

Subactivity: Fisheries Research and Management

Line Item: Fish

GOAL STATEMENT:

Provide accurate and timely information and analyses on the biological, ecological, economic, and social aspects of the Nation's fisheries resources and develop, implement, and monitor living marine resource management measures to support the National Oceanic and Atmospheric Administration (NOAA) Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

BASE DESCRIPTION:

The Ecosystem Observation Program (EOP), through the Office of Science and Technology, administers NOAA's National Marine Fisheries Service (NMFS) fisheries science programs. EOP works in conjunction with NMFS Regional Fisheries Science Centers and utilizes research vessels and aircraft to support science-based conservation and management activities for the Nation's fisheries and protected living marine resources. Specific research activities include monitoring and assessing fish stocks and protected species populations; monitoring anthropogenic and natural stressors on marine ecosystems; and collecting economic and sociological data on commercial and recreational fishing communities. EOP collects, manages, stores, and disseminates data on the status of living marine resources and their environments.

NMFS' research efforts use scientific data to improve and expand our assessments and management of living marine resources and the human environment. NMFS' research focuses on the connectivity of living and non-living resources within a determined ecosystem. This ecosystems approach to management (EAM) relies upon research and analyses that integrate biological, socio-economic, environmental, and oceanographic data into predictive models that improve the Nation's forecasting capabilities for fisheries management. NMFS' use of EAM increases the ability to make scientifically-sound management decisions that are less prone to risk and more likely to succeed. Improved scientific analyses ensure that constituents receive the most accurate and complete analyses, thereby fostering a constructive public stewardship process.

One of the NMFS' core functions is to research and assess the status of harvested fish and protected marine and anadromous species (i.e., species that migrate from the oceans to breed in fresh water). Stock assessments for these living marine resources focus on various biological processes, including predator-prey relationships, mortality and growth rates, age and gender structure, distribution, and migration. NMFS collects and analyzes these indices to effectively manage over 900 fish stocks and over 230 protected species stocks (marine mammals, sea turtles, and other protected species). These activities provide scientifically sound analyses to fisheries managers, decision makers and stakeholders managing the Nation's resources. NMFS' stock assessments, critical components of living marine resource management, ensure that the Nation has a scientific basis for managing sustainable, robust, and productive fisheries and recovery programs for protected species.

In addition to stock assessments, NMFS also collects socio-economic, commercial, and recreational fisheries data to understand human uses and impacts on ecosystems. These surveys enable NMFS to develop options to manage fisheries for both biological and economic growth and sustainability. NMFS provides information, analyses, and recommendations on the status of stocks and the effects of current and potential management regulations to Regional Fishery Management Councils, States, interstate commissions, and international treaty regulatory bodies. Technological and methodological enhancements allow for improved integration of data on fishing effort, catch, participation, and on any economic or cultural characteristics of commercial and recreational fisheries. Integration of these socio-economic indices into NMFS' forecasts will allow for improved baseline data that managers from all sectors can utilize to make better informed decisions. NMFS' assessments are crucial for the successful development of market-based systems for fisheries management, such as individual fishing quotas.

NMFS' fishery research programs also support living marine resource research by establishing links with industry. For example, the Observer Program deploys personnel to collect catch and non-target bycatch data from U.S. commercial fishing and processing vessels. This cooperative research allows industry to participate in NMFS' scientific activities, thereby using the fishermen's unique knowledge and expertise to create a valuable knowledge base.

NMFS' scientists continue to improve the Nation's forecasting and predictive capabilities by broadening the scope of measurements and synthesis used in their research (e.g., oceanographic metrics, economic indices, industry and community profiles, seafood consumption data, and public valuation of ecosystem services). Incorporating environmental, social, and economic analyses into living marine resource assessment and forecasting models enable NMFS to predict, monitor, and evaluate the human impacts of our stewardship decisions.

NOAA's Fisheries Management Program (FMP) applies ecosystem approaches to conserving and managing sustainable fisheries within the broad ecosystem structure defined by jurisdictions of the Regional Fishery Management Councils (Councils), the Atlantic Highly Migratory Species Program, state, interstate and international fisheries. The central focus of the FMP is to maintain and restore productive stocks important to commercial, recreational, tribal, and subsistence fisheries. Coastal and marine fisheries form an integral component of the Nation's heritage and economy. The elimination of overfishing and the rebuilding of overfished stocks through sustainable fisheries management are essential to increasing the long-term economic and social benefits to the Nation.

Commercial and recreational marine fisheries are an important source of economic revenue and jobs. Commercial landings by U.S. fishermen were 9.5 billion pounds and were valued at \$3.3 billion in 2003. Overall, it is estimated that the commercial fishing industry contributed \$31.5 billion (in value added) to the U.S. Gross National Product. U.S. recreational fishermen took an estimated 82 million fishing trips, and harvested 195 million fish weighing 263 million pounds. In total, U.S. consumers spent an estimated \$61.2 billion for fishing products in 2003.

Management of fisheries requires coordination and consistency among National Marine Fisheries Service (NMFS) headquarters offices, the regional offices, Congress, and the Councils. The FMP develops legislative proposals; reviews, comments and works with the Congress on new bills; provides technical drafting assistance to Congress; and, interprets and evaluates the implications of new legislation. The FMP ensures that NOAA's fishery management activities comply with over a dozen legislative and policy drivers. For example, The Magnuson-Stevens Fisheries

Management and Conservation Act (MSA) serves as the primary authority for fisheries management in the EEZ. The MSA establishes authority within the U.S. Department of Commerce, through NMFS and the eight Councils, for management of U.S. fishing operations. The MSA requires that all fishery management plans and their amendments comply with the ten national standards. The MSA creates unique challenges for fishery managers. It provides special status for Councils and imposes strict timelines for review and implementation of Council submissions. The Regulatory Streamlining Project is a fundamental redesign of the regulatory process within NMFS. The goal of RSP is to improve performance, efficiency and accountability.

Domestic fisheries within the U.S. Exclusive Economic Zone (EEZ) (3-200 nautical miles offshore) of the United States are managed regionally by eight Councils. Atlantic highly migratory species (e.g., tunas, sharks, swordfish, and billfish) are managed directly by the FMP. The FMP partners with the Interstate Marine Fisheries Commissions (Commissions) and states to manage coastal marine fisheries. Councils, their advisory bodies, the Commissions, and states meet regularly during the year to conduct a transparent decision making process for recommending fishery management actions. These bodies and the FMP are charged with developing and implementing Dedicated Access Privilege (DAP) programs and addressing overfishing, bycatch, essential fish habitat, and rebuilding issues through the development of fishery management plans and amendments. Before final action is taken, comprehensive ecological and socioeconomic analyses are prepared and presented at public hearings and Council, Advisory Panel, and Commission meetings. While Councils may recommend fishery management actions, NMFS approves proposed management programs and implements the required Federal regulations. The six regions facilitate and expedite the approval and implementation of fishery management plans and amendments, including the preparation of analytical documents and management of other activities in support of rulemaking (e.g., implementing regulations, inseason actions, permits, etc.) for fisheries and fishery trade activities managed by the FMP under multiple authorities. The FMP considers comments from private sector organizations (commercial and recreational fishing organizations, environmental groups, fishers, general public, etc.) regarding management of U.S. commercial and recreational fisheries activities. The FMP also partners with the Interstate Marine Fisheries Commissions and states to manage coastal marine fisheries through regulatory analysis, evaluation and implementation.

