



**UNITED STATES DEPARTMENT OF COMMERCE**  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE

**Greater Farallones National Marine Sanctuary**  
991 Marine Dr., The Presidio  
San Francisco, CA 94129

**MEMORANDUM FOR:** John Armor  
Director, Office of National Marine Sanctuaries

**FROM:** Maria Brown *MB*  
Superintendent

**THROUGH:** William Douros *WD*  
Regional Director, West Coast

**SUBJECT:** Evaluation of Sanctuary Management Plan Completed

**DATE:** March 1, 2019

Pursuant to section 304(e) of the National Marine Sanctuaries Act (NMSA; 16 U.S.C. § 1434(e)), the National Oceanic and Atmospheric Administration (NOAA), Office of National Marine Sanctuaries (ONMS), Greater Farallones National Marine Sanctuary (GFNMS) staff evaluated the progress toward implementing the GFNMS Final Management Plan published in December 2014. Sanctuary staff also considered the prioritization of management goals. Based on this review, ONMS has determined that no urgent or immediate revisions to the management plan or the regulations are needed at this time. This evaluation demonstrates the sustained relevance of the goals, objectives, and priorities of the existing management plan.

Highlights

- After approximately four years, GFNMS staff has completed 12 percent of its management plan activities and successfully implemented 46 percent of programs resulting in almost 60 percent of the management plan activities either completed or ongoing.<sup>1</sup>
- Since 2014, GFNMS outreach exhibits have reached more than ten million people, increasing community awareness of the sanctuary. Staff organize well attended monthly and annual “Get in Your Sanctuary” excursions, providing many opportunities for members of the public to experience directly what makes their sanctuary nationally significant.
- Since the expansion of the sanctuary in 2015, GFNMS extended the Beach Watch program by adding 15 beaches (an increase of 36 percent) and training 42 new

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<sup>1</sup> GFNMS is also responsible for most management activities in the northern portion of Monterey Bay National Marine Sanctuary (MBNMS). Staff effort for this area is captured in the management plan review process for MBNMS.

volunteers to monitor the expansion area north of Bodega Bay. This resulted in a significant increase in the body of knowledge along the northern coast on topics relevant to sanctuary resource protection, such as: unusual mortality events and human use, which in turn results in more informed permit decisions and other management considerations.

- The sanctuary is a leader in the protection and restoration of Tomales Bay, an important part of the GFNMS ecosystem and a United Nation's Wetland of International Significance. Staff have led climate-informed efforts to protect 900 acres of eelgrass permanently from potential mooring damage in the bay and removed more than 50 derelict moorings, vessels, and floating docks as part of a newly developed vessel mooring program.
- The sanctuary is also a leader in mitigation and adaptation to climate change impacts. After assessing sanctuary operations, staff efforts resulted in a 15 percent reduction in energy use at the site facility, 23 percent reduction in transportation emissions from site activities, and 50 percent reduction in waste generated at the site since 2008.

### Background

The 2014 GFNMS management plan<sup>2</sup> was the product of a multi-year process with public involvement. The management plan is comprised of action plans and was developed with a 5-10 year planning horizon. NMSA section 304(e) requires NOAA to review sanctuary management plans at intervals not exceeding five years (16 USC 1434(e)). Specifically, NOAA must (1) evaluate the substantive progress toward implementing the management plan and goals for the sanctuary; (2) include a prioritization of management objectives; and (3) revise the management plan and regulations as necessary to fulfill the purposes and policies of the NMSA.

### Result of Evaluation

In October-November 2018, GFNMS staff reviewed the substantive progress made in implementing the activities designed to address the 13 action plans identified in the 2014 GFNMS management plan. The action plans fall into three categories: issue-based, program-based, and crosscut. Issue-based action plans contain a variety of activities that together are designed to address a particular issue. Program-based action plans contain activities that fall under broad sanctuary programs such as resource protection, conservation science, education and outreach, and administration. Lastly, crosscut action plans are program-based but shared by the three co-adjacent national marine sanctuaries of Cordell Bank, Greater Farallones, and Monterey Bay. The GFNMS management plan prioritizes the implementation of specific strategies and actions in the issue-based action plans and acknowledges that greater funding is required for full implementation (see Table 1, pages 37-38 of GFNMS Management Plan). Major accomplishments are reported under the program-based action plans below (action plans numbers 6-9).

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<sup>2</sup> [https://farallones.noaa.gov/manage/management\\_plan.html](https://farallones.noaa.gov/manage/management_plan.html)

Staff summarized the activities completed for each strategy in the management plan. The summary assessment spreadsheet accompanies this memo. Activities that are described as “ongoing” are successfully implemented over the long term. Activities that are partially completed are described as “in process.”

The management plan is organized into 13 action plans, described below:

**1. Water Quality Action Plan**

Of the 13 activities in this action plan, nine have seen no action or are on hold, three are in process, none are ongoing, and one is complete. GFNMS does not have a water quality specialist on staff and was unable to build capacity as envisioned in the 2014 management plan. GFNMS would either need to secure additional funds to develop a new water quality program or redirect staff to work on this initiative. See “Resource Protection Action Plan” below for a list of notable achievements, including achievements relevant to water quality in GFNMS.

**2. Wildlife Disturbance Action Plan**

Of the 16 activities in this action plan, one has seen no action, six are in process, eight are ongoing, and one is complete. The “no action” activity related to supporting a Sanctuary Advisory Council (Advisory Council) working group to advise on the use of motorized personal watercraft (MPWC) in the sanctuary expansion area, north of Bodega Bay. GFNMS staff requested the Advisory Council establish a working group to provide advice on MPWC use in the expanded sanctuary. The Advisory Council declined to establish a working group and instead recommended that sanctuary take no action on MPWC use in the expanded sanctuary due to the extremely low number of users in the region and lack of reports of disturbance. See “Resource Protection Action Plan” below for a list of notable achievements, including achievements relevant to wildlife disturbance in GFNMS.

**3. Introduced Species Action Plan**

Of the 14 activities in this action plan, 12 have seen no action or are on hold, one is in process, none are ongoing, and one is complete. GFNMS does not have an invasive species specialist on staff, and was unable to build capacity as envisioned in the 2014 management plan. GFNMS would either need to secure additional funds to develop a new invasive species program or redirect staff to work on this initiative. However, GFNMS working with the Greater Farallones Association, County of Marin, University of California at Davis Bodega Marine Lab, and the Smithsonian Institute has been involved in the eradication of invasive species in Bolinas Lagoon, a focal area of the sanctuary and an United Nation’s Wetland of International Significance. See “Resource Protection Action Plan” below for a list of notable achievements, including achievements relevant to introduced species in GFNMS.

#### **4. Impacts from Fishing Activities Action Plan**

Of the seven activities in this action plan, two have seen no action or are on hold, one is in process, four are ongoing, and none are complete. The “no action” activity related to developing management actions to address impacts from fishing activities on sanctuary resources, as recommended by a working group of the Advisory Council during the development of the management plan. No such working group was subsequently established by the Advisory Council. Instead the Advisory Council has discussed and voted on management actions such as Essential Fish Habitat recommendations during full Advisory Council meetings. See “Resource Protection Action Plan” below for a list of notable achievements, including achievements relevant to fishing activities in GFNMS.

#### **5. Impacts from Vessel Spills Action Plan**

Of the 13 activities in this action plan, three have seen no action, four are in process, five are ongoing, and one is complete. The “no action” activities relate to expanding the MBNMS drift analysis model north to Point Arena, refining resources-at-risk analysis for Gulf of the Farallones, and revising existing oceanographic circulation model to reflect the unique fine-scale features of the area in relation to probable spill trajectories. The 2014 management plan listed these activities as a low priority and the absence of additional funds precluded GFNMS from pursuing these projects. See “Resource Protection Action Plan” below for a list of notable achievements, including achievements relevant to vessel spill impacts in GFNMS.

#### **6. Education and Outreach Action Plan**

Of the 19 activities in this action plan, three are in process, 12 are ongoing, and four are complete.

Notable achievements since 2014 include:

- 35,650 students participated in sanctuary K-12 education programs, rated as excellent by 90 percent of the teachers.
- 1,371 youths learned about and experienced the sanctuary through marine science camp programs offered at the sanctuary campus.
- 617 teachers participated in sanctuary professional development programs about sanctuary, ocean, and climate literacy, potentially reaching a minimum of 18,510 students annually.
- 6,931 students participated in the intertidal Longterm Monitoring Program and Experiential Training for Students (LiMPETS). Eighty percent of LiMPETS students increased interest in and concern for environmental stewardship and conservation, and 82 percent acquired new or deepened knowledge of marine science.
- 10,500,000 visitors have visited facilities and education centers where GFNMS exhibits are in place, increasing community awareness of the sanctuary.

- 4,260 people have experienced their sanctuary through monthly excursions and annual Get in Your Sanctuary field trips. In addition, 10,209 people participated in Sharktoberfest, Sanctuary Soirees, and family workshops.

## **7. Conservation Science Action Plan**

Of the 12 activities in this action plan, one has seen no action, five are in process, five are ongoing, and one is complete. The “no action” activity is related to conducting research to inform consideration of potentially limiting the number of white shark attraction permits. Instead GFNMS collaborated with Point Blue Conservation Science to monitor compliance with the existing GFNMS white shark approach and attraction regulation and to standardize at-sea data collection and improve data exchange.

