NATIONAL MARINE SANCTUARIES ™

CORDELL BANK

CROSS-CUTTING

ACTION PLAN

CBNMS FINAL MANAGEMENT PLAN

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CROSS-CUTTING INTRODUCTION

Cordell Bank (CBNMS), Gulf of the Farallones (GFNMS), and Monterey Bay (MBNMS) National Marine Sanctuaries are located adjacent to one another along a 350-mile stretch of the north-central California coast. All three sanctuaries are managed by the National Marine Sanctuary Program (NMSP), share many of the same resources and issues, and have some overlapping interest and user groups. There are many opportunities for these sites to work cooperatively, share assets, and address resource management issues in a coordinated manner.

The three sanctuaries continue to coordinate on many important resource management issues, such as oil spills and volunteer monitoring. However, each site is, for the most part, managed independently of the others. The three sanctuaries have separate administrative staffs, sanctuary advisory councils (SACs), and independent education, research and resource protection programs. As a result, opportunities to maximize collaborations and share resources have not fully been realized.

GOALS

The goal of the cross-cutting action plans is to build upon existing coordination efforts and identify some activities that should be jointly implemented so that these three sites can operate as integrated and complementary sites to better protect the sanctuary resources. This will ensure that scarce program resources are used more efficiently and result in a more consistent and coordinated delivery of programs, products and services to the public. Cross-cutting actions plans were developed to address: Administration and Operations; Northern Management Area; Community Outreach; Maritime Heritage; and Ecosystem Monitoring. Though the implementation of other activities contained in the site-specific plans may also be effectively coordinated, the NMSP determined that the cross-cutting action plans would be jointly developed and implemented jointly across the three sites.

IMPLEMENTATION WITHIN THE CONTEXT OF A NEW REGIONAL STRUCTURE

NMSP efforts to address certain priority issues in a cross-cutting framework was a first step in a larger effort to begin looking at sanctuary resource management issues in a regional or ecosystem-based context. Since the cross-cutting plans were developed, the NMSP has been slowly moving toward adopting a new regional management structure. This new regional structure establishes four regions, including a West Coast region, which will be led by a regional superintendent. The purpose of this new structure is to maximize program integration among the NMSP sites, regions, and national program and to other state and federal programs and partners – across all levels. The regional structure dedicates program leadership and regional staff resources directly towards integrating programs and forging partnerships that supports the National Oceanic and Atmospheric Administration's (NOAA's) evolving ecosystem-based management approach.

The regional superintendent and staff will be based in the region and dedicate their efforts towards addressing priority regional issues and capitalizing on regional opportunities and partnerships. In the case of the Joint Management Plan Review (JMPR), some of their expertise and responsibilities could include working closely with individual sanctuary staff to coordinate the implementation of certain cross-cutting action plans. For example, regional ecosystem monitoring has emerged as a NOAA priority. To be effective, this requires the integration of sanctuary monitoring activities not only across the three sites in the JMPR, but those at partner state and federal agencies and at other marine sanctuaries such as Channel Islands and Olympic Coast. Regional staff could clearly play an important role in helping coordinate and ensure the linkages as the various site or cross-cutting ecosystem monitoring plans are being implemented. Regional staff and resources may also be involved in helping coordinate or implement the community outreach and maritime heritage action plans. However, it may also be appropriate for individual sanctuaries to either share the lead for implementing the cross-cutting action plans or for one site to take the lead. Ultimately, determining who will take the lead on cross-cutting action plan implementation will be worked out after the regional structure and priorities get established, and after full consideration of the staffing and resources available at each of the three sites.

ADMINISTRATION AND OPERATIONS ACTION PLAN

GOALS

The goals of cross-cutting Administration and Operations for the Joint Management Plan Review (JMPR) are to (1) improve coordination and cooperation across the three sanctuaries to better and more efficiently manage and protect sanctuary resources, and (2) for the individual sites to start working and functioning as an integrated team. Fulfilling these goals for the three sanctuaries requires enhancing communication and collaboration among and between managers, program staff and the newly established National Marine Sanctuary Program (NMSP) regions.

