

*U.S. DEPARTMENT OF COMMERCE
Office of Inspector General*



*NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION*

*NMFS Observer Programs Should Improve
Data Quality, Performance Monitoring,
And Outreach Efforts*

Final Audit Report No. IPE-15721/March 2004

**PUBLIC
RELEASE**

Office of Inspections and Program Evaluations

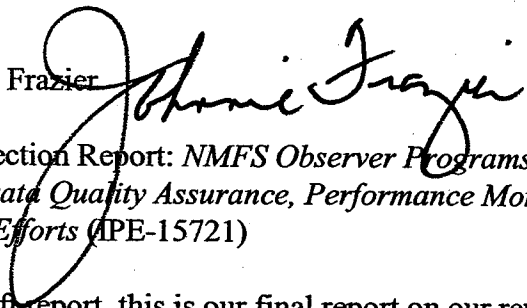


UNITED STATES DEPARTMENT OF COMMERCE
The Inspector General
Washington, D.C. 20230

MAR 31 2004

MEMORANDUM FOR: Vice Admiral Conrad C. Lautenbacher, Jr., USN (Ret.)
Under Secretary for Oceans and Atmosphere

William T. Hogarth
Assistant Administrator for Fisheries

FROM: Johnnie E. Frazier 

SUBJECT: Final Inspection Report: *NMFS Observer Programs Need to Improve Data Quality Assurance, Performance Monitoring, and Outreach Efforts (APE-15721)*

As follow-up to our January 8, 2004, draft report, this is our final report on our review of the National Marine Fisheries Service's observer program. This review focused on how NMFS ensures data quality, and whether the data is meeting research and fishery management needs. The report incorporates comments from NOAA's March 5, 2004, written response to our draft and includes, as appendix C, a copy of that response in its entirety.

We reported on a number of innovative procedures used by the various programs and believe that application of these practices across all NMFS observer programs would be beneficial. We also had a number of concerns regarding observer program operations, including oversight of program and contractor performance, that we believe require attention and improvement. Recommendations to address our concerns can be found on page 42 of the report.

We are pleased that NOAA has generally agreed with all of our recommendations and has taken steps to implement some of them. However, we ask that you provide an action plan addressing all of the recommendations within 60 calendar days.

We thank the personnel in NOAA, including observer program staff both at NMFS headquarters and in the field, for the assistance and courtesies extended to us during our review. If you have any questions about our report or the requested action plan, please contact me on (202) 482-4661, or Jill Gross, Assistant Inspector General for Inspections and Program Evaluations, on (202) 482-2754.

Attachment



TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
BACKGROUND	1
OBJECTIVES, SCOPE, AND METHODOLOGY	6
OBSERVATIONS AND CONCLUSIONS	7
I. “Best” Practices That Result in Improved Data Quality Should Be Shared	7
A. Some techniques improve data quality	7
B. Some processes also assist with detecting fraud	10
II. Observer Vessel Selection Processes May Result in Data Bias	12
A. Vessel selection procedures and practices need closer management attention.....	12
B. A vessel selection process is needed to randomly place North Pacific Groundfish observers on the “30 percent” fleet.....	16
III. A Qualified Observer Corps Enhances Program Efficiency and Data Quality	18
A. Reviewing recruitment practices is a step in the right direction.....	20
B. Enhanced communication, training, and career opportunities may help retain observers	20
IV. Improved Performance Measuring and Monitoring Ensures Accountability	25
A. Better performance monitoring and more program manager accountability are needed.....	25
B. Assessing observer provider performance can be accomplished through improved contracting practices.....	29
C. An observer provider monitoring and reporting process is needed in the North Pacific Groundfish program	32
V. Increasing Outreach Efforts May Enhance Industry Cooperation.....	34
A. An observer program outreach strategy is needed.....	34
B. Improving industry relations needs to be a priority	37
C. Offering incentives could foster better industry relations and improve cooperation	39
RECOMMENDATIONS	41
APPENDIXES	43
A. Evaluation of Observer Program Operations Manuals	43
B. Acronyms	44
C. Agency Response to the OIG Draft Report.....	45

EXECUTIVE SUMMARY

The Department of Commerce's National Oceanic and Atmospheric Administration (NOAA), through its National Marine Fisheries Service (NMFS), is responsible for managing, conserving, and rehabilitating marine resources within the United States. NMFS is charged with rebuilding and maintaining sustainable fisheries, promoting recovery of protected species, and protecting the health of coastal marine habitats.

Worldwide, observers are deployed on commercial fishing vessels to collect data and monitor fishing activities. In the United States, the use of observers can be traced back to the 1970s, when NMFS placed observers on foreign fishing vessels. Following the passage of the Magnuson-Stevens Fishery Conservation and Management Act in 1976, NMFS began deploying observers on domestic fishing vessels to record catch, bycatch, marine mammal interactions, and a variety of statistical data to assess marine resource sustainability. Such data is used by scientists and policymakers to make fishery management decisions for purposes of maintaining the nation's marine resources. Observers are often the only independent data source for some types of at-sea information, such as bycatch composition and mortality, and marine mammal, sea turtle and sea bird interactions.

Over the years, observer programs have been developed by NMFS regional staff to meet local scientific and management information needs. Since observer programs were developed, implemented, and operated regionally, limited coordination and communication existed between the programs. In 1999, NMFS established the National Observer Program Office (NOP), within its headquarters Science and Technology program office, to support the regional observer programs and increase their usefulness to the overall goals of NMFS.

NMFS does not employ observers, but generally contracts with private sector companies, or, in some cases, educational institutions. Contracts between NMFS and observer provider companies/institutions are in place for all observer programs except the North Pacific Groundfish program, where industry contracts directly with the company. The primary responsibilities of the companies/institutions are to recruit and hire observers and arrange logistics for trips. NMFS is responsible for training, certifying, and in most instances, debriefing observers returning from deployment. Observers are trained by NMFS to collect catch data including species composition, weights and disposition of fish caught, and seabird sightings and marine mammal and sea turtle interactions. The resulting data provides scientific and technical information to NMFS and other agencies of the government, industry, and the public and is used to assist with the conservation, management, and utilization of living marine resources. Currently, more than 500 observers are deployed in 14 observer programs, most of which are administered through NMFS's six regional Fisheries Science Centers (FSCs).

The Office of Inspector General’s Office of Inspections and Program Evaluations reviewed seven regional NMFS observer programs to determine whether they are meeting data collection needs, how NMFS ensures that observer data is of high quality, and how well the program’s missions and objectives are communicated. The box on the right identifies the fourteen observer programs by the office responsible for running the program and office location. The seven programs reviewed by the OIG are in bold *italics*. Our evaluation was conducted at four Fisheries Science Centers (Alaska, Northwest, Northeast and Southeast). During the course of this review, we contacted NMFS officials in the regions and at headquarters, and interviewed representatives from the fishing industry, observer provider contractors, and individual observers. We also attended the International Observer Fisheries conference, providing us with an opportunity to speak to managers of international observer programs. Our findings are summarized below.

NMFS’ 14 Regional Observer Programs	
1.	Alaska Marine Mammal Alaska Regional Office, Juneau, AK
2.	<i>North Pacific and Bering Sea Groundfish Trawl and Fixed Gear Fishery</i> Alaska FSC, Seattle, WA
3.	At-sea Pacific Hake Northwest FSC, Seattle, WA
4.	<i>West Coast Groundfish</i> Pacific Islands FSC, Honolulu, HI
5.	Hawaii Swordfish-Tuna Longline Southwest FSC, Long Beach, CA
6.	California/Oregon Drift Gillnet
7.	West Coast Pelagic Longline Southeast FSC lab, Galveston, TX
8.	Southeastern Shrimp Otter Trawl Fishery Southeast FSC, Miami, FL
9.	<i>Southeastern FSC Pelagic Longline</i> Southeast FSC lab, Panama City, FL
10.	Southeastern FSC Shark Drift Gillnet Northeast FSC, Woods Hole, MA
11.	<i>New England Groundfish</i>
12.	<i>New England and Mid-Atlantic Gillnet Fisheries</i>
13.	<i>Atlantic Sea Scallop Dredge Fishery/Georges Bank</i> Highly Migratory Species Division, Silver Spring, MD
14.	<i>Atlantic and Gulf of Mexico Shark Bottom Longline</i>

Source: NMFS

Sharing “best” data quality assurance practices across programs should be explored. Observer programs are tasked with collecting data, reporting it to their respective FSC, and ensuring that the data is of high quality. A number of “best” practices—activities that may lend themselves to being replicated across the programs—were found. For example, some programs, using at-sea communications systems and portable computers, have developed the means to capture and communicate observer data more quickly, efficiently, and accurately. Some have also strengthened their observer debriefing and data quality assurance processes to not only yield high-quality data but also have the capability for preventing or detecting fraudulent data submissions. Many of the practices developed by FSCs may have applications for other observer programs. Thus, to improve data quality and program efficiencies, NMFS may want to explore the feasibility of adopting many of these “best” practices nationwide (see page 7).

NMFS needs to ensure that the vessel selection processes used to place observers on ships result in data that is representative of the fishing effort. Each observer program has a process for placing observers on vessels; each process is designed to ensure that a representative sample of fishing activity for a particular fishery is obtained. Of the seven observer programs we reviewed, each one’s vessel selection process contained problems that could potentially introduce bias. For example, in two of the Northeast Science

Center observer programs, observers are responsible for “finding” and informing vessel captains that they are required to take an observer. Thus, rather than obtaining data from a random sample of vessels, some observers repeatedly board the same cooperative vessels that are willing to take them, even if they are not at the top of the randomized list provided by the Center. Most programs lacked internal controls to ensure their sampling design was implemented correctly. We found that NMFS needs to exercise better oversight to ensure that vessel selection processes are designed and/or implemented in a manner that avoids sample and data bias (see page 12).

NMFS needs to take actions to help maintain an experienced corps of observers.

Countries that have observer programs have reportedly recognized that retaining a qualified observer corps is necessary for the collection of quality data. But to become “qualified,” observers need sufficient time to learn their duties, develop good judgment in carrying out those duties, and adapt to the rigors of a hazardous working environment. High turnover rates in NMFS observer programs have reportedly hampered development of an experienced observer corps. In addition, high turnover increases training costs because of the continuous need to train new observers and adversely affects data quality and reliability. NMFS has begun to review observer program recruitment practices, a step we believe is in the right direction. However, other steps could be taken to improve retention rates. For example, observers stated that it would be beneficial to both them and the program if they better understand how their data collection efforts fit into the NMFS mission. Consequently, follow-up training specifically about data usage may improve retention rates and foster better data collection skills. In addition, observers also identified increased career opportunities as a way to improve retention rates and build a highly qualified observer corps (see page 18).

To improve regional observer program accountability, NMFS should measure and monitor performance across all programs. The observer programs we reviewed lacked comprehensive, consistent performance measures. In addition to the lack of performance measures, the current organizational structure—programs run independently in the regions—does not provide a clear reporting relationship to headquarters. Although creation of the National Observer Program and a National Observer Program Advisory Team improved communications between headquarters and the regions, national priorities and performance measures should be established to ensure regional program accountability. NMFS needs to develop a limited number of program-wide performance measures as well as a mechanism to report priorities and monitor observer programs. Such performance measures are not intended to be official Government Performance and Results Act measures. Rather the measures are to be used for monitoring program success, ensuring program accountability, and reporting observer program results to NMFS stakeholders (see page 25).

During our review, we also found that the majority of the statements of work used in the contracts to hire observer providers are not “performance-based” and do not contain criteria that can be used to assess performance. Rather than structure a contract on how to provide a service, “performance-based” acquisitions focus on the purpose of the work to be performed and allow for an objective assessment of contractor performance.

Although two FSCs (Southeast and Northeast) have taken steps to incorporate some performance-based elements, such as performance measures, incentives, and disincentives, in their statements of work, more needs to be done to ensure the use of performance-based work statements across all programs (see page 29).

NMFS should develop a national outreach strategy to better communicate the mission and goals of the observer program to the fishing industry. NMFS has faced increasing criticism from Congress, agency advisory groups, environmental groups, and the fishing industry about its various fisheries management activities. Industry representatives and agency and observer program personnel we interviewed, as well as documentation from advisory groups, attribute some of these problems to NMFS' lack of communication—information sharing and direct contact—with its public constituents and stakeholders. The unwillingness of some in the industry to cooperate with the observer program may be caused by the lack of information about the program; they therefore may not fully understand the benefits of collecting at-sea fishing data. Consequently, the lack of industry cooperation can adversely affect the collection of the data and its resulting quality. A number of NMFS staff, both data users and observer program staff, admitted that more outreach to industry needs to be done to help improve industry participation in and cooperation with the program. Those we spoke with, however, offered not only criticisms but also suggestions for solutions. From building a framework for a cohesive, national information, communication, and education program to meeting individually with influential fishing industry representatives, NMFS needs to develop a consistent and unified observer program outreach strategy. But as important as it is for NMFS to develop an outreach strategy that incorporates personal contact and provides plain English and bilingual publications, it is equally important to provide a forum that allows NMFS' stakeholders to voice their opinions and concerns about the program and know that they are heard. (see page 35).

On page 41, we offer 10 recommendations to address our concerns.



In its March 5, 2004, response to our draft report, NOAA fully concurred with nine recommendations and the “intent” of one recommendation. NOAA also asked that we address the methodology used to review and assess the National Observer Program office. The focus of this review was on observer data collection needs and the methods used for ensuring data quality, activities carried out by the regional observer programs, not by a headquarters office responsible for coordinating observer programs. Consequently, the role of the National Observer Program office is discussed as it pertains to such coordination and the need for national program direction and leadership.

NOAA's response also expressed a concern that the recommendations may not be applicable across all observer programs. The intent of this evaluation was to take a sample of programs and identify cross-cutting issues. While there may be regional or program differences among the sampled programs, as well as among the programs that were not included in our review, the issues and recommendations discussed in this report,

as outlined above, may be generally applicable to all programs. For example, we found problems with the methodology, or in some cases the implementation, of the vessel selection procedures for most of the programs we examined. Our recommendation to develop and implement statistically valid, unbiased vessel selection procedures, and monitor their implementation, is an example of a standard quality assurance procedure that should be in place for all observer programs.

In addition, NOAA's response suggested that we emphasize the crucial role that NOAA Fisheries Office for Law Enforcement (OLE) plays by cross-referencing a recommendation in our March 2003 report, *NMFS Should Take a Number of Actions to Strengthen Fisheries Enforcement* (IPE-15154). That report recommended that OLE work with observer program officials to develop a policy statement or directive specifying observers' role in monitoring and compliance, sharing observer information with OLE, and the appropriate use of observer data by OLE agents. We did not discuss the role of enforcement in the observer report because we addressed that subject in the March 2003 report.

Finally, NOAA had a number of specific comments on several findings and recommendations in the report, including some suggestions for wording changes and points of clarification with respect to our interpretations and findings. We have made changes to the final report in response to those comments on the draft report, wherever appropriate. A discussion of NOAA's response to each recommendation, including actions it intends to take and anticipated timeframes, follows each relevant section in the report.

BACKGROUND

Scientists estimate that worldwide, during the 1980s and early 1990s, fishermen discarded about 25 percent of their intake, an estimated 60 billion pounds of marine life per year. Bycatch, the unintentional taking of non-targeted species, is composed of a variety of marine life—fish, mammals, and birds. Such an abundance of bycatch jeopardizes the sustainability of many species.¹ The Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) is responsible for managing, conserving, and rehabilitating the United States' marine resources and habitats. NOAA's National Marine Fisheries Service (NMFS) is charged with rebuilding and maintaining sustainable fisheries, promoting recovery of protected species, and protecting the health of coastal marine ecosystems.

To assess marine resource sustainability, in relation to America's fishing industry, NMFS deploys observers on fishing vessels to record catch, bycatch, marine mammal, sea bird and sea turtle interactions, and a variety of statistical data. The proceedings from the first Canada/United States Observer Program Workshop, held in March 1998, state that

Observer programs provide cost-efficient and reliable sources of information about catch, bycatch, and fishing operations and, ultimately, a better understanding of the marine ecosystem and the impact of fisheries on the ecosystem. Alternatives to at-sea observer programs (such as information collected at shoreside processing plants) provide only limited types of data.²

Observers are the only independent data source for some types of at-sea information, such as bycatch composition and mortality, and marine mammal, sea bird and sea turtle interactions. Although vessel self-reporting is often utilized, only limited data collection demands can reasonably be placed on the captain and crew. In addition, the reliability of self-reported information is a concern for scientists and policy makers, who use the data to make fishery management decisions for the purpose of maintaining the nation's marine resources.

Observer programs are used worldwide to collect data and monitor commercial fishing activities. Early observer programs in the United States were on foreign fishing vessels off of the northwest and Alaskan coasts and on American flagged tuna vessels operating in the Eastern Tropical Pacific. The program expanded with the passage of the Magnuson-Stevens Fishery Conservation and Management Act in 1976, when the definition of federal waters was extended to 200 miles off of the United States coastline. By the 1980s foreign fishing vessels were prohibited from fishing in federal waters, and

¹Pew Oceans Commission. 2001. "Major Threats to Our Oceans." In *America's Living Oceans: Charting a Course for Sea Change*. Arlington, VA: Pew Oceans Commission. (At http://www.pewoceans.org/oceans/oceans_pollution.asp)

²McElderry, H. et al editors, May 1999. "Proceedings of the First Biennial Canada/U.S. Observer Program Workshop," NOAA Technical Memorandum NMFS-AFSC-101.

