

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

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***NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION***

***National Marine Sanctuary Program  
Protects Certain Resources, But Further  
Actions Could Increase Protection***

***Final Inspection Report  
No. IPE-18591/February 2008***

***Office of Inspections and Program Evaluations***





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

FEB 12 2008

MEMORANDUM FOR: Vice Admiral Conrad C. Lautenbacher, Jr., USN (Ret.)  
Undersecretary for Oceans and Atmosphere  
and NOAA Administrator

John J. Sullivan  
General Counsel

FROM: Todd J. Zinser

SUBJECT: Final Inspection Report: *National Marine Sanctuary Program Protects Certain Resources, But Further Actions Could Increase Protection* (IPE-18321)

As follow-up to our December 5, 2007, draft report, we are pleased to provide you with our final report on our review of the National Marine Sanctuary Program (NMSP). We have considered your detailed comments in preparing our final report and have attached them to our draft report as an appendix.

We are pleased to report that we found the sanctuary program has implemented a number of management improvements and is generally making progress towards long-term protection of certain resources within the marine sanctuaries system. However, we also found several areas that require management attention. For example, the enforcement of sanctuary regulations remains a challenge. We identified certain areas where enforcement could be improved, in conjunction with NOAA's Office of Law Enforcement and its Office of General Counsel for Enforcement and Litigation. Additionally, we found that sanctuary management plan reviews have not been completed in accordance with the 5-year statutory requirement and that several sanctuary sites have not been able to secure out-year maintenance and operational funding for some vessels, buoys, and visitor facilities. Furthermore, while we found that the sanctuary program collaborates well with many partners on its education, outreach, and research efforts, it needs to better publicize research results and improve the program's relationship with the National Marine Fisheries Service. Finally, we noted that opportunities exist to renew discussions with the U.S. Navy regarding seafloor mapping data issues, which were last discussed in 2000.

The report presents a number of recommendations, summarized on pages 51-53, that we believe will help address our concerns and further strengthen the sanctuary program. We are pleased to note that NOAA has begun to address many of these recommendations, as noted in your response to our draft report. We request that you provide us with an action plan addressing the status of the report recommendations within 60 calendar days.



We thank the personnel in NOAA headquarters and field offices for their assistance and the courtesies they extended to us during our review. If you have any questions about our report, please call me at (202) 482-4661, or Lisa Allen, Acting Assistant Inspector General for Inspections and Program Evaluations, at (202) 482-2754.

Attachment

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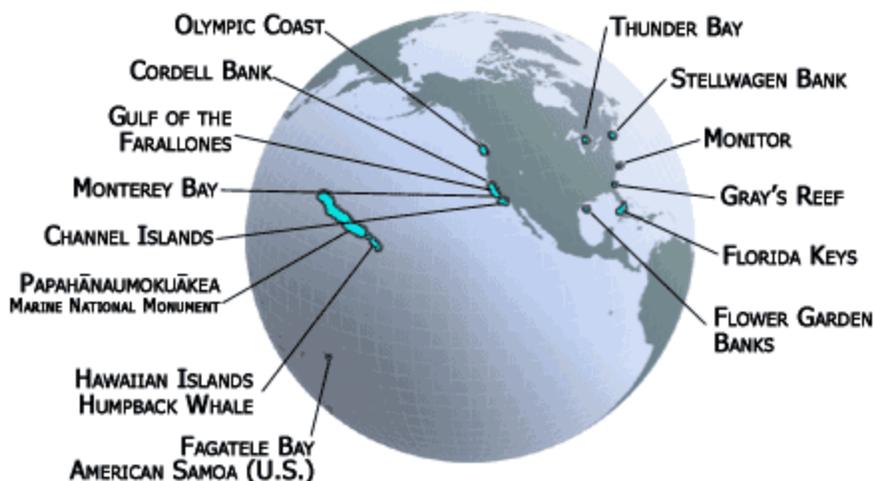
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## SUMMARY

The National Marine Sanctuary System was established by the Marine Protection, Research, and Sanctuaries Act of 1972. The act authorizes the Secretary of Commerce to designate and manage areas of the marine environment with special national significance due to their conservation, scientific, cultural, historical, or educational qualities as national marine sanctuaries. The system now includes 13 marine sanctuaries and one national monument (see figure 1).<sup>1</sup> National marine sanctuaries range in size

from one-quarter square mile in American Samoa's Fagatele Bay to more than 5,300 square miles in Monterey Bay, California. At 138,000 square miles, Papahānaumokuākea Marine National Monument—added in 2006—is the largest marine protected area in the world. All total, the sanctuaries and marine monument now encompass more than 158,000 square miles of ocean and Great Lakes marine habitats. The special habitats of the sanctuaries include deep ocean and near-shore coral reefs, whale migration corridors, deep sea canyons, areas of deep water upwelling, seamounts, kelp forests, and sea grass beds. Historic shipwrecks are also part of the system.

Figure 1. National Marine Sanctuary Sites



Source: <http://sanctuaries.noaa.gov/welcome.html>

The National Oceanic and Atmospheric Administration's (NOAA) National Ocean Service (NOS) is responsible for managing the National Marine Sanctuary Program (NMSP). The sanctuary program's budget was \$56 million in fiscal year 2007. The fiscal year 2008 President's

<sup>1</sup> In 1992, Title III of the Marine Protection, Research, and Sanctuaries Act was reauthorized separately as the National Marine Sanctuaries Act. In the 2000 reauthorization of the National Marine Sanctuaries Act, Congress wrote that NOAA could consider designating a sanctuary in the northwestern Hawaiian Islands, at that time a coral reef ecosystem reserve. A 2006 Presidential proclamation created the Papahānaumokuākea Marine National Monument—not a marine sanctuary—and authorized NOAA, DOI, and the state of Hawaii to manage the monument as co-trustees. NMSP manages the marine portions. Monuments differ from sanctuaries in that monuments are established and principally managed under authority of the Antiquities Act, not the National Marine Sanctuaries Act. For example, monuments under the Antiquities Act do not provide for sanctuary advisory councils, authorize the assessment of civil penalties, or provide for resource damage assessment and recovery activities.

Budget increases that amount to \$62.5 million, the highest ever for the program. Historically, however, most of the sanctuaries have had modest budgets, limited staffs, and few assets.

NMSP works with the public and federal, state, tribal, and local officials to promote resource protection while also facilitating public and commercial uses that are compatible with resource protection in the sanctuaries, such as commercial and recreational fishing, diving, and repair of seawalls. Sanctuary program officials coordinate with other NOAA offices on scientific research, marine zoning, commercial and recreational fishing, ocean resource economics, enforcement, emergency response, and damage assessment. They also coordinate sanctuary activities with the Department of the Interior, the Environmental Protection Agency (EPA), U.S. Coast Guard, U.S. Navy, U.S. Army Corps of Engineers, and other agencies.

We evaluated the program's effectiveness and examined the conduct of selected activities to determine whether they are efficient. Our review focused on whether the program is accomplishing its core statutory objective of providing long-term protection of marine and cultural resources. We also reviewed the effectiveness of NMSP's collaboration with NOS and other NOAA offices, and with federal, state, tribal, and local entities with respect to programmatic activities, such as the development and management of marine protected areas, enforcement of sanctuary regulations, bottom habitat protection and conservation, and scientific research. We identified specific management issues and best practices impacting program objectives and effectiveness, and reviewed management initiatives designed to improve NMSP program performance and accountability. We also identified constraints that inhibit the program's ability to accomplish its statutory objectives. Our specific observations are as follows:

**The sanctuary program is generally making progress towards long-term protection of marine ecosystems and cultural resources.** We found NMSP has successfully protected certain components of marine ecosystems and certain cultural resources under the National Marine Sanctuaries Act. For example, incompatible uses are statutorily prohibited or restricted in some sanctuaries, such as the ban on the production of oil, gas, or minerals in the Cordell Bank sanctuary. The sanctuary program also protects certain cultural resources by prohibiting divers from taking maritime artifacts from shipwreck sites. The program effectively complements other federal, state, and local resource protection efforts by offering benefits other laws or regulations do not.

As required by statute, commercial uses compatible with resource protection are allowed in sanctuaries. At most sanctuaries, commercial and recreational activities such as scuba diving, kayak rentals, charter boat rentals, and recreational fishing have been allowed. Moreover, shipping through several sanctuaries' boundaries to and from busy ports is allowed. Commercial fishing is allowed in certain sanctuary waters, with fishing gear and seasonal restrictions, in coordination with the National Marine Fisheries Service (NMFS) and regional fishery management councils. Most external criticism of the program involves regulating fishing within sanctuary waters (see page 12).

**Enforcement of sanctuary regulations needs to be strengthened.** The National Marine Fisheries Service's Office of Law Enforcement (OLE) has primary law enforcement responsibility for the sanctuary program. OLE works closely with the U.S. Coast Guard and,

where possible, a number of state and territorial marine enforcement agencies under joint enforcement agreements (JEAs) to enforce federal marine, including sanctuary, laws and regulations. Enforcement challenges in the sanctuaries range from permit compliance to offshore vessel traffic to a range of natural resource injuries, including oil spills, vessel groundings, and plane crashes. Many sanctuaries are located at considerable distances from shore and thus present yet another challenge for enforcement. Most sanctuary and enforcement officials and other stakeholders we spoke to believe the current law enforcement presence in the sanctuary system is insufficient to meet these challenges.

OLE has recently placed greater emphasis on sanctuary enforcement issues, but we identified several areas in which the enforcement of sanctuary regulations can be improved. We found many OLE officials with sanctuary liaison responsibility are not actively engaged with the sanctuary advisory councils. We recommend that OLE sanctuary liaisons communicate more with sanctuary staff and advisory councils and form a law enforcement working group at each sanctuary site. Second, we learned most state and territorial government partners do not have adequate incentives or resources to enforce sanctuary regulations. Specifically, most partners are not required to perform any specific type of sanctuary enforcement activities as part of their agreements with OLE. They do not have summary settlement schedules or the ability to issue citations (with a few exceptions), and partners are not adequately trained on sanctuary regulations. We recommend OLE ensure that the operations plan under each relevant joint enforcement agreement includes a detailed description of the type of sanctuary work to be performed by the state or territory. In addition, NOAA's Office of General Counsel for Enforcement and Litigation (GCEL) should update or create summary settlement schedules for all sanctuary sites, and OLE, GCEL, and sanctuary officials should provide training for state and territory partners on sanctuary regulations.

Finally, we found that most sanctuary officials receive only limited (non-law enforcement sensitive) information from GCEL and OLE on ongoing and closed sanctuary cases. OLE agents do not usually record the location of a non-sanctuary violation (such as fishing or marine mammal violations) in OLE's computer system even if the violation occurs in a sanctuary, so neither OLE nor the sanctuary program have a full understanding of what type of violations are occurring in a sanctuary. Sanctuary officials also don't receive immediate notification when a payment from a civil fine is deposited into the sanctuary program's civil penalty accounts (see page 17).

**Management of the sanctuary program has significantly improved, but several issues require more attention.** The sanctuary program's management has implemented a number of program improvements over the past four years. These include (1) mandating annual operating plans for individual sites and regional offices, (2) introducing the development and use of consistent programmatic performance measures, (3) requiring system-wide monitoring and sanctuary condition reports, (4) developing a regional management structure, and (5) creating a headquarters-level position to oversee operations, facilities, and assets. We found that these improvements have already provided operational benefits and anticipate that they will help the sanctuary program continue to achieve its goals as the program matures.

However, we noted two areas that need more attention. First, management plan reviews<sup>2</sup> at all the sanctuaries have not been completed within the 5-year statutory requirement, although sanctuary program managers are currently devoting additional resources to completing the plans. It remains to be seen whether these improvements will make the review process more efficient. While we recognize that the planning process itself is useful, we recommend that the sanctuary program's managers ensure that management plan reviews are completed promptly, consistent with new performance measures. Second, we found that several sanctuary sites have not been able to secure outyear maintenance and operational funding for vessels, buoys, and visitor facilities. We recommend that the sanctuary program determine the most effective and appropriate ways to cover these costs (see page 29).

**Although the sanctuary program works collaboratively with its partners, stronger coordination is warranted in some cases.** The sanctuary program is charged with enhancing public awareness, understanding, and appreciation of the marine sanctuaries through outreach and education, emphasizing the system's conservation goals and sustainable public uses within the sanctuaries. Sanctuaries collaborate with many partners, such as local schools, user groups, non-governmental organizations, and other federal agencies to (1) distribute sanctuary literature at docks, harbors, and local businesses, (2) sponsor teacher workshops and student contests, (3) set up information booths at local festivals, and boat and air shows, (4) develop ocean literacy lesson plans, (5) work on visitor center exhibits, and (6) work with local media and businesses on informational materials and promotional efforts. Sanctuary advisory councils represent a wide range of program stakeholders and are building strong foundations for public support and engagement. Council members actively promote sanctuary matters to their constituencies, work to obtain their buy-in of sanctuary proposals and projects, and provide input from their constituencies to the advisory councils.

While we found most sanctuary sites have active outreach and education programs to promote public awareness of marine resources, their efforts to publicize certain sanctuary research results could be improved. Program officials collaborate with a broad range of research partners, such as universities, other federal agencies, territorial research entities, and non-governmental organizations. These partners do much of the research, monitor the resources, and provide data needed by the sanctuary sites to manage sanctuary resources. However, although the sanctuary program is making progress improving its overall research and monitoring capacities, more analysis and further collaborative actions could increase resource protection. For example, before continuing with a planned roll-out of a Web-based research integration site begun at the Monterey Bay sanctuary, program officials should closely examine several pertinent federal, state, and university efforts and coordinate with these and other relevant entities, when appropriate, to avoid duplication of effort and resources.

An opportunity may also exist to obtain Navy maps of sea floors in and around certain sanctuaries since the Navy recently declassified its sonar bottom maps for the Arctic ice cap. We

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<sup>2</sup> Each sanctuary is required by statute to develop a management plan. Sanctuary advisory councils—community-based advisory groups consisting of volunteer representatives from various user groups, government agencies, and the public—have been formed at each site and work with staff at sanctuaries to review and update sanctuary management plans and to develop issue-specific action plans.

recommend that NOS and NMFS renew efforts to obtain sea floor data from the Navy. The NOAA Office of Coast Survey's Hydrographic Surveys Division also has bottom data that is relevant to NMSP and NMFS, and the sanctuary office should improve coordination with that office.

It is the NMSP's relationship with NMFS that needs the most work, however. We found that the NMSP and NMFS generally work well together regarding endangered species and marine mammal protection and management, and removal of marine debris and derelict gear. However, their relationship is contentious whenever NMSP proposes to regulate fishing within a sanctuary's boundaries. Persistent disagreements and lack of communication between sanctuary managers and staff, fishery management councils, and NMFS managers and staff have caused considerable delays in several sanctuary management plan reviews and public fatigue. We heard many times that dissension within NOAA has compromised the agency's ability to gain or maintain public trust. We recommend that the NOS, NMSP, and NMFS leadership commit to improved dialogue and coordination, issue new staff guidance, and take action to improve their working relationships at all sanctuary sites and in headquarters (see page 37).

On page 51, we list a summary of our recommendations to address the issues outlined in this report.



In its January 23, 2008 response to our draft report, NOAA generally concurred with all the recommendations. NOAA also provided specific comments on several recommendations in the report, including some suggestions for points of clarification or wording changes. We have made changes to the final report in response to those comments, when appropriate. A discussion of NOAA's response to each recommendation, including actions it has taken, intends to take, and anticipated timelines, when provided, follows each relevant section in the report.

## **BACKGROUND**

America's coastal and ocean areas encompass a broad range of ecosystems, including coastal oceans, estuaries, coral reefs, and marine sanctuaries. The National Oceanic and Atmospheric Administration (NOAA) aims to protect, restore, and manage the use of coastal and ocean resources. But NOAA and other federal, state, tribal, and local agencies are challenged to balance economic growth and protection of valuable coastal and ocean resources, including those in areas designated as marine sanctuaries.

National Marine Sanctuary System. The system was established by the Marine Protection, Research, and Sanctuaries Act of 1972.<sup>3</sup> Section 301 of the act authorizes the Secretary of Commerce to designate and manage areas of the marine environment with special national significance, due to their conservation, scientific, cultural, historical, or educational qualities, as national marine sanctuaries. The Office of Ocean and Coastal Resource Management, within NOAA's National Ocean Service (NOS), manages 13 marine sanctuaries and one marine national monument (see table 1) as the National Marine Sanctuary Program (NMSP). National marine sanctuaries range in size from one-quarter square mile in Fagatele Bay in American Samoa to more than 5,300 square miles in Monterey Bay, California. The 138,000-square-mile Papahānaumokuākea Marine National Monument in northwestern Hawaii—the largest marine protected area in the world—was added in 2006. The program now covers more than 158,000 square miles of ocean and Great Lakes marine habitats. The special habitats of the sanctuaries and monument include deep ocean and near-shore coral reefs, live bottom<sup>4</sup>, whale migration corridors, deep sea canyons, areas of deep water upwelling, seamounts, kelp forests, and sea grass beds. Historic shipwrecks are also included in the system.

NMSP's core programs are conservation, scientific research, and education and outreach. The NMSP works with the public and federal, state, tribal, and local officials to protect resources while allowing compatible public and commercial activities in the sanctuaries, such as commercial and recreational fishing, diving, and repair of seawalls. The program's federal agency partners include the Department of the Interior, the Environmental Protection Agency, the U.S. Coast Guard, the U.S. Navy, and the U.S. Army Corps of Engineers. NMSP also coordinates with other NOAA offices on scientific research, marine zoning, commercial and recreational fishing, ocean resource economics, enforcement, emergency response, and damage assessment.

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<sup>3</sup> 16 U.S.C. 1431 et. seq., as amended. In 1992, Title III of the Marine Protection, Research, and Sanctuaries Act was reauthorized separately as the National Marine Sanctuaries Act.

<sup>4</sup> Live bottom is a description of habitat which includes sandy flat places and a reef's rocky ledges that have many places for invertebrates to latch on to and for fish to hide. Together these animals can form a carpet of living creatures that in places completely hides the rock and sandy bottom.

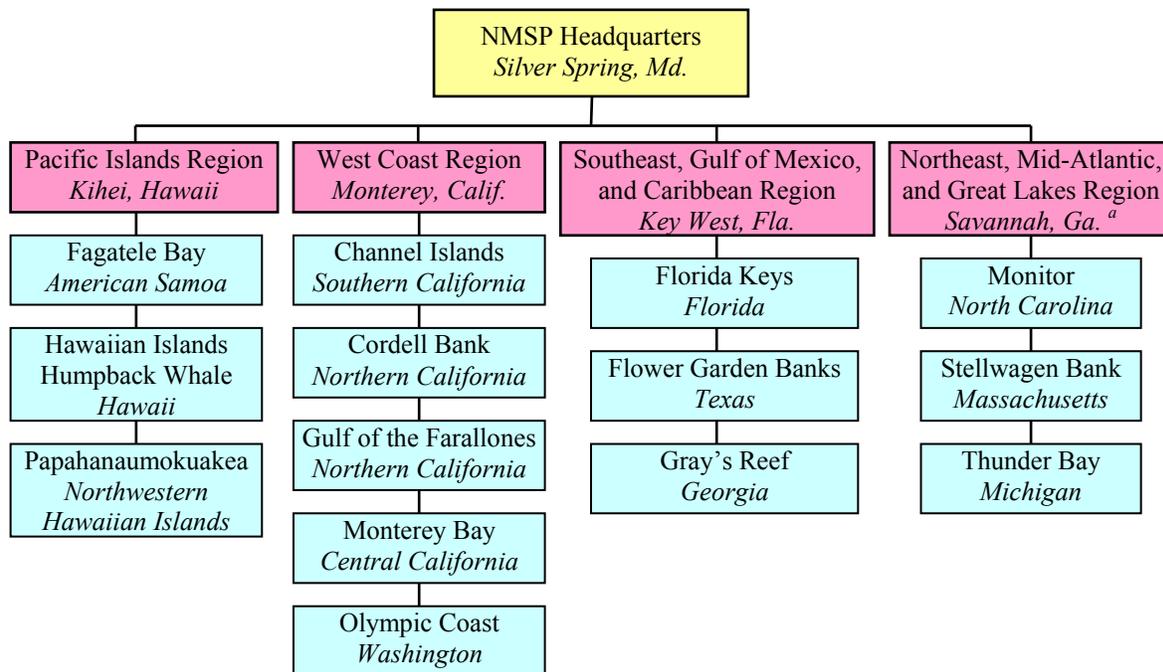
**Table 1. Designation of Marine Sanctuaries**

Sanctuary	Protected Resources	Year Designated	Area (square miles)	FY07 Budget (\$, thousands)
U.S.S. <i>Monitor</i> (Va./N.C.)	Wreck of ironclad Civil War ship	1975	1	692.6
* Key Largo (Fla.)	Coral reefs, diverse fisheries, endangered species, historic wrecks	1975	100	0
Channel Islands (Calif.)	Kelp forests, rocky shores, fisheries, marine mammals, endangered species	1980	1,658	1,876.0
Gulf of the Farallones (Calif.)	Coastal beaches, fisheries, endangered whales, almost-pristine estuaries, seabirds	1981	1,255	1,293.8
Gray's Reef (Ga.)	Scattered patchy limestone reefs with endangered or threatened whales and turtles, and recreational fisheries	1981	23	977.0
* Looe Key (Fla.)	Coral reef, diverse fisheries, endangered species, shipwrecks	1981	5.32 nautical miles	0
Fagatele Bay (American Samoa)	Coral tropical reef ecosystem in eroded volcanic crater	1986	.25 (163 acres)	343.8
Cordell Bank (Calif.)	Productive upwelling area above and around pinnacles, ridges, and the bank	1989	526	635.0
Florida Keys (Fla.)	Third largest coral reef system in the world, shallow near-shore habitats, diverse fisheries, endangered species, shipwrecks	1990	3,674	4,914.8
Flower Garden Banks (Texas)	Three underwater banks of healthy offshore coral reefs, endangered turtles	1992	56	1,016.1
Monterey Bay (Calif.)	Deep marine canyons, kelp forests, rich fishing grounds, elephant seals, sea otters	1992	5,328	2,508.9
Gerry E. Studds Stellwagen Bank (Mass.)	Endangered whales and habitat above and around the sand and gravel bank, shipwrecks, fisheries	1992	842	1,427.8
Hawaiian Islands Humpback Whale (Hawaii)	Endangered whale breeding and calving grounds	1992	1,300	1,422.1
Olympic Coast (Wash.)	Isolated shoreline, kelp forests, offshore seabird colonies, shipwrecks	1994	3,310	1,435.3
Thunder Bay (Mich.)	Two centuries of shipwrecks, maritime heritage sites	2000	448	769.0
Papahānaumokuākea Marine National Monument (Hawaii)	Coral reefs, shipwrecks and maritime heritage sites, deep water around uninhabited chain of small islands and atolls, seabirds	2006	138,000	6,969.5
<i>Source:</i> NMSP				
* Looe Key and Key Largo are now part of the Florida Keys National Marine Sanctuary.				