The FMP builds cooperative partnerships to strengthen marine fisheries management and conservation at the state, interregional, and national levels. To accomplish this goal the FMP provides national policy and oversight for interactions with more than 30 coastal states and island territories/commonwealths, 3 Interstate Marine Fisheries Commissions and national groups. The FMP implements and oversees the distribution of grants for two national (Interjurisdictional Fisheries Act, Anadromous Fish Conservation Act) and two regional (Atlantic Coastal Fisheries Cooperative Management Act, Atlantic Striped Bass Conservation Act) programs. The FMP works closely with the Atlantic States Marine Fisheries Commission to develop and implement cooperative State-Federal fisheries regulations, under the Atlantic Striped Bass Conservation Act and the Atlantic Coastal Fisheries Cooperative Management Act.

The FMP promotes the economic sustainability of fishermen and fishing communities and provides for healthy seafood and security. This is an important contribution to the Nation's economy and society. The FMP provides for improvements in the fishing fleet and shoreside processing operations, reductions in overcapacity in fisheries, and a voluntary seafood inspection service to assure compliance with all applicable food regulations.

The National Seafood Inspection Laboratory provides analytical laboratory, data management, regulatory compliance risk analysis, and information transfer expertise to support the Department of Commerce's National Seafood Inspection Program. The seafood inspection program provides voluntary services such as sanitation evaluation, product inspection and certification, auditing of food quality and safety programs, and training. Approximately 10% of the industry uses NOAA services and one-fifth of the seafood consumed in the U.S. is inspected by the seafood inspection program.

The FMP is responsible for the conservation and management of transboundary fish stocks such as salmon, straddling and shared fish stocks, and highly migratory species including tunas, sharks, swordfish, and billfish. Consequently, an ability to participate in negotiations of international agreements as well as to provide and coordinate support for the U.S. commissioners on international commissions for living marine resources is required. FMP formulates strategies and positions on fishery trade for bilateral and multilateral negotiations and participates as the Department's fishing industry sector staff, providing technical expertise and negotiating skills to reduce barriers to trade of fish and fishery products. Given opportunities to expand trade and competitiveness, and the use of trade measures to support conservation objectives, FMP provides policymakers with the best information possible to form decisions and evaluate their impact.

The NOAA Aquaculture Program, a matrix-managed program, is led by the National Marine Fisheries Service (NMFS) in collaboration with the National Ocean Service (NOS), Office of Oceanic and Atmospheric Research (OAR), and National Environmental Satellite, Data, and Information Service (NESDIS). The Aquaculture base activities, funded under the Fisheries Research and Management Programs line item, support the program objectives of: (1) collaborate with partners to increase production of marine species and associated products through commercial aquaculture; (2) improve resource management capabilities through the application of aquaculture technology to replenish marine resources; (3) provide a regulatory framework for marine aquaculture including the U.S. Exclusive Economic Zone (EEZ); (4) contribute to public understanding and appreciation of the role of aquaculture as a vital national food source; and (5) demonstrate a well-managed and environmentally sound system of "place-based" aquaculture principles and practices that may be adopted world-wide.

In the context of a growing domestic aquaculture industry, the regulatory and administrative responsibilities of NOAA's Aquaculture Program will increase significantly. Currently, NOAA has mandates and authorities for aquaculture under the National Aquaculture Act of 1980 and the Magnuson-Stevens Fishery Conservation and Management Act (MSA). NOAA also has aquaculture permit regulatory review responsibilities under the Endangered Species Act, the Marine Mammal Protection Act, MSA and the National Marine Sanctuary Act. The national Offshore Aquaculture Act, submitted to Congress on June 7, 2005 will require NOAA to design and implement a regulatory program for the EEZ permit applications of enacted

PROPOSED LEGISLATION:

The Administration will work with Congress to reauthorize the Magnuson-Stevens Fishery Conservation and Management Act, P.L. 104-297.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Fisheries Research and Management	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Fish					
Anadromous Grants	1,971	1,972	1,980	2,080	100
Fisheries Research and Management Base	123,209	123,347	124,791	131,620	6,829
American Fisheries Act	6,037	-	-	-	-
Interjurisdictional Fisheries Grants	2,464	2,554	2,565	2,565	-
Economics & Social Science Research	4,041	4,043	4,011	10,529	6,518
Expand Annual Stock Assessment – Improve Data Collection	20,501	24,457	24,550	32,100	7,550
Fisheries Information Network/Data Collection	21,970	21,249	20,075	22,184	2,109
Fisheries Oceanography	-	493	490	990	500
Fisheries Statistics	12,587	12,596	12,801	12,801	-
National Standard 8	984	986	996	996	-
Product Quality and Safety	7,392	6,631	6,767	6,767	-
Reduce Fishing Impacts on Essential Fish Habitat (EFH)	493	493	499	499	-
Reduce Bycatch	3,745	2,761	2,782	2,782	-
Regional Council and Fisheries Commissions	24,641	25,051	23,265	26,312	3,047
Salmon Management Activities	27,747	24,135	26,119	24,214	(1,905)
Survey and Monitoring Project	23,877	14,579	14,055	15,223	1,168
Other fisheries-related projects	16,214	17,061	-	-	-
TOTAL	297,873	282,408	265,746	291,662	25,916
FTE	1,214	1,422	1,422	1,444	22

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Fisheries Research and Management: (+7 FTE and \$6,829,000): NOAA requests an increase of 7 FTE and \$6,829,000 in net increases above the base for the Fisheries Research and Management: \$2,829,000 for Regulatory Streamlining and Modernization, \$3,000,000 for Highly Migratory Species Research, and \$1,000,000 for Catch and Release Mortality Research.

Regulatory Streamlining and Modernization (+7 FTE's and \$2,829,000). NOAA will add additional staff, and the Regional Fishery Management Councils will receive additional support, dedicated to the development and review of regulations within timeframes required by law. The additional support will allow NMFS and the Councils to frontload development, analysis, evaluation, and implementation of fishery management actions. This increase will improve the quality and timeliness of the regulatory processes that affect fisheries at the state and local level by reducing the time required for consultations, permits and other regulatory requirements. NOAA will also develop and maintain an electronic rulemaking system to speed up the processing of rules and regulations and increase public participation. Improved quality and timeliness of regulatory processes combined with policy development will result in better-managed stocks and decreased litigation.

Statement of Need

NMFS works closely with Regional Fishery Management Councils, states, other federal agencies, and numerous constituencies to implement regulations for the management of sustainable fisheries; recovery and protection of endangered and threatened species, including marine mammals; and conservation of marine habitat.

NMFS regulatory activities account for 50% (by number) of Department of Commerce annual rulemakings—fourth among federal agencies in the number of regulations issued. In 2004, NMFS was successful in 93% of its legal challenges—an increase from a 45% success rate between 1997 through 2001. However, legal activities require intensive inputs of funding and personnel to produce analyses that will withstand legal challenge. To implement the law as intended, it is imperative that NOAA succeeds in withstanding legal challenges.

NMFS needs additional capacity to complete thorough and timely regulatory analyses and reviews within time frames required by applicable laws, particularly in the Regional Offices. Regulations issued by NMFS affect not only marine resources but also the people, businesses, and communities associated with these resources. This regulatory workload is complex and leads to frequent legal challenges. Extensive analyses and documentation are required to comply with the Magnuson-Stevens Act, Endangered Species Act, Marine Mammal Protection Act, Administrative Procedure Act, National Environmental Policy Act, Regulatory Flexibility Act, Paperwork Reduction Act, Coastal Zone Management Act, and various Executive Orders.

