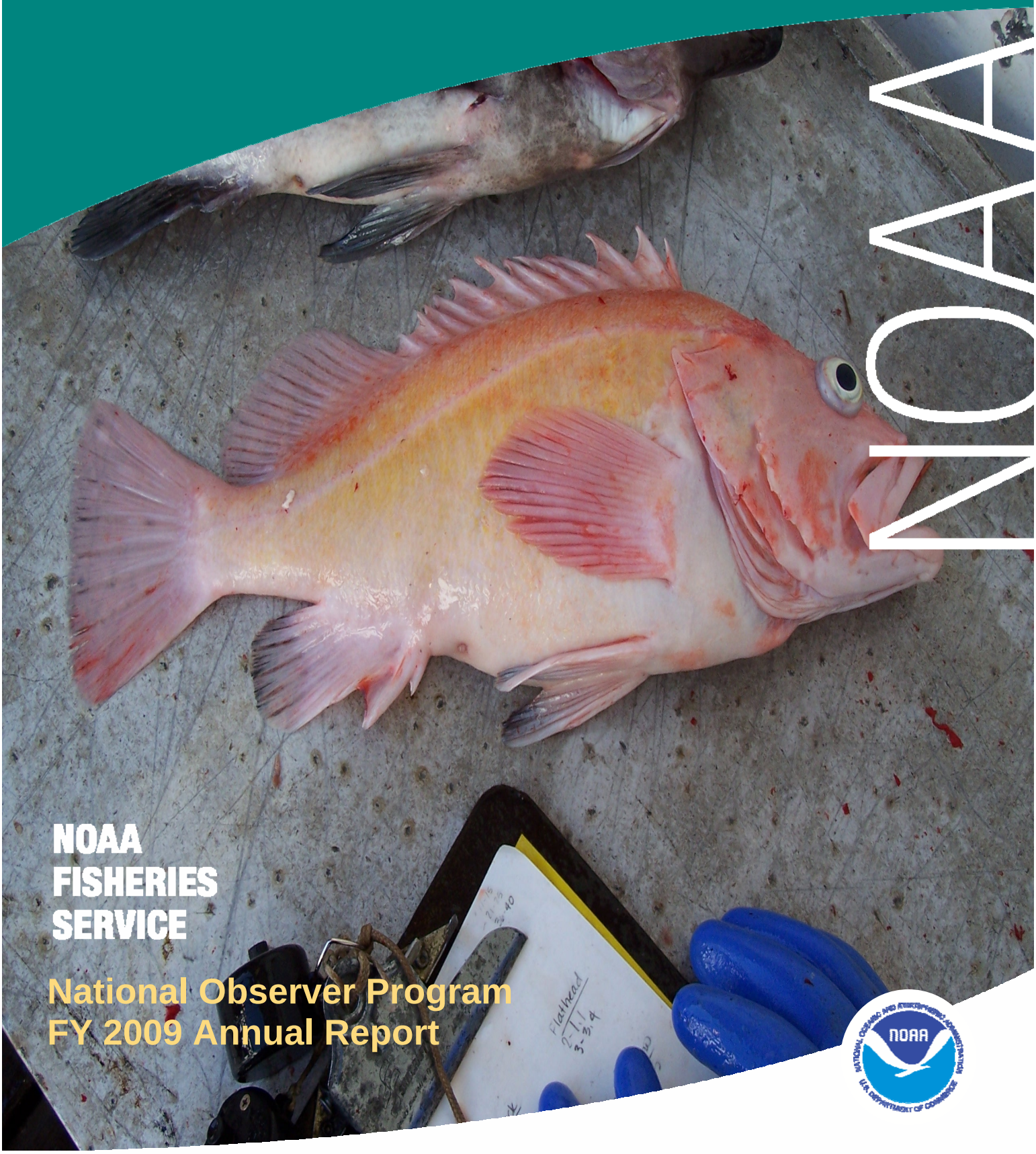
Science, Service, Stewardship



NOAA FISHERIES SERVICE

National Observer Program FY 2009 Annual Report

U.S. Department of Commerce | National Oceanic and Atmospheric Administration | National Marine Fisheries Service

An online version of this report is available at
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Executive Summary

The National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) utilizes data from a variety of sources ranging from fishery-independent surveys to commercial and recreational fishery data to support its science-based stewardship of the nation's living marine resources. Of these, data collected by fisheries observers placed on board commercial fishing vessels through NMFS observer programs are considered one of the best sources of fishery-dependent data used in fisheries conservation and management.

In FY 2009[1], the sale of domestically caught fish and shellfish by the commercial fishing industry was approximately $4.0 billion, making the U.S. the fifth-largest producer of seafood in the world. Each year, NMFS observer programs provide the high quality biological information necessary to managing the nation's fisheries. These data are utilized by NMFS scientists and fisheries managers carrying out conservation and management activities such as fish and protected species stock assessments, quota monitoring, and development of bycatch reduction measures.

The 6th Annual International Fisheries Observer and Monitoring Conference (IFOMC) was held in 2009. This event, which was hosted by NMFS, brought together over 400 fisheries managers, scientists, and observers from nearly 40 countries. The mission of the conference is to improve fishery monitoring programs worldwide through sharing of best practices and development of new methods for data collection and analysis. Interest in the IFOMC conference grows each year, reflecting a global movement toward science-based fisheries management.

Fisheries managers and stakeholders depend on having the best possible science when making decisions that impact the long-term sustainability of resources and communities. In FY 2009, NMFS deployed more than 700 observers and collected data on more than 40 fisheries nationwide. Observer programs utilize funding from the Federal government and the commercial fishing industry to collect data critical to the decision making process.

In FY 2009, Federal commercial fisheries observer programs received funding totaling $55 million for observer coverage and program infrastructure. This report contains a summary of funding and activities for NMFS observer programs in FY 2009.

[1] The Federal fiscal year runs from 1 October to 30 September each year.

1. Introduction

Since 1972, observers have collected high quality data on commercial fishing activities in the U.S. Exclusive Economic Zone (EEZ) and on the high seas. The NMFS utilizes fishery observers to collect data from U.S. commercial fishing and processing vessels, as well as from some shore-side processing plants. Today, there are fisheries observer programs in all six NMFS fisheries management regions (Northeast, Southeast, Northwest, Southwest, Alaska, and Pacific Islands).

Regional Offices and Science Centers in each NMFS Region are responsible for administering observer programs in their area. Each observer program is authorized by one or more of the following Federal mandates: the Magnuson-Stevens Act (MSA), the Marine Mammal Protection Act (MMPA), and the Endangered Species Act (ESA).

Under the MSA, Fisheries Management Plans (FMPs) are developed for each Federal fishery that requires conservation and management. The MSA provides Fishery Management Councils and the Secretary of Commerce with the authority to require that "one or more observers be carried on board a vessel of the United States engaged in fishing for species that are subject to the plan, for the purpose of collecting data necessary for the conservation and management of the fishery" (16 U.S.C. §1853 (b)(8)).

The MMPA also authorizes the placement of observers on board vessels engaged in commercial fishing operations that frequently take[2] marine mammals (16 U.S.C. §1383(e)). The NMFS uses observer data to quantify the impacts of fishing activities on marine mammal populations and to identify bycatch reduction measures.

In 2007, the NMFS Office of Protected Resources finalized a rule under the ESA that provides NMFS with the authority to place fisheries observers aboard vessels in state and federal fisheries operating in the territorial seas or EEZ where sea turtle interactions may occur. Observers will help determine whether existing measures to reduce sea turtle bycatch are working or whether new or additional measures are needed. With this information, NMFS will be better positioned to address sea turtle bycatch problems. The first Annual Determination (AD) of fisheries to be observed under this rule was published in 2010.

Observer coverage may also be recommended for federal fisheries as part of a ESA Section 7 biological opinion. Section 7 prohibits federal agencies from carrying out programs (such as authorizing fishery operations) that jeopardize the continued existence of threatened and endangered species.

[2] "Take" of a marine mammal is defined as: "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal" (16 U.S.C. 1362).

On a global scale, international agreements (such as the FAO Code of Conduct for Responsible Fisheries) identify the agency's stewardship role in leading collaborative efforts to conserve and protect marine resources. International provisions in the reauthorized MSA also strengthened the U.S. commitment to monitoring and reducing bycatch. These provisions require the Secretary of State to "include statistically reliable monitoring carried out by the United States through observers or dedicated platforms provided by foreign nations, that are parties to the agreement, of all target and non target fish species, marine mammals, sea turtles, and seabirds entangled or killed by large-scale driftnets used by fishing vessels of foreign nations that are parties to the agreement;" and specify that "the taking of non-target fish species, marine mammals, sea turtles, seabirds, and endangered species or other species protected by international agreements to which the U.S. is a party is minimized and does not pose a threat to existing fisheries or the long-term health of living marine resources."

1.1 Program Structure

The NMFS' Office of Science and Technology coordinates observer programs at the national level through the National Observer Program (NOP). In addition to handling national program administration, budgeting, and planning, the NOP works with the regional observer programs to develop national policy and observer data quality standards. The NOP also provides regional observer programs with a forum to increase communication. Representatives from all regional programs and most NMFS offices participate in the National Observer Program Advisory Team (NOPAT), which serves as an advisory board to the NOP. The NMFS Science Board (composed of the six NMFS Science Center directors and the director of the Office of Science and Technology, who serves as the Board's chair) reviews NOPAT recommendations, with final decisions made by the Director of the Office of Science and Technology, Chief Science Advisor, and Assistant Administrator for Fisheries, when necessary.