ISSUE DESCRIPTION

During scoping meetings, the NMSP received many comments relating to the need to coordinate various administration and operations across the sites. The three sanctuary advisory councils (SACs) and sanctuary staff identified several of these issues as priority items to address in the management plan review. These include:

- Improve resource management consistency and efficiency
- Expand coordination and communication between sites and to the public
- Evaluate emergency response capabilities in the region, and clarify and coordinate the sanctuary's role in relation to other agencies
- Develop a mechanism to address current and emerging issues between the sites
- Coordinate research/monitoring, education/outreach, and enforcement activities

ADDRESSING THE ISSUE

Each of the three sanctuaries developed site-specific administration and operations action plans to address staffing and infrastructure needs in order to implement their new management plans. In contrast, this cross-cutting administration and operations plan targets some initial activities that will be implemented by all three sites in order to improve communication and maximize their ability to collaborate and cooperate on many important resource management and program areas.

STRATEGY XAO-1: *Improve Internal Communications Among the Three Sanctuaries.*

Successful collaboration and coordination among sanctuaries is related to the amount and intensity of communication. Though individual sanctuary staff may occasionally communicate by e-mail, telephone or meetings, there is no established mechanism to bring together the

superintendents or staff to proactively discuss issues that may affect multiple sites. This strategy focuses on improving communications between the sites to ensure there are regular opportunities for the managers, staff and the advisory councils to learn what is happening at each of the three sites and jointly plan regional programs and activities.

Activity 1.1 Improve communications between the sanctuary superintendents.

Superintendents will engage in more informal (random pick-up-the-phone) and formal (regularly scheduled calls or meetings) communications. They will meet at least three times a year as part of the newly established NMSP regional leadership team to (1) improve communication, (2) conduct Annual Operating Plan (AOP) planning, and/or (3) assess the implementation of AOPs and the JMPR action plans.

Products: List of cross-cutting AOP activities and an assessment of AOP/action plan implementation

Partners: Superintendents for Cordell Bank National Marine Sanctuary (CBNMS), Gulf of the Farallones National Marine Sanctuary (GFNMS), and the Monterey Bay National Marine Sanctuary (MBNMS)

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 1.2 Sanctuary superintendents will plan and schedule one regional sanctuary update and team building activity per year.

Products: Annual team building/coordination meeting to discuss site-specific and cross-cutting projects, staff roles and responsibilities, and identify how staff can help support and complement the other sites' programs and staff.

Partners: CBNMS, GFNMS, MBNMS

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 1.3 Create a new employee orientation program that includes information from the three sanctuaries and the NMSP.

The orientation program should include travel to the other sites to meet staff and learn about their programs and activities. These efforts should be coordinated with similar efforts at headquarters.

Products: Employee orientation program that includes a reference binder with information from the other sites and headquarters, publications lists, staff bios.

Partners: MBNMS, CBNMS, GFNMS and NMSP staff

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**CBNMS**	**AD-2.1**
	GFNMS	**AD-2**

Activity 1.4 The program coordinators will meet separately at least once per year to share information and plan joint activities prior to the development of the annual operating plans.

Products: Site program coordinators (conservation science, education, resource protection) will develop a list of joint or collaborative activities to include in their respective AOPs.

Partners: Program coordinators (conservation science, education, resource protection at CBNMS, GFNMS, MBNMS)

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 1.5 Schedule one joint advisory council chair – sanctuary superintendent meeting to determine whether all three advisory councils should meet annually.

The MBNMS and GFNMS advisory councils currently meet on an annual basis to discuss issues and program activities in the northern management area. This meeting among the advisory council chairs and managers would determine the need for expanding this meeting to include all three sites.

Products: Initial joint advisory council chair meeting, possible future annual joint meetings.

Partners: CBNMS, GFNMS, MBNMS Advisory Council Chairs and Superintendents

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**GFNMS**	**AD-4**

Activity 1.6 Encourage and provide opportunities for site staff to give presentations at each other's SAC Meetings.

Products: Briefings at advisory council meetings.

Partners: CBNMS, GFNMS, MBNMS

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**CBNMS**	**PC-2**
	GFNMS	**AD-4**

STRATEGY XAO-2: ***Improve the Efficiency and Cost-Effectiveness of Program Operations.***

Each of the three sanctuaries have been designated for over ten years and during this time have accumulated an inventory of equipment, vessels and resources to support their own research/monitoring, education/outreach, and resource protection programs. This strategy recognizes there are instances in which it is more cost-effective to share resources among the sites and some instances when it may be more appropriate for each site to have their own. The sites must first inventory their existing resources and then jointly develop a needs assessment to document what is required to implement the three management plans. This strategy also calls for the sites to coordinate and provide opportunities to conduct joint field operations and to conduct an assessment in order to better cooperate and share facilities, signage and exhibits.