Notable achievements include:

- Extended Beach Watch program to the expansion area by adding 15 beaches (an increase of 36 percent) and 42 volunteers. This increased the body of knowledge along the northern coast on unusual mortality events and human use, resulting in the publication of three peer reviewed papers, as well as informing permit decisions and the Advisory Council Seabird Disturbance Working Group.
- Mapped 466.4 square miles (13.7 percent) in GFNMS.
- Collected ocean acidification data during 14 Applied California Current Ecosystem Studies (ACCESS) cruises and supported two Nancy Foster Scholars working on climate impacts on sanctuary resources.

## **8. Resource Protection Action Plan**

Of the 34 activities in this action plan, three have seen no action or are on hold, seven are in process, 19 are ongoing, and five are complete. Of the three “no action” activities, the activities on hold include working with the City of Point Arena and Arena Cove Harbor staff on vessel sewage waste management facilities, writing the Ocean Climate Education Plan, and the ONMS Climate Smart Sanctuary Certification. The sanctuary does not have the capacity at this time to address sewage waste facilities in the expansion area. This activity would require sustained engagement with City and Harbor staff, which would be more feasible if a staff member was located in the region. Although an Ocean Climate Education Plan has not been written, ocean climate messages, standards, activities, and trainings have been incorporated into sanctuary education programs. The sanctuary has not pursued ONMS Climate Smart Sanctuary Certification because ONMS has refocused its climate effort from certification to understanding climate assessment, adaptation and mitigation actions; however, much progress has been made regarding greening operations under another activity, in the Administration Action Plan.

Notable achievements include:

- Protected 900 acres of eelgrass permanently from potential mooring damage in Tomales Bay and removed more than 50 derelict moorings, vessels, and floating docks as part of a newly developed Tomales Bay vessel mooring program.
- Provided new data to support the protection of 178 square miles of deep sea coral and sponge habitat, proposed for Essential Fish Habitat designation by the National Marine Fisheries Service (NMFS).
- Restored 20 acres of sandy beach habitat by removing 16 invasive plant species from Kent Island in Bolinas Lagoon.
- Published GFNMS climate change indicators in ONMS Conservation Science Series, informing national marine climate change indicators and International Panel on Climate Change report.
- Assessed vulnerability of 44 species, habitats, and ecosystem services at risk from a changing climate and identified 26 management strategies detailed in a Climate Action Plan to reduce identified climate vulnerabilities. Initiated five of these climate action plan strategies.
- Assisted with the development of a rapid vulnerability assessment tool, vulnerability assessment training, and online adaptation toolkit for marine protected area managers internationally. Provided presentations, trainings, and in some cases, workshops for seven ONMS sites on climate vulnerability assessment and adaptation.
- After working with the state to establish special closures in 2010, a combination of sanctuary outreach, education, and coordinated enforcement has led to a declining disturbance trend from boats, with zero disturbances reported in 2017 and 2018.
- Achieved 45 percent large vessel cooperation with seasonal voluntary speed reduction in the San Francisco vessel traffic separation lanes.

## **9. Administration Action Plan**

Of the 21 activities in this action plan, one is in process, 17 are ongoing, and three are complete. Staff focused on amending the GFNMS discharge prohibition to allow the U.S. Coast Guard to carry out certain otherwise prohibited discharges of sewage, graywater, and ammunition within the expansion areas of GFNMS while conducting operations and trainings (the final rule for the U.S. Coast Guard exception to GFNMS regulations published on November 9, 2018).

Notable achievements include:

- Reduced 53 metric tons of carbon dioxide equivalent emissions from 2008-2016. This included 15 percent reduction in energy use at the site facility, 23 percent reduction in transportation emissions from site activities, and 50 percent reduction in waste generated at the site since 2008.

#### **10. Administration and Operations (Crosscut) Action Plan**

Of the 20 activities in this action plan, one has seen no action, seven are in process, ten are ongoing, and two are complete. The “no action” activity related to implementing a West Coast Region emergency response plan. GFNMS staff and contractors have assisted other sites in the region on emergency response.

#### **11. Communication and Outreach (Crosscut) Action Plan**

Of the ten activities in this action plan, two have seen no action or are on hold, none are in process, five are ongoing, and three are complete. One of the two “no action” activities related to taking a multicultural/multilingual approach to all outreach efforts. No specific efforts were devoted to that activity because outreach materials are already translated in a variety of languages to reflect the diversity of the communities adjacent to the sanctuary. The other activity related to creating new ways to inspire ocean stewardship in local communities. GFNMS staff has accomplished several programs that would fit under this activity, but they are nested under the “Education & Outreach” action plan rather than this one.

#### **12. Ecosystem Monitoring (Crosscut) Action Plan**

Of the 12 activities in this action plan, two have seen no action, none are in process, eight are ongoing, and two are complete. One of the two “no action” activities related to the West Coast Observation Project. Further analysis revealed that the Gulf of the Farallones region is a poor candidate for research buoys due to active commercial fishing areas and limited locations for environmental buoy deployment. The other “no action” activity related to coordinating research and monitoring across Cordell Bank National Marine Sanctuary (CBNMS), GFNMS and MBNMS. The three sanctuary research teams work effectively to leverage research funds and ship time on an annual basis, so additional work was deemed unnecessary. GFNMS and CBNMS are working with MBNMS to test expanding the ACCESS offshore monitoring program to MBNMS south of the northern management area.

#### **13. Maritime Heritage (Crosscut) Action Plan**

Of the 21 activities in this action plan, seven have seen no action or are on hold, seven are in process, five are ongoing, and two are complete. Because many of these activities have a regional scope and GFNMS does not have a dedicated maritime heritage coordinator, the Regional Maritime Heritage Coordinator is the lead and works across all West Coast sites to implement management plan activities, such as the ones reported as “no action” (*e.g.*, establishing a shipwreck monitoring program and inventory, coordinating threats to and from shipwrecks with partners, training, etc.).

#### Consideration of Revisions and Prioritization of Management Objectives

Since the publication of the 2014 management plan, GFNMS has made significant progress in implementing the strategies associated with these action plans. Overall, more than 45 percent of the activities are ongoing, which means they are successfully implemented over the long term. More than 12 percent of the strategies are complete, and

21 percent are partially completed (*i.e.*, in process). All of the action plans still contain strategies that would benefit from further efforts. This lack of completion does not indicate that the goals and objectives of the management plan have lost relevance. Rather, a large number of strategies are designed to be ongoing (*e.g.*, monitoring programs, collaborative management, education programs, etc.), so while they were successfully implemented they cannot be considered “completed.”

While some aspects of the human and environmental setting have changed since 2014, most strategies are broad enough to address existing and predicted conditions, and can be continued as prioritized in the 2014 management plan. All the action plans are still highly relevant and GFNMS will continue to pursue strategies to address them. The evaluation showed that the 2014 management plan action plans accurately reflect the current management priorities and resource protection issues for GFNMS and are adequate to continue guiding GFNMS operations and programs for the next five years. Overall, while revision would be appropriate to remove the 13 percent of completed strategies from the plan, there is no urgent or immediate need for revision. The action plans continue to be relevant for guiding operations and programs.

There continues to be a need for ongoing implementation of strategies, program development, and completion of in-process activities. While some activities have shifted focus in the last five years, no new or different strategies, themes, or programs have been identified during this evaluation. Revisions to the management plan and activities are not urgently needed at this time and can be revisited during the next periodic evaluation, planned for 2023, that will follow completion of a new condition report. Thus, while revision would be appropriate to remove completed strategies, there is no urgent or immediate need for revision because the remaining priorities and strategies remain relevant, and revisions can wait until or unless future priorities are identified following completion of the condition report.

#### Conclusion

The completion of this evaluation of the 2014 GFNMS management plan satisfies the requirements of NMSA section 304(e). Based upon this review, no urgent or immediate revisions to the management plan or to the regulations are needed at this time. NOAA will use this evaluation, an updated condition report, and other relevant program reports as the management and scientific information basis to undertake the next periodic management plan review. The results of this internal assessment will be presented to the Advisory Council at their February 2019 meeting.

Approved as written  \_\_\_\_\_  
Denied  \_\_\_\_\_

Approved with modifications (see below) \_\_\_\_\_  
Request for additional information \_\_\_\_\_

  
\_\_\_\_\_  
John Armor  
Director, Office of National Marine Sanctuaries

4/1/2019  
\_\_\_\_\_  
Date



Appendix A: Summary table of all action plans

<b>GFNMS Rapid MPR - Summary of 2014 Management Plan Implementation Activities</b>					
<b>Action Plan</b>	<b>Activities</b>				
	<b>Total Number of Activities</b>	<b>No Action</b>	<b>In Process</b>	<b>Ongoing</b>	<b>Done</b>
Water Quality (WQ)	9 strategies; 13 activities	9	3	0	1
Wildlife Disturbance (WD)	9 strategies; 16 activities	1	6	8	1
Introduced Species (IS)	9 strategies; 14 activities	12	1	0	1
Ecosystem Protection: Impacts from Fishing Activities (FA)	5 strategies; 7 activities	2	1	4	0
Impacts from Vessel Spills (VS)	11 strategies; 13 activities	3	4	5	1
Education and Outreach (Program) (ED)	14 strategies; 19 activities	0	3	12	4
Conservation Science (Program) (CS)	6 strategies; 12 activities	1	5	5	1
Resource Protection (Program) (RP)	14 strategies; 34 activities	3	7	19	5
Administration (Program) (AD)	6 strategies; 21 activities	0	1	17	3
Administration and Operations (Crosscut)	3 strategies; 20 activities	1	7	10	2
Communication and Outreach (Crosscut)	3 strategies; 10 activities	2	0	5	3
Ecosystem Monitoring (Crosscut)	3 strategies; 12 activities	2	0	8	2
Maritime Heritage (Crosscut)	6 strategies; 21 activities	7	7	5	2
<b>TOTAL</b>	<b>212</b>	<b>43</b>	<b>45</b>	<b>98</b>	<b>26</b>