Regional Offices. In late 2005, NMSP created four regional offices for the program to improve coordination of program activities with the regional operations of its federal and state partners given the sanctuary program's significant growth in terms of personnel, number of sites, assets, and budgets over the past 10 years. The regional superintendents are involved in cross-cutting

issues affecting multiple sites, such as maritime heritage, outreach and education, and research, as well as coordinating regional activities with their federal and state counterparts. They also encourage regional offices to help identify potential new sanctuary sites and increase outreach efforts to regional stakeholders. The four regional offices are headed by former site superintendents, who are the first-line supervisors of the site superintendents within their regions (see figure 1). The size of the staff at each regional office varies, although plans tentatively call for each office to be staffed by a superintendent, two regional coordinators, one administrative assistant, and regional contractors (as needed and subject to available funding). The Southeast, Gulf of Mexico, and Caribbean Region now has two employees; the Northeast, Mid-Atlantic, and Great Lakes Region and the West Coast Region have three employees each; and the Pacific Islands Region has six employees.

Figure 1. NMSP Regional Structure

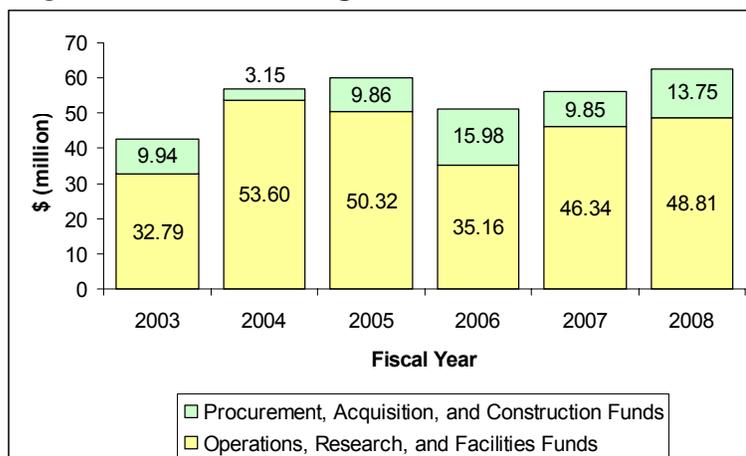


Source: NMSP, *Implementing a Regional Structure for the National Marine Sanctuary Program*, November 2005

<sup>a</sup> The location of this office is temporary.

**Funding and Staffing.** The sanctuary program started slowly, with no designated sites for several years, no separate budget for 5 years, and no federal field staff for 10 years. Until recently, the individual sanctuary sites had modest budgets, limited staffs, and few assets. In 1990, the NMSP's operating budget was \$3 million. The program's budget steadily increased in the late 1990s and reached nearly \$43 million in 2003 (see figure 2). Since then the program's funding has increased more gradually. Until this current fiscal year, the sanctuary program's largest budget occurred in 2005 when funds were added for sanctuary facilities, the proposed Northwestern Hawaiian Islands National Marine Sanctuary, and the National Marine Sanctuary Foundation (see figure 3). FY 2008 funding is more than \$62 million. This includes Operations, Research, and Facilities (ORF) funds, which cover overall management and operations of the program (mostly the program base budget), and Procurement, Acquisition, and Construction (PAC) funds, which support construction costs at sanctuary sites and program acquisitions, including vessels and visitor center exhibits. The sanctuary program first received PAC funds in 2001.

Figure 2: NMSP Funding



Source: NOAA Budget Office

Figure 3. **The National Marine Sanctuary Foundation**

The National Marine Sanctuary Foundation, a 501(c) (3) non-governmental organization established in July 2000, has financial assets of \$5.2 million and receives \$3.5 million annually in federal grants and contributions. Its mission is to “preserve, protect, and promote America’s [u]nderwater [t]reasures, the nation’s network of marine sanctuaries and protected areas.” It is dedicated to ocean conservation and increasing ocean literacy about marine sanctuaries, focusing on education and outreach. For seven years, it has sponsored the Capitol Hill Ocean Week symposium to emphasize the importance of ocean issues.

Source: NMSF 2005-2006 Annual Report

During the program's early years, cooperative agreements with state agencies and the National Park Service were drafted to lay out the framework for management of the sites. In the 1980s, the sanctuary program began posting a NOAA Corps officer for a 2-year assignment at some sanctuaries, a practice that continues at several sites today. For example, the superintendent of the Florida Keys sanctuary is a NOAA Corps officer. Today about two-thirds of the sanctuary program's workforce of nearly 400 are federal contractors and state government employees. The program has grown and matured substantially in recent years. As a result, in February 2005,<sup>5</sup> NOAA proposed to elevate the NMSP from a division office to a program office and put NMSP on the same level as the NOS Office of Ocean and Coastal Resource Management.

<sup>5</sup> NOAA first sent a package to Congress to elevate NMSP in 2001. This remained pending until the 2005 submission. A decision is anticipated by 2008.

Vessels. Sanctuary vessels are used for enforcement of sanctuary regulations and for monitoring natural and cultural resources. The program maintains a boat fleet of 46 vessels. The fleet includes 23 “type I” vessels (less than 29 feet in length), 15 “type II” (30-49 feet), and 8 type III” (greater than 50 feet). In 2006, the program received funding for five new vessels, all of which are expected to become operational in FY 2008.

TYPE III – R/V Shearwater at Channel Islands NMS



Credit: NMSP

Visitor centers. All the sanctuaries have either a visitor center (also referred to at some sites as an education center or a discovery center) or multiple permanent sanctuary exhibits displayed at partner facilities or both. All but one of the sanctuary visitor centers is free to the public. These centers promote public awareness by displaying models of sanctuary resources, such as coral reefs, sea floors, or marine mammals, along with narratives explaining their importance. Other sites have created permanent sanctuary exhibits that are housed in facilities leased or owned by sanctuary partners, such as the National Park Service or local museums.

Data Buoys. Data buoys provide water quality data, such as levels of carbon dioxide, chlorophyll, and salinity in sanctuary waters. Many sanctuary and external researchers characterized this data as extremely important to the sanctuary’s monitoring program. In 2004 and 2005, the sanctuary program invested close to \$500,000 in 35 west coast data buoys owned by universities and private research and scientific organizations to retrofit and upgrade the buoys. This enabled NOAA and NMSP to obtain water quality data for west coast sites and to participate in the Integrated Ocean Observing System efforts to improve predictions of climate change and weather and their effects on coastal communities and to more effectively protect and restore healthy coasts.

The sanctuary program owns a number of data buoys, one located in Cordell Bank and about a dozen oceanographic data buoys (with lesser capacity than the Cordell Bank buoy) that are owned by the Olympic Coast sanctuary. These latter buoys are deployed and recovered annually in the Olympic Coast sanctuary. The Cordell Bank buoy was purchased in 2005 after negotiations with NOAA’s National Data Buoy Center (NDBC) indicated that a NDBC buoy in the area could not be moved to an important area within the sanctuary. At Gray’s Reef sanctuary, the sanctuary program funded an additional data package for an existing NDBC buoy, and persuaded NDBC to relocate the buoy to a key location within the sanctuary. The sanctuary program also collaborates with the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), an interdisciplinary collaboration of scientists from four west coast universities that integrates monitoring of oceanographic factors, including water quality, done at dozens of west coast sites. The Channel Islands, the Monterey Bay, Gulf of the Farallones, and the Olympic Coast sanctuaries collaborate directly with PISCO researchers. The sanctuary program pays about \$25,000 annually for the universities and other organizations to augment already existing buoy networks on the west coast and to help maintain the 35 west coast buoys mentioned above

and the one buoy owned by the sanctuary program. In addition, some universities and private organizations monitor the buoys and assess the data.

Sanctuary Advisory Councils. Section 315 of the act provides the authority to create sanctuary advisory councils (SACs) for each site. These councils are community-based advisory groups consisting of volunteer representatives from various user groups, government agencies and the public. The councils work with staff at the sanctuaries to review and update sanctuary management plans and to develop issue-specific action plans. At the time of our review, 404 people (243 members and 161 alternates) were serving on advisory councils. Council members include fishers, divers, teachers, representatives from the farming community, boaters, business owners, environmentalists, protected area managers, scientists, and elected officials.

Other Volunteer Programs. Volunteers, including the SAC members, contribute more than 100,000 hours of annual service to the sanctuaries. For example, Naturalist Corps volunteers at the Channel Islands sanctuary teach about the sanctuary's natural resources at community events and on whale watching tours. Team OCEAN volunteers in the Florida Keys patrol sanctuary waters to remind boaters to anchor to buoys, not the reef, and report illegal activity to sanctuary law enforcement officers. The Great Annual Fish Count, coordinated by the nonprofit Reef Environmental Education Foundation, trains volunteer divers and snorkelers to identify and document fish diversity and population in marine sanctuaries.

Management Plan Reviews. Section 304 of the act requires the Secretary of Commerce and, by delegation, the individual sanctuary sites to develop and review sanctuary management plans. Management plans are site-specific documents that the sanctuary program uses to manage individual sanctuaries. The plans summarize existing programs and regulations, articulate goals and priorities, and guide management planning and decision-making. The development and review of the management plans also ensure public involvement in the management process. In addition, these plans set the performance measures for resource protection, research, and education. In conjunction with sanctuary management plans, annual operating plans are prepared, and they spell out more specific goals and detailed tasks for day-to-day management at the sites and of the overall program. Most existing management plans are 10 years old or older.

Science. One of the stated purposes of the act, as outlined in Section 301, is to support, promote and coordinate scientific research on, and long-term monitoring of, the resources in national marine sanctuaries. To effectively manage a sanctuary's resources, scientists need to understand the sanctuary's ecosystems, biodiversity, and human impacts. Investigations of sanctuary sites, known as site characterizations, allow scientists to understand the biodiversity, habitats, resources, and ecological processes controlling each sanctuary's environment, and the threats they face. A baseline of the status of resources is necessary for later evaluation of the impacts of natural events and human activities, and the effectiveness of management strategies. In the past several years, the sanctuary program has moved towards more systematic monitoring activities. NOAA's National Centers for Coastal Ocean Science is the program's main science partner, although the program leverages numerous federal, state, and local partners who support and conduct research, monitoring, and evaluation in sanctuary waters. A national science coordinator located in NOAA headquarters leads this component, one of the three cross-cutting NMSP programs.

Education and Outreach. Another stated purpose in Section 301 of the act is to enhance public awareness, understanding, and appreciation of the marine sanctuaries through outreach and education, emphasizing the system's conservation goals and sustainable public uses within the sanctuaries. Each sanctuary site has outreach and education functions, which are generally handled by one or more education coordinators and/or specialists. Such functions are unique to the individual sanctuary yet have common themes across the sanctuary system. A national education coordinator leads this component, the second of the three cross-cutting NMSP programs. This coordinator also leads an Education Executive Council, comprised of a site representative from each of the four regions, which works on system-wide education policy issues.

Maritime Heritage. Yet another stated purpose of the act is to enhance sustainable use of historical, cultural and archaeological marine resources in sanctuaries. NOAA's Maritime Heritage Program, a sanctuary program initiative created in 2002,<sup>6</sup> focuses on preserving maritime heritage resources within the sanctuaries, but also promotes maritime heritage appreciation throughout the entire nation. Maritime heritage includes historic shipwrecks, prehistoric archaeological sites, archival documents, oral histories, and traditional seafaring by indigenous cultures. Archaeologists, recreational divers, and commercial treasure salvagers, as well as other user and interest groups, seek to interact with these maritime heritage resources. There is maritime heritage staff at four sanctuary sites and at the Pacific Islands regional office. A national maritime heritage coordinator leads this component, the third cross-cutting NMSP program.

Enforcement. Section 307 of the act authorizes the enforcement of sanctuary regulations and permits issued pursuant to the act. The sanctuary program's enforcement philosophy is preventive, with a strong emphasis on public outreach and education. The program's goal is to provide a law enforcement presence in order to deter and detect violations. However, the sanctuaries face numerous enforcement challenges, including permit compliance, wildlife harassment, habitat alteration or destruction, and damage or removal of historical artifacts. Many of the sanctuaries are located at considerable distance from shore, and this makes enforcing regulations yet another challenge.

NMFS' Office of Law Enforcement (OLE) enforces laws that protect and regulate our nation's living marine resources and their natural habitats. Most of its enforcement work focuses on the protection of the nation's fisheries and compliance with fishing regulations, but OLE has authority to enforce over 37 statutes, including the sanctuaries act, as well as numerous treaties related to the conservation and protection of marine resources (see figure 4).

In addition to OLE headquarters in Silver Spring, Maryland, there are 6 divisions consisting of 59 field offices. OLE's staff of 240 includes 157 special agents, 20 enforcement officers, and 63 technical and support personnel and program analysts. Enforcement officers focus on patrols, but

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<sup>6</sup> Until the designation of the Thunder Bay sanctuary in 2000, only the *Monitor* sanctuary represented maritime heritage resources within the NMSP. One NMSP official noted that cultural, archeological, and historical resources were "undervalued and underrepresented in the system" until that time.

conduct some investigative work. Special agents focus on investigative work, but also participate in some patrols.

Both OLE and NMSP have developed cooperative enforcement partnerships with the U.S. Coast Guard, the U.S. Fish and Wildlife Service and the National Park Service (both of the U.S. Department of Interior), and various marine and wildlife enforcement agencies in the states and territories where the sanctuaries are located. Finally, NOAA's Office of General Counsel also plays a role in sanctuary enforcement efforts. Specifically, NOAA's Office of General Counsel for Natural Resources supports the program by helping to prosecute civil damage cases involving injury to sanctuary resources under section 312 on the National Marine Sanctuaries Act. In addition, NOAA's Office of General Counsel for Enforcement and Litigation prosecutes civil violations committed under the National Marine Sanctuaries Act (see chapter 2).

Figure 4. **Primary Laws Enforced by the NMFS Office of Law Enforcement**

- **Magnuson-Stevens Fishery Conservation and Management Act** (16 U.S.C. §1801 et seq.)
- **Endangered Species Act** (16 U.S.C. §1531 et seq.)
- **Marine Mammal Protection Act** (16 U.S.C. §1361 et seq.)
- **Lacey Act** (16 U.S.C. §3371 et seq.)
- **National Marine Sanctuaries Act** (16 U.S.C. §1431 et seq.)

Source: Office of Law Enforcement

## OBJECTIVES, SCOPE, AND METHODOLOGY

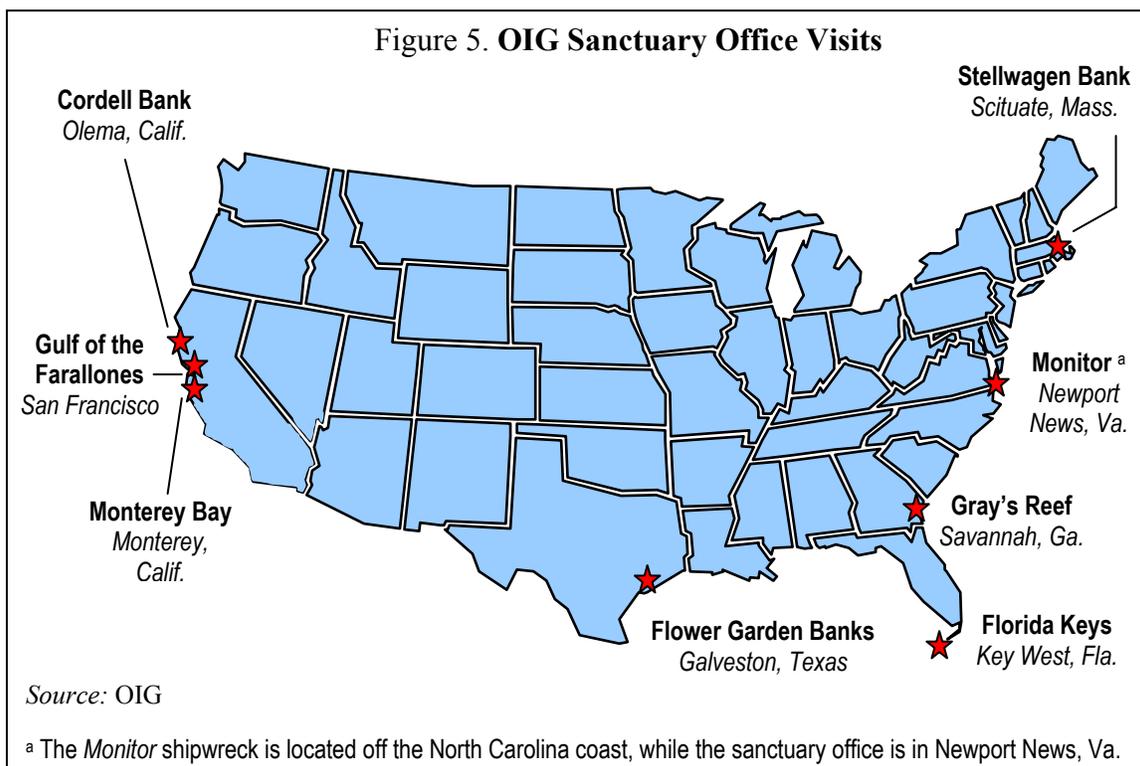
The Office of Inspector General conducted this review from April through August 2007, under the authority of the Inspector General Act of 1978, as amended; Departmental Organization Order 10-13, dated August 31, 2006, as amended; and in accordance with the Quality Standards for Inspections issued by the President's Council on Integrity and Efficiency, dated January 2005.

The objectives of our review were to:

- Determine whether the sanctuary program is meeting its core statutory and program objectives;
- Determine the effectiveness of NOAA's and NOS' management of the sanctuary program;
- Identify specific management issues and best practices at NMSP headquarters, regional and field offices as they affect program objectives and effectiveness;
- Review specific sanctuary program initiatives designed to improve performance and accountability for the NMSP's conservation and research programs; and
- Assess the effectiveness of NMSP's collaboration with other NOAA components and federal, state, and local entities.

We did not assess NMSP's fleet operations, damage assessment, or incident response activities as part of this review. We used the following methodology to conduct our program evaluation:

**NMSP site visits.** In addition to our work at NOAA headquarters, we visited 8 of the 14 national marine sanctuary program offices (see figure 5).



**Interviews.** Within NOS, we spoke with the assistant administrator, the director and deputy director of the National Marine Sanctuary Program, the director of the National Centers for Coastal Ocean Science, the director of the NOAA Coastal Services Center, and officials from the Marine Protected Areas Center, the National Estuarine Research Reserve System, and the Hollings Marine Laboratory.

Within NMSP, we met with a number of officials including the deputy director for vessels, aircraft, facilities, and safety; the chief of national programs; the chief of conservation policy, and planning; the chief of operations; the chief of stewardship development; the national science coordinator; the national education coordinator; the national maritime heritage coordinator; the resource protection and damage assessment coordinator; the national permits coordinator; chief for strategic planning, and the chief economist. Within the field, we spoke with all four regional superintendents and the managers of the 14 national marine sanctuary sites (including the marine national monument).