Regional programs are responsible for the day-to-day operation of fishery observer programs. Program scientists determine the appropriate sampling protocols and necessary observer coverage levels for each fishery. In general, regional programs work with private contracting companies to recruit and deploy observers. In some cases, the fishing industry contracts directly with a private contracting company to provide observer coverage. The North Pacific Groundfish Observer Program, for example, is funded primarily by fishing industry members (industry pays for observer's salaries, travel costs, and insurance). The NMFS Alaska Fisheries Science Center administers this program and receives the data for near real-time management of the groundfish fishery. These data are also made available by the program to industry members. Regardless of an observer program's funding structure, all new observers are provided with training by NMFS in species identification, sampling methods, and safety. Following a fishing trip, observers are debriefed, and the trip's data are quality checked before being entered into a database system and made available to regional fisheries biologists.

1.2 Use of Observer Data in Fisheries Management

Fisheries observers are trained biological technicians who collect data to support a wide range of conservation and management activities. The information compiled by observer programs supports the management and conservation of fisheries, protected resources, and ecosystems throughout the U.S. Observer data are also increasingly relied upon to monitor compliance with fisheries regulations. Information collected by fisheries observers is used for a wide range of assessment and monitoring purposes, including the following examples.

- In some fisheries, the amount of a specific fish species that can be caught is specified by a "total allowable catch" (or TAC) level. Observer data are used to project total catches for these species and to monitor the level of fishing activity so that the TAC is not exceeded.

- For each managed fisheries/stocks, the 2007 reauthorization of the MSA requires development of an Annual Act Limit (ACL). The ACL is an annual numerical catch target that is set below the overfishing fishing level to ensure that overfishing will not occur. Setting an ACL for a stock requires scientific data on catch and bycatch.

- For many fisheries, estimates of fishing mortality and/or protected species interaction rates based on observer data are used for monitoring fishery performance and developing stock assessments.

- For rebuilding species, such as New England groundfish, preseason target catch numbers are provided to the management team. When the fishing season ends, observer data are evaluated to determine total mortality and correspondingly adjust the next season's targets.

- The MMPA requires that levels of fishery-related serious injury and mortalities be monitored and reported in the annual stock assessment reports and used in assigning commercial fisheries to appropriate categories in the annual MMPA List of Fisheries (16 U.S.C. 1387).

- Observer data on marine mammal bycatch are used by NMFS Take Reduction Teams when developing Federally-mandated Take Reduction Plans (TRPs) to assist in the recovery or prevent the depletion of certain strategic marine mammal stocks.

1.3 Funding History for Observer Programs

Although NMFS has utilized fishery observers to collect data since 1972, the Office of Science and Technology's NOP was not established until 1999. Prior to 1998, the majority of funding for regional observer programs was provided through indirect sources, such as Congressional allocations supporting fisheries management and protected resource legislation. Beginning in the

late 1990s, industry funds were also used to support domestic observer programs; the amount of industry funding has remained relatively stable.

In 1999, the first Congressional funds were directly appropriated for observer program budget lines, and the NOP was established to coordinate U.S. observer program activities. In general, funding for observer programs has increased over time. The number of fisheries observed has increased as programs obtain the means to develop observer programs for new or experimental fisheries while maintaining established monitoring programs (Fig. 1).

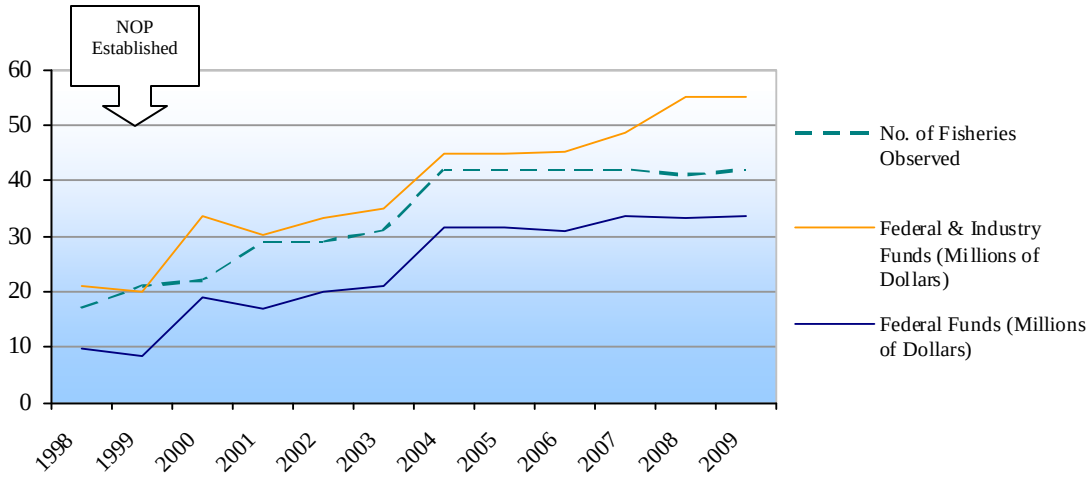


Figure 1. Overview of U.S observer program funding and observed fisheries from 1998-2009 (not adjusted for inflation).

2. FY 2009 Budget Summary

In FY 2009, total funding from all sources for Federal fisheries observer programs was approximately $55 M for observer coverage and program infrastructure. This funding enabled regional observer programs to provide coverage for more than 67,000 days at sea in 41 fisheries (Appendix A provides a detailed breakdown of funding and coverage levels by program). The industry-provided portion of total funding in FY 2009 was $15.7M. Industry funds were used to support observer coverage of fishing vessels in the Northwest at-sea hake, Atlantic sea scallop, and Alaska groundfish fisheries.

The majority of funding for observer programs comes from Congressional appropriations. In FY 2009, Congressional funding for observer programs totaled $33.6 M. All regions have at least one dedicated budget line supporting observer program activities except the Southwest, which has never had a dedicated budget line for observer programs. Although Alaska does have a Congressional line item, this is strictly for the program that covers Federal fisheries (the North Pacific Groundfish Observer Program). There is no Congressional line item for the Alaska Marine Mammal Observer Program, which observes state fisheries. Funding is also available from two National budget lines (the “National Observer Program” and “Reducing Bycatch” budget line), which are equally allocated to regional programs. In addition to direct budget lines, observer programs may receive funding from Federal appropriations supporting programs under the ESA, MMPA, and the MSA.

It is important to note that an observer program may be funded by more than one budget line, and a single budget line may support observer program activities in more than one region. Many observer programs are funded through a combination of funding sources in order to maintain sufficient observer coverage and infrastructure.

3. FY 2009 National Observer Program Activities

The NOP is supported by a permanent allocation from the Reducing Bycatch budget line to provide staff support and program infrastructure. Funding for specific activities of the NOP was also provided through the Atlantic Coast Observers Congressional budget line (Appendix A provides details). The following section highlights some of the NOP's activities in FY 2009.

3.1 National Highlights

Moving Electronic Monitoring Technologies Forward

The increasing need for data to adequately manage the nation's fisheries is challenging the capabilities of NMFS observer programs. Electronic monitoring (EM) technologies, (such as video cameras, vessel monitoring systems, and personal digital devices) may offer an effective and efficient way to enhance fisheries observation capabilities. In August 2009 the NOP, in conjunction with the NOPAT, held a national workshop on electronic data collection and video monitoring technologies. The purpose of the workshop was to take a closer look at current EM projects and regional EM needs, and to work on information sharing and gathering. To successfully implement these technologies, it will be necessary to gain input from regional experts, enhance collaboration between regions to develop national solutions, develop guidance and standards to be followed in future efforts, and be able to successfully generate tangible results.

Steering Committee for the 6th IFOMC Photo: Dennis Hansford, NMFS

International Fisheries Observer Monitoring Conference (IFOMC)

The NMFS Office of Science and Technology's NOP sponsored the Sixth IFOMC, held July 20th – 24th 2009 in Portland, Maine. Dennis Hansford (NOP), chaired this major scientific meeting. Over 300 participants from 37 countries attended. The conference featured 75 panel presentations and more than 70 posters. The vision for this Conference is to develop, promote and enhance effective fishery monitoring programs to ensure sustainable resource management throughout the world's oceans. In line with the conference mission of improving fishery monitoring programs worldwide through sharing of practices and developing new methods of data collection and analysis, additional pre-conference workshops were offered to conference participants that focused on methods of data extrapolation and vessel safety. The IFOMC provides a forum for dialog between those responsible for monitoring fisheries and those who rely upon the data they collect, and is the premier conference on fisheries monitoring programs. Preparations are currently underway for the next IFOMC conference, tentatively scheduled to be held in Chile in 2013.

3.2 International Work

3.2.1 National Observer Program Activities

Senegalese Observer Training

A seven day joint U.S.-Senegal marine observer training was conducted in Dakar, Senegal during February, 2009. The training, which was the result of collaboration efforts between the Senegalese Ministry of Fisheries, the U.S. Navy, and NMFS, covered a broad suite of information on current U.S. and Senegal observer program policies. Training topics included international and national marine resource legislation; fisheries enforcement activities; illegal, unregulated, and unreported fishing; research surveys in West Africa; and the status of West African fish stocks. The course also included the identification and recording of marine species such as fish, marine mammals, sea turtles and sharks; the collection of tissue samples from these animals; safety at sea; practice getting in and out of a life raft; communication equipment; and vessel protcools. The class had the opportunity to tour the Dakar fish market, talk to several inshore fishermen at landing sites, and participate in a familiarization trip with the U.S. Navy around Dakar harbor. A total of 38 students officially participated in the course. Training was coordinated by Teresa Turk, NOAA/NMFS, Office of International Affairs and Sidi Ndaw and Mory Gningue, Senegal Ministry of Fisheries. The instructors were Dr. Manjula Tiwari, NOAA/NMFS, Southwest Fisheries Science Center; John LaFargue, NOAA/NMFS, Northwest Fisheries Science Center; Kate Wynne, University of Alaska SeaGrant, and a variety of staff from the Senegalese Ministry of Fisheries.