Appendix B: Summary tables for each action plan

**Summary: Action Plan #1. Water Quality**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY WQ-1: Develop an umbrella program to coordinate partnerships in implementing a comprehensive and integrated water quality monitoring program in order to track impacts on the estuarine and nearshore environment.		1			
	Activity 1.1 A multitude of volunteer and expert-based water quality monitoring programs exist throughout the Marin, Sonoma, and Mendocino county watersheds adjacent to the sanctuary, and in the estuarine and nearshore environments within the sanctuary. Through better coordination, both efficiency and effectiveness could be improved, and monitoring needs and data gaps identified and filled.	1			
STRATEGY WQ-2: Address sources of anthropogenic pathogens and pollutants on estuarine and nearshore environments from recreational and commercial boating activities and marinas.		1	1		
	Activity 2.1 Impacts from discharges such as oily bilge water, detergents from deck wash, runoff from shipyards and marinas, and sewage affect Tomales Bay and Bodega Bay. The state is currently evaluating the need for sewage pumpout stations.		1		
	Activity 2.2 Develop with partners an outreach program on best management practices (BMPs) for recreational and commercial user groups in and around Arena Cove, Gualala River, Russian River, Tomales and Bodega Bays (e.g., campers, kayakers).	1			
STRATEGY WQ-3: Coordinate with other agencies to address land-based discharges into the estuarine and nearshore areas of the sanctuary including Areas of Special Biological Significance (ASBS) and Critical Coastal Areas.		2	1		
	Activity 3.1 Land-based discharges from stormwater, aging and undersized septic systems, agricultural runoff, livestock grazing, mining, and freshwater diversion and flow are impacting the sanctuary's estuarine and nearshore environments. The sanctuary plans to take the following steps to understand and address impacts from pathogens, sediments, nutrients, residual pollutants, and other contaminants such as pharmaceutical waste, micropollutants and pesticides.	1			
	Activity 3.2 There are known industries and specific areas that have been identified as having detrimental impacts on sanctuary water quality. Problematic areas should be addressed and industries that discharge into the watersheds in and adjacent to GFNMS (e.g., dairies, agriculture, marinas, mining facilities), should be encouraged through letters and awards of recognition to employ BMPs.	1			
	Activity 3.3 There are specific developed and developing areas, such as Bolinas Lagoon and Dillon Beach, where land-use activity is increasing. These activities are creating additional pressure in the watersheds adjacent to the sanctuary, potentially impacting the estuarine and nearshore environments within the sanctuary. Steps need to be taken to address impacts from land development and encourage the use of BMPs during the planning, development and alteration of upland areas.		1		
STRATEGY WQ-4: Evaluate California-designated ASBS and make a determination whether to implement a vessel discharge prohibition, without exception, within these areas of concern.			1		
	Activity 4.1 Develop a process to make a determination on the need for a prohibition on vessel discharge in California ASBSs within the sanctuary to protect sanctuary wildlife and habitat. Within California-designated ASBSs, point source waste and thermal discharges are prohibited or limited by special conditions and nonpoint source pollution is controlled to the extent practicable. Discharges of vessel wastes are not currently restricted. Additional GFNMS protections could augment the current state ASBS restrictions.		1		
STRATEGY WQ-5: Ensure the continuation of the long-term data collection efforts under the Mussel Watch program.					1
	Activity 5.1 The Mussel Watch program represents one of the longest term national efforts to track the impacts from nonpoint source pollution on bioaccumulation in the marine environment. Originally spearheaded by NOAA, the state adopted the program and has been a major source of support, although the program has been eroded in recent years by funding cutbacks. Mussel Watch has supplied critical data on the health of coastal, bay, and estuarine waters of the state.				1
STRATEGY WQ-6: Support a potential water quality working group established by the Advisory Council.		1			
	Activity 6.1 Support a working group of experts representing other agencies and institutions that can advise the Advisory Council on the development and implementation of a comprehensive and cooperative water quality protection plan. The working group could also provide advice on current, new, and emerging water quality issues.	1			
STRATEGY WQ-7: Develop administrative capacity to support a comprehensive and coordinated water quality protection plan.		2			
	Activity 7.1 Hire a full-time water quality specialist/coordinator.	1			

	Activity 7.2 Create a water quality seat or ensure representation from water quality interests through agency or other seats on the GFNMS Advisory Council.	1			
STRATEGY WQ-8: Develop an annotated bibliography of water quality research and monitoring programs in and adjacent to the sanctuary to evaluate data and determine the overall water quality of the sanctuary's ecosystem.		1			
	Activity 8.1 Inventory all short- and long-term water quality research and monitoring programs throughout the sanctuary, including estuarine, nearshore, coastal, and open ocean environments to determine status, data gaps, and sanctuary needs. Monitoring is used to determine where water quality is threatened, and also to determine compliance with state and federal law from the Clean Water Act to the Porter-Cologne Water Quality Control Act.	1			
STRATEGY WQ-9: Educate local decision makers on land-based water quality impacts in the sanctuary.		1			
	Activity 9.1 GFNMS will partner with the California Coastal Commission and other agencies and institutions on Nonpoint Education for Municipal Officials to inform decision makers on the link between development/growth and water quality.	1			
<b>Total</b>		<b>9</b>	<b>3</b>	<b>0</b>	<b>1</b>

**Summary: Action Plan #2. Wildlife Disturbance**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY WD-1: Create easily accessible centralized web-based spatial database to house information pertaining to wildlife disturbance.					1
	Activity 1.1 Analyze the information from the wildlife disturbance database to determine sources and level of disturbance to sanctuary wildlife. Coordinate with partners on addressing identified sources of disturbance.				1
STRATEGY WD-2: Through the use of volunteer monitoring programs, observe and record impacts from human activities on marine wildlife and key habitats of the sanctuary.			2		
	Activity 2.1 Develop volunteer-based intertidal monitoring program to evaluate human impacts on the intertidal habitat of the sanctuary and measure recovery rates of closed areas. This program will fall under a coordinated and complementary set of volunteer outreach and monitoring programs.		1		
	Activity 2.2 Develop volunteer-based coastal and offshore monitoring program to report location and numbers of whales at risk of possible ship strikes. This program will fall under a coordinated and complementary set of volunteer outreach and monitoring programs.		1		
STRATEGY WD-3: Coordinate with other agencies, institutions and programs to better understand and address anthropogenic noise, light, visual and physical impacts on wildlife.				5	
	Activity 3.1 In coordination with partners, identify types and frequency of impacts on wildlife from motorized and non-motorized aircraft and vessels both inside and outside restriction zones. Close approaches by vessels and low flying aircraft are known to create behavioral changes in wildlife including flushing, stampeding, and abandonment. Information from monitoring programs will help to identify key geographical areas with high disturbance frequency to be targeted for needed outreach and enforcement. Of particular concern are seabird colonies at Point Reyes Headlands, Bolinas Lagoon, Farallon Islands, Bird Rock, and Bodega Rock, Russian River Colony Complex, Fish Rocks, and Gualala Point Island and white sharks around Southeast Farallon Island.			1	
	Activity 3.2 In coordination with partners, create a regional monitoring program to better protect whales from commercial vessels in and around the shipping lanes at the entrance to San Francisco Bay. Endangered blue, fin and humpback whales feed within sanctuary waters. Large commercial vessels utilize an internationally approved traffic separation scheme when they transit through sanctuaries, heading to and from ports in San Francisco Bay and other major ports in the Pacific Rim. The co-occurrence of these two global populations (whales and ships) in space and time creates an elevated risk of vessel strike, and thus mortality, to whales. High densities of vessel traffic also expose marine mammals to chronic underwater engine and propeller noise. Exposure to this underwater noise can impact the ability of whales to communicate with each other, navigate and forage.			1	
	Activity 3.3 GFNMS will take an active role in reviewing project proposals that have the potential to introduce harmful levels of sound into the sanctuary environment and will work with project proponents to mitigate impacts and protect sanctuary resources. Impacts on marine resources from noise are of increasing concern with more than 6,000 container ships and bulk product carriers passing through the sanctuary on an annual basis; the use of seismic surveys for oil and gas exploration; identification of earthquake faults and activities; and the use of side scan sonar for research. Sound travels approximately five times faster in water than in air, with low frequency sounds (below 1,000 Hz) traveling the farthest. Low frequency sounds are generated by many human activities. Communication by many marine mammals and fish also falls within this range of frequency. Individually and cumulatively, the sound produced by these activities may have significant impacts on the living marine resources of the sanctuary. GFNMS would like to have a better understanding of the long-term and cumulative impacts on marine mammals, fishes and invertebrates.			1	
	Activity 3.4 Through the use of permit conditions, reporting requirements, workshops, and/or tracking systems, the sanctuary will identify wildlife disturbance-related research and monitoring programs taking place in the sanctuary and collaborate with these researchers to collect data on wildlife disturbance in the sanctuary.			1	
	Activity 3.5 Evaluate emerging scientific studies delineating the impacts of anthropogenic noise, light and visual and physical disturbance including vessel traffic, seismic surveys for hydrocarbon exploration and other commercial, industrial and governmental activities impacting sanctuary resources.			1	
STRATEGY WD-4: Through outreach and law enforcement efforts, address human behavior that may adversely impact wildlife.				2	
	Activity 4.1 Using existing volunteer outreach and monitoring programs, develop a coordinated and complementary set of interpretive outreach efforts to address human behavior and its impacts on sanctuary wildlife. Interpretive outreach is intended to be a proactive and a preventative method to avert potential negative impacts from human behavior before they occur.			1	

