

Subactivity: Other Activities Supporting Fisheries
Line Item: Other Activities Supporting Fisheries

GOAL STATEMENT:

Provide accurate and timely information and analyses for the conservation of the Nation's living marine resources 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:

"Other Activities Supporting Fisheries" includes items that cross multiple NMFS programs and therefore do not fit under one specific subactivity. Activities funded include computer hardware and software, cooperative research, information analysis and dissemination, Alaska fishery management and habitat conservation projects, the National Environmental Policy Act (NEPA), and facilities maintenance.

Cooperative research. One of the larger programs classified under "Other Activities," cooperative research enables commercial and recreational fishermen to become involved in collecting fundamental fisheries information to support the development and evaluation of management options. Through cooperative research, industry and other stakeholders can partner with NMFS and university scientists in all phases of the research program-- planning the survey/statistical design, conducting research, analyzing data, and communicating results. The information collected through cooperative research programs assists scientists and managers by supplementing the data currently collected through Federal research programs. This information improves the information base for single species, multi-species, and ecosystem assessment models and ultimately improves the evaluation of stock status and the management of fishery resources. Cooperative research covers a wide range of study areas, including fishery-dependent data, species life history, conservation engineering, species abundance and distribution, habitat, and socioeconomic impacts.

National Environmental Policy Act. The Agency's ecosystem-based approaches to management will increase the need for NEPA expertise, given the analytical complexity of this management task. NEPA Coordinators frequently identify program actions that require new or more comprehensive NEPA analyses. NOAA assists the eight Regional Fishery Management Councils with implementing NEPA and offers training programs for agency staff with NEPA implementation duties.

Southeast Area Monitoring & Assessment Program (SEAMAP). SEAMAP is a state/federal/university cooperative program for the coordinated collection, management, and dissemination of fishery-independent data (data that does not depend on reporting by the fishing industries) in the Southeastern United States. It is composed of three operational units: SEAMAP-Southeast Region, SEAMAP-South Atlantic, and SEAMAP-Caribbean.

Each SEAMAP component operates independently, planning and conducting surveys and information dissemination in accordance with administrative policies and guidelines cooperatively established by the Gulf States Marine Fisheries Commission and the National Marine Fisheries Service's Southeast Regional Office. SEAMAP surveys are extremely important because they provide scientific data that is critical to resolving marine resource conservation issues in Gulf of Mexico, South Atlantic and U.S. Caribbean fisheries.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Other Activities Supporting Fisheries	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Other Activities Supporting Fisheries					
Antarctic Research	1,446	1,448	1,467	1,467	-
Center for Marine Education and Research (MS) (moved to MM & Sea Turtles)	2,957	-	-	-	-
Chesapeake Bay Studies	3,449	3,452	1,906	1,906	-
Climate Regimes & Ecosystem Productivity	1,478	1,478	1,483	1,984	501
Computer Hardware and Software	3,335	1,972	1,972	3,355	1,383
Cooperative Research	19,173	19,232	9,423	10,417	994
Information Analyses & Dissemination	17,686	17,461	17,758	18,384	626
Magnuson –Stevens (MSA) Implementation off Alaska	7,018	-	-	-	-
Marine Resources Monitoring, Assessment & Prediction Program (MarMap)	1,232	839	842	842	-
National Environmental Policy Act (NEPA)	2,957	7,890	7,956	7,956	-
NMFS Facilities Maintenance	-	3,945	3,960	3,960	-
Southeast Area Monitoring & Assessment Program (SEAMAP)	1,366	1,365	1,337	5,090	3,753
Other Projects	17,420	11,095	-	-	-
TOTAL	79,517	70,177	48,104	55,361	7,257
FTE	348	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Climate Regimes & Ecosystem Productivity (+ 0 FTE and \$501,000): NMFS requests an increase of \$501,000 for a total of \$2,000,000 to improve the understanding and prediction of climate variability and change on major U.S. marine ecosystems in the Bering Sea and Gulf of Alaska. This increase will enhance NMFS' ability to monitor changes in these ecosystems through a network of in situ and remote observing systems. By the end of FY 2007,

NMFS plans to develop 4 new biophysical indicators linking changes in marine ecosystems to climate variability/change. The development of new climatic-forced biological models will provide accurate predictions on the status of living marine resources in future climates—providing resource managers the knowledge and predictive tools to adapt to the consequences of climate variability and change on marine ecosystems.