Safety training session in Senegal
Photo: Teresa Turk, NMFS

West African Observer Manual

During fall 2009 NMFS developed a West African observer manual to aid in standardizing the forms, data collection procedures, and sub-sampling protocols of West African countries. The manual will also facilitate comparisons of observer information across West African countries. Forms and procedures from existing U.S. observer program manuals were used as models. As part of the manual's development, a NMFS contractor travelled to Cameroon and ground tested sampling protocols with observer program staff there. Field testing the manual resulted in a number of procedural changes, including the addition of a form to capture data on marine debris, which is widespread in the region. The manual is currently being reviewed by NMFS' West African partners. Once the manual is complete, it will be available for use by observer programs in the region.

3.2.2 Pacific Islands Observer Program

The Pacific Islands unique geographic location enables the regional observer program to provide aid and assistance to Pacific island nations as they develop new or enhanced observer programs. In FY 2009, the program worked with the following countries:

Vietnam **-** The Pacific Islands observer program supplied observer training assistance to Vietnam National Observer Program. The World Wildlife Fund (WWF) established the ground work for expanding an observer program in the Vietnamese longline fleet. The core issues for the program are to understand the species composition of the new Vietnam fleet (started 1998-1999) and encourage the increased use of circle hooks to reduce the effects of sea turtle bycatch. Basic catch identification was taught by NMFS staff to Vietnamese observers, as were sea turtle de-hooking & handling protocols. The basics of making a emergency radio calls were also presented.

Philippines **-** The Pacific Islands observer program assisted the Philippines' Bureau of Fisheries and Aquatic Resources (BFAR) in their first observer program training, with support from the Western Central Pacific Fisheries Commission Observer Program Coordinator. The BFAR used the opportunity to help develop observer trainers. The training course was held at the BFAR's marine training center, Navotas City, Manila from May 18th through June 12th, 2009. The first training produced about 30 observers, including observer trainers,

China - The Pacific Islands observer program sent a representative to Shanghai, China to speak with the president and several faculty members of the Shanghai Ocean University. The topics included a broad overview of the Pacific Islands observer program, the debriefing process, and a demonstration of a turtle de-hooking device. China is in the process of implementing an at-sea observer program. This meeting was one of a series of meetings between fisheries scientists from NMFS and China.

Indonesia & Ecuador - Identification references were provided to field projects in Ecuador and Indonesia. Both countries are interested in shark identification. Discs of shark identification training materials, including a training lesson plan and identification test, were also sent to a WWF staffer in Indonesia.

Fiji **-** Observer program staff traveled to Suva, Fiji to provide technical support and to participate in training new observers from Fiji for deployment on longline and purse seine vessels.

Kiribati **-** Observer program staff traveled to Tarawa, Kiribati to provide technical support and to participate in training new Pacific Island observers from Kiribati for deployment on longline and purse seine vessels.

Representatives from NMFS Pacific Islands observer program also attended the 9th Regional Observer Coordinators/Managers Conference and Workshop,

as well as the Observer Data Management Workshop, in Noumea, New Caledonia. The Program manager from the NMFS Pacific Islands region was elected as chairman of the Regional Observer Annual Workshop/Conference. Staff also participated in several other international meetings to conduct trainings, share information on program policies (particularly in the safety arena), and increase international observer program capacity.

4. Regional Observer Program Activities

Observer programs are administered by NMFS Regional Offices and Science Centers around the country (Fig. 2). The funding received by each program is used to conduct existing programs, develop observer programs for new or experimental fisheries, and to perform outreach to industry members and the public. Research priorities and observer coverage levels are determined by the regional programs. Coverage levels are influenced by available funding, the number of active participants in the fishery, fishing conditions, and program goals. For some fisheries, certain mandated coverage or FMP goals must be met. The following sections summarizes FY 2009 achievements of NMFS regional observer programs.

Visit the
National Observer Program at:
www.st.nmfs.gov/st4/nop/index.html
for an interactive map of U.S. fisheries observer programs.

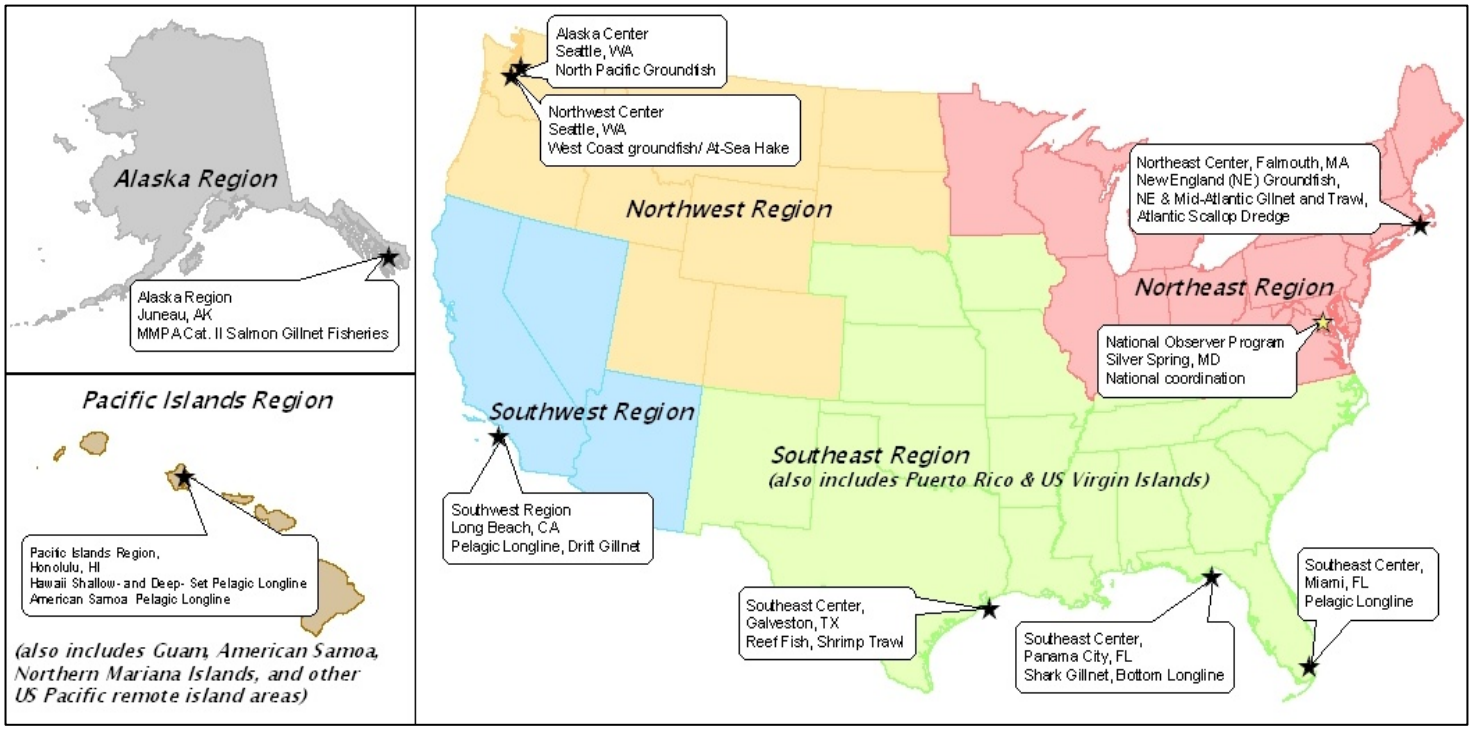


Figure 2. U.S. commercial fishery observer programs (2009) are located in each of six NMFS Regions (Northeast, Southeast, Alaska, Northwest, Southwest, and Pacific Islands), in either a NMFS Regional Office ("Region") or Science Center ("Center").

4.1 Alaska

FY 2009 Program Highlights: NPGOP

During 2009, 380 NPGOP observers were trained, briefed, and equipped for deployment to vessels and processing facilities operating in the Bering Sea and Gulf of Alaska groundfish fisheries. These observers collected data onboard 267 vessels and at 19 processing facilities for a total of 35,681 days at sea. This is a reduction in effort from a high in 2008 of 39,463 days at sea. The high level of effort in 2008 was caused by a spike in activity following the increase in observer coverage requirements mandated by Amendment 80 to the Bering Sea/Aleutian Islands Fishery Management Plan implemented that year. The decline in effort seen in 2009 was likely due to several causes including some decreased fish quotas and substantial market changes (which occurred as a result of turmoil in the financial markets).

The data provided by the observers enabled the tracking of over 1,500 separate management quotas for Alaska groundfish. The program provides real-time catch estimation for North Pacific groundfish fisheries and is supported primarily through industry funding. The NPGOP, which observes fisheries under the Groundfish of the Gulf of Alaska and Groundfish of the Bering Sea and Aleutian Islands Management Area FMP's, received approximately $19,500,000 in funding for FY 2009, including $13,000,000 in industry funds (Appendix A gives details).