Activity 2.1 Develop a list of existing facilities, exhibits, equipment, vessels and resources based on the revised management plans that could be shared between sites.

Products: List of existing equipment, vessels and resources.

Partners: NMSP, CBNMS, GFNMS, and MBNMS

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-1**

Activity 2.2 Develop a list of needed facilities, exhibits, equipment, vessels and resources based on the revised management plans that could be shared between sites.

Products: List of needed equipment, vessels and resources.

Partners: NMSP, CBNMS, GFNMS, MBNMS

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-1**
GFNMS	**AD-1**

Activity 2.3 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.

Products: List of planned field operations. Shared data and reports.

Partners: CBNMS, GFNMS, MBNMS

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**CS-9**
GFNMS	**WQ-8, WD-1, IS-1, FA-1**

STRATEGY XAO-3: ***Improve the Efficiency and Cost-Effectiveness of Program Administration.***

Currently each sanctuary office is responsible for managing its own administration and information technology functions, including contracts, procurements, time and attendance, travel orders and vouchers, websites, databases, and geographic information systems. Each site employs a varying number of staff or contractors to perform some or all of these tasks. The goal of this strategy is to evaluate the staffing plans at the sites and maximize opportunities to share personnel and implement methods to make routine administrative functions more efficient. The strategy also highlights the importance of building upon existing efforts to share information technology resources.

Activity 3.1 Review the staffing plans at each sanctuary to determine if collaborations are possible to create efficiencies, fill gaps, share staff resources and complete specific projects.

This review will explore ways to overcome barriers for both contractors and full-time employees to participate.

Products: List of opportunities for collaborations between sites.

Partners: Managers for CBNMS, GFNMS, and MBNMS

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-2**
GFNMS	**AD-2**
MBNMS	**OA-1**

Activity 3.2 Based on the review in 3.1, and 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 all three sites.

Products: Update list of opportunities. Provide administrative, contract and/or financial options that facilitate such collaborations.

Partners: Managers for CBNMS, GFNMS, MBNMS, and NMSP

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
GFNMS	**AD-2**

Activity 3.3 Participate in each other's interview panels to review candidates for new and vacant positions, where possible.

Products: Recommendations on new hires.

Partners: CBNMS, GFNMS, MBNMS

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-2**
GFNMS	**AD-2**

STRATEGY XAO-4: ***Improve the Coordination of Sanctuary Resource Protection Activities and Programs.***

Each of the three site-specific management plans proposes various strategies to address their own resource protection programs (i.e., regulations/permitting, emerging issues, enforcement, emergency response). This strategy is aimed at improving the communication and coordination of resource protection activities across the three sites. The strategy addresses the need to improve internal understanding and awareness of regulatory and permit processes and activities. Secondly, it establishes a process to identify and, when appropriate, jointly address emerging issues in a regional capacity. This includes coordination with local, state and other federal entities. Third, it recommends the development of a regional sanctuary emergency response plan so that the NMSP is better prepared to address emergencies on a regional scale. Finally, it identifies the need to comprehensively evaluate enforcement needs in relation to the new management plans and develop and implement a regional enforcement plan.

Activity 4.1 Improve staff awareness and understanding of each site's regulations.

Establish a basic and consistent understanding of each site's regulations and ensure that everyone knows where to direct questions relating to specific regulations and permits.

Products: Fact sheet summarizing each site's regulatory and permit authority, and identifies the appropriate person to contact at each site.

Partners: NMSP, CBNMS, GFNMS, MBNMS

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-9**
GFNMS	**RP-4**
MBNMS	**OA-8 and OA-9**

Activity 4.2 Improve staff awareness and understanding of each site's permits.

Inform the other sites of any new permit applications or other activities that could affect any of the sanctuaries.

Products: Share existing permit reports and explore whether a new reporting system is needed to improve coordination.

Partners: NMSP, CBNMS, GFNMS, MBNMS

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-9**
GFNMS	**RP-5**
MBNMS	**OA-8**

Activity 4.3 Coordinate emerging issues among the three sites.

As the sites identify emerging issues, determine the significance and potential to impact another site, and communicate this to the potentially affected site(s).

Products: Analysis of emerging issue(s).

Partners: NMSP, CBNMS, GFNMS, MBNMS

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-10**
GFNMS	**RP-1, RP-2, RP-3**
MBNMS	**EI-1, EI-2**

Activity 4.4 Develop coordinated strategies to address emerging issues.