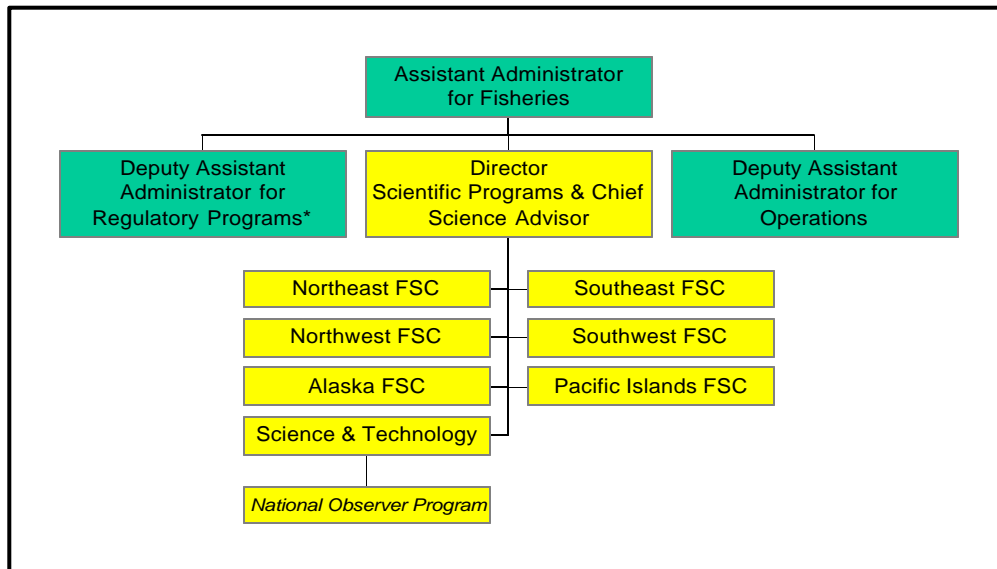
the observer program shifted to monitoring domestic fishing fleets. A total of three major pieces of legislation form the requisite authority for NMFS to place observers within the fishing industry:

- The Marine Mammal Protection Act covers fishing in both state (coastline to 3 miles) and federal (3 miles to 200 miles from shore) jurisdictions. Observers are placed on vessels in fisheries that have a frequent or occasional take of marine mammals.
- The Magnuson-Stevens Fishery Conservation and Management Act only covers fisheries operating in federal waters. Observers are placed on vessels as required by a Fishery Management Council or Secretarial fishery management plan.
- The Endangered Species Act covers fishing in both state and federal jurisdictions. Observers may be required to monitor fishing activities that might impact endangered species.

Observer programs have been developed by NMFS regional staff to meet local scientific and management information needs. Most of the observer programs are administered through the six regional Fisheries Science Centers (FSCs). Currently, more than 500 observers are deployed in 14 observer programs. Using data collected by the observers, FSCs conduct multidisciplinary research programs that provide scientific and technical information to NMFS regional offices and other agencies of the government, industry, and the public on the conservation, management, and utilization of living marine resources.

In 1999, NMFS established the National Observer Program (NOP), within the Office of Science and Technology (see Figure 1). NOP has no direct line authority over the observer programs that are administered by the fishery science centers, regional offices, or headquarters.

Figure 1: NMFS Organizational Chart



*NMFS six regional offices, responsible for managing the living marine resources and working with fishery management councils, report to the Deputy Assistant Administrator for Regulatory Programs.

The mission of the NOP is to support observer programs and increase their usefulness to the overall goals of NMFS. Since observer programs are developed, implemented, and operated regionally, there was limited coordination and communication between the programs until the NOP was established.

A 16-member advisory team to the NOP was also established at its inception; the National Observer Program Advisory Team (NOPAT) has representatives from each region and each NMFS headquarters office and works with NOP staff to identify issues of national concern, recommend or establish priorities for national research and problem solving, and support information collection and program implementation. Improvements in data collection, observer training, and the integration of observer data with other research are among the issues NOP works with on a national level.

Observers are trained by NMFS to collect catch data including species composition, weights and disposition of fish caught, and seabird sightings and marine mammal, sea bird and sea turtle interactions. Observers also collect biological data such as sexed fish lengths, weights, and population age structures. The data they collect is often the most current information available about the status of many fisheries.

Observers' responsibilities include:

- providing data, both environmental and socioeconomic, for fisheries science and management;
- providing a means to verify data collected from sources such as ships' logbooks and landing reports;
- providing data on species-composition of catch and bycatch; vessel and gear characteristics; fishing locations; biological samples; and environmental parameters; and
- in some programs, between deployments, assisting in research projects, collecting biological samples for stock assessments and genetic studies, tagging animals, and assisting in research activities.

Photo 1: Observer Recording Data



Source: North Pacific Fisheries
Observer Training Center

Of the 14 regional observer programs, the ones we specifically reviewed are shaded in the following table.

Table 1: NMFS Fishery Observer Programs

NMFS Office/ Location	Observer Program
Alaska Regional Office, Juneau, AK	Alaska Marine Mammal
Alaska FSC, Seattle, WA	North Pacific and Bering Sea Groundfish Trawl and Fixed Gear Fishery
Northwest FSC, Seattle, WA	At-sea Pacific Hake
	West Coast Groundfish
Pacific Islands FSC, Honolulu, HI	Hawaii Swordfish-Tuna Longline
Southwest FSC, Long Beach, CA	California/Oregon Drift Gillnet
	West Coast Pelagic Longline
Southeast FSC lab, Galveston, TX	Southeastern Shrimp Otter Trawl Fishery
Southeast FSC, Miami, FL	Southeastern FSC Pelagic Longline
Southeast FSC lab, Panama City, FL	Southeastern FSC Shark Drift Gillnet
Northeast FSC, Woods Hole, MA	New England Groundfish
	New England and Mid-Atlantic Gillnet Fisheries
	Atlantic Sea Scallop Dredge Fishery/Georges Bank
Highly Migratory Species Division, Silver Spring, MD	Atlantic and Gulf of Mexico Shark Bottom Longline

Three models are used to fund and administer observer programs:

1. Federally funded contract: NMFS, using federally appropriated funds, contracts with observer providers to recruit, deploy, and cover insurance and any other costs associated with the collection and delivery of observer data to NMFS. Most observer programs use this model.
2. Industry funded: Industry pays observer providers directly. There is no contractual obligation to NMFS from the industry or observer providers, other than NMFS granting permits to companies seeking to provide observer services. Typically, only larger scale fisheries in Alaskan waters (groundfish vessels over 60 feet) and At-sea Pacific Hake vessels off the west coast utilize this model.
3. Resource funded through a third party: NMFS contracts with an observer provider, however the funds to pay for observer days are collected from industry. This model differs from the previous “industry funded” model because vessels assigned an observer are allowed to increase the amount of catch permitted, to offset paying for the observer. In addition, a contract between NMFS and the observer provider is in place. Only the Atlantic Closed Area Sea Scallop Dredge observer program uses this model.

In fiscal year 2002, total NMFS funding for observer programs was originally projected to be \$17,990,000, not including \$13,690,000 provided by the resource and industry funded programs. Due to funds carried over from fiscal year 2001, actual NMFS funding for fiscal year 2002 was \$21,024,000. NMFS funding for fiscal year 2003 was

approximately \$21,848,000. The fishing industry contribution was approximately \$14,669,000, taking into account funding from not only the North Pacific fishing vessels, but also the Pacific At-Sea Hake and Northeast Closed Area Scallop vessels.

OBJECTIVES, SCOPE, AND METHODOLOGY

Our review sought to determine (1) if the observer program is meeting NMFS data collection needs, (2) how NMFS helps ensure the quality of observer data, and (3) how well data is shared. We performed our fieldwork from January 8, 2003, through July 18, 2003. We discussed our findings with the Director of the National Observer Program and the National Observer Program Advisory Team. We used the following methodology to perform our review:

- **Interviews.** We spoke with staff from both the national and regional observer programs, science centers, NMFS regional offices, NMFS's Office for Law Enforcement, three Administrative Service Centers, and the National Sea Grant Program as well as U.S. Fish and Wildlife Service and NMFS headquarters officials. We also interviewed in person or by telephone more than 20 members of the fishing industry and over 25 observers.
- **On-site visits.** We visited four Fisheries Science Centers in the Alaska, Northwest, Northeast, and Southeast regions and spoke with staff, data users, contractors, and observers. We interviewed contractors and observers at the University of Florida Shark Bottom Longline program; industry personnel at the Southeast Regional Office, Madeira Beach, Florida; observer and industry personnel in the Virginia Beach, Virginia, area; and staff of the Gulf Fishery Management Council.
- **Special meetings.** We attended meetings and conferences of the following groups: November 18-21, 2002, International Fisheries Observers; February 24-28, 2003, National Observer Program Office Advisory Team, and sat in on observer statement-of-work training; January 23-24, 2003, North Pacific Observer Advisory Committee; January 2003, North Pacific Fishery Management Council, and also attended Scientific and Statistical and Advisory Panel meetings held concurrently with the council meeting.
- **Review of documents and relevant federal guidance and legislation.** We reviewed observer program and training manuals, contracts, statements of work, federal acquisition regulations, guides from the Office of Federal Procurement Policy, standards for internal control from the General Accounting Office, training manuals for Contracting Officer Technical Representatives, information request responses from observer program managers, NOAA/NMFS budget documents, meeting minutes or presentations for the three biannual international fishery observer conferences, prior observer program studies and reports, documents from the United Nations Food and Agriculture Organization, fishery management plan observer requirements, observer regulations, and pertinent legislation such as the Magnuson-Stevens Fishery Conservation and Management Act, Marine Mammal Protection Act, and the Data Quality Act.

OBSERVATIONS AND CONCLUSIONS

I. “Best” Practices That Result in Improved Data Quality Should Be Shared

One of the primary users of observer data are fishery science center staff responsible for providing scientific and technical support to NMFS Regional Offices and Fishery Management Councils.³ We interviewed 23 NMFS science center data users and found that most are satisfied with the observer data collected on their behalf (see Table 2 below).

Table 2: Results of Data Users Survey

- 100 percent consider observer collected information to be quality data
- 100 percent believe that the observer program collects the right data
- 75 percent believe that observer program data collection priorities were balanced
- 70 percent receive sufficient observer data

Collecting marine fisheries data during fishing activity requires speed and accuracy. Data collected by observers on target species, bycatch, and discards, and on marine mammal, sea turtle and sea bird interactions with the fishing industry, is vital to the mission of NMFS. Although most users were satisfied with the data they received, some felt that more observer coverage was needed and that observer program resources were not properly allocated—that is, the data collected was not balanced between the needs of those who use it for stock assessment and those who use it for resources protection. During the course of our review, we found a variety of procedures, materials, or devices that individual Fisheries Science Centers had developed to help improve the quality of data collected. Many of these improvements have benefited the centers where they were developed and may be practices that the other centers could adopt.

A. *Some techniques improve data quality*

Historically, observers have used paper logbooks to record their samplings of bycatch and discards and to note marine mammal, sea turtle and sea bird sightings. A number of observer programs are now utilizing communications and computer technologies to more accurately and efficiently collect and transmit observer data. In addition, after the data is collected, many programs have implemented processes that review the data for possible errors and anomalies. During the course of our review, we found several examples of individual observer programs with operating techniques or electronic devices that help improve data quality.

³ Such support includes management and conservation reports on status of stocks and of fisheries, environmental assessment and environmental impact statements for management plans and international negotiations, or research to answer specific management needs in habitat conservation, endangered and protected species, aquaculture, and utilization of harvested fish.

- **Electronic communications systems expedite data transmittal and reduce errors**

Three observer programs are using some type of electronic system to transfer data quickly and efficiently. The Alaska FSC's North Pacific Groundfish Observer Program uses a reporting system that allows observers to enter catch data (weight of fish caught, species composition, target and incidental catch for each set or haul) while at sea. Observers in the West Coast Groundfish program are provided laptop computers to record and transmit data once they return to shore, and the Northeast FSC is presently field-testing a heavy-duty, portable notebook-sized computer called the "Walkabout" (shown in Figure 2). The Walkabout will allow observers to move about the deck, relatively unencumbered, while entering data. These systems rapidly transmit data, eliminate the need for retyping data, and can prevent incorrect information from being entered into certain fields (for example, many data fields have drop-down lists, allowing the observer to select from a choice of possible entries). For the real-time Alaska system, questions can even be communicated between the FSC and the observer at sea for instant clarification and resolution.

Figure 2: Handheld "Walkabout"



Source: Northeast Fisheries Science Center

- **Computerized quality control program flags anomalies**

The Northeast FSC developed a quality control program for observer data by using computer software to look for possible errors after data has been entered into the database. Once anomalies are flagged, observers are contacted to resolve inconsistencies.

- **Timely debriefings and observer evaluations correct problems early**

The purpose of the observer debriefing, considered one of the most critical phases relative to data quality control, is to ensure that the report is in the proper format, accurate, neat, concise, and complete.⁴ Most programs conduct one-on-one debriefings with the observer (in person or by telephone) after a set period of time and/or number of trips to review and clarify data collection results. However many observers expressed concern that they go on multiple trips before being debriefed or, in the case of the Northeast program, before the editors review their data. As a result, if they are doing something incorrectly, they are not aware of this until after several trips. The Southeast Pelagic Longline program debriefs observers via telephone, within two days of the trip. The Northwest FSC evaluates observers in conjunction with their in-person debriefing. Through the evaluation, the debriefer gathers information to determine if the observer is experiencing any problems during his/her trips at sea and to identify problem observers or those who need more training. Observer program officials believe the evaluations will also help define areas for greater emphasis in future training sessions. Timely feedback, especially for new observers, is essential to maintain data quality.

⁴ van Helvoort, G., 1986 Observer program operations manual. FAO Fish.Tech.Pap., (275): 207 p.

- **Post-trip electronic questionnaire facilitates the debriefing process**

At the conclusion of their fishing trip, Alaska Groundfish observers complete an electronic questionnaire requiring over 70 responses. Depending on the observer's initial answer to a question, the computerized questionnaire may ask additional questions in greater detail and increases the likelihood that all relevant questions are asked. The debriefer prints the questionnaire responses and is able to target areas to focus on during the debriefing, thereby saving time and expediting the entire process from initial data entry to final access by data users.

- **At-sea training may help prepare observers for the rigors of the job**

Observer training is primarily conducted in the classroom. Yet many observers claim that they were unprepared for the rigors of the job and that seasickness, which can be so debilitating that it impairs the observer from collecting any data, was an unforeseen problem. The Northeast and Southeast programs have recently provided some limited experience aboard commercial vessels during training to expose observers to the work environment and familiarize them with ship layout and terminology. If feasible, other programs may want to provide sea experience to better prepare observers for the rigors of the job and help determine their seaworthiness. This would also help eliminate those not suited for the position before they are assigned to go out to sea. Where vessel training may be cost prohibitive or impractical, a "day in the life of an observer" video was suggested.

- **Northeast FSC's observer bonus initiative is innovative but needs modification**

The Northeast observer program has initiated a unique program to improve data quality and retain observers by offering them a bonus. Many of the data users said that as a result of the bonus program, the forms submitted by the observers are more complete (no boxes were left blank). However, the lack of feedback, and perhaps how the criteria for bonuses are being applied, is hindering the initiative. The bonus is tied to completeness (of filling out the form), accuracy, sampling, and collecting protected species information. Observers report that they do not receive feedback, and thus are unsure of what they are doing wrong or what trip the bonus is associated with. In addition, observers claim they are often questioned about relatively minor concerns, which they believe have no impact on the quality of the data. For example, not rounding a decimal figure to the hundredths and listing "coke can" instead of the general term "debris." Given the lack of feedback, the observers question how the criteria is being applied. Other programs may want to consider a similar initiative, but they should establish useful measures for the criteria and focus on providing observers with feedback as to what was done correctly and what areas need improvement. The Northeast observer program acknowledges problems with the bonus program and has stated that it is in the process of modifying it.

- **Better observer manuals enable the collection of high-quality data**

Well-written and thorough observer manuals that provide guidance on observer duties and priorities, health and safety, deployment, and ethics, and offer sample forms are valuable not only as training resources but also as on-the-job operational reference tools, enhancing the quality of data collected by observers. The North Pacific Groundfish

observer program manual received the most favorable comments from observers, followed by the most recent version of the West Coast observer program manual. Observers said the manuals are important reference guides and impact how well they are able to do their jobs. We used two sources to assess the observer manuals—one for evaluating operating manuals and the other on writing training manuals.⁵ We reviewed how well each manual introduces and outlines the information, the detail of the information contained in the manual, the supporting documentation provided, and the miscellaneous reference tools made available to the observer. We found that the Alaska FSC’s North Pacific Groundfish and Northwest FSC’s West Coast Groundfish manuals stood out, as observers had told us, as models for others to follow. These manuals are rich in content, discussing data collection priorities, what to expect on board, the observer’s role in regulatory compliance, acronyms, and a glossary of terms. The manuals are also well organized with a table of contents and an index for easy referencing. Appendix A summarizes the OIG analysis of the observer program manuals conducted for this review.

B. Some processes also assist with detecting fraud

NMFS relies on unbiased observer data to support its scientific and management data collection requirements. During the course of this review, we inquired about the prevalence of observer fraud (e.g., filling in the log sheets with “made up” data) and what could be done to address it. According to the observers, vessel captains, observer program officials, and law enforcement officials that we interviewed, observer fraud is always a concern, however it is not considered to be a widespread problem. Observers admitted to being aware of other observers cutting corners, such as not sampling the final haul of a 60-day trip as the vessel is heading back to port, but felt that outright fraud was rare. According to the NMFS Office for Law Enforcement officials, only a limited number of cases have been filed claiming observer fraud. For example, in the Northeast, only three cases of fraud have been reported in the past two years. However, the limited number of reported cases does not mean that fraud or the potential for submitting fraudulent data does not exist. Thus, using tools that prevent or assist with the detection of fraud should be encouraged to better ensure the integrity of observer data.

