay or the geographically closest population because scallops are extremely rare in Sarasota Bay), culture them in the laboratory, and plant the resultant broodstock in protective cages at three sites in Sarasota Bay. Additional scallops will be free-planted in those same seagrass beds. Survival, growth, and reproductive development will be closely monitored for each planting treatment, including a biochemical assessment of the health of eggs produced by scallops under each planting regime. Potential offspring harvested from recruit collectors will be tested for relatedness using mtDNA

Grantee: North Carolina State University, Raleigh, NC
Grant No.: NA17FD2369 *NMFS Contact*: F/SER
Project Title: Temperature Effects on Sex Determination in Flounder: Timing, Latitudinal Variation and Controlled Breeding in Mariculture
Funding: *Federal*: $81,895 *Recipient*: $71,103

Description: To provide information and technologies for generating predictable sex ratios in flounder restocking efforts and producing monosex stocks of faster-growing females for mariculture. The investigators already have (1) characterized the timing of sexual differentiation in southern and summer flounder, (2) demonstrated strong temperature effects on sex determination in southern flounder, and (3) developed effective methods for producing gynogenetic XX flounder larvae. This project will (1) determine the timing of sex determination and the size at which rearing temperature can no longer affect sex, (2) test for latitudinal variation in temperature effects on sex determination in different populations of both southern (NC v. TX) and summer flounder (NH v. NC), and (3) produce gynogenetic monosex stocks for production of only the larger growing females in mariculture.

Grantee: University of Puerto Rico, Mayaguez, PR
Grant No.: NA17FD2370 *NMFS Contact*: F/SER
Project Title: Offshore Cage Culture: Environmental Impact and Perceptions by Local Fishing Community
Funding: *Federal*: $363,357 *Recipient*: $67,152

Description: To address technical, social, and legal aspects of offshore cage culture, including the environmental impact, the perceptions by the fishing industry, and administrative and public policies. This information will be used to develop best management practices.

Grantee: Texas Agricultural Experiment Station, College Station, TX
Grant No.: NA17FD2371 *NMFS Contact*: F/SER
Project Title: Development of DNA Microsatellites for Genetic Applications in Cobia (*Rachycentron canadum*)
Funding: *Federal*: $120,627 *Recipient*: $40,542

Description: To develop 25-30 polymorphic microsatellite DNA markets that are specific for cobia and that can be utilized in forensic, quantitative genetic (broodstock enhancement), and stock-structure applications. Optimization of experimental conditions for assay of the microsatellites is a key experimental objective. Effective distribution/dissemination of project results is another key objective.

Grantee: University of Texas at Austin, Austin, TX
Grant No.: NA07FD0173 *NMFS Contact*: F/SER
Project Title: Development of Hatchery Technologies for Snapper
Funding: *Federal*: $169,687 *Recipient*: $33,938

Description: To address the development of larval rearing technologies for the production of juvenile snapper for off-shore operations. Results from this project are expected to (1) diversify the number of cultured species available to the mariculturist, (2) expand our understanding of larval rearing requirements of snapper, and (3) advance commercial technologies for the production of fingerlings. The proposed research will build on previous projects that successfully developed maturation techniques for the year-round spawning of yellowtail snapper as well as mass production techniques for other marine species such as red drum. Yellowtail snapper is one of several snapper species that are listed as "overfished" and displays positive potential for development in the mariculture industry. The researchers have maintained spawning populations of wild fish since 1992 and currently have an F1 population of laboratory-reared fish spawning three times per week producing 250,000 eggs/spawn. Initial protocols for larval rearing using live and prepared feeds have resulted in overall survival of 3 percent from egg to advanced juvenile.

Grantee: North Carolina State University, Raleigh, NC
Grant No.: NA97FD0068 *NMFS Contact*: F/SER
Project Title: Flounder Sex Determination: Biotechnology for Controlled Breeding in Fishery Enhancement and Mariculture
Funding: *Federal*: $68,465 *Recipient*: $48,432

Description: To provide information and technologies critical to generating predictable sex ratios in flounder restocking efforts and producing monosex stocks of faster growing females for mariculture. The means to control sex determination in summer and southern flounders will be developed. In addition, markers and timing of sex determination in flounder will be determined to characterize the developmental periods during which temperature irreversibly exerts its effect.

V. PENDING NATIONAL PROGRAM PROJECTS

This section contains a description of all pending (ongoing) projects under the S-K National Program, along with project number, project title, federal funding level, and the NMFS contact.

MANAGEMENT ALTERNATIVES AND FISHERIES USER CONFLICTS

Project No.: 97-AK-01 *NMFS Contact*: F/AKR
Project Title: ADF&G/NMFS Bottom Trawl Calibration Study
Funding: *Federal*: $134,800

Description: To conduct an experiment to detect fishing power differences between the net and vessel configuration used by NMFS during their Gulf of Alaska (GOA) triennial groundfish surveys and the net and vessel configuration used by the Alaska Department of Fish and Game (ADF&G) during their annual GOA crab survey. The results of this experiment will allow both NMFS and ADF&G to augment each survey by allowing direct comparisons of the respective databases. For example, being able to fully incorporate the ADF&G survey database into the annual status of stocks process would greatly enhance the management of important groundfish species such as walleye pollock, Pacific cod, and many flatfish species.

Project No.: 97-AK-03 *NMFS Contact*: F/AKR
Project Title: Development of an Experimental Approach to Testing the Efficacy of Steller Sea Lion Fishery Exclusion Zones
Funding: *Federal*: $24,900

Description: To develop an experimental design for the evaluation of Steller sea lion fishery exclusion zones which, when implemented, will increase the likelihood of recovery of threatened Steller sea lion populations in Alaska, and reduce the conflicts between the fishing industry and the Steller sea lion recovery program.

Project No.: 97-AK-06 *NMFS Contact*: F/AKR
Project Title: Individual Fishing Quota/Community Development Quota (IFQ/CDQ) Program Research Support
Funding: *Federal*: $50,000

Description: To improve the automated systems that control permit issuance and transfer and management of fishery landings under IFQ/CDQ. Currently, these data systems are an inefficient means of retrieving the amount and detail level of information needed for information requests and for research purposes. This project will provide contractual assistance to structure and retrieve data so as to address these information needs. Tasks include: improving system documentation; developing reports and data summaries; and increasing the variety, amount, and detail of information available through NMFS Internet sites and computer bulletin boards.

Project No.: 96-SW-02 *NMFS Contact*: F/SWR
Project Title: Develop and Test Pulsed-Power Devices
Funding: *Federal*: $300,000

Description: To construct a pulsed-power device that will deter California sea lions from interacting with commercial passenger fishing vessels (CPFV). A contractor will be competitively selected to (1) develop and construct the pulsed-power device; (2) establish safety zones for marine mammals; (3) conduct a transmission loss experiment to evaluate the appropriateness of the predicted safety zones; (4) design an experimental protocol to evaluate the effectiveness of the pulsed-power system in deterring California sea lions from interacting with CPFV operations, and the associated effect on angler catch rates; and (5) test the pulsed-power discharge system in waters off California.

Project No.: 97-SE-21 *NMFS Contact*: F/SER
Project Title: Red Drum (*Sciaenops ocellatus*) Mark/Recapture and Age Composition Studies in the Northern Gulf of Mexico
Funding: *Federal*: $195,000

Description: To assess the status and determine the age structure of red drum stocks in the northern Gulf of Mexico. The proven and accepted estimation technique of mark and recapture will be used to assess the current size of the adult stock. Estimates indicate that if 10,000-20,000 red drum are tagged within a relatively short time, and then approximately 50,000 fish are examined for the presence of tags, a reasonably precise estimate of the adult red drum biomass can be developed for use in quota and resource allocation decisions. The goals are to improve red drum fishery management and optimize commercial and recreational utilization of the resource.

FISHERIES BYCATCH

Project No.: 97-NE-13 *NMFS Contact*: F/NER
Project Title: Development of Solutions for the Problem of Entanglement of Right Whales with Fixed Fishing Gear
Funding: *Federal*: $60,000

Description: To develop solutions to the problem of right whale entanglement with the buoy lines of fixed fishing gear. This will be accomplished with a contract to design, develop, and test a weak link, which will allow the surface buoy of fixed fishing gear to separate from the line when the buoy line is snagged. The contract will also include the development of a mechanism or means to replace knots and buoy attachments with smooth transitional devices that will not hang up on the baleen or appendages of right whales.

PRODUCT QUALITY AND SAFETY

Grantee: Interstate Shellfish Sanitation Conference, Columbia, SC
Grant No.: NA97FD0087 *NMFS Contact*: F/HQ
Project Title: Development of a National Education Program to Influence Consumption Behavior of High-Risk Individuals Regarding Raw Molluscan Shellfish-Phase III
Funding: *Federal:* $500,000 *Recipient:* $73,000

Description: To reduce the number of illnesses and deaths from *Vibrio vulnificus* associated with the consumption of raw oysters, the Interstate Shellfish Sanitation Conference will increase awareness of risk in high-risk individuals through an educational campaign targeted to specific high-risk groups. A baseline study will be performed at the beginning of the project, followed by targeted consumer education. Effectiveness will be evaluated at the end of the education period. The goal of this project is to increase high-risk consumer awareness of the risks of eating raw shellfish 40 percent above baseline levels and to increase the proportion of high-risk consumers who refrain from eating raw shellfish to 20 percent above baseline levels.