Statement of Need

Managing marine ecosystems in consideration of climate variability and change depends on understanding the sensitivity of these systems to climate. Predicting the probable consequences of climate variability and change on Alaska's living marine resources and delivering the knowledge and predictive tools to resource managers is essential to NMFS' mission of enhancing the Nation's ability to plan and respond to climate variability and change.

Lack of available data is a major constraint—without sufficient data, researchers cannot develop timely biophysical indicators and models that support management and policy actions. There is also the need to further the understanding of the linkages between climate forcing and ecological responses. By coupling observations with information from retrospective and process studies, this project will generate the necessary foundation for understanding climate–ecosystem relationships.

The Climate Regimes & Ecosystem Productivity program:

- contributes to the development of indices and assessment tools used by the North Pacific Fishery Management Council – required for analyses on Total Allowable Catches in Alaskan marine fisheries;
- supplies indices to the North Pacific Marine Science Organization for use in the North Pacific Ecosystem Status Report; contributes to the development of climate-forced models – improves NMFS' recruitment predictions and stock assessments of Alaskan fisheries; and provides environmental and ecosystem data via the internet – supports the President's Management Agenda by supporting E-government strategic goals.

Several reports recognize that scientific findings on climate variability require further development and improved integration with non-climatic knowledge to better serve society's needs. The 2003 Strategic Plan for the U.S. Climate Change Science Program (CCSP) identified several research priorities related to climatic variability and change, such as developing predictive models on threshold responses of ecosystems and species, collecting long-term data sets to track changes in seasonal cycles of productivity, and creating predictive management tools such as ecological forecasting models. The North Pacific Marine Science Organization (PICES) Study Group's 2005 Fisheries and Ecosystem Responses to Recent Regime Shifts Report and NOAA's Strategic Plan for FY 2006–FY 2011, "New Priorities for the 21st Century," identified the same limitations with current climate model projections and reiterated the recommendations listed in the CCSP report.

Proposed Actions

Climate Regimes and Ecosystem Productivity - \$500,000 A sound ecosystem approach to management requires understanding how climate fluctuations affect the ecosystem. Climate variability and change can profoundly impact natural environments, and the effects can be large and far-reaching. NMFS will conduct this project on a regional scale (i.e., within the fisheries-rich ecosystems of the Gulf of Alaska and southeast Bering Sea) and these studies will improve the understanding of climate–ecosystem relationships and their controlling mechanisms. Efforts include:

- funding a post-doctoral fellow to directly incorporate climate into stock assessment models;
- integrating sea-ice data into an ocean circulation model required to examine effects of climate on currents that impact living marine resources;
- enabling the expansion of the Bering Climate web page to include the Gulf of Alaska, as requested by the North Pacific Fisheries Management Council;
- participating on Bering Sea groundfish cruises to collect critical summer ecosystem observations;
- fully implementing real-time data communication with Bering Sea biophysical moorings and near real-time delivery of data products to stakeholders via the Internet; and
- deploying additional satellite-tracked drifters to examine how climate forcing affects circulation.

Benefits

These studies will improve the understanding of climate–ecosystem relationships and their controlling mechanisms. These capabilities will provide the latest predictive tools to living marine resource managers and decision makers, enabling more scientifically informed decisions in climate-sensitive marine ecosystems and supporting the President’s U.S. Ocean Action Plan recommendation for an integrated approach to oceans management.