Jointly determine if a new or emerging issue needs action and identify a strategy and activities to address the issue, depending on whether it is an immediate or long-term threat, what is (or is not) known about it, and if there are adequate resources to address it properly.

Products: Recommendation for action, including next steps.

Partners: NMSP, CBNMS, GFNMS, MBNMS

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-10**
GFNMS	**RP-1, RP-2, RP-3**
MBNMS	**EI-1, EI-2**

Activity 4.5 Develop a coordinated sanctuary emergency response plan.

Develop a coordinated sanctuary emergency plan describing how the three sanctuaries will internally coordinate and respond to emergencies including: oil spills, hazardous material spills, vessel groundings, plane crashes, natural disasters, and invasive species. The plan should address broad emergency response issues that affect the region, identify NMSP staffing responsibilities and expertise, and outline how the NMSP will coordinate with existing federal, state and local emergency response agencies in California. The plan will be developed to utilize the existing Incident Command System (ICS), the U.S. Coast Guard (USCG) Area Contingency Plan (ACP).

Products: Regional Sanctuary Emergency Response Plan.

Partners: NMSP, CBNMS, GFNMS, MBNMS

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-7**
GFNMS	**RP-7, RP-8**
MBNMS	**OA-4**

Activity 4.6 Coordinate with the NMSP Damage Assessment Team on populating and making the Sanctuary Hazardous Incident Emergency Logistics Database System (SHIELDS) functional and operative for the three sanctuaries and integrating it with the existing Sanctuary Integrated Monitoring Network (SIMoN) database.

Products: SHIELDS for CBNMS, GFNMS and MBNMS.

Partners: NMSP, CBNMS, GFNMS, MBNMS and the NOAA Hazardous Materials (HAZMAT)

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-7**
GFNMS	**RP-7**
MBNMS	**OA-4**

Activity 4.7 Develop a comprehensive enforcement plan for the tri-sanctuary area.

This plan will evaluate enforcement needs to implement this management plan and integrate existing formal and informal enforcement networks across this region. The plan should also include a consistent enforcement penalty schedule and an internal communication strategy.

Products: Coordinated enforcement plan for the three-sanctuary area.

Partners: CBNMS, GFNMS, MBNMS, General Council Ocean Service (GCOS), General Council Enforcement Litigation (GCE), NOAA-Office of Law Enforcement (OLE), the United States Coast Guard (USCG), National Park Service (NPS), California Parks, CDFG, County Sheriff Departments

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-6**
GFNMS	**RP-6**

Activity 4.8 Implement a comprehensive enforcement plan for the tri-sanctuary area.

Products: Enforcement activities that implement the comprehensive enforcement plan, including appropriate development of field officers, improved investigation and

follow-up actions, and cooperative enforcement agreements with federal, state and local partners.

Partners: NMSP, CBNMS, GFNMS, MBNMS

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CBNMS	**AD-6**
GFNMS	**RP-6**

TABLE XAO-1: MEASURING PERFORMANCE OF THE CROSS-CUTTING ADMINISTRATION & OPERATIONS ACTION PLAN

Desired Outcome(s) For This Action Plan:	
Improved communication and coordination among Sanctuary staff resulting in more integrated and coordinated resource protection for Sanctuary resources.	
Performance Measures	**Explanation**
Increase the number of cross-cutting AOP activities that each site includes in their site-specific AOP by 10% each year.	One of the primary purposes of this action plan is to increase the amount of communication and interaction among the three sites. This action plan identifies specific opportunities for staff to interact, resulting in more coordinated planning and implementation of joint activities that address priority issues. The tangible results of these interactions will be formulated within each site's AOP.

TABLE XAO-2: CROSS-CUTTING ADMINISTRATION & OPERATIONS ACTION PLAN TIMELINE

ADMINISTRATION & OPERATIONS ACTION PLAN	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Strategy XAO-1: Improve Internal Communications Among the Three Sanctuaries					
Activity 1.1: Improve communications between the Sanctuary Managers & Superintendents.	→	→	→	→	→
Activity 1.2: Sanctuary Managers/Superintendents will plan and schedule one regional Sanctuary update and team building activity per year.	→	→	→	→	→
Activity 1.3: Create a new employee orientation program that includes information from the three sanctuaries and the NMSP	→	→	→	→	→
Activity 1.4: The program coordinators will meet separately at least once per year to share information and plan joint activities prior to the development of the annual operating plans.	→	→	→	→	→
Activity 1.5: Schedule one joint Advisory Council Chair – Sanctuary Manager meeting to determine whether all three advisory councils should meet annually.		⇢	⇢	⇢	⇢
Activity 1.6: Encourage and provide opportunities for site staff to give presentations at each other's sanctuary advisory council meetings.	→	→	→	→	→
Strategy XAO-2: Improve the Efficiency and Cost-Effectiveness of Program Operations					
Activity 2.1: Develop a list of existing facilities, signage, exhibits, equipment, vessels and resources based on the revised management plans that could be shared between sites.		→			