Maps of observer data from the North Pacific Grounfish Observer program are available at http://www.afsc.noaa.gov/fma/spatial_data.htm. These maps are designed to provide a better understanding of where groundfish are caught in the Aleutian Islands, Bering Sea and Gulf of Alaska.

Restructuring the North Pacific Groundfish Observer Program

The NPGOP was established in its current form in 1990. This program is essential to fisheries management in Alaska and is widely recognized as a success; however, some underlying issues remain unresolved. These concerns relate to the ability of NMFS to determine the time and location of observer deployment, fixed coverage levels, disproportionate allocation of costs across the fishing fleets, and difficulty in adapting quickly to changing data and management needs. The North Pacific Fishery Management Council is considering four action alternatives to restructure all or part of the observer program and address these issues, with a great deal of support and information provided by regional observer program and Council staff. The proposed changes will correct a vessel selection concern, resulting in improved estimates. In addition, the restructuring will implement a fee mechanism that will correct some cost inequities, and will provide program flexibility to establish and adjust coverage levels as needed for science and management. Considerable planning and analysis was put into this effort in 2009 to aid the Council in making an informed decision on the future of the NPGOP. Council action on this issue is tentatively scheduled late in 2010.

Ensuring Quality Data Collection[3]

The NPGOP receives approximately 85% of observer data electronically. An overview of inital enhancements to the data collection software was included in the 2008 NMFS National Observer Program Annual Report. Further improvements were made in 2009, which allow observers to send data daily over any type of satellite communication system. The fishing industry assists by providing the computer and communications equipment. More than 125 vessels and 25 processing plants have the new software. The new system helps to ensure that observers are able to collect high quality data and transmit these data in a timely manner. Changes to the data collection which will improve overall organization of seabird information were also planned, designed and implemented in 2009 for 2010 data collection.

Planning for Salmon Bycatch Limits and Improved Genetic Sampling

In FY 2009, the NPGOP was also engaged in planning work with the Council and Alaska region for Amendment 91, which the Council was considering to limit salmon bycatch in the Bering Sea pollock fishery. Observer program staff participated in development of the Environmental Impact Statement supporting the Council action. In addition, observer program staff were challenged to design a sampling program for salmon tissue samples (used to inform genetic stock composition analyses). These efforts will be refined as NMFS works to implement Amendment 91 in the future. While time consuming, this planning work is essential to ensure the future data collections by observers is relevant to future needs.

Coho Salmon
Photo credit: NMFS Northwest Fisheries Science Center

<u>FY 2009 Program Highlights: AMMOP</u>

Of the fourteen MMPA Category II[4] fisheries managed by the State of Alaska, eight have been observed by the AMMOP since its establishment in 1990, including the Prince William Sound drift and set gillnet fisheries (1990-91), the Alaska Peninsula drift gillnet fishery (1990), the Cook Inlet drift and set gillnet fisheries (1999-2000), the Kodiak set gillnet fishery (2002 and 2005), and the Yakutat set gillnet fishery (2007 - 2009). Data collected during these rotational observation periods are used in marine mammal stock assessments to estimate annual serious injury and mortality and to categorize fisheries in the annual MMPA List of Fisheries. In FY 2009, the AMMOP closed out sampling on the Yakutat gillnet fishery, sampling a total of

[3] Summary of article in the January – March 2009 NMFS Alaska Fisheries Science Center Quarterly Publication, written by A. Barns, M. Concepcion, N. Riley, and J. Stern.
[4] An MMPA Category II fishery has occasional incidental mortality and serious injury of marine mammals.

644 permits. In addition, funding was added to a contract that will support observation of the Southeast Alaska Salmon Drift Gillnet fishery (below).

Southeast Alaska Salmon Drift Gillnet Fishery
Scheduled for Observation in FY 2010

The next Category II fishery scheduled to be observed by AMMOP is the Southeast Alaska salmon drift gillnet fishery. Marine mammal species potentially interacting with the fishery include humpback whales (Central North Pacific stock and Southeast Alaska feeding aggregate) and harbor porpoises (Southeast Alaska stock). Funding in FY 2009 was utilized to develop an adaptive sampling approach for this large fishery (approximately 500 permits). This approach will require lower levels of coverage in general, with targeted coverage in response to observed takes and in areas where takes are known to occur more frequently, improving overall efficiency. This will be a multi-year study expected to begin in 2011 (data collection beginning in 2012), with a targeted coefficient of variation of between 0.25 and 0.30, and overall coverage level of 10-15% for the fishery.

4.2. Northwest

In FY 2009, the Northwest Regional observer programs received $6,094,076 in funding, (Appendix A gives details). Observer salaries and benefits in the at-sea hake fishery are paid to private observer providers by fishery participants. The cost to at-sea hake participants for observer coverage totaled $360,600 in FY09. A total of 4,224 days at sea was observed in Northwest Regional fisheries. Fisheries observed in FY 2009 included the West Coast limited entry groundfish fisheries (trawl and fixed gear), at-sea hake, and state-managed and open-access fisheries.

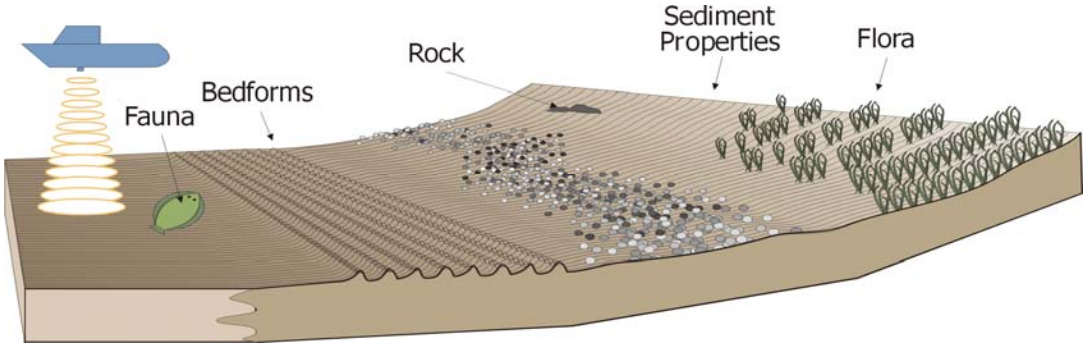
The Northwest Fisheries Science Center groundfish observer program released eight reports for use in management and science in FY 2009. In addition, the observer program provided data for inclusion in 14 stock assessments. The observer program also provided data to the Groundfish Management Team of the Pacific Fishery Management Council, enabling them to project fishing impacts throughout the year. Yearly observer data reports and summary analyses for many of these fisheries are available on the Northwest Fisheries Science Center's webpage: www.nwfsc.noaa.gov.

FY 2009 Program Highlights

Industry and Observer Program Collaborate on an Electronic Monitoring Project

The West Coast Groundfish Observer Program (WCGOP) and The Nature Conservancy recently collaborated to develop a project that used electronic technology to evaluate whether there is a link between habitat type and fishery bycatch. This relationship was tested by comparing the results of an echosounder (a device which uses SONAR technology for the measurement of underwater physical and biological components – Figure 4) to the observer data from the same trip. An analysis comparing bottom habitat data and observer data is under development. Because the echosounder is used widely on West Coast groundfish trawl vessels, if successful, this technology could provide a low cost alternative to aid in bycatch reduction. The analysis portion of this work will continue in FY10.

Figure 4. Diagram of how an echosounder works to collect habitat information.



Changes to Groundfish Management

The Pacific Fishery Management Council used observer data to develop management measures for 2009–2010. These measures will work in combination with the existing regulations to create a management structure that prevents overfishing of vulnerable species, for example, in some rockfish species, while allowing the maximum sustainable harvest of healthier groundfish stocks. The Council also approved submission of a trawl rationalization/catch share plan to NMFS (Amendments 20 and 21). This plan will implement individual fishing quotas (IFQ) for the shorebased trawl sector and cooperative management for the at-sea mothership and catcher-processors fleets, with a goal of improving the overall efficiency of the fishery. Each IFQ represents a share, or percentage, of the allowable catch in the fishery. Shares are allocated among industry members based on past participation, catch history, and other factors. Implementation is scheduled for January 1, 2011. This has been a significant workload/priority for the WCGOP in the past year. The WCGOP anticipates increased observer program needs in order to implement and monitor the IFQ system, and will be working closely with the Council to analyze these requirements.

More information can be found of the Pacific Fishery Management Council's webpage: http://www.pcouncil.org/groundfish/fishery-management-plan/fmp-amendment-20/

New Estimates of Halibut Bycatch

Two new reports on Pacific halibut bycatch were released in 2009. Pacific halibut is a "prohibited species" for trawl gear on the West Coast; therefore all halibut caught must be discarded. The most recent NMFS report on halibut bycatch in Area 2A indicates a 9% increase in total bycatch mortality and a 43% increase in the legal size halibut bycatch mortality compared to the previous (2007) estimates. In 2008, bottom trawl effort also increased by 23% relative to 2007. These estimates use halibut bycatch rates observed during the 2008 calendar year by the WCGOP. The estimates will be used by the International Pacific Halibut Commission (IPHC) to complete their annual stock assessment and to recommend total allowable catch for Area 2A fisheries in 2010. The second report on halibut bycatch released in 2009 focused on the offshore fixed gear fishery. This was the first report on Pacific halibut bycatch in the non-trawl sectors. This report utilized observer data (from the WCGOP) and landing receipt data (referred to as fish tickets) from 2002 – 2008. Both reports are available from the NWFSC website.