Many of the aforementioned tools developed by the various observer programs can assist with detecting fraudulent data. For example, although it is still undergoing field-testing, the “Walkabout” notebook computer records vessel location via its Global Positioning System uplink—requiring that data be entered while fishing activities are occurring. The electronic, detailed questionnaire in Alaska, in conjunction with the face-to-face debriefing, are effective means to detect problems with the data. While data anomalies may not be fraud (just human error), the detailed questionnaire and face-to-face debriefing may help deter observers from deliberately submitting fraudulent data. In addition, to help detect potential fraud, observer program officials at the Northeast FSC require the observer provider to conduct follow-up telephone surveys of vessel captains

⁵ “Gatekeeper® Registration Authority Operations Manual Evaluation Criteria, Version 1” May 2003, <http://www.noie.gov.au/projects/confidence/Securing/RAOpsManEvCri.htm#Criteria>; Davis, J. 1992, *How to Write a Training Manual*. Brookfield, Vermont: Gower.

who have taken an observer on a recent fishing trip. Observer program officials choose a random sample of 10 percent of each observer's vessels for follow-up to verify that the observer took the trip and evaluate the observer's performance.

Although we are not making a specific recommendation about any specific practice or initiative, we encourage NMFS management to review these Observer Program practices and share the information so that those that make sense for use elsewhere or across all NMFS regions can be adopted. .



NOAA reported that in addition to the Northeast FSC, the Alaska, Southeast, and Northwest FSCs have also implemented computerized quality control and assurance procedures. Exploring whether these practices can be replicated (versus reinvented) across other programs deserves further consideration.

II. Observer Vessel Selection Processes May Result in Data Bias

It is vital that the observer program collects data that is a representative sample of the fishery under observation. Appropriately defining and including all vessels in the population that is used to select vessels to carry an observer, and implementing a statistically valid process for selecting vessels, is key in avoiding data bias. Each observer program has its own pool of vessels and vessel selection methodology for placing observers.

Data Quality Act's implications for NMFS

Section 515 of the Treasury and General Government Appropriations Act for FY 2001 (P.L. 106-514), commonly referred to as the Data Quality Act, may have far-reaching implications for NMFS's observer programs. The act directs the Office of Management and Budget (OMB) to issue government-wide guidelines that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by federal agencies."⁶

In February 2002 NMFS issued its Fisheries Science Center Accreditation Standards as part of its Science Quality Assurance Program. The science center directors and the director of the Office of Science and Technology evaluated existing science quality measures at the FSCs for the purpose of developing a unified set of measures. Developing standards and formalizing the accreditation process "will serve as a framework through which science programs and their products will be evaluated to ensure that the NMFS mission is accomplished based on the best available science."

In September 2002 NOAA issued information quality guidelines for its operating units, based on standards specified in the Data Quality Act, stipulating that data must be useful to its users; safeguarded from improper access, modification or destruction; and accurate, reliable, and unbiased.

A. Vessel selection procedures and practices need closer management attention

Each of the observer programs we reviewed had shortcomings in its vessel selection process, resulting in a less-than-representative sample of vessels or a possible lack of observer objectivity that could adversely affect data quality.

The observer placement process introduces bias

The information collected by observers is supposed to be representative of the entire fleet. We found that this is not occurring in most of the fisheries covered by the Northeast FSC because observers are not randomly assigned to vessels.⁷ Rather, observer program officials inform the observer provider of the number of observer days needed

⁶ <http://www.noaanews.noaa.gov/stories/iq.htm>.

⁷ The one exception is the Closed Area Scallop fishery.

per month for a specific fishery. The observer provider assigns observers to ports where vessels operating in that fishery are likely to be found. The observer is responsible for finding and boarding a vessel in that fishery, which is not always possible.

Observers are often rebuffed when trying to board vessels, with captains claiming ignorance about the program or questioning the legitimacy of the observer (e.g., “how do I know you are really a NMFS observer?”). In addition, enforcing the requirement to carry an observer has never been emphasized by the observer program and NMFS enforcement, thus the industry knows minimal repercussions will occur for denying observers access to their vessels or, as they often do, for leaving the port before the observer arrives at the pre-determined departure time. Overrepresentation may also be occurring, as observers repeatedly board those vessels willing to carry them in order to obtain the required number of sea days.

Northeast observer program officials informed us that they are developing vessel selection procedures. The program intends to generate monthly lists of vessels using the Northeast Regional Office permits database and prior year port and landing database. In addition, steps have been taken to officially notify permit holders and vessel captains that they are being assigned an observer. Observer program officials prepared two draft letters articulating the legal requirement to take an observer. One letter is to be mailed to the permit holder, and the other letter is for the observer to hand to the vessel captain. During the course of this review, the letters were approved and signed by the Northeast Regional Administrator.

Excluding vessels without safety decals results in selection bias

Selection bias exists whenever there is a systematic tendency to over represent or under represent some part of the population. Federal regulations governing observer programs prohibit observers from working on ships that have not passed a U.S. Coast Guard safety examination or inspection.⁸ The Coast Guard’s vessel safety program is a free, voluntary dockside examination of U.S. commercial fishing vessels. The following is from the observer safety notice to Pelagic Longline vessel owners/operators with swordfish limited access permits:

This is a reminder that on June 17, 1998, regulations under the Magnuson-Stevens Fishery Conservation and Management Act [MSFCMA] that address the health and safety of observers stationed aboard commercial fishing vessels became effective. Under these regulations, observers may not depart on a fishing trip aboard a vessel which does not comply with United States Coast Guard (USCG) safety requirements or display a current (issued within the previous two years) Commercial Fishing Vessel Safety Examination decal [50 CFR 600.746]. Vessels that do not meet these requirements are deemed unsafe for purposes of carrying an observer

⁸ 50 CFR §600.746(c)

and must correct noted deficiencies prior to departing port [50 CFR 600.746 (c)(2) and (d)].⁹

While all programs require U.S. Coast Guard safety decals, the Southeast FSC Pelagic Longline Observer Program automatically excludes vessels that have not met the U.S. Coast Guard safety decal requirement from the population of vessels to be selected. The Pelagic Longline observer program officials query the Coast Guard database and only include vessels with a safety decal in the population of vessels to be selected to carry an observer.

Pelagic Longline observer program officials' rationale for omitting vessels without safety decals is that the responsibility for ensuring industry compliance with the requirement rests with NMFS Office of Law Enforcement (OLE), and not the observer program. Enforcement officials, however, have stated that the lack of personnel prohibits them from tracking down all active permits and determining whether a decal is present. Rather, OLE will take action once a violation has occurred, that is an observer is assigned to a vessel that does not have a safety decal. To prevent selection bias, all vessels should have an equal chance of being selected to carry an observer and if an observer is assigned to a vessel that does not have a valid Coast Guard safety decal, and if the vessel captain refuses to have a safety inspection in a reasonable timeframe, then appropriate enforcement action should be taken. Southeast FSC observer program officials have agreed that all vessels should be included in the population and are changing their methodology.

Outdated logbook databases result in a flawed selection process

In order to obtain information that represents the entire fleet, a complete and accurate list is needed to draw the sample of vessels required to take an observer. The Shark Bottom Longline (SBLL) Observer Program uses three logbook databases to select vessels. These logbook databases, however, may contain vessels that do not have USCG safety decals, are in the shipyard for repair, no longer fish for shark, have sunk, or have been sold.

Prior to each season (the SBLL has two seasons per year, one from January to June and the other from July to December), SBLL observer program officials access a database for shark-permitted vessels and then cross-match those vessels with the Southeast FSC prior-year shark landings data. Many vessels in this fishery also fish for other species, often on the same trip. However, the objective of the SBLL program is to place observers aboard vessels that target sharks and exclude vessels that have low or incidental catches of sharks. To accomplish this, vessels for which sharks comprised less than 25 percent of the landings in any given season are excluded. According to officials, the remaining vessels are put into a pool and individual vessels are selected using a random number generator. However, the shark landings data used to generate the list of vessels is at least one year old because, according to NMFS officials, the data must be entered and checked for quality control at the end of the fishing year.

⁹ <http://www.nmfs.noaa.gov/sfa/Popltr.htm>

Using landings data that is over one year old to identify currently active SBLL vessels impedes the process for placing observers on vessels because of the time it takes to find an active vessel and, if necessary, to rerun vessel lists. For example, the observer provider informed us that for the January 2003 season, only 27 percent (11 out of 41) of the vessels on the list were “deemed usable” (i.e., actively fishing for shark). In addition, if a new vessel begins to fish for shark, it will be at least one year before it is included in the population that the sample is drawn from. A faster, more efficient process is needed to identify SBLL vessels.

Vessel selection protocol could encourage potential observer bias

The West Coast Groundfish observer program run by the Northwest FSC currently selects vessels from a pool of permitted vessels so that coverage is spread evenly along the West Coast. Observers are assigned to selected vessels for a 2-month period. To allow enough time for the observer to board the vessel, captains are responsible for notifying the observer 24 hours in advance of every fishing trip.

This is the only program where an observer is repeatedly assigned to the same vessel. This raises a concern that repeated assignment to a vessel may interfere with the observer’s objectivity, as they become friendly, over time with the captain and crew. Northwest Fisheries Science Center officials agree that extended vessel assignments could possibly result in the development of relationships that could potentially influence the observer to alter data in favor of the vessel captain. However, the West Coast groundfish vessel captains we interviewed on this issue said that while the potential exists, observers on their vessels “toed the mark” and paid “meticulous attention to detail.” In addition, several West Coast Groundfish observers also acknowledged the potential for bias exists, but stated that they just focus on getting the job done. Since this program is only in its second year of implementation, the unique vessel selection methodology should be monitored to ensure that observers do not skew the data in favor of the vessel during the 2-month assignment.

RECOMMENDATION

The Assistant Administrator for Fisheries should develop and implement statistically valid, unbiased vessel selection procedures for observer programs with contractual relationships with observer providers and continually monitor the implementation to ensure that the vessel selection process is properly implemented.



NOAA concurred with the recommendation, although Shark Bottom Longline (SBLL) officials disagreed that the outdated logbook databases impede observer placement. They suggest that placement is affected by the fact that until 2002, the SBLL observer program was voluntary and vessel owners were not required to carry an observer. SBLL managers report that they are working with the U.S. Coast Guard to identify the vessels that lack safety decals, and they have also reminded those vessels that lack of a safety decal does not exempt them from carrying an observer.

In its response, NOAA reported that the agency has processes in place to ensure statistical validity in many programs and is striving to improve them in all programs. In addition to citing specific changes made by several of the observer programs, NOAA mentioned progress made as a result of a July 2003 coverage workshop and an anticipated 2005 coverage workshop that may include a discussion of vessel selection methodologies.

While we are pleased with the changes many of the programs have made, we question whether these individual program fixes, as well as the planned 2005 Coverage Levels Workshop (which may or may not address vessel selection methodology), fully address the recommendation. We suggest the action plan specifically address what processes are in place to ensure the statistical validity of vessel selection methodologies and how NOAA intends to periodically monitor implementation across all of the observer programs.

B. A vessel selection process is needed to randomly place North Pacific Groundfish observers on the “30 percent” fleet

For the North Pacific Groundfish Observer Program, regulations state that observer coverage is one-hundred percent for vessels over 125 feet and 30 percent for vessels 60 to 125 feet. There is no observer coverage for vessels less than 60 feet in length.¹⁰ However, vessel owners, not NMFS, determine when to take on an observer for the 30 percent coverage fleet. The North Pacific Fishery Management Council, NMFS, industry, and others have acknowledged problems with this program for years, however little progress towards changing the current structure has been made.

We attended both the North Pacific Fishery Management Council’s Observer Advisory Committee (OAC) and Advisory Panel meetings held in Seattle, Washington, on January 23-24, and January 29, 2003, respectively.¹¹ The purpose of the OAC meeting was to develop a problem statement to address specific data quality and disproportionate cost issues related to the current observer program. The results of the OAC meeting were reviewed and discussed by the panel and the North Pacific Fishery Management Council.

At the January/February 2003 meeting, the North Pacific Fishery Management Council acknowledged that its observer program faces a number of longstanding problems that result primarily from its current structure and proposed a restructuring of the program, noting that:

The quality and utility of observer data suffer because coverage levels and deployment patterns cannot be effectively tailored to respond to current and future management needs and circumstances of individual fisheries.

¹⁰ Refer to 50 CFR §679.50(c) to review the regulations that govern this observer program.

¹¹ Observer Advisory Committee members include council members and others interested in observer issues. Advisory Panel members represent major segments of the fishing industry—catching and processing, subsistence and commercial fishermen, observers, consumers, environmental/conservation, and sport fishermen—whose purpose is to advise the council on pertinent issues.

In addition, the existing program does not allow fishery managers to control when and where observers are deployed. This results in potential sources of bias that could jeopardize the statistical reliability of catch and bycatch data.¹²

The council also noted other problems:

- Many smaller vessels face observer costs that are disproportionately high relative to their gross earnings.
- Complicated and rigid coverage rules have led to problems with observer availability and coverage compliance.
- The current funding mechanism and program structure do not allow enough flexibility to solve many of these problems or effectively respond to evolving and dynamic fisheries management objectives.

Both during and after the meetings we attended in Seattle, we were able to hear firsthand and discuss the issues and concerns about the North Pacific groundfish observer program. We concur that NMFS should do more to ensure that the data resulting from the program is not compromised and is of the highest quality.

An independent review of the Alaska Fisheries Science Center, released in 2000,¹³ found that “the lack of direct contractual obligations between the government and the companies, the direct industry payments, and the existence of multiple observer companies competing for business from industry clients” have led to the problem of vessel captains refusing to board certain observers and choosing when to fulfill coverage requirements. The review proposed a direct contractual relationship between NMFS and the observer companies.

RECOMMENDATION

The Assistant Administrator for Fisheries should work with the North Pacific Fishery Management Council to establish requirements for an observer program that includes a vessel selection process that produces random sampling of the fishery.



NOAA concurs with the recommendation that statistically valid, unbiased vessel selection procedures are needed for scientific data collection. The response also noted, and we agree, that some deployments, such as compliance monitoring and obtaining management information on limited-license fisheries, may not require random vessel selection procedures. According to their response, NOAA is currently working with the North Pacific Fishery Management Council to address observer sampling issues. In addition, NOAA reports that it has established protocols to minimize areas of potential bias (e.g., haul selection, within haul sample selection, vessel design, and crew interference) and has completed several analyses to improve methods in addressing bias.

¹² <http://www.afsc.noaa.gov/Quarterly/jfm03/divrptsREFM1.htm#restructuring>.

¹³ “Independent Review of the North Pacific Groundfish Observer Program,” MRAG Americas, Inc., May 2000, page 7.

III. A Qualified Observer Corps Enhances Program Efficiency and Data Quality

Observer programs worldwide have identified the need for maintaining a quality and experienced observer corps for the purpose of collecting quality data. Although some turnover is natural, too much turnover can result in a continuous stream of inexperienced staff. Experience has shown that it takes time, and practice, to learn observer duties well enough to exercise good judgment in collecting data as well as navigating the hazardous working environment.

Two studies¹⁴ conducted in 2000 identified turnover as a problem NMFS observer programs face. Recent data obtained by the OIG from the observer programs confirms that observer programs encounter significant turnover. The table below illustrates, for the Northeast and Northwest groundfish observer programs, how quickly observers leave the program, often within months of taking the training. It should be noted that some observers left the Northwest program because their contract ended. The six training classes in Table 1 were held during the period of February 2002 to February 2003.

Table 3: Training Class Turnover

Fishery Science Center	Number of people trained	Number of months since training	Number of observers that left the program	Percent Turnover
Northeast	15	10 months	-3	20 %
	19	7 months	-9	47 %
	10	3 months	-3	30 %
Northwest	8	14 months	-5	63 %
	13	10 months	-5	38 %
	14	2 months	0	0 %

In 1998, the Canadian Department of Fisheries and Oceans and NMFS co-sponsored a workshop to bring together some of the key organizations responsible for the design, management and delivery of at-sea fisheries observer programs in the United States and Canada. The conference proceedings note that turnover results in more inexperienced observers, thereby presenting greater safety risks and lower quality data. A second joint workshop, held in 2000, devoted an entire session to observer turnover and retention problems. The proceedings state that greater efforts to retain observers should be made because of the:

- Costs Associated With Turnover. *“The impact of high turnover rates among observers is obvious: data quality and reliability suffer, safety liabilities increase, professionalism and good judgment require time to develop, relationships of respect and trust between industry and agency suffer, training costs for new observers increase.”*

¹⁴ Management Control Review of National Marine Fisheries Service Observer Programs/Service Delivery Models, DOC/NOAA/NMFS, September 2000; Independent Review of the North Pacific Groundfish Observer Program, MRAG Americas, Inc., May 2000.

- **Reliability.** *“Observer programs provide valuable data vital to fisheries management. There must be sufficient confidence in the quantity and quality of the data.”*
- **Quality Data.** *“Only well-prepared and motivated observers can supply reliable data. It takes time and money to prepare observers to collect good data. Over time observers can develop the experience and expertise.”*

Data quality, costs, and other concerns associated with observer turnover

Data quality suffers when there is a steady flow of new observers. Of the more than 25 current and former observers we communicated with, most said that regardless of the

Photo 2: Observer at Sea



Source: North Pacific Fisheries Observer Training Center

quality of the training they received, it was not until a number of trips were completed, that they fully comprehended what they were supposed to do. Specifically, the skills required to do the job—learning to work in often-extreme weather conditions, learning unfamiliar terminology, identifying species, becoming familiar with the assortment of vessel types and gear, figuring out the forms, getting used to the overwhelming smell associated with fishing, overcoming seasickness, and coping with the

various types of skipper and crew harassment—are primarily learned on the job. Every observer we asked, many who worked for multiple observer programs, confirmed that it takes time, and multiple trips, to fully understand job responsibilities and requirements to do the job efficiently and accurately.