The RSP was created at the request of Congress. In 2002, a National Academy of Public Administration (NAPA) report gave recommendations to NMFS for regulatory improvements, and the RSP seeks to continue implementing NAPA’s suggested improvements. (Press release on the NAPA report is available at http://www.napawash.org/resources/news/news_07_26_02.html).

Proposed Actions

NOAA will use the increase to support national oversight and NOAA-wide integration at NMFS headquarters and regional oversight and technical assistance at the field level. NOAA will coordinate fishery management action development and impacts with other federal activities, as appropriate.

Benefits

NOAA will improve the quality and timeliness of regulatory processes and policy development for its Fishery Management Program through comprehensive impact analyses, full and timely consideration of all relevant issues, and compliance with all applicable laws and procedures.

Performance Goals and Measurement Data

This increase will support the objective “Enhance the conservation and management of coastal and marine resources to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal to “Observe, protect, and manage the Earth’s resources to promote environmental stewardship.” It also supports the NOAA Goal to “Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.”

Proposed Performance Goals and Measurement Data:

This measure is proposed as a replacement for the overfished major stocks measure above.

Performance Goal: Ecosystems Performance Measure: Increase the Fish Stock Sustainability Index (FSSI)	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Highly Migratory Species Research (+0 FTE and \$3,000,000): NMFS requests 0 FTE and \$3,000,000 for Highly Migratory Species (HMS) Research to Support Gulf of Mexico fisheries within the Fisheries Research and Management Program Line. This increase will address priority research needs for Gulf and Atlantic billfish, tunas, swordfish, and sharks as well as fund the review of the status of the Atlantic white marlin for listing as threatened or endangered under the Endangered Species Act (ESA).

Background: In 2001, NMFS received a petition to list the severely overfished Atlantic white marlin as threatened or endangered under the ESA. The stock is currently estimated to be 12 percent of Bmsy (biomass corresponding to maximum sustainable yield) and fishing mortality rates are more than 8 times higher than Fmsy (the fishing mortality rate that gives rise to the maximum sustainable yield). The United States has been a conservation leader at the International Commission for the Conservation of Atlantic Tunas and successfully negotiated a rebuilding program for white marlin, as well as overfished blue marlin; however, these recommendations have not stopped the stock declines. After completing a status review of the species in 2002, NMFS determined that listing was not warranted, but did note the serious decline of the species and the intention to review the status of the species again in 2007. Bycatch in domestic and international pelagic longline fisheries was identified in the status review as a primary source of mortality for billfish. Research needs for other Gulf of Mexico highly migratory species include life history characteristics for numerous shark species, gear research to reduce bycatch of protected species and bluefin tuna in longline fisheries, and post-release mortality information in commercial and recreational fisheries.

Statement of Need

Additional funding will enable the Agency to better understand the biology (age and growth, gender, and maturity determination), conduct tagging studies, improve data collection programs, find ways to reduce bycatch and post-release mortality, and/or protect spawning sites of white marlin. These activities will directly support the upcoming review process, help improve the status of the species, and hopefully prevent an ESA listing. Additional funding for other Gulf of Mexico highly migratory species will enable NMFS to address continuing bycatch concerns for sea turtles and marine mammals in pelagic longline and other fisheries.

Proposed Actions

- Atlantic White Marlin Status Review (\$150,000) – NMFS request will support a better understand the biology, support the status review process, find ways to reduce mortality, and/or protect spawning sites of white marlin.
Biological studies (\$650,000) – NMFS will conduct research on age and growth, gender and maturity determination, and spawning site identification of white marlin and other billfish.
Tagging studies: (\$600,000) – NMFS will deploy conventional and pop-up satellite tags, and use spatial analysis/GIS tools, to determine billfish movement and migration patterns.
Data collection programs (\$500,000) – NMFS will develop and augment recreational and commercial HMS data collection programs to improve fisheries statistics on fishing effort, catches, landings, and discard estimates for billfish and other HMS.

Bycatch Reduction of HMS Species (\$800,000) – NMFS will design, test, and implement gear modifications and fishing practices to reduce bycatch of white marlin, sea turtles, and other HMS.

Reduce post-release mortality (\$300,000) – NMFS will research fishing methods, gear modifications, and handling protocols to reduce the mortality of white marlin, other billfish, sea turtles, and other HMS that are released.

Benefits

Additional funding will enable NMFS to better understand the biology, find ways to reduce mortality, and/or protect spawning sites of white marlin in direct support of the upcoming status review process, and hopefully help improve the status of the species and prevent an ESA listing. Additional funding will also enable NMFS to improve estimates of post-release mortality and improve management of all highly migratory species in the Gulf of Mexico.

Performance Goals and Measurement Data

This increase will support the objective “Enhance the conservation and management of coastal and marine resources to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal to “Observe, protect, and manage the Earth’s resources to promote environmental stewardship.” Specifically, this increase supports the NOAA Goal to “Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.”

Performance Goal: Ecosystems	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Performance Measure: Increase the Fish Stock Sustainability Index (FSSI)						
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Catch and Release Mortality Research (+0FTE and \$1,000,000): NMFS requests 0 FTE and \$1,000,000 for Catch and Release Mortality Research to support Gulf of Mexico fisheries within the Fisheries Research and Management Program Line. This increase will address priority research needs for estimating discard mortality for both the recreational and commercial sectors.

Background:

Regulations to end over-fishing such as size, bag, and trip limits, often result in increased numbers of regulatory discards. For example, size limits are designed to protect spawning individuals or those that have not yet had a chance to grow to marketable size and/or breed. If under- or over-sized fish are caught, they must be discarded. Many discarded fish die from the capture-and-release process and discard mortality can account for a significant portion of the total mortality in some fisheries. Consequently, information on discarded fish and their survival is increasingly important to stock assessments. Estimates of release mortality rates are based on experimentation, logbooks, observer studies, and anecdotal information.

Statement of Need

While there has been research directed at estimating discard mortality for both the recreational and commercial sectors, fishers perceive that NMFS' estimates are either too high or too low. As stocks rebuild under restrictive management regimes, discards of caught fish, particularly those caught on recreational hook and line gear, can far exceed the landed portion of the total catch. Therefore, it is critical that estimates of release mortality are as accurate as possible. In some recreational fisheries, estimates of discard mortality can exceed the annual Total Allowable Catch due to the very high catch rate, restrictive harvest limits, and potentially incorrect estimates of the release mortality rate. Onboard monitoring can track the fish species that are released and record their disposition (floating or swimming away), and obtain depth of capture information. These types of data could be used to determine species-specific estimates of depth related mortality that could be included in stock assessments. In addition, this information will allow critical evaluation of the success of management measures such as minimum size limits intended to reduce mortality and increase yields.

Proposed Actions

This funding will support needed research for:

- enhanced onboard monitoring of commercial fishing vessels to obtain accurate information on discarded species including the following: identification of species, total number, survival by depth, and size;
- enhanced at-sea data collections onboard headboats to obtain complete angler interviews including accurate species identification and counts of discarded catch, the disposition of discarded catch, sizes of all landed and discarded fish, and depth of capture of released fish;
- additional research and development including development of techniques to monitor long-term survival rates and comparative studies of gear types and practices which may reduce discard mortality;
- collaborative field research with states, stakeholders, recreational and commercial fishing industries, and universities to test new techniques to monitor survival rates;
- laboratory experimental studies to test new methods;
- tagging studies to provide estimates of long-term survival; and
- improved outreach and education to all fishery sectors on reducing mortality of released by catch.