Chinook Salmon Bycatch Stock Composition Estimates

The NWFSC Conservation Biology division performed genetic analysis on 308 Chinook salmon tissue samples collected by the At-Sea Hake and West Coast Groundfish Observer Programs. The Chinook salmon were caught as bycatch in the at-sea hake and groundfish trawl fishery in 2008. The genetic analysis determined the stock composition of the Chinook salmon. This information is intended to help managers better evaluate the impacts of this bycatch on

specific salmon stocks, particularly those listed as threatened or endangered under the ESA or populations of concern for possible protection under Canada's Species at Risk Act.

4.3. Southwest

The Southwest Region receives the majority of funding for its observer programs through the National Observer Program and Reducing Bycatch budget lines. In FY 2009 the Southwest Region observer program received $837,203 for its observer programs. Funding was used to provide observer coverage for several fisheries along the Pacific Coast, including one MMPA Category I fishery[5]. In FY 2009, the Southwest Region provided observer coverage for the California/Oregon pelagic drift gillnet fishery (MMPA Category I) and the California pelagic longline fishery (MMPA Category II. A total of 287 days at sea were observed in those fisheries.

Summary observer program reports for the drift gillnet fishery are posted online at: http://swr.nmfs.noaa.gov/psd/codgftac.htm.

FY 2009 Program Highlights

Two publications utilizing Southwest Region observer program data were released during FY 2009:

Carretta, J. V., J. Barlow, and L. Enriquez. 2008. Acoustic pingers eliminate beaked whale bycatch in a gill net fishery. Marine Mammal Science 24(4):956-961.

This study was based on 17 years of data collected by the Southwest Region California/Oregon drift gillnet observer program. Southwest Region observers were instrumental in conducting the initial experiment which led to mandatory use of the acoustic deterrent devices ("pingers") in the fishery.

Carretta, J. V. and L. Enriquez. 2009. Marine Mammal and Seabird Bycatch in Observed California Commercial Fisheries in 2007. SWFSC Administrative Report LJ-09-01.

This report estimated marine mammal and seabird bycatch in observed SWR fisheries for 2007. Fisheries in the report included: swordfish/shark drift gillnet, halibut/white seabass set gillnet, squid purse seine, and anchovy/mackerel/sardine purse seine.

Pacific sardine. Photo credit: NMFS Southwest Fisheries Science Center.

[5] A MMPA Category I fishery is a commercial fishery that has frequent incidental mortality and serious injury of marine mammals.

4.4 Pacific Islands

The $5,747,711 in funding received in FY 2009 for the Pacific Islands fishery observer programs supported coverage for three fisheries: the Hawaii pelagic longline tuna fishery (deep-set), the Hawaii pelagic longline swordfish fishery (shallow-set) and the American Samoa pelagic longline fishery. A total of 9,872 days at sea were observed. Work also continued on updating and integrating the Pacific Islands observer data system with the longline data system (Appendix A provides details).

All of the Pacific Islands observer programs focus on monitoring interactions between commercial fisheries and sea turtles (e.g. loggerhead, leatherback, and green sea turtles), sea bird, and marine mammal species. Data and specimens collected by observers are provided to the Pacific Islands Fisheries Science Center after careful review by observer program staff. These data are used by Center biologists for stock assessment evaluation and to calculate official bycatch estimates for marine mammals and sea turtles which are provided in quarterly reports.

Reports from the Pacific Islands Region Observer Program are available online at: http://www.fpir.noaa.gov/OBS/obs_qrtrly_annual_rprts.html.

FY 2009 Program Highlights

Pacific Islands Observer Data used in Pacific Blue Shark Population Assessment

The blue shark is a common species found worldwide. The species is frequently caught as bycatch in pelagic longline fisheries. While many bycaught blue sharks are released, there are concerns that shark finning and bycatch mortalities might leave the population vulnerable to overfishing. This concern prompted NMFS, in coordination with several other Pacific fisheries management agencies, to conduct a Pacific blue shark stock assessment. In February 2009, a NOAA technical memorandum on the blue shark population status was published. The technical memo (NMFS-PIFSC-17) contains an assessment based on observer and other fisheries data from commercial drift net and longline fisheries. The report concludes that the Pacific blue shark population is close to the maximum sustainable yield (MSY) level, and fishing mortality may be approaching the MSY level in the future. Observers will be a valuable source of accurate data on blue shark bycatch as the situation is monitored. The information collected at-sea will be critical to ensure that fishing mortality does not exceed blue shark MSY in the future.

American Samoa Observer Program Highlighted in New NMFS Publication

In 2009, NMFS published a technical memorandum titled “American Samoa as a Fishing Community” (NOAA-TM-NMFS-PIFSC-19). This 74 page publication included a description of the American Samoa observer program, which has been in operation since 2006 and covers 33 permitted vessels fishing out of Pago Pago. The American Samoa program focuses on

recording interactions with protected species; to date, observer data indicates similarities in bycatch between the Hawaii longline and American Samoa longline fisheries. However, higher coverage levels are necessary to determine the extent of these interactions. As an additional benefit to the region, the authors of the technical memorandum report that the observer program's requirement of a U.S. Coast Guard safety examination decal (mandatory for all observed vessels in the U.S.) has increased the number of vessels with these decals by 66%.

Research on Decreases in Shark Catch Utilizes Observer Data Published[6]

A recent article in the American Fisheries Society journal *Marine and Coastal Fisheries* summarizes catch data for sharks collected by fishery observers during two periods (1995–2000 and 2004–2006) in the Hawaii-based pelagic longline fishery. This fishery targets swordfish in the shallow-set sector and bigeye tuna in the deep-set sector. The blue shark was the predominant shark species caught throughout the study period (84.5% of all sharks). Five other species (bigeye thresher, oceanic whitetip shark, shortfin mako, silky shark, and crocodile shark) were relatively common (1.0–4.1%). The article concluded that the Hawaii-based pelagic longline fishery has made substantial progress in reducing shark mortality.

Pacific Blue Shack. Photo credit: NMFS Pacific Islands Regional Office.

[6] Walsh, W., Bigalow, K., and K. Sender. 2009. Decreases in Shark Catches and Mortality in the Hawaii-Based Longline Fishery as Documented by Fishery Observers. Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science 1:270–282, 2009

4.5 Northeast

In FY 2009, the Northeast Fisheries Observer Program (NEFOP) received a total of approximately $11,242,298 in program funding, including $2,311,400 in industry funding for the Atlantic sea scallop industry-funded program. Over 11,879 sea days were observed through six monitoring programs: New England groundfish trawl and sink gillnet fisheries; Mid Atlantic coastal gillnet fisheries; New England and Mid-Atlantic small mesh trawl fisheries; Mid Atlantic *Illex* squid trawl; New England and Mid-Atlantic large mesh trawl fisheries; and the Atlantic sea scallop dredge fishery (Appendix A provides details). The New England Fishery Management Council's Multispecies FMP includes mandatory observer coverage requirements for several fisheries: the NEFOP provides this coverage in addition to collecting data on gear performance and characteristics and monitoring experimental fisheries. Reports from the NEFOP are posted at: www.nefsc.noaa.gov/femad/fishsamp/fsb/.

FY 2009 Program Highlights

Changes in New England Groundfish Management

The New England Fisheries Management Council initiated work on Groundfish Amendment 16 in FY 2009. This amendment expands the optional use of sectors from two existing sectors to 17 new sectors in fishing year 2010. Fishermen not joining a sector remain in the common pool, managed by effort controls, such as days at sea and catch limits. Sectors are issued quota allocation of each groundfish stock requested. They are exempt from certain effort controls and are output controlled (limited by hard quotas). Once a quota is reached and no trading of allowable catch can be accomplished, fishing in the particular sector and stock areas must cease. The sectors will aid fishermen in targeting healthy fish populations and avoiding unwanted bycatch. Increased monitoring requirements are required to ensure that quotas (Annual Catch Entitlements) are not exceeded. The NEFOP has begun to analyze necessary coverage levels and to explore new options for addressing the increased coverage needs, such as electronic monitoring.

Conserving Atlantic Skate Species

Skates are the target of directed fishing, and are also taken as bycatch in several other fisheries. Two skate species, thorny and smooth skates, were recently determined to be overfished. These analyses relied heavily on records of observed discards from the NEFOP program. New measures to reduce skate discards and promote population growth were proposed by the New England Fishery Management Council under Amendment 3 to the Skate management plan. The amendment established acceptable biological catch and accountability measures for the skate complex, as well as possession limits. These limits will be re-evaluated on annual basis, utilizing the most recent data on catch, bycatch, and discard mortality.

Improvements to Management of Squid, Mackerel, and Butterfish Fishery

New requirements which will allow the overfished butterfish stock to rebuild and remain healthy were proposed under Amendment 10 to the Mid-Atlantic Fishery Management Councils' Squid, Mackerel, and Butterfish plan. The amendment will also aid in minimizing bycatch and associated fishing mortality in these fisheries. The amendment establishes a butterfish mortality cap that will require the closure of the directed *Loligo* squid fishery if the cap is reached. Observer program data from the NEFOP will be used to allocate and monitor the cap. Similar to the skate plan, annual assessments of the most recent data will be implemented to determine whether the new measures are aiding in rebuilding overfished stocks. Observations of bycatch and discard mortality will be essential to the rebuilding and management process.