AQUACULTURE

Project No.: 96-SW-01 *NMFS Contact*: F/SWR
Project Title: Evaluate Ultrasound Applications in Salmonid Conservation and Aquaculture
Funding: *Federal*: $30,000

Description: To refine techniques for using ultrasound to determine the maturation of fish prior to artificial spawning. This will ensure that artificial spawning is performed only during periods of peak spawning potential and will optimize spawning success by minimizing handling of fish. The technology developed for this project will be applied to the captive breeding program for endangered winter run chinook salmon. In addition, the applications developed for this project will also enhance our ability to successfully rear other species of fish for aquaculture.

Project No.: 96-SE-GA *NMFS Contact*: F/SER
Project Title: Penaeid Aquaculture
Funding: *Federal*: $35,000

Description: To conduct further research on aquaculture of penaeids at the Galveston Laboratory, and to transfer resulting technology to the U.S. aquaculture industry.

Project No.: 96-SE-ML *NMFS Contact*: F/SER
Project Title: Evaluation of Baseline Aquaculture Permitting Protocols
Funding: *Federal*: $20,000

Description: To research, codify, and determine feasibility of base guidelines for streamlining the aquaculture permitting process. A set of common protocols, arrived at by consensus of state and Federal regulatory units, applicable research personnel, and aquaculture operators, will be developed and evaluated for practical application. Information on presently utilized aquaculture permitting procedures will be collected and analyzed. A workshop will be held to develop a draft base permitting process.

VI. COMPLETED GRANT PROGRAM PROJECTS

This section contains an assessment of each S-K Grant Program project completed during the period June 1, 2001, to May 31, 2002, regarding the extent to which the objectives of the project were attained and the project contributed to fishery development. The projects are listed by grantee within each subject area, along with the grant number, project title, federal funding level, recipient funding level (i.e., cost share), and NMFS contact.

MANAGEMENT ALTERNATIVES AND FISHERIES USER CONFLICTS

Grantee: Squaxin Island Tribe, Shelton, WA
Grant No.: NA96FD0130 *NMFS Contact*: F/NWR
Project Title: Rebuilding Naturally Spawning Coho Salmon Stocks--An Assessment of Bycatch Reduction Measures and Spawning Escapement Stock Composition in the Southern Puget Sound (Fishery Management Area 13 D-K)
Funding: *Federal*: $141,768 *Recipient*: $141,768

Assessment: The investigators examined the contribution of natural coho salmon to the total coho salmon harvest in the Squaxin Island Tribes commercial coho salmon fishery during the 1999 and 2000 commercial fisheries. The investigators also examined the contribution of hatchery strays to coho salmon escapement in local streams. Commercial harvest during the two years was extremely variable. The 1999 harvest (5,282) was the lowest on record, while the 2000 harvest (77,847) was within the range observed during the past decade. Natural coho salmon contributed 5 percent or less of the total harvest during both years. This resulted in estimates of 131 and 3,808 natural coho salmon being intercepted in the 1999 and 2000 commercial coho salmon fisheries, respectively. Although these are relatively small numbers, they represented between 16 and 129 percent of the total escapement of coho salmon (both natural and hatchery) to local streams. The contribution of hatchery strays to escapement in local streams was spatially and temporally variable. Hatchery strays contributed a greater proportion of the total escapement during 1999 and 2000 in two local streams. The proportion of hatchery strays observed in Mill Creek was more than twice that observed in Cranberry Creek. However, sample sizes were small (n = 12 to 75) for these streams. The proportion of coho salmon carcasses sampled found to be hatchery origin based on adipose fin clips varied from 0.0 to 88.9 percent for five streams. Sample sizes were extremely small (n = 1 to 9) for all but one stream (n = 79). Overall, 32.2 percent of all coho salmon sampled in local streams were hatchery strays. Results from this study will be used to reduce the interception of natural coho salmon in the Squaxin Island Tribes commercial coho salmon fishery. Results also will be used to improve estimates of natural coho salmon escapement into local streams and provide insight into means of limiting the influence of hatchery strays on local streams.

Grantee: Northwest Indian Fisheries Commission, Olympia, WA
Grant No.: NA76FD0405 *NMFS Contact*: F/NWR
Project Title: Estimation of the Stock Composition of Chum Salmon Fisheries in Puget Sound, Washington: An Improved Technical Basis for Fisheries Management--Year 3
Funding: *Federal*: $134,856 *Recipient*: $33,413

Assessment: Chum salmon fisheries in Skagit Bay, Possession Sound, Central Puget Sound, and Hood Canal were sampled weekly in 1997 and 1998. Stock composition of the samples was estimated by using genetic stock identification (GSI) analysis. Sampling crews extracted heart, liver, and muscle tissue from individual fish landed in the fisheries. Maximum likelihood estimation computed estimates of baseline chum stocks composed in the samples. Fishery samples received a two-step analysis. Lower-than-normal returns in 1997 resulted in some sampling goals not being achieved. Additional sampling taken in 1998 met with better results. Weekly mean estimates were graphically constructed from the time series of data stretching back to 1991 for the Hood Canal and Central Puget Sound catch areas and back to 1994 for the Possession Sound and Skagit Bay catch areas. Correlation coefficients were calculated from weekly stock composition estimates to compare similarities among stock groups. Negative correlation coefficients were computed between at least two stock groups in each fishery area. Overall, the GSI analysis showed that non-local stocks contributed to the terminal area harvest, at times significantly.

Grantee: University of Rhode Island, Narragansett, RI
Grant No.: NA06FD0180 *NMFS Contact*: F/NER
Project Title: Age of Loligo with Respect to Season, Location, and Depth
Funding: *Federal*: $48,007 *Recipient*: $9,294

Assessment: The goal of this project was to age a large number of long-finned inshore squid (*Loligo pealeii*) using their statoliths. This project supported an overall objective to learn how growth rate and age vary with season and latitude and to determine whether growth and maturation of the squid population(s) can be adequately odeled using only two semi-annual cohorts. The samples were collected in different geographic areas during fall, winter, and spring. Squid were aged by counting putative daily growth increments present in the statolith microstructure with the aid of digital image processing and enhancement techniques. All scheduled tasks were completed on time. This project resulted in the counting of prepared statoliths from 897 individuals, and these samples were grouped into four different regions. Very few squid were younger than 60 days or older than 180 days, and 91 percent of the samples was between 90 and 180 days old. The youngest group of samples was caught north of Cape Cod, and the oldest group was caught in the Cape Hatteras region. Among other things, the aging results of this study support the hypothesis that there is significant recruitment during the winter from late fall/winter spawnings in the Cape Hatteras region. If this is true, there is a need to protect enough winter-spawned squid biomass to allow sufficient spawning during the summer southern New England inshore spawning period and to insure subsequent recruitment of the offspring to the fishery in late fall and winter.

Grantee: Virginia Institute of Marine Science, Gloucester Point, VA
Grant No.: NA97FD0063 *NMFS Contact*: F/SER
Project Title: Development of Hypervariable, Nuclear-DNA Markers for Population Structure Analysis of Atlantic Bluefin Tuna
Funding: *Federal*: $125,866 *Recipient*: $21,539

Assessment: Hypervariable nuclear-encoded microsatellite markers were successfully generated from genomic libraries for use in studies of Atlantic bluefin tuna *Thunnus thynnus thynnus*. A total of 28 markers was fully characterized and optimized, including 16 di-nucleotide repeats, 2 tri-nucleotide repeats, and 10 tetra-nucleotide repeats. These markers were tested using at least 15 eastern and 20 western Atlantic bluefin tuna samples, and genotype distributions were found to be in Hardy-Weinburg equilibrium. In addition, 17 other loci were identified and partially characterized, but amplification parameters and primers require further optimization. This suite of markers will help to resolve the conflicting results obtained in previous genetic studies of Atlantic bluefin tuna and make a rigorous test of ICCAT's two-stock hypothesis possible.

Grantee: University of Puerto Rico, San Juan, PR
Grant No.: NA97FD0069 *NMFS Contact*: F/SER
Project Title: Management of the Red Hind Fishery in Western Puerto Rico through a Regional Demographic Analysis
Funding: *Federal*: $144,100 *Recipient*: $91,364

Assessment: The objectives of this project were to (1) evaluate the status of the red hind stock in western Puerto Rico, (2) measure the amount of genetic structuring among spawning aggregations, (3) measure spatial variability in recruitment, and (4) develop and parameterize a matrix population model to be used as a management tool. To accomplish these goals a tag-and-release study was conducted focusing on the breeding aggregations, and in an inshore reef a suite of high-resolution microsatellite markers were developed to examine the degree of genetic structuring among breeding aggregations. In addition, red hind recruits were sampled in different habitats and distances from the shoreline. Peak abundance of spawning red hinds in one of three spawning sites in western Puerto Rico was estimated at 18,000 individuals. The abundance of red hind in the inshore reef during the nonspawning period was estimated to be between 800 and 1,200 fish. Length-frequency distribution analysis of the catch data between 1990 and 2000 indicated a significant recovery of red hind stocks in western Puerto Rico since 1996, when the seasonal closure of spawning sites was initiated. The genetic analysis concluded that all the spawning aggregations in Puerto Rico and the Virgin Islands can be considered a single stock and need to be managed as a single unit. The recruitment data strongly suggested that red hind are recruiting in the deep algal flats along the west coast of Puerto Rico and are moving into the inner reefs as they attain a length of 50 mm.