The request will increase NMFS’ ability to provide resource managers the knowledge and predictive tools to adapt to the consequences of climate variability and change on marine ecosystems, thereby improving the management of Alaskan fisheries (e.g., pollock, cod, halibut, salmon, and crab), valued at over \$1 billion per year. The targeted marine ecosystems are among the most productive in the world. They contain unique marine habitats that, in addition to supporting large populations of commercially valuable finfish and shellfish, support diverse populations of forage fishes and abundant marine mammals and birds. These ecosystems also support economically important recreation and tourism.

Performance Goals and Measurement Data

This increase will support the Department of Commerce objective to “advance understanding and predict changes in the Earth’s environment 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.”

Performance Goal: Climate	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Performance Measure: Increased number of ecological forecasts and living marine resource assessments used by managers that incorporate indices of climate variability and change.							
Without Increase	0	1	1	1	2	3	4
With Increase	0	1	1	2	3	4	6

Computer Hardware and Software (+0 FTE and \$1,383,000) – NMFS requests an increase of \$1,383,000 for a total of \$3,383,000 for Computer Hardware and Software. This increase will restore funds to the prior year funding level.

Statement of Need

An increase of \$1,383,000 will cover critical IT infrastructure and connectivity costs for transmitting commercial and recreational fisheries data. Restoring these funds will allow for the essential maintenance of crucial security hardware and software used for preventing and monitoring security risks and vulnerabilities to NMFS’ network.

Proposed Actions

These funds will restore NMFS’ ability to fund required maintenance contracts on software and to legally maintain software products currently used to support critical mission requirements. In addition, funding will provide support for essential contract staff in Headquarters and Regional sites involved in processing NOAA’s scientific and law enforcement data for enterprise applications. These data are central to the stewardship of commercial and recreational fishing and of protected species and their habitats.

Benefits

Restoring these funds will allow for the essential maintenance of crucial security hardware and software used for preventing and monitoring security risks and vulnerabilities to NMFS’ network.

Cooperative Research (+ 0 FTE and \$994,000): NMFS requests a net increase of 0 FTE and and \$994,000 for Cooperative Research. Of this increase, \$1,000,000 is for the Southeast Cooperative Research program to fund research on Bycatch Reduction Devices (BRDs) and other fishing gear in the Gulf of Mexico. A number of economically important recreational and commercial species of finfish are caught as bycatch in the shrimp fishery. With the use of BRDs, fishermen are able to retain the shrimp catch while allowing the finfish to escape the trawl net. Increased funding will enable NMFS to address the issue of lowering bycatch levels of a number of economically important recreational and commercial species of finfish including red snapper. NMFS’ request directly impacts efforts to support regional partnership opportunities in the Gulf of Mexico, a strategy that is advocated in the President’s U.S. Ocean Action Plan.

Statement of Need

NMFS supports a fishing gear research program that has worked cooperatively with the shrimp industry to address the issue of turtle bycatch in an economically feasible manner. The next issue to be addressed is finfish bycatch by shrimp trawls. One of these species, red snapper, is a premier sportfish that is classified by NMFS as overfished. Red snapper is currently under a long-term rebuilding plan.

Additional funding for cooperative research with the shrimp industry is critical to designing new BRDs to achieve bycatch reduction levels of red snapper and other overfished species. This work can be completed as part of the larger NMFS Fisheries National Bycatch Strategy, and addresses the U.S. Ocean Action Plan. This initiative reflects the FY 2007 Administration Research and Development Budget Priorities by addressing the societal impacts of science and technology and supporting technological innovation that spurs economic competitiveness.