Benefits

Fishing groups have been critical of the use of size limits in fisheries such as red snapper. Technology, such as circle hooks and better venting techniques, can potentially improve the survival rates of discards. Research into gear technology and improved handling and release methods are needed to maximize fishery yields and avoid closures. Beyond research, outreach and education are needed to inform fishers of equipment (e.g., circle hooks, release gear) and methods (e.g., venting techniques, proper handling and release techniques) that reduce release mortality.

Performance Goals and Measurement Data

Increase the percentage of living marine resources with adequate assessments.
Increase the FSSI.

This measure is proposed as a replacement for the overfished major stocks measure above.

Performance Goal: Ecosystems Performance Measure: Increase the Fish Stock Sustainability Index (FSSI)	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Expand Annual Stock Assessments – Improve Data Collection (+ 8 FTE and \$7,550,000): NMFS requests 8 FTE and \$7,550,000 for a total request of \$32,100,000 to strengthen stock assessment efforts (fishery resource surveys and assessment analyses) and to initiate new ecosystem-based fish stock assessments and fishery-dependent sampling programs in the Gulf of Mexico. NMFS will improve fishery stock assessments by integrating more ecosystem information into mathematical models to reveal trends in biomass, recruitment levels (e.g., the number of young fish entering the stock each year), and exploitation rates. NMFS will initiate new fishery monitoring programs that collect data on landings, discarded bycatch, and life history data (growth, longevity, and mortality) in 2007 and integrate these data streams into scientifically reviewed stock assessment updates to constituents beginning in 2009.

Managing the nation’s marine fisheries at sustainable harvest rates — and rebuilding depleted fish stocks — requires the best available scientific information to implement sound management and conservation actions, while maintaining economic opportunities for recreational and commercial fishermen. NMFS’ stock assessment activities provide the technical basis for setting annual catch quotas and are an integral component of the President’s U.S. Ocean Action Plan which advocates the wider implementation of dedicated access privileges, including individual fishing quotas (IFQ).

NMFS' assessments provide input for national reports such as the *Annual Report to Congress on the Status of U.S. Fisheries and Our Living Oceans*. Improved fish stock assessments will provide direct technical guidance for managing the harvest rates of key fish species. The improved ecosystem context for these assessments will ensure that these recommendations are responsive to changing factors such as climate, ocean temperature, currents, and pollution. Furthermore, the initiative provides a knowledge base for NMFS to work with regional Fishery Management Councils to promote the use of a market-based system for fisheries management; such a market-based system will likely require a higher level of precision in assessment forecasts.

Statement of Need

Dedicated multiyear actions to improve the collection, management, and use of fisheries data were recognized in two recent reports: *Improving the Collection, Management, and Use of Marine Fisheries Data* (National Research Council, 2000) and *Improving Fish Stock Assessments* (National Research Council, 1998). NMFS responded to the recommendations in these reports in 2001 with the Marine Fisheries Stock Assessment Improvement Plan (SAIP). The SAIP recommends improving the quality of NMFS' stock assessment programs and emphasizes the need for the agency to foster partnerships and cooperative research programs with other agencies, private foundations, universities, commercial and recreational fishing organizations and individuals, and environmental groups.

Expanding stock assessment capabilities will help address long-standing shortfalls in fisheries management, including: fishery monitoring, fish stock surveys, data management, and more comprehensive assessment models. Stock assessment efforts involve analyzing the data to determine the status of fish populations. Without investments in staff and program improvements, NMFS cannot provide the comprehensive and additional data necessary to support new fish stock assessments, which are vital to ecosystem approaches to fishery management.

Proposed Actions

This request will enable more timely, accurate and comprehensive monitoring and assessment of fish stocks in support of NOAA's fishery management decisions. NMFS' *Marine Fish Stock Assessment Improvement Plan* (2001) recommends the minimum goal of adequate assessments for all major fish stocks and a longer-term goal of assessments that incorporate ecosystem information (i.e., Tier II and Tier III assessments, respectively). This request responds to the U.S. Ocean Commission's recommendation that NMFS implement ecosystem-based management practices and coordinate the development of regional ecosystem assessments.

Efforts include:

- *Fish Stock Surveys and Assessments in the Gulf of Mexico (\$3,000,000)*– Assessment efforts include conducting surveys to collect information on the abundance and distribution of fish stocks and their associated ecosystems, and analyzing the data to determine the effects of fishing on fish populations.

These funds will be used to expand survey activities in the Southeast Fisheries Science Center with more charter vessel days at sea, enhance program infrastructure supporting data collection and analysis, and develop more comprehensive assessment models for at least three stocks in the Gulf of Mexico. NMFS will identify the stocks by reviewing data acquired from surveys currently in progress (FY 2005-2006) coupled with new information available from existing surveys. These activities will provide an expanded set of biological data and associated ecosystem, environmental, and habitat conditions.

- *Fishery Monitoring in the Gulf of Mexico (\$1,750,000)* – Monitoring programs collect data on landings, fishing effort, discarded bycatch, and life history data (growth, longevity, and mortality). NMFS will enhance existing monitoring programs by collecting data on the location of fishing activities and the co-occurrence of different species in the Gulf of Mexico commercial and recreational fisheries. NMFS will use the requested funds to improve existing fishery-dependent data management systems (e.g., equipment purchases and expansion of sampling activities) and to develop new modes of disseminating expanded data sets to constituents and policy makers (e.g., computer programming and technical support).
- *Southeast Data, Assessment, and Review process (SEDAR) (\$500,000)* – Continued expansion of critical peer-review programs such as the Southeast Data, Assessment, and Review process (SEDAR) provides an opportunity for broad participation of scientists and fishers in the assessment process. This ensures that assessments are comprehensive and incorporate the best available scientific information. SEDAR provides the best opportunities for stakeholder participation and ensures the transparency of the assessment process. Enhanced stakeholder participation increases acceptance of management measures that may be necessary to address overfishing. Improved assessment capabilities are also very important to achieving the President’s U.S. Ocean Action Plan goal of moving toward an ecosystem-based approach to management of ocean and coastal resources.
- *Strengthen Living Marine Resource Monitoring (\$2,000,000)* – This effort provides additional charter vessel days-at-sea and funds other operational costs to regional Fisheries Science Centers for expanded fishery resource surveys, restores cutbacks in historical survey effort, and partially offsets rapid increases in annual fuel costs for current surveys. It continues operational development of the Fisheries Scientific Computer System (FSCS), a project to automate at-sea data collections and error checks for fishery-independent surveys, linking biological and physical data streams.
- *National Stock Assessment Initiatives (\$300,000)* – These initiatives sustain enhancements for increased faculty and graduate student support, national workshops to evaluate and develop ecosystem assessment methods, advanced sampling technology acquisition, and the Center of Independent Experts.

Benefits

This investment will demonstrate that a focused, integrated effort on specific ecosystems will improve the assessment of specific ecosystem components (i.e., fish stocks) and will provide a more comprehensive and holistic assessment of the entire ecosystem. When integrated with the results from other program capabilities (i.e., ecosystems research, socioeconomic research, habitat, and protected resources), NMFS stock assessment research will provide a comprehensive understanding of living marine ecosystems to meet the environmental, economic, and public safety needs of the United States.

Performance Goals and Measurement Data

This increase will support the objective “Enhance the conservation and management of coastal and marine resources to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal to “Observe, protect, and manage the Earth’s resources to promote environmental stewardship.” Specifically, this increase supports the NOAA Goal to “Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.”