FISHERIES BYCATCH

Grantee: University of Washington, Seattle, WA
Grant No.: NA96FD0120 *NMFS Contact*: F/AKR
Project Title: Reducing Seabird Bycatch in the North Pacific Longline Fisheries
Funding: *Federal*: $180,000 *Recipient*: $20,090

Assessment: This research program compared seabird bycatch mitigation strategies over two years (1999 and 2000) in two major Alaska demersal longline fisheries: the Gulf of Alaska/Aleutian Island Individual Fishing Quota (IFQ) fishery for sablefish and halibut (referred to as the sablefish fishery) and the Bering Sea catcher-processor longline for Pacific cod (referred to as the cod fishery). The investigators conducted tests over two years to account for inter-annual variation and allow for improvement and innovation. A key feature of this program was an industry-agency-academic collaboration to identify possible deterrents and test them on active fishing vessels under typical fishing conditions. The investigators reported the results of experimentally rigorous tests of seabird bycatch deterrents on the local abundance, attack rate, and hooking rate of seabirds in both fisheries. Based on the results, the investigators recommended a suite of bycatch mitigation measures, including a recommendation that all Alaska longline vessels must deploy a minimum of two streamer lines while setting longline gear.

Grantee: Pfleger Institute of Environmental Research, Oceanside, CA
Grant No.: NA06FD0447 *NMFS Contact*: F/SWR
Project Title: A Device for Greatly Reducing Fishing Mortality for Protected Giant Seabass (*Stereolepis gigas*) and Jewfish (*Epinephelus itajara*)
Funding: *Federal*: $19,211 *Recipient*: $15,999

Assessment: California's giant sea bass and Florida's goliath grouper (formerly referred to as jewfish) are both very large protected species that are incidentally caught by recreational and commercial hook and line anglers. When these fish are brought to the surface, the air in their swim bladders expands greatly, making the fish so buoyant that it cannot swim back to the bottom when released. A release device was designed and manufactured to allow commercial and recreational anglers a means of safely releasing large bottom fish with swim bladders. A prototype was built from which changes were made before a final product was produced. The final product was tested in the field on giant seabass and goliath grouper. Fish captured and released with this device were shown to survive through the use of acoustic tagging and tracking. Twenty-five of these devices were manufactured for the distribution to commercial and party boats that routinely encounter these large protected species.

PRODUCT QUALITY AND SAFETY

Grantee: University of Arizona, Tucson, AZ
Grant No.: NA06FD0448 *NMFS Contact*: F/SWR
Project Title: Development of Real-Time PCR Assays for Detection of White Spot Syndrome Virus, Yellow Head Virus, Taura Syndrome Virus, and Infectious Hypodermal and Hematopoietic Necrosis in Penaeid Shrimp
Funding: *Federal*: $75,393 *Recipient*: $47,671

Assessment: Real-time PCR and real-time RT-PCR (reverse transcription-PCR) methods have been developed for shrimp viruses. Real-time PCR was developed for the detection of white spot syndrome virus (WSSV) and infectious hypodermal and hematopoietic necrosis virus (IHHNV). Real-time RT-PCR was developed to detect Taura syndrome virus (TSV) and yellow head virus (YHV). The work involves the selection of PCR (and RT-PCR) primers and TaqMan probes from the viral genomes. These primers/probes proved to be conserved among various viral isolates, and they are specific to each virus. The assay protocols have been optimized to include 300 nM of primers and 150 nM of TaqMan probe. Recombinant plasmids were constructed and cloned to use as positive controls. The sensitivity was determined to be less than 10 copies for IHHNV and WSSV, and 10-100 for YHV and TSV. This method, which has been shown to be rapid with high throughput and sensitivity, can be used to screen viruses in shrimp and other marine products that are imported to the United States as well as to those that are being exported.

Grantee: South Carolina Department of Natural Resources, Charleston, SC
Grant No.: NA97FD0066 *NMFS Contact*: F/SER
Project Title: Sampling and Evaluation of White Spot and IHHN Virus in Commercially Important South Atlantic Penaeid Shrimp Stocks
Funding: *Federal*: $136,931 *Recipient*: $42,494

Assessment: In 1997, white spot virus (WSV) was discovered in shrimp culture facilities in South Carolina. This disease was known to cause devastating mortalities in culture populations in Southeast Asia and prompted concern for the health of wild populations in the United States. This study surveyed wild shrimp populations for the presence of WSV by using existing molecular diagnostics and bioassay techniques. A total of 1,150 individuals were examined for the presence of WSV DNA by polymerase chain reaction. A total of 32 individuals tested positive and were used in a bioassay to examine the transmission of disease to healthy individuals. DNA sequencing of positive individuals confirmed that the positive individuals carried WSV DNA. Significant mortalities were seen in test animals exposed to tissue extracts from heavily infected wild animals. These data confirmed the existence of WSV in wild shrimp stocks along the Atlantic Coast and that the virus can cause mortalities in cultured stocks.

AQUACULTURE

Grantee: Pacific Shellfish Institute, Olympia, WA
Grant No.: NA96FD0194 *NMFS Contact*: F/NWR
Project Title: Manila Clam Mortality and Health Evaluation
Funding: *Federal*: $168,111 *Recipient*: $32,410

Assessment: The overall goal of this project was to initiate the establishment of production standards and a health baseline for intensive clam production on the west coast of the United States. The baseline data on manila clam health can be used to assist state and tribal shellfish biologists in assessments of public and tribal clam resources. The following tasks were proposed in order to implement these objectives and were fulfilled, with small modifications necessitated by results obtained during the study and additional input from shellfish producers during the study:

1. Cooperative industry clam survival and performance study: Sites of intensive clam production were monitored over a one-year period using defined plots in which clam growth, survival, condition, and health was measured in conjunction with monitoring for a variety of environmental parameters. Clam growers participated directly in the study.
2. Survey of clam health and disease in Washington, Oregon, and California: Adult and seed clams were examined histologically for the presence of infectious diseases to initiate a health baseline for clam production areas. As a result, a baseline of clam health for the west coast was established.
3. Evaluation of short-term freezing and freshwater exposure effects on clams: Experimental studies were conducted at a clam production facility to define, in detail, tolerance of various clam populations to low-salinity exposures, followed by recovery periods. Additionally, clams were analyzed by detailed necropsy and histology methods in order to define the pathological criteria for the diagnosis of low-salinity and freezing condition exposures.
4. Clam mortality response team: The project staff, along with associated scientists from the University of Washington, responded to several clam mortality events during the study.

Grantee: Regents of the University of California, Santa Barbara, CA
Grant No.: NA96FD0208 *NMFS Contact*: F/SWR
Project Title: Restoration of the White Abalone in Southern California: Population Assessment, Brood Stock Collection, and Development of Husbandry Technology
Funding: *Federal*: $244,806 *Recipient*: $105,841

Assessment: In 2001, white abalone, *Haliotis sorensoni*, became the first marine invertebrate to be listed as an endangered species. A submarine survey of rocky reefs for white abalone at offshore islands and banks in southern California found white abalone at densities three orders of magnitude lower than historically reported. Using the abundance of abalone at different locations and the amount of potentially suitable habitat at these locations, the investigators conservatively estimated that 3,000 individuals (or < 2.3 metric tons) remain in California (most on the offshore banks) compared with the total combined

commercial landing of >280 metric tons. An estimate of the number of white abalone in Mexico (based on rough estimates of suitable habitat) only added another 200-2,000 animals to the total abundance for the species. Abalone were associated with *Laminaria farlowii* (an alga) and occurred on relatively large rocks (with a variety of algal/invertebrate cover), usually near the rock-sand interface. The investigators were able to collect several white abalone and hold them in captivity until they were ready to spawn. Spawning resulted in settled juveniles that are presently under culture.

Grantee: Coral Reef Foundation, Koror, Palau
Grant No.: NA86FD0068 *NMFS Contact*: F/SWR
Project Title: Culture of Marine Fish for the Home Aquarium Industry
Funding: *Federal*: $32,640 *Recipient*: $10,420

Assessment: The revised objectives of this project were (1) to investigate the technical feasibility of using wild captured pelagic juveniles as a source of fishes to be reared further or sold to the marine aquarium export market(s); (2) to investigate the larval rearing of various coral reef fish species not previously investigated; and (3) to investigate new low-technology methods of collecting eggs directly off the coral reefs of Palau. Moored plankton trawls were found to be an ineffective way to capture marine aquarium fishes in Palau, and this method is unlikely to be successful in other parts of Micronesia. However, the investigators found that planktonic eggs of many species can be captured downstream of spawning sites with moored plankton nets. In Palau, egg fluxes off reefs can number in the hundreds of thousands of eggs per linear meter per day. Moored fine mesh nets on reef flats and fore-reef areas were found to be an ineffective means of capturing high-value marine aquarium fishes. Furthermore, the low-value fishes captured would not cover costs involved in setting nets. Large numbers of planktonic reef fish eggs were collected down-current of spawning sites using moored plankton nets and used for rearing work. The eggs of 30-40 species of scarids, labrids, acanthurids were collected, and the locations, timing, and behavior of the exceptionally valued humphead wrasse *Cheilinus undulatus* were documented. Special effort was directed at the successful collection of regal angelfish *Pygoplites diacanthus* eggs, but the species was not reared. The mandarinfish *Synchiropus splendidus* was reared from egg and used to establish a prototype culture rearing system.