	Activity 4.2 Develop a coordinated and cooperative Protected Resource Enforcement Plan to ensure sufficient patrol presence in the sanctuary.			1	
STRATEGY WD-5: Develop wildlife viewing guidelines to reduce disturbance to wildlife from human interactions.			1		
	Activity 5.1 Conduct an assessment of target audiences to determine messaging, products and avenues for communicating to wildlife viewers about responsible interactions with wildlife.		1		
STRATEGY WD-6: Maximize media venues to augment directed outreach efforts and increase public awareness of wildlife disturbance issues.			1		
	Activity 6.1 In conjunction with partners, develop a media communications plan to address wildlife disturbance issues.		1		
STRATEGY WD-7: Coordinate the Seabird Protection Network aimed at improving the survival and recruitment of seabird colonies by reducing and eliminating human disturbances at seabird breeding and roosting sites throughout California.			1		
	Activity 7.1 In coordination with partners, provide appropriate education and outreach to government agencies and ocean and coastal users on the macro level by targeting organized events, association meetings, conferences, air and boat shows and ecotourism vendors; and on the micro level with individuals including pilots, researchers, rangers, sea kayakers, coastal recreational users, commercial and recreational fishermen, whale watchers and students. Breeding and roosting seabird populations are significant wildlife resources of the California coast and the protection of seabird populations and habitats were a critical consideration in the sanctuary's designation.		1		
STRATEGY WD-8: Coordinate the White Shark Stewardship Program to protect and conserve the white shark population that utilizes the sanctuary.				1	
	Activity 8.1 Through the use of permit conditions, reporting requirements, naturalist trainings and workshops, various monitoring programs, and community outreach the sanctuary will identify potential disturbances to white sharks and work with partner agencies, researchers, and the community to minimize these disturbances.			1	
STRATEGY WD-9: Evaluate current MPWC use and potential impacts to sanctuary wildlife resources, and develop a plan and options for establishing a regulatory system for sanctuary waters north of Bodega Head.		1	1		
	Activity 9.1 Use summary of public comments received during boundary expansion to scope options for a potential MPWC regulatory framework and potential future proposed rule, and produce a report or a scoping document for the sanctuary advisory council.		1		
	Activity 9.2 Propose an Advisory Council MPWC working group. Support a working group of stakeholders that can advise the Advisory Council on the development of recommendations for MPWC management north of Bodega Head.	1			
<b>Total</b>		<b>1</b>	<b>6</b>	<b>8</b>	<b>1</b>

**Summary: Action Plan #3. Introduced Species**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY IS-1: Develop a native and introduced species inventory and database specifically for GFNMS and areas adjacent to the sanctuary.		2			
	Activity 1.1 Although efforts are being made by California Department of Fish and Wildlife, Smithsonian, and others to create a centralized database, there has been no effort to profile and maintain a database specifically on the extent of introduced species in and adjacent to GFNMS.	1			
	Activity 1.2 Develop an easily accessible and queryable database to be used by sanctuary superintendent, staff, researchers and other agencies and institutions.	1			
STRATEGY IS-2: In coordination with existing monitoring programs, develop a program to detect introduced species in estuarine environments of the sanctuary.		2			
	Activity 2.1 Currently, there are no formal introduced species monitoring programs for estuaries in the sanctuary (Bollinas Lagoon, Tomales Bay, Estero de San Antonio, and Estero Americano). Monitoring efforts are taking place in estuarine environments in and around the sanctuary, such as Point Reyes National Seashore's all-taxa inventory of Tomales Bay, although not specifically focused on introduced species. GFNMS will work with other agencies and institutions to incorporate introduced species identification and monitoring into existing monitoring programs.	1			
	Activity 2.2 Develop guidelines for new estuarine monitoring programs for introduced species.	1			
STRATEGY IS-3: Develop a monitoring program to detect and monitor introduced species in the rocky intertidal areas of the sanctuary.		1	1		
	Activity 3.1 Ongoing since 1992 (with the exception of two years), the GFNMS' rocky intertidal monitoring program's goals are to: (1) monitor trends in population dynamics of selected indicator organisms; (2) determine normal levels of variation; (3) discover abnormal conditions; and (4) measure the effects of management actions. Data indicate changes from natural events such as El Niño on the study species, the varied distribution of species, and the influences that habitat has on the abundance of species. The study includes island and mainland sites. No funding is available for this work.		1		
	Activity 3.2 In adding onto GFNMS' existing intertidal monitoring program to look for introduced species, and in coordinating with other agencies' rocky intertidal monitoring programs.	1			
STRATEGY IS-4: Develop a monitoring program to detect and monitor introduced species in the pelagic environment of the sanctuary.		1			
	Activity 4.1 Introduced plankton species entering San Francisco Bay (and potentially adjacent areas) may already be present in the open ocean (presumably, primarily from ballast water). Although this does not necessarily mean that plankton present in the open water will establish itself in the bay (as some species are benthic while others pelagic), it may provide an indication of the presence of an introduced species. One component of the GFNMS' Sanctuary Ecosystem Assessment Surveys (SEA Surveys) is to assess biological productivity (chlorophyll-a; phytoplankton species inventory; euphausiid abundance and distribution; distribution/ abundance of jellyfish; assessment of drift algae). Without any additional effort by the sanctuary, SEA's plankton tows and harmful algal bloom assessments will be used to sample for introduced species.	1			
STRATEGY IS-5: Develop an outreach and monitoring program to improve early detection of introduced species.		1			
	Activity 5.1 Since most introduced species are accidental finds, GFNMS will develop an early detection program to widely disseminate information about introduced species to local citizens and visitors who frequent areas of the sanctuary where invaders could become established. Using Elkhorn Slough National Estuarine Research Reserve's Least Wanted Aquatic Invaders Programs model, the sanctuary will partner with other agencies to develop a similar program.	1			
STRATEGY IS-6: Develop partnerships with other agencies and organizations that are involved in issues related to introduced species to advise the sanctuary.		1			1
	Activity 6.1 Develop a Technical Advisory Committee of agency experts to advise the sanctuary on coordinated introduced species management issues. This group would meet on an as needed basis and may coordinate with an Advisory Council working groups as needed.	1			
	Activity 6.2 Work with the West Coast Region to identify a regional representative of the California sanctuaries (GFNMS, CBNMS, MBNMS, Channel Islands NMS) to sit on CalFed's Non-native Invasive Species Advisory Committee. The regional representative's role is to communicate the sanctuaries' interests, needs, and efforts in addressing introduced species issues. The representative will also be in attendance to listen and learn from experts in the field of introduced species and identify potential partners.				1

STRATEGY IS-7: Develop a rapid response plan and streamlined permit process in order to respond in a timely manner to necessary eradication or control efforts in the sanctuary.		1			
	Activity 7.1 Take the lead in coordinating with other agencies in the development of a rapid response plan to eradicate or control existing or new introductions in, or in areas adjacent to, the sanctuary.	1			
STRATEGY IS-8: Take action to control new introductions of introduced species.		2			
	Activity 8.1 Work with the State Water Resource Quality Board to include in the definition for "impaired waters" those areas where introduced species have been identified. Section 303(d) of the Clean Water Act requires the states submit to the Environmental Protection Agency a list of water bodies that do not meet water quality standards for specific pollutants (i.e., are "impaired").	1			
	Activity 8.2 Request the reporting of all research activities in the sanctuary to determine: (1) the types of activities taking place that might accidentally introduce invasive species; and (2) understand who may be doing research or monitoring of introduced species.	1			
STRATEGY IS-9: Through outreach efforts, inform targeted audiences and industry about pathways through which introduced species may enter the sanctuary and educate those targeted audiences on prevention methods.		1			
	Activity 9.1 Develop a targeted prevention program (other than the shipping industry, as ballast water is already being targeted).	1			
<b>Total</b>		<b>12</b>	<b>1</b>	<b>0</b>	<b>1</b>