Performance Goal 3: Ecosystem Performance Measurements	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Percentage of Fish Stocks with Adequate Population Assessments and Forecasts. ¹						
Without Increase <i>Assumes level funding at FY 2006 request</i>	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

¹ This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

This is a new measure for FY 2007.

Performance Goal: <i>Ecosystems</i>	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Performance Measure: <i>Increase the Fish Stock Sustainability Index (FSSI)</i>						
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Economics & Social Sciences Research (+ 7 FTE and \$6,518,000): NMFS requests 7 FTE and \$6,518,000 for a total request of \$10,529,000 to conduct mandated economic and sociocultural surveys and assessments. Establishment of economic and social monitoring programs in all federally-managed commercial fisheries will enhance NMFS’ ability to conduct integrated assessments of these fisheries, resulting in more timely and accurate advice to fishery managers. In addition, it will enable NMFS to assess the economic impacts (e.g., sales, income and jobs) of both fishery management actions and environmental events such as hurricanes, tsunamis, and red tide on fishing communities for all coastal states.

Statement of Need

These activities also directly support efforts to identify market-based solutions to fishery management issues, an approach advocated in both the President's U.S. Ocean Action Plan and the 2005 Economic Report of the President. Overall, these funds will enable NMFS to meet 100% of the economic and sociocultural monitoring goals for all commercial fishery management plans (32 FMPs), including the commercially important Gulf shrimp and reef fish fisheries; the Pacific Coast, Alaska, and Northeast groundfish fisheries; Atlantic sea scallops fishery; and the Atlantic, Gulf of Mexico, Pacific, and Western Pacific Highly Migratory Species fisheries.

With landings valued at over \$3.7 billion in 2004, the nation's commercial fisheries provide a significant source of income and employment in the fishing and seafood processing, wholesale, and retail sectors. But a number of fisheries are characterized by overcapacity and increasingly restrictive harvest regulations to rebuild stocks and reduce bycatch. Increasingly, dedicated access privileges (DAPs, which include individual fishing quotas, community quotas, fishing cooperatives, and area-based quotas) are being supported as a market-based solution for reducing overcapacity and improving the economic and environmental performance of commercial fisheries. Solutions like DAPs will increase the long-term sustainability of these fisheries and the fishing communities that depend upon these resources. Implementation requires assessments of economic performance—including profits, employment, and purchasing patterns—to understand the potential forecasted risks to seafood markets and community employment, and impacts on shoreside firms.

Likewise, other market-based incentives are being advocated to improve economic performance and, in some cases, improve resource protection. For example, economists are evaluating ecolabeling programs as a means for fishermen to achieve higher market prices for catch with reduced or no bycatch. This approach encourages fishermen to adopt harvest practices that result in less bycatch. For example, for the financially strained Gulf shrimp fleet, which has watched market prices fall by 60% from 2000–2003 under pressure from imports, an ecolabeling program may offer a way to differentiate Gulf harvests from imports while simultaneously reducing bycatch of sea turtles. NMFS will be able to assess the feasibility of using ecolabeling programs by increasing the amount of economic data on harvest practices and targeting strategies.

More generally, this investment in economic and sociocultural monitoring and assessments ensures that conservation standards are achieved at the lowest cost to society. By assessing the cost and benefits of proposed management options and existing policies, policymakers can monitor the long-term economic and social welfare of coastal communities as well as the economic viability of the Gulf commercial fishing fleets; seafood processor and wholesale sectors; retail markets; and other sectors (e.g., recreational anglers, coral reef divers, etc.). In addition, the investment supports legal mandates for cost-benefit analysis of regulatory actions required under Executive Order 12866, the Magnuson-Stevens Act (particularly National Standards 1, 5, 7, 8, and 9), the Regulatory Flexibility Act, the Marine Mammal Protection Act, the Endangered Species Act, and the National Environmental Policy Act. Furthermore, this initiative reflects the FY 2007 Research and Development Budget Priorities of the Office of Management and Budget and Office of Science and Technology Policy by addressing the societal impacts of science and technology and supporting technological innovation that spurs economic competitiveness.

Proposed Action

This investment will enhance NMFS' ability to conduct integrated assessments of stewardship decisions. Once integrated with results from other program elements (stock assessments and protected resources), the Ecosystem Observation Program will achieve a degree of comprehensive analysis that is unprecedented.

Efforts include:

- Commercial Fisheries Economic Surveys & Assessments (\$2,500,000) – NMFS' request will support the collection of economic data for 32 commercial fishery management plants (FMPs), including instituting new economic data collection programs for 20 FMPs. These surveys will enable NMFS to conduct integrated assessments of benefits derived from the marine resource; assess the economic effects of large-scale environmental events such as hurricanes, hypoxia and red tide; and evaluate the costs and benefits from proposed management options, including adopting market-based management approaches such as DAPs .
- Sociocultural Surveys & Assessments (\$1,100,000) – NMFS will expand sociocultural surveys and community profiling in all coastal states, with initial emphasis focusing on the Gulf of Mexico area impacted by Hurricanes Katrina and Rita. Assessments will cover labor trends, community dependence on fishing and other marine resource–dependent industries, and household migration patterns into and out of coastal communities.
- Recreational Fisheries Surveys & Assessments (\$720,000) – While recreational anglers took 84 million trips in 2004, NMFS conducts economic surveys of this important sector only on an *ad hoc* basis. The request will support routine collection of recreational angling expenditure data and routine assessment of economic impacts (e.g., sales, income and jobs) of recreational angling on the economy.
- National Surveys & Assessments (800,000) – NMFS' request will support a series of national surveys, including a seafood consumption survey, which will provide critically needed information on seafood markets. Additional focus areas include consumer benefits from seafood, potential mercury risks, wholesale and retail surveys, and a national employment survey on commercial fishing.
- Regional Economic Surveys & Assessments (\$800,000) – This will support NMFS' efforts to collaborate on data collection with state and federal agencies to assess the direct and indirect impacts (e.g., sales, income, and jobs) of marine-related activities on local, state and national economies.
- Ecosystem Surveys & Assessments (\$598,000) – Ecosystem assessments will initially focus on conducting integrated assessments of both the short- and long-term economic effects of marine protected areas in all six NMFS regions. Ongoing assessments of the cost effectiveness of habitat and protected species decisions will also be conducted. In addition, ecosystem valuation surveys will be conducted to better understand societal use patterns and preferences for marine resources.

Benefits

NMFS will be able to identify and consider the social and economic consequences of fisheries management actions on fishing communities. In addition, this program will enable NMFS to identify market-based approaches for achieving conservation goals and reduce the risk of court challenges due to incomplete economic analyses of Gulf of Mexico living marine resources.

Performance Goals and Measurement Data

This increase will support the objective “Enhance the conservation and management of coastal and marine resources to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal to “Observe, protect, and manage the Earth’s resources to promote environmental stewardship.” Specifically, this increase supports the NOAA Goal to “Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.”

The Economic and Social Sciences Research Program indirectly supports the following performance measures:

Performance Goal 3: Ecosystem Performance Measurements Percentage of Fish Stocks with Adequate Population Assessments and Forecasts.¹	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase <i>Assumes level funding at FY 2006 request</i>	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

¹ This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

This is a new measure for FY 2007.