Grantee: Woods Hole Oceanographic Institution, Woods Hole, MA
Grant No.: NA96FD0078 *NMFS Contact*: F/NER
Project Title: Aquaculture Regulation: Economic and Legal Models for the U.S. Exclusive Economic Zone
Funding: *Federal*: $92,935 *Recipient*: $26,107

Assessment: This research project focused on problems of "access" to ocean space in the U.S. Exclusive

Economic Zone (EEZ) as one of the principal impediments to realizing the nation's aquacultural potential. This project was designed to (1) develop a framework for analyzing access system design; (2) characterize an economically optimal access system for ocean aquaculture operations; and (3) complement, using economic analysis, current efforts by academics, public interest groups, federal agencies, and the U.S. Congress to develop laws and regulations governing ocean aquaculture in the U.S. EEZ. More generally, the project results demonstrated the utility of approaching optimal allocation of ocean space from an economic point of view. The investigators also developed (1) a model of market demand for sea scallops and blue mussels in New England and an economic analysis of their grow-out in open ocean aquaculture operations; (2) a bioeconomic model of finfish grow-out operations in New England waters; (3) a model of optimal scale of an open ocean aquaculture operation when it leads to adverse biological or economic impacts on a commercial fishery operating in the same region; and (4) a policy analysis that characterizes access systems in terms of clarifying the costs and benefits of systems designed to achieve alternative public policy objectives. Together, these four project components comprise a policy analysis framework that demonstrates the method by which decisions to site aquaculture facilities can be made on the basis of economic criteria.

Grantee: University of Delaware, Lewes, DE
Grant No.: NA96FD0079 *NMFS Contact*: F/NER
Project Title: Genetic Monitoring of Oyster Stock Enhancement in the Chesapeake Bay
Funding: *Federal*: $68,835 *Recipient*: $24,819

Assessment: This project demonstrated that genetic tagging can provide an effective and practical method of evaluating the biological success of a marine enhancement program. Specifically, a high throughput approach for DNA screening was developed and successfully applied to an oyster restoration project in the Chesapeake Bay. The basic approach used in this project can readily be extended to other shellfish or finfish enhancement programs, providing a valuable tool for direct assessment of the success of a stocking program. Additional work to be done involves the extension of this approach to other shellfish enhancement programs. Most oyster stocking efforts in Chesapeake Bay do not deploy the genetically distinct Gulf Coast seed, but rather use either wild stock or hatchery stock of Atlantic coast origin. Methods for rapid profiling of hatchery stocks to discover genetic tags comparable to the one used in this project are needed to enable this approach to be applied more widely.

HABITAT CONSERVATION

Grantee: University of Florida, Gainesville, FL
Grant No.: NA97FD0065 *NMFS Contact*: F/SER
Project Title: Conserving and Enhancing Essential Fish Habitats by Differentiating the Specific Sources of Fecal Pollution in Estuarine Waters

Funding: *Federal*: $89,922 *Recipient*: $13,192

Assessment: Estuarine waters are the habitat of numerous marine species including mulluscan shellfish and are increasingly impacted by fecal bacteria, signifying a decrease in water quality and potential risk of human and resource disease. Identifying the source of fecal pollution is paramount in assessing the appropriate action necessary to remedy the problem. This study extended previous research that identified sources of fecal pollution by generating DNA fingerprints (ribotypes), multiple antibiotic resistance (MAR) profiles, and serotype profiles of *Escherichia coli* and by using these tools to classify the sources from which the organisms originated. By including a greater variety of *E. coli* isolated from livestock, humans, and wildlife, it was anticipated that the sources of pollution could be identified at the species level. The results of this research indicate that ribotyping and MAR procedures, while not capable of identifying *E. coli* at the species level, are still effective tools for discriminating human from nonhuman fecal pollution.

VII. COMPLETED NATIONAL PROGRAM PROJECTS

This section contains an assessment of each S-K National Program project completed during the period June 1, 2001, to May 31, 2002, regarding the extent to which the objectives of the project were attained and the project contributed to fishery development. The projects are listed by subject area, along with the project number, project title, federal funding level, and NMFS contact.

FISHERIES UTILIZATION

Grantee: Alaska Fisheries Development Foundation, Anchorage, AK
Grant No.: NA86FD0580 *NMFS Contact*: F/AKR
Project Title: An Ocean of Answers
Funding: *Federal*: $150,000 *Recipient*: $0

Assessment: This project attempted to establish a methodology and approach whereby the Alaska Fisheries Development Foundation (AFDF) could build a more stable funding mechanism by creating a privately funded endowment. The investigators conducted a fund-raising feasibility study, which concluded that the AFDF should focus on charitable trusts with a history of granting funds to similar nonprofit institutions. In the course of designing and setting up a full-scale endowment campaign, the investigators rewrote AFDF's mission statement and developed presentation materials. The investigators published newsletters to publicize the AFDF's endowment campaign. In addition, three projects were identified that could potentially provide funding for an endowment, although these projects did not live up to their potential upon further investigation. In summary, the goal of creating an endowment for the AFDF proved to be much more difficult than anticipated. Charitable trusts indicated that business development organizations like the AFDF should be funded by industry, but industry entities were unwilling to make substantial donations due to the entities' financial situations. However, the investigators feel there are still a number of unexplored possibilities in private partnership arrangements.

APPENDIX I

ADDRESSES OF NATIONAL MARINE FISHERIES SERVICE OFFICES

Information regarding the Saltonstall-Kennedy Grant Program may be obtained from the following offices of the National Marine Fisheries Service:

Alicia L. Jarboe, National Marine Fisheries Service (F/CS)
Financial Services Division
1315 East West Highway
Silver Spring, Maryland 20910
Telephone: (301) 713-2358
Email: alicia.jarboe@noaa.gov

Kenneth L. Beal, National Marine Fisheries Service (F/NER)
State, Federal & Constituent Programs Division
One Blackburn Drive
Gloucester, Massachusetts 01930
Telephone: (978) 281-9267
Email: ken.beal@noaa.gov

Ellie F. Roche, National Marine Fisheries Service (F/SER)
Cooperative Programs Division
9721 Executive Center Drive, North
Koger Building
St. Petersburg, Florida 33702
Telephone: (727) 570-5324
Email: ellie.roche@noaa.gov

Patricia J. Donley, National Marine Fisheries Service (F/SWR)
Fisheries Management Division
501 West Ocean Boulevard, Room 4200
Long Beach, California 90802-4213
Telephone: (562) 980-4030
Email: pat.donley@noaa.gov

Kevin A. Ford, National Marine Fisheries Service (F/NWR)
Trade and Industry Services Division
7600 Sand Point Way, NE
BIN C15700, Building 1
Seattle, Washington 98115
Telephone: (206) 526-6115
Email: kevin.ford@noaa.gov

Barbara A. Fosburg, National Marine Fisheries Service (F/AKR)
Office of Management and Information
P.O. Box 21668
Juneau, Alaska 99802
Federal Building
709 W. 9th Street, 4th Floor
Juneau, Alaska 99801

Telephone: (907) 586-7273
Email: barbara.fosburg@noaa.gov

APPENDIX II

FY 2002 SOLICITATION NOTICE, PUBLISHED IN THE *FEDERAL REGISTER* MAY 14, 2002

Building, at NIST, Gaithersburg, Maryland. Please note admittance instructions under **SUMMARY** paragraph.

FOR FURTHER INFORMATION CONTACT: Carolyn J. Stull, Visiting Committee on Advanced Technology, National Institute of Standards and Technology, Gaithersburg, Maryland 20899–1004, telephone number (301) 975–5607.

SUPPLEMENTARY INFORMATION: The Assistant Secretary for Administration, with the concurrence of the General Counsel, formally determined on January 16, 2002, that portions of the meeting of the Visiting Committee on Advanced Technology which involve discussion of proposed funding levels of the Advanced Technology Program and the Manufacturing Extension Partnership Program may be closed in accordance with 5 U.S.C. 552b(c)(9)(B), because those portions of the meetings will divulge matters the premature disclosure of which would be likely to significantly frustrate implementation of proposed agency actions; and that portions of meetings which involve discussion of the staffing issues of management and other positions at NIST may be closed in accordance with 5 U.S.C. 552b(c)(6), because divulging information discussed in those portions of the meetings is likely to reveal information of a personal nature where disclosure would constitute a clearly unwarranted invasion of personal privacy.

Dated: May 6, 2002.

Karen H. Brown,

Deputy Director.

[FR Doc. 02–12039 Filed 5–13–02; 8:45 am]

BILLING CODE 3510–13–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[Docket No. 960223046–2083–07; I.D. 032002A]

RIN 0648–ZA09

Financial Assistance for Research and Development Projects to Strengthen and Develop the U.S. Fishing Industry

AGENCY: National Marine Fisheries Service (NMFS), NationalOceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of solicitation for applications.

SUMMARY: NMFS (hereinafter ''we'' or ''us'') issues this document to describe how to apply for funding under the Saltonstall-Kennedy (S-K) Grant Program and how we will determine whether to fund a proposal.

Under the S-K Program, we provide financial assistance for research and development projects that address various aspects of U.S. fisheries (commercial or recreational), including, but not limited to, harvesting, processing, marketing, and associated infrastructures.

DATES: We must receive your application by the close of business July 15, 2002 in one of the offices listed in section *I.H. Application Addresses* of this document. You must submit one signed original and nine signed copies of the completed application (including supporting information). We will not accept facsimile applications.

ADDRESSES: You can get an application package from, and send your completed application(s) to, the NMFS Regional Administrator located at any of the offices listed in section I.H. of this document. You may also get the application package from the S-K Home Page (*see* section I.I.). However, we cannot accept completed applications electronically.

FOR FURTHER INFORMATION CONTACT: Alicia L. Jarboe, S-K Program Manager, (301) 713–2358.

SUPPLEMENTARY INFORMATION:

I. Introduction

We are soliciting applications for Federal assistance under the Saltonstall-Kennedy Act (S-K Act), as amended (15 U.S.C. 713c–3). This document describes how you can apply for funding under the S-K Grant Program, and how we will determine which applications we will fund. We will set aside $5 million of the expected $10.3 million available to fund projects under a new priority under section II.A., Atlantic Salmon Aquaculture Development Considering the Endangered Species Status of Atlantic Salmon. We will use the remaining estimated $5.3 million to fund the other priorities under sections II.B.-F.