Atlantic Wolffish not Endangered[7]

Altantic wolffish
Photo credit: NOAA

The Atlantic wolffish is easily recognizable for its large teeth and long, eel-like tail. These individuals are part of a distinct populations found off the coast of Western Atlantic Canada and the U.S. Public concern over population size and habitat availability led to an October 2008 petition to list the species under the ESA. During an extensive status review, NMFS scientists relied on observer data to analyze wolfish size and age distributions, bycatch and bycatch mortality rates, catch per unit effort, and catch locations. Using the best available science, NMFS concluded that, while overuse and a lack of managing regulations were moderate risks for Atlantic wolffish populations, overall the species was not in danger of extinction or likely to become endangered in the foreseeable future, and should not be listed under the ESA. The NEFOP will continue to be an important part of monitoring the health of this charismatic species.

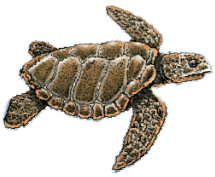
[7] Atlantic Wolffish Biological Review Team. 2009. Status Review of Atlantic wolfish (Anarhichas lupus). Report to National Marine Fisheries Service,Northeast Regional Office. September 30, 2009. 149 pp.

4.6. Southeast

In FY 2009 Southeast Regional observer programs were allocated $6,496,333. A total of 5,817 sea days were observed by the South Atlantic and Gulf of Mexico shrimp otter trawl; Atlantic, Gulf of Mexico and Caribbean pelagic longline; Gulf of Mexico reef fish; shark gillnet and shark bottom longline observer programs (Appendix A provides details).

Reports from the shark gillnet and shark bottom longline observer program are posted on NMFS Panama City Laboratory's webpage: www.pclab.noaa.gov/content/60_Observer_Programs/Observer_Programs.php; while reports from the Pelagic Observer Program can be found at www.sefsc.noaa.gov/pop.jsp.

FY 2009 Program Highlights



Sea Turtle Bycatch Reduction

Bycatch of ESA-listed loggerhead sea turtles occurs in the Gulf of Mexico reef fish bottom longline fishery.[8] A September 2008 report, based in part on observer data, indicated that the number of loggerhead turtles being taken exceeded what was authorized under the fishery's Biological Opinion. In May 2009, NMFS issued an Emergency Rule, closing fishing activity in areas of concern in order to protect turtles while new management strategies were evaluated. In August, the emergency rule was replaced by a long-term management strategy developed by NMFS and the Gulf of Mexico Fishery Management Council aimed at reducing sea turtle take, and a new Biological Opinion on the fishery was issued. The Biological Opinion re-evaluated the threat to sea turtles based on the new management strategy, and determined that sea turtles are not likely to be adversely impacted under the new regulations. Increased monitoring levels by the Southeast Reef Fish observer program are required, and will be critical to monitoring success of the new regulations. Moreover, a hook-timer study to assess the length of time for grouper to interact with hooks will begin in July 2010. This pilot study will investigate the potential of reduced soak times as a method of reducing sea turtle interactions.

Recovery Plan for Smalltooth Sawfish

Smalltooth sawfish is an endangered species that is occasionally taken as bycatch in several federal shark fisheries. NMFS recently completed a recovery plan for the U.S. population, as required under the ESA. The "threats assessment" portion of the recovery plan utilized data collected by two Southeast region observer programs. Low rates of interactions with smalltooth sawfish were recorded by observers in the shark bottom longline fishery (no more than four in any year) and the shark driftnet fishery (one

[8] An upgrade in status (from threatened to endangered) has been proposed.

encounter in 2003). The data collected by observers during these encounters is particularly important in determining injury rates and severity from hooking/entanglements. In addition, the report states "Monitoring and observer programs should also be implemented for commercial and recreational fisheries to provide quantitative estimates of take and fate." Additional information collected by observers could be utilized in population and habitat models to predict population sizes, areas of critical habitat, and areas where fishermen and smalltooth sawfish are likely to interact.

Smalltooth sawfish.
Photo credit: Photo: Florida Fish & Wildlife Conservation Commission

National Marine Fisheries Service. 2009. Recovery Plan for Smalltooth Sawfish (Pristis pectinata). Prepared by the Smalltooth Sawfish Recovery Team for the National Marine Fisheries Service, Silver Spring, Maryland.

Atlantic Shark Management Measures

In 2009, NMFS published draft Amendment 3 to the Consolidated Atlantic Highly Migratory Species (HMS) FMP. Among other items, Amendment 3 lays out several options for rebuilding blacknose sharks, and examines alternatives for ending overfishing of blacknose and mako sharks, consistent with the requirements of the MSA. Data on shark bycatch and bycatch mortality rates used to make the overfished/overfishing determinations were collected by three Southeast region observer programs: the Pelagic observer program, Shark Gillnet, and the Shark Bottom Longline observer program. Observer data also helped demonstrate that several other species of sharks (Atlantic sharpnose, blue, bonnethead, and finetooth) are not overfished and do not have overfishing occurring. The draft Amendment highlights the importance of maintaining and expanding these programs; the data collected by observers is important to ensuring that opportunities to harvest healthy stocks are provided to the nation's commercial fishermen in a manner that will allow overfished populations to rebuild.

Atlantic Pelagic Longline Take Reduction Team: Take Reduction Plan Published

A new Take Reduction Plan (TRP) was implemented in 2009, due to high levels of mortality and serious injury among several marine mammal stocks in the Atlantic Pelagic Longline Fishery. The Atlantic Pelagic Longline Take Reduction Plan (PLTRP) focuses specifically on reducing serious injuries and mortalities of pilot whales and Risso's dolphins in the fishery, and is based on consensus recommendations submitted by the Atlantic Pelagic Longline Take Reduction Team (PLTRT). The PLTRP includes both regulatory and non-regulatory measures, including a special research area, gear modifications, and outreach material. It also recommends an increased level of observer coverage (12-15%) across all PLTRP fisheries.

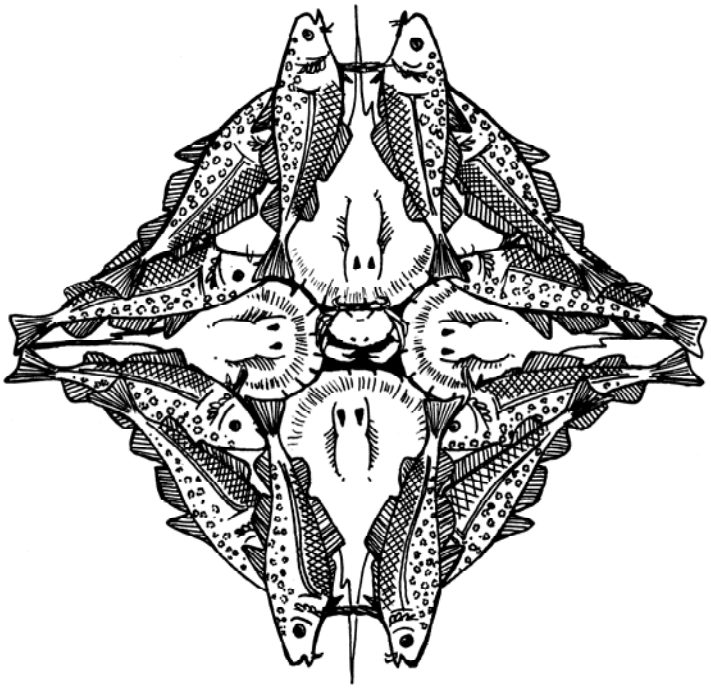
Gulf of Mexico Bluefin Tuna Spawning Season
Enhanced Coverage of the Pelagic Longline Fleet

A third year of enhanced observer coverage was conducted in FY2009 to monitor discards of bluefin tuna as well as collect biological samples from the spawning stock. This year saw the largest number of observer deployments yet.

A data report containing the results from the 2007 and 2008 seasons is available at:
www.nmfs.noaa.gov/sfa/hms/Tuna/2009/POP_GOMEX_BFT_588.pdf

5. Looking Ahead: NMFS Observer Programs 2010 Goals

In 2009, NMFS released a draft policy for the use of catch share programs in fishery management plans. These programs create incentives for fishermen to engage in sustainable and economically efficient fishing practices that conserve and protect the fishery, thereby maximizing the current and future value of the resource. Of particular importance to the successful implementation of catch shares are fisheries observer programs, which will provide the data on catch and bycatch necessary to monitor the quotas under which catch shares are managed. The first catch share program initiated under this new policy (in the Northeast groundfish fishery) began in May, 2010. FY 2010 will also mark the first year that annual catch limits are implemented for stocks subject to overfishing. The data collected by observers will be critical to ensuring that catch limits are not exceeded. Clearly next year will be a busy one as the NOP and other regional observer programs begin planning monitoring strategies to meet the evolving needs of fisheries management.



Artwork by Samantha Brooke,
National Observer Program

APPENDIX A: NMFS Fisheries Observer Programs Funded in FY 2009.

Regional and National observer program activities are funded through a number of dedicated Congressional budget lines (Table A1). The Reducing Bycatch line is split between the Office of Science and Technology for observer activities and the Office of Sustainable Fisheries for bycatch technology research. The Office of Science and Technology portion of the Reducing Bycatch line, along with the National Observer Program line, are equally allocated to the regional programs and used for observer coverage, program infrastructure, and NBR development. The National Observer program retains some funds from these lines to support national program activities. Other Federal funds may be used to support observer program activities, including monies appropriated by Congress to support the MMPA, MSA, etc.

Table A1. Congressional budget lines supporting observer programs, FY 2009.