In addition, NMFS is responsible for observer training, most of which is primarily conducted in-house, using NMFS staff as trainers. Average training costs across all programs is about \$2000 per person trained, which may not reflect total NMFS costs, as a number of non-observer program science center staff participate in the training (North Pacific Observer Training Center cost estimates are not included). When turnover occurs, more training has to take place, resulting in NMFS incurring additional training costs, including staff time.

In addition to increased training costs and diminished data quality, inexperienced observers may exacerbate safety concerns for vessel captains and crews. Fishing is among the most dangerous jobs, with one of the highest annual rates of occupational fatalities in the United States.¹⁵ We found that in the North Pacific Groundfish observer program, the majority of new observers have no prior experience on a sea-going vessel,

¹⁵ Stoller, G. 2003. “Despite Law, Fishermen Face Deadliest Job Risks,” *USA Today* (March 12).

much less familiarity with the waters of the Gulf of Alaska or the treacherous Bering Sea. Captains we spoke with stated that when observers are aboard, the crew is responsible for making sure the observers do nothing to endanger themselves or other crew members, thus increasing the danger for the crew who must now be mindful of not only their own safety but also that of the observers.

A. *Reviewing recruitment practices is a step in the right direction*

Hiring the right people plays a key role in retention. The ideal candidate for an observer position, according to the Food and Agriculture Organization of the United Nations (FAO), “possess[es] an appreciation of the fishing industry, as well as the requisite intellectual capabilities and skills to collect, organize and present information pertinent to the activities of fishing vessels,”¹⁶ that is, someone familiar with commercial fishing and who has knowledge of the biological sciences or a related field.

NOP has a contract with the Association for Professional Observers to assess current hiring practices and, with a view toward retaining experienced observers, identify better recruitment methods. Therefore, we did not review in depth recruitment problems and solutions.

However, observers, program officials, and industry workers offered several comments regarding NMFS’s 4-year science degree requirement for observers. Many suggested that while the requirement allows the program to hire people with the necessary skills, those individuals will likely stay only on a short-term basis because post-secondary job candidates are often only there to obtain some limited field experience before going back to graduate school or moving on to other jobs. Several suggestions were made to reduce the academic requirement to a 2-year degree and alter the training to compensate for the knowledge gap between the 2-year degree versus the 4-year degree. Substituting experience for the degree was also recommended; however, a number of programs that tried hiring former commercial fishermen said that, with a few exceptions, it generally did not work out well.

Although we have no specific recommendation, we wanted to note that NMFS is taking action in this area by hiring the Association for Professional Observers to assess the situation and to bring to NMFS’ attention the many comments we heard regarding the 4-year secondary degree requirement.

B. *Enhanced communication, training, and career opportunities may help retain observers*

Observers work for companies that provide observer data to NMFS. The primary responsibilities of the providers are to recruit and hire observers and arrange logistics for trips. The FAO states that one of the disadvantages of contracting observers through a

¹⁶ van Helvoort, G. 1986. *Observer Program Operations Manual*, FAO Fisheries Technical Papers - T2-75. Rome: Food and Agriculture Organization of the United Nations. (Available at <http://www.fao.org/DOCREP/003/S8480E/S8480E00.HTM>)

company, rather than employing them directly, is that “observers may resent not being part of the organization they feel they work for.”¹⁷

NMFS communication with observers

We found that most NMFS program managers and data users do not regularly communicate with observers. One observer stated, “Speaking for myself, I would be staying as an observer if my ideas, concerns, and insights were taken seriously by those in charge. The attitude I feel from people at NMFS in Seattle has been that they look down their noses at me... I think if observers felt more a part of the whole picture, they would stay longer. The isolation in this program can be a major hazard.” Another observer said, “I quit observing after about seven months. I believe I was one of the only ones in [location deleted] so I had no contact with other observers. I rarely spoke to my supervisor...” Most NMFS officials we spoke with agree more can be done, although one person stated that no matter how much you communicate, more is always needed.

We found only one program of the seven we reviewed, the Southeast Pelagic Longline, where observers felt they were supported by NMFS because they can call three program officials at anytime and get a call back within hours. In addition, the observers are debriefed by telephone, which may take 1 to 4 hours, after every trip, thus there is on-going, continuous contact with NMFS. While 24-hour access to staff may not be realistic for all programs, other opportunities exist for increasing communication with observers, thereby decreasing the sense of isolation observers feel.

For example, more written communications between observers and program staff may help. According to one observer we interviewed, unlike NMFS, the California Department of Fish and Game observer program stresses communication and teamwork. The state program provides a monthly newsletter to observers about port activities that successfully promotes the mission and builds camaraderie among the observers. The West Coast Groundfish observer program did initiate a newsletter, however it was discontinued due to perceived lack of interest from the observers (whether it was lack of interest, the content of the newsletter, or whether observers even received the newsletter is not known). The University of Alaska’s North Pacific Observer Training Center issues a quarterly newsletter that discusses data use and other items of interest to the observers that could be duplicated by all programs. While such efforts may be helpful, newsletters alone only inform and do not provide opportunities to respond.

Using the debriefing process to solicit information beyond what is required on the forms may help foster better communication. Since observers are an important link between NMFS, scientists, and fishermen, they are also in an ideal position to communicate information to all stakeholders. However, as one program official stated, “you will get the most open honest feedback if you can foster an environment of trust. It is critical to communication.” Refresher training, discussed in more detail below, is another

¹⁷ Davies, S.L. 2003. *Guidelines for Developing an at-Sea Fishery Observer Programme*, edited by J. Eric Reynolds, FAO Fisheries Technical Paper –414. Rome: Food and Agriculture Organization of the United Nations.

mechanism to increase communication between observers, program officials, and data users.

Training opportunities may keep more observers in the program

Most observers have four-year degrees in the biological sciences and strongly identify with the NMFS mission. Learning and understanding how their data collection efforts fit into protecting and sustaining living marine resources may help observers perform their job better and potentially increase job satisfaction, thereby reducing turnover. NMFS does not normally encourage or sponsor situations where observers can meet with the data users. One observer reported to us that he was interested in meeting with biologists to learn why certain biological information was necessary and what the differences were between some of the species. Even though the observer attempted to schedule meetings in advance, his efforts were rebuffed. Only the Alaska FSC regularly sponsors brown bag seminars for observers, which are also available on-line.

University of Alaska training staff suggested, and we agree, that follow-up training specifically about data usage would be beneficial. Refresher training provided by program staff and data users would bring them together with observers. Such sessions could be an invaluable source of information for observers, who can learn more about the data—both the nuances of the collection and the usage—thereby improving their data collection skills while better connecting observers to the programs. In addition, NMFS staff would gain a better understanding of the observers' experiences with industry, possibly gaining insight into industry trends, as well as any data collection problems observers may have experienced.

In addition, programs do not recognize prior training received in other NMFS observer programs. Regardless of an observer's past experience or the amount of prior training received, each program requires observers to sit through all of its training sessions and modules. NOP and the NOP Advisory Team have been working on standardized cross-training materials, dealing primarily with safety training, which may begin to allow the various observer programs to "waive" some elements of the training if the observer has already received it in other NMFS programs. In addition, the Northeast and Southeast observer programs are working toward establishing an east coast observer-training center to consolidate training activities. Such consolidation and multi-program cross training may increase the mobility of experienced observers, therefore positively impacting the quality of the data collected, while decreasing training costs. The extent that cross training can be utilized will obviously depend on program similarities.

Career opportunities at NMFS could improve retention

Many current and former observers we interviewed stated that the lack of advancement opportunities made a long-term career as an observer unlikely. The independent review of the North Pacific observer program asked former observers to list the top three of ten possible reasons for leaving the program. More than one-half of the 58 respondents checked "lack of advancement opportunities."

Most observer programs, including the national program, only have one or two staff with prior observing experience. This is a source of frustration for many observers who stated that the programs and/or trainers either lacked actual observer experience or the experience was so limited (or so long ago) that program staff were often unaware of the difficulties and situations today's observers encounter. Several experienced observers said they found the training conducted by the Northeast and Northwest science centers exasperating because the trainers were often unable to answer situational questions. One observer was repeatedly told to "Do whatever you think best." According to the FAO operations manual, "[t]he best instructors are those who have an intimate knowledge of observer work, have experienced conditions at sea, have a good understanding of the fishery, and can communicate training messages in clear and straightforward terms."¹⁸

The North Pacific Groundfish observer program has hired former observers and incorporated their expertise into the training program. Many of the program and science center staff, as well as the University of Alaska's North Pacific observer training center staff, are former observers. Many positions require a minimum of 60 days observing experience.

Other programs should consider hiring observers for debriefing and data editing as well as training positions. Hiring people who know and understand an observer's job, including its limitations, could potentially strengthen the program, and create observer career opportunities within NMFS.

RECOMMENDATION

The Assistant Administrator for Fisheries should explore options to improve the retention of qualified, experienced observers.



In its response to the draft report, NOAA concurred with the recommendation, stating that many programs are making progress in providing retention incentives.

The response also noted that the Northwest FSC, like the Southeast FSC, provided observers with 24-hour cellular and e-mail access to staff. However, the extent that observers communicate directly with staff was not reported and none of the observers interviewed by the OIG reported the 24-hour access.

NOAA stated that it intends to finalize and publish national minimum eligibility standards for observers in fiscal year 2004. This will presumably be after the Association of Professional Observers report is received in June 2004. According to the draft statement of work for that study, the report will discuss whether the most appropriate/qualified people are being hired to work as observers given a program's goals and objectives.

NOAA also commented in its response on our reference to suggestions made by some observers and program and industry officials that the academic requirement for observer

¹⁸ Davies, S.L. 2003. *FAO Guidelines for Developing an at-Sea Fishery Observer Programme*.

applicants could be reduced to a two-year degree. It noted that the North Pacific Groundfish observer program has required a four-year degree since its inception and claims that such a requirement ensures applicants have adequate biological backgrounds and training in statistics and sampling. The program also maintains that this degree requirement helps ensure that applicants are capable of applying sampling protocols in complex and difficult environments and are mature individuals who can work effectively in harsh environments.

NOAA strongly believes that a 4-year degree is extremely important, and in response to our recommendation, states that the minimum eligibility standards will emphasize recruiting candidates with a bachelor's degree. NOAA also noted that if an insufficient number of applicants meet the proposed education requirements, individuals with alternative relevant experience or training may be hired. In addition, NOAA stated that it may explore using exit interviews to obtain feedback from observers about their decision to stop observing.

IV. Improved Performance Measuring and Monitoring Ensures Accountability

Program priorities and performance measures are needed in order for headquarters to adequately monitor observer program performance. In addition, there has to be some accountability for meeting agreed upon performance levels.

The importance of establishing and reviewing performance measures and indicators are clearly addressed in GAO's *Standards for Internal Control in the Federal Government*. According to the *Standards*, management should track major agency achievements and compare them to the plans, goals, and objectives established under the Government Performance and Results Act (GPRA). The scope and frequency of review generally depend on the risks associated with the program, but reviews in general are valuable for providing long-term program assessments and for validating and adjusting ongoing monitoring efforts. While the performance measures we are describing here are not intended to be official GPRA measures, they can be used for monitoring program success, ensuring program accountability, and reporting observer program results to NMFS stakeholders.

A. *Better performance monitoring and more program manager accountability are needed*

In addition to reviewing achievements and goals, it is important to establish a framework of indicators and measures that clearly and consistently define the goals to be achieved. The number of performance measures need not be extensive, but should allow the National Observer Program Office to focus on the most important goals and measures to be addressed.

Based on information gleaned from numerous interviews and received from observer program managers, we found only one performance measure—sea days—routinely tracked by regional observer programs. However, we also found that the measure is not uniformly defined. We asked regional program managers in the Southeast, Northeast, Northwest and Alaska regional observer program offices a series of performance-related questions. The following chart summarizes their responses.

Table 4: Fishery Science Center (FSC) observer program responses to performance-related questions

Southeast FSC	Northeast FSC	Northwest FSC	Alaska FSC
How does your program measure a sea day?			
Begins when the vessel departs the dock, the days while vessel is at sea, and the day the vessel returns to a port concludes a sea day.	Any day at sea that an observer collects data OR a trip greater than 6 hours and aborted.	A sea day is defined as any day that the observer is on a vessel away from the dock. An observed day is any day that an observer is on board a vessel and a fishing activity occurs.	Any portion of a day in which an observer is on board a vessel is counted as a full sea day.
How do you define "coverage?"			
When an observer deploys with an assigned vessel and the number of sets that a vessel completes. (<i>note: this refers to the number of times fishing gear is deployed.</i>)	How many days observed in a particular fishery. Often by %.	We examine percent coverage by landing weight, revenue, number of landings, and/or trips.	Based on definitions contained in Federal Regulations (50 CFR 679.50 and 679.2). ¹⁹
How do you measure or determine the success or failure of your observer program(s)?			
Whether we meet our percent coverage requirement each quarter, whether we are providing quality data to our users, and whether observers are performing well in the field.	Monitor days accomplished versus days tasked; data quality	When observers' safety and health risks are minimized and the data is utilized as a tool in fisheries management, we consider the program to be a success.	Our performance relative to our stated goals and objectives.

Although only sea days are routinely tracked, managers noted that measuring the percentage of observer coverage achieved, data quality, and performance and safety of observers determines the success or failure of the program. However, the use, definitions, and indicators of these measures are not consistent across the programs. As summarized in Table 4 above, only the North Pacific Groundfish Observer Program (Alaska), made reference to measuring performance based on existing goals and objectives, however the goals and objectives were unique to the program. In addition to program specific goals, objectives, and performance measures, a limited number of consistently defined measures could be created to enable headquarters to compile "national" or cumulative observer program performance information.

Based on the statement-of-work training at the National Observer Program and Advisory Team meeting and upon reviewing some initial performance-based contracts, the following factors could be considered by the National Observer Program when formulating nationally consistent performance goals:

- *Uniform definitions of coverage* – Mandated or agreed-upon levels of coverage would be useful in determining the success or failure of an observer program. Coverage, however, is one of the most subjective indicators. Depending on the

¹⁹ Regulations state that observer coverage is one-hundred percent for vessels over 125 feet and 30 percent for vessels 60 to 125 feet. Thirty percent coverage must occur in three-month (quarterly) periods.

- program, coverage is measured in terms of total weight of the catch, total revenue gained from the catch, the number of landings in a given fishing trip, or number of trips.
- *Sea days* – As noted above, this is a rather subjective measure. To be considered as an indicator, it needs to be consistently defined across all programs. However, sea days alone will not adequately reflect program success.
 - *Data collection and quality* – A measurement aimed at minimizing errors and bias and enhancing the collection of quality data should be established. For example, a performance standard being considered by the Southeast FSC, Mississippi Laboratories, defines *acceptable quality level* as “isolated deviations of 1 percent in data collection; 5 percent in sample identification.” Information obtained from implementing this performance standard could be reported as a performance measure.
 - *Qualified corps of observers* – Training, turnover, and retention should be measured to help ensure a qualified corps exists and is available for deployment as needed. A possible performance standard could include establishment of a threshold of acceptable turnover, as well as reports of delays in deployment due to the lack of trained observers.

The National Observer Program Advisory Team (NOPAT) working group has made progress toward a substantial number of its objectives as established by NMFS. However, no progress has been made toward developing either operational performance measures or a monitoring framework. Establishing uniform measures as well as a framework for collecting this information should receive NOP and NOPAT’s attention.

Lack of Reporting and Monitoring

Although the creation of NOP and NOPAT has improved communication between NMFS headquarters and regional observer programs, the current organizational structure does not provide a clear reporting/monitoring relationship, particularly since program managers report directly to their respective Fisheries Science Center directors. Lack of a formal reporting/monitoring relationship leaves NMFS headquarters unable to determine whether programs are meeting their missions and achieving target goals.

For example, for fiscal years 2001 through 2003, spending plans were developed between NMFS headquarters and the Southeast FSC justifying increased funding of \$1 million for the Atlantic Pelagic Longline Fishery Observer Program. This additional funding was to increase observer coverage from 2 - 5 percent to 5 - 8 percent to meet the minimum coverage requirements stipulated by the International Commission for the Conservation of Atlantic Tunas (ICCAT). However, the Southeast FSC reported that the percent coverage achieved for fiscal years 2001 and 2002 was 4 and 2.6 percent, respectively, falling well below the 5 - 8 percent goal. We were told that the ICCAT requirements were not met for those fiscal years because the additional funding for increasing Pelagic

Longline observer coverage was actually used for the Atlantic Pelagic Longline turtle experiment. Although NMFS officials stated that the funds were appropriately used, as the turtle experiment was conducted in the Atlantic Pelagic Longline fishery, headquarters officials were not aware that the ICCAT coverage level was not being met until the third year of the spending plan agreement. This occurred because neither observer program officials nor headquarters actively reports on or monitors program progress.

NMFS should ensure that headquarters has a clear and distinct role in monitoring observer program performance. Since the mission of the National Observer Program is to address observer issues of national importance and develop policies and procedures to ensure that NMFS observers and observer programs are fully supported and effective, it appears that NOP is the logical headquarters office to collect information about the various observer program achievements and performance.

In addition, as no formal relationship between the observer program managers and the NOP exists, additional measures should be taken to ensure that program managers are held accountable for implementing and achieving observer program objectives. While there may be justification for altering specific program priorities, such changes should be made with headquarters' concurrence. Therefore, we suggest developing a system that ensures observer program manager accountability. For example, NOP could provide information to the employee's rating official (e.g., Science Center Director) regarding a program manager's performance in meeting agreed upon national observer priorities. Seeking input outside of the line of command on an individual's performance is not unique. The International Trade Administration's Senior Commercial Officer performance appraisal system requires input from sources inside and outside of the Department of Commerce. NOP could similarly provide information to be incorporated into annual performance plans and appraisals for observer program managers.