**Summary: Action Plan #4. Ecosystem Protection: Impacts from Fishing Activities**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY FA-1: Develop an ecosystem characterization of the sanctuary to understand better types and distributions of habitats, species, and processes.		1		2	
	Activity 1.1 Modify ACCESS and develop additional research components as necessary to build a baseline characterization and regional monitoring of the sanctuary including habitat, physical, and biological characteristics.			1	
	Activity 1.2 Conduct workshops to develop a coordinated plan for regional monitoring and ocean observing system activities to supplement the NMFS five-year surveys (per recommendations developed during the marine mammal/seabird workshop in December 2002). These workshops will develop a plan to expand appropriate methodologies for monthly and annual ocean observing and trophic structure surveys across all five West Coast sanctuaries.			1	
	Activity 1.3 Based upon available ship time, facilitate expansion of California Cooperative Oceanic Fisheries Investigations transect lines through the five West Coast sanctuaries.	1			
STRATEGY FA-2: Evaluate impacts from fishing activities on sanctuary resources.			1		
	Activity 2.1 Evaluate types and levels of impacts from fishing activities.		1		
STRATEGY FA-3: Develop policy recommendations or management action(s) to address impacts from fishing activities on sanctuary resources.		1			
	Activity 3.1 If there is an indication of potential significant negative impacts on sanctuary resources from fishing activities, then evaluate and make recommendations on actions the sanctuary should take to address impacts from specific activities. A stakeholder-based, working group could be convened by the sanctuary advisory council, which could include: resource management agencies, interest groups, user groups, fishermen representing different gear types, and the scientific community. The working group could make recommendations to the sanctuary advisory council based on best available scientific and socioeconomic data.	1			
STRATEGY FA-4: Develop public awareness about the value and importance of the historical and cultural significance of maritime communities and their relationship and reliance on healthy sanctuary waters.				1	
	Activity 4.1 Develop a maritime heritage and fishing community model.			1	
STRATEGY FA-5: Maintain consistent and coordinated region-wide sanctuary representation at the Pacific Fishery Management Council (PFMC) and Fish and Game Commission (FGC) meetings.				1	
	Activity 5.1 Maintain a regional sanctuary representative to attend PFMC and FGC meetings and participate as appropriate.			1	
<b>Total</b>		<b>2</b>	<b>1</b>	<b>4</b>	<b>0</b>



**Summary: Action Plan #5. Impacts from Vessel Spills**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY VS-1: Expand MBNMS drift analysis model to include Point Arena and Mendocino.		1			
	Activity 1.1 Expand MBNMS drift analysis model north to Point Arena/Mendocino using existing data. The current model of vessel drift rates and tug response times only extends as far north as San Francisco Bay. Seasonal variability and coverage north to Mendocino is necessary to protect GFNMS.	1			
STRATEGY VS-2: Refine oceanographic data used in existing spill and drift model to increase accuracy of risk assessments.		1			
	Activity 2.1 Revise existing oceanographic circulation model to reflect the unique fine-scale features of the Gulf of the Farallones and consult with NOAA Office of Response and Restoration to ensure compatibility with NOAA's General NOAA Operational Modeling Environment and Trajectory Analysis Planner spill trajectory models.	1			
STRATEGY VS-3: Evaluate recent vessel routing changes.			1		
	Activity 3.1 Evaluate how the vessel routing adjustments have affected GFNMS, what lessons have been learned, and what improvements could be made.		1		
STRATEGY VS-4: Track distribution and numbers of species of concern and habitats in relation to probable spill trajectories.		1		1	
	Activity 4.1 Refine resources-at-risk analysis for Gulf of the Farallones. The resources-at-risk assessments define the seasonal distribution and numbers of sensitive species and habitats in relation to probable spill trajectories.	1			
	Activity 4.2 Modify ACCESS and develop additional research components as necessary to build a baseline characterization and to monitor sanctuary habitats and physical and biological characteristics. This information will also be used for natural resource damage assessment and restoration of pelagic species, including trophic levels, spill response and the use (applicability) of dispersants and in-situ burning.			1	
STRATEGY VS-5: Participate in Area Contingency Planning and engage in NMSA consultation during the revision of the Area Contingency Plans (ACPs) in the region to address risks to sanctuary resources.			1	1	
	Activity 5.1 Review Regional Response Plan and ACPs, including location of Oil Spill Response Organization pre-positioned response equipment.			1	
	Activity 5.2 Review and compile all available information from reports, management/response plans, and literature on the potential effects of various Applied Response Technologies (such as dispersants) on sanctuary resources.		1		
STRATEGY VS-6: Periodically review and revise, as necessary, GFNMS in-house emergency response plan.				1	
	Activity 6.1 Revise tasks and responsibilities for GFNMS in the event of a vessel spill, both small and large, in the sanctuary (also see Administration recommendations).			1	
STRATEGY VS-7: Continue to improve integration of GFNMS Beach Watch and ACCESS data into ACP.				1	
	Activity 7.1 Enhance Integration of Beach Watch and ACCESS data into the ACP and Web-based GIS in the Southwest Environmental Response Management Application (ERMA). Regularly integrate updated GFNMS data to strengthen the ACP and ERMA and allow for more accurate decision making by incident command.			1	
STRATEGY VS-8: Conduct outreach to mariners to increase stewardship of the sanctuary, including voluntary compliance with Vessel Traffic System (VTS) and sanctuary regulations.			1		
	Activity 8.1 Develop outreach plan based on results of vessel activities profile, risk assessment, and resources-at-risk assessment to increase voluntary compliance with VTS and sanctuary regulations (container ships, bulk carriers, chemical carriers, military vessels, research vessels, cruise ships, and tugs).		1		
STRATEGY VS-9: Increase regular communication between GFNMS and maritime trade industry.					1
	Activity 9.1 Recruit maritime trade industry member for GFNMS Advisory Council. The maritime trade council member would represent the industry's interest at the Advisory Council meetings and report sanctuary activities to the industry.				1
STRATEGY VS-10: Participate in regional forums for addressing vessel traffic issues.				1	
	Activity 10.1 A sanctuary representative will attend regional meetings, including the area committee meetings, harbor safety meetings, and ad hoc panels.			1	
STRATEGY VS-11: Continue to implement recommendations of the vessel spills working group and seek regular input from the sanctuary advisory council.			1		
<b>Total</b>		<b>3</b>	<b>4</b>	<b>5</b>	<b>1</b>

**Summary: Action Plan #6. Education and Outreach (Program)**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY ED-1: Educate K-8 students about the sanctuary through visitor center, classroom, and field activities.				1	
	Activity 1.1 Update K-8 Crissy Field visitor center programs about the sanctuary to align with state and national science standards. Expand to include national ocean and climate literacy principles. Develop activities that incorporate emerging marine issues in the sanctuary and correlate to school curricula.			1	
STRATEGY ED-2: Educate high school students and teachers about the sanctuary through classroom and field activities.				1	
	Activity 2.1 Expand LiMPETS Program to a four-tiered program including curriculum, student monitoring, stewardship projects, and teacher professional development.			1	
STRATEGY ED-3: Educate culturally diverse inner city children about the sanctuary through summer camp experiences that are highly experiential and field based.				1	
	Activity 3.1 Expand Marine Explorers Camp to reach a broader audience.			1	
STRATEGY ED-4: Educate teachers about the resources and programs of the sanctuary by providing professional development programs.				1	
	Activity 4.1 As a component of the education program, develop a set of professional development programs for teachers.			1	
STRATEGY ED-5: Provide stewardship opportunities for high school students.					1
	Activity 5.1 Recruit students in grades 10-12 from local and regional high school education programs to volunteer for summer camp, the visitor center, field research, volunteer program, and other opportunities.				1
STRATEGY ED-6: Create stewards of the sanctuary by engaging middle and high school students in a large-scale, long-term monitoring project.				1	
	Activity 6.1 Participate in LiMPETS, a collaborative program of the West Coast sanctuaries to work with teachers and students to learn how to collect long-term monitoring data while increasing awareness of the sanctuaries.			1	
STRATEGY ED-7: Expand the reach of GFNMS education and outreach programs by enhancing volunteer program training to foster volunteers to educate about the sanctuary at various events and locations.			2		
	Activity 7.1 Recruit, train, and manage a diverse team of volunteers to engage and educate visitors about the sanctuary at the GFNMS visitor center, summer camps, schools, and outreach events (lectures, fairs) as well as in the field at high use areas.		1		
	Activity 7.2 Develop GFNMS naturalist certification program to train volunteers and professional naturalists to present basic sanctuary information to multiple audiences.		1		
STRATEGY ED-8: Increase awareness and knowledge of the sanctuary through lectures.				1	
	Activity 8.1 Raise the profile of the GFNMS lecture series by taking an innovative approach to increase attendance and new potential audiences.			1	
STRATEGY ED-9: Increase awareness and build knowledge of the sanctuary through educational programs and exhibits at the sanctuary and partner visitor centers.				1	
	Activity 9.1 Maintain engaging educational exhibits and activities at the GFNMS Crissy Field visitor center and partner exhibits.			1	
STRATEGY ED-10: Increase sanctuary awareness and reach to larger audiences through the production and distribution of videos on the sanctuary and its resources.					1
	Activity 10.1 Produce videos and distribute to appropriate audiences.				1
STRATEGY ED-11: Increase awareness of GFNMS by using effective media and marketing techniques.				3	1
	Activity 11.1 Implement awareness campaign to raise the profile and recognition of the GFNMS.				1
	Activity 11.2 Maintain a strong and favorable public identity.			1	
	Activity 11.3 Increase reach and success of all sanctuary programs by increasing distribution of GFNMS education and outreach messages through other environmental education groups.			1	
	Activity 11.4 Increase reach and success of all sanctuary programs by effectively marketing, distributing, and evaluating all sanctuary programs and products.			1	
STRATEGY ED-12: Increase audience by building a larger visitor center with increased exhibits, programs, and opportunities to learn about and support GFNMS.			1		
	Activity 12.1 Create a new visitor center that showcases ONMS with exhibits, lecture hall, and classroom/lab facilities, providing a gateway to the GFNMS and beyond. The center will be a destination for greater ocean literacy and community stewardship in the 21st century.		1		
STRATEGY ED-13: Increase awareness of the sanctuary through interpretive signage and exhibits at strategic locations.				2	