Within NMFS, we spoke with the assistant administrator, the senior policy advisor, the director of international affairs, the director of the Office of Protected Resources, the director of the Office of Sustainable Fisheries, the director of the Office of Habitat Conservation, and the director and deputy director of the Office of Law Enforcement. Within OLE, we also spoke with the National Sanctuary Program coordinator and the 12 special agents designated as liaisons for the sanctuaries. In addition, we spoke with 4 of the 6 NMFS regional administrators and some of their staff, and with various officials from the regional fishery management councils, including 4 out of the 6 executive directors.

We spoke with officials from NOAA's Office of the General Counsel, including the assistant general counsel for enforcement and litigation and assistant general counsel for fisheries. We also spoke with several NOAA Corps officers involved in the sanctuary program.

Externally, we met with officials from the U.S. Navy and Army Corps of Engineers (Department of Defense); Fish and Wildlife Service and National Park Service (Department of the Interior); the Environmental Protection Agency; and the U.S. Coast Guard. We also met with a number of state law enforcement officials who help enforce sanctuary laws and regulations. In addition, we met with or spoke to officials from the U.S. Commission on Ocean Policy, Joint Ocean Commission, National Academy of Sciences' Division on Earth and Life Studies, Pew Oceans Commission, the National Marine Sanctuary Foundation, and the National Academy of Public Administration. We also met with the then general counsel for the U.S. Senate Committee on Commerce, Science and Transportation. Finally, we met with about 70 members of Sanctuary Advisory Councils, including ex-officio members, at the 8 sites we visited.

**Review of relevant laws, regulations, guidance, procedures and other documents.** We examined current and pending legislation, executive orders, and related regulations for each of the 13 sanctuaries and the monument. We also reviewed program, policy and planning material related to NMSP headquarters, regional offices, and individual sites. Finally, we reviewed a number of external evaluations of the sanctuary program and various recent U.S. ocean policy reports, including:

- Joint Ocean Commission Initiative's Report to the U.S. Senate, *From Sea to Shining Sea*, 2006;
- Pew Ocean Commission, *America's Living Oceans - Recommendations for a New Ocean Policy*, 2003;
- Committee on Ocean Policy, *U.S. Ocean Action Plan*, 2004;
- Committee on Ocean Policy, *U.S. Ocean Action Plan Implementation Update*, 2007;
- U.S. Ocean Action Plan, 2004 and 2007 update;
- Joint Ocean Commission Initiative, 2005 and 2006 reports.

We discussed our findings with NOAA's Deputy Undersecretary for Oceans and Atmosphere, the Chief Administrative Officer, the NOS and NMFS Assistant Administrators, the NMSP Director and Deputy Director, and other senior NOAA officials during and at the conclusion of the review.

## OBSERVATIONS AND CONCLUSIONS

### I. National Marine Sanctuary Program Is Making Progress Towards Long-Term Resource Protection

The National Marine Sanctuaries Act requires the sanctuary program to provide long-term protection to natural and cultural resources in national marine sanctuaries designated by the Secretary of Commerce. Regulations, permitting, and enforcement in the sanctuaries protect resources and reduce the threats and impacts of human-induced effects on the natural and maritime heritage resources in the sanctuaries. Specific commercial uses are allowed in sanctuaries when compatible with resource protection. Incompatible commercial uses are prohibited or restricted. We found several instances where the sanctuary program complements other federal programs that protect the marine environment by offering benefits that other programs do not. NMSP also provides non-regulatory benefits, such as support of research and monitoring of the condition of prioritized sanctuary resources and the promotion of public understanding and appreciation of the value of sanctuaries and their resources. NMSP has had some meaningful success protecting certain components of marine ecosystems and certain cultural resources, but challenges remain.

Statutory prohibitions and regulations protect certain natural and cultural resources in marine ecosystems. Sanctuaries are generally designed such that direct impacts within sanctuary boundaries can be regulated and managed, though there are variables such as increased carbon dioxide levels in oceans and global climate change effects that negatively impact the condition of the resources that the sanctuary is charged to protect. Within a sanctuary, regulatory prohibitions protect certain natural and cultural resources by forbidding or restricting incompatible uses, such as oil, gas, and mineral exploration, discharge of dredged material, removal of coral from the seabed, specific fishing practices, destructive anchoring, and certain uses of motorized personal watercraft or airplanes. For instance, the exploration, development, or production of oil, gas, or minerals in any area of the Cordell Bank sanctuary is prohibited. Similarly, the permitting of leasing, exploration, development, or production of oil or gas within the Monterey Bay, Olympic Coast, and Florida Keys sanctuaries is prohibited. At several sanctuaries, fishing techniques that alter or destroy the seafloor are prohibited. At Stellwagen Bank, sanctuary designation halted proposals to build casinos and hotels on offshore platforms and to mine sand and gravel at the bank. These and other restrictions protect biologically productive bottom habitats and valuable resources, such as endangered marine mammals, coral, kelp, fish, shellfish, important food web species (e.g., krill and algae), and shipwrecks.

We found many examples where sanctuary regulations provided some protection to resources by forbidding or limiting certain activities:

- The Florida Keys sanctuary forbids removal of live coral
- The Monterey Bay sanctuary regulates the taking of jade and chumming for white sharks
- All sanctuaries forbid dredging, dumping, and placement of structures on the seabed

- Mooring buoys are installed at several sanctuaries to reduce anchor damage to sensitive benthic (sea bottom) habitats, and bottom anchoring is banned in defined areas, such as coral reef or sea grass habitats
- West Coast sanctuaries forbid aircraft from flying low and disturbing seabirds and marine mammals.

The sanctuary program's protections have had certain positive results. For example, recent research findings show seabird populations in the Gulf of the Farallones have rebounded, most likely due to decreased human disturbance at breeding and nesting times. Managed visitor access, less aircraft noise from pilots abiding by the "no low flying" rule, sanctuary collaboration with other sea bird protection activities, and active educational outreach have contributed to several seabird colonies' improved productivity.<sup>7</sup> In the Monterey Bay sanctuary, research results show that the protected northern elephant seal population is increasing within sanctuary boundaries as a result of sanctuary regulations, outreach, educational programs, and strict State of California protections. The population has grown from less than 100 seals in the 1890's to over 100,000 in 2003, with significant increases noted since sanctuary designation.<sup>8</sup> Elephant seals are seen throughout the Monterey Bay sanctuary; four breeding areas are located in the sanctuary. Also, research in the Florida Keys has demonstrated positive results from protected marine reserves (see figure 6).

The sanctuary program also protects cultural and archaeological resources, such as shipwrecks and maritime artifacts. Examples include the wreck of the U.S.S. *Monitor*, off the coast of North Carolina, and the shipwrecks in Lake Huron's Thunder Bay. The Thunder Bay sanctuary prohibits the use of certain destructive anchoring devices without a permit, thereby protecting more than 50 unique shipwreck sites within the sanctuary by reducing the likelihood of anchor damage.

**Figure 6. Research Shows Results in the Florida Keys**

In the Florida Keys sanctuary, marine reserves that forbid all fishing from certain areas are marked with yellow buoys, regulations are enforced, and species are regularly monitored. In the protected areas, recent research findings show some economically important marine species, such as spiny lobsters, grouper and snapper fish, have increased in abundance and/or size, especially at crucial juvenile development or spawning periods.

Researchers working in the Florida Keys have demonstrated with objective scientific results that marine reserves, when well designed and actively managed, show positive resource protection benefits in the Florida Keys. There are few other examples of marine reserves in the U.S. where researchers have shown that a species has increased due to protection from fishing. Other protected areas have failed, for example, due to the marine reserve's size or location, lack of enforcement, or irregular monitoring of the species of concern.

*Sources: Ongoing Monitoring of Tortugas Ecological Reserve: Assessing the Consequences of Reserve Designation. Fonseca, Uhrin, et al, NOAA Technical Memorandum NOS NCCOS 22, 2006; Change in size and abundance of Caribbean spiny lobsters in a marine reserve in the Florida Keys NMS, Cox and Hunt, USA Marine Ecology Program Service 294, 2005*

<sup>7</sup> J.A. Gill, "Approaches to measuring the effects of human disturbance on birds," *Ibis* 149, 2007, and C.M. Beale, "Modeling the Effects of Limiting the Number of Visitors on Failure Rates of Seabird Nests," *Conservation Biology* (Volume 19, Issue 6), December 2005.

<sup>8</sup> U.S. Pacific Marine Mammal Stock Assessments: 2003. Carretta JV, Forney KA, Muto MM, Barlow J, Baker J, Lowry M, NOAA Technical Memorandum, Southwest Fisheries Science Center, 2004.

The sanctuary program complements other federal, state, and local resource protection efforts. The sanctuary act overlaps with other federal marine protection laws and often complements their authority and fills in where gaps exist. For example, anchor damage and harmful fishing practices are significant threats to the Flower Garden Banks. The Department of the Interior's Minerals Management Service (MMS) has statutory authority only to regulate vessels working in the offshore oil and gas industry. However, the sanctuary program fills the gap and regulates fishing boats' gear use and anchoring in this area. One advisory council member told us this sanctuary's "main accomplishments are stopping anchoring and bottom trawling" at the site, among the healthiest reefs in the western hemisphere with more than 50 percent coral cover.

Sanctuaries also collaborate with and contribute to statewide projects with large scopes. For example, the Florida Keys sanctuary complements other federal, state, and local water quality protection efforts. When the Key Largo sanctuary was designated in 1975 and the Florida Keys

**Figure 7. Other Ways to Protect Sanctuary Resources**

At the Hawaiian Islands Humpback Whale Sanctuary, this endangered species is increasing at a rate of 7 percent per year, in part due to the sanctuary's educational and outreach programs, research, and collaboration with state and other federal agencies.

In the three northern California sanctuaries, resource protection was realized through interaction with NMFS and the Pacific Fishery Management Council. In June 2004, a Monterey Bay sanctuary working group suggested a ban on the harvest of krill, a crucial food web species. In March 2006, the fishery management council, in consultation with NMFS and NOAA, adopted an amendment to a fishery management plan for pelagic species. However, the Office of Management and Budget recently concluded that NOAA's draft proposal to ban the harvest of krill under the Magnuson-Stevens Act failed to identify the rationale for the rulemaking and lacks measurable performance objectives. Therefore, NOAA is reexamining its proposal.

*Sources: Trends in Relative Distribution, Abundance and Population Composition of Humpback Whales in Kawaihae Bay, Hawai'i 1988-2003, Gabriele, Christine, Rickards, Susan, Hawai'i Marine Mammal Consortium, 2003; [www.mbnms-simon.org/docs/build/simon\\_says\\_2006.pdf](http://www.mbnms-simon.org/docs/build/simon_says_2006.pdf); October 30, 2007 letter from OMB Office of Information and Regulatory Affairs Administrator to NOAA General Counsel.*

sanctuary was expanded in 1981 and 1990, water quality in the Florida Keys was already degraded, according to the Environmental Protection Agency (EPA), by an outdated septic system in Key West, runoff from development and agriculture, vessel discharges, and the effects of several million tourists per year. Poor water in the Keys is a major contributor to disease and decline of the coral reefs. Florida Keys sanctuary staff monitor water quality, collaborate with the EPA, the county, and several cities on water quality issues, and participate on a state water quality steering committee. Although state-wide water quality improvement progress is slow, the Florida Keys sanctuary has completed 12 years of monitoring of water quality and monitoring results show that, in general, water quality is good sanctuary-wide. However, several significant trends of elevated nutrients continue in nearshore waters and 'back country' areas and elevated concentrations of fecal bacteria have been documented in canals.

Commercial uses are allowed in sanctuaries when compatible with resource protection. At most sanctuaries, commercial and recreational activities such as scuba diving, kayak rentals, charter boat rentals, plane flights, and fishing are allowed but are regulated. For example, the Gulf of the Farallones sanctuary allows commercial flights but bans flights less than 1000 feet to avoid harassing birds or marine mammals. The Olympic Coast sanctuary only allows airplane flights

higher than 2000 feet. Commercial and recreational fishing is allowed in most sanctuary waters, with certain fishing gear and seasonal restrictions, in coordination with the state, NMFS and the regional fishery management councils. Some sites (Channel Islands, Florida Keys, and the Monument) include some areas that are completely closed to fishing and other consumptive activities. However, the issue of regulating fishing within sanctuary waters is controversial. At Stellwagen Bank, for example, floating lines connecting lobster pots are allowed even though such lines can entangle whales. At several sanctuaries, recreational spearfishing is allowed. But a number of stakeholders told us spearfishing is controversial because it depletes adult reef fish, and its impacts on the ecosystem are underestimated.

Sanctuaries near busy ports outside of Boston, Seattle and San Francisco are working with the commercial shipping industry to reduce impacts to whales and other marine mammals from commercial shipping activity. Using a database containing more than a quarter million whale sightings over a 25-year period from whale watching and whale research trips, Stellwagen Bank sanctuary scientists showed that the heaviest concentrations of whales were located directly in the shipping lanes. In 2007, commercial vessel traffic was rerouted in coordination with the International Maritime Organization (IMO) to reduce the risk of ship strikes in whale migration corridors inside the sanctuary – a significant achievement for the sanctuary program. It took several years of negotiations for the sanctuary program to get ship traffic lanes on IMO maps and vessels' shipping orders. Still, sanctuary staff must work with partners to educate captains and enforce these new lanes for domestic and foreign-flagged vessels, such as container ships, liquefied natural gas and oil tankers, barges, and cruise liners. Additionally, studies show short- and long-term impacts of whale watching from the 15 commercial whale watching companies making daily trips to the sanctuary from April through October each year.



Credit: Stellwagen Bank National Marine Sanctuary

NMSP has recently been recognized for its conservation efforts. In 2006, ocean governance policy makers noted NMSP as one of only a handful of federal programs that has made “significant contributions toward maintaining and improving the quality of coastal resources.”<sup>9</sup> Our review found that NMSP is generally making good progress towards long-term protection of certain marine ecosystems and cultural resources in designated sanctuaries. The sanctuary program has protected certain components of marine ecosystems and certain cultural

resources, and it complements other federal, state, and local resource protection efforts. Commercial uses are statutorily allowed in sanctuaries when compatible with resource protection. Although several stakeholders told us they believe sanctuaries should not allow any activity that might harm a natural resource, independent researchers and sanctuary scientists have shown that the regulatory and non-regulatory benefits of the sanctuary program are numerous,

<sup>9</sup> Joint Ocean Commission Initiative Report, 2006, *From Sea to Shining Sea*, page 41. The Joint Ocean Commission Initiative is a collaborative effort, co-chaired by the chairs of the United States Commission on Ocean Policy (created by Congress in 2000) and the Pew Oceans Commission, a nongovernmental group, to catalyze ocean policy reform. Both commissions also proposed “ecosystem management” that is similar to NMSP’s protection efforts.

although much more still needs to be done. Notably, stronger enforcement of regulations could increase resource protection in the sanctuaries, as discussed in the next section.

It is worth noting that although sanctuaries are generally designed so that direct impacts within sanctuary boundaries can be regulated and managed, there are variables outside of sanctuary boundaries, such as increased carbon dioxide levels in oceans and global climate change, which negatively impact the condition of the resources that the sanctuary is charged to protect.



In its response to our draft report, NOAA indicated that our conclusions were consistent with those documented through compliance with the Office of Management and Budget's Program Assessment Rating Tool performance measures and external program reviews. NOAA noted its appreciation of the OIG's recognition of the National Marine Sanctuary Program's progress towards long-term protection of certain resources within the marine sanctuaries system and management improvements.

## II. Enforcement of Sanctuary Regulations Needs to be Strengthened

Sanctuary officials, enforcement partners, and stakeholders told us they believe the current law enforcement presence in the sanctuary system is insufficient to meet the challenges. The sanctuary program, with some assistance from OLE, is currently developing a national enforcement plan which will include identification of sanctuary resource threats and development of enforcement profiles and priorities. We also identified several other areas in which the enforcement of sanctuary regulations can be improved.

First, while OLE has recently placed greater emphasis on sanctuary enforcement issues, we found OLE sanctuary liaisons (designated OLE officers and agents) need to be more engaged with the sanctuary advisory councils including the formation of a law enforcement working group. Second, we noted that most state and territorial government partners do not have adequate incentives or tools to enforce sanctuary regulations.

Finally, we found that NMSP receives very limited (non-law enforcement sensitive) information from NOAA's Office of General Counsel for Enforcement and Litigation (GCEL) and OLE about either ongoing or closed sanctuary cases. OLE does not readily know the extent of reported violations that occur in the sanctuaries because it does not actively track violations by location. In addition, the sanctuary program is not notified when a payment of a civil fine in a particular case is deposited into NMSP's civil penalty accounts.

### ***A. OLE's efforts to enforce sanctuary regulations have recently increased but additional steps need to be taken***

OLE typically focuses its resources on fishery enforcement and marine mammal protection issues, not sanctuary enforcement (see table 2). This emphasis on fishery enforcement can be explained, in part, by the fact that OLE reports to a different NOAA line office—the National Marine Fisheries Service—than the sanctuary program, which reports to NOS. OLE also only receives limited funding from NMSP for sanctuary-related enforcement activities. For example, in FY 2007, the sanctuary program gave OLE \$196,726 for one enforcement officer position in the Monterey Bay National Marine Sanctuary and a portion of the cost of an enforcement technician position in the Florida Keys National Marine Sanctuary and for enforcement assistance as part of OLE's joint enforcement agreement with the state of Georgia. Most of OLE's cases to date have involved fishery and marine mammal or endangered species protection violations.

OLE recently has placed greater emphasis on sanctuary enforcement, but there are additional steps it could take to strengthen its current sanctuary enforcement efforts. In February 2006, the director of OLE issued a national directive defining and formalizing OLE's responsibilities in relation to the sanctuary program. An OLE headquarters staff agent was assigned to be the national sanctuary program coordinator and charged with (1) communicating with the sanctuary program headquarters staff, (2) acting as a law enforcement consultant to NMSP headquarters staff, (3) overseeing implementation of consistent enforcement policies and procedures, and (4)

defining and developing NMSP enforcement requirements and priorities, and identifying the resources to address these needs.

In addition, each sanctuary (including the monument) was assigned an OLE special agent or enforcement officer as the primary liaison to be responsible for (1) coordinating law enforcement services within the sanctuary, (2) acting as a law enforcement consultant to the sanctuary, and (3) providing direct law enforcement services to the sanctuary, as appropriate. OLE sanctuary liaisons are *not* assigned as the primary investigators for a particular sanctuary—sanctuary investigations are assigned to an agent based on the priorities and needs of the OLE field office.

**Table 2. Office of Law Enforcement Case Breakout by Statute, Fiscal Year 2005<sup>a</sup>**

Name	Primary NOAA Line Office Responsible for Statute	Number of Cases
Endangered Species Act	NMFS	355
Lacey Act <sup>b</sup>	NMFS	90
Magnuson-Stevens Fishery Conservation and Management Act	NMFS	1,628
Marine Mammal Protection Act	NMFS	387
National Marine Sanctuaries Act	NOS	607 <sup>c</sup>
Other	NMFS	257
<b>Total</b>		<b>3,324</b>
<i>Source:</i> Office of Law Enforcement		
<sup>a</sup> OLE was unable to provide the OIG with FY 2006 or FY 2007 sanctuary case statistics during our review.		
<sup>b</sup> This act makes it unlawful to import, export, transport, buy or sell fish, wildlife and plants taken or possessed in violation of federal, state or tribal law. Interstate or foreign commerce in fish and wildlife taken or possessed in violation of foreign law also is illegal.		
<sup>c</sup> The majority of these cases (511) were from the Florida Keys National Marine Sanctuary.		

Overall, we found that OLE’s sanctuary liaison program has helped to increase enforcement support within the sanctuary system. However, some of the OLE sanctuary liaisons are not engaged in sanctuary enforcement activities to the same degree as fisheries enforcement activities. For example, OLE special agents-in-charge, or their designees, are required to attend fishery council meetings, but there is no requirement for OLE special agents-in-charge or the liaisons to attend the SAC meetings. As a result, we found that some do not regularly attend SAC meetings. OLE should be more involved in SAC activities to educate members about the enforceability of measures they are considering. As the primary federal organization dedicated full-time to protecting our nation’s living marine resources, OLE has substantial enforcement expertise to offer.

We also found that OLE sanctuary liaisons sometimes did not even know what enforcement activities their federal or state marine and wildlife law enforcement partners were undertaking in their assigned sanctuary. For example, in one sanctuary we found that the OLE sanctuary liaison did not know that the state enforcement officials were conducting on-the-water patrols in the sanctuary until after our meeting with a state official in May 2007. The OLE sanctuary liaison at another sanctuary did not know what type of resources were being dedicated to enforcing regulations in the sanctuary by either the state or the relevant U.S. Coast Guard station until

recently. To strengthen these enforcement partnerships, the SACs should create a law enforcement working group.