RECOMMENDATION

The Assistant Administrator for Fisheries should (1) establish national observer program priorities and performance measures; (2) develop a mechanism to monitor and report regional program performance to NMFS headquarters; and, (3) ensure that observer program managers are held accountable for performance related to both national and specific regional program priorities.



In its response to the draft report, NOAA stated that it concurs with the *intent* of the recommendation and that the National Observer Program office and the regional programs are in the process of developing a strategic planning process. The process will include the establishment of program goals and objectives, in addition to national and regional performance measures. A strategic planning process as described addresses our concerns, however we ask that the action plan describe what methods will be used to ensure that strategic plans are implemented and performance goals achieved.

B. Assessing observer provider performance can be accomplished through improved contracting practices

According to the Office of Federal Procurement Policy (OFPP), “performance-based service contracting (PBSC) emphasizes that all aspects of an acquisition be structured around the purpose of the work to be performed as opposed to the manner in which the work is to be performed or broad, imprecise statements of work which preclude an objective assessment of contractor performance.”²⁰ OFPP states the performance-based service contracting has been used with a great deal of success by the Department of Defense, however, the methodology has yet to be fully implemented throughout the government. Reasons include inexperience in writing performance work statements and increased initial investment when converting from a traditional statement of work to a PBSC performance work statement. OFPP maintains, however, that up-front costs are quickly offset through elimination of cost overruns, schedule delays, and failure to achieve specified results. In addition, according to OFPP, a performance work statement (PWS) should include the following:

- a description of the work to be done in terms of measurable performance standards (outputs), including “what, when, where, how many, and how well”;
- a quality assurance plan that directly corresponds to the program’s performance standards and measures the contractor’s compliance with performance-related goals; and
- positive and negative outcomes in relation to quality assurance plan measurements.

The PWS standards, quality assurance plan, and appropriate financial incentives (and disincentives) should be interdependent and compatible in form, style, and substance. Without these elements, work statements and associated performance monitoring cannot be effectively accomplished.

Only Southeast and Northeast FSC’s statements of work incorporate PWS standards

We reviewed statements of work and related contracts for observer services. The majority are not performance-based and do not contain comparable measurable elements. One exception was the Southeast Fisheries Science Center, Mississippi Laboratories, which has drawn up a statement of work for both laboratory and observer services. The statement of work includes performance standards, financial incentives for superior performance, and disincentives for poor performance. The statement of work also includes the following elements:

- *Goals statement:* The overall goals of observer data collection are to provide data on which the government can make accurate assessments of each fishery; provide data on the discarded bycatch and release mortality aboard commercial and

²⁰ Office of Federal Procurement Policy. 1998. *A Guide to Best Practices for Performance-Based Service Contracting*. (Available at <http://www.arnet.gov/Library/OFPP/BestPractices/PPBSC/BestPPBSC.html>)

- recreational fishing vessels; and implement necessary fishery management measures, based on that data, to sustain that fishery.
- *Objectives statements:* The overall objectives of observer collection of fishery data are to obtain accurate, usable data; and ensure coverage of fisheries to meet mandated levels.
 - *Protocol statement:* The contractor shall follow the designated protocol for the specific project and attend all required training sessions.
 - *Quality assurance statement/plan:* The overall goal of quality control is to ensure the effectiveness and efficiency of collection efforts as well as the quality of data collected. For example, the data collection element of the quality assurance statement/plan is illustrated in Figure 3.

Figure 3: Data Collection Element of the Quality Assurance Plan

<p>Performance Requirement: Observer data collection</p> <p>Performance Standard: All data accurate and usable; all samples correctly identified; 100% of mandated levels of coverage are met.</p> <p>Acceptable Quality Level (AQL): Isolated deviations of 1% in data collection; 5% in sample identification.</p> <p>Monitoring Method: Feedback from Program Managers. Contracting Officer's Technical Representative (COTR) maintains record of incidences where Contractor failed to provide observers when required.</p> <p>Incentives/Disincentives for Meeting/Not Meeting AQL: Repeated unsatisfactory feedback from the Program Managers could result in a reduction of payment for the effort up to the negotiated overhead percentage. Failure to meet mandated levels of coverage will result in that support being procured outside this contract, as well as a possible reduction in payment up to the cost of that outside support. Positive performance will be documented in past performance reports that are reported in the Past Performance Database.</p>

Source: Southeast Fisheries Science Center, Mississippi Laboratories

Although not as inclusive as the Southeast FSC examples above, we also found that the Northeast FSC statement of work contained some performance-related elements:

- *Performance measure:* Observer program officials choose a random sample of 10 percent of each observer's vessel trips to verify that the observer took the trip and evaluate observer performance. The contractor is required to conduct these follow-up telephone surveys.
- *Disincentive:* Quarterly data quality reports are provided to the contractor. If the report results in a negative evaluation, the contractor has a specific period of time to improve performance. Three or more negative reports may result in termination or non-renewal of the contract.
- *Incentives (Bonus plans):* Monetary incentives for both data quality and deployment exist. Accomplishing scheduled sea days and obtaining acceptable

data quality ratings, based on specific criteria, result in additional funds for the contractor. In addition, providing coverage for special project sea days, without impacting regularly scheduled sea days, also results in a monetary bonus.

Contracting Officer's Technical Representatives need additional training

The contracting officer's technical representative (COTR) is delegated the authority to monitor the technical effort being performed under the contract. The COTR is responsible for being familiar with the requirements of the contract, and communicating with the contractor as necessary to ensure the contractor is making satisfactory progress in performance of the contract. Other than the contracting officer, the COTR is the only Government employee who may direct the flow of technical matters between the Government and the contractor. The OIG has identified problems with service contracting in the past, including failure to use performance-based task orders where they would be beneficial, inadequate training in the use of performance-based service contracting, and insufficient planning for contract administration and monitoring.²¹ It is, therefore, essential that COTRs receive sufficient training in PWS preparation and monitoring. During our interviews with COTRs from the FSCs under review, we were told that training opportunities have not been consistently communicated. Based on a review of COTR training documents we found that neither the initial training for new COTRs nor refresher training for existing COTRs contains a module on performance work statements.

Training can be accomplished through external sources or simply by modifying existing internal training to include PBSC. To ensure that this function is performed adequately, and unnecessary duplication of effort is avoided, training opportunities should also afford staff the opportunity to share "best" practices.

RECOMMENDATION

The Assistant Administrator for Fisheries should develop model performance work statements for observer provider service contracts. The Assistant Administrator for Fisheries should also provide adequate training in the use and monitoring of performance-based service contracting for observer provider COTRs.



NOAA concurred with the recommendation. The National Observer Program (NOP) has begun to review and identify commonalities and gaps in regional contract statements of work for the purpose of developing guidance and a model statement of work. In addition, NOP will continue to organize national level training workshops for observer program COTRs and encourage the inclusion of performance-based elements in observer program contracts, as appropriate.

²¹ U.S. Department of Commerce Office of Inspector General, September 2003. *Semiannual Report to Congress*. Washington, DC: Department of Commerce OIG.

C. *An observer provider monitoring and reporting process is needed in the North Pacific Groundfish program*

The recommendations discussed in the previous sections of this chapter apply to all observer programs except the North Pacific Groundfish program. Unlike the other observer programs, in the North Pacific Groundfish program industry pays for the observers directly, thus there is no contractual relationship between NMFS and the observer providers. In addition, the North Pacific fishery management council develops the rules governing the observer program through a time-consuming regulatory process. As a result, monitoring observer provider performance must be accomplished within the framework of the council-derived regulations. Unless the North Pacific Groundfish observer program moves from the current service delivery model, as described above, to a model whereby NMFS contracts directly with observer providers for observer services, traditional contractor performance monitoring and reporting systems cannot be implemented for this program.

Some limited contractor performance measures are currently in place

We found that recent changes to the regulations for the North Pacific Groundfish Observer Program provide an opportunity for limited performance measurement of observer providers.²² These changes are summarized as follows:

Observer-provider permitting process – Moving from a certification to a permitting process establishes an application procedure for observer providers and creates a mechanism for an official, or board of officials, appointed by the NMFS Alaska Regional Office Administrator, to review permit applications, determine who meets the criteria, and issue observer provider permits. Specific criteria are established to evaluate an observer provider application:

- (1) Absence of conflict of interest
- (2) Absence of criminal convictions
- (3) Performance ratings on a Federal contract.
- (4) Absence of any history of decertification as either an observer or observer provider.

Sanctions – Recent changes in the sanctions process allows for changing undesirable behaviors (see responsibilities below), without revoking the permit. This change from observer provider permit revocation or suspension to an administrative process, allows for the issuance of a fine when specified standards are violated. The prior process of revoking or suspending observer provider certification was difficult to implement and had serious repercussions for the observer provider because it would, in effect, shut down the business.

Responsibilities – Six new observer provider responsibilities have been established to better address performance issues of particular concern:

²² 50 CFR Part 679, December 6, 2002

- (1) A new observer drug and alcohol policy provided by NMFS to observer providers should be included in written contracts or contract addendums between observer providers and observers;
- (2) Observer providers should verify valid U.S. Coast Guard vessel safety decals before placing an observer aboard;
- (3) Limitations placed upon reassignment of observers to vessels and/or processors should be followed;
- (4) Observer duties should be completed prior to an observer's assignment being changed;
- (5) Observer providers should provide observer candidates with a NMFS-produced pamphlet describing the duties of an observer; and
- (6) Observer providers should have a signed written contract or contract addendum with each observer prior to each deployment.

The implementation of these regulatory changes and the establishment of performance measurements, although limited, allow for some oversight of the observer providers by NMFS. In addition, the new regulatory changes strengthen NMFS ability to correct observer provider behavior that is considered detrimental to the program. The former regulations only allowed for permit revocation, a process that was never implemented, in part for fear of putting a company out of business. However, the regulation does not specifically establish a monitoring or reporting process.

RECOMMENDATION

The Assistant Administrator for Fisheries should establish a monitoring and reporting process to help ensure that North Pacific Groundfish observer providers are in compliance with the new certification requirements and meet the standards defined in the North Pacific Groundfish Observer Program regulations



NOAA concurs with this recommendation and reports that the North Pacific Groundfish observer program is actively working with the Alaska Regional Council to improve the monitoring and reporting process and ensure consistency with the current regulations.

V. Increasing Outreach Efforts May Enhance Industry Cooperation

The Marine Fisheries Advisory Committee (MAFAC) was established to inform the Secretary of Commerce about departmental activities in relation to living marine resources.²³ The committee identified insufficient external and internal communication and outreach as the basis for many of the problems and criticisms NMFS faces, with implications beyond observer programs. Our focus, however, is on what can be accomplished through outreach efforts by the National Observer Program office and the regional programs.

Through discussions with observers, observer program and science center staff, and fishermen, we learned of, and have presented here, several outreach strategies—some already proven to be effective—that NMFS could employ. We suggest that NMFS use these as guidelines and to germinate additional ideas for informing, educating, and making its various constituencies aware of its mission.

A. *An observer program outreach strategy is needed*

During our review, we learned that vessel captains and their crews often do not cooperate with observers. Observers told us about verbal, and even physical, harassment; sampling interference, such as presorting species prior to giving the observers access to the catch; being assigned unpleasant-to-appalling sleeping, eating, or working conditions; and other seemingly minor, yet intimidating, behavior such as giving the observer the “silent treatment”—that is, not speaking to him or her for days at a time. We believe this lack of cooperation stems partially from NMFS’ lack of effective communication, education, and outreach to vessel permit holders and captains.

NOP needs to develop guidelines to better coordinate outreach efforts

When NMFS established the National Observer Program in 1999, Regional Liaison/Communication was identified as one of NOP’s missions, stating that:

NMFS leadership, Congress, our constituents, and the public need to be aware of why NMFS places observers onboard fishing vessels, what observers accomplish, how observer programs operate, how priorities for observer coverage are determined, how much observer programs cost, and why industry should bear the cost of placing observers...Work in this area could include collating and distributing summary information on observer programs, fostering communication...and preparing appropriate outreach and Congressional materials.²⁴

²³ For more information and publications of the Marine Fisheries Advisory Committee, go to <http://www.nmfs.noaa.gov/mafac.htm>

²⁴ Memorandum from William W. Fox, Jr, to Andrew A. Rosenberg, April 29, 1999.

Implicit in that mission is NOP's responsibility to educate and inform its stakeholders about its purpose, goals, policies, and role in the industrial and socioeconomic communities it serves. NOP has conducted some outreach activities, such as sponsoring the International Fisheries Observer Conference and hosting a booth at the Fish Expo each year; and two programs, the Alaska Marine Mammal observer program and the West Coast Groundfish program, have held local face-to-face meetings with fishermen. In addition, although still in draft, NE observer staff have prepared an informational brochure that explains the program. While these are good efforts, NOP has no national or regional outreach strategy or commitment to ensure these initiatives are continual or consistent.

An overall plan is critical to developing outreach efforts that effectively communicate an organization's policies and goals. Like NMFS, the Department of the Interior's National Fish and Wildlife Service has had to contend with a critical public. To help address this, the Service developed an Outreach Handbook to help guide its managers in creating and implementing a consistent and cohesive outreach strategy. The handbook includes policies and guidance on preparing a plan, specific direction on how to establish goals and develop activities for achieving those goals, and stresses designing a unified message and using a unified approach for delivering that message. It notes the following:

To be trusted by a skeptical public, an organization must not only perform well, but also be publicly appreciated for its good performance. Our science and judgment in managing natural resources are sound, and creditworthy. However, too many Americans do not even know who we are or what we do. As a result, we are often mistrusted, wrongly criticized, and many of those who would share our values work against us instead of with us. Effective outreach can help us gain the trust and assistance of our various publics, while providing us a mechanism to listen, and where appropriate, accommodate reasonable concerns.²⁵

Regional observer programs could benefit from similar guidance from the national office; and NMFS could improve its credibility through concerted efforts to educate and inform as well as listen to its public.

Industry needs uncomplicated, straightforward materials describing the program

We believe that an important reason for the lack of industry cooperation is that fishermen are offered only limited information about the program, thereby not completely understanding what the observer's purpose is or why it must be accomplished from their vessels. According to a West Coast observer, the only tangible information the captain receives is the notification-of-boarding letter, written in "legalese" and therefore hard to understand. Observers told us that clearly written materials about the program, that explain what the observer will be doing, why, and what is expected of the captain (for

²⁵ U.S. Fish and Wildlife. 2001. *A Handbook for Outreach*. Washington, DC: U.S. Department of the Interior, U.S. Fish and Wildlife Service.

example, safety inspection requirements) as well as relevant contact information (for example, who to contact for U.S. Coast Guard safety inspection information, and observer program telephone numbers) would enhance cooperation.

In several fisheries language barriers prevent captains and crews from fully understanding, and therefore cooperating with, observers and the observer program. For example, the NE region is home to a large population of Portuguese-speaking fishermen. West Coast Groundfish observers work with Italian-speaking crews, and both that fishery and the Gulf Pelagic longline fishery also frequently work with Vietnamese-speaking crews. Observers stated that obstacles created by an inability to communicate easily with the non-English speaking crews makes it difficult to perform fairly simple tasks. To address language issues in the NE, the program director hired an assistant fluent in Portuguese who prepared information cards in both Portuguese and English for observers to use.

Industry cooperation is essential to ensuring observers are able to fulfill their duties. Without cooperation, coverage goals and data collection efforts may be impaired, negatively impacting data quality. We suggest that in addition to preparing easy to understand materials in English, programs with large, foreign language-speaking fishing populations should, whenever possible, adopt a solution similar to the NE program and prepare translated materials in the relevant languages. Finally, to avoid duplication of efforts, NOP should establish a central warehouse for all outreach materials, so programs can learn from and share in each other's communication efforts.

RECOMMENDATION

The Assistant Administrator for Fisheries should develop an outreach strategy that includes—

- guidance that regional program managers can use to establish and reach their outreach goals;
- suggestions for creating and distributing easy-to-read information about the program (in both English and foreign languages, where needed); and
- a central resource library for outreach materials so that regional programs can share ideas and materials and avoid duplication of efforts.



NOAA concurs with this recommendation and reports that the National Observer Program (NOP) is already taking, or intends to take, actions that will satisfy this recommendation. Specifically, the NOP has been collecting NOAA and non-NOAA outreach materials and proposes to make them available electronically, to the extent feasible, to regional programs. More importantly, the NOP intends to hire a contractor to develop an observer program outreach strategy and design professional, high quality electronic and written materials to be used at a national level to increase outreach. The solicitation to hire a contractor will also include developing regional guidance and materials to ensure an agency wide consistent and professional observer program outreach effort.

B. *Improving industry relations needs to be a priority*

Observers, industry representatives, and program and other science center staff have noted NMFS' need to improve its relations with the fishing industry because, as one NMFS official plainly stated, "NMFS communication with the industry is abysmal." Industry's perception, in turn, is that NMFS is unaware of the realities of working at sea. Some observers likewise reported that program staff persons occasionally make requests of observers that clearly indicated a lack of awareness of fishing activity and fleet operations.

Even though the overwhelming consensus was for more NMFS/industry face-to-face interaction, program and science center staff could not agree whose responsibility it was to undertake this resource-intensive activity. Observers suggested, however, and we agree, that for both program officials and science center staff, increased interaction with the industry would provide a better understanding of all that is involved with collecting the data they analyze as well as an opportunity to explain to fishermen how the data is used and, possibly, discuss the positive impacts of the data analysis.

Convening regional fishing community forums could foster better relations

Many of the people with whom we spoke believe that Fishery Management Council meetings are not the best venue to communicate stock assessments and observer program information to fishermen. According to a NMFS official, council meetings have an agenda, which is not conducive to time-consuming open discussions and explanations; furthermore, council members are present as paid representatives, whereas many fishermen said they do not attend meetings because it takes time away from earning their livelihood and because of travel expenses. Fishermen told us that small informational meetings between themselves and an NMFS staff member, without the formalities of the Management Council process, would better allow a free exchange of information.