	Activity 13.1 Develop a coordinated network of signs and wayside exhibits throughout the sanctuary.			1	
	Activity 13.2 Develop a coordinated network of exhibits throughout the sanctuary. Existing and potential outreach and interpretive exhibit venues being considered.			1	
STRATEGY ED-14: Outreach to residents and visitors in inland areas of the GFNMS watersheds and educate them about their connection with the sanctuary.					1
	Activity 14.1 Develop a traveling exhibit on sanctuary watersheds to bring the sanctuary to inland communities.				1
<b>Total</b>		<b>0</b>	<b>3</b>	<b>12</b>	<b>4</b>

**Summary: Action Plan #7. Conservation Science (Program)**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY CS-1: Maintain the Beach Watch program to monitor marine life and human activities on sanctuary beaches, and provide baseline information, and identify ecosystem changes to assist sanctuary management decisions.				1	
	Activity 1.1 Maintain and extend into the expansion area the Beach Watch volunteer monitoring program to gather baseline information about the resources of the sanctuary.			1	
STRATEGY CS-2: Conduct research as needed to guide permit conditions.		1			
	Activity 2.1 Conduct research to guide permit conditions for white shark viewing and assess effectiveness of regulations.	1			
STRATEGY CS-3: Host a biennial research workshop to facilitate information exchange in the GFNMS.				1	
	Activity 3.1 Every other year, the sanctuary will continue to host a conservation science workshop with local researchers and educators to highlight science in and around the sanctuary.			1	
STRATEGY CS-4: Develop and implement sanctuary ecosystem assessment and monitoring programs, and integrate with regional ocean observation programs along the west coast and the sanctuary program's System Wide Monitoring guidelines.			2	1	1
	Activity 4.1 Expand ACCESS.		1		
	Activity 4.2 Expand sanctuary's Rocky Intertidal Monitoring Program. The rocky intertidal habitat of the sanctuary is limited to outer coast and island shorelines. This habitat is subjected to extraction, trampling impacts from humans and wildlife, smothering and scouring from natural and human-induced erosion factors, permanent destruction from vessel groundings, loss of acreage from non-native species, and impacts from pollutants such as urban run-off and vessel spills. Restoration of the rocky intertidal habitat is difficult and time-consuming, with projects often taking seven to ten years.		1		
	Activity 4.3 Long-term monitoring of sanctuary physical/oceanographic processes.			1	
	Activity 4.4 Conduct research and monitoring to assess eelgrass beds.				1
STRATEGY CS-5: Complete characterization of sanctuary biological and physical features.			2	2	
	Activity 5.1 Map sanctuary habitat types and bottom substrate. A habitat map will provide important baseline information for management including relative proportions of sanctuary habitats; the current state of sanctuary wildlife and habitats as a basis against which to measure future change; unique habitats; identify areas of ecological significance; and extent of injuries from anthropogenic stressors.			1	
	Activity 5.2 Identify and map seasonal and year-round circulatory patterns for surface and subsurface currents. Relate circulatory patterns to abundance and distribution of flora and fauna. Characterizing and mapping local and regional circulatory patterns and influences is important because the sanctuary is located in one of the world's four major upwelling systems. The upwelling of nutrient-rich, deep ocean water supports a food-rich environment and promotes the growth of organisms at all levels of the marine food web. The interaction of major currents, wind, topography, and other factors create coastal upwelling in the spring and summer that influences the biological productivity of the sanctuary. This process drives the productivity of the area by bringing cool, nutrient-rich waters from deep offshore to the sunlit inshore surface. Upwelling increases the productivity of surface waters by supporting large plankton blooms, the basis for the abundance of marine life in the sanctuary.		1		
	Activity 5.3 Characterize the soft and hard bottom epifaunal communities. Survey the surface biota and sediment characteristics, quantify estimates of abundance and distribution of epifauna, assess disturbance effects and marine debris, develop species list of invertebrates and epifaunal fish, and characterize cultural resources.			1	
	Activity 5.4 Integrate characterization, mapping and monitoring programs with regional ocean observation programs along the West Coast and incorporate the sanctuary program's System Wide Monitoring guidelines.		1		
Strategy CS-6: Work with partners to integrate data integration and infrastructure for SEAS programs.			1		
	Activity 6.1 SEAS program needs to be fully integrated with other science programs on a regional basis and need to use new technologies to link data sets from local and regional ecosystem monitoring and characterization programs within the West Coast sanctuaries. As part of an effort to develop a West Coast regional observation system to support system-wide monitoring in the five West Coast sanctuaries, ONMS will partner with researchers and the National Oceanographic Data Center National Coastal Data Development Center and will use new technologies for data and information management.		1		
<b>Total</b>		<b>1</b>	<b>5</b>	<b>5</b>	<b>1</b>

**Summary: Action Plan #8. Resource Protection (Program)**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY RP-1: Develop a coordinated communication system among all national marine sanctuaries and other natural resource management agencies to stay informed about new and emerging issues, share information, and provide a forum for exchange and policy discussion.				2	
	Activity 1.1 NOAA, NOS, and ONMS are addressing new and emerging issues in some capacity every day. Each of these divisions and offices comment on environmental documents from other agencies, provide comment on policy development from within NOAA, and consult on new and emerging issues either on the ONMS site level or from congressional inquiries. GFNMS will track, review, and comment on environmental assessments and environmental impact statements that have the potential to affect the resources of GFNMS.			1	
	Activity 1.2 GFNMS will formalize a communication system and leverage opportunities with other natural resource management agencies to exchange ideas on new and emerging issues.			1	
STRATEGY RP-2: Develop a resource protection plan (policy) and potential regulations, such as prohibitions that utilize Special Wildlife Protection Zones, to minimize user conflicts and provide special areas of protection for sensitive habitats, living resources, and other unique sanctuary features.					1
	Activity 2.1 Determine the need to take a proactive approach and address specific ecosystem management issues. This plan will be built in consideration of other management strategies, both temporary and permanent.				1
STRATEGY RP-3: Develop strategy to protect habitats that are known to be "special areas of concern."			1	2	
	Activity 3.1 Using data collected by the sanctuary's conservation science program as well as other research programs, identify "special areas of concern."			1	
	Activity 3.2: Through a collaborative process, develop a strategy to protect the habitats that were identified as "special areas of concern."			1	
	Activity 3.3 Assess effectiveness of existing zonal regulations and modify as necessary		1		
STRATEGY RP-4: GFNMS will develop a program to review and evaluate sanctuary regulations consistently and continuously, including boundaries.				1	
	Activity 4.1 Evaluate the appropriateness and effectiveness of current sanctuary regulatory language (prohibitions) in addressing the priority ecosystem protection issues identified through the management plan review process.			1	
STRATEGY RP-5: Continue to implement a formalized permit program as a mechanism to review requests to conduct prohibited activities within the sanctuary, and where possible permit these activities to be conducted in such a way as to have negligible effects.			1	2	
	Activity 5.1 In order to understand, monitor, and control prohibited activities within the sanctuary, and to minimize cumulative impacts from these activities, the permit program will continue to review projects.			1	
	Activity 5.2 The Permit Coordinator will coordinate with other regulatory agencies issuing permits to ensure consistency with applicable laws.			1	
	Activity 5.3 Conduct outreach about the sanctuary's permit process to help inform potential applicants and bring them into compliance with the sanctuary's permit process.		1		
STRATEGY RP-6: Strive to increase ecosystem protection through compliance with sanctuary regulations and other applicable local state and federal statutes that protect sanctuary natural resources.			1	3	
	Activity 6.1 Ensure sufficient patrol presence in the sanctuary through the development of partnerships and interagency coordination.		1		
	Activity 6.2 Use outreach tools to inform and encourage voluntary compliance with sanctuary regulations. These tools such as presentations, signage, electronic communications, newsletters, and displays may be used to affect behavior and change values as it is generally believed that once informed most individuals will choose to comply.			1	
	Activity 6.3 Develop a volunteer-based program that will use education and outreach to affect behavior and values to achieve voluntary compliance with sanctuary regulations.			1	
	Activity 6.4 Develop enforcement tools to ensure effectiveness of the enforcement program.			1	
STRATEGY RP-7: Review and revise the sanctuary's spill response plan and emergency response portfolio (ERP) in order to be prepared to respond to an incident.		1	1	1	
	Activity 7.1 GFNMS will review and revise its in-house, spill response plan and ERP, based on the Incident or Unified Command System and the U.S. Coast Guard's ACP, to respond to oil spills, hazardous material spills, grounded vessels or natural disasters. The response plan will also be reviewed, evaluated and updated on an annual basis. The ERP will be reviewed, evaluated and updated on an as-needed basis throughout the year.			1	
	Activity 7.2 Develop tools to ensure a coordinated and timely response to incidents.		1		
	Activity 7.3 Assess levels of potential risk from activities in and adjacent to the sanctuary.	1			