A. Background

The S-K Act established a fund (known as the S-K fund) that the Secretary of Commerce uses to provide grants or cooperative agreements for fisheries research and development projects addressed to any aspect of U.S. fisheries, including, but not limited to, harvesting, processing, marketing, and associated infrastructures. U.S. fisheries include any fishery, commercial or recreational, that is, or may be, engaged in by citizens or nationals of the United States, or citizens of the Northern Mariana Islands (NMI), the Republic of the Marshall Islands, Republic of Palau, and the Federated States of Micronesia.

The objectives of the S-K Grant Program, and, therefore, the funding priorities, have changed since the program began in 1980. The program has evolved as fishery management laws and policies, and research needs, have evolved in response to changing circumstances.

The original focus of the program was to develop underutilized fisheries within the U.S. Exclusive Economic Zone (EEZ, i.e., 3–200 miles (5.6–370.4 kilometers) off the coast). This focus was driven in part by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). The Magnuson-Stevens Act, originally passed in 1976, directed us to give the domestic fishing industry priority access to the fishery resources in the EEZ. In 1980, the American Fisheries Promotion Act (AFPA) amended the S-K Act to stimulate commercial and recreational fishing efforts in underutilized fisheries. The competitive S-K Program initiated as a result of the AFPA included fisheries development and marketing as funding priorities.

In the following years, the efforts to Americanize the fisheries were successful to the point that most nontraditional species were fully developed and some traditional fisheries became overfished. Therefore, we changed the emphasis of the S-K Program to address conservation and management issues and aquaculture.

In 1996, the Sustainable Fisheries Act (SFA) (Pub. L. 104–297), was enacted. The SFA amended the Magnuson-Stevens Act and supported further adjustment to the S-K Program to address the current condition of fisheries.

The Magnuson-Stevens Act, as amended by the SFA, requires us to undertake efforts to prevent overfishing, rebuild overfished fisheries, insure conservation, protect essential fish habitat (EFH), and realize the full potential of U.S. fishery resources. It further requires that we take into account the importance of fishery resources to fishing communities; provide for the sustained participation of such communities; and, to the extent possible, minimize the adverse economic impacts of conservation and management measures on such communities. The Magnuson-Stevens Act defines a ''fishing community'' as ''a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel

owners, operators, and crew and United States fish processors that are based in such community.'' (16 U.S.C. 1802 (16)). We have refocused the S-K Program to address the needs of fishing communities as defined by the Magnuson-Stevens Act.

The NOAA Strategic Plan, updated in 1998, has also shaped the S-K Program. The Strategic Plan has three goals under its Environmental Stewardship Mission: Build Sustainable Fisheries (BSF), Recover Protected Species, and Sustain Healthy Coasts. The fisheries research and development mission of the S-K Program directly relates to the BSF goal. There are three BSF objectives in the Strategic Plan:

1. Eliminate and prevent overfishing and excess harvesting capacity.

2. Attain economic sustainability in fishing communities.

3. Develop environmentally and economically sound marine aquaculture.

For the FY 2002 S-K Grant Program announced in this document, we have attempted to address the most important needs of fishing communities in terms of the preceding BSF objectives. This goal is reflected in the funding priorities listed in section II of this document. Successful applications will be those aimed at helping fishing communities to resolve issues that affect their ability to fish; make full use of currently managed species or explore the potential for development of new sustainable managed fisheries; develop environmentally sound aquaculture; and address the socioeconomic impacts of overfishing and excess harvesting capacity.

The S-K Program is open to applicants from a variety of sectors, including industry, academia, and state and local governments. We encourage applications that involve collaboration between industry and the other sectors listed.

B. Changes from the Last Solicitation Notice

We have made several changes in this document from the last S-K Grant Program solicitation notice published on March 7, 2001 (66 FR 13701). Therefore, we encourage you to read the entire document before preparing your application.

The scope of the program for FY 2002 is not limited to species under Federal jurisdiction (whether under Fishery Management Plans (FMPs) or not), but includes state managed fisheries as well.

We have added a new priority under section II.A., Atlantic Salmon Aquaculture Development Considering the Endangered Species Status of Atlantic Salmon. Maine's Atlantic salmon aquaculture industry is the top producer of cultured salmon in the United States and provides 2,500 jobs, generates $140 million in personal income, and serves as an increasingly important source of food protein to U.S. consumers.

Atlantic salmon in the eight Maine rivers were listed as endangered under the Endangered Species Act (ESA) (16 U.S.C. 1531–1544) in November 2000. Interbreeding with and competition from escaped farm-raised salmon from Maine's aquaculture industry may threaten the wild salmon population in the Gulf of Maine. The continuation of the Atlantic salmon aquaculture industry depends on eliminating the threats the industry poses to the endangered wild Atlantic salmon.

We will use $5 million of the expected $10.3 million available to fund only projects under this priority. The remaining $5.3 million will be allocated, in no predetermined amounts, among the other priority areas, including the additional priorities mentioned below.

Another new priority is Fishing Capacity Reduction under the Magnuson Stevens Act Sections 312(b)-(e). This replaces the priority Planning for Fishing Community Transition in our FY 2001 program.

We have also added a priority entitled, Fisheries Socioeconomics.

The Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements published in the **Federal Register** October 1, 2001 (66 FR 49917), are applicable to this solicitation. Therefore, this solicitation does not include a discussion of the individual requirements.

C. Funding

We expect to have approximately $10.3 million available for grant awards for Fiscal Year (FY) 2002, which began on October 1, 2001. However, we cannot guarantee that sufficient funds will be available to make awards for all proposals deserving of funding.In order to be funded under the S-K Grant Program, applications must propose activities that: address one of the funding priorities listed in section II of this document; are expected to produce a direct benefit (e.g., tool, information, service, or technology) to the fishing community (as defined in section I.A. of this document); and can be accomplished within 18 months. Acceptable research and development activities include applied research, demonstration projects, pilot or field testing, or business plan development. However, we will not fund projects that primarily involve infrastructure construction, port and harbor development, or start-up or operational costs for private business ventures. Furthermore, if your proposed project primarily involves data collection, we will only consider it if it is directed to a specific problem or need and has a fixed duration. We will not consider data collection programs of a continuing nature.

D. Eligibility

You are eligible to apply for a grant or a cooperative agreement under the S-K Grant Program if:

1. You are a citizen or national of the United States;

2. You are a citizen of the NMI, being an individual who qualifies as such under section 8 of the Schedule on Transitional Matters attached to the constitution of the NMI;

3. You are a citizen of the Republic of the Marshall Islands, Republic of Palau, or the Federated States of Micronesia; or

4. You represent an entity that is a corporation, partnership, association, or other non-Federal entity, non-profit or otherwise (including Indian tribes), if such entity is a citizen of the United States or NMI, within the meaning of section 2 of the Shipping Act, 1916, as amended (46 U.S.C. app. 802).

We support cultural and gender diversity in our programs and encourage women and minority individuals and groups to submit applications. Furthermore, we recognize the interest of the Secretaries of Commerce and Interior in defining appropriate fisheries policies and programs that meet the needs of the U.S. insular areas, so we also encourage applications from individuals, government entities, and businesses in U.S. insular areas.

We are strongly committed to broadening the participation of Minority Serving Institutions (MSIs), which include Historically Black Colleges and Universities, Hispanic Serving Institutions, and Tribal Colleges and Universities, in all of our programs, including S-K. Therefore, we encourage all applicants to include meaningful participation of MSIs.

We encourage applications from members of the fishing community, and applications that involve fishing community cooperation and participation. We will consider the extent of fishing community involvement when evaluating the potential benefit of funding a proposal.

You are not eligible to submit an application under this program if you are an employee of any Federal agency, a Fishery Management Council (Council), or an employee of a Council.

However, Council members who are not Federal employees can submit an application to the S-K Program.

Our employees (whether full-time, part-time, or intermittent) are not allowed to help you prepare your application, except that S-K Program staff may provide you with information on program goals, funding priorities, application procedures, and completion of application forms. Since this is a competitive program, NMFS and NOAA employees will not help with conceptualizing, developing, or structuring proposals, or write letters of support for a proposal.

E. Duration and Terms of Funding

We will award grants or cooperative agreements for a maximum period of 18 months. We award cooperative agreements in those situations where we anticipate having substantial involvement in the project. ''Substantial involvement'' means we will share responsibility for management, control, direction, or performance of the project with you, the recipient of the award.

We do not fund multi-year projects under the S-K Program. If we select your application for funding and you wish to continue work on the project beyond the funding period, you must submit another proposal to the competitive process for consideration, and you will not receive preferential treatment.

Even though we are publishing this announcement, we are not required to award any specific grant or cooperative agreement, nor are we required to obligate any part or the entire amount of funds available.

F. Cost Sharing

We are requiring cost sharing in order to leverage the limited funds available for this program and to encourage partnerships among government, industry, and academia to address the needs of fishing communities. You must provide a minimum cost share of 10 percent of total (Federal and non-Federal combined) project costs, but your cost share must not exceed 50 percent of total costs.

You may find this formula useful:

1. Total Project Cost (Federal and non-Federal cost share combined) x .9 = Maximum Federal Share.

2. Total Cost - Federal share = Applicant Share.

For example, if the proposed total budget for your project is $100,000, the maximum Federal funding you can apply for is $90,000 ($100,000 x .9). Your cost share in this case would be $10,000 ($100,000 - $90,000).