In addition, observers and industry representatives suggested holding meetings near docks or attending local fishermen association meetings as a way to build trust and enhance cooperation. MAFAC, too, in its December 2000 report, recommended that, to help develop mutual trust, NMFS should visit fishermen at the docks. For example, when the Alaska marine mammal observer program was expanded to the Kodiak region in 2001, program staff held meetings with its primary constituents in five locations over a six-month period to explain the program and answer questions—an effort that was deemed successful. The West Coast groundfish observer program staff conducted a similar outreach effort prior to program implementation and found it extremely beneficial. In fact, they are contemplating holding more meetings to address any industry concerns that have developed since implementation.

Although none were held, the National Observer Program's FY 2001 draft operations plan lists holding regional forums as an item to accomplish. We encourage NOP and regional programs to participate in or hold industry forums. For example, the NOP Advisory Team could conduct its meetings in localities with large fishing fleets, thereby

providing opportunities for team members to visit the docks and interact with local fishermen and observers.

Participating in the fishery facilitates relationship building and trust

As noted, a number of observers and industry representatives expressed concern that NMFS does not seem to have a comprehensive grasp of current concerns and issues within the fishing community. Occasionally deploying science center and observer program staff on commercial fishing trips could help restore NMFS' standing with industry and observers.

The North Pacific Groundfish observer program has already begun integrating staff and observer duties. In 2001, in an effort to better facilitate program, observer, and industry interactions, the North Pacific Groundfish observer program hired employees as part of their "observer cadre" initiative. Staff in the cadre are responsible for serving as program liaisons, supporting both observers and industry in the field and assisting in mediating issues by, for example, deploying on a vessel to address sampling problems or protocols. Hiring experienced staff to interact on a regular basis with the fishing industry and observers is expected to allow for better understanding, communication and trust building among all stakeholders; through the cadre, NPGOP staff and trainers have already indicated an increased awareness of industry and observer needs.

For programs that do not have the resources to hire additional personnel, current science center and program staff could occasionally be deployed on a commercial vessel as an observer or with an observer to gain on-board experience and share face-to-face communication with industry and observers. Programs could consider implementing such an outreach initiative even more expansively, assigning staff responsibilities similar to those of the cadre, with a mix of assignments that include service as an observer.

Utilizing Sea Grant resources could ease the outreach burden

There has been considerable congressional support for NOAA's Office of Oceanic and Atmospheric Research's National Sea Grant College Program to work with NMFS on outreach. The 30 state college Sea Grant programs all have extension service programs with a mission "to provide for effective two-way communication between the users and the producers of knowledge, with the goal of solving the practical problems of the users." During the FY 2002 National Sea Grant College Program reauthorization, \$3 million was designated for fishery extension activities. By reprogramming some FY 2002 funds, limited fisheries outreach was conducted—NMFS conducted a workshop on marine protected areas and bycatch in partnership with the Connecticut, Maine, Rhode Island, and New Hampshire Sea Grant colleges and produced a shark brochure in cooperation with the Florida, North Carolina, and Rhode Island Sea Grant programs. We believe Sea Grant's mission, along with the Congressional reauthorization, provide ample justification to explore opportunities for observer program/Sea Grant outreach collaboration.

RECOMMENDATION

The Assistant Administrator for Fisheries should ensure that the NMFS National Observer Program office and the regional programs increase program outreach efforts to the fishing industry, such as holding regional forums, deploying staff, or utilizing the National Sea Grant Program extension program or other organizations, to educate the industry and improve industry cooperation with the observer programs



NOAA agreed with the recommendation, citing examples where some collaboration has already occurred between the Northeast and Southeast Fishery Science Centers and Sea Grant programs. NOAA states that it will continue to explore collaborating with Sea Grant programs and other organizations for assistance with information workshops and creating educational materials. Finally, the response confirmed that the Northwest Fishery Science Center (West Coast Groundfish observer program) staff completed another series of meetings in fishing ports that were held to answer questions and receive comments from fishermen and other stakeholders.

C. Offering incentives could foster better industry relations and improve cooperation

Most fishermen view taking an observer on board as a burden, regardless of whether the observer is paid by industry or through federal funds. Vessels carrying an observer are required to provide meals as well as accommodations. In fact, because of space limitations on smaller vessels, taking on an observer may require leaving a crewmember ashore, making the trip particularly onerous.

To offset expenses and inconveniences, some incentives have been provided for carrying an observer. For example, the NE closed area scallop dredge observer program is resource funded, whereby industry funds observer costs through increased possession limits. Scallop dredgers carrying an observer are allowed to land more pounds of scallops for that trip. Another inducement some programs offer is a reimbursement to captains for observer meals.

Although it is important that any incentive be “resource neutral” (that is, not impact overall management goals and targets), several could be considered when an observer is deployed on a vessel:

- As already mentioned, increasing a vessel’s possession limit (e.g., more pounds) is one incentive.
- With respect to possession limits, a vessel’s last haul often creates an excess, necessitating that that excess be discarded. Allowing an exception to the trip limit with regard to the last haul could be considered resource neutral, inasmuch as the excess is already on board.
- The Days-at-Sea (DAS) fishery management measure, used only by the New England council, limits fishing effort. For every day fished, a vessel uses one of

- its allocated DAS. Reserving a pool of “observer” DAS from the total that is used when an observer is on-board, would avoid using a vessel-allocated DAS.
- Although perhaps not as resource neutral as the others, allowing limited access to closed areas when an observer is aboard is another potential incentive.
 - Reimbursement for meals across all programs may help decrease the burden, although funding limitations may not allow this for some.

In addition to resource neutrality, ease of implementing an incentive, and the extent that it impacts the enforceability of the management measure, must be weighed. However, the benefits of industry willingly participating in the observer program could be considerable for NMFS, the observer program, and the observers.

RECOMMENDATION

The Assistant Administrator for Fisheries should explore offering resource neutral (to the extent possible) incentives to increase industry cooperation with the observer programs.



NOAA concurred with the recommendation, but noted in its response that most industry incentives are not resource neutral.

RECOMMENDATIONS

This review examined seven of the 14 programs that were in existence during fiscal year 2003. Recommendations one through eight are applicable across most observer programs while recommendations nine and 10 are specific to the industry-funded North Pacific Groundfish observer program.

We recommend that the Assistant Administrator for Fisheries take appropriate steps to:

1. Develop and implement statistically valid, unbiased vessel selection procedures for observer programs with contractual relationships with observer providers and continually monitor the implementation to ensure that the vessel selection process is properly implemented. (see page 12).
2. Explore options to improve the retention of qualified, experienced observers (see page 18).
3. Establish national observer program priorities and performance measures, develop a mechanism to monitor and report regional program performance to NMFS headquarters, and ensure that observer program managers are held accountable for performance related to both national and specific regional program priorities (see page 25).
4. Develop model performance work statements for observer provider service contracts (see page 29).
5. Provide adequate training in the use and monitoring of performance-based service contracting for observer provider COTRs (see page 31).
6. Develop an outreach strategy that includes (a) guidance that regional program managers can use to establish and reach their outreach goals; (b) suggestions for creating and distributing easy-to-read information (in both English and foreign languages, where needed); and, (c) a central resource library for outreach materials so that regional programs can share ideas and materials and avoid duplication of efforts (see page 35).
7. Increase program outreach efforts to the fishing industry, such as holding regional forums, deploying staff, or utilizing the National Sea Grant Program extension program or other organizations, to educate the industry and improve industry cooperation with the observer programs (see page 37).
8. Explore offering resource neutral (to the extent possible) incentives to increase industry cooperation with the observer programs (see page 39).

For the North Pacific Groundfish Observer Program, we recommend that the Assistant Administrator for Fisheries take appropriate steps to:

9. Work with the North Pacific Fishery Management Council to establish requirements for an observer program that includes a vessel selection process that produces random sampling of the fishery (see page 16).
10. Establish a monitoring and reporting process to help ensure that North Pacific Groundfish observer providers are in compliance with the new certification requirements and meet the standards defined in the North Pacific Groundfish Observer Program regulations (see page 32).

APPENDIXES

APPENDIX A

Evaluation of Observer Program Operations Manuals²⁶

KEY	Northeast Observer Programs Manuals ²⁷	Southeast Pelagic Longline	Southeast Shark Bottom Longline	North Pacific Groundfish	West Coast Ground fish
X	Missing from manual				
F	Inadequate coverage in manual				
i	Clearly explained in manual				
<u>Outline</u>					
Table of Contents	i	i	X	i	i
<u>Detail</u>					
Background ²⁸	F	F	F	i	i
Health & Safety Info.	F	i	i	i	i
Contact Information	i	i	i	i	i
Duties & Priorities	F	F	F	i	F
Training	X	X	X	i	i
Briefing	X	X	X	i	i
Deployment ²⁹	F	F	F	i	i
First days on board	X	X	X	i	i
Data Collection ³⁰	i	F	F	i	i
Debriefing	Not Applicable	i	i	i	i
Submitting Data	X	X	X	i	i
Ethics ³¹	F	X	X	i	i
Observers role in regulatory compliance	X	X	X	i	i
<u>Supporting Documentation</u>					
Sample forms	i	i	i	i	i
Photos/Diagrams	i	i	i	i	i
Maps	i	X	X	i	X
<u>Miscellaneous Reference Tools</u>					
Appendices	i	X	X	i	i
Glossary	X	X	X	i	i
Index	X	X	X	i	X

Source: OIG Analysis

²⁶Adapted from the “Gatekeeper CA/RA Operations Manual, Evaluation Criteria, Version 1.1,” June 2002, and “How to Write a Training Manual,” John Davis, 1992; and observer manuals.

²⁷The Northeast FSC uses two manuals (training and operations) for all three observer programs (Atlantic Scallop Dredge, New England & Mid Atlantic Gillnet, and New England Groundfish).

²⁸Includes past and present history of the fishery, management plans, and other management agencies.

²⁹Includes instructions on sampling gear, personal equipment, assignments and communications.

³⁰Includes completing and organizing forms and logbook entries.

³¹Includes observer standards of behavior, conflict of interest, and confidentiality information.

APPENDIX B

List Of Acronyms

COTR	Contracting Officer Technical Representative
FAO	Food and Agriculture Organization (of the United Nations)
FSC	Fishery Science Center
GPS	Global Positioning System
MAFAC	Marine Fisheries Advisory Committee
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOP	National Observer Program
NOPAT	National Observer Program Advisory Team
NPGOP	North Pacific Groundfish Observer Program
OCS	Observer Communications System
OLE	NMFS Office of Law Enforcement
PBSC	Performance-Based Service Contracting
PWS	Performance Work Statement
SBLL	Shark Bottom Longline
SOW	Statement of Work



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
OFFICE OF FINANCE AND ADMINISTRATION

MAR 05 2004

MEMORANDUM FOR: Jill Gross
Assistant Inspector General for
Inspections and Program Evaluations

FROM: *for* William F. Broglio *Mark A. Cole*
Chief Administrative Officer

SUBJECT: *NMFS Observer Programs Should Improve Data Quality,
Performance Monitoring, and Outreach Efforts*
Draft Inspection Report No. IPE-15721/January 2004

Attached is the National Oceanic and Atmospheric Administration's response to the Office of Inspector General's draft report on the National Marine Fisheries Service's observer programs. The response was prepared in accordance with Department Administrative Order 213-3.

We appreciate the opportunity to respond to your draft report.

Attachment



**NOAA Comments on the Draft OIG Report Entitled
"NMFS Observer Programs Should Improve Data Quality,
Performance Monitoring, and Outreach Efforts"
(Draft Inspection Report No. IPE-15721/January 2004)**

Recommended Changes for Factual Information

NOAA provided the OIG all recommended changes for factual information prior to the submission of the agency's general comments, specific comments, and response to recommendations. The OIG agreed to make these revisions and incorporate them into the final report. Therefore, the recommended changes for factual information are not reflected in this response.

General Comments

The OIG draft report provides an excellent overview of observer programs and solid critiques of weaknesses in individual programs. Many of the recommendations touch upon issues that NOAA has struggled with over the years. We anticipate that this document will be used as a springboard to improve each program. We were encouraged to hear that in OIG's interviews of 23 users of observer information (page 7 of report), 100 percent indicated that they considered the observer data to be quality data and that the data collected were the right data.

We suggest that the title and introduction of the report be changed to reflect that the review included only five of the ten NMFS locations that administer observer programs, which include only seven of the 14 fishery units monitored by observers. Also, the term "program" is used in this document in different ways. Sometimes it refers to a particular fishery observed as part of a larger program and sometimes to the program itself. For clarity, there are ten regional observer programs plus the National Observer Program administered out of headquarters.

While the draft report recognizes the inherent diversity and differing objectives of the regional programs and identifies some commonalities, it is not apparent how the goals and objectives of each program were considered in the review. The regional observer programs are very complex, reflecting region-specific information needs for science and management. The observer programs in each region reflect the differences and unique aspects of each fishery's information needs. Some goals and performance measures must be program specific to appropriately reflect the diversity of each region's management data needs. The analysis tends to focus on the similarities among the programs and many of the recommendations are derived from this perspective. While we recognize the strength of many of the OIG's recommendations, the absence of program-specific goals in the evaluation of data quality may understate the importance of each program's region-specific goals and sampling activities.

We are also concerned that some of the OIG's recommendations may not be applicable to programs that were not included in the review. Differences between regional programs warrant careful consideration when making recommendations that appear to include all observer programs administered by NMFS. Therefore, in its responses, NMFS has addressed recommendations that were specific to certain programs or regions. We did not necessarily

outline actions to implement recommendations for programs that were not part of the review except where appropriate at a national level.

The draft report outlines the methodology used to evaluate the sample of regional observer programs reviewed. However, it is not clear in the report what methodology was used to review the National Observer Program. All the programs reviewed and referenced in the report were listed on page ii with the exception of the national program. This program participated in the OIG review and was continually identified in the report. Also, staff from the National Observer Program responded to requests for information and met with OIG staff on many occasions regarding its role and responsibilities, and perspectives on many issues covered in the report. Thus, a review of the stated objectives of the national program and its current activities would strengthen the report. Given that the OIG's recommendations include the National Observer Program, we suggest the scope of the report be amended to identify the methodology used to review this program and to the extent possible, the linkage between the stated objectives of the National Observer Program, its current activities, and relevant recommendations in the draft report.

The term "independent observers" is used in the report, which we believe is misleading. Observers are not independent. They depend on NMFS to supply training, support, data, and sampling guidelines. They are, for the most part, employed by observer service providers.

One key issue that was not mentioned in the report was enforcement. Without assistance from the NOAA Office of Law Enforcement (OLE) it would be difficult, if not impossible, to ensure compliance with observer program requirements and maintain adequate observer coverage. NOAA OLE devotes considerable time and effort working with each observer program to follow up on enforcement issues. For example, the Highly Migratory Species (HMS) Management Division schedules biweekly conference calls during the shark fishing season with the observer coordinator and NOAA OLE. This division routinely sends NOAA OLE the certified mail receipts from selection letters and transmits landings reports from vessel owners who state they are not fishing for sharks. NOAA OLE helps ensure compliance by visiting vessels at dockside, reminding them of the regulations, and if necessary, taking appropriate enforcement action against vessels that fail to comply with the observer requirements. Given the crucial role that NOAA OLE plays in helping to implement NOAA observer programs in general, we encourage OIG to include a section on enforcement in the final report.

As part of this discussion, we suggest that the OIG cross reference recommendations regarding observer programs that were included in a recent review of NMFS' Enforcement Programs (*NMFS Should Take a Number of Actions to Strengthen Fisheries Enforcement*, Final Inspection Report No. IPE-15154/March 2003). This report included a recommendation that "NMFS should work with observer program officials to develop a policy statement or directive that specifies (a) the fisheries observers' role in monitoring and compliance, (b) how observer information will be made available to OLE, and (c) appropriate use of observer data by OLE agents."

NMFS is concerned that, in some cases, a limited review of one observer program has resulted in broad generalizations that may appear to be applicable to many, if not all, observer programs. For example, the section on page 14 titled "Outdated vessel information results in flawed

selection process" is devoted entirely to an analysis of the Shark Bottom Longline (SBLL) Observer Program selection process, but the title does not specify that. Further, the HMS Management Division previously provided factual information to be incorporated into this section of the OIG report and encourages the OIG to follow up with telephone calls as necessary to provide a fair and accurate representation of the SBLL vessel selection process.

Specific Comments

EXECUTIVE SUMMARY

Page ii, paragraph 3, sentence 4: The following sentence is not completely accurate: "For example, the three programs run by the Northeast Science Center do not select vessels for observer placement, rather the observers are responsible for finding vessels that are willing to take them." The current methodology for the New England Groundfish vessel selection is to issue the contractor a randomized list of the vessels by port for each calendar quarter. The contractor is required to use this list for vessel selection. Observers look for the first vessel on the list. If that vessel is not available, the next vessel is targeted; however, the first vessel is still number one on the list for the next available trip.

In the Mid-Atlantic fisheries, observers do have to look for vessels to meet a specified number of sea days in a gear-specific fishery. This procedure is necessary as there is no known universe of vessels in a fishery because vessels switch from gear to gear based on market trends and weather patterns. Observers are currently allowed to make two consecutive trips on a vessel, but then must move on to another vessel for the next trip. This reduces costs of travel and allows the observer to set-up his/her equipment once for two trips.

In the Closed Area Scallop Fishery, observers are assigned randomly to vessels by the Northeast Fisheries Science Center (NEFSC) staff. Observers do not select their own vessels.

Page iii, first full paragraph, lines 7-9: "In addition, high turnover increases training costs... and compromises observer safety." Although a high turnover rate is problematic for most of the reasons cited, compromised safety does not seem likely. Newly trained observers complete an intensive three-week program with an in-depth safety training component. The skills learned from this training are fresh in their minds and do not become marginalized or overlooked. Also, the safety training is updated at every session and continues to include more details and elements. Hence, recent training is likely to be more complete and thorough than training from years past. To keep older observers current with new techniques, refresher safety training is required by NEFSC every two years.