STRATEGY RP-8: Formalize plans that address incidents that injure sanctuary ecosystems.			1		
	Activity 8.1 Coordinate with NOAA's ORR HQ and Assessment and Restoration Division, the NMFS Restoration Center and Trustee Councils to restore sanctuary wildlife and habitats.		1		
STRATEGY RP-9: Continue to build partnerships and leverage opportunities for protecting sanctuary wildlife, habitats, qualities and cultural resources.				2	
	Activity 9.1 Coordinate development of collaborative processes.			1	
	Activity 9.2 Coordinate with other agency management and restoration plans to enhance and protect the sanctuary.			1	
STRATEGY RP-10: Evaluate condition of, and actual impacts on sanctuary resources and qualities from the Farallon Islands radioactive waste dump (FIRWD).			1	1	
	Activity 10.1 Convene a group of agency scientists to evaluate status of radioactive waste dump and make recommendations on roles and responsibilities for addressing some of the issues associated with FIRWD.		1		
	Activity 10.2 Develop an outreach campaign to inform the public on the status and potential threats of FIRWD.			1	
STRATEGY RP-11: In cooperation and coordination with other local, state and federal agencies, develop and implement a comprehensive plan to ensure the protection of water quality, wildlife, habitats and safety in Tomales Bay.			1	3	1
	Activity 11.1 Implement vessel management guidelines in coordination with ten local, state and federal agencies to address vessel use that may be impacting sensitive habitats.			1	
	Activity 11.2 Develop sewage, oil and bilge water waste disposal and facility guidelines for public and private boating facilities.		1		
	Activity 11.3 Develop an enforcement plan to address derelict and abandoned vessels and moorings in Tomales Bay.				1
	Activity 11.4 Address impacts to sensitive habitats from construction, modifications and additions to docks and piers in Tomales Bay.			1	
	Activity 11.5 Through a community-based, multi-stakeholder process develop a comprehensive plan addressing aquaculture and native oyster bed restoration in Tomales Bay.			1	
STRATEGY RP-12: Work in collaboration with federal, state and local agencies, and the local community, to restore the natural ecological processes of Bolinas Lagoon.				1	
	Activity 12.1 Collaborate in the development and implementation of a comprehensive plan to examine actions that would reduce, and possibly reverse, sediment accumulation and habitat shifts caused by human impacts.			1	
STRATEGY RP-13: In cooperation and coordination with local, state and federal agencies, develop and implement a comprehensive plan to ensure the protection of water quality through promoting proper vessel waste disposal from vessels launching out of Arena Cove or other harbors and launch points adjacent to GFNMS.					1
	Activity 13.1 Work with the City of Point Arena and Arena Cove Harbor staff to protect the waters of the sanctuary.				1
STRATEGY RP-14: Integrate climate change mitigation, monitoring, education, and adaptation into sanctuary management through the development of the GFNMS Climate Smart Conservation Plan.		2		1	2
	Activity 14.1: Publish to the ONMS Conservation Science Series the report, "Ocean Climate Indicators: A Monitoring Inventory and Plan for Tracking Climate Change in the North-central California Coast and Ocean Region," that identifies 12 indicators and identifies a consistent way to measure and manage the impacts of climate change in the region, and provides a foundation of scientific consensus for the Climate Smart Conservation Plan. This report was drafted by a working group of the Advisory Council.				1
	Activity 14.2 Reduce Site Emissions			1	
	Activity 14.3 Develop the Ocean Climate Education Plan.	1			
	Activity 14.4 Develop the Climate Smart Adaptation and Implementation Plan.				1
	Activity 14.5 Assemble the GFNMS Climate Smart Conservation Plan and request ONMS Climate Smart Sanctuary Certification.	1			
<b>Total</b>		<b>3</b>	<b>7</b>	<b>19</b>	<b>5</b>

**Summary: Action Plan #9. Administration (Program)**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY AD-1: The sanctuary headquarters will be renovated and new sanctuary facilities will be developed through various partnerships with both the public and private sector.			1	5	1
	Activity 1.1 Build a world class icon for marine stewardship in San Francisco at the Crissy Field Campus.			1	
	Activity 1.2 Serve as a model campus for "green operations" implementing conservation practices throughout sanctuary operations and facilities. Track and report GFNMS annual emissions and recommend actions to decrease emissions. Develop incentive program to encourage staff participation in conservation practices.			1	
	Activity 1.3 Increase the sanctuary staff's ability to access the marine waters of the sanctuary by expanding vessel capabilities and contracting more vessel time to support research and monitoring efforts. The sanctuary's research vessel, the <i>Fulmar</i> serves as a day-use platform supporting the three central and northern California sanctuary programs and partners. Investigate adding an additional boat to the West Coast Region to support the expanded GFNMS and CBNMS.				1
	Activity 1.4 Revise and implement a facilities plan for satellite offices and visitor centers. GFNMS has identified Half Moon Bay, Point Reyes, Bodega Bay, and either Gualala or Pt. Arena as potential sites for sanctuary satellite offices and visitor centers. The existing plan covers a geographic area from San Mateo to southern Sonoma County. The plan will be updated to include all of Sonoma County and southern Mendocino County.		1		
	Activity 1.5 Improve, upgrade, maintain, and evolve the information technology infrastructure of the facilities. Continue to improve site technology through dedicated base funds, stable support staff, and strategic partnerships with Silicon Valley and other Bay area information technology leaders. The San Francisco Bay area is recognized as one of the most technologically advanced regions in the world. GFNMS should tap into these local resources and creative thinking to evolve more efficient, creative, and engaging methods of protecting our marine resources.			1	
	Activity 1.6 Partner with local research and academic institutions to develop facilities and infrastructure to support research and monitoring in GFNMS.			1	
	Activity 1.7 Maintain a safe and secure work environment for staff and visitors. Implement safety and security measures required by ONMS.			1	
STRATEGY AD-2: The primary focus of GFNMS is ecosystem protection. Basic staffing requirements must provide support for administration and the program areas of conservation science, education and outreach, and resource management.				4	
	Activity 2.1 Sanctuary staff skills should collectively represent expertise in policy, marine resource management, education, outreach, volunteer development, research, monitoring, geographic information systems, communications technology, and administration. The actual number and expertise of staff will depend on budget allocations and the operating priorities of GFNMS. In order to meet the objectives of this management plan, target staffing requirements have been laid out (see staffing chart).			1	
	Activity 2.2 Each staff member must exhibit general knowledge about all GFNMS program areas and the ability to communicate effectively with constituents, other professionals, and the community-at-large. In an effort to attract and maintain a consistent and high caliber staff base, the GFNMS Superintendent will encourage staff participation in professional development.			1	
	Activity 2.3 Collectively, the staff will function as a team supporting each program area, working towards the common goals and objectives of the management plan and increasing protection of sanctuary ecosystems and qualities.			1	
	Activity 2.4 Through the administrative framework, the sanctuary will work to create a positive working environment that encourages transparency, creativity, trust and accountability.			1	
STRATEGY AD-3: With limited staff and financial resources, GFNMS will develop partnerships and identify outside funding sources and in-kind services to assist in the implementation of the management plan.				2	1
	Activity 3.1 Continue to maintain and build on existing partnerships.			1	
	Activity 3.2 Expand informal working relationship with NMFS and United States Geological Survey. Partnership activities include coordination on research projects, data analysis and cruise operations.				1
	Activity 3.3 Expand partnership with the Bureau of Land Management's California Coastal National Monument (CCNM) to involve each other in plans along the North-central California coast. The BLM's CCNM has taken a cooperative and collaborative approach to earn the trust of local communities and organizations and empowered these partners to be active stewards in the protection and management of their portion of the California coast. GFNMS will discuss with CCNM future coordination and collaboration as well as potential involvement with the Gateway program.			1	

STRATEGY AD-4: The Advisory Council plays an active role in ecosystem protection and provides advice to the sanctuary superintendent.				5	
	Activity 4.1 Strengthen the structure of the Advisory Council by: evaluating and amending as necessary the Advisory Council charter; evaluating and developing organizational strategies to enhance the Advisory Council's level of participation and effectiveness; evaluating and adjusting as necessary the representation of Advisory Council membership; and providing support to help the Advisory Council continue to evolve their respected voice in the community.			1	
	Activity 4.2 Support the role of the Advisory Council in addressing ecosystem protection issues by using their assistance to recommend GFNMS policies and procedures.			1	
	Activity 4.3 Provide support, resources, and guidance to help the Advisory Council engage and educate the public about current, new, and emerging ecosystem protection issues in the sanctuary.			1	
	Activity 4.4 Support Advisory Council in creating working groups in accordance with ONMS policies and guidelines. Advisory Council members may choose to serve on various Advisory Council working groups. Working groups would be convened by the Advisory Council to focus on specific issues and to allow for participation by additional stakeholders and community experts.			1	
	Activity 4.5 Add seats to the Advisory Council as needed. Ensure representation on the Advisory Council from all the coastal counties in the sanctuary.			1	
STRATEGY AD-5: After expansion of GFNMS becomes effective, consider a public regulatory process, under the statutory authority of the NMSA and in accordance with the National Environmental Policy Act, to examine if additional regulatory amendments are needed to manage the expanded GFNMS.					1
	Activity 5.1 Work with the CBNMS Advisory Council to determine interest in and resources for conducting a public regulatory process to consider amending or adding to GFNMS regulations for the expanded GFNMS, separately or in conjunction with any public regulatory process to amend or add to CBNMS or MBNMS regulations.				1
STRATEGY AD-6: NOAA and GFNMS recognize all other authorities in and around sanctuary waters as important components of effective ecosystem protection. Therefore, GFNMS' regulations complement or supplement, but do not replace, existing authorities. To ensure coordination and cooperation with federal, state, and local jurisdictions within or adjacent to the sanctuary, GFNMS seeks to formalize intra- and interagency efforts.				1	
	Activity 6.1 GFNMS will engage other agencies in reviewing each other's actions, responding to environmental impact statements, and participating on sanctuary panels and working groups. Building agency relationships allows for: coordinating the development of policies at the federal, state and local level; the sharing of research and education resources; and the opportunity to work together to identify resource management issues.			1	
<b>Total</b>		<b>0</b>	<b>1</b>	<b>17</b>	<b>3</b>