Proposed Action

The request will supplement the existing cooperative research program administered by NMFS Southeast Fisheries Science Center. Efforts will include:

1. *Bycatch Reduction Device Testing Protocols (\$750,000)* – Additional funding will address the need to develop more efficient methods to certify finfish bycatch reduction devices. NMFS will direct the funds towards BRD development and testing through cooperative research arrangements. Current devices have not been deemed effective in minimizing bycatch of finfish. Innovative designs and more thorough in-field testing will improve the efficacy of BRDs certified for use in the shrimp trawl fishery. New protocols will benefit both the recreational and commercial fishing communities.
2. *Quantification of Bycatch Rates (\$250,000)* – NMFS is committed to enhancing methods for estimation of fleet-wide bycatch levels in the shrimp trawl fishery. The request will improve statistical research by ensuring that extrapolation of the results from individual trawl bycatch surveys to the fleet are statistically valid. NMFS will develop accurate and precise statistical methods that will account for the total range of conditions found in all major fishing areas. Once NMFS determines the prevailing conditions in the fishery, scientists can use the data to estimate the number of fishery observers needed to collect bycatch information. NMFS' improvement and expansion of the Southeast Cooperative Research program supports one of the priorities set forth in the President's U.S. Ocean Action Plan — the implementation of a new national bycatch strategy.

Benefits

Because bycatch levels are so high, management measures in the directed commercial or recreational fishery alone will not be able to rebuild the stock without addressing the bycatch issue. NMFS request will: (1) speed recovery of red snapper stocks; (2) reduce the likelihood of closure of recreational and commercial fisheries; and (3) mitigate further litigation. Bycatch reduction achieved through cooperative research in an economically feasible manner would address concerns of the shrimp industry and recreational fishermen.

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.”

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

Information Analyses and Dissemination (+ 0 FTE and \$626,000): NMFS requests 0 FTE and \$626,000 in net increases above the FY 2007 base, for a total request of \$18,330,000. NMFS’ request provides the capacity to produce efficient tools for accurate data analyses and timely information dissemination to enable effective decision making. Funds within this line provide the necessary support for NMFS staff to analyze, produce, and disseminate population assessments and other biological, ecological, and oceanographic analyses.

Statement of Need

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) mandates requirements for data collection, analyses, and dissemination. NMFS has specific roles and responsibilities under MSA that require staff expertise in model development for population dynamics and economic trends, statistical data analyses for stock assessments, database development and data warehousing, and computer programming. Additional funds enable NMFS to make new investments that improve information technology (IT) information sharing and storing capabilities within six Fisheries Science Centers and six Regional Offices.

Additionally, these funds enable NMFS to maintain Data Management systems and policies that are critically needed to support IOOS (Integrated Ocean Observing System); DMAC (Data Management and Communications); and NOAA DMC (Data Management Committee) requirements for data collection, processing, dissemination, archiving, and data sharing.

Proposed Action

This line supports NMFS economists who conduct economic models and analyses and statistical data analyses. Other biological, ecological, and oceanographic analyses, models, and assessments are also supported by these funds. Biologists, economists, oceanographers, statisticians, and operations researchers conduct scientific investigations on the data collected and report their findings to policy makers and decision makers. Computer programmers will create the population models, databases, and geo-spatial data warehouses required for long-range management of the integrated data sets and models. These analyses will use models of population dynamics and risk assessments to formulate policy options for fisheries management. Data are analyzed and used in computer models to forecast changes in resource abundance required for long-range management.

Requested funds will maintain continued support of mathematical and statistical analyses that integrate resource survey data (funded under Fisheries Research and Management line), commercial and recreational data collections (funded under Fish Statistics line), and population biology studies (funded under Fisheries Research and Management) into sophisticated population models.

Benefits

NMFS data management initiatives provide basic analysis tools and reports for scientists, stakeholders, and decision makers. NMFS' Scientific Publications Office (SPO) publishes and disseminates peer-reviewed NMFS publications that advance fisheries science and conservation issues. SPO's activities provide visibility for NOAA scientific research through respected publications such as the *Fishery Bulletin*, *Marine Fisheries Review*, and NOAA's Technical Memorandum Series.