A portion is allocated to regional programs (See Table A2)

Budget Line Item	Line Total
National Observer Program	$3,429,836
Reducing Bycatch	$1,722,735
West Coast Observers	$5,020,980
North Pacific Marine Resource Observers	$5,602,945
Hawaii Longline Observer Program	$4,041,975
New England Groundfish Court-Ordered Observers	$8,516,000
East Coast Observers	$353,299
Atlantic Coast Observers	$3,419,221
South Atlantic/ Gulf of Mexico Shrimp Observers	$1,786,000
Total Congressional Funding (all sources)	$33,646,320

Fisheries Observed	Fleet Size	Authority to Place Observers	Season of Operation	Funding Amount	Funding Source	Program Duration	Target % Coverage	Actual % Coverage	Target Sea Days	Actual Sea Days	Number of Observers
PACIFIC OCEAN											
North Pacific Groundfish Observer Program, Alaska Fisheries Science Center, 7600 Sand Point Way NE, Seattle, WA 98115-0070											
Program Manager: Martin Loefflad, 206-526-4195, martin.loefflad@noaa.gov, website: http://www.afsc.noaa.gov/refm/observers/											
Bering Sea, Aleutian Islands and Gulf of Alaska Groundfish Trawl, Longline and Pot Fisheries	303 vessels / 24 shore plants	MSFCMA (50 CFR 679.50)	year-round	$348,971	National Observer Program	1973 - present	100% vessels >125 ft.	100% vessels >125 ft.	Defined by regulation (approx. 37,000)	35,681	380
				$423,734	Reducing Bycatch						
				$5,583,477	Obs/Trn-North Pacific Marine Resource Observers/ North Pacific Observer Program[1]						
				$0	Fisheries Management Program		30% vessels 60-124 ft.	30% vessels 60-124 ft.			
				$13,000,000	Industry Funding		30% or 100% shore plants	30% or 100% shore plants			
Data to assess the current actual coverage in the 30% fleet are not available, and compliance with the requirement has been an enforcement function. The North Pacific Groundfish Observer Program uses observer days rather than observer sea days, because the coverage regulations require observers to be stationed at shoreside plants as well as on vessels. [1]Portion of budget line used to support management activities *2,942 was transferred to the AKFSC for seabirds											
Alaska Marine Mammal Observer Program, Alaska Regional Office, P. O. Box 21668, Juneau, AK 99802-1668											
Program Manager: Bridget Mansfield, 907-586-7642, bridget.mansfield@noaa.gov, website: http://www.fakr.noaa.gov/protectedresources/observers/mmop.htm											
Southeast Alaska drift gillnet fishery	480 permits	MMPA Cat. II (50 CFR 229)	May - Oct	$191,000	National Observer Program	0	0	0	0	0	0
				$0	Reducing Bycatch						
TOTAL ALASKA REGION OBSERVER PROGRAM FUNDING (CONGRESSIONAL): $6,550,124											
TOTAL ALASKA REGION OBSERVER PROGRAM FUNDING (INDUSTRY): $13,000,000											
TOTAL ALASKA REGION OBSERVER PROGRAM FUNDING (ALL SOURCES): $19,550,124											

Fisheries Observed	Fleet Size	Authority to Place Observers	Season of Operation	Funding Amount	Funding Source	Program Duration	Target % Coverage	Actual % Coverage	Target Sea Days	Actual Sea Days	Number of Observers
West Coast Groundfish Observer Program, Northwest Fisheries Science Center, 2725 Montlake Blvd East, Seattle, WA 98112-2097											
Program Manager: Janell Majewski, 206-860-3293, janell.majewski@noaa.gov website: http://www.nwfsc.noaa.gov/research/divisions/fram/observer/											
West Coast Groundfish Limited Entry Fleets (trawl and fixed gear)	179 trawl, 190 longline, 30 trap permits	MSFCMA (50 CFR 660)	year-round	$317,000	National Observer Program	2001 - present	10-20%	15-25%	1,900	2424	43
				$5,002,192	Obs/Trn-West Coast Observers						
State Managed and Open Access Fisheries (includes California halibut trawl, nearshore rockfish, pink shrimp, prawn and open access fixed gear fisheries)	approx. 1,000	MSFCMA (50 CFR 660)	year-round	Included in groundfish		2001 - present	<1 - 10%	3 - 8%	500	649	included in groundfish
Electronic Monitoring Pilot Project - West Coast Groundfish small fixed-gear vessels, Database improvements for catch shares fishery	3 vessels	MSFCMA (50 CFR 660)	Aug - Nov	$215,000	National Observer Program	2008	The $215K was used to upgrade the observer database to enhance it's capabilities for the new catch fishery starting in 2011. The enhancements were imperative as fishers and managers require near real time catch estimates of catch shares species to manage and track individual quotas.				
At-Sea Hake Mid-Water Trawl Fishery	15 vessels	MSFCMA (50 CFR 660)	May - Dec	$189,698	Reducing Bycatch	1975 - present	100%	100%	1000	1202	42
				$7,305	National Observer Program						
				$360,600	Industry Funding						
Regional Safety Cross-Training	NA	NA	NA	$2,281	National Observer Program	2008	NA	NA	NA	NA	NA
TOTAL NORTHWEST REGION OBSERVER PROGRAM FUNDING (CONGRESSIONAL): $5,733,476											
TOTAL NORTHWEST REGION OBSERVER PROGRAM FUNDING (INDUSTRY): $360,600											
TOTAL NORTHWEST REGION OBSERVER PROGRAM FUNDING (ALL SOURCES): $6,094,076											

Fisheries Observed	Fleet Size	Authority to Place Observers	Season of Operation	Funding Amount	Funding Source	Program Duration	Target % Coverage	Actual % Coverage	Target Sea Days	Actual Sea Days	Number of Observers
Southwest Region Observer Program, Southwest Regional Office, 501 West Ocean Blvd, Long Beach, CA 90802-4213											
Program Manager: Lyle Enriquez, 562-980-4025, lyle.enriquez@noaa.gov, website: http://swr.ucsd.edu/hcd/fishobs.htm											
California/Oregon Pelagic Drift Gillnet Fishery	40 vessels	MMPA Cat. I (50 CFR 229), MSFCMA (50 CFR 660)	Aug - Jan	$418,171	National Observer Program	1990 - present	20%	14%	216	210	6
				$35,997	Reducing Bycatch						
California Pelagic Longline Fishery	1 vessel	MMPA Cat. II (50 CFR 229), MSFCMA (50 CFR 660)	Nov - May	$168,540	Reducing Bycatch	2001 - present	100%	100%	100	77	2
SWC Data Management and Bycatch Estimates				$214,495	National Observer Program						
TOTAL SOUTHWEST REGION OBSERVER PROGRAM FUNDING (CONGRESSIONAL): $837,203											
TOTAL SOUTHWEST REGION OBSERVER PROGRAM FUNDING (INDUSTRY): NA											
TOTAL SOUTHWEST REGION OBSERVER PROGRAM FUNDING (ALL SOURCES): $837,203											

Fisheries Observed	Fleet Size	Authority to Place Observers	Season of Operation	Funding Amount	Funding Source	Program Duration	Target % Coverage	Actual % Coverage	Target Sea Days	Actual Sea Days	Number of Observers
Hawaii Fisheries Observer Program, Pacific Islands Regional Office, 1601 Kapiolani Blvd, Honolulu, HI 96814-4700											
Program Manager: John Kelly, 808-973-2935, john.d.kelly@noaa.gov, website: http://swr.nmfs.noaa.gov/pir/index.htm											
Hawaii Pelagic Longline Fishery	164 vessels with permits (112 active)	MSFCMA (50 CFR 660)	year-round	$4,004,619	Obs/Trn-Hawaii Longline Observers	1994 - present	20% Tuna	20%	Fleet Dep.	6,096	60
							100% swordfish	100%	Fleet Dep.	3,380	60
American Samoa Pelagic Longline fishery	30	MSFCMA (50 CFR 660) in Jan. 2005	year-round	$336,197	National Observer	2005-present	20%	7-12%	Fleet Dep.	396	2
				$1,000,000	Hawaii Sea Turtles	2009					
Program support for the Western and Central Pacific	NA	NA	year-round	$187,291	Reducing Bycatch	2008	NA	NA	NA	NA	NA
Developing and Adapting LODS to Enable the Integration of Observer and Logbook Data	NA	NA	year-round	$69,864	National Observer Program	2007	NA	NA	NA	NA	NA
Maintenance and Upgrading LODS for Hawaii and Amer Samoa Pelagic Longline Fishery	NA	NA	year-round	$129,740	National Observer Program	2007	NA	NA	NA	NA	NA
Support for Estimation of Protected Species and Marine Mammal Bycatch in the Hawaii PLL Fishery	NA	NA	year-round	$15,000	National Observer Program	2007	NA	NA	NA	NA	NA
Support for PIRO Observer Data Dissemination/Access Activities	NA	NA	year-round	$5,000	National Observer Program	2007	NA	NA	NA	NA	NA
TOTAL PACIFIC ISLANDS REGION OBSERVER PROGRAM FUNDING (CONGRESSIONAL): $5,747,711											
TOTAL PACIFIC ISLANDS REGION OBSERVER PROGRAM FUNDING (INDUSTRY): NA											
TOTAL PACIFIC ISLANDS REGION OBSERVER PROGRAM FUNDING (ALL SOURCES): $5,747,711											