Regional fishery management councils have established law enforcement advisory panels that generally consist of law enforcement officials from each state represented on the council, OLE, NOAA's general counsel for enforcement litigation, the U.S. Coast Guard, the U.S. Fish and Wildlife Service, and in some cases the public. These panels play a key role in developing enforceable fisheries regulations, commenting on proposed regulations, and facilitating effective communications among the agencies involved in fisheries enforcement. Gray's Reef National Marine Sanctuary recently established a law enforcement working group as a part of its SAC to gain community input on enforcement issues and improve communications between enforcement officers. We believe the creation of similar law enforcement working groups by all of the SACs would be useful in enhancing communications between enforcement agencies and sanctuary stakeholders.

**Recommendations:**

**We recommend that the Under Secretary for Oceans and Atmosphere, in conjunction with the NMFS and NOS Assistant Administrators, take the necessary actions to ensure that:**

- The OLE director requires sanctuary liaisons to attend sanctuary advisory council meetings in their region.
- The NMSP director directs each sanctuary to create a law enforcement working group, consisting of federal and state law enforcement partners and other appropriate stakeholders, as part of the sanctuary advisory council.



In its written response to our draft report, NOAA concurred with both of the above recommendations. Specifically, the response stated that the OLE Director will amend OLE policy and instruct each OLE Division Special Agent in Charge to ensure that the OLE sanctuary program point of contact or an alternate designee will attend the relevant SAC meetings. In addition, the response stated that standing or permanent law enforcement working groups would provide a good opportunity for coordination, exchange of information and ideas, and identification of solutions to ongoing or foreseeable enforcement problems. Once implemented, NOAA's actions will meet the intent of our recommendations.

***B. Most state and territorial government partners do not have adequate incentives or tools to enforce sanctuary regulations***

OLE partners with state and territorial marine law enforcement agencies to help enforce specific federal marine resource laws. OLE maintains cooperative enforcement agreements and joint enforcement agreements (JEAs) with most of the coastal states and territories where a sanctuary is located. Cooperative enforcement agreements are used to formalize partnerships between state and federal agencies and deputize state officers to enforce specific federal marine resource laws. JEAs are used to build on these partnerships by outlining federal funding for specific state and territory activities and address federal enforcement priorities while enhancing state and territory enforcement resources. JEA funding in FY 2007 was approximately \$15 million. The JEA program appears to be filling some of the fishery enforcement gaps left by shifting federal enforcement priorities (e.g., increased homeland security activities), but the state and territorial marine law enforcement agencies need more tools (e.g., sanctuary operations plan, summary settlement schedules, and training) to adequately enforce sanctuary regulations.

Most JEAs do not specify planned sanctuary enforcement activities. Each JEA includes an operations plan that identifies the targeted federal enforcement priorities and the specific activities (including man hours) the JEA partner will perform. For instance, in one plan, the JEA partner is requested to monitor gill nets, long lines, lobster, and trawl vessels to ensure compliance with gear types, quota limits, and fish size. This plan also specifies how many man-hours will be spent to perform this activity. All eight existing JEAs<sup>11</sup> mention the partner's authority to enforce the National Marine Sanctuaries Act, but most of the operations plans do not address what enforcement activities will be performed directly in the sanctuaries.

Two exceptions are the JEAs with the state of Georgia and the territory of American Samoa.<sup>12</sup> The sanctuary program transferred approximately \$40,000 to OLE in FY 2007 for specific sanctuary enforcement activities to be provided under the JEA by law enforcement officials in the Georgia Department of Natural Resources' Wildlife Resources Division. This operations plan calls for the state of Georgia to enforce sanctuary regulations and help deter violations by (1) providing a minimum number of at-sea patrol hours, particularly during designated fishing tournaments in the sanctuary and (2) conducting outreach at captains' meetings prior to these tournaments. The June 2007 operations plan in the JEA with American Samoa includes sanctuary enforcement as a priority and outlines specific activities to be taken by territorial officials in this area, even though the sanctuary program did not transfer any funding. Unless specific sanctuary enforcement activities are addressed in the JEA operations plans, JEA partners have no explicit guidance and little incentive to do the work. OLE should amend the existing operations plans with applicable JEA partners and ensure that all future JEA operations plans include specific sanctuary enforcement activities in light of OLE's commitment to enforce sanctuary regulations.

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<sup>11</sup>California and Hawaii have multiple sanctuaries located within their jurisdictions.

<sup>12</sup> The operations plan under the 2007 JEA with Hawaii includes resource protection (including humpback whales) as a priority focus, but the plan does not specifically address this or any other enforcement activity in the Humpback Whale sanctuary.

As a part of NMSP's ongoing enforcement requirements review, sanctuary officials are contemplating the transfer of additional funds from its budget to OLE for other JEA partners, but they are concerned these partners might use sanctuary funding for other marine enforcement activities if sanctuary officials are not involved in the process. To ensure accountability by the state and territorial marine enforcement agencies, we recommend that JEA partners be required to provide regular reports to OLE on the enforcement work they do specifically in the sanctuaries (e.g., number of man hours spent patrolling sanctuary) and that OLE provide this information to sanctuary officials.

It should be noted that while the current JEA operations plan with the state of Florida does not outline specific enforcement activities to be performed in the Florida Keys National Marine Sanctuary, the state has been a key enforcement partner with the sanctuary since its inception. This partnership is currently facilitated through a 2003 memorandum of agreement between NMSP and the state of Florida's Fish and Wildlife Conservation Commission. The total funding provided by NMSP for this agreement is limited to \$13 million for the period FY 2003-2008.

While the arrangement between the state of Florida and the Florida Keys sanctuary appears to be working well, OLE and state of Florida law enforcement officials have questioned whether this partnership would be better served under the current JEA between the two entities given their similar law enforcement mission rather than the current NMSP memorandum of agreement with the state. OLE and state officials informed us that law enforcement officers should not report directly to sanctuary management due to competing priorities and interests. In addition, GCEL officials informed us that NMSP has no authority to delegate the enforcement provisions of the National Marine Sanctuaries Act to the state of Florida. Specifically, GCEL officials stated that the authority vested in the Secretary of Commerce to enforce NOAA's marine resource laws has been delegated to OLE, not to NMSP. Although we have discussed these concerns with sanctuary officials, they remain hesitant in turning over the management of sanctuary enforcement activities to OLE because of the accountability issue mentioned above. Given that OLE is the designated law enforcement agency within NOAA and is ultimately responsible for the activities performed by the deputized state officers who enforce sanctuary regulations, it seems reasonable that these activities and related funding should be incorporated under the JEA. However, as mentioned above, OLE should provide regular reports to NMSP on its sanctuary-related enforcement activities.

Summary settlements should be used in more sanctuaries. Only three national marine sanctuaries—Florida Keys, Hawaiian Islands Humpback Whale, and Monterey Bay—are currently eligible to use summary settlement authority. NOAA GCEL is responsible for establishing the summary settlement schedules for the sanctuary system. Routinely used in fisheries enforcement, summary settlement schedules establish fixed fine amounts for small misdemeanors (e.g., damage or removal of markers) and allow both federal and state enforcement officers in the field to issue tickets on the spot, similar to a traffic ticket process. Summary settlements are typically handled by JEA partners.

In the absence of a summary settlement, an enforcement agent has the option of issuing an oral or written warning or referring the case to GCEL for prosecution. NOAA GCEL can issue a notice of violation and assessment (NOVA). The NOVA process has been known to take months

or years after violations occur for respondents to receive the notices or settle the case. Enforcement officials we spoke to said the majority of sanctuary cases are not complex and do not require NOVAs. They also said JEA partners would be more inclined to pursue sanctuary violations if they could issue summary settlements because they offer an immediate sanction which could assist to deter future violations. Several state law enforcement officials confirmed this statement. While NOVAs would still be used for larger and more serious violations, summary settlements seem to make sense for low level civil violations that have minimal natural resource impact.

Between July 1, 2005, and June 30, 2006, Florida Fish and Wildlife Conservation Commission officers issued 171 summary settlements (totaling \$22,275) for sanctuary violations in the Florida Keys. In that same time period, only one NOVA (\$10,000) for a sanctuary violation in the Florida Keys was issued. The summary settlement violations ranged from vessel groundings (causing limited damage to sea grass) to fishing in special protected areas of the sanctuary. The funds are used for various site-specific management activities including enforcement, buoy maintenance, and vessel maintenance.

There were three summary settlements issued during FY 2007 for the Monterey Bay sanctuary, while none were issued during this time period for the Hawaiian Islands Humpback Whale sanctuary. Sanctuary officials believe the low number was due, in part, to inadequate current summary schedules. The Hawaiian Humpback Whale sanctuary only allows summary settlement action for one specific violation involving the discharge or deposit of fuel or oil from recreational vehicles in the sanctuary (\$100 fine). The current schedule for Monterey Bay only allows summary settlement action for four specific violations with fine amounts that Monterey Bay sanctuary and law enforcement officials believe are too low to deter future violations (see figure 8). Other violations that they believe should be covered under its summary settlement schedule authority include (1) aircraft disturbance of sea birds and marine mammals, (2) unauthorized or improper jade collection, and (3) the removal, possession, or damage of historical or cultural resources. The Monterey Bay summary settlement schedule sets a fine of only \$100 for depositing trash in the sanctuary. By contrast, the 2005 National Park Service Bail Forfeiture Schedule sets a \$200 fine for polluting or contaminating national park waters. Discharging oil from recreational vessels yields a \$100 fine under the Monterey Bay summary settlement schedule, but the state of California has a \$325 fine for discharging oil into state waters.

Figure 8. **Summary Settlement Schedule for Monterey Bay National Marine Sanctuary**

<u>Violation</u>	<u>Penalty Amount</u>
Discharging or depositing, from within or from beyond the boundary of the sanctuary, any non-exempt material or matter:	
Fuel, oil, etc, from recreational vessels	\$100
Trash	\$100
Raw material (unprocessed and not hazardous)	\$100
Operating motorized personal water craft in an illegal zone within the sanctuary	\$500

Source: NOAA Southwest Region Summary Settlement Schedule, May 29, 2007

Overall, summary settlement authority can broaden sanctuary enforcement response options within the sanctuary system, resolve minor violations efficiently, and free up OLE and GCEL resources to focus on more complex cases. The creation of a summary settlement schedule for all sanctuaries has been on GCEL's agenda for the past several years. During our review, GCEL officials informed us that they hope to complete this effort by the end of calendar year 2007. At the time of this writing, this effort was not completed. We encourage GCEL to work collaboratively with the sanctuary site superintendent, regional director, and NMSP director to create summary settlement schedules for the remaining sanctuary sites and update the existing sanctuary summary settlement schedules (including the type of violations and penalty amounts), as appropriate.

JEA partners receive limited sanctuary-related training. We found that training provided to JEA partners on sanctuary regulations is minimal. State enforcement officers informed us that sanctuary-related training is ad hoc and mainly consists of on-the-job training (e.g., accompanying a biologist on a grounding assessment). Training state and territorial officers on primary federal laws they are charged with enforcing, including the National Marine Sanctuaries Act, is important because without the training, these state resources are not being maximized.

GCEL authorities told us both OLE and GCEL conduct a training session for the state or territorial enforcement officers when a new JEA is signed, with GCEL focusing on legal issues and OLE focusing on operations. However, neither entity could provide us with specific examples of what kind of sanctuary training is provided at these sessions. Regulations concerning sanctuaries are site-specific and focused training is required for each sanctuary. Some areas where sanctuaries are located, such as the Florida Keys, have high employee turnover rates, so offering this type of training only at the beginning of a JEA partnership is probably not sufficient. NMSP should work with OLE and GCEL to put in place a training program that would be beneficial to the state and territorial enforcement officers who are charged with enforcing sanctuary regulations.

### **Recommendations:**

**We recommend that the Under Secretary for Oceans and Atmosphere, in conjunction with the NMFS and NOS Assistant Administrators and the NOAA General Counsel, take the necessary actions to ensure that:**

- The OLE director requires the operations plan under each relevant joint enforcement agreement to include a detailed description of the type of sanctuary work to be performed by state and territorial government partners (including designated man hours) and that NMSP receives a regular report of the actions taken by the partners under the agreement.
- The NMSP director incorporates the activities outlined under the Memorandum of Agreement between it and the state of Florida under OLE's joint enforcement agreement with Florida.

- The assistant general counsel for GCEL creates summary settlement schedules for the remaining sanctuary sites and updates the existing sanctuary summary settlement schedules (including the type of violations and penalty amounts), as appropriate.
- The NMSP director, the OLE director, and the assistant general counsel for GCEL work together to provide relevant joint enforcement agreement partners with regular agent and officer training on sanctuary regulations.



In its written response to our draft report, NOAA generally concurred with all four recommendations. With regard to our recommendation that OLE amend the operations plan under each relevant joint enforcement agreement to include a detailed description of the type of sanctuary work to be performed by state and territorial government partners, the response stated that NOAA has already begun to revise some plans with its partners as part of NOAA's annual review of each joint enforcement agreement. NOAA's response cites the example used in our draft report regarding the augmentation of the operations plan with the state of Georgia. NOAA also concurred with our recommendation that NMSP should receive a regular report of the actions taken by the partners under the agreements. NOAA's actions will meet the intent of our recommendations once fully implemented.

With regard to our recommendation that NMSP incorporate the enforcement activities outlined under its Memorandum of Agreement with the state of Florida under OLE's joint enforcement agreement with Florida, the response stated that implementation of this recommendation should be phased in over a three-year period. Specifically, it stated that the existing Memorandum of Agreement should not be abandoned without development of a thoughtful, phased approach, mutually agreed to by NMSP, OLE, and the state of Florida, with milestones for direct and quantifiable enforcement of the Florida Keys National Marine Sanctuary regulations. The response also noted that funding the project through joint enforcement agreements will align OLE more closely with the sanctuary program and enhance NOAA's mission support overall. We agree. As such, NOAA's planned action will meet the intent of our recommendation once implemented.

With regard to GCEL updating existing summary settlement schedules and creating summary settlement schedules for the remaining sanctuary sites, NOAA's response stated that GCEL has been working over the course of the last year to develop an updated and expanded summary settlement schedule to cover the 13 sanctuaries. In addition, NOAA noted that on January 4, 2008, a draft schedule was circulated to GCEL enforcement attorneys nationwide, who are currently reviewing and commenting on the draft. After this internal review, GCEL anticipates providing the draft national summary settlement schedule to OLE and NMSP for review and comment by late January 2008 and publishing the new schedules by March 2008. NOAA's action will meet the intent of our recommendation once implemented.

With regard to providing relevant training on sanctuary regulations to joint enforcement agreement partners, NOAA's response stated that NMSP, OLE, and GCEL will work together to

develop briefing materials and job aids for use on the water, and hold training workshops, as resources become available. The response also noted that NMSP believes it would be important to also extend this training effort to NOAA's Office of General Counsel for Natural Resources, U.S. Coast Guard, and other partners involved in enforcing sanctuary regulations. We agree. Once implemented, NOAA's planned actions will meet the intent of our recommendation.

### ***C. NMSP needs more enforcement data to help better manage sanctuaries***

With the exception of the Florida Keys National Marine Sanctuary, the sanctuary program is not routinely notified of the nature and scope of ongoing or closed enforcement cases. We also found that OLE agents are not recording all of the violations that occur in sanctuaries. In addition, the sanctuary program is generally not notified in a timely manner when funds collected for violations are deposited into one of its civil penalty accounts. While we understand that neither OLE nor GCEL can provide sanctuary officials with law enforcement sensitive information (e.g., name of entity under investigation), we believe that more information should be shared to enable NMSP to better manage sanctuary resources.

Sanctuary case information is not routinely provided to NMSP. In December 2006, OLE and GCEL officials agreed to update NMSP on a regular basis on ongoing and closed cases involving violations in the sanctuaries. Since then, the OLE headquarters sanctuary point-of-contact generally meets with headquarters sanctuary officials on a weekly basis, and a GCEL official tries to meet with headquarters sanctuary officials on a monthly basis to update them on specific cases and issues. These meetings have helped strengthen the cooperation between the three offices, but NMSP headquarters officials responsible for monitoring sanctuary enforcement say they are still unsure of the scope of enforcement cases within the sanctuary system. GCEL does not routinely provide the sanctuary program with comprehensive updates on ongoing and closed cases. Although GCEL provided sanctuary program officials a summary of sanctuary cases in February 2007, it was incomplete. Specifically, the summary did not include all ongoing cases nor did it include penalty information (e.g., dollar amount of fines) for all applicable cases. In July 2007, GCEL provided another summary of sanctuary cases to the sanctuary program which was more complete than the previous summary. But sanctuary officials still need to know where in the sanctuary the violations are occurring (especially in the larger sites with marine zones) so they can better target preventative enforcement efforts. Sanctuary officials said when they see an increase of natural resource cases in a certain location, they try to determine if a navigational marker is missing or if they need to do some targeted outreach to the local boat or watercraft charter/rental agencies.

Again, we are not suggesting that law enforcement sensitive information regarding ongoing cases should be shared with sanctuary program officials. But we believe that in the spirit of cooperation, sharing of general case information on both ongoing and closed cases would be helpful to sanctuary program officials. Specifically, unless sanctuary officials understand the general nature and scope of violations in the sanctuary system, the sanctuary program cannot adequately determine whether they need to increase or refocus their investment in enforcement resources, including staff, vessels, or equipment. Without this information, sanctuary officials don't know what regulation areas need to be emphasized in public outreach. For example, if

there are a number of spear fishing violations in a particular sanctuary, then sanctuary officials can focus their outreach on the spear fishing regulation and diving community in that area.

OLE Does Not Track Non-Sanctuary Related Violations in the Sanctuaries. OLE tracks sanctuary-specific violations but does not track nonsanctuary-related violations in sanctuaries, although the latter information would also be helpful to sanctuary officials. This is mainly because cases are currently categorized in OLE's Law Enforcement Accessible Database System (LEADS) by type of violation, not by geographic area. For example, a whale harassment case in Stellwagen Bank would only be recorded in LEADS as a "marine mammal" violation although the offense also occurred in a sanctuary. Information about this type of violation would be useful to Stellwagen Bank sanctuary officials because of their current whale monitoring efforts.

LEADS, which was implemented in 2006, has subfields under the violations category to reflect the location of an offense, but OLE does not require its agents and officers to report the location of an offense. Based on our discussion with OLE officials regarding this issue, they now acknowledge the benefits of capturing this type of data in the system. In order for the sanctuary program to make the best management decisions, it needs to fully understand the nature and scope of all marine resource violations that occur in the sanctuary system. As such, we recommend that OLE require its agents and officers to mark the appropriate sanctuary field in LEADS if a nonsanctuary-related violation occurs in a sanctuary.

NMSP is not notified of deposits to sanctuary civil penalty accounts. Checks or money orders received for NOVAs or summary settlements involving violations of the sanctuary act are forwarded to NOAA's finance office via a lock box. For NOVAs, the transfer includes a memo from GCEL designating the specific sanctuary account to credit the funds to. Payments for summary settlements are transferred in a similar way by the relevant OLE regional office. Neither GCEL nor OLE includes NMSP in this notification process. GCEL officials said it would be a burden for GCEL staff to copy NMSP every time sanctuary civil penalties are received and transferred. OLE, on the other hand, did not realize that NMSP was not notified and agreed that NMSP should be informed of this transfer.

In FY 2006, \$403,600 in sanctuary civil penalties was assessed and \$96,369 was collected.<sup>13</sup> In FY 2007, \$115,725 was assessed and \$260,055 was collected. The monies were deposited into the civil penalty accounts for the Channel Islands, Gulf of Farallones, Florida Keys, and Monterey Bay sanctuaries. NMSP can run a collection report from NOAA's financial system to identify the deposits made in a particular sanctuary account by date, but it is also important to know how much money GCEL or OLE received and transferred so that NMSP staff can determine if any of the funds were misplaced or lost in the transfer or misallocated to a different sanctuary. While we agree that producing a separate memo every time penalties are received and transferred to NOAA Finance might be burdensome, we believe that GCEL and OLE should include NMSP as an addressee on the memo to NOAA finance when transferring funds to the sanctuary civil penalty accounts.

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<sup>13</sup> Some settlement agreements allow for multiyear payments.

**Recommendations:**

**We recommend that the Under Secretary for Oceans and Atmosphere, in conjunction with the NMFS and NOS Assistant Administrators and the General Counsel, take the necessary actions to ensure that:**

- The assistant general counsel for GCEL provides the sanctuary program with non-law enforcement sensitive information pertaining to ongoing and closed OLE cases (including the type of regulations violated, date and location of violations, and penalties assessed and collected).
- The OLE director requires its agents and officers to mark the appropriate sanctuary box in the Law Enforcement Accessible Database System when nonsanctuary-related cases occur in a sanctuary.
- The OLE director and the assistant general counsel for GCEL include the appropriate sanctuary officials as addressees on the memos to NOAA finance when transferring funds to sanctuary civil penalty accounts.