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 Information Analyses & Dissemination 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

Southeast Area Monitoring and Assessment Program (+ 0 FTE and \$3,753,000): NMFS requests 0 FTE and \$3,752,000 for the Southeast Area Monitoring and Assessment Program (SEAMAP) program. This increase will fund surveys for groundfish, reef fish, Fall and Summer shrimp stocks, and Spring and Fall plankton — an important food source for fish. NMFS will also conduct environmental surveys on temperature, salinity, dissolved oxygen, turbidity, and chlorophyll abundance. NMFS will warehouse all of the biological and environmental data from each SEAMAP survey into the SEAMAP Information System, a distributed data management system administered in conjunction with NMFS’ Southeast Fisheries Science Center.

Statement of Need

SEAMAP is a State/Federal/university program for collection, management and dissemination of fishery-independent data for supporting the sustainable use of commercially and recreationally valuable finfish stocks in the southeastern United States. NMFS is working with other Federal, State and local agencies to monitor and assess the impacts of Hurricanes Katrina and Rita on marine resources and infrastructure in the Gulf of Mexico—these activities represent the first step in ensuring the sustained economic recovery in the Gulf Region.

NOAA will direct over half of the SEAMAP funding to the Gulf of Mexico to: 1) assess additional environmental impacts from the restoration and/or the construction and operation of new oil and natural gas facilities needed to off-set current hurricane-related shortfalls in energy; and 2) assess the distribution/health and status of key fishery species, including eggs and larvae. Assessing and responding to hurricane-based environmental impacts has attained even greater economic importance, given the already existing and extensive hypoxic (low oxygen) region in the Gulf—a constant threat to the Gulf commercial and recreational fishing sectors.

SEAMAP surveys are extremely important because they provide sound scientific data that are critical to resolve issues with the location and operation of open-loop liquefied natural gas (LNG) terminals. Open-loop systems run warm Gulf seawater through an open-rack vaporizer system to reconvert super-cooled LNG (-256 degrees Fahrenheit) into a gas. There is only limited SEAMAP data upon which to base assumptions and estimates regarding the impacts of water uptake (entrainment), thermal shock, pressure shock, or mechanical/chemical exposure on ichthyoplankton and crustacean assemblages. NMFS requires additional SEAMAP data to strengthen the current models related to estimating open-loop terminal impacts.

SEAMAP data is also very important in a broader sense to achieving both NOAA and the President's U.S. Ocean Action Plan goal of improving management of the Nation's marine and coastal resources with ecosystem-based approaches. NMFS' SEAMAP initiative reflects the FY 2007 Administration Research and Development Budget Priorities by placing a high priority on data sharing across platforms and disciplines. Information from the SEAMAP activities is provided to user groups for research or study through three complementary systems: the SEAMAP Information System, the SEAMAP Archiving Center and the SEAMAP Invertebrate Plankton Archiving Center.

Proposed Action

SEAMAP efforts will include ichthyoplankton surveys. The request will support Spring and Fall surveys for ichthyoplankton in the Gulf of Mexico. Ichthyoplankton includes fish eggs, newly hatched eggs, and young fish, and adults of small fish. The objectives of the Spring plankton survey are to collect ichthyoplankton samples to estimate the abundance and distribution of Atlantic bluefin tuna larvae. NMFS will also collect environmental data at each ichthyoplankton survey station. NMFS will conduct Fall plankton surveys to collect ichthyoplankton samples to estimate abundance and define the distribution of eggs, larvae, and small juveniles of reef fishes, particularly king and Spanish mackerel and red snapper.

Benefits

SEAMAP provides guidance, personnel, and contributes scientifically sound information for the enhancement and protection of the marine resources in the Gulf of Mexico. Additional SEAMAP data will not only strengthen the current models related to estimating open-loop terminal impacts, but will also provide for better baselines and monitoring of the impacts of the construction and operation of the terminals on living marine resources. SEAMAP's plankton and environmental surveys will enable NMFS to increase sampling intensity for the Gulf of Mexico thereby improving current estimates of larval mortality as well as analyses of potential economic impacts to commercial and recreational 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.” 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 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.

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, have been terminated in FY 2007: Chesapeake Bay Studies (\$1,545,000), Cooperative Research (\$9,862,000), Other Projects (\$11,095,000).