**Summary: Action Plan #10. Administration and Operations (Crosscut)**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY XAO-1: Improve internal communications among the three sanctuaries.			1	5	
	Activity 1.1: Maintain regular communications between the sanctuary superintendents.			1	
	Activity 1.2: The West Coast superintendents will meet monthly by phone with the West Coast Region staff to discuss regional issues and will meet annually in person to develop annual regional priorities.			1	
	Activity 1.3: Maintain a new employee orientation program that includes information from the three sanctuaries and ONMS.		1		
	Activity 1.4: The program coordinators will meet at least once per year to share information and plan joint activities prior to the development of the annual operating plans.			1	
	Activity 1.5: Schedule annual joint Advisory Council chair and sanctuary superintendent meeting.			1	
	Activity 1.6: Encourage and provide opportunities for site staff to give presentations at each other's Advisory Council meetings.			1	
STRATEGY XAO-2: Improve the efficiency and cost-effectiveness of program operations and administration.			3	2	
	Activity 2.1: Contact and inform the other sites early in the planning stages of field operations to provide opportunities to plan joint missions and to share information and data.			1	
	Activity 2.2: As opportunities arise, create short-term opportunities for staff exchanges, rotations, details and informal staff loans for specific projects or to fulfill on-going needs across the West Coast Region.			1	
	Activity 2.3: Participate in each other's interview panels to review candidates for new and vacant positions, where possible.		1		
	Activity 2.4 CBNMS and GFNMS superintendents and other planning staff will discuss administrative and operational needs and expectations related to the expansion area.		1		
	Activity 2.5 Evaluate alternative management strategies for offshore portions of northern expansion areas.		1		
STRATEGY XAO-3: Improve the coordination of sanctuary resource protection activities and programs.		1	3	3	2
	Activity 3.1: Improve staff awareness and understanding of each site's regulations.				1
	Activity 3.2: The West Coast sanctuaries will continue to work closely on any future proposed regulatory changes that could affect other sites. The GFNMS and MBNMS Resource Protection Teams will closely coordinate on any future proposed regulatory changes that could impact the Northern Management Area (NMA).		1		
	Activity 3.3: GFNMS will facilitate a public process in the next five years to consider whether the San Francisco Exemption Area should be incorporated into MBNMS.				1
	Activity 3.4 The West Coast sanctuaries will share responsibilities for preparing regional permits. GFNMS will be responsible for permit activities in the NMA.			1	
	Activity 3.5 MBNMS staff will continue to implement Water Quality Protection Program activities including conducting site water quality needs assessment, review water quality permits and authorizations.			1	
	Activity 3.6 Coordinate emerging issues among the West Coast sanctuaries and develop coordinated strategies to address emerging issues.			1	
	Activity 3.7 Implement West Coast Region emergency response plan.	1			
	Activity 3.8 Coordinate with the ONMS Damage Assessment Team on populating and making the Southwest Environmental Response Application functional and operative for the three sanctuaries and integrating it with the existing Sanctuary Integrated Monitoring Network (SIMoN) database.		1		
	Activity 3.9 Continue to work closely on enforcement activities in the region.			1	
<b>Total</b>		<b>1</b>	<b>7</b>	<b>10</b>	<b>2</b>

**Summary: Action Plan #11. Communication and Outreach (Crosscut)**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY XCO-1: Build upon and expand existing ocean and coastal outreach				3	1
	Activity 1.1: Develop or strengthen coordinated regional outreach programs and opportunities.			1	
	Activity 1.2: Plan and conduct regional sanctuary outreach events.			1	
	Activity 1.3: Develop and implement joint media communications plan, e.g., print, radio, TV, Internet.			1	
	Activity 1.4: Identify and partner with external programs and partners to incorporate sanctuary-related messages, identify best practices and achieve common goals.				1
STRATEGY XCO-2: Enhance and coordinate ocean and coastal education		1		2	
	Activity 2.1 Collaborate on existing site-specific education programs and products as a means to enhance and expand educational offerings.			1	
	Activity 2.2 Take a multicultural/multilingual approach to all outreach efforts.	1			
	Activity 2.3 Identify and implement new education programs that can be developed jointly with other sites.			1	
STRATEGY XCO-3: Enhance ocean and coastal stewardship		1			2
	Activity 3.1 Create, maintain and promote sanctuary and partner volunteer programs.				1
	Activity 3.2: Create new ways to inspire coastal and ocean stewardship in local communities.	1			
	Activity 3.3 Identify partners to incorporate stewardship messages.				1
<b>Total</b>		<b>2</b>	<b>0</b>	<b>5</b>	<b>3</b>

**Summary: Action Plan #12. Ecosystem Monitoring (Crosscut)**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY XEM-1: Coordinate existing targeted monitoring activities to promote greater efficiency and effectiveness.				4	
	Activity 1.1: Regional science staff should coordinate regarding intertidal monitoring programs.			1	
	Activity 1.2: Beach Watch and Beach Coastal Ocean Mammal and Bird Education and Research Surveys (COMBERS) will continue to collaborate on sharing information on the health of seabirds and trends in beachcast wildlife.			1	
	Activity 1.3 Maintain and expand ACCESS integrated sanctuary marine mammal, seabird and sea turtle surveys.			1	
	Activity 1.4 Regional science staff should coordinate regarding benthic habitat surveys.			1	
STRATEGY XEM-2: Implement existing regional ecosystem monitoring activities.		1		4	
	Activity 2.1 Continue the West Coast Observation Project at CBNMS, GFNMS and MBNMS.	1			
	Activity 2.2 Develop and implement an integrated Sanctuary System-Wide Monitoring (SWiM) program for CBNMS, GFNMS and MBNMS by publishing Condition Reports and collaborating with CeNCOOS.			1	
	Activity 2.3 Continue expanding SIMoN.			1	
	Activity 2.4 Look for partnerships to support ecosystem monitoring.			1	
	Activity 2.5 Look for innovative ways to support ecosystem monitoring.			1	
STRATEGY XEM-3: Establish a joint internal monitoring coordination team.		1			2
	Activity 3.1 Continue to coordinate research and monitoring across CBNMS, GFNMS and MBNMS.	1			
	Activity 3.2 CBNMS, GFNMS, and MBNMS science staff will continue to work jointly with the site and West Coast Region media staff to develop a research and communications plan.				1
	Activity 3.3 Develop annual ecosystem-based research and monitoring operating plans in collaboration with each other to meet site, regional, and national monitoring needs. CBNMS, GFNMS and MBNMS science staff should share research and monitoring information between sites as annual operating plans are developed.				1
<b>Total</b>		<b>2</b>	<b>0</b>	<b>8</b>	<b>2</b>

**Summary: Action Plan #13. Maritime Heritage (Crosscut)**

Strategies		Activities			
		No Action	In Process	Ongoing	Done
STRATEGY XMHR-1: Continue to build the Maritime Heritage Program.			1	1	
	Activity 1.1 Continue to identify potential maritime heritage partners and sources of funding.			1	
	Activity 1.2: Identify and assist partners doing maritime heritage related work to obtain funding and resources.		1		
STRATEGY XMHR-2: Inventory and assess submerged sites.		1	2		1
	Activity 2.1 Inventory shipwrecks across the region.				1
	Activity 2.2 Conduct systematic research and surveys of archaeological sites, including the remains of prehistoric, as well as historic sites, representing ship and aircraft losses.		1		
	Activity 2.3 Establish a shipwreck reconnaissance and site monitoring program.	1			
	Activity 2.4 Assess and nominate appropriate submerged archaeological sites for inclusion in the National Register of Historic Places.		1		
STRATEGY XMHR-3: Assess shipwrecks and submerged structures for hazards.		1		3	
	Activity 3.1 As needed, add to the inventory of shipwrecks, inside and outside of sanctuary boundaries, posing environmental threats to sanctuary marine resources.			1	
	Activity 3.2 Monitor shipwreck sites.			1	
	Activity 3.3 Coordinate with partners to reduce threats from shipwrecks.	1			
	Activity 3.4 For historic shipwrecks, ensure compliance under Section 106 of the National Historic Preservation Act and the NMSA.			1	
STRATEGY XMHR-4: Protect and manage submerged archaeological resources.		3			
	Activity 4.1 Coordinate stewardship of submerged resources.	1			
	Activity 4.2 Provide training to sanctuary staff and facilitate training for partners.	1			
	Activity 4.3 Identify archaeological and historic resources currently outside sanctuary boundaries that may be of significant historic interest or may pose a threat to sanctuary resources.	1			
STRATEGY XMHR-5: Conduct public outreach with traditional user and ocean-dependent groups and communities.		2	2		
	Activity 5.1 Identify traditional user and ocean-dependent groups.		1		
	Activity 5.2 Develop collaborative programs and initiatives.	1			
	Activity 5.3 Create an inventory of historic and present maritime heritage communities.	1			
	Activity 5.4 Map and document traditional communities and sites.		1		
STRATEGY XMHR-6: Continue to provide maritime heritage-focused education and outreach programs.			2	1	1
	Activity 6.1 Improve information sharing and dialogue.		1		
	Activity 6.2 Create, expand and populate individual sanctuary websites and/or the West Coast Shipwreck Database.			1	
	Activity 6.3 Develop and implement education and outreach programs and materials for the ONMS Maritime Heritage Program.		1		
	Activity 6.4 Collaborate on maritime heritage resource exhibits and signage.				1
<b>Total</b>		<b>7</b>	<b>7</b>	<b>5</b>	<b>2</b>