In its written response to our draft report, NOAA generally concurred with the three recommendations in this section. With regard to our recommendation that GCEL provide the sanctuary program with non-law enforcement sensitive information pertaining to ongoing and closed OLE cases, the response stated that NOAA will implement a process with NMSP, OLE and the Office of General Counsel (both GCEL and the General Counsel for Natural Resources) to reconcile handling and management of case-related information. NOAA's response noted that these offices will work to establish protocols for the regular exchanges of information regarding ongoing and closed cases in general. Once implemented, NOAA's actions will meet the intent of our recommendation.

As for our recommendation that the OLE Director require its agents and officers to mark the appropriate sanctuary box in the Law Enforcement Accessible Database System when non-sanctuary-related cases occur in a sanctuary, the response stated that OLE does require the identification of the specific sanctuary in which an incident occurs in all relevant reporting, not just in violations of National Marine Sanctuary Act cases. However, the response agreed that it is critical for NMSP and each site to be aware of the full extent of resource violations occurring in sanctuary waters in order to best direct outreach efforts to reach key user groups. Accordingly, NOAA's response stated that OLE will review its report review processes to increase compliance and will investigate opportunities to institute mechanical requirements (i.e., use of mandatory field for data entry) to better capture this information. Once implemented, NOAA's proposed actions will meet the intent of our recommendation.

Finally, with regard to our recommendation that OLE and GCEL include the appropriate sanctuary officials as addressees on the memos to NOAA finance when transferring funds to

sanctuary civil penalty accounts, NOAA's response stated that GCEL has revised its procedures to copy NMSP on lockbox deposit memos in order to provide notification of payments on Notices of Violation and Assessments. In addition, OLE's procedures to document the receipt of funds received for summary settlements involving violations of the National Marine Sanctuary Act will be revised to require notification to the NMSP. NOAA's action will meet the intent of our recommendation once fully implemented.

### **III. Management of the Sanctuary Program Has Significantly Improved, but Several Issues Require More Attention**

Over the past four years, sanctuary program managers have implemented a number of program improvements, including (1) creating a regional office structure, (2) mandating annual operating plans for individual sanctuaries and regional offices, (3) developing consistent programmatic performance measures, (4) requiring system-wide monitoring and sanctuary condition reports, and (5) creating a headquarters-level position to manage operations, facilities, and assets. We found that these improvements have already provided operational benefits, such as improved coordination with regional agency counterparts, budget decisions that are more closely aligned with sanctuary program goals, and scientific reports that provide a baseline of sanctuary conditions throughout the system. We anticipate that these improvements will help the sanctuary program continue to achieve its goals and objectives as the program matures. However, we found the following two areas require more attention: the completion of management plan reviews and budgeting for operating vessels, visitor facilities, and buoys.

#### ***A. The 5-year statutory requirement to complete management plan reviews has not been met, but additional resources are now helping to speed up the process***

The National Marine Sanctuaries Act requires that a management plan be prepared for a proposed national marine sanctuary, and the plan must be reviewed and updated, as necessary, at least once every five years after designation. Each plan is drafted with significant public participation and input and generally includes the following information:

- Terms of the proposed designation;
- Proposed mechanisms to coordinate existing activities by local, regulatory and management authorities within the area;
- Proposed program goals and objectives, management responsibilities, and strategies for managing sanctuary resources;
- Estimated annual sanctuary operating costs to the federal government; and,
- Proposed regulations within the sanctuary's boundaries.

A management plan is also accompanied by an environmental impact statement and sanctuary boundary maps, which together constitute a part of what collectively is referred to as a sanctuary's designation documents. Generally, management plans become final and effective upon a sanctuary's designation and are important tools that help sanctuary superintendents and their staffs promote the site's goals and establish objectives and priorities in areas such as education and outreach, research, resources protection and restoration, and enforcement. As noted above, the act requires that each plan be reviewed and updated as needed at least once every 5 years.

Each of the system's 13 marine sanctuaries and the marine national monument has its own management plan review schedule, which is dictated by a site's designation date and whether the site's staff and SAC are prepared to carry out this effort (see table 3).

Table 3. Status of Management Plan Reviews, As of February 5, 2008

Sanctuary and Year of Previous Management Plan	Start Date <sup>a</sup>	Review Status
Channel Islands (1983)	June 11, 1999	In progress <sup>b</sup>
Cordell Bank (1989)	November 8, 2001	In progress <sup>c</sup>
Fagatele Bay (1984)	Starting First Review in 2008	
Florida Keys (1996)	June 8, 2001	Completed – January 2008
Flower Garden Banks (1991)	September 7, 2006	In progress
Gray’s Reef (1983)	November 19, 1999	Completed – October 2006
Gulf of the Farallones (1987)	November 8, 2001	In progress <sup>c</sup>
Hawaiian Islands Humpback Whale (2002)	First review completed in 2002 Starting Second Review in 2008	
Monterey Bay (1992)	November 8, 2001	In progress <sup>c</sup>
Olympic Coast (1994)	Starting First Review in 2008	
Papahanaumokuakea (N/A)	Creating original management plan in 2008	
Stellwagen Bank (1993)	November 18, 1998	In progress
Thunder Bay (1999)	September 7, 2006	In progress
Monitor (1983)	Starting First Review in 2008	
<i>Sources: Federal Register, NMSP staff</i>		
<sup>a</sup> A review begins with the publication of a notice of intent to review a sanctuary’s management plan in the <i>Federal Register</i> and ends with the publication of a notice of availability of the final management plan.		
<sup>b</sup> Channel Islands sanctuary anticipates completing its management plan review by January/February 2008.		
<sup>c</sup> Cordell Bank, Gulf of the Farallones, and Monterey Bay sanctuaries anticipate completing their management plan reviews in Spring 2008.		

When we conducted our review, all but the Papahanaumokuakea Marine National Monument had a management plan in place, but most of the sanctuaries had not updated their original management plans in more than 10 years. This means that none of the sanctuaries was in compliance with the act’s requirement that each site review and update its management plan at least once every 5 years.<sup>14</sup> However, as of February 5, 2008, seven sites were undergoing management plan reviews.<sup>15</sup> Reviews at the Fagatele Bay, Hawaiian Islands Humpback Whale, Olympic Coast, and the Monitor sanctuaries are slated to begin in 2008. The Papahanaumokuakea Marine National Monument was designated by presidential proclamation on June 15, 2006, under the American Antiquities Act of 1906, as amended. A final management plan was not issued upon designation because it did not undergo the designation process as established under the National Marine Sanctuaries Act. However, the monument plans to issue its first management plan in 2008.

Revising a management plan requires public meetings often in geographically dispersed areas to identify resource management issues and define activities to carry out within the sanctuary. Local sanctuary staff also work with its SAC to study sanctuary issues and develop targeted action plans to meet the sanctuary’s objectives. Once a plan is completed by the site, in both draft and final forms, it goes through NOAA management clearance that involves the

<sup>14</sup> When we conducted our review, only two sanctuaries had revised their original management plans—the Hawaiian Islands Humpback Whale in 2002 and Gray’s Reef in 2006, but these revisions were not completed within the 5-year requirement.

<sup>15</sup> The Florida Keys sanctuary completed the review of its original 1996 management plan on January 11, 2008.

concurrence of NMSP, NOS, NMFS, OGC, the Under Secretary for Oceans and Atmosphere, and, if regulatory changes are proposed, the Secretary of Commerce.

As table 3 shows, several sites have been conducting their management plan reviews over a period of a number of years. For example, Stellwagen Bank's and Channel Islands' management plan reviews have been underway since November 1998 and June 1999, respectively. Superintendents and staff at these sites attribute delays to a number of reasons, such as a change in site leadership and staff, limited resources, redirecting staff to respond to a time sensitive issue, deliberating with sanctuary partners on a plan's content, negotiating with NMFS on fishing regulations, and evaluating extensive public comments.<sup>16</sup> We were also told that reviews were delayed because some staff and SAC members did not have sufficient knowledge and training to carry out a review and that staff and SAC members learned the process on-the-job. Therefore, the next round of management plan reviews should be less time consuming.

Senior sanctuary program managers and staff at headquarters acknowledge that management plan reviews should be completed in less time, but they emphasize the need to have broad public participation in this effort. They note that each sanctuary has unique issues that are addressed differently. Such issues include prohibiting anchoring in sea grass protection zones in the Gulf of the Farallones, revising the definition of motorized personal watercraft in Monterey Bay, restricting the type of spear fishing within Gray's Reef, and strengthening discharge restrictions for ships in the Channel Islands. It is also worth noting that some management plan reviews are more complex to undertake than others are, which can be attributed to issues such as the sanctuary's size, location, types of resources protected, and the level of use.

Sanctuary program managers have recently taken a number of steps to improve the management plan review process. In May 2007, sanctuary program headquarters office issued a set of organizational performance measures, one of which calls for NMSP to complete six current reviews by the end of calendar year 2008.<sup>17</sup> Another measure states that by 2010, NMSP plans to decrease the average length of time for completion of a management plan review to 36 months. This schedule will be applied to sanctuaries which began reviews between 2006 and 2008. If implemented, we believe that these measures will help improve the sanctuary program's management of individual sanctuary operations. Last year, sanctuary program headquarters staff began tracking the status of management plan reviews, requesting monthly updates from site superintendents on plan review progress. Staff from the regional and headquarters offices have also traveled to individual sites to provide training to local staff and SAC members to educate them on the review process before a site begins a review. Regional superintendents have incorporated the completion of management plan reviews into each sanctuary superintendent's performance plan.

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<sup>16</sup> If a management plan review calls for adopting fishing regulations, the appropriate fishery management council must be given 120 calendar days to make recommendations and have the opportunity to create a draft proposal for such regulations. The fishery management council may ask for and will typically be granted an extension during this process.

<sup>17</sup> This measure does not apply to the current reviews at Thunder Bay and Flower Garden Banks sanctuaries.

Delays in plan implementation may affect a site's budget planning and the promulgation of regulations, thus possibly impacting sanctuary resources by not having additional resource protections in place. Also, we noted that delays in completing reviews can result in diminished public interest and increased dissatisfaction with the sanctuary planning and implementation process. Several SAC members and sanctuary partners at some sites told us that they are frustrated with the amount of time it has taken to review their site's management plan. We encourage the sanctuary program director to continue to actively oversee the management plan review process and hold superintendents accountable for completing their reviews and revising their plans promptly.

**Recommendations:**

**We recommend that the Under Secretary for Oceans and Atmosphere, in conjunction with the NOS Assistant Administrator, take the necessary actions to ensure that:**

- The NMSP director completes sanctuary management plan reviews promptly, consistent with the program's performance measures and the requirements of the National Marine Sanctuaries Act.
- The NMSP director holds superintendents that have ongoing management plan reviews accountable for completing them within established timeframes.



In its written response to our draft report, NOAA concurred with both of the above recommendations. NOAA said that it is already working to remedy the problems that previously caused delays in completing management plan reviews so as to avoid them in the future. However, it cautioned that circumstances beyond its control, such as the availability of funding and staff resources, may still contribute to delays in the future. Also, NOAA stated that it would be instituting agreements signed by the superintendents and others, which document work plans for reviews, including timetables. Again, NOAA cautioned that circumstances beyond its control, such as deliberations between NMSP and NMFS, may cause delays in the management plan reviews. NOAA's actions will meet the intent of our recommendation once implemented. We request copies of the signed agreements with sanctuary superintendents (when applicable) as part of NOAA's action plan.

***B. Funding shortfalls could hamper maintenance and operation of vessels, some visitor interpretative centers, and data buoys***

Sanctuary program officials and external stakeholders told us that vessels, visitor centers, and data buoys are necessary to implement different aspects of the sanctuary program's mandates. Vessels, for example, are needed for enforcement of sanctuary regulations and for monitoring natural and cultural resources. Data buoys provide water quality data in sanctuary waters that was described by many sanctuary and external researchers as critical to the sanctuary's

monitoring program. Visitor centers promote public awareness and provide educational information to the public. However, in FY 2008 funding shortfalls could hamper maintenance and operation of certain vessels, visitor interpretative centers, and data buoys at some sanctuaries.

“A major issue is our inability to confirm outyear obligations for service maintenance of the buoys.”  
-- Senior NMSP headquarters official

“Each site scrambles to find money within their own base budget to operate and to maintain facilities.”  
-- Senior NMSP official

The forecasting and coverage of maintenance and operational costs for outyears seems to be a problem in the sanctuary program for two reasons. First, the sanctuary program has received recent Congressional earmarks for vessels and visitor centers -- beneficial but unplanned funding. However, after the initial purchase or construction is completed, the earmark does not provide operating funds. Second, in 2004 and 2005, the sanctuary program invested in 35 data buoys to obtain water quality data for west coast sites. The program made the decision to become involved in these buoy operations, managed by university and private organizations, without a backup plan to continue support in future years. With reduced NMSP budgets since 2005, money for buoy maintenance and operations is dwindling.

In 2007, as part of the annual operating budget process for FY 2008, the sanctuary program for the first time required its managers to forecast infrastructure costs, such as fuel and maintenance costs for vessels, and recurring costs at visitor centers, in their annual operating plans. While this is a positive start, the sanctuary program must continue to more effectively plan for these costs as part of its annual operating plan and budget process. This past year, the program also developed an automated program to estimate costs for vessel maintenance and operations, which includes prior year maintenance, fuel, and crew costs. It is being piloted at the Stellwagen Bank and the Florida Keys sanctuaries. While this should provide the sanctuary program with better information about prior year costs and improve its vessel operations and maintenance budget forecasting, the five new vessels will further strain tight budgets in FY 2008.

Vessels. Most sanctuaries have not yet had to remove vessels from operation or reduce days at sea by eliminating contracts for crew. However, in 2008, five new vessels, funded as 2006 Congressional earmarks, are expected to become operational (see table 4). We heard from several sanctuary officials and site managers that when these

Table 4. **Sanctuary Vessels, Visitor Centers, and Permanent Exhibits**

Site	Number of Vessels	Visitor Centers	Exhibits
Channel Islands	2*		X
Cordell Bank	1		X
Fagatele Bay	1*	X	X
Florida Keys	26	X	
Flower Garden Banks	1*		X
Gray's Reef	2		X
Gulf of the Farallones	1	X	X
Hawaiian Islands Humpback Whale	2*	X	X
Monterey Bay	2	X	X
Olympic Coast	2	X	
Papahanaumokuakea	0*	X	
Stellwagen Bank	3		X
Thunder Bay	1	X	X
U.S.S. <i>Monitor</i>	0	X	X
<b>Totals</b>	<b>44</b>	<b>9</b>	<b>11</b>
<i>Source:</i> NMSP			
*Earmarks for vessel received in 2006			

vessels come on line, several sites will need to (1) use funds previously planned for program activities at both headquarters and certain sites to cover some operations and maintenance for certain vessels and/or (2) reduce the number of days at sea for certain new or existing vessels.

Visitor Centers. Due to decreases in Operations, Research, and Facilities (ORF) funding and/or the lack of commensurate increases to ORF budgets for operations and maintenance, hours of operation for some visitor facilities have been decreased, and other sites are considering similar action. However, we heard from several site managers that closing a visitor center for a few days a week will not save the program much money, since the utilities often continue to run, especially with live exhibits, and many centers are staffed by volunteers, not paid staff. While user fees might seem like a reasonable revenue source to help fund the operation of visitor centers, the sanctuary program does not generally seek or receive payments or user fees from partners or users of sanctuaries' products or services. Although not expressly prohibited, senior sanctuary officials told us that they believe the act does not permit the collection of user fees to recover costs for research, public use, or educational permits.<sup>18</sup>

Likewise, the sanctuary program does not collect user or entrance fees to defray operating costs for visitor centers, although donation boxes are sometimes placed in key locations in the centers. The sanctuary program generally staffs the facilities with sanctuary staff, volunteers, or National Park Service interns. At the Gulf of the Farallones sanctuary, a local association pays for the visitor center staff. Furthermore, the National Marine Sanctuary Foundation actively supports visitor center exhibits and the development of new independent local associations affiliated with the individual sanctuaries<sup>19</sup> and is exploring the establishment of local chapters of the National Marine Sanctuary Foundation to promote more local fundraising and volunteerism.

While opinions are mixed, numerous NOS and NMSP officials indicated that they generally oppose user fee collections for sanctuary visitor centers because they said (1) visitors would be discouraged from visiting the centers and NOAA would lose the opportunity to educate the public about marine ecosystems and maritime heritage, and (2) the transactional costs would exceed the returns unless the entrance fees were prohibitively high. At the U.S.S. *Monitor* sanctuary via a public-private partnership, the private museum partner collects entrance fees and uses a portion of those fees to support U.S.S. *Monitor* exhibits and education programs within the museum. With the notable exception of the U.S.S. *Monitor* arrangement, sanctuary program visitor facilities generally do not defray their own operational and maintenance costs and may be missing out on opportunities to do so. The sanctuary program should conduct a review of the various funding alternatives and determine the most effective ways to support visitor centers, focusing on partnerships with local associations but not ruling out seeking statutory authority to collect and use appropriate user fees.

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<sup>18</sup> NMSP is specifically authorized to collect fees for special use permits for commercial enterprises. In rare cases, such as for flights over West Coast sanctuaries for filmmaking and for laying fiber optic cable at the Stellwagen Bank and Olympic Coast sanctuaries, NMSP has determined fair market value for the use of the sanctuary and charged the commercial enterprises for such usage as part of the special use permit.

<sup>19</sup> The National Marine Sanctuary Foundation assists with the development of local associations at the Thunder Bay and the Hawaiian Humpback Whale sanctuaries. It has also helped to fund exhibits to promote sanctuaries, for example, at the New England Aquarium in Boston (the Stellwagen Bank sanctuary), the Mariners Museum in Newport News, Virginia (the USS *Monitor* sanctuary), and the Florida Keys Eco-Discovery Center.

Data buoys. The sanctuary program invested in 35 west coast data buoys in 2004 and 2005 to obtain water quality data for west coast sites. The sanctuary program currently pays about \$25,000 per year to several university and other local partners to help maintain and sometimes augment partners' existing buoy arrays. But as one headquarters official told us, "[n]ow this extra money is not in the system to maintain [the buoys]." Although sanctuary sites on the west coast have not yet decreased funding to local organizations or universities working to maintain data buoys, we heard from several sanctuary managers that they cannot tell their partners involved in buoy activities that funds will be available to continue the partnerships in the future because of the lack of confirmed funding, and that this uncertainty negatively affects the partnership. We heard from several sanctuary officials and managers that it is possible that the sanctuary program will not be able to meet its commitments with respect to buoy maintenance in FYs 2008 and 2009.

We recommend that the sanctuary program develop a strategy and a mechanism to better estimate and identify resources to cover lifecycle maintenance and operational costs for existing or proposed sanctuary vessels, visitor centers, or data buoys.

### **Recommendations:**

**We recommend that the Under Secretary for Oceans and Atmosphere, in conjunction with the NOS Assistant Administrator, take the necessary actions to ensure that:**

- The NMSP director develops a strategy and a mechanism to estimate and identify resources to cover lifecycle maintenance and operational costs for existing or proposed sanctuary vessels, visitor centers, and data buoys. New vessels, facilities, or buoys should not be acquired or undertaken without identification of adequate resources to cover the out-year costs.
- The NMSP director conducts a review of viable alternatives and identifies the most effective and appropriate ways to (1) support visitor centers, including seeking statutory authority to collect and use entrance or user fees, and partnering with local associations that could support, raise funds, and promote volunteerism for the sanctuary visitor centers, and (2) pay for the operating and maintenance costs for sanctuary vessels and data buoys.



In its response to our draft report, NOAA stated that progress has already been made with these two recommendations – NMSP has produced several documents that estimate out-year costs for operations and maintenance (O&M) for small boats and facilities. NOAA cautioned that although NMSP needs to be fully aware of the long-term implications of its investments, “resolution of this problem remains outside NOAA's control if procurement, acquisition, and construction funds continue to be earmarked to build without commensurate increases in operations, research, and facilities funding to operate or maintain vessels and facilities.” In addition, NOAA noted that NMSP is currently engaged in the development of site and regional master plans for facilities that further specify O&M projections and recently piloted an

automated system to better account for vessels maintenance, fuel, and crew costs. With regard to data buoys, NOAA agreed that long-term operational costs should be factored into decisions to acquire them in the future and that it should employ methods to minimize such costs. Once implemented, NOAA's actions and planned actions will meet the intent of our recommendation.

#### **IV. NMSP Collaborates with Many Partners, but Stronger Coordination is Warranted in Some Cases**

The sanctuaries actively collaborate with partners, such as local schools; user groups; other federal agencies; state, territorial, and local governments; universities; and other non-governmental organizations. By including members representing a wide range of program stakeholders and by building strong foundations for public support and engagement, the sanctuary advisory councils serve as effective forums to promote collaboration. Sanctuary sites also have active outreach and education programs to promote public awareness of marine resources.