ADMINISTRATION & OPERATIONS ACTION PLAN	Year 1	Year 2	Year 3	Year 4	Year 5
Activity 2.2: Develop a list of needed facilities, signage, exhibits, equipment, vessels and resources based on the revised management plans that could be shared between sites.		→			
Activity 2.3: 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.	→	→	→	→	→
Strategy XAO-3: Improve the Efficiency and Cost-Effectiveness of Program Administration					
Activity 3.1: Review the staffing plans at each Sanctuary to determine if collaborations are possible to create efficiencies, fill gaps, share staff resources and complete specific projects.	→				
Activity 3.2: Based on the review in 3.1, and 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 all three sites.		⇢	⇢	⇢	⇢
Activity 3.3: Participate in each other's interview panels to review candidates for new and vacant positions, where possible.	→	→	→	→	→
Strategy XAO-4: Improve the Coordination of Sanctuary Resource Protection Activities and Programs					
Activity 4.1: Improve staff awareness and understanding of each site's regulations.	→	→	→	→	→
Activity 4.2: Improve staff awareness and understanding of each site's permits.	→	→	→	→	→
Activity 4.3: Coordinate emerging issues among the three sites.	→	→	→	→	→
Activity 4.4: Develop coordinated strategies to address emerging issues.	→	→	→	→	→
Activity 4.5: Develop a coordinated Sanctuary emergency response plan.		→	→		
Activity 4.6: Coordinate with the NMSP Damage Assessment Team on populating and making the Sanctuary Hazardous Incident Emergency Logistics Database System (SHIELDS) functional and operative for the three sanctuaries and integrating it with the existing Sanctuary Integrated Monitoring Network (SIMoN) database.		→	→		
Activity 4.7: Develop a comprehensive enforcement plan for the three-sanctuary area.	→				
Activity 4.8: Implement a comprehensive enforcement plan for the three-sanctuary area.		→	→	→	→

Legend:

→ Planned Activity

⇢ Proposed Activity, based on internal assessment

TABLE XAO-3: ESTIMATED COSTS TO IMPLEMENT THE CROSS-CUTTING ADMINISTRATION & OPERATIONS ACTION PLAN

Strategy	Estimated Annual Cost (1000's)*					Total Est. 5-Year Cost (1000's)
	YR 1	YR 2	YR 3	YR 4	YR 5	
Strategy XAO-1: Improve Internal Communications Among the Three Sanctuaries	$54.00	$54.00	$54.00	$54.00	$54.00	$270.00
Strategy XAO-2: Improve the Efficiency and Cost-Effectiveness of Program Operations	$36.00	$36.00	$36.00	$36.00	$36.00	$180.00
Strategy XAO-3: Improve the Efficiency and Cost-Effectiveness of Program Administration	$12.00	$12.00	$12.00	$12.00	$12.00	$60.00
Strategy XAO-4: Improve Coordination of Sanctuary Resource Protection Activities and Programs	$186.00	$174.00	$162.00	$162.00	$162.00	$846.00
Total Estimated Annual Cost	$288.00	$276.00	$264.00	$264.00	$264.00	$1,356.00

*** Cost estimates are for both "programmatic" and "base" (salaries and overhead) expenses.**

**** Contributions from outside funding sources also anticipated.**

For management planning purposes, the individual site cost to implement cross-cutting strategies can be calculated by dividing the estimated annual cost by three (equal cost). The actual cost to each site may vary according to strategy but will be further refined when sites prepare annual operating plans.

COMMUNITY OUTREACH ACTION PLAN

GOAL

A coordinated, collaborative regional community outreach strategy will build awareness throughout north-central California and beyond about (1) the existence and purpose of the three sanctuaries and the national program; (2) the diverse natural resources and ecosystems of each sanctuary and why they need protection; (3) why their existence is relevant to people; (4) the economic and intrinsic value of the three sanctuaries to coastal and inland communities beyond such direct industries as fishing and ecotourism; (5) how these three sanctuaries are working with constituent groups; and (6) how individuals and groups can be engaged in helping the sanctuaries accomplish their resource protection, research, and education goals.