Fisheries Observed	Fleet Size	Authority to Place Observers	Season of Operation	Funding Amount	Funding Source	Program Duration	Target % Coverage	Actual % Coverage	Target Sea Days	Actual Sea Days	Number of Observers
ATLANTIC OCEAN, GULF OF MEXICO, CARIBBEAN											
Northeast Fisheries Observer Program, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543-1097											
Program Manager: Amy Van Atten, 508-495-2266, amy.van.atten@noaa.gov, website: http://www.nefsc.noaa.gov/femad/fsb/											
New England Groundfish Trawl and Sink Gillnet Fisheries (also shrimp trawl, bottom longline/tub, herring mid-water pair trawl, whiting trawl)	approx. 1,200 trawl vessels and 250 gillnet vessels	MSFCMA (50 CFR 648); MMPA Cat. I (50 CFR 229)	year-round	$8,179,242	Obs/Trn-New England Groundfish	1990 - present	8-10%	8-10%	6,320	6,320	95
Mid-Atlantic Coastal Gillnet Fishery (includes monkfish, dogfish, and several state fisheries)	>665 vessels	MMPA Cat. II (50 CFR 229)	year-round	$832,093	MMPA	1994 - present	<3%	<3%	615	615	included in groundfish
NE and Mid-Atlantic Small Mesh Trawl Fisheries (squid, mackerel, butterfish)	719 permits	MMPA Cat. I (50 CFR 229.7); MSFCMA (50 CFR 648)	year-round	$1,504,743	Obs/Trn-Atlantic Coast Observers	2001 - present	<3%	<3%	1,111	1,111	included in groundfish
Mid-Atlantic Illex Squid Trawl Fishery	vessels unknown	MSFCMA (50 CFR 648); MMPA Cat. I (50 CFR 229)	year-round	NA	included in small mesh trawl fisheries	2004 - present	<3%	<3%	na	included in small mesh trawl fisheries	included in groundfish
Atlantic Sea Scallop Dredge Fishery	250 vessels with permits, 185 active	MSFCMA (50 CFR 648)	year-round	$2,311,400 $187,292	Industry Funding Reducing Bycatch	1999 - present	10%	10%	3556	3556	included in groundfish
NE and Mid-Atlantic Large Mesh Trawl Fisheries (summer flounder, bluefish, monkfish, dogfish)	620 vessels (2,138 permits)	MSFCMA (50 CFR 648)	year-round	$374,401	National Observer Program	1998 - present	<3%	<3%	277	277	included in groundfish
Support for National Bycatch Report and SBRM Activities	NA	NA	year-round	$164,728	National Observer Program	2007 - present	NA	NA	NA	NA	NA
TOTAL NORTHEAST REGION OBSERVER PROGRAM FUNDING (CONGRESSIONAL): $11,242,498											
TOTAL NORTHEAST REGION OBSERVER PROGRAM FUNDING (INDUSTRY): $2,311,400											
TOTAL NORTHEAST REGION OBSERVER PROGRAM FUNDING (ALL SOURCES): $13,553,898											

Fisheries Observed	Fleet Size	Authority to Place Observers	Season of Operation	Funding Amount	Funding Source	Program Duration	Target % Coverage	Actual % Coverage	Target Sea Days	Actual Sea Days	Number of Observers
Southeast Fisheries Observer Programs - Programs are managed in separate laboratories as indicated below.											
Southeast Shrimp Trawl Observer Program, Southeast Fisheries Science Center, Galveston Laboratory, 4700 Avenue U, Galveston, TX 77551-5997											
Program Manager: Elizabeth Scott-Denton, 409-766-3571, elizabeth.scott-denton@noaa.gov, website:http://galveston.ssp.nmfs.gov/galv/research/management.htm#observer_program											
Southeast and Gulf of Mexico Shrimp Otter Trawl Fisheries (including rock shrimp)	approx. 1,870 (GOM) and 640 (SA) USCG federally permitted vessels, unknown number of state vessels, ~257 rock shrimp vessels	Voluntary through July 2007; Mandatory -July 2007 MSFCMA (50 CFR 635)	year-round	$234,641	National Observer Program	1992 - present	2%	2%	1,593	2,312	25
				$1,792,937	Obs/Trn-South Atlantic and Gulf Shrimp Observers						
				$220,000	Obs/Trn-Atlantic Coast Observers						
Atlantic Pelagic Longline Observer Program, Southeast Fisheries Science Center, 75 Virginia Beach Dr, Miami, FL 33149-1003											
Program Manager: Lawrence Beerkircher, 305-361-4247, lawrence.r.beerkircher@noaa.gov, website: http://www.sefsc.noaa.gov/											
Atlantic, Gulf of Mexico, Caribbean Pelagic Longline Fishery	70-80 active vessels	MSFCMA (50 CFR 635); MMPA Cat. I (50 CFR 229); ATCA	year-round	$1,248,225	Obs/Trn-Atlantic Coast Observers	1992 - present	8% by vessel sets	~16%	705 vessel sets	2,763	12 (regular season), 35 enhanced bluefin coverage
				$349,616	Obs/Trn - East Coast Observers						
				$1,793,400	Enhanced Bluefin Tuna						
Southeast Shark Driftnet Observer Program & Shark Bottom Longline Observer Program, Southeast Fisheries Science Center, Panama City Laboratory, 3500 Delwood Beach Rd, Panama City, FL 32408											
Program Manager: Dr. John Carlson, 850-234-6541, john.carlson@noaa.gov, website: www.wefscpanamalab.noaa.gov/shark/observersBLL.htm											
Southeast Shark and Coastal Teleost Gillnet Fishery	4-23 vessels with directed shark permits	MMPA Cat. II (50 CFR 229); MSFCMA (50 CFR 635)	year-round	$359,181	Obs/Trn-Atlantic Coast Observers	1998 - present	100% shark strike, 38% shark drift, 5%	100% shark strike, 38% shark drift, 5%	100% shark strike, 38% shark drift, 5%	43	4
Atlantic and Gulf of Mexico Directed Large Coastal Shark Bottom Longline Fishery	251 directed shark permits (as of Oct. 2002)	MSFCMA (50 CFR 635)	Year-round-Open until quota is filled	$0	F/ST - Expand Stock Assessment	1994 - present	100% sandbar shark research fishery; 4-6% non-sandbar shark fishery	100% sandbar shark research fishery; 4-6% non-sandbar shark fishery	130 sandbar shark research fishery; 98 non-sandbar shark fishery	94	4 to 6
				$222,573	National Observer Program						
				$0	Fisheries Research and Management Program - SF Funding						
Gulf of Mexico Reef Fish Fishery Observer Program, Southeast Fisheries Science Center, Galveston Laboratory, 4700 Avenue U, Galveston, TX 77551											

Program Manager: Elizabeth Scott-Denton, 409-766-3507, elizabeth.scott-denton@noaa.gov											
Gulf of Mexico Reef Fish Fishery	Approx. 1,000 permitted USCG documented vessels	mandatory	year-round	$193,488 $82,272	Reducing Bycatch National Observer Program	2006 - present	<1%	1%	134+SEFSC Supplement	605	25
TOTAL SOUTHEAST REGION OBSERVER PROGRAM FUNDING (CONGRESSIONAL): $6,496,333											
TOTAL SOUTHEAST REGION OBSERVER PROGRAM FUNDING (INDUSTRY): NA											
TOTAL SOUTHEAST REGION OBSERVER PROGRAM FUNDING (ALL SOURCES): $6,496,333											

National Observer Program, Office of Science and Technology, 1315 East West Highway, Silver Spring, MD 20910											
Manager: Chris Rilling, 301-713-2363, chris.rilling@noaa.gov, website: http://www.st.nmfs.gov/st1/nop											
Science & Technology	NA	NA	NA	$333,753	Reducing Bycatch	1999-Present	NA	NA	NA	NA	NA
Science & Technology	NA	NA	NA	$169,197	National Observer Program	1999-Present	NA	NA	NA	NA	NA
HQ Observers	NA	NA	NA	$885,252	HQ Observers	1999-Present	NA	NA	NA	NA	NA

TOTAL OBSERVER PROGRAM CONGRESSIONAL FUNDING	**$32,647,320**	
Total Reducing Bycatch	**$1,722,735**	
Total National Observer Program*	**$3,429,836**	
TOTAL OTHER CONGRESSIONAL FUNDING	**$2,793,400**	
TOTAL INDUSTRY FUNDING	**$15,672,000**	
TOTAL OBSERVER FUNDING - ALL FUNDING SOURCES	**$ 52,835,455**	**Totals may not sum due to rounding**

ESTIMATED NUMBER OF SEA DAYS TARGETED - Does not include programs that target permits, sets, or trips instead of sea days	**54,452**	
ACTUAL NUMBER OF SEA DAYS OBSERVED - Includes days deployed for electronic monitoring, does not include programs that target permits, sets, or trips instead of sea days.		**67,811**

TOTAL NUMBER OF OBSERVERS - Does not include deployments for electronic monitoring	**760**

*National Observer Program funding is included in the Total Observer Program Congressional Funding line above, but is shown separately here for clarity.

U.S. Secretary of Commerce
Gary Locke

Administrator of National Oceanic and Atmospheric Administration
and Undersecretary of Commerce
Dr. Jane Lubchenco

Assistant Administrator for Fisheries
National Marine Fisheries Service
Eric Schwaab
www.nmfs.noaa.gov

National Marine Fisheries Service
1315 East West Highway
SSMC 3, F/ST, Room 9535
Silver Spring, MD 20910
U.S. Government - 2010