NMSP also collaborates with many of its partners to conduct research within the sanctuaries, monitor the resources, and provide data needed by the sanctuary sites to manage sanctuary resources. However, we found that efforts to publicize certain key sanctuary research results could be improved. In addition to improving its research dissemination, we heard from many stakeholders that the sanctuary program's relationship with NMFS, although improving in some regions, still needs work. In cases where the sanctuary program proposes to regulate fishing within a sanctuary's boundaries, there is often controversy between NMSP, NMFS, and the fishery management councils. NOS, NMSP and NMFS leadership should develop more effective ways to improve their working relationships at sanctuary sites.

##### ***A. Most sanctuary sites have active public outreach and education programs***

Every sanctuary site has outreach and education activities, which are generally handled by one or more education coordinators and/or specialists with some assistance from SAC members and volunteers. We found that education and outreach employees, who have backgrounds in education or marine science and receive communications training, actively promote the national marine sanctuary system, employing online and print media, visitor centers, permanent exhibits, and an area's maritime heritage.

##### Efforts by education and outreach employees promote awareness of marine sanctuaries.

Education and outreach staff at sanctuary sites use a number of tools to promote sanctuary awareness, including the sanctuary program's Web site, which has links to related individual sanctuary sites. These links provide information about the science and research, education, resource protection, maritime heritage activities (if applicable), management issues, regulatory information, and news and events at each sanctuary. In addition, sanctuary education and outreach employees issue press releases and contribute articles to local newspapers and other publications. Some sites, such as the Stellwagen Bank and Gulf of the Farallones sanctuaries, print their own newsletters for target audiences. At the Cordell Bank sanctuary, the education specialist discusses sanctuary issues and interviews knowledgeable guests on a monthly local public radio program called Ocean Currents. The Florida Keys sanctuary hosts a local public television program, Waterways, with a similar format. Shows are archived as multimedia files on sanctuary Web sites and are available for download.

Sanctuary education and outreach staff also produce brochures and informational literature for public dissemination. At the Florida Keys sanctuary, local tourist maps contain sanctuary information and regulations. The Georgia Coastal Resources Division's annual sport fishing regulations handbook includes Gray's Reef sanctuary rules and regulations. The Alpena, Michigan, convention and visitor's bureau tourist brochure features information about the Thunder Bay sanctuary in a four-page insert. Sanctuary employees also attend local festivals and public events sponsored by the local sanctuary or external sponsors to pass out information to and interact with the public. Recent events include Thunder Bay sanctuary's Great Lakes Maritime Fest, the annual Ocean Film Festival sponsored by the Gray's Reef sanctuary, and the first annual NOAA Ocean Discovery Day, which was sponsored by the Flower Garden Banks sanctuary and NMFS. Sanctuary staff and volunteers also regularly distribute sanctuary literature at boat docks, harbors, local businesses, or on the water to educate the public about permissible activities within some sanctuary's boundaries.

Site education employees also sponsor teacher and student workshops. For example, the Flower Garden Banks sanctuary sponsors a well-attended annual summer teacher workshop that mixes classroom instruction with on-site dives to the sanctuary's coral reefs. Teachers can share their experiences with their students as part of their lesson plans. In addition, several sites, including Thunder Bay, have for the past several years sponsored a high school student competition where teams build models of underwater remotely operated vehicles (similar to the large ones used for research and exploration within the sanctuaries) that compete against each other. These competitions are designed to teach students teamwork and critical thinking skills while at the same time instructing about the sanctuary.

We also found that most sanctuary education coordinators are developing or have developed educational lesson plans and programs that adhere to relevant national or state education standards and are formulated with the help of local partners. Employees at the West Coast sanctuaries have promoted awareness through their Long-term Monitoring Program and Experiential Training for Students (LiMPETS) network. Program participants collect beach environmental data that is entered into an online database and used by scientists in their sanctuary-based research. Finally in a separate effort to reach out to Spanish-speaking audiences, the Monterey Bay sanctuary staff created an outreach program called MERITO (Multicultural Education for Resource Issues Threatening Oceans) that is designed to raise awareness of sanctuary issues and threats to the marine environment among local Spanish-speaking residents. This initiative was recently expanded to the Channel Islands sanctuary, and the sanctuary system continues to pursue program-wide expansion.

Sanctuary sites raise awareness by promoting maritime heritage. In addition to raising awareness of a sanctuary's natural resources, we found that many sites actively promote the maritime heritage of local coastal communities to raise public awareness of the sanctuary's related resources. This includes not only identifying and promoting shipwrecks found within sanctuaries but also recounting the history of local fishing activities. In the Pacific Islands Region, maritime heritage staff have conducted a number of projects working closely with the National Park Service, Naval Historical Center, and the University of Hawaii at Manoa. These include research on the Japanese midget submarine in Pearl Harbor, historic naval aviation surveys, and local maritime heritage symposia, among others. The Channel Islands sanctuary has developed a

comprehensive, online database of shipwrecks located within the five West Coast sanctuaries. The Florida Keys and Stellwagen Bank sanctuaries have also undertaken efforts to raise awareness about shipwrecks and underwater cultural resources, with the former promoting a “shipwreck trail” within its boundaries. At Gray’s Reef sanctuary, the staff is developing a program with the sanctuary’s partners to recount the maritime cultural heritage of African-American communities along the Georgia coast to generate African-Americans’ interest in the sanctuary.

Sanctuary advisory councils are broadly representative and build strong foundations for public support and engagement.

Sanctuary advisory council members make recommendations to superintendents on sanctuary management, provide valuable input during a site’s management plan review, and support sanctuary activities in many ways. While the composition of a council is left to the discretion of the sanctuary superintendent, most councils have members representing diverse interests – from business and conservation to research, tourism, and the fishing industry (see figure 9). Councils also have at-large members representing localities near the sanctuary as well as representatives from federal, state, tribal, and local government entities serving in an ex-officio (non-voting) capacity.

Figure 9. **Sanctuary Advisory Council Member Constituencies:**

- Agriculture
- Business
- Commercial fishing
- Conservation & Environment
- Diving
- Education and outreach
- Maritime activity
- Maritime heritage
- Recreational activities
- Recreational fishing
- Research
- Resource protection
- Tourism

Source: NMSP

We found the council members we interviewed were generally supportive of the sanctuaries. Members said they actively promote sanctuary matters to their constituencies, provide input from their constituencies to the advisory councils and the superintendent, and work to obtain their respective constituencies’ buy-in of sanctuary proposals and projects. This is particularly important when working with the recreational and commercial fishing communities, agricultural interests, and commercial salvagers, who have not always been supportive of the sanctuaries’ establishment or regulatory activities.

Sanctuary volunteers help augment existing sanctuary resources. According to the program’s 2005-2006 *State of the Sanctuaries Report*, volunteers contribute more than 100,000 hours of service annually to the sanctuaries. They monitor sanctuary resources, staff visitor centers, and provide enforcement outreach at local businesses and on sanctuary waters under the direction of sanctuary staff. Volunteers participate in organized programs or simply help out as needed. At the Florida Keys and Monterey Bay sanctuaries, volunteers participate in a program called TeamOCEAN, providing on-site information on sanctuary regulations, uses, and resources to boaters and other sanctuary users. At the Gulf of the Farallones sanctuary, BeachWatch volunteers monitor and collect information on beach conditions and were instrumental in helping the staff locate a previously uncharted shipwreck that had been leaking fuel oil intermittently for several years. At the Stellwagen Bank sanctuary, volunteers serve on whale watching boats to educate the public on whale behavior and protection within the sanctuary. And at the Fagatele Bay sanctuary, volunteers constructed a hiking trail linking local Samoan villages with the sanctuary, which until then had been relatively inaccessible by land.

***B. Efforts to publicize research results to key audiences could be improved***

Despite all of the collaborative work described in the previous section, significant sanctuary activities and research results do not always reach key audiences. Education and outreach staff said they try to work with researchers to draft summaries of the results that are suitable for public dissemination. However, we were told that researchers oftentimes do not have time to help formulate summaries of their results given their other research priorities. Several research and education and outreach employees, including sanctuary program managers, acknowledged that they could do a better job translating scientific research results for the public and other researchers.

For example, research results show that the populations of spiny lobster and certain species of grouper and snapper increased after the establishment of no-take marine reserves in the Dry Tortugas and the Western Sambo Ecological Reserve, both within the Florida Keys sanctuary. Other sanctuaries considering establishing such no-take zones could benefit from this information. The research results were publicized locally to the Florida Keys staff and its advisory council and published in a scientific journal, but they were not disseminated to the public or key constituencies, such as fishery management councils, NMFS, and other advisory councils throughout the marine sanctuary system.

Communicating research and monitoring results to the public and the scientific community can increase general awareness of the sanctuary, help promote conservation of sanctuary resources, and encourage further sanctuary-related research. In addition, publicizing significant successes or concerns in one sanctuary to key audiences throughout the system can promote greater understanding of the sanctuary's resource protection efforts system-wide.

**Recommendation:**

**We recommend that the Under Secretary for Oceans and Atmosphere, in conjunction with the NOS Assistant Administrator, take the necessary actions to ensure that:**

The NMSP director instructs the science and research employees at sanctuary sites to work with education and outreach staff to (1) more effectively communicate significant sanctuary research results to key local constituencies and (2) publicize significant research results that might apply to other sanctuaries and key constituencies throughout the national sanctuary system.



In its response to our draft report, NOAA concurred with this recommendation, but suggested that the language be modified to require science and research staff to work with education and outreach employees in publicizing significant research results. NOAA felt that it would be incumbent upon science and research employees to determine what constitutes significant research results and then convey that information to the education and outreach staff for dissemination. This would also require that researchers prioritize education and outreach of their research within their own work plans and requirements. We concur and have modified the

recommendation accordingly for the final report. NOAA's actions will meet the intent of our recommendation once implemented.

***C. Sanctuaries actively leverage other resources to do research and bottom mapping, but more analysis and collaborative actions could increase resource protection***

The National Marine Sanctuaries Act's 2000 reauthorization identifies as a purpose of the sanctuary program "to support, promote, and coordinate scientific research on, and long-term monitoring of, the resources" in national marine sanctuaries. The sanctuary program's partners are instrumental to doing much of the research, monitoring the resources, and providing data needed by the sanctuary sites to manage sanctuary resources. The sanctuary program is improving its overall research and monitoring capacities and is working to strengthen its infrastructure by (1) providing additional scientific staffing at sanctuaries and at headquarters, (2) engaging in strategic planning for science-related issues, and (3) improving its information management.

**Figure 10. System Wide Monitoring (SWiM) and Condition Reports**

System Wide Monitoring (SWiM), the program's monitoring framework, can be applied to any marine sanctuary. It integrates information and data from partner monitoring efforts. The program asks each sanctuary to answer 17 questions that relate to the quality of water, habitats, and living resources and to maritime heritage resources. SWiM assists sanctuary staff to identify priority threats and develop responses to those threats. SWiM reports are complete at nine sites, and are in progress at the other sites. These will be done every five years.

Condition Reports, based on SWiM reports, are summaries of the status of resources at each sanctuary, rated on a color-coded scale from good to poor. The ratings, including trends, reflect the interpretation of sanctuary staff and outside experts, but final ratings are determined by sanctuary staff. Two sites have prepared and distributed a Condition Report, and the rest of the sites are working on their reports. Sites will issue these reports every two years.

*Source:* NMSP, A Monitoring Framework for the National Marine Sanctuary System, 2004

Additionally, site-specific System Wide Monitoring (SWiM) reports, mandated by the sanctuary program senior managers since 2004, have enabled the sanctuary program to work more strategically with its many partners to better prioritize the research needed to characterize habitats and do long-term monitoring of resources. Although more work is needed, now the program can work with its partners to systematically monitor the quality of a priority set of resources, and determine research needs and opportunities. The newly developed condition reports on each sanctuary provide another venue to measure and publicize the results of site-specific management of sanctuary ecosystems. These reports provide information that partners can use to plan and conduct their research in sanctuaries, and identify opportunities for the sanctuary program to leverage partners' resources and knowledge.

We found that the sanctuary program's decision in the 1990s to better fund and staff the Florida Keys and Monterey Bay

sanctuaries has enhanced integration and assessment of research data at those sites. However, at most sites, much of the integration and analysis of data is done by partners. Several research partners told us that overall the sanctuary program's data analysis and modeling capabilities are still in early development. The sanctuary program works closely with NOAA's National Centers

for Coastal Ocean Science (NCCOS) to integrate and synthesize research data at, for example, Stellwagen Bank, the Florida Keys, and the west coast sanctuaries. At some sanctuaries, models of physical and biological processes have been developed to help better understand the dynamics of the ecosystems. The sanctuary program should continue its work with its partners to prioritize research issues and thoroughly analyze the data and information it gathers.

Table 5. Select NMSP Research and Monitoring Partners

Organization	Type	Selected Activities	Sanctuary
National Centers for Coastal Ocean Science – Commerce/NOAA	Federal	Developing research strategy, synthesizing data, researching coral reefs, sea grass, harmful algae blooms, and marine biogeography, mapping sea floors	All sanctuary sites
Office of Ocean Exploration and National Undersea Research Program – Commerce/NOAA	Federal	Mapping shipwrecks, monitoring fish populations, assessing and monitoring coral reef fish and deep sea corals	Thunder Bay, Stellwagen Bank, Gray’s Reef, Florida Keys
Environmental Protection Agency	Federal	Monitoring water quality	Florida Keys, Channel Islands, Gulf of the Farallones, Cordell Bank, Monterey Bay, Olympic Coast
National Park Service and U.S. Fish and Wildlife – Interior	Federal	Operating interpretive centers, maritime heritage research, supporting marine reserves science	Gulf of the Farallones, Cordell Bank, Florida Keys, Channel Islands, Papahanaumokuakea, Fagatele Bay
Minerals Management Service – Interior	Federal	Conducting scientific investigations for over 30 years and long-term monitoring since 1988	Flower Garden Banks
South Florida Ecosystem Restoration Task Force	State	Conducting restoration and preservation activities in the South Florida ecosystem, including the Everglades	Florida Keys
Hawaii Department of Health	State	Monitoring water quality	Humpback Whale
Moss Landing Marine Laboratories, California State University	State	Studying biological oceanography and the ecology of sea floor habitats	Monterey Bay, Channel Islands
Reef Environmental Education Foundation	Non-governmental organization	Conducting fish censuses	Florida Keys, Gray’s Reef, Flower Garden Banks, Channel Islands, Monterey Bay, Hawaiian Islands Humpback Whale, Fagatele Bay, Olympic Coast, U.S.S. <i>Monitor</i>
Beach Watch and Beach Combers	Volunteers	Monitoring beaches for dead marine birds and mammals and oil spills	Gulf of the Farallones, Monterey Bay

Source: OIG

SIMoN integrates research done in Monterey Bay ecosystems. The Sanctuary Integrated Monitoring Network (SIMoN) helps to coordinate monitoring in the sanctuary and provide key information to sanctuary and other agency managers. It includes a Web-based system to help organize and integrate research done in the Monterey Bay area, where more than 40 institutions

and organizations research various aspects of the Monterey Bay sanctuary. The SIMoN webpage component integrates existing monitoring programs into a searchable database and makes this information available to all interested parties. But the cost of the system has been relatively high: NOAA and its private partners and the State of California have spent \$6.4 million on the system over the last three years. Nearly \$3 million of this amount was provided by partners to conduct monitoring within the sanctuary. NOAA's annual cost to fully operate the SIMoN network is about \$450,000 for the central organizing team established at the Monterey Bay sanctuary; NOAA estimates being able to expand SIMoN to the other four west coast sites at a cost of about \$125,000 per site per year.

The sanctuary program is currently expanding SIMoN to the Gulf of the Farallones and Cordell Bank sanctuaries and plans to eventually extend the program to the whole sanctuary system. SIMoN appears suitable for the California sanctuaries due to their scientific connectivity and the large number of research organizations working there. However, there are numerous other federal, state, and university marine research entities' that have local, regional, national, or international marine data integration Web sites, portals, and databases that collect and organize research or data regarding marine ecosystems, such as NOAA's Coast Watch, NOAA's Coral Information System (CORIS), the Environmental Protection Agency's National Coastal Assessment Program and Environmental Monitoring and Assessment Program (EMAP), the US Geological Service's National Water-Quality Assessment Program, OBIS-SEAMAP (Ocean Biogeographic Information System - Spatial Ecological Analysis of Megavertebrate Populations) led by Duke University, and the Census of Marine Life, managed by the University of Rhode Island. NOAA has done initial reviews of these websites and found they were generally focused on single or narrow issues, making them unsuitable for the comprehensive ecosystem information on the broad geographic scale needed for a sanctuary. However, before rolling out SIMoN any further than the California sanctuaries, the sanctuary program should closely re-examine these other Web data integration efforts to see if they have expanded their scope or coverage, and coordinate with these and other relevant entities, when appropriate, to avoid duplication of effort and resources and to minimize additional costs.

**Figure 11. Sanctuary Integrated Monitoring Network (SIMoN)**

SIMoN integrates information and puts it on the Web, where it is available to the public. SIMoN organizes research abstracts, graphs, interactive maps, and photos. From 2004 – 2007, NOAA, the David and Lucille Packard Foundation, the state of California, and others funded this \$6.4 million dollar project. This price includes monitoring, ship time, outreach, education, administration, and staff to manage SIMoN.

Source: [www.mbnms-simon.org](http://www.mbnms-simon.org)

The sanctuary program has a bottom mapping plan and has prioritized areas for bottom mapping. NMSP uses ocean bottom mapping to better understand the characteristics of seafloors. Bottom mapping obtains images of the sea floor using various techniques. Sonar acoustics, laser, or satellites are used by partners to create medium or high resolution bottom maps that give a better picture of each of the sanctuary sites. Several researchers within and outside of the sanctuary program told us these maps provide the context for most other research. One researcher stated that "managers cannot manage without this information." Another scientist said, "It is critically important to any research involving the bottom or any species that interacts with the bottom."

NMFS also uses bottom mapping information to better determine which areas are essential fish habitats.

We found that the sanctuary program actively participates in NOAA initiatives to map the ocean and pursues opportunities to obtain bottom mapping support within NOAA, such as from NCCOS, NOAA's Office of Exploration, and NMFS' Coral Reef Ecosystem Division in the Pacific Region. The program takes advantage of NOAA ship assets when NOAA does mapping missions with multi-disciplinary teams. The sanctuary program also works with the U.S. Geological Service's mapping programs in Flower Garden Banks, Channel Islands, and Stellwagen sanctuaries. In addition, the Monterey Bay sanctuary uses bottom map data generated by the Monterey Bay Aquarium Research Institute and the California State University in Monterey Bay. The sanctuary program's collaboration with its partners to use new mapping and other technologies at sanctuary sites provides critical habitat data needed by NMSP and NMFS, data essential in defining shipwreck and/or other maritime heritage resources, and opportunities to fill in data gaps.

However, the sanctuary program and NMFS have not taken full advantage of the mapping expertise in the NOAA Office of Coast Survey's (OCS) Hydrographic Surveys division. This division produces nautical charts of harbor entrances and harbor obstacles and collects acoustic mapping data that could be used by NMSP and NMFS for bottom habitat maps. We learned that

the sanctuary program has tried to obtain this data, sometimes successfully, but unless arrangements are made early enough, or unless the data is obtained directly from the survey technician on the ship, it may sit for up to several years at OCS, inaccessible to the sanctuary program, due to data processing backlogs there for nondivision priorities.

**Figure 12. High Resolution Bathymetry**

This technology, developed by the Navy in the 1960s, provides data critical for seafloor-oriented projects. This data is used (1) in marine navigation to detect obstructions, (2) for seafloor composition characterization, and (3) to determine the overall geology of the bottom. The higher the resolution is, the sharper the pictures are.

In 2003, the Navy and NOAA established a joint High Resolution Bathymetry Release Panel to review NOAA applications for NOAA's collection and release of high resolution bathymetry data at depths greater than 50 meters. From 2000-2004, NMSP requested surveys in 22 areas in the Olympic Coast sanctuary. All requests were approved by the panel except one, but the data remained restricted from public release in all but two cases.

*Source:* Memorandum of Agreement between the National Ocean Service and the U.S. Navy, NOS Agreement Code MOA 20-138-1035, 2003

Since 2004 OCS has provided training to NMFS, which has also acquired the technology necessary to create detailed maps of bottom habitats. In 2007, OCS created and staffed a new Integrated Ocean and Coastal Mapping Program charged with coordinating mapping efforts within NOAA. But continued emphasis on earlier coordination of mapping efforts, and sharing and standardizing the data are warranted. We recommend that the sanctuary program and NMFS work more closely with OCS to acquire its existing survey data, when suitable, and actively coordinate with the new Integrated Ocean and Coastal Mapping Program to more effectively coordinate efforts and efficiently distribute map data.