For a total project cost of $100,000, you must contribute at least $10,000, but no more than $50,000 (10–50 percent of total project cost). Accordingly, the Federal share you apply for would range from $50,000 to $90,000. If your application does not comply with these cost share requirements, we will return it to you and will not consider it for funding.

The funds you provide as cost sharing may include funds from private sources or from state or local governments, or the value of in-kind contributions. You may not use Federal funds to meet the cost sharing requirement except as provided by Federal statute. In-kind contributions are non-cash contributions provided to you by non-Federal third parties. In-kind contributions may include, but are not limited to, personal services volunteered to perform tasks in the project, and permission to use, at no cost, real or personal property owned by others.

We will determine the appropriateness of all cost sharing proposals, including the valuation of in-kind contributions, on the basis of guidance provided in 15 CFR parts 14 and 24. In general, the value of in-kind services or property you use to fulfill your cost share will be the fair market value of the services or property. Thus, the value is equivalent to the cost for you to obtain such services or property if they had not been donated. You must document the in-kind services or property you will use to fulfill your cost share.

If we decide to fund your application, we will require you to account for the total amount of cost share included in the award document. (See 66 FR 49918, October 1, 2001, for additional information on cost sharing).

G. Catalog of Federal Domestic Assistance (CFDA)

The S-K Grant Program is listed in the CFDA under 11.427, Fisheries Development and Utilization Research and Development Grants and Cooperative Agreements Program.

H. Application Addresses

Northeast Region, NMFS, One Blackburn Drive, Gloucester, MA 01930; (978) 281–9267.

Southeast Region, NMFS, 9721 Executive Center Drive, North,

St. Petersburg, FL 33702–2432, (727) 570–5324.

Southwest Region, NMFS, 501 West Ocean Boulevard, Suite 4200, Long Beach, CA 90802–4213, (562) 980–4033.

Pacific Islands Area Office, NMFS, 1601 Kapiolani Boulevard, Suite 1110, Honolulu, HI 96814–4700, (808) 973–2937.

Northwest Region, NMFS, 7600 Sand Point Way, N.E., BIN C15700, Building 1, Seattle, WA 98115, (206) 526–6115.

Alaska Region, NMFS, P.O. Box 21668, Juneau, AK 99802 or

Federal Building, 709 West 9th Street, 4th Floor, Juneau, AK 99801–1668, (907) 586–7224.

I. Electronic Access Addresses

This solicitation and the application package are available on the NMFS S-K Home Page at: www.nmfs.noaa.gov/sfweb/skhome.html.

A copy of the Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements (66 FR 49917) is also available on the S-K Home Page.

The CFDA is available at: www:cfda.gov/.

The 1998 updated Executive Summary of the NOAA Strategic Plan is available at: www.strategic.noaa.gov/ and the Magnuson-Stevens Act is available at: www.nmfs.noaa.gov/sfa/magact/.

A list of institutions considered to be MSIs is available at: www.ed.gov/offices/OCR/minorityinst.html.

The Buyback Framework regulations pertaining to Priority B (50 CFR 600.1000 *et seq.*) are available at: www.access.gpo.gov/nara/cfr/waisidx—01/50cfr600—01.html.

Federal Business Opportunities (replacement for the Commerce Business Daily) is available at: *www.fedbizopps.gov*.

II. Funding Priorities

Your proposal must address one of the six priorities listed here.

If we do not receive proposals that adequately respond to the priorities listed, we may use S-K funds to carry out a national program of research and development addressed to aspects of U.S. fisheries pursuant to section 713c–3(d) of the S-K Act, as amended.

The priorities are not listed in any particular order and each is of equal importance, although the funds are partitioned between priority A and the remaining priorities. We will set aside $5 million to fund projects under Priority A. The remaining estimated $5.3 million may be used to fund projects under Priorities B through F. There is no similar predetermined allocation for portions of the $5.3 million among Priorities B through F.

If we do not receive sufficient fundable applications to use the entire $5 million reserved for Priority A, we will carry the remainder over to address the Atlantic salmon aquaculture priority in our FY 2003 competition.

A. Atlantic Salmon Aquaculture Development Considering the Endangered Species Status of Atlantic Salmon

Promote the continued development of the Atlantic salmon aquaculture industry, by minimizing the potential for negative impacts on wild Atlantic salmon, which is listed as endangered under the ESA. Acceptable activities include the development and testing of:

More secure cages to reduce farmed fish escapement;

Brood stock strains that grow more quickly, better resist disease, or pose less genetic threat to North Atlantic wild salmon stocks;

Improved marks or tags to trace potential escapes of farmed fish;

Vaccines or other methods to prevent the spread of disease between farmed fish and wild fish; and

Improved methods to monitor sea cage integrity and farmed fish disease.

Note, if your application addresses Priority A you should submit it to the NMFS Northeast Region, regardless of your location (see I.H., Application Addresses).

B. Fishing Capacity Reduction under the Magnuson-Stevens Act Sections 312(b)-(e)

Promote the reduction of excess harvesting capacity in appropriate fisheries by analyses and evaluations that prepare the proponents of buybacks financed by NMFS loans under Title XI of the Merchant Marine Act to consider, plan for, organize, justify, support, and effect financed buybacks. (See 50 CFR part 600.1000, *et seq.* for framework rules governing buybacks; see section I.I. for electronic address of rules.) Acceptable activities include, but are not limited to:

1. Analyzing cost/benefit to determine a fishery's potential for financed buyback, including:

a. Establishing the type of financed buyback (i.e., permit only or permit and vessel buyback) that reduces the maximum capacity at the least cost in the least amount of time;

b. Knowledgeably estimating various capacity ranges in a fishery that could be bought back at various cost ranges;

c. Evaluating harvesters' pre-buyback cost-income, how various buyback capacity/cost ranges could change post-buyback cost-income, the prospective ability of post-buyback harvesters to pay the estimated fees to service the buyback loan, and the benefits to them of doing so; and

d. Assuming the fishery's FMP already prohibits new entrants to the fishery, establishing the scope and possible content of appropriate FMP amendments that might first be required to effectively and permanently resolve latent capacity in that fishery prior to buyback, and to prevent post-buyback vessel upgrading or other circumstances from replacing the capacity that a buyback removes.

2. Evaluating detailed means and methods for industry buyback proponents in the fishery to efficiently and effectively:

a. Survey potential referendum voters (each permit holder in the buyback fishery) to establish the prospective degree of interest in, and support for, a financed buyback in that fishery, and

b. Prepare a successful financed buyback application and

business plan (see 50 CFR 600.1003).

In addition to the above, responsible proponents of financed buybacks in individual fisheries may also submit proposals to prepare actual financed buyback applications and business plans for that fishery.

Note, depending on the type of activity you propose, you may be required to obtain approval under the Paperwork Reduction Act (PRA) for surveys, etc., related to this priority. You should consider this when preparing your application and estimated time lines.

C. Conservation Engineering

Reduce or eliminate adverse interactions between fishing operations and nontargeted, protected, or prohibited species, including the inadvertent take, capture, or destruction of such species. These include juvenile or sublegal-sized fish and shellfish, females of certain crabs, fish listed under the ESA, marine turtles, seabirds, or marine mammals.

Improve the survivability of fish discarded or intentionally released and of protected species released in fishing operations.

Reduce or eliminate impacts of fishing activity on EFH that adversely affect the sustainability of the fishery.

D. Optimum Utilization of Harvested Resources under Federal or State Management

Reduce or eliminate factors such as diseases, human health hazards, and quality problems that limit the utilization of fish and their products in the United States and abroad.

Increase public knowledge of the safe handling and use of fish and their products.

Develop usable products from economic discards (defined in the Magnuson-Stevens Act as ''fish which are the target of a fishery, but which are not retained because they are of an undesirable size, sex, or quality, or for other economic reasons''), underutilized species, and byproducts of processing.

Facilitate industry cooperation and outreach to promote and enhance marketability of regional U.S. fishery products.

Collect data on population dynamics, life histories, etc., of fish not currently under Federal FMPs, for the Councils to determine the feasibility of a new federally managed fishery that could provide additional fishing opportunity.

E. Marine Aquaculture

Advance the implementation of marine aquaculture by addressing technical aspects such as systems engineering, environmental compatibility, and culture technology.

Reduce or eliminate legal and social barriers to aquaculture development, e.g., legal constraints, use conflicts, exclusionary mapping, and appropriate institutional roles.

Address environmental issues for marine aquaculture, e.g., measure and reduce water quality and benthic community impacts; evaluate and reduce negative interactions between aquaculture and wild stocks, protected resources, and EFH; develop best management practices with scientific analysis and assessment of risk. Note, proposals pertaining to Atlantic salmon aquaculture should be submitted under Priority A.

Develop effective enhancement strategies for marine and anadromous species to help in the recovery of wild stocks.

F. Fisheries Socioeconomics

Improve the understanding of the socioeconomic aspects of fisheries to increase the knowledge base for making decisions that affect commercial, recreational, and subsistence fishing. Examples could include, but are not limited to, ethnographic baseline data on specific fishing communities; cost-income data; analyses of the socioeconomic impacts of specific management measures in certain fisheries; analyses of factors influencing demand for recreational fishing trips by anglers; and, market analyses to determine factors that influence demand and supply of specific seafood products, including imports.

Such initiatives must be discrete projects that can be carried out within an 18–month maximum project period. Studies must not duplicate or overlap any other ongoing socioeconomic data collection and analyses programs. We encourage projects that are industry-

sponsored but involve the academic community or management agencies.

Note, depending on the type of activity you propose, you may be required to obtain approval under the PRA for surveys, etc., related to this priority. You should consider this when preparing your application and estimated time lines.