ISSUE DESCRIPTION

Under the National Marine Sanctuary Program (NMSP), each sanctuary in the system conducts education and outreach activities to build broad public awareness about the existence and purpose of our nation's marine sanctuaries. The NMSP recognizes a well-informed local, regional, and national constituency greatly enhances the ability of the sanctuaries to protect their natural and cultural resources. Therefore, outreach activities should provide local and state governments, businesses, non-governmental organizations, constituent groups, and the general public with the information necessary to be effective partners in the stewardship of sanctuary resources.

Because of limited resources generally, each site has primarily focused on a select number of audiences within a limited geographic area. As a result, there are several areas where a broad-based public understanding needs to be enhanced. For example, there appears to be a lack of understanding about:

- The unique situation of having three sanctuaries contiguously located in north-central California,
- How these three sanctuaries together can work with other organizations to enhance regional outreach efforts regarding marine ecosystems,
- How individuals and groups can engage effectively with the sanctuary program and best protect sanctuary resources, and
- How businesses, constituent groups, agencies, elected officials and others can provide informed input into decisions regarding sanctuary management and further enhance community awareness of the sanctuaries.

This action plan identifies appropriate regional audiences and topics, regional outreach strategies, and marketing and media exposure efforts that effectively highlight specific program activities across all three sites as well as the national system. It is also designed to complement each site-specific program and to be flexible enough to incorporate new strategies and topics over time.

Effective community outreach is accomplished through a continuous cycle of ocean and coastal outreach, education, and stewardship. Community outreach expands awareness, knowledge and ultimately changes attitudes and behaviors. By providing information on ocean and coastal resources, and providing stewardship opportunities for people to get involved in the sanctuary, people will begin to have a personal relationship with the sanctuary and may be more likely to become ambassadors helping to protect sanctuary resources. Community outreach involves three strategies tailored to the specific needs and interests of a given audience and may be delivered by members of that audience.

- Outreach provides audiences with sanctuary-related information and materials promoting ocean and coastal stewardship.
- Education provides fundamental scientific understanding, knowledge, training, or professional development on topics relevant to the world's atmosphere, climate, oceans and coastal ecosystems, and resource protection.
- Stewardship is a personal sense of responsibility to take informed action and make caring choices, at home or work, which promote and protect the health of our coasts and oceans.

STRATEGY XCO-1: ***Build Upon and Expand Existing Ocean and Coastal Outreach***

This strategy is aimed at raising general awareness of marine ecosystems, individual sanctuaries and the sanctuary program, and inspiring stewardship of ocean and coastal resources. Outreach provides audiences with sanctuary-related information and materials based on National Oceanic and Atmospheric Administration (NOAA) science, products, and services that promote ocean and coastal stewardship. These audiences may be: north-central California coastal residents; people who live and work in inland California communities that regularly visit the ocean, such as divers, kayakers, tidepoolers, etc.; those who make their living within the ocean environment, like fishermen, maritime shipping companies, etc.; or people who live outside California that care about the ocean even though they may never visit. These, and others, are important voices in the protection and stewardship of the oceans. Key target audiences and messages should also be closely coordinated with outreach needs identified in the issue-related action plans.

Activity 1.1 Develop or strengthen coordinated outreach programs and opportunities, such as public service announcements, issue-specific workshops and brochures (e.g., tide pool etiquette), docent programs, signage, learning centers, or exhibits and displays at community events.

Products: Priority list of outreach activities based on the priority issues identified in the management plans. Some of these activities include joint outreach programs, volunteer opportunities, website development, signage and interpretive exhibits.

Partners: Advisory council members from all three sanctuaries/working groups, Farallones Marine Sanctuary Association (FMSA), Monterey Bay Sanctuary Foundation,

National Marine Sanctuary Foundation, Channel Islands National Marine Sanctuary (CINMS), Channel Islands Sanctuary Foundation/Association, NOAA Enforcement

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CB	**, ED-5**
GF	**ED-8, ED-9, ED-10, ED-11, ED-12**

Activity 1.2 Plan and conduct regional sanctuary outreach events to promote the importance of monitoring, disseminate monitoring data, and improve understanding of marine conservation and management.

Products: Outreach and education materials/curricula to promote awareness of monitoring activities and disseminate monitoring data.