Performance Goal: <i>Ecosystems</i> Performance Measure: <i>Increase the Fish Stock Sustainability Index (FSSI)</i>	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Salmon Management Activities (-\$1,905,000): NMFS requests a decrease of \$1,905,000 in programs from the overall Salmon Management Activities line item. This decrease has two components: Columbia River and Pacific Salmon Treaty.

Columbia River (+0 FTE and -\$500,000): The request of \$24,214,000 for Salmon Management Activities includes \$16,522,000 for Columbia River activities. These funds provide support for the the Mitchell Act, which supports 18 hatcheries in Washington and Oregon that produce about 77 million salmonid smolts and fry for conservation and harvest. Production from these hatcheries provides for commercial, recreational, and treaty Indian fisheries in Washington, Oregon, Alaska, and Canada.

Pacific Salmon Treaty (+0 FTE and -\$1,405,000): The request of \$24,214,000 for Salmon Management Activities includes \$5,595,000 for Pacific Salmon Treaty activities under the Pacific Salmon Treaty between the United States and Canada, signed January 28, 1985. It establishes the U.S. contingent to the treaty's commission and to the three regional panels. The treaty upholds our treaty obligation with Canada to cooperate on enhancing programs that result in sound conservation and management of Pacific salmon and provides for optimum production of the shared Pacific salmon resource. The Pacific Salmon Treaty Act also addresses such matters as federal jurisdiction, the adoption of regulations, and enforcement. This Act also repealed the Sockeye Salmon (or Pink Salmon) Fishing Act, and abolished the International Pacific Salmon Fisheries Commission.

Statement of Need

Total requests for these programs are adequate to ensure the numbers of hatchery salmon are available for mitigation. The overall strategy of this program is to recover these stocks.

Proposed Actions

The Pacific Salmon Treaty funding is primarily used by NMFS and the states of Alaska, Washington, Oregon, and Idaho to provide personnel support to the Pacific Salmon Commission's technical committees and conduct a broad range of salmon stock assessment and fishery monitoring programs to produce information required to implement Pacific Salmon Treaty provisions. These programs are carried out in fisheries and rivers located from Southeast Alaska south to Oregon, including the Columbia River. Many programs are planned and carried out cooperatively with Canada, as the salmon stocks migrate through and are caught in the fisheries of both countries.

The Mitchell Act program funds will be used to support 18 hatcheries in Washington and Oregon that produce about 77 million salmonid smolts and fry for conservation and harvest. Production from these hatcheries provides for commercial, recreational, and treaty Indian fisheries in Washington, Oregon, Alaska, and Canada. The production in some facilities is for conservation purposes with adaptive rearing and placement of fry and smolt in the streams to supplement ESA-listed stocks.

Funds support the operation of approximately 750 irrigation diversion screens and 45 fish ladders in the Columbia Basin portion of Oregon, Washington, and Idaho to provide passage and protection for adult and juvenile salmonids. Funds also support the annual operation and maintenance of 18 hatcheries in the Columbia Basin operated by the Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and the Yakama Tribe.

Regional Councils and Fisheries Commissions (0 FTE and \$3,047,000): NMFS requests an increase of \$3,047,000 and 0 FTE for Regional Councils and Commissions. This request covers two components.

Regional Councils (+\$2,047,000): With this funding, NMFS will improve the quality and timeliness of regulatory processes and policy development for its Fishery Management Program through comprehensive impact analyses, full and timely consideration of all relevant issues, and compliance with all applicable laws and procedures. The improvements in the regulatory process obtained through this funding will reduce the legal challenges to NOAA regulatory actions. This funding will allow the RFMCs to analyze a greater range of alternatives as they develop new Fishery Management Plans (FMPs) or amendments to current plans to reduce levels of overfishing and overcapacity while taking into consideration the impacts of their proposed actions on other components of the marine ecosystem.

Dedicated Access Privilege (DAP) Programs (+\$1,000,000): Of the \$3,047,000 increase, \$1,000,000 will be used for RFMCs to develop DAP programs, such as individual fishing quotas (IFQs). Development of DAP programs requires significant resources for economic analysis and design of programs for eligibility determination, permit issuance, and fishery monitoring. These funds will be made available on a competitive basis to support Councils with projects that advance DAP systems.

DAP programs such as IFQs provide many benefits. They end the “race for fish” inherent in open-access fisheries, which leads to overcapitalization and overfishing. They contribute to safer fisheries, as vessel operators can choose not to fish in bad weather without fear that the quota will be taken by someone else. They increase the availability of high-quality fresh fish and improve economic performance of the fishery. The U.S. Commission on Ocean Policy recommended increasing use of DAP programs in fishery management, and the Administration supports their use. Since 1990, NMFS and the Regional Fishery Management Councils have implemented DAPs in eight fisheries. NMFS's goal is to work with the Regional Councils to double the number of fisheries with DAP Programs by 2010, which supports the U.S. Ocean Action Plan to increase the use of market based systems for fisheries management.

Statement of Need

These funds are needed to increase the capacity of the RFMCs and provide for their implementation of the Regulatory Streamlining Program. This funding is necessary to allow the RFMCs to analyze a greater range of alternatives as they develop new Fishery Management Plans to reduce levels of overfishing and develop and maintain rebuilding plans for overfished stocks, while taking into consideration the impacts of their proposed actions on other components of the marine ecosystem.

The work of the RFMCs directly supports NOAA strategic goals for marine environment ecosystem based management, and is a necessary complement to NOAA’s work. Without this increase, it will be difficult to produce adequately coordinated and comprehensive fishery management plans. This will put NOAA at an increased risk for litigation, and could also lead to fishery stock declines over time.

Proposed Actions

NOAA will use the increase to support national oversight and NOAA-wide integration at NMFS headquarters and regional oversight and technical assistance at the field level. NOAA will coordinate fishery management action development and impacts with other federal activities, as appropriate. NMFS will also be able to work with the Councils to develop, implement, and operate more DAP programs, which will help improve economic performance and safety in those fisheries.

Benefits

With this funding, NMFS will improve the quality and timeliness of regulatory processes and policy development for its Fishery Management Program through comprehensive impact analyses, full and timely consideration of all relevant issues, and compliance with all applicable laws and procedures. With funding for the development and implementation of DAPs, NMFS will be able to increase the availability of high-quality fresh fish and improve the economic performance of the fishery. Increasing use of DAPs will also help end the “race for fish” inherent in open-access fisheries, increasing safety in those fisheries.

Performance Goals and Measurement Data

This increase will support the objective “Enhance the conservation and management of coastal and marine resources to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal to “Observe, protect, and manage the Earth’s resources to promote environmental stewardship.” It also supports the NOAA Goal to “Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.”

Performance Goal: Ecosystems Performance Measure: Increase the Fish Stock Sustainability Index (FSSI)	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Fisheries Information Networks (+ 0 FTE and \$2,109,000): NMFS requests a net increase of 0 FTE and \$2,109,000 for the Fisheries Information Networks line. Of this request, \$1,000,000 is for the Gulf Fisheries Information Network (Gulf FIN) program; \$1,033,000 is for the Marine Fisheries Initiative Network (MARFIN) program; and \$75,000 is for the Fisheries Information System program. NMFS' request will support the collection, management, and dissemination of statistical data and information on marine commercial and recreational fisheries off the coasts of Alabama, Florida, Georgia, Louisiana, Mississippi, and Texas. With this request, NMFS will have the capability to increase the quantity of data and improve the quality of statistics that are used to inform regulatory decisions.