III. How to Apply

You must follow the instructions in this document in order to apply for a grant or cooperative agreement under the S-K Program. Your application must be complete and must follow the format described here. Your application should not be bound in any manner and must be printed on one side only. You must submit one signed original and nine signed copies of your application.

A. Cover Sheet

You must use Office of Management and Budget (OMB) Standard Form 424 and 424B (4–92) as the cover sheet for each project. (In order to complete item 16 of Standard Form 424, see section V.A.3. of this document.)

B. Project Summary

You must complete NOAA Form 88–204 (10–01), Project Summary, for each project. You must list on the Project Summary form the specific priority to which the application responds (see section II. of this document).

C. Project Budget

You must submit a budget for each project, using NOAA Form 88–205 (10–01), Project Budget and associated instructions. You must provide detailed cost estimates showing total project costs. Indicate the breakdown of costs between Federal and non-Federal shares, divided into cash and in-kind contributions. To support the budget, describe briefly the basis for estimating the value of the cost sharing derived from in-kind contributions. Specify estimates of the direct costs in the categories listed on the Project Budget form.

You may also include in the budget an amount for indirect costs if you have an established indirect cost rate with the Federal government. For this solicitation, the total dollar amount of the indirect costs you propose in your application must not exceed the indirect cost rate negotiated and approved by a cognizant Federal agency prior to the proposed effective date of the award, or 100 percent of the total proposed direct costs dollar amount in the application, whichever is less.

Furthermore, the Federal share of the indirect costs you propose must not exceed 25 percent of the total proposed direct costs. If your application requests more than 25 percent of the total costs as Federal funds to cover indirect costs, the application will be returned to you and will not be considered for funding.

If you have an approved indirect cost rate above 25 percent of the total proposed direct cost, you may use the amount above the 25–percent level up to the 100–percent level as part of the non-Federal share. You must include a copy of the current, approved, negotiated indirect cost agreement with the Federal government with your application. (See 66 FR 49919, October 1, 2001, for further information on indirect costs.)

We will not consider fees or profits as allowable costs in your application.

The total costs of a project consist of all allowable costs you incur, including the value of in-kind contributions, in accomplishing project objectives during the life of the project. A project begins on the effective date of an award agreement between you and an authorized representative of the U.S. Government and ends on the date specified in the award. Accordingly, we cannot reimburse you for time that you expend or costs that you incur in developing a project or preparing the application, or in any discussions or negotiations you may have with us prior to the award. We will not accept such expenditures as part of your cost share.

D. Narrative Project Description

You must provide a narrative description of your project that may be up to 15 pages long. The narrative should demonstrate your knowledge of the need for the project, and show how your proposal builds upon any past and current work in the subject area, as well as relevant work in related fields. You should not assume that we already know the relative merits of the project you describe. You must describe your project as follows:

1. Project goals and objectives. Identify the specific priority listed in section II to which the proposed project responds. Identify the problem/opportunity you intend to address and describe its significance to the fishing community. State what you expect the project to accomplish.

If you are applying to continue a project we previously funded under the S-K Program, describe in detail your progress to date and explain why you need additional funding. We will consider this information in evaluating your current application.

2. Project impacts. Describe the anticipated impacts of the project on the fishing community in terms of reduced bycatch, increased product yield, or other measurable benefits. Describe how you will make the results of the project available to the public.

3. Evaluation of project. Specify the criteria and procedures that you will use to evaluate the relative success or failure of a project in achieving its objectives.

4. Need for government financial assistance. Explain why you need government financial assistance for the proposed work. List all other sources of funding you have or are seeking for the project.

5. Federal, state, and local government activities and permits. List any existing Federal, state, or local government programs or activities that this project would affect, including activities requiring: certification under state Coastal Zone Management Plans; section 404 or section 10 permits issued by the Corps of Engineers; experimental fishing or other permits under FMPs; environmental impact statements to meet the requirements of the National Environmental Policy Act; scientific permits under the ESA and/or the Marine Mammal Protection Act; or Magnuson-Stevens Act EFH consultation if the project may adversely affect areas identified as EFH. Describe the relationship between the project and these FMPs or activities, and list names and addresses of persons providing this information. You can get information on these activities from the NMFS Regions (see Section I.H., Application Addresses). If we select your project for funding, you are responsible for complying with all applicable requirements.

6. Project statement of work. The statement of work is an action plan of activities you will conduct during the period of the project. You must prepare a detailed narrative, fully describing the work you will perform to achieve the project goals and objectives. The narrative should respond to the following questions:

(a) What is the project design? What specific work, activities, procedures, statistical design, or analytical methods will you undertake?

(b) Who will be responsible for carrying out the various activities? (Highlight work that will be subcontracted and provisions for competitive subcontracting.)

(c) What are the major products and how will project results be disseminated? Describe products of the project, such as a manual, video, technique, or piece of equipment. Indicate how project results will be disseminated to potential users.

(d) What are the project milestones? List milestones, describing the specific

activities and associated time lines to conduct the scope of work. Describe the time lines in increments (e.g., month 1, month 2), rather than by specific dates. Identify the individual(s) responsible for the various specific activities.

This information is critical for us to conduct a thorough review of your application, so we encourage you to provide sufficient detail.

7. Participation by persons or groups other than the applicant. Describe how government and non-government entities, particularly members of fishing communities, will participate in the project, and the nature of their participation. We will consider the degree of participation by members of the fishing community in determining which applications to fund.

8. Project management. Describe how the project will be organized and managed. Identify the principal investigator and other participants in the project. If you do not identify the principal investigator, we will return your application without further consideration. Include copies of any agreements between you and the participants describing the specific tasks to be performed. Provide a statement no more than two pages long of the qualifications and experience (e.g., resume or curriculum vitae) of the principal investigator(s) and any consultants and/or subcontractors, and indicate their level of involvement in the project. If any portion of the project will be conducted through consultants and/or subcontracts, you must follow procurement guidance in 15 CFR part 24, ''Grants and Cooperative Agreements to State and Local Governments,'' and 15 CFR part 14, ''Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, Other Non-Profit, and Commercial Organizations.'' If you select a consultant and/or a subcontractor prior to submitting an application, indicate the process that you used for selection.

E. Supporting Documentation

You should include any relevant documents and additional information (i.e., maps, background documents) that will help us to understand the project and the problem/opportunity you seek to address.

IV. Screening, Evaluation, and Selection Procedures

A. Initial Screening of Applications

When we receive applications at any of the NMFS Regional Offices, we will first screen them to ensure that they were received by the deadline date (see DATES); include OMB form 424 signed and dated by an authorized representative (see section III. A. of this document); were submitted by an eligible applicant (see section I.D. of this document); provide for at least a 10–percent cost share but not more than 50 percent (see section I.F. of this document); involve an eligible activity (see section I.C. of this document); address one of the funding priorities for species under Federal or State jurisdiction (see section II.A.-F. of this document); include a budget and a statement of work including milestones (see sections III.C. and III.D.6 of this document); and identify the principal investigator (see section III D.8. of this document). Note, if we find, at any point in the process, that your application does not fully conform to these requirements and the deadline for submission has passed, we will return it to you without further consideration.

We do not have to screen applications before the submission deadline, nor do we have to give you an opportunity to correct

any deficiencies that cause your application to be rejected.

B. Evaluation of Proposed Projects

1. Technical Evaluation

After the initial screening, we will solicit individual evaluations of each project application from three or more appropriate private and public sector experts to determine the technical merit. No consensus recommendations will be made. Reviewers will be required to certify that they do not have a conflict of interest concerning the application(s) they are reviewing. They will assign scores ranging from a minimum of 60 (poor) to a maximum of 100 (excellent) to applications based on the following criteria, with weights shown in parentheses:

a. Soundness of project design/conceptual approach. Applications will be evaluated on the conceptual approach; the likelihood of project results in the time frame specified in the application; whether there is sufficient information to evaluate the project technically; and, if so, the strengths and/or weaknesses of the technical design relative to securing productive results. (50 percent)

b. Project management and experience and qualifications of personnel. The organization and management of the project will be evaluated. The project's principal investigator and other personnel, including consultants and contractors participating in the project, will be evaluated in terms of relevant experience and qualifications. Applications that include consultants and contractors will be reviewed to determine if your involvement, as the primary applicant, is necessary to the conduct of the project and the accomplishment of its objectives. (25 percent)

c. Project evaluation. The methods you propose to monitor and evaluate the success or failure of the project in terms of meeting its original objectives will be examined for potential effectiveness. (10 percent)

d. Project costs. The justification and allocation of the budget in terms of the work to be performed will be evaluated. Unreasonably high or low project costs will be taken into account. (15 percent)

Following the technical review, we will determine the weighted score for each individual review and average the individual technical review scores to determine the final technical score for each application. Then, we will rank applications in descending order by their final technical scores and determine a ''cutoff'' score that is based on the amount of funds available for grants. We will eliminate from further consideration those applications that scored below the cutoff.

2. Constituent Panel(s)

For those applications at or above the cutoff technical evaluation score, we will solicit individual comments and evaluations from a panel or panels of three or more representatives selected by the Assistant Administrator for Fisheries (AA), NOAA. Regardless of the total number of panels convened, we will convene a separate panel for projects addressing Priority A dealing with Atlantic salmon aquaculture. Panel members will be chosen from the fishing industry, state government, non-government organizations, and others, as appropriate. We will provide panelists with a summary of the technical evaluations, and, for applications to continue a previously funded project, information on progress on the funded work to date.