Partners: Cordell Bank National Marine Sanctuary (CBNMS), Gulf of the Farallones National Marine Sanctuary (GFNMS), Monterey Bay National Marine Sanctuary (MBNMS), Sanctuary Integrated Monitoring Program (SIMoN), Community Outreach Working Group, Snapshot Day Water Quality Monitoring Event, Long-term Monitoring Program and Experiential Training for Students (LiMPETS), Beach Watch, Beach Coastal Ocean Mammal/Bird Educational and Research Survey (Beach COMBERS), Farallones Marine Sanctuary Association (FMSA), Global Learning and Observation to Benefit the Environment (GLOBE), JASON Foundation for Education (JASON)

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CB	**ED-1**
GF	**CS-3**

Activity 1.3 Develop and implement joint media communications plan, e.g., print, radio, TV, Internet.

Products: Joint media communications plan, including site points of contact, and key messages from the management plans.

Partners: Traditional and electronic media, both coastal and inland, including local weekly papers, community access TV stations

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CB	**ED-3**
GF	**ED-11**

Activity 1.4 Identify and partner with external programs to incorporate sanctuary-related messages.

Products: External partners' outreach plan, including priority partners, key messages based on priority issues identified in the management plans, outreach materials.

Partners: United States Coast Guard (USCG), National Park Service (NPS), Environmental Protection Agency (EPA), other federal agencies, California State Parks, other state agencies, cities, local parks/recreation departments, pollution prevention programs, chambers of commerce, trade associations for shipping, fishing, tourism, etc., dive clubs/shops, kayak clubs/shops, spot abalone divers, other recreational groups, natural history museums, institutions with community service requirements/marine sciences (high schools, colleges)

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
GF	**ED-10, ED-11**

STRATEGY XCO-2: ***Enhance and Coordinate Ocean and Coastal Education***

This strategy focuses on building community knowledge and fostering caring actions and attitudes targeting priority issues identified in the management plans. The NMSP's joint ocean and coastal education efforts provide a fundamental scientific understanding, knowledge, training, or professional development to a particular audience on topics identified as important to protect sanctuary resources. There are many possible audiences such as students, teachers, state and local agencies, community leaders, and the general public. Sanctuary-related educational activities are based on NOAA science, systematic in design with clear goals, objectives and measurable outcomes; aligned, where appropriate, with state or national education standards; and designed to facilitate evaluation by a third party.

Activity 2.1 Collaborate on existing site-specific education programs and products as a means to enhance and expand educational offerings.

Each year, the education staff will jointly meet to identify collaborative projects for inclusion in their respective annual operating plans (AOPs).

Products: Joint education implementation strategy based on priority education issues identified in the management plans, incorporating priority list of educational programs and materials needed, potential lecture/symposia themes. Joint online teachers' database.

Partners: West Coast Education Liaison, state/local volunteer programs, Bay Area Sea Kayakers (BASK), high school/college classes doing coastal monitoring, National Science Foundation, other federal agencies (especially for funding), local non-governmental organizations (NGO's)/non-profits, Association of Monterey Bay Area Governments, Association of (SF) Bay Area Governments

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CB	**ED-4, ED-6, ED-7, ED-8**
GF	**ED-2, ED-3, ED-4**

Activity 2.2 Following expansion of the Multicultural Education for Resource Issues Threatening Oceans (MERITO) program, increase multicultural/multilingual efforts based on

needs assessments to determine other multicultural, socioeconomic, or multilingual communities (Vietnamese, Chinese, Portuguese, Italian, etc.) and their interests.

Products: Needs assessments of various multicultural, socioeconomic, and multilingual communities and possible expansion of education efforts.

Partners: Multicultural community leaders, bilingual school programs, local NGO's/non-profits

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**CB**	**CO-10**

Activity 2.3 Identify and implement new education programs that can be developed jointly.

Products: Teacher workshops, Volunteer Naturalist Corps program, certification training program for professional naturalists, similar to SBNMS (Stellwagen Bank), natural history guides.