OBSERVATIONS AND CONCLUSIONS, SECTION I

Page 7, paragraph 1, line 1: The report defines the primary users of observer data exclusively as "fishery science center staff responsible for providing scientific and technical support to NMFS." For the North Pacific Groundfish Observer Program (NPGOP), primary users also include in-season quota managers at the Alaska Regional Office, Alaska Division OLE, and North Pacific Fishery Management Council. Fisheries biologists and law enforcement officials

in other regions also use observer data for fisheries management and compliance monitoring, respectively. These users should also be identified in the final report.

Page 8, paragraph 2: This paragraph recognizes only a system developed at NEFSC. It should also be noted that NPGOP has developed and implemented sophisticated quality control systems that are incorporated into both at-sea observer data reporting system and the program's Oracle database in Seattle. In addition, the Southeast's Pelagic Longline Observer Program (PLOP) completes an initial review of the observer data form to ensure blanks are filled in and to catch any glaring record errors. This is given to the observer during the end of trip debriefing to resolve any errors. During data entry, the software has been written to accept alpha or numeric characters and anything outside of these parameters is flagged. Thus, an error needing to be resolved is marked. Following completion of data entry, a set of programs is initiated to again catch any outliers in length, weight, or counts of items. The file must clear these multiple events before posting occurs in the general database. Finally, the Northwest Fisheries Science Center (NWFS) has developed a full series of quality assurance and quality control (QA/QC) procedures. The checks are at both the data entry observer level and database manager level.

Page 8, middle of the last paragraph: "...observers go on multiple trips before being debriefed..." In the Northeast, this occurs only with experienced observers. Junior observers have their trips reviewed more frequently. Submission of substandard data leads to a probationary status and more frequent reviews.

Page 9, paragraph 2: The Northwest recognizes the benefit of at-sea training and is exploring expanded training that would involve some more hands-on or at-sea experience.

Page 9, paragraph 3, line 8: "in a timely manner" should be added to the end of this sentence: "Observers report they do not receive feedback..."

OBSERVATIONS AND CONCLUSIONS, SECTION II

Page 12: We suggest that the discussion of Data Quality Act (DQA) implications should also include consideration of advice and recommendations in a May 20, 2003 memorandum from Tom Gleason, DQA Specialist, to the National Observer Program (see Attachment A). This memorandum specifically addresses the quality control steps that NPGOP has taken to ensure compliance with DQA.

Page 13, first full paragraph, lines 3-7: "...the requirement to carry an observer has never been emphasized by the observer program and NMFS enforcement..." This is not an accurate statement for the Northeast. The requirement to carry an observer, at the discretion of the regional administrator, is clearly stated in the regulations, within the mailings to the permit holders, and within the selection letters that the observers carry to the vessels. Also, the Southeast's PLOP makes it known to the permit holder in the selection letter and brochures that taking an observer is mandatory. However, it is true that PLOP has never tried to threaten compliance action with NMFS enforcement support unless the owner or operator prohibited the observer to board and depart on a fishing trip, or the observer was harassed or harmed while carrying out his/her duties on the vessel.

Page 13, second full paragraph: Both procedures described in this paragraph are currently in place for New England Groundfish. Randomized lists of vessels in the fishery are distributed for selection and selection letters are mailed to the fleet and hand-carried by the observers to the vessels at the time of boarding. In the mid-Atlantic, the letters are mailed to all permit holders, but no list of active participants exists by fishery. Consequently, observers hand carry the second letter to the vessels when selected, provided that vessel is in the correct fishery.

Page 14, title in middle of page: The title "Outdated vessel information results in flawed selection process" is inaccurate. The HMS Management Division uses the most recent permit database to select active fishing vessels. To accomplish this, the permits database is downloaded just prior to making final vessel selections.

Page 14, paragraph 3, lines 2-5: "The Shark Bottom Longline (SBLL) Observer Program uses a two-year old database to select vessels, which contains vessels that are in the shipyard for repair, no longer fishing for shark, have been sunk, sold, and so on." This statement gives the wrong impression that NMFS uses outdated information. The HMS Management Division uses the following three different logbook databases to select vessels for the SBLL Observer Program: the Northeast multispecies logbook, pelagic longline logbook, and snapper/grouper logbook. The fact that more than a single database is used in the selection process is overlooked in the draft report and is worth mentioning. Using three logbook databases provides a larger pool of vessels to select from, improves our ability to select active shark fishing vessels, and ensures that vessels are not overlooked. Since these databases are generated from logbook reports, the data must be manually entered and checked for quality control at the end of each fishing season. This process is not completed until after the end of the fishing year and is vital for data quality reasons. Using incomplete or low quality data would not improve the selection process.

The selection process for the fishing season that starts January 1 begins in early October of the previous year, using data from that year. The data is thus slightly more than a year old, not two years old. Although landings data from the previous year are used, the selected vessels are merged with the most recent permit database, which is downloaded just prior to making the final selections. Shark bottom longline limited access permits must be renewed annually, so the permit database provides a good indicator of active vessels. The number of vessels in the shipyard for repair, no longer fishing for shark, sunk, or sold in any given year is extremely low. As described below, more often, the vessel is not "deemed usable" because it does not have a decal, is too small, does not have adequate safety equipment, or has decided not to fish for sharks that season.

Page 14, paragraph 4, lines 7-8: This statement is inaccurate: "Thus, vessels that catch more sharks are more likely to be selected to carry an observer than vessels that catch fewer sharks." A vessel that uses longline gear to target Atlantic tunas or swordfish must also have a directed or incidental shark bottom longline permit. There are a number of vessels targeting tunas and swordfish with pelagic longline gear that may also catch sharks incidentally. These vessels are normally covered under PLOP and are not the focus of the SBLL Observer Program. The objective of the SBLL Observer Program is to place observers aboard vessels that target sharks. Part of the selection criteria excludes these vessels that have very low (i.e., incidental) catches of sharks. To accomplish this, we exclude vessels for which sharks comprised less than 25 percent of the landings in any given season. All remaining vessels are put into a pool and individual

vessels are selected using a random number generator and not on the basis of how many sharks were caught.

Page 14, paragraph 5, sentences 1 and 2: "Using two-year old landings data to identify currently active SBLL vessels impedes the process for placing observers on vessels because of the time it takes to find an active vessel and to rerun the lists. For example, the observer provider informed us that for the January 2003 season, only 27 percent (11 out of 41) of the vessels on the list were 'deemed usable' (i.e., actively fishing for shark)."

The landings data used in the selection process are not two years old (see response above under page 14, paragraph 3, lines 2-5). However, in addition, there are a variety of reasons a vessels may be deemed unusable, including but not limited to, statements from the owner that the vessel is not actively fishing for shark, lack of a current safety decal, unsafe working conditions, or refusal by the vessel owner to contact or cooperate with the observer coordinator. The HMS Management Division does not agree that the database has impeded observer placement. Rather, placement is affected by the fact that for many years, the observer program was voluntary and vessel owners were not under any legal obligation to comply. The HMS Management Division is taking steps to inform vessel owners that they now have a legal obligation to comply with observer requirements.

Since becoming mandatory in 2002, the HMS Management Division, working with NOAA OLE and the observer coordinator, has taken enforcement action against several vessels for failure to comply with shark bottom longline observer requirements. One of the most common reasons for not placing an observer aboard a vessel is failure of the owner to contact the observer coordinator prior to a shark fishing trip. Failure of selected vessels to contact the observer coordinator and to continue fishing for sharks is a violation of regulations that is now being enforced.

Page 15, paragraphs 2 and 3: The Northwest maintains a vessel selection process and sampling design that is representative of the fleet. Analyses have shown that the data collected from observers is representative of areas fished. Observers are often assigned to the same vessel for a two-month period. However, depending on the vessel, this may add only 15-20 days at sea during that time. The observers are not continually aboard that vessel as in other programs (i.e., the At-sea Pacific Hake Fishery). Also, due to the shifting of the fishery, observers are traveling more often to other ports than in the past.

OBSERVATIONS AND CONCLUSIONS, SECTION III

Page 18, table 3: To provide a more comprehensive overview, we recommend that this table include training and turnover statistics for each program reviewed by the OIG. Also, this table does not correctly reflect the retention issue in the Northwest. The trainees are hired for a contracted period. They may want to continue with the program after their contract, but unless a year-round observer leaves the program, there is no room for them. The Northwest hires a lower fixed number of observers for the winter months (November- February). This is due to lower vessel activity in the fisheries we observe. The retention rates listed in this table do not take into account the availability of year-round spots. The retention rates would be higher if the observers were contracted for a year. We often have observers contracted for a portion of the year who return the following year when vessel activity allows for more active observers. Also, not all

observers should be retained, especially in cases of incorrect data collection or inappropriate behavior. NWFSC retains a high percentage of high-quality, experienced observers. After three years, ten of the original 20 active observers are still with the program.

Page 20, paragraph 4, sentence 3: If implemented, the suggestion to reduce observers' academic requirements to a two-year degree would compromise data quality in NPGOP and other programs. NPGOP has required a four-year degree since its inception. Program goals can only be fully addressed by recruiting trainees with biological backgrounds, training in statistics and sampling, and ability to apply sampling protocols in complex and difficult environments that require a four-year undergraduate program. Also, NPGOP observers must be mature individuals who can work effectively in harsh environments. Recruitment of two-year graduates would not be consistent with the data quality requirements of the program. Furthermore, the requirement for a four-year degree is consistent with the OIG's encouragement for NMFS to provide more career opportunities as an incentive for retention. Thus, such career opportunities at NMFS require a bachelor degree at minimum.

Page 21, paragraphs 2, 3, and 4: The NWFSC program has made it a priority to communicate with observers. This program supports an annual meeting where observers discuss experiences with other observers, staff, and fishery managers. These meetings include lectures from stock assessment scientists on uses of observer information. Also, all observers have laptops for email communication with staff and cell phones for the same purpose. Five staff members monitor their cell phones 24 hours a day and are available at all times to observers for any assistance. Some observers are in daily contact with staff. In addition, debriefings are conducted in person once every two months. This involves personal contact with a staff member to discuss sampling, data collection, experiences, and any issues encountered while deployed.

Page 22, paragraph 4: Proper training of observers is a major component of NPGOP's data quality assurance, and most aspects of observer training are specific to program goals and objectives, and location. NPGOP sampling protocols reflect specific information needs of regional scientists, managers, and enforcement officers, and many activities are associated with specific programs implemented by the North Pacific Fishery Management Council. Species identification, a critical part of our training, is also region specific. Our training program also reflects the unique safety concerns of our program and the waters of the Gulf of Alaska and eastern Bering Sea/Aleutian Islands.

Page 23, paragraph 1: The statement is inaccurate that NWFSC does not have program staffers who are experienced observers. Eight of the nine contracted, cooperative and federal program staff in the Northwest program are former observers with a combined total of at least 32 years of observer experience.

OBSERVATIONS AND CONCLUSIONS, SECTION IV

Page 25, table 4: This table incorrectly defines a sea day for the NWFSC program. A sea day is any day that an observer is on board a vessel that departs from the dock. An "observed day" is any day that an observer is on board a vessel and a fishing activity occurs.

Page 27, paragraph 3: All observer program staff is held accountable to their supervisor and ultimately to the Science Center Director via their individual performance plans and those directors are accountable to their supervisor. This is the same path of accountability that exists for survey programs, stock assessment programs, and all other science and monitoring functions of NMFS.

Page 30: In regards to contracting officer's technical representatives (COTR) needing additional training, the National Observer Program has organized two contracting workshops for regional observer program managers that focused on developing and monitoring performance-based work statements specifically for observer programs (July 2001 in Seattle and February 2003 in Miami). In the Northeast, the branch chief and the principle COTR of the observer contract underwent specific training for the development and monitoring of performance-based service contracts in place for the Northeast Observer Program. This training, provided by the Eastern Administrative Support Center, was instrumental in the development of our current contracts.

APPENDIX A

Page 41, table: We believe the OIG only reviewed the NEFSC's Observer Program Operations Manual, but not the Training Manual and Biological Sampling Manual. If these two manuals were also reviewed, many of the "missing" components for this table would have been found.

NOAA Response to OIG Recommendations

We are concerned that some of the OIG's recommendations may not be applicable to programs that were not included in the review. Differences between regional programs warrant careful consideration when making recommendations that appear to include all observer programs administered by NMFS. Therefore, NMFS has addressed recommendations that were specific to certain programs or regions. We did not outline actions to implement recommendations for programs that were not part of the OIG review except where appropriate at a national level.

Recommendation 1: We recommend that the Assistant Administrator for Fisheries take appropriate steps to develop and implement statistically valid, unbiased vessel selection procedures for observer programs with contractual relationships with observer providers and continually monitor the implementation to ensure that the vessel selection process is properly implemented.

NOAA Response: We concur with this recommendation and agree that a representative sample of the fleet is key to any observer program that has less than 100 percent coverage. The agency has such processes in place to ensure statistical validity in many programs and is striving to improve them in all programs. For example, in NWFSC, the sampling plan is based on obtaining a representative sample and as the program develops, there will be further refinement of the sampling design to maximize observer potential, while maintaining a representative sample. Likewise in the Northeast, statistically valid, unbiased vessel selection procedures are either in place (such as New England Groundfish Fishery and Closed Area Scallop Fishery) or undergoing development and enhancement (such as Mid-Atlantic fisheries).

One reason cited in the draft report for vessels failing to comply with observer requirements is lack of current safety decals. In the past, vessels used this as an excuse not to take an observer on board. Beginning in 2004, the observer coordinator in the Shark Bottom Longline Fishery, working with the U.S. Coast Guard, obtained a list of the selected vessels that did not have a current safety decal. The HMS Management Division mailed a second notice to those vessels reminding them that lack of a safety decal did not exempt them from carrying an observer. Although the number of vessels that obtained safety decals as a result of the letter is not available, the observer coordinator indicated that there was a noticeable increase in the number of vessels contacting them. The HMS Management Division believes that this approach is producing results and will continue to improve observer program compliance.

Nationally, we have made some progress towards improving sampling methodologies by conducting a Coverage Levels Workshop in July 2003. This workshop stressed the need for selecting meaningful performance criteria, such as appropriate precision and accuracy indicators, based on the objectives of the observer program. One of the recommendations from this workshop was to have a follow-up workshop to explore the problem of bias in observer data. This may include a discussion of vessel selection methodologies to ensure that vessels are selected from representative spatial and temporal strata. This workshop will be held in FY 2005.

Recommendation 2: We recommend that the Assistant Administrator for Fisheries take appropriate steps to explore options to improve the retention of qualified, experienced observers.

NOAA Response: We concur with this recommendation. Many programs are making progress in providing incentives to high quality observers who stay with the observer program. For example, NEFSC has developed a number of methods to improve the retention of certified observers and fully recognizes the drain on program resources when training classes must be implemented continuously. The procedures NEFSC has instituted have resulted in increased retention. Additional procedures are being developed. Ideas and methodologies used in other regions will be shared through the National Observer Program.

In many observer programs, monetary incentives are very effective in increasing observer retention. NMFS has developed position descriptions for fisheries observers that were provided to the Department of Labor. Any resulting wage rate increases will provide monetary incentives and likely increase retention.

At the national level, as noted by the OIG, we have contracted with the Association for Professional Observers to investigate and develop recommendations regarding the recruitment and retention of high quality fisheries observers. Their final report is expected in June 2004.

To increase the probability that new recruits will succeed and be retained, the National Observer Program Advisory Team is identifying national minimum eligibility standards for fisheries observers, which emphasize recruitment of candidates with a bachelor's degree, with a major in one of the natural sciences, a minimum of 30 semester hours or equivalent in the biological sciences, at least one undergraduate course in math or statistics, and experience with data entry on computers. The requirement of a bachelor's degree assures us that observer candidates have completed coursework that includes scientific method, scientific identification keys, sampling theory, and development of critical thinking. By working in a self-supervised environment, it is

imperative that observers have additional knowledge in responding to a wide variety of sampling conditions to ensure the collection of a representative sample. If a sufficient number of individuals meeting the minimum educational requirements are not available in the local area, individuals with alternative relevant experience or training may be hired. The eligibility standards also addressed training requirements, standards of conduct, compliance with EEO guidelines and Executive Orders, physical and medical requirements, communication skills, ability to work independently and in close quarters, and citizenship requirements. We expect to finalize and publish these eligibility standards in FY 2004.

Because the reasons for observer turnover may vary over time, we are exploring the development of an exit interview to obtain feedback from observers on what factors were associated with their decision to stop observing. With this data, we could work with observer provider companies to better respond to the concerns of observers in a timely fashion. For example, if observers are leaving the program as a result of a better job market, then more competitive wages may provide a method to increase retention.

Recommendation 3: We recommend that the Assistant Administrator for Fisheries take appropriate steps to establish national observer program priorities and performance measures, develop a mechanism to monitor and report regional program performance to NMFS headquarters, and ensure that observer program managers are held accountable for performance related to both national and specific regional program priorities.

NOAA Response: We concur with the intent of this recommendation. The National Observer Program is working with the regional observer program managers to develop a strategic planning process that will include the identification of program goals and objectives, and priorities for monitoring in each region. Also, this process will identify national and regional program performance standards. Having a national template for strategic planning processes and prioritization will be useful. Strategic planning will involve participation from councils, regional administrators, and science centers. Priorities, although potentially identified nationally, must be set regionally.

Recommendation 4: We recommend that the Assistant Administrator for Fisheries take appropriate steps to develop model performance work statements for observer provider service contracts.