Statement of Need

Although considerable progress has been made in the collection of fishery statistics, the continuing changes in the nature and status of marine commercial and recreational fisheries, and the increasingly complex management regimes are creating ever-increasing demands for more comprehensive, accurate, and timely data. It is becoming more important to develop more comparability and consistency among states in the methods used to monitor commercial fisheries landings. The need for survey efforts that collect more data and produce more timely statistics on recreational fishing impacts was highlighted in the report of the U.S. Commission on Ocean Policy: "Despite the economic and ecological impacts of recreational fishing, much less data are collected in this area than for commercial fisheries...although existing survey methodology is adequate for the long-term tracking of recreational fishing trends; it has proven less useful for in-season management." The President's U.S. Ocean Action Plan responded to this section, stating that the Administration would work to further leverage data acquisition for fishery management purposes. Additional funding to improve and expand NMFS' data collection efforts would be a major step toward improving relations with the recreational fishing community and improving federal fisheries management. This initiative places a high priority on understanding complex biological systems such as the Gulf of Mexico and Southeast Atlantic marine ecosystems.

Proposed Action

Gulf Fisheries Information Network (Gulf FIN). Gulf FIN is a state-federal cooperative program that collects, manages, and disseminates statistical data and information on fisheries in the Gulf of Mexico and Atlantic coast of Florida. Gulf FIN provides scientifically-sound information on catch, effort, and participation to managers responsible for the conservation and management of fisheries resources in the Southeast region.

Gulf FIN efforts will include:

- \$350,000 to support the expansion of standard commercial fisheries "trip ticket" dealer reporting programs in Texas and Mississippi. The "trip ticket" system enables NMFS to collect landing data from commercial fishing trips. In the other southeast states, seafood dealers report landings to their respective state agencies and the state agencies then provide a consistent set of data to NMFS. An expanded "trip ticket" system will result in the capability to provide commercial data for all of the FIN states.

- \$50,000 to support pilot testing of new survey methods for recreational shore and private/rental boat fishing effort that are based on sampling of participant lists developed from state angler licensing/registration programs. These new survey methods would increase state-level participation in the Gulf FIN program.
- \$200,000 to support development and implementation of a specialized sampling survey program to collect more precise recreational fishery catch statistics for highly migratory species (tunas, swordfish, billfishes, and sharks).
- \$125,000 to support development and implementation of economic surveys of commercial shrimp fisheries. The surveys would enable NMFS to address data gaps in social and economic data that is required to meet present and future fishery management challenges.
- \$125,000 to support expansion of at-sea sampling surveys to obtain more precise catch and release statistics for headboat fishing.
- \$150,000 to support expansion of biological sampling programs to collect data needed to more accurately assess size and age distributions of commercial and recreational fisheries landings.

Marine Fisheries Initiative Network (MARFIN)

MARFIN is a competitive grant program that provides financial assistance for research and development projects that optimize the use of fisheries in the Gulf of Mexico and off the South Atlantic states of North Carolina, South Carolina, Georgia, and Florida. Research priority areas involving the U.S. fishing industry (recreational and commercial), focus on fishery biology, resource assessment, socioeconomic assessment, management and conservation, selected harvesting methods, and fish handling and processing. MARFIN projects provide answers for fishery needs covered by the NMFS Strategic Plan, particularly those goals relating to: rebuilding over-fished marine fisheries; maintaining currently productive fisheries; and integrating conservation of protected species and fisheries management. Of this \$1,033,000 request, \$33,000 will support core MARFIN activities; \$250,000 will support Northeast activities and \$750,000 will support red snapper research in the Gulf of Mexico.

The Fisheries Information System (FIS)

The FIS program collects data on participation, effort, and catch; and integrates it with fishery-dependent observer, economic, and sociocultural information into a State/Federal information network. The FIS will provide more complete information on fishery impacts and enhance the accessibility of that information for stock assessment scientists, fishery managers, and the public. This program provides flexible and user-friendly reporting between NMFS, state agencies, fishery management councils, the interstate marine fisheries commissions, and the commercial and recreational fishing industries.

FY 2007 efforts include:

- *Applications Development/Expansion (\$75,000)* – NMFS will improve the quality, timeliness, and accessibility of fisheries information by expanding implementation of standardized electronic reporting and transaction systems and by continuing to identify and implement standard best practices for data quality control, statistical estimation, and information management. This particular funding amount will be used to implement standardized electronic dealer reporting of commercial fishery landings data in one more state.

Benefits

Managing fish stocks at sustainable harvest rates is a key factor in rebuilding depleted fish stocks and achieving optimal benefits from the fisheries, and it requires accurate and timely monitoring of fishing impacts. NMFS will be able to provide comprehensive and timely fisheries statistics needed for stock assessments as identified by NMFS’ Stock Assessment Improvement Plan (SAIP). The request would improve the sampling and statistical precision of recreational fishery catch monitoring surveys; would increase the comprehensiveness and timeliness of commercial fishery harvest monitoring; and would speed integration of state/federal fisheries information into regional/national networks that enhance its accessibility for stock assessment scientists, fishery managers, and the public.

Performance Goals and Measurement Data

This increase will support the objective “Enhance the conservation and management of coastal and marine resources to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal to “Observe, protect, and manage the Earth’s resources to promote environmental stewardship.” Specifically, this increase supports the NOAA Goal to “Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.”

The Gulf FIN Program supports the following performance measure.

Performance Goal 3: Ecosystem Performance Measurements	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Percentage of Fish Stocks with Adequate Population Assessments and Forecasts. ¹						
Without Increase <i>Assumes level funding at FY 2006 request</i>	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

¹ This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

Survey and Monitoring Projects (0 FTE and + \$1,168,000) – NMFS requests a net increase of \$1,168,000 to the FY 2007 base for a total of \$15,223,000 to enable NOAA’s ability to administer 3 research and monitoring programs in the Atlantic and Pacific Oceans.

Statement of Need

Bluefin Tuna Tagging

The International Convention for the Conservation of Atlantic Tunas (ICCAT) is a multi-national cooperative management body that provides scientific information and management recommendations for stocks of Atlantic tunas and tuna-like species in international waters. NMFS uses the tagging devices to improve the mapping of habitats used by highly migratory species such as bluefin tuna.

Bluefish / Striped Bass- Rutgers University

With input from the fishing industry and academia, NMFS has developed a program plan and has established priority research areas on the decline of Atlantic bluefish. The Bluefish-Striped Bass Dynamics Research Program supports a focused approach on understanding bluefish dynamics, as determined by management and fishing community needs.

West Coast Groundfish

The West Coast groundfish fisheries have been subject to court action. NMFS requires effective real-time monitoring of recreational fishery quotas for landings and bycatch of groundfish species currently managed by the Pacific Fishery Management Council.

Proposed Action

Bluefin Tuna Tagging (\$850,000) – NMFS request these funds to continue tagging activities currently related to bluefin tuna research. The request will enable NMFS to improve estimations on the abundance and distribution of bluefin tuna. NMFS can use the tagging data in combination with catch data from U.S. pelagic longline observer logbooks to reduce incidental catch mortalities in tuna spawning grounds in the Gulf of Mexico.

Bluefish / Striped Bass (\$37,000) – Since 1997, NMFS has served as a partner to Rutgers University’s Institute of Marine and Coastal Sciences in administering the Striped Bass-Bluefish Research Program. This request will enable scientists to continue research on the factors governing the apparent decline in bluefish abundance along the Atlantic coast.

West Coast Groundfish (\$281,000) – This request will maintain NMFS’ capabilities in monitoring and estimating discards of overfished fish stocks in the West Coast groundfish fisheries.