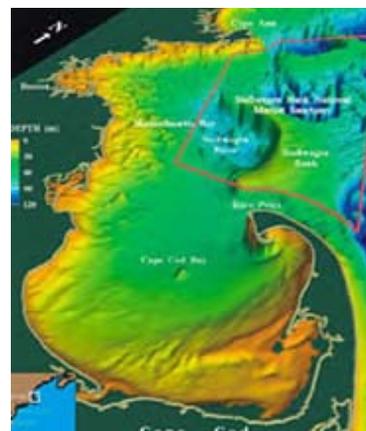
Additionally, the U.S. Navy has its own classified high-resolution bathymetry data holdings of areas of interest to NOAA, such as the continental shelf on the East Coast. These holdings can be viewed by cleared NOAA personnel on a case-by-case basis at the Navy's data holdings locations, such as Bay St. Louis, Mississippi. This data, however, cannot be released to the public, which makes it less useful to NOAA, which shares available data with its many research partners.

In addition, NOAA officials told us that since 1985 NOAA must get Navy concurrence to collect and release its own high resolution bathymetry data in several areas, now limited to the Pacific Northwest and the Southeast. A U.S. Navy mapping official told us that NOAA can collect this data with Navy concurrence using the High Resolution Bathymetry Release Panel (see figure 12), but cannot release it to project partners. Interestingly, universities, private companies, and state and local governments are not restricted from collecting or releasing data from the NOAA-restricted areas in the Pacific Northwest and the Southeast unless there is a "NOAA footprint on the project." This means that since the 1985 prohibition, if NOAA is a project partner, then the seafloor mapping data cannot be released to the public, but if the university or private company does its work without NOAA involvement, then it is free to release the data. This is inconsistent – it seems that the universities and private companies should be restricted from collecting and releasing the data in these two areas, similar to the NOAA restriction, or that NOAA's restriction should be either removed or modified.

For NMFS, this restriction on NOAA's release of bottom mapping data affects productive fishing areas, such as the Charleston Bump, off the coasts of South Carolina and Georgia. For the sanctuary program, this restriction impacts the Olympic Coast sanctuary. Several stakeholders told us this restriction on NOAA's release of sea floor data has resulted in missed partnering opportunities for the sanctuary program, for example, with the state of Washington and several universities that offered to share costs to collect bottom mapping data in the Olympic Coast sanctuary.

Technology and national security constraints have changed considerably since NOAA last elevated this issue to Navy senior leadership in 2001. An opportunity, however, might now exist for NOAA to share Navy maps and data with its partners due to the recent declassification of Navy sonar bottom maps for the Arctic ice cap. A senior sanctuary program official said "Perhaps we could be pursuing this more vigorously." NOAA should request that the Navy again review its high resolution bathymetry data classification policy with respect to the Pacific Northwest and the Southeast, as well as the Navy's other high resolution bathymetry data holdings in other critical places, and determine whether such data can be made available to NOAA and its partners. This would avoid duplication of U.S. government efforts and reduce use of NOAA's funds to collect data for bottom maps in areas already mapped by the Navy.

Figure 13. Map of the Stellwagen Bank ocean floor



Source: NOAA Coastal Services Center

**Recommendations:**

**We recommend that the Under Secretary for Oceans and Atmosphere, in conjunction with the NMFS and NOS Assistant Administrators, take the necessary actions to ensure that:**

The NMSP director explores other Web-based data organization and integration efforts before continuing with a SIMoN roll-out outside of California, to avoid duplication of effort and resources and to minimize additional costs.

**We recommend that the Under Secretary for Oceans and Atmosphere take the necessary actions to ensure that:**

NOAA requests that the U.S. Navy review its high resolution bathymetry data classification policy for the Pacific Northwest, the Southeast, and other areas important to NOAA, such as the continental shelf on the East Coast, and determine (1) whether the Navy's high resolution bathymetry data holdings can be made available to NOAA and its partners, and (2) whether NOAA's high resolution bathymetry data holdings can be made available its partners.



In its response to our draft report, NOAA agreed to re-examine and build on existing web-based information delivery capabilities to complement the expansion of SIMoN among west coast marine sanctuaries, and beyond. NOAA also concurred with the recommendation to engage with the U.S. Navy, and indicated that a preliminary meeting will be scheduled with the Oceanographer of the Navy's office in January 2008 to renew the data acquisition, dissemination, and availability discussions. Once implemented, NOAA's planned actions will meet the intent of our recommendations.

***D. NMSP and the National Marine Fisheries Service sometimes collaborate well but need to further improve their working relationships***

The sanctuary program staff and NMFS' Office of Protected Resources staff coordinate well at several sanctuaries on endangered species and marine mammal protection and management. Also, NOAA's deep coral activities appear to be coordinated between the sanctuary program, NMFS, and other NOAA agencies. In addition, the sanctuary program and NMFS seem to work well together on removal of marine debris and derelict gear. We found particularly strong collaboration at the Gray's Reef, Florida Keys, and Flower Garden Banks sanctuaries. The sanctuary program, fishery management councils (FMCs), and NMFS staff generally agreed during our interviews that several outcomes that resulted from their interactions during the joint management plan review process at the Cordell Bank, Monterey, and Gulf of Farallones sanctuaries were positive. For example, at Cordell Bank sanctuary, ground fish gear was damaging the bank's seafloor habitat, so sanctuary officials recommended a prohibition of certain gear. But both NMSP and NMFS wanted this productive habitat regulated under their own statute. This issue was ultimately elevated to NOAA's senior leadership, who decided to

protect Cordell Bank's bottom via the MSA. In this instance, although the MSA was used to protect the resource, the sanctuary program was able to encourage the Pacific FMC and NMFS to take action to help protect this essential marine habitat by raising this issue within NOAA. We believe that is a positive outcome.

We found that NMSP and NMFS communication and coordination are improved when (1) fishery management council members and/or NMFS staff are on sanctuary advisory councils, (2) members of both fishery management and sanctuary advisory councils and staff participate in each other's working groups and meetings, and (3) fishery management council members and NMFS staff are involved in the development of sanctuary management plans and reviews. Recently NMFS designated a headquarters liaison to the sanctuary program; that person is supposed to coordinate with NMSP during the condition report drafting process, which should help improve communication and coordination at the headquarters level. After a pointed exchange of letters and discussions at the Stellwagen Bank sanctuary between NMFS and the sanctuary program regarding the content and tone of the sanctuary's draft management plan, NMSP now plans to invite NMFS' staff from the Offices of

Protected Resources and Sustainable Fisheries to assist with draft management plans and condition reports. While improved coordination at headquarters is a positive step, we believe that NOS and NMFS should also pay more attention to the relationships in the field.

During our review, NOS and NMFS officials, sanctuary program staff, NMFS regional administrators, fishery management council executive directors, SAC members, and other external stakeholders, including fishers and environmentalists, told us when sanctuaries propose to regulate fishing, regional fishery management councils respond strongly, armed with their statute, the Magnuson-Stevens Fishery Conservation and Management Act.

The Magnuson-Stevens Act (MSA) and the National Marine Sanctuaries Act (NMSA) both provide the authority for NOAA to administer the regulation of fishing in national marine sanctuaries. Under MSA, the fishery

**Figure 14. Magnuson-Stevens Fisheries Conservation and Management Act of 2006**

Enacted in 1976, the original Magnuson Fisheries Conservation and Management Act created eight regional fishery management councils to advise NMFS on fisheries management issues. A 1996 amendment called for increased attention to the reduction of bycatch and the protection of fisheries habitat. The 2006 reauthorization of the act sets a firm deadline to end over-fishing in America by 2011 by directing regional fishery management councils to establish annual catch quotas for certain species in federally-managed fisheries.

Source: 16 U.S.C. 1851 et seq.

**Figure 15. Fishery Management Councils**

The regional fishery management councils (FMC) advise NMFS on fishery management and other living marine resources issues. The voting members of the eight councils include a representative from each state fishery management agency, an appointee from each coastal state, at-large appointees from within the region, and the regional director of NMFS. FMCs also include commercial and recreational fishers and people knowledgeable in the conservation and management of fishing resources. Representatives of other government agencies are non-voting members.

With public input the councils prepare fishery management plans that govern domestic fisheries in the U.S. Exclusive Economic Zone. After approval by the Secretary of Commerce, regulations that implement management measures in the plan become federal law and are enforced by NMFS, the U.S. Coast Guard, and state agencies.

Source: NMFS

management councils produce with public input fishery management plans for all federal waters (see Figure 15). And Section 304(a)(5) of the NMSA requires that the fishery management councils be given the opportunity to draft regulations for fishing within the federal waters in a sanctuary. NOAA presents a fishery management council with a package of information to assist the council's consideration of how to proceed. That package may include suggested actions for consideration, including possible draft fishing regulations. The fishery management council has three options: prepare draft NMSA fishing regulations, determine that NMSA regulations are not necessary (e.g., they could determine actions should be taken under the MSA) or decline to make a determination. Once the fishery management council has made its decision, NOAA conducts an internal analysis to determine if the fishery management council's decision would fulfill the purposes and policies of the NMSA and goals and objectives for the requested regulations. In some instances NOAA may need to determine whether the NMSA or MSA is the best vehicle to meet the sanctuary's stated goals and objectives.

Sanctuary fishing regulation disagreements have been acrimonious at several sites. For example, in 1999 the Channel Islands sanctuary initiated a process in partnership with the state of California to consider whether or not to designate marine reserves. The state designated its portion of the network in state waters in 2003. In 2005 the Channel Islands sanctuary formally proposed to establish the network in federal waters adjacent to the state network. The Pacific Fishery Management Council received the sanctuary's proposal for review, as required by law, but reportedly was very concerned about NOS "taking on fishing regulations" to achieve sanctuary conservation goals. Additionally, several senior NMFS and FMC officials told us that the FMC was busy rebuilding salmon and regulating rockfish closures on the entire Pacific coast at this time, and could not effectively mobilize the fishing community to respond to the proposed reserves in the Channel Islands sanctuary. Several senior NMFS and FMC officials also noted that fishery management councils now recognize that they need to regulate fishing in the sanctuaries "or the sanctuaries will go ahead and do it themselves." Several senior sanctuary program officials characterized this as serving notice that the sanctuary program merits a seat at the table with NMFS. In several regions we heard that the relationship between some sanctuary and fishery officials is hampered by "uncertainty and distrust" and a lack of understanding of each office's mandate. It is time for senior leadership at headquarters and in the regions to commit to addressing and resolving the regional conflicts.

We concluded that recurring obstacles to fuller cooperation between NMFS and the sanctuary program include (1) a lack of coordination and communication at the front end of the sanctuary program's management plan review process and during the FMC's fishery management plan process; (2) a lack of long term data to inform NMSP and NMFS management decisions about essential fishing habitats in the sanctuaries; and (3) continuing perceptions that the sanctuary program's resource protection mandate conflicts with NMFS' and FMCs' goals of promoting sustainable fisheries.

NOS, NMSP and NMFS leadership have attempted to improve their working relationships with a 1992 memorandum of understanding, a 2002 principles and operating guidelines document, and a 2005 document, called the wiring diagram. The latter document describes how NOAA will administer the NMSA and MSA within sanctuaries and includes flowcharts and text outlining the regulatory processes under each statute with emphasis on where NMSP and NMFS can improve

integration. Although each of the three documents mentioned above was drafted to help improve NOS-NMSP-NMFS relationships through more consistent, “front loaded communication” and improved coordination “early on and often” during the process of regulating fishing within a sanctuary, they have not always worked as intended. For example, several senior NMFS officials acknowledged that NMFS does not always keep the sanctuary program “abreast of NMFS activities, regulatory or scientific.” Likewise, we heard from both sanctuary and NMFS managers that it is sometimes cumbersome to include staff from NMFS or NOS in sanctuary or fishery management planning and implementation discussions and strategy sessions, especially if staff is at a distance from where the meetings are held.

Despite many attempts to improve collaboration, persistent disagreements and lack of communication between NMSP and NMFS have played a role in causing long delays in several sanctuary management plan reviews, and a disproportionate amount of resources and time have been spent by NMFS and NOS deciding whether NMFS or the sanctuary program should regulate fishing in sanctuaries. This confuses and fatigues community members and can compromise NOAA’s ability to gain public trust. We found numerous examples of strong coordination and opportunities that have improved collaboration at several sanctuaries between NOS and NMFS – these could form the basis for improving working relationships. We recommend that NOS, NMFS, and sanctuary program leadership commit to improved dialogue and coordination and take action to improve NOS and NMFS partnerships at all sanctuary sites.

### **Recommendations:**

**We recommend that the Under Secretary for Oceans and Atmosphere, in conjunction with the NMFS and NOS Assistant Administrators, take the necessary actions to ensure that:**

- NMSP, NOS, and NMFS senior officials develop and issue clear guidance on how NMFS and NMSP will work together on specific matters, including (a) fishery management council (FMC) staff participation on sanctuary advisory councils, research advisory groups, and other relevant working groups, (b) sanctuary staff participation on relevant NMFS working groups, such as those on habitat, coral reef, and bottom mapping, and on FMC advisory committees, such as those on science and statistical, habitat, and education and outreach, and (c) FMC members and NMFS staff participation in the early development of sanctuary management plan reviews, and condition reports. Compliance with the new guidance should be a priority of all appropriate NMFS and NOS managers.

#### **Figure 16. Examples of Collaboration**

Gray’s Reef Sanctuary—The sanctuary advisory council chairperson is on NMFS’ staff and a memorandum of agreement is signed with the regional fisheries management council. Sanctuary staff regularly participates on several FMC committees.

Monterey Bay sanctuary—An NMSP staff member is collocated and shares resources with NMFS’ Santa Cruz Lab. NMSP hosted a meeting with the NMFS Science Center and regional lab directors.

In addition, a meeting was held in November 2006 in San Diego between the Pacific FMC and west coast sanctuary staff and advisory council members to improve working relationships.

*Source:* OIG interviews

- NMSP, NOS, and NMFS senior officials bring their headquarters and regional leadership and staff together to discuss the new guidance and how they will work together on sanctuary-related matters.
- NMSP, NOS, and NMFS senior officials disseminate specific examples of successful collaboration between NMSP and NMFS at several sanctuary sites and take action to expand these opportunities.



In its response to our draft report, NOAA concurred with the three recommendations in this section. NOAA noted that it has already begun assembling examples of successful collaboration between NOS and NMFS, which NOAA will share with all NMFS regions and sanctuary sites. NOAA also stated that the leadership of both line offices is working to ensure there is a mechanism to continually highlight and share success stories and areas for improvement. To improve coordination and collaboration, NOAA indicated that NMFS has recently named a headquarters liaison to work specifically with NMSP on ensuring that regional Sustainable Fisheries and Protected Resources staff are engaged early in the development of sanctuary plan reviews and condition reports. Also, based on availability of funding, NOAA stated that it will hold at least one meeting of relevant NMFS and NOS headquarters and regional leadership to improve communication and collaboration. Finally, NOAA reported that NOS and NMFS have recently approved the wiring diagram for “final consultation and subsequent dissemination,” and that regional NOS and NMFS leadership will now be required to meet to discuss how the diagram will be used at each sanctuary site. Once implemented, NOAA’s actions and planned actions will meet the intent of our recommendation.

## **SUMMARY OF RECOMMENDATIONS**

**We recommend that the Under Secretary for Oceans and Atmosphere, in conjunction with the NOS and NMFS assistant administrators and the NOAA General Counsel, strengthen the marine sanctuary program by taking the necessary actions to ensure that:**

1. The OLE director requires sanctuary liaisons to attend sanctuary advisory council meetings in their region (see page 17).
2. The NMSP director directs each sanctuary to create a law enforcement working group, consisting of federal and state law enforcement partners and other appropriate stakeholders, as part of the sanctuary advisory council (see page 17).
3. The OLE director requires the operations plan under each relevant joint enforcement agreement to include a detailed description of the type of sanctuary work to be performed by state and territorial government partners (including designated man hours) and that NMSP receives a regular report of the actions taken by the partners under the agreement (see page 20).
4. The NMSP director incorporates the activities outlined under the Memorandum of Agreement between it and the state of Florida under OLE's joint enforcement agreement with Florida (see page 20).
5. The assistant general counsel for GCEL creates summary settlement schedules for the remaining sanctuary sites and updates the existing sanctuary summary settlement schedules (including the type of violations and penalty amounts), as appropriate (see page 20).
6. The NMSP director, the OLE director, and the assistant general counsel for GCEL work together to provide relevant joint enforcement agreement partners with regular agent and officer training on sanctuary regulations (see page 20).
7. The assistant general counsel for GCEL provides the sanctuary program with non-law enforcement sensitive information pertaining to ongoing and closed OLE cases (including the type of regulations violated, date and location of violations, and penalties assessed and collected) (see page 25).
8. The OLE director requires its agents and officers to mark the appropriate sanctuary box in the Law Enforcement Accessible Database System when nonsanctuary-related cases occur in a sanctuary (see page 25).
9. The OLE director and the assistant general counsel for GCEL include the appropriate sanctuary officials as addressees on the memos to NOAA finance when transferring funds to sanctuary civil penalty accounts (see page 25).

10. The NMSP director completes sanctuary management plan reviews promptly, consistent with the program's performance measures and the requirements of the National Marine Sanctuaries Act (see page 29).
11. The NMSP director holds superintendents that have ongoing management plan reviews accountable for completing them within established timeframes (see page 29).
12. The NMSP director develops a strategy and a mechanism to estimate and identify resources to cover lifecycle maintenance and operational costs for existing or proposed sanctuary vessels, visitor centers, and data buoys. New vessels, facilities, or buoys should not be acquired or undertaken without identification of adequate resources to cover the outyear costs (see page 32).
13. The NMSP director conducts a review of viable alternatives and identifies the most effective and appropriate ways to (1) support visitor centers, including seeking statutory authority to collect and use entrance or user fees, and partnering with local associations that could support, raise funds, and promote volunteerism for the sanctuary visitor centers, and (2) pay for the operating and maintenance costs for sanctuary vessels and data buoys (see page 32).
14. The NMSP director instructs the science and research employees at sanctuary sites to work with education and outreach staff to (1) more effectively communicate significant sanctuary research results to key local constituencies and (2) publicize significant research results that might apply to other sanctuaries and key constituencies throughout the national sanctuary system (see page 40).
15. The NMSP director explores other Web-based data organization and integration efforts before continuing with a SIMoN roll-out outside of California, to avoid duplication of effort and resources and to minimize additional costs (see page 41).
16. NOAA requests that the U.S. Navy review its high resolution bathymetry data classification policy for the Pacific Northwest, the Southeast, and other areas important to NOAA, such as the continental shelf on the East Coast, and determine (1) whether the Navy's high resolution bathymetry data holdings can be made available to NOAA and its partners, and (2) whether NOAA's high resolution bathymetry data holdings can be made available its partners (see page 41).
17. NMSP, NOS, and NMFS senior officials develop and issue clear guidance on how NMFS and NMSP will work together on specific matters, including (a) fishery management council (FMC) staff participation on sanctuary advisory councils, research advisory groups, and other relevant working groups, (b) sanctuary staff participation on relevant NMFS working groups, such as those on habitat, coral reef, and bottom mapping, and on FMC advisory committees, such as those on science and statistical, habitat, and education and outreach, and (c) FMC members and NMFS staff participation in the early development of sanctuary management plan reviews, and condition reports. Compliance with the new guidance should be a priority of all appropriate NMFS and NOS managers (see page 46).

18. NMSP, NOS, and NMFS senior officials bring their headquarters and regional leadership and staff together to discuss the new guidance and how they will work together on sanctuary-related matters (see page 46).
19. NMSP, NOS, and NMFS senior officials disseminate specific examples of successful collaboration between NMSP and NMFS at several sanctuary sites and take action to expand these opportunities (see page 46).

APPENDIX: NOAA MANAGEMENT RESPONSE TO THE OIG DRAFT REPORT



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
CHIEF ADMINISTRATIVE OFFICER

JAN 22 2008

MEMORANDUM FOR: Lisa Allen  
Acting Assistant Inspector General for Inspections  
and Program Evaluations

FROM:   
William F. Broghe  
Chief Administrative Officer

SUBJECT: *National Marine Sanctuary Program Protects Certain  
Resources, But Further Actions Could Increase Protection*  
Draft Report No. IPE-18591/December 2007

Thank you for the opportunity to comment on the Office of Inspector General's (OIG) draft inspection report on the National Marine Sanctuary Program. We appreciate the OIG's recognition of the management improvements we have already made and our progress towards long-term protection of certain resources within the marine sanctuaries system. Our specific comments on the report's findings and recommendations are attached.

Attachment



**Department of Commerce  
National Oceanic and Atmospheric Administration  
Comments on the Draft OIG Report Entitled  
National Marine Sanctuary Program Protects Certain Resources,  
But Further Actions Could Increase Protection  
Report No. IPE-18591/December 2007**

**General Comments**

The Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) appreciates the considerable time and effort of the Office of Inspector General (OIG) in conducting its review of the National Marine Sanctuary Program (NMSP). We believe the conclusions and recommendations of the draft report are consistent with those documented through compliance with the Office of Management and Budget's Program Assessment Rating Tool performance measures as well as other external reviews such as that recently completed by the National Academy of Public Administration. We are particularly encouraged that the OIG has reinforced recognition by the Pew and Joint Ocean Commissions regarding the NMSP as one of only a handful of Federal programs that has made "significant contributions toward maintaining and improving the quality of coastal resources." We expect the forthcoming action plan to improve coordination among NOAA programs thus better enabling NMSP to further the purposes of the National Marine Sanctuaries Act.