NOAA Response: We concur with this recommendation. Well-crafted performance work statements for observer provider service contracts are needed to assure that all goals and objectives are sufficiently attained. Well-constructed statements of work for each program with work performance measures clearly outlined should provide more than adequate performance oversight as well as consideration of regional differences in program goals and structure. The National Observer Program has undertaken a review of regional contract statements of work to identify commonalities and gaps and to identify sections that could be used as guidance in developing a model statement of work. For example, NEFSC has worked closely with the Eastern Administrative Support Center's contracting staff to develop performance-based statements of work for our observer provider contracts. As stated on page 28 of the draft report, NEFSC's statements of work incorporate performance work statement standards.

Although we agree that elements in statements of work should be performance-based, such as data error rates, adherence to sea day schedules, and availability of observers, there are also elements in observer service contracts that require constraints on how observer data collections are conducted. For example, to achieve data quality and observer retention goals and to minimize the costs of training observers, we must ensure that recruited observers have a high potential for successful completion of training, low error rates on initial deployments, and a high probability of repeated deployments. Thus, minimum eligibility standards for recruitment must be specified. We plan to complete the model statement of work with both performance-based elements and necessary constraints in FY 2004.

Recommendation 5: We recommend that the Assistant Administrator for Fisheries take appropriate steps to provide adequate training in the use and monitoring of performance-based service contracting for observer provider COTRs.

NOAA Response: We concur with this recommendation. Well-trained staff is needed to construct proper and complete performance work statements. The National Observer Program will continue to organize national level training workshops for observer program COTRs to encourage the emphasis on incorporating performance-based elements into observer program contracts, as appropriate.

Recommendation 6: We recommend that the Assistant Administrator for Fisheries take appropriate steps to develop an outreach strategy that includes (a) guidance that regional program managers can use to establish and reach their outreach goals; (b) suggestions for creating and distributing easy-to-read information (in both English and foreign languages, where needed); and, (c) a central resource library for outreach materials so that regional programs can share ideas and materials and avoid duplication of effort.

NOAA Response: We concur with this recommendation. The National Observer Program will issue a solicitation in FY 2004 for a contractor to develop an outreach strategy for observer programs. This will include the design of professional, high quality materials that can be used at a national level to increase outreach. The material will focus on improvements to the National Observer Program website, written brochures about NMFS observer programs, and ideas for engaging fishermen and other constituents on national observer issues at regional and national forums. The solicitation will also include the development of guidance and materials for use by regional observer programs so that the agency's observer program outreach effort has a consistent and professional approach.

Since its inception, the National Observer Program has been collecting effective outreach materials produced by other NOAA and non-NOAA programs to guide the development of high impact outreach materials for the observer program, and can expand this library to include all materials developed in each region and in similar programs. However, for this library to be useful to regional programs, these materials must be accessible electronically. It is not clear how this recommendation can be implemented for materials produced by non-NMFS staff, but the sharing of electronic materials developed for observer programs can be implemented very easily through the use of internal, password protected websites. Such a website already exists for the National Observer Program. The current website could be expanded to include an outreach section with quantity, location, costs, and types of materials available, and also provide electronic

written materials and images for downloading.

Recommendation 7: We recommend that the Assistant Administrator for Fisheries take appropriate steps to increase program outreach efforts to the fishing industry, such as holding regional forums, deploying staff, or utilizing the National Sea Grant Program extension program or other organizations, to educate the industry and improve industry cooperation with the observer programs.

NOAA Response: We concur with this recommendation. During FY 2003, NEFSC was involved in a Sea Grant extension program to develop better communication and outreach to the fishing communities in four New England states (ME, NH, MA, and CT). The branch chief of the observer program attended these forums and presented overviews of the program, its purpose under which authorities it operates, and its scope. This program will continue in FY 2004 involving travel to other areas in the Northeast region. Also, NEFSC currently has under contract the development of outreach and education materials for use at fishermen's meetings and industry forums. These materials include handouts on the overall observer program (including the program's duties and responsibilities in the Northeast), five handouts with specific information in different individual fisheries, and a kiosk for use at fish shows or other outreach opportunities. These materials will be completed in the second quarter of FY 2004, and staff is currently charged with developing a calendar of outreach deployments for the kiosk and staff.

SEFSC has used the Sea Grant extension service in the past to provide outreach on such items as turtle excluder device (TED) and bycatch reduction device (BRD) technology transfer in the shrimp fishery. NWFSC has recently completed a series of nine public meetings in fishing ports to answer questions and receive comments from fishermen and other stakeholders.

We will continue to explore the use of the Sea Grant Program and other collaborators as ways of organizing information workshops or to assist in creating educational materials. At the national level, development of teaching materials, such as how to get your boat into compliance for observer coverage, could be useful.

Recommendation 8: We recommend that the Assistant Administrator for Fisheries take appropriate steps to explore offering resource neutral (to the extent possible) incentives to increase industry cooperation with the observer programs.

NOAA Response: We agree that increased industry cooperation is needed to implement successful observer programs. However, we must note that while there may be several options for offering incentives for increasing industry cooperation, most are not resource neutral. Any proposed incentive must be thoroughly researched to understand all the potential implications. One potential incentive for industry-funded observer programs is to waive payments for vessels that carry an observer. There are accounting implications, but it may be a good way to actually make the observer feel welcomed when he or she boards the vessel.

Recommendation 9: For the North Pacific Groundfish Observer Program, we recommend that the Assistant Administrator for Fisheries take appropriate steps to work with the North Pacific Fishery Management Council to establish requirements for an observer program that includes a vessel selection process that produces random sampling of the fishery.

NOAA Response: We concur with this recommendation that statistically valid, unbiased vessel selection procedures are needed where observer coverage is required for the sole purpose of scientific data collection. NPGOP deploys observers for a variety of reasons, including monitoring compliance with fishery regulations and management needs on limited-license fisheries. These needs could require vessel selection procedures that may not be random. NPGOP is currently working with the North Pacific Fishery Management Council to address this and other observer sampling issues.

Potential bias in observer data does not end with vessel selection procedures. Haul selection, within haul sample selection, vessel design, and crew interference compound the difficulty involved in sampling a fishery. NPGOP has observer sampling protocols in place to minimize these biases. Additionally, we have completed several analyses to improve methods in addressing bias and precision.

Recommendation 10: For the North Pacific Groundfish Observer Program, we recommend that the Assistant Administrator for Fisheries take appropriate steps to establish a monitoring and reporting process to help ensure that North Pacific Groundfish observer providers are in compliance with the new certification requirements and meet the standards defined in the North Pacific Groundfish Observer Program regulations.

NOAA Response: We concur with this recommendation. NPGOP is working with the Alaska Regional Council to improve the monitoring and reporting process to be consistent with current regulations.



Attachment A
UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

MEMORANDUM FOR: Vicki Cornish
Office of Science and Technology

FROM: Tom Gleason *Tom Gleason*
Data Quality Act Specialist

SUBJECT: Data Quality Act Issues Arising From
Observer Data Confidentiality Workshop

DATE: May 20, 2003

This memo addresses Data Quality Act (DQA) issues that were raised at the Observer Data Confidentiality Workshop (Workshop) held in Silver Spring, MD on April 29-May 1, 2003.

As discussed at the Workshop, the North Pacific Groundfish Observer Program (NPGOP) is structured differently than other observer programs around the country.¹ Specifically, the NPGOP is funded by vessel owners, rather than by NOAA Fisheries. Vessel owners contract directly with observer providers for the placement of observers and there is no contractual relationship between Fisheries and the observer providers or observers. However, observers are trained and certified by Fisheries and report their information directly to Fisheries. Given this unique relationship with the North Pacific Groundfish Observers, the question arises whether observer data from the NPGOP is third party data (as that term is defined in the NOAA Information Quality Guidelines) or NOAA-generated information.

Under the Data Quality Act, NOAA-generated information must comply with the specific information quality standards contained in NOAA's Information Quality (IQ) Guidelines, whereas information generated by a third party and disseminated by NOAA, or used to develop information products, or to form the basis of a decision or policy, must conform to a slightly different standard, i.e., it must be "of known quality and consistent with NOAA's IQ Guidelines." NOAA IQ Guidelines, p.9. Therefore, it is important to determine whether North Pacific observer data is NOAA-generated information or third party information in order to determine whether that data complies with NOAA's IQ standards.

¹ The offshore Pacific Whiting Observer Program in the Northwest Fisheries Science Center is highly similar to the NPGOP, therefore, the conclusions reached in this memo apply equally to it.



Attachment A

On May 9, 2003, I spoke with Martin Loefflad, ARFSC, and Tom Meyer, GCAK, concerning the specifics of the NPGOP. For purposes of DQA compliance, the following aspects of the NPGOP are particularly relevant. NOAA provides the initial training and refresher courses for all observers. NOAA instructs the observers regarding what data to collect and how to collect it. Data collection techniques and reporting methods are specified in the Observer manual, which is publicly available. While at sea, each observer is assigned an "in-season advisor," a NOAA staff member that works with the observer. Observers typically are out at sea for 60 to 90 days. During that time, they provide data to NOAA daily, communicate regularly with their assigned in-season advisor and are fully de-briefed when they return. At that time, all data collected by the observer is turned over to NOAA. Daily data provided by observers is screened for "fatal flaws" by the in-season advisor and, upon completion of the trip, all data provided is subjected to a full range of QA/QC measures. Vessel owners and operators have no control over the collection or dissemination of observer data. NOAA regulations prohibit vessel owners from harassing observers or interfering with their data collection duties.

In light of these facts, and despite the fact that North Pacific Groundfish observers are not NOAA employees or contractees, in my opinion, NPGOP data should be viewed as NOAA-generated information for purposes of the DQA because NOAA trains and certifies the observers and instructs them on what data to collect and how to collect it. Further, all observer data is provided directly to NOAA. Neither the vessel owner/operator nor the observer provider have any control over the data collection or dissemination. NOAA alone controls the collection and subsequent dissemination of observer data.

Assuming compliance with the prescribed QA/QC procedures, NPGOP data would meet the applicable information quality standards for NOAA-generated information as well as the less specific quality standards for third party data. NPGOP data also meets the NOAA IQ Guidelines requirement for transparency because NOAA makes publicly available the observer training manual and the NOAA regulations specifying how and when observers are to report their data. Thus, the public can see how observers collect and report data. Given the quality and transparency of NPGOP data, it complies with the applicable quality standards regardless of whether it is considered third party information or NOAA-generated information. The fact that NPGOP data can meet the more rigorous IQ standards for NOAA-generated information products (as opposed to third party data) lends additional support to the proposition that it should be treated as such for purposes of DQA compliance.

Confidentiality Provisions of NOAA's Information Quality Guidelines

There are no issues to be resolved regarding the confidentiality provisions of NOAA's Information Quality Guidelines, but I would like to provide a reminder that the guidelines mandate that NOAA must maintain the confidentiality of data that it collects.

Attachment A

Under the NOAA IQ guidelines, information quality is an encompassing term, comprised of utility, integrity and objectivity. Integrity refers to security - the protection of information from unauthorized access or revision. Integrity also requires that confidentiality of data be maintained. NOAA's IQ guidelines state that confidentiality of data collected by NOAA is safeguarded under legislation such as the Privacy Act and Titles 13, 15 and 22 of the U.S. Code. Additional protections are provided as appropriate by the confidentiality provisions of the Magnuson-Stevens Fishery Conservation and Management Act and NOAA Administrative Order 216-100. (NOAA's IQ Guidelines, p.7).

Under the administrative mechanism contained in NOAA's IQ guidelines, an "affected person" can file a Request for Correction of information that the requestor believes does not meet the standards of the IQ guidelines. Therefore, the DQA provides a tool for members of the public to request that NOAA cease disseminating information that they believe must be kept confidential under the Privacy Act, the Magnuson-Stevens Fishery Conservation and Management Act, NOAA 216-100 or other applicable legislation.

NOAA Comments on the Draft OIG Report Entitled
"NMFS Observer Programs Should Improve Data Quality,
Performance Monitoring, and Outreach Efforts"
(Draft Inspection Report No. IPE-15721/January 2004)

Recommended Changes for Factual Information

All references to "Offshore Pacific Whiting" should be changed to "At-sea Pacific Hake."

Page i, end of paragraph 2, last sentence: Add "sea turtle and sea bird" after "marine mammal."

Page i, paragraph 4, lines 1-5: For the Atlantic and Gulf of Mexico Shark Bottom Longline program, NMFS contracts with an educational institution. For accuracy, revise first sentence as: "NMFS does not employ observers, but generally contracts with private sector companies or, in some cases, educational institutions." In the second and third sentences, add "/institutions" after "companies."

Page i, paragraph 4, line 8: Add "and sea turtle" after "marine mammal."

Page ii, List of NMFS' 14 Regional Observer Programs (box): Number 11 currently reads "Northwest Atlantic Sustainable Fisheries Support." Although not technically incorrect, it is more commonly called New England Groundfish. Hence, number 11 should read: "New England Groundfish." Number 12 should have the word "New" in front of "England."

Also, the list on this page and elsewhere in the report identify the "Southeast Region Shark Bottom Longline" observer program. The program is not restricted to the southeast region and should instead be labeled the "Atlantic and Gulf of Mexico Shark Bottom Longline" observer program since observer coverage areas include waters of the eastern Gulf of Mexico and the Atlantic.

Page 1, paragraphs 2 and 3: Add "sea turtle and sea bird" after "marine mammal."

Page 1, last paragraph: Observers were not placed on foreign fishing vessels by invitation only. With the passage of the, then, Magnuson Act in 1976, observer coverage was mandatory on 100 percent of foreign fishing vessels in the exclusive economic zone (EEZ). Also, the first NMFS observer program was the tuna/dolphin program, administered out of SWFSC. This was in the early 1970s when NMFS placed agency-employed observers on American flagged tuna vessels operating in the Eastern Tropical Pacific (ETP).

Page 2, bullet 2: Add "or Secretarial" after "Fishery Management Council."

Page 3, paragraph 3, line 3: "...such as male and female fish lengths, weights,..." should be changed to "...such as sexed fish lengths, weights,..."

Page 3, paragraph 3, lines 1-2: Add "and sea turtle" after "marine mammal."

Page 3, photo 1: This photograph illustrates a processor removing Pacific halibut from the catch aboard a factory vessel.

Page 3, bullet 4: "Observer's responsibilities" include: We recognize that observers may find themselves in a position where they are a "sounding board" for fishermen, but we do not agree that this is a responsibility of observers.

Page 4, "2. Industry funded" paragraph, lines 4-5: "...Alaskan waters (Pacific Whiting vessels and Groundfish vessels over 60 feet) utilize this model." This statement is incorrect. The last sentence would read more accurately as: "Typically, only larger scale fisheries in Alaskan waters (groundfish vessels over 60 feet) and At-sea Pacific Hake vessels off the west coast utilize this model."

Page 4, table 1: For the Northeast FSC, Woods Hole, MA: To be consistent with the list on page ii, the name of the Northwest Atlantic Sustainable Fisheries Support program should be renamed New England Groundfish.

Also, the table on this page and elsewhere in the report identify the "Southeast Region Shark Bottom Longline" observer program. The program is not restricted to the southeast region and should instead be labeled the "Atlantic and Gulf of Mexico Shark Bottom Longline" observer program since observer coverage areas include waters of the eastern Gulf of Mexico and the Atlantic.

Page 4, bullet 3, last sentence: Should read: "Only the Atlantic Closed Area Sea Scallop Dredge observer program uses this model." There are other scallop dredge observer programs that are federally funded in the Northeast. Only the closed area program has this capability.

Page 5, line 1: NMFS funding for FY 2003 was approximately \$21,848,000. The fishing industry contribution in FY 2003 was approximately \$14,669,000, taking into account funding from not only the North Pacific fishing vessels, but also the Pacific At-Sea Whiting and NE Closed Area Scallop vessels.

Page 7, paragraph 2, line 3: Add "sea turtle and sea bird" after "marine mammal."

Page 8, paragraph 1, line 4: NPGOP observers record weight of fish caught, not volume.

Page 8, paragraph 1, line 5: The term "individual group's quotas for each set and haul" should be changed to "target and incidental catch for each set or haul."

Page 11, paragraph 1, last sentence: Should read "...random sample of 10 percent of each observer's vessels for follow up..."

Page 12, paragraph 2, line 3: "observer program" should be plural (programs).

Page 12, section A: It is incorrectly stated that in the Closed Area scallop fishery, observers select their own vessels for coverage. NEFSC staff assigns observers to specific vessels on a random basis for each deployment in this fishery.

Page 15, paragraph 2: The first sentence is incorrect. It should read "...Northwest FSC currently selects vessels from a pool of permitted..." We do not select vessels once every two years. Vessels are selected more often and now can be selected more than once a year.

Page 15, section B, paragraph 5, line 2: Observer coverage levels in the North Pacific are complex. To ensure accuracy, we recommend OIG direct readers to review 50 C.F.R. §679.50(c).

Page 16, paragraph 1, last line: The reference to the Pacific Fishery Management Council should be changed to the North Pacific Fishery Management Council.

Page 18, paragraph 1, lines 1-2: Replace "...for maintaining an experienced observer corps" with "...for maintaining a quality and experienced observer corps..." A distinction should be made that the programs should retain observers of high quality and experience, not just experience.

Page 19, paragraph 5, lines 4-5: For accuracy, this sentence should be rephrased to indicate that the majority of new observers have no prior experience on sea-going vessels.

Page 22, paragraph 3, line 2: "...program." should be plural (programs).

Page 29, bullet 1: Should read "...random sample of 10 percent of each observer's vessel trips to verify ..."

Page 34, paragraph 4, line 1: This sentence should begin as "Regional observer programs..."

Page 38, first full paragraph, line 2: "For example, the NE scallop observer program..." should read "For example, the NE closed area scallop dredge observer program..."

Page 41, table footnote 25: Add "New" to "England & Mid Atlantic Gillnet."