Benefits

The request for the Survey and Monitoring line will improve NMFS' ability to: 1) manage West Coast groundfish stocks; 2) estimate the distribution and abundance of bluefin tuna stocks; and 3) continue research on the apparent decline of bluefish stocks in the Atlantic Ocean.

Performance Goals and Measurement Data

NMFS request will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

The Survey and Monitoring Projects indirectly program supports the following performance measures:

Performance Goal 3: Ecosystem Performance Measurements Percentage of Fish Stocks with Adequate Population Assessments and Forecasts.¹	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase <i>Assumes level funding at FY 2006 request</i>	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

¹ This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

This is a new measure for FY 2007.

Performance Goal: <i>Ecosystems</i> Performance Measure: <i>Increase the Fish Stock Sustainability Index (FSSI)</i>	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Fisheries Oceanography (+ 0 FTE and \$500,000): NMFS requests an increase of \$500,000 for a total of \$990,000 to improve fish stock assessments by investigating the effects of ocean environmental variability on marine ecosystems and fish populations. The request will enable NMFS to develop new ecological indicators of the effects of environmental variability on living marine resources in the California Current, North Pacific, Gulf of Alaska, Bering Sea, Gulf of Mexico and Northeast U.S. Shelf large marine ecosystems. The Fisheries Oceanography program advances the current state of knowledge of ocean processes by forecasting potential impacts on production, growth, and/or distribution of marine fish, and these forecasts are incorporated into stock assessment and commercial harvest analyses.

Statement of Need

Ocean conditions, which vary on time scales from days to decades, have profound effects on the productivity of ecosystems and fish stocks. This has significant implications for fisheries management. In classical fisheries stock assessment models, recruitment (the addition of young fish to the fishable population) is considered to vary randomly about a single long-term level. In reality, recruitment varies non-randomly according to observable changes in ocean conditions. Fisheries research has demonstrated that these variable ocean conditions can be incorporated into stock assessments by correlating environmental indices (indicators) to population or recruitment indices. A fundamental goal of this program is to link these environmental indices to fish production and to provide a way to make predictions about the underlying mechanisms forming the basis of the observed relationship.

Long-term changes in the ocean environment also cause fundamental shifts in the suitability of habitats occupied by fish. Such shifts may not only cause changes in the distribution of animals, but may also affect the reproductive capacity of adults or the survival of offspring for many years. Such fundamental changes in ocean structure and concomitant changes in the underlying biological productivity of fish species have much longer-term economic and ecological impacts. For example, high-value species may be replaced by low-value species, thereby affecting the economic sustainability of fishing communities. High-energy food items for marine mammals may be replaced by low-energy food items, consequently affecting the underlying reproductive success of the marine mammals and reducing population sizes.

The development of environmental indicators that incorporate a variety of seemingly disparate measurements from biology, oceanography, and meteorology can be used to forecast the type and duration of change. In this manner, indicators can provide technical guidance for managing the harvest rates of key fish species as directed by the Magnuson-Stevens Act (particularly National Standards 1, 2, 4, 5, and 9) and support an ecosystem approach to marine resource management as called for by the U.S. Ocean Action Plan and NOAA's Strategic Plan.

Proposed Action

This investment will improve NMFS' ability to develop indicators for important fish stocks, resulting in environmental indices that are correlated with important population measures (e.g., reproductive success, biomass, recruitment success). For example several derived environmental phenomena (e.g., sea surface temperature, the strength of the California Current estimated from coastal sea level, and satellite-derived chlorophyll-a concentrations) may all, individually or collectively, be correlated with historical California sardine biomass or recruitment. Thus these phenomena can be used in a predictive model to help assess sardine stock size and set sardine harvest policy.

Efforts will include:

- Indicator Development (\$325,000) – The request will support continued research and development of indicators for commercially important fish stocks including pollock, hake, sablefish, sardine, haddock, and salmon.
- Ecosystem Status Report (\$85,000) - NMFS will develop and publish a California Current Ecosystem Status Report that includes multiple indicators of California Current fish stocks as well as system-wide trends in environmental conditions. The report will be used by the Pacific Fisheries Management Council and other fisheries management organizations to improve harvest advice based on knowledge of ocean conditions.
- Environmental Indicators and Stock Assessments (\$90,000) – NMFS will support a contract to develop improved quantitative methods of incorporating environmental variability in fisheries stock assessments. The contract will include support for a workshop between NMFS stock assessment scientists and fisheries oceanographers to improve stock assessment models using environmental information.

Benefits

Fisheries oceanography products provide essential information on ecosystem characteristics and the effects of environmental variability on marine ecosystems, thus leading to more accurate stock assessments and better living marine resource management. Knowledge of decadal and basin-scale environmental variability and its impacts on fisheries productivity is essential to effective fisheries management. Without the applied fisheries oceanography products that this line item supports, NMFS' ability to understand and predict shifts in ocean conditions and resulting shifts in fish stocks productivity will be reduced.

These studies will be of immediate benefit to stock analysts in evaluating the oceanographic and environmental factors associated with current-year assessments and harvest quotas. The information provided by the development and testing of environmental indicators will help improve stock assessments and management by forecasting short- and long-term variability in fish availability or reproductive success for incorporation into management plans or responses to constituent and stakeholder concerns.

Performance Goals and Measurement Data

This increase will support the objective “Enhance the conservation and management of coastal and marine resources to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal to “Observe, protect, and manage the Earth’s resources to promote environmental stewardship.” Specifically, this increase supports the NOAA Goal to “Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.”

The Fisheries Oceanography program indirectly supports the following performance measures:

Performance Goal 3: Ecosystem Performance Measurements	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Percentage of Fish Stocks with Adequate Population Assessments and Forecasts. ¹						
Without Increase <i>Assumes level funding at FY 2006 request</i>	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

¹ This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

This is a new measure for FY 2007.

Performance Goal: <i>Ecosystems</i>	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Performance Measure: <i>Increase the Fish Stock Sustainability Index (FSSI)</i>						
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Anadromous Grants (0 FTE and \$100,000) – NOAA requests and increase of \$100,000 for Anadromous Grants. Projects funded under the Anadromous Fish Conservation Act of 1965 (AFC) are conducted for the conservation, development, and enhancement of Anadromous fishery resources (those that migrate from salt to fresh water for spawning) including similar species in the Great Lakes and Lake Champlain. This information is used to support management decisions at the state level and under the Magnuson-Stevens Fishery Conservation and Management Act, the Atlantic Coastal Fisheries Cooperative Management Act, and the Striped Bass Act.

The amount of funds that may be used to finance projects varies. For most projects Federal funds account for 50 percent of the cost, but Federal funds can support up to 66.66 percent of the cost when two or more states cooperate, and up to 90 percent Federal funding can be made available when the project supports an interstate or a Federal Fisheries Management Plan. State fishery agencies, colleges, universities, private companies, and other non-federal interests in 31 states bordering the oceans or the Great Lakes and Lake Champlain may participate under the AFC. All projects must be coordinated with and cleared through the state fishery agency concerned. Authorized are investigations, engineering and biological surveys, research, stream clearance, construction, maintenance and operations of hatcheries and devices and structures for improving movement, feeding and spawning conditions.

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, have been terminated in FY 2007: Regional Councils and Fish Commissions (\$1,874,000), Fish Information Networks (\$1,149,000), Survey and Monitoring Projects (\$690,000), Other Fisheries Related Projects (\$17,061,000).