**NOAA Response to OIG Recommendations**

**Recommendation 1:** "The OLE Director requires sanctuary liaisons to attend sanctuary advisory council meetings in their region."

**NOAA Response:** We concur. Sanctuary Advisory Council (SAC) meetings are one means to facilitate improved communication and understanding between the two programs, by providing the National Marine Fisheries Service's Office of Law Enforcement (OLE) personnel with a broad-based understanding of many aspects of a site's operation and current management issues. The councils are a key part of the program, bringing together various stakeholders and partners, and providing a forum for information exchange and discussion on a variety of issues. The OLE director will amend OLE policy and instruct each OLE Division Special Agent in Charge to ensure that the OLE Sanctuary Program point of contact (POC) or an alternate designee will attend their respective SAC meetings. The Special Agent in Charge will coordinate the appointment of the POC with the Sanctuary Manager(s) and OLE representative to attend both SAC meetings and the law enforcement working group meetings as proposed in Recommendation 2. OLE's designated sanctuary liaisons are not assigned on a regional basis, but a site-by-site basis, so this requirement would entail each liaison to attend the SAC meetings for only one site, which are generally held on a bimonthly basis. In some cases, where a liaison is assigned to more than one site, that person would need to attend SAC and enforcement working group meetings for each of those sites.

**Recommendation 2:** "The NMSP director directs each sanctuary to create a law enforcement working group, consisting of federal and state law enforcement partners and other appropriate stakeholders, as part of the sanctuary advisory council."

**NOAA Response:** We concur. Special enforcement working groups already exist as part of some councils, especially during key stages of management plan review. Standing or permanent working groups would provide a good opportunity for coordination, exchange of information and ideas, and identification of solutions to ongoing or foreseeable enforcement problems. The OLE Sanctuary Program POC should be involved in the formulation of law enforcement working groups as well as attend as a participant. Initial inclusion of the appropriate partners should facilitate “buy in” and “ownership” for non-NOAA enforcement partners and should help to facilitate additional state participation in the adoption of sanctuary enforcement work as referenced in Recommendation 3.

**Recommendation 3:** “The OLE director requires the operations plan under each relevant joint enforcement agreement to include a detailed description of the type of sanctuary work to be performed by state and territorial government partners (including designated man hours) and that NMSP receives a regular report of the actions taken by the partners under the agreement.”

**NOAA Response:** We concur, with stipulations. State and territory participation in the Cooperative Enforcement Program is voluntary. Determinations of funding distributions to the marine conservation law enforcement agencies of coastal states and U.S. territories who wish to participate in the program are based, to a significant degree, on their willingness to support the NOAA mission enforcement needs. The ability of the states to address any specific federal priority, such as enforcement requirements within a specific sanctuary, is dependent on many variables outside the control of NOAA. The NMSP and OLE believe that the Joint Enforcement Agreement (JEA) is one strong and effective tool in providing enforcement to strengthen sanctuary management goals. NOAA has already begun implementing a coordination and revision process during the annual review and update of each JEA in states where there are sanctuaries. For example, the JEA between NOAA and the State of Georgia has been augmented with a special Gray’s Reef National Marine Sanctuary operations plan. The stipulation is that the required Sanctuary Operations Plan be developed jointly, in full collaboration between the OLE and the NMSP site superintendent, the regional director, and the NMSP director. Regular reporting to the sanctuary officials of the actions taken will be facilitated through the provision of the regular and currently required JEA reports.

**Recommendation 4:** “The NMSP director incorporates the activities outlined under the Memorandum of Agreement between it and the state of Florida under OLE’s joint enforcement agreement with Florida.”

**NOAA Response:** We concur, with comment. Implementation of this new approach in the Florida Keys National Marine Sanctuary (FKNMS) should be phased or transitioned into the JEA over a three-year period. The existing arrangement in the FKNMS has been effective for 10 years, as demonstrated by the breakout of National Marine Sanctuary Act (NMSA) cases in the FKNMS (OIG draft report, Table 2, page 17). The existing Memorandum of Agreement should not be abandoned without development of a thoughtful, phased approach, mutually agreed to between the NMSP, OLE and the State of Florida, with milestones for direct and quantifiable enforcement of the NMSA in collaboration with the NMSP. Funding the project through the JEA agreements will align the OLE program more closely with the Sanctuary Program and enhance the NOAA mission support overall. Other associated funding through the Cooperative Enforcement Program could be coupled with the NMSP for a more productive outcome. The

present OLE agreements with the State of Florida, the Cooperative Enforcement Agreement and the JEA, already include the NMSA as part of the agreements.

**Recommendation 5:** “The assistant general counsel for GCEL creates summary settlement schedules for the remaining sanctuary sites and updates the existing sanctuary summary settlement schedules (including the type of violations and penalty amounts), as appropriate.”

**NOAA Response:** We concur, with comment. NOAA’s Office of General Counsel for Enforcement and Litigation (GCEL) has been working over the course of the last year to develop an updated and expanded summary settlement schedule to cover the thirteen National Marine Sanctuaries. On January 4, 2008, a draft schedule was circulated to GCEL enforcement attorneys nationwide, who are currently reviewing and commenting on the draft. After an internal review, GCEL anticipates providing that draft national summary settlement schedule to OLE and NMSP for review and comment by late January 2008. Assuming no major comments, GCEL should be able to finalize the schedule by March 2008.

**Recommendation 6:** “The NMSP director, the OLE director, and the assistant general counsel for GCEL work together to provide relevant joint enforcement agreement partners with regular agent and officer training on sanctuary regulations.”

**NOAA Response:** We concur. As resources become available, the three offices will work together to develop briefing materials and job aids for use on the water, and hold training workshops. The NMSP also believes it is important to extend this training effort to NOAA’s Office of General Counsel for Natural Resources (GCNR), U.S. Coast Guard, and other enforcement partners. NOAA will work with state partners to develop schedules for post-JEA renewal training on NMSA and its implementing regulations where appropriate.

**Recommendation 7:** “The assistant general counsel for GCEL provides the sanctuary program with non-law enforcement sensitive information pertaining to ongoing and closed OLE cases (including the type of regulations violated, date and location of violations, and penalties assessed and collected.)”

**NOAA Response:** NOAA will implement a discussion process with the NMSP, OLE and the Office of General Counsel (both GCNR and GCEL) to reconcile handling and management of case-related information, including information that is deemed law-enforcement sensitive as well as non-law enforcement sensitive. This protocol discussion will also include the Office of Response and Restoration and the Damage Assessment and Restoration Program, as they also participate in NMSA cases and in Oil Pollution Act and Comprehensive Environmental Response, Compensation and Liability Act cases where law enforcement sensitive information is being handled similarly to NMSA information for Natural Resource Damage Assessment cases. In addition, the offices will work to establish protocols for the regular exchanges of information regarding ongoing and closed cases in general.

**Recommendation 8:** “The OLE director requires its agents and officers to mark the appropriate sanctuary box in the Law Enforcement Accessible Database System when nonsanctuary-related cases occur in a sanctuary.”

**NOAA Response:** We concur. It is critical for the NMSP and each site to be aware of the full extent of resource violations occurring in sanctuary waters in order to best direct outreach efforts to reach key user groups. OLE does require the identification of the specific sanctuary in which an incident occurs in all relevant reporting, not just in violations of NMSA cases. A field was created in the Law Enforcement Accessible Data System to address this need. OLE will review its report review processes to increase compliance and will investigate opportunities to institute mechanical requirements (use of mandatory field for data entry) to better capture this information.

**Recommendation 9:** “The OLE director and the assistant general counsel for GCEL include the appropriate sanctuary officials as addressees on the memos to NOAA finance when transferring funds to sanctuary civil penalty accounts.”

**NOAA Response:** We concur. This is an administrative procedural change that will also contribute to implementing Recommendation 7. GCEL has revised its procedures to copy NMSP on lockbox deposit memos to provide notification of payments on Notices of Violation and Assessment. The NMSP has the POCs for such notification and GCEL is now furnishing copies of all deposit memos to them. OLE’s procedures to document the receipt of funds received for summary settlements involving violations of the NMSA will be revised to require notification to the NMSP.

**Recommendation 10:** “The NMSP director completes sanctuary management plan reviews promptly, consistent with the program’s performance measures and the requirements of the National Marine Sanctuaries Act.”

**NOAA Response:** We concur. Implementation of this recommendation is already underway. In addition to tracking performance measures, the NMSP is increasing technical assistance and training for site staff on management plan reviews, making better use of staff experienced in management plan reviews to provide assistance, updating the detail and quality of the assistance and training (including online availability), and providing earlier planning and preparation for management plan reviews. These steps should alleviate the actions (within the control of the NMSP) causing many of the delays in the completion of the reviews. However, it must be noted that management plan activities are dependant on funding, availability of staff resources, the variability of the NMSP’s extensive public process, and other potential obstacles.

**Recommendation 11:** “The NMSP director holds the superintendents at each sanctuary accountable for completing their management plan reviews within the established timeframes.”

**NOAA Response:** We concur. As part of the planning for management plan reviews we will be instituting agreements signed by the superintendents and others agreeing to the work plan for the review, including timetables. In addition, the timely completion of the reviews will be an element in each of the superintendent’s performance plans, as appropriate (not all sites are undergoing a management plan review process). However, it must be recognized that there may be some delays in the management plan review process such as those associated with deliberations between NMSP and NMFS as well as the FMCs over fishing regulations.

**Recommendation 12:** “The NMSP director develops a strategy and a mechanism to estimate and identify resources to cover lifecycle maintenance and operational costs for existing or

proposed sanctuary vessels, visitor centers, and data buoys. New vessels, facilities or buoys should not be acquired or undertaken without identification of adequate resources to cover the out-year costs."

**NOAA Response:** We concur, in principle. It is essential that the NMSP infrastructure continue to grow to provide the support necessary to meet its legislative mandates but, to a great extent, resolution of this problem remains outside NOAA's control if procurement, acquisition, and construction funds continue to be earmarked to build without commensurate increases in operations, research, and facilities funding to operate or maintain vessels and facilities. Without commensurate increases in operating and maintenance funding, it is virtually impossible to ensure that adequate resources will be available for long-term maintenance and operations of any marine sanctuary facilities or capabilities, including vessels, buoys and other observation and monitoring systems. The NMSP does need to be fully aware of the long-term implications of its investments and clearly convey its commitment to all parties engaged in out-year budget planning. More directly, NMSP already has initiated meaningful actions that address this issue, including the production of several documents that estimate out-year costs for operations and maintenance (O&M) for both small boats and facilities. Additionally, the NMSP is currently engaged in the development of site and regional master plans for facilities that further specify O&M projections.

In 2005, NMSP produced the "Small Boats Requirements Study, FY2006-FY2015". This report quantified the small boat requirements for on-water science, response, enforcement, education, and resource protection operations, given life cycle maturity of sanctuary sites and their management requirements. As part of this effort, out-year planning estimates were determined for operations and maintenance, moorings and facilities, and personnel investments. As the OIG draft report indicates (p.30), the NMSP has piloted an automated system to account for vessels maintenance, fuel, and crew costs that is expected to provide ground-truthing and further refine the out-year planning estimates.

Future O&M costs for facilities (including visitor centers) and exhibits are calculated by the NMSP through several approaches. The "Long Range Master Plan for Facilities, Real Property, Signage and Exhibits" (prepared by Booz Allen Hamilton and last updated in June 2005) includes estimated O&M costs for facilities and exhibits based upon industry standards. In 2007 the NMSP initiated a series of regional facility and exhibit planning efforts, the first one covering the Pacific Islands Region, which will include estimates of future O&M costs, based largely on industry standards. Facility and exhibit plans will be completed for the other three regions when funding becomes available. Most NMSP sites also have a more detailed site-specific facility and exhibit plan, with estimated O&M costs based upon industry standards, and in some cases actual utility data from existing facilities. Finally, every fiscal year NMSP sites submit proposals for using facilities and exhibits funds; the proposals follow a standard format that includes a specific field for "estimated O&M costs."

With regard to data buoys, NOAA agrees that long-term operational costs should be factored into the decision to acquire them in the future and that it should employ methods to minimize such costs. Traditionally, data buoys are not funded directly by the NMSP, but acquired and maintained in partnership with the appropriate agency experts (e.g., National Data Buoy Center). The West Coast data buoys were funded by NMSP at the request of the agency, as part of its contribution to the evolving Integrated Ocean Observing System (IOOS) system. Program

investments in buoys, partnerships for O&M, Federally-compliant data management, and a publicly-available user interface for data products were done in anticipation that some of these capabilities would be integrated within agency-wide priorities for similar national backbone systems. NMSP anticipates future interactions with IOOS and other NOAA programs that have responsibility and expertise to collaborate on observing system design and implementation.

**Recommendation 13:** “The NMSP director conducts a review of viable alternatives and identifies the most effective and appropriate ways to (1) support visitor centers, including seeking statutory authority to collect and use entrance or user fees, and partnering with local associations that could support, raise funds, and promote volunteerism for the sanctuary visitor centers, and (2) pay for the operating and maintenance costs for sanctuary vessels and data buoys.”

**NOAA Response:** We concur. The NMSP will conduct a review of viable alternatives to support our visitor centers, vessels, and buoys. However, the NMSP would need time to thoroughly review and consider whether and how best to implement any identified alternative that included user fees. We would disagree with any general fee for access or use of a sanctuary; as such a general fee would sorely undermine the NMSP.

**Recommendation 14:** “The NMSP director instructs the education and outreach employees at sanctuary sites to work with researchers to (1) more effectively communicate significant sanctuary research results to key local constituencies and (2) publicize significant research results that might apply to other sanctuaries and key constituencies throughout the national sanctuary system.”

**NOAA Response:** We concur, but we suggest a change in the wording of the recommendation that will better address the findings of the report. Page 36, fifth paragraph, of the report states:

“Despite all of the collaborative work described in the previous section, significant sanctuary activities and research results do not always reach key audiences. Education and outreach staff said they try to work with researchers to draft summaries of the results that are suitable for public dissemination. However, we were told that researchers oftentimes do not have time to help formulate summaries of their results given their other research priorities.”

On the basis of this observation and in order to increase the likelihood of achieving improvement, we suggest this recommendation be rewritten as follows:

“Recommendation 14:

The NMSP director instructs the science and research employees at sanctuary sites to work with education and outreach staff to (1) more effectively communicate significant sanctuary research results to key local constituencies and (2) publicize significant research results that might apply to other sanctuaries and key constituencies throughout the national sanctuary system.”

As stated in the report, the issue is that researchers do not currently have time to formulate summaries of their results so that non-scientists can disseminate them to a wider audience. The current language of the recommendation directs the education staff to work more closely with researchers. However, the education staff cannot effectively communicate research results to

audiences unless the research staff first prioritize education and outreach within their own work plans and requirements. As a specific example, some of the education staff members do not have the scientific expertise to determine what constitutes "significant research results" nor would they be able to determine which research results might have applicability to other sanctuaries and constituencies. Those sorts of determinations would need to be directed from the researchers. If the research staff members do not first prioritize education/outreach goals to compete with their "other research priorities," then further direction from education and outreach staff alone will not achieve the intended results of this recommendation. The slight change in language observes that the science and research staff also has an obligation to actively engage with the education and outreach team to effectively communicate and publicize research results.

**Recommendation 15:** "The NMSP director explores other Web-based data organization and integration efforts before continuing with a SIMoN roll-out outside of California, to avoid duplication of effort and resources and to minimize additional costs."

**NOAA Response:** We concur. It will be important to build on existing web-based information delivery capabilities that complement the expansion of SIMoN among west coast marine sanctuaries and beyond. This will reduce duplication and minimize costs.

**Recommendation 16:** "NOAA requests that the U.S. Navy review its high resolution bathymetry data classification policy for the Pacific Northwest, the Southeast, and other areas important to NOAA, such as the continental shelf on the East Coast, and determine (1) whether the Navy's high resolution bathymetry data holdings can be made available to NOAA and its partners, and (2) whether NOAA's high resolution bathymetry data holdings can be made available to its partners."

**NOAA Response:** We concur. A January 1985 White House/National Security Advisor memorandum directed NOAA to treat all high-resolution bathymetry data acquired in the U.S. Exclusive Economic Zone (EEZ) as classified, pending further review. In 1989, the Oceanographer of the Navy lifted the restrictions on the unclassified release of these data in all but two designate submarine egress areas: (1) in the vicinity of the Strait of Juan de Fuca, specifically, the area north of latitude 46.0 degrees North to the Canadian boundary and from the shoreline seaward to the EEZ boundary and (2) along the east coast, specifically, the area from latitude 27.5 degrees North to latitude 33.0 degrees North and from the shoreline seaward to the EEZ boundary.

In July 2000, the Oceanographer further removed the restriction on high-resolution bathymetry data acquired by NOAA in those areas less than 50 meters in depth and in September 2003 the High Resolution Bathymetry Review Panel was established to review requests for the collection and release of all data or derived products in these submarine egress areas.

NOAA last revisited with Navy the restriction on NOAA-acquired high-resolution data along the Washington coast and off the South Carolina/Georgia/Florida coasts in September 2000, but other than the subsequent relaxation of the restriction to areas greater than 50 meters, Navy's policy has remained unchanged. However, for the following reasons NOAA has initiated plans to revisit this issue with the Navy:

- Renewed interest by several coastal states, including the State of Washington, in developing detailed seafloor mapping products to support ecosystem-based management of their coastal resources;
- Growing interest in the development of State/Federal seafloor mapping partnerships;
- Continued NOAA interest in detailed seafloor mapping to support habitat classification, nautical charting, coastal modeling and flood inundation mapping requirements; and
- The Ocean Action Plan recommendations to coordinate Federal mapping activities and leverage mapping resources across the Federal sector with State, industry, academic and National Geodetic Survey mapping interests

A preliminary meeting will be scheduled with the Oceanographer of the Navy's office in January 2008 to renew these data acquisition, dissemination, and availability discussions.

**Recommendation 17:** "NMSP, NOS, and NMFS senior officials develop and issue clear guidance on how NMFS and NMSP will work together on specific matters, including (a) FMC staff participation on sanctuary advisory councils, research advisory groups, and other relevant working groups, (b) sanctuary staff participation on relevant NMFS working groups, such as those on habitat, coral reef, and bottom mapping, and on FMC advisory committees, such as those on science and statistical, habitat, and education and outreach, and (c) FMC members and NMFS staff participation in the early development of sanctuary management plan reviews, and condition reports. Compliance with the new guidance should be a priority of all appropriate NMFS and NOS managers."

**NOAA Response:** We concur. In terms of interactions between NMFS and NMSP on fishing issues, NOAA's National Ocean Service (NOS) and NMFS have recently approved for final consultation and subsequent dissemination the document discussed on page 44 of the OIG draft report as the "wiring diagram." This document specifically outlines how NMSP staff as well as SAC members can and should participate in the Magnuson Stevens Act FMC and fishery management plan development process. Conversely it outlines how NMFS staff and FMC members and staff can and should participate in the NMSA process. NOAA believes this is the needed clear guidance. NOAA will complete Government to Government consultations with the Treaty Indian Tribes and will subsequently share this document with our partners and the public. Also, our Regional NOS and NMFS leadership will be required to meet on a regional basis to discuss how the diagram will be used at each site. We concur that compliance with this new guidance should be a priority of NMFS and NOS managers.

In addition, as mentioned on page 42 of the OIG draft report, NMFS has recently named a headquarters liaison to work specifically on ensuring regional Sustainable Fisheries and Protected Resources staff are engaged early in the development of sanctuary plan reviews and conditions reports. NMSP recently made a presentation to all NMFS leadership outlining this process and how NMFS could be involved. We believe this specific point person will help facilitate improved coordination in all of the regions.

**Recommendation 18:** "NMSP, NOS, and NMFS senior officials bring their headquarters and regional leadership and staff together to discuss the new guidance and how they will work together on sanctuary-related matters."

**NOAA Response:** We concur. Based on availability of funding, NOAA will hold at least one meeting of the relevant NMFS and NOS headquarters and regional leadership to discuss not only the wiring diagram but also to develop other lines of communication and collaboration.

NMFS and NOS leadership continuously strive to improve communication in other areas and are implementing other mechanisms to ensure strong communication. Through weekly, biweekly, and monthly meetings where NMFS/NOS coordination is a standing agenda item, leadership of both line offices are working to ensure there is a mechanism to highlight and share success stories and areas for improvement.

**Recommendation 19:** “NMSP, NOS, and NMFS senior officials disseminate specific examples of successful collaboration between NMSP and NMFS at several sanctuary sites and take action to expand those opportunities.”

**NOAA Response:** We concur. NOAA has begun assembling examples of successful collaboration between NOS and NMFS. We will share these examples with all NMFS Regions and Sanctuary sites and continue to do so as we expand upon these examples. We agree it will be beneficial to have more people know that there are numerous examples of where we are working well together everyday.