Each panelist will evaluate the applications in terms of the significance of the problem or opportunity being addressed, the degree to which the project involves collaboration with fishing community members and other appropriate collaborators, proposed means to disseminate project results, and the merits of funding each project. Each panelist will provide a rating from 0–4 (poor to excellent) for each project, and provide comments if they wish. Panelists will not reach consensus on recommendations or scores. Panel members will be required to certify that

they do not have a conflict of interest and that they will maintain confidentiality of the panel deliberations.

Following the Constituent Panel meeting, we will average the individual ratings for each project. We will then develop a ranking of projects based on the individual ranks within each of the priority areas. Final rankings will consider projects addressing Priority A separately from projects addressing priorities B through F.

C. Selection Procedures and Project Funding

After projects have been evaluated and ranked, we will use this information, along with input from the NMFS Regional Administrators (RAs) and Office Directors (ODs), to develop recommendations for project funding. RAs/ODs will prepare a written justification for any recommendations for funding that fall outside the ranking order, or for any cost adjustments.

The AA will review the funding recommendations and comments of the RAs/ODs and determine the projects to be funded. The AA will make two sets of final funding decisions: one for proposals addressing priority A and a second set for those addressing Priorities B through F. In making the final selections, the AA may consider costs, geographical distribution, and duplication with other federally funded projects. Awards are not necessarily made to the highest ranked applications.

We will notify you in writing whether your application is selected or not. Furthermore, if your application is not selected, we will return it to you. Successful applications will be incorporated into the award document.

The exact amount of funds, the scope of work, and terms and conditions of a successful award will be determined in preaward negotiations between you and NOAA/NMFS representatives. The funding instrument (grant or cooperative agreement) will be determined by NOAA Grants. You should not initiate your project in expectation of Federal funding until you receive a grant award document signed by an authorized NOAA official.

V. Administrative Requirements

A. Your Obligations as an Applicant

The Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements published in the **Federal Register**, October 1, 2001 (66 FR 49917), are applicable to this solicitation. However, please note that Commerce will not implement the requirements of Executive Order 13202 (66 FR 49921), pursuant to guidance issued by the OMB in light of a court opinion which found that the Executive Order was not legally authorized. *See Building and Construction Trades Department* v. *Allbaugh*, 172 F. Supp. 2d 138 (D.D.C. 2001). This decision is currently on appeal. When the case has been finally resolved, Commerce will provide further information on implementation of Executive Order 13202.

In addition, you must:

1. Meet all application requirements and provide all information necessary for the evaluation of the proposal(s), including one signed original and nine signed copies of the application.

2. Be available to respond to questions during the review and evaluation of the proposal(s).

3. Complete Item 16 on Standard Form 424 (4–92) regarding clearance by the State Point Of Contact (SPOC) established as a result of Executive Order 12372. You can get the list of SPOCs from any of the NMFS offices listed in this document or from the S-K Home Page (see section I.I. of this document). It is also included in the CFDA. You must contact the SPOC, if your state has one, to see if applications to the S-K Program are subject to review. If SPOC clearance is required, you are responsible for getting that clearance in time to submit your application to the S-K Program by the deadline (*see* **DATES**).

4. Complete Standard Form 424B (4–92), ''Assurances--Non-construction Programs.''

B. Your Obligations as a Successful Applicant (Recipient)

If you are awarded a grant or cooperative agreement for a project, you must:

1. 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.

2. Keep records sufficient to document any costs incurred under the award, and submit financial status reports (SF 269) to NOAA's Grants Management Division in accordance with the award conditions.

3. 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 6–month period. You will submit these reports to the individual identified as the NMFS Program Officer in the funding agreement.

4. 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.

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 required to submit final reports in electronic format, in accordance with the award terms and conditions, for publication on the S-K Home Page. You may charge the costs associated with preparing and transmitting your final reports in electronic format to the grant award. We will consider requests for exemption from the electronic submission requirement on a case-by-case basis.

We will provide you with OMB-approved formats for the semiannual and final reports.

5. In addition to the final report in section V.B.4. of this document, we request that you submit any publications printed with grant funds (such as manuals, surveys, etc.) to the NMFS Program Officer for dissemination to the public. Submit either three hard copies or an electronic version of any such publications.

We reserve the right to conduct a post-closeout evaluation of project results in terms of demonstrated benefit to fishing communities, as indicated by awareness of the work conducted, state of knowledge advanced, adoption of techniques or methods developed, implementation of plans prepared, etc. Evaluation may be conducted by appropriate individuals within or outside NOAA. If this process requires any additional information from you, we will first obtain the proper clearances under the PRA.

Classification

Prior notice and an opportunity for public comments are not required by the Administrative Procedure Act (5 U.S.C. 553(a)(2))or any other law for this notice concerning grants, benefits, and contracts.

Furthermore, because a notice is not a regulation, a regulatory flexibility analysis is not required by the Regulatory Flexibility Act or any other law, and none has been prepared.

This action has been determined to be not significant for purposes of Executive Order 12866.

Applications under this program are subject to Executive Order 12372, ''Intergovernmental Review of Federal Programs.''

This document contains collection-of-information requirements subject to the PRA. The use of Standard Forms 424, 424B, and SF-LLL (Disclosure of Lobbying Activities) have been approved by the Office of Management and Budget (OMB) under the respective control numbers 0348–0043, 0348–0040, and 0348–0046. NOAA-specific requirements have been approved under OMB control number 0648–0135. These requirements and their estimated response times are 1 hour for a project summary, 1 hour for a budget form, 2.5 hours for a semiannual report, and 13 hours 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 this collection of information, including suggestions for reducing this burden, to Alicia Jarboe, F/SF2, Room 13112, 1315 East West Highway, Silver Spring, MD 20910–3282.

Notwithstanding any other provision 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 subject to the requirements of the PRA unless that collection of information displays a currently valid OMB control number.

A solicitation for applications can also be obtained through ''FedBizOpps.''

Dated: May 8, 2002.

William T. Hogarth,

Assistant Administrator for Fisheries, National Marine Fisheries Service

[FR Doc. 02–12029 Filed 5–13–02; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[I.D. 050802E]

North Pacific Fishery Management Council; Council Chairmen's Meeting

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Annual meeting of Regional Fishery Management Council and NMFS representatives.

SUMMARY: Representatives of the eight Regional Fishery Management Councils will meet with representatives of NMFS in Sitka, AK.

DATES: The meetings will be held on Tuesday, May 28, 2002 through Friday, May 31, 2002.

ADDRESSES: The meetings will be held at the Harrigan Centennial Hall, 330 Harbor Drive, Sitka, AK.

Council address: North Pacific Fishery Management Council, 605 W. 4th Ave., Suite 306, Anchorage, AK 99501–2252.

FOR FURTHER INFORMATION CONTACT: Gail Bendixen, NPFMC, Phone: 907–271–2809.

SUPPLEMENTARY INFORMATION: On Tuesday, May 28, Council representatives and NMFS representatives will meet separately to prepare for the joint meetings Wednesday and Thursday, May 29-30. Council representatives will meet again on Friday morning, May 31, to finalize any recommendations resulting from the joint meetings.

The tentative agenda includes the following subjects for discussion:

1. Reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act and other legislative initiatives.

2. Procedure and schedules for approval of Council statements of operating policies and procedures.

3. Discussion of Marine Protected Area initiative.

4. The ability of NMFS to meet mission requirements.

5. Discussion of education and public outreach campaign.

6. International trade negotiations, capacity reduction assessments, and general litigation influences.

7. Reports:

(a) NMFS reports on cooperative research funds and electronic logbook program.

(b) U.S. Coast Guard report on fisheries enforcement and rescue activities.

(c) Update on the 2002 annual Status of Stocks report to Congress and discussion of process and format for future reports.

(d) Status of the Coral Reef Task Force and funding issues.

(e) Status report on electronic rulemaking initiative.

(f) Status report on Essential Fish Habitat lawsuit and development of environmental impact statements.

Although non-emergency issues not contained in this agenda may come before this group for discussion, those issues may not be the subject of formal action during this meeting. Action will be restricted to those issues specifically identified in this notice and any issues arising after publication of this notice that require emergency action under section 305(c) of the Magnuson-Stevens Fishery Conservation and Management Act, provided the public has been notified of the Council's intent to take final action to address the emergency.

Special Accommodations

These meetings are physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Gail Bendixen at 907–271–2809 at least 7 working days prior to the meeting date.

Dated: May 8, 2002.

Richard W. Surdi,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 02–12031 Filed 5–13–02; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[I.D. 050102D]

Pacific Fishery Management Council; Public Meeting

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of public meeting.

SUMMARY: The Pacific Fishery Management Council's (Council) Coastal Pelagic Species Management Team (CPSMT) will hold a work session, which is open to the public.

DATES: The CPSMT will meet Wednesday, May 29, 2002, from 8 a.m. until business for the day is completed.

ADDRESSES: The work session will be held in the large conference room (D–203) at NMFS Southwest Fisheries Science Center, 8604 La Jolla Shores Drive, La Jolla, CA 92037; (858) 546–7000.

Council address: Council address: Pacific Fishery Management Council, 7700 NE Ambassador Place, Suite 200, Portland, OR 97220–1384.

FOR FURTHER INFORMATION CONTACT: Dan Waldeck, Pacific Fishery Management Council; (503) 326–6352.

SUPPLEMENTARY INFORMATION: The primary purpose of the work session is to review the current Pacific mackerel stock assessment and develop harvest guideline and seasonal structure recommendations for the 2002–2003 fishery. The 2002 CPS stock assessment and fishery evaluation (SAFE) document might also be discussed.

APPENDIX III

FY 2001 S-K APPLICATIONS RECOMMENDED FOR FUNDING

APPENDIX IV

FY 2001 S-K APPLICATIONS
NOT RECOMMENDED FOR FUNDING