Partners: Other national marine sanctuaries (esp. Channel Islands, Olympic Coast and Stellwagen Bank), Elkhorn Slough National Estuarine Research Reserve, state/local volunteer naturalist programs, Marine Advanced Technology Education (MATE), Monterey Bay Aquarium Research Institute (MBARI), Moss Landing Marine Lab (MLML), universities, and Sea Grant institutions, Eco-tourism businesses such as dive and kayak shops, whale-watching companies, local non-governmental organizations/non-profits

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**CB**	**ED-6, ED-7**
	GF	**ED-2, ED-7**

STRATEGY XCO-3: ***Enhance Ocean and Coastal Stewardship***

Marine sanctuary stewardship is a personal sense of responsibility to take informed action and make caring choices, at home or work, which promote and protect the health of our coasts and oceans. A steward develops attitudes, motivations, and commitments that are reflected in informed decisions and responsible actions. Stewards can be individuals, members of groups, or entities that influence others' opinions and actions about the oceans. Stewardship can be demonstrated through a variety of means, including:

- Volunteer for an organized stewardship program,
- Take personal action to protect our ocean sanctuaries,
- Provide informed public input into decisions regarding the sanctuaries, and
- Inform others regarding marine ecosystems and the sanctuary program.

Similar to the audiences for outreach, ocean and coastal stewards may be north-central California coastal residents, people who live and work in inland California communities that regularly visit

the ocean, those who make their living within the ocean environment, or people who care about the ocean even though they may never visit.

Activity 3.1 Create, maintain and promote sanctuary and partner volunteer programs to provide opportunities for stewardship as well as expanding resource protection, education, and outreach capabilities of the three sanctuaries.

Products: Expanded volunteer programs, volunteer opportunities, and trainings.

Partners: NOAA's Team Ocean Conservation Education Action Network (OCEAN), Elkhorn Slough National Estuarine Research Reserve, Farallones Marine Sanctuary Association (FMSA), Monterey Bay Sanctuary Foundation, Bay Net, Save Our Shores, other NGOs, California State Parks, other state/local resource agencies, Friends of Fitzgerald Marine Reserve, high school service learning programs

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CB	**ED-2**

Activity 3.2 Create new ways to inspire coastal and ocean stewardship in local communities.

The three sites will conduct needs assessments with targeted constituents and audiences to identify innovative and creative methods of engaging people in sanctuary activities. Some examples include working with faith-based or cultural organizations, retired citizens or local art groups.

Products: Pilot program or campaign to incorporate non-traditional stewardship activities and partners.

Partners: Faith-based groups, Multicultural groups, bilingual school programs, after school programs, art, dance and music programs, service organizations

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CB	**ED-10**
GF	**ED-5, ED-6, ED-8**

Activity 3.3 Identify partners to incorporate stewardship messages.

Products: Collaborative stewardship campaign.

Partners: United States Coast Guard (USCG), National Parks Service (NPS), other federal agencies, California State Parks, other state agencies, cities, local parks/recreation departments, local agencies mandated to have pollution prevention programs (water pollution control, solid waste control), County Sheriffs' departments, city police, chambers of commerce, trade associations for shipping, fishing, tourism, etc., dive clubs, kayak clubs, other recreational groups, natural history museums, institutions that have community service requirements (high schools, colleges), service organizations

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

TABLE XCO-1: MEASURING PERFORMANCE OF THE CROSS-CUTTING COMMUNITY OUTREACH ACTION PLAN

Desired Outcome(s) For This Action Plan:	
Expand joint education and outreach efforts in a manner enhancing protection for Sanctuary resources and the delivery of programs and services to local communities.	
Performance Measures	**Explanation**
Increase the number of joint education and outreach efforts directed at communities from 1,000 individuals in Year 1 to 5,000 individuals in Year 5.	One of the main purposes of this action plan is to expand general awareness of the three sanctuaries, develop joint education products addressing priority issues, and increase involvement of individuals in the stewardship of the resources in the three sanctuaries. Some of the programs directed at local communities include schools and teachers, volunteers, fairs and festivals, visitor centers, public lecture series, etc.

TABLE XCO-2: CROSS-CUTTING COMMUNITY OUTREACH ACTION PLAN TIMELINE

COMMUNITY OUTREACH PLAN	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Cross-cutting Outreach					
Strategy XCO-1: Build Upon and Expand Existing Ocean and Coastal Outreach					
Activity 1.1: Develop or strengthen coordinated outreach programs and opportunities, such as public service announcements, issue-specific workshops and brochures (e.g., tidepool etiquette), docent programs, signage, learning centers, or exhibits and displays at community events.					
Activity 1.2: Plan and conduct regional Sanctuary outreach events to promote the importance of monitoring, disseminate monitoring data, and improve understanding of marine conservation and management.					
Activity 1.3: Develop and implement joint media communications plan (print, radio, TV, Internet, etc.).					
Activity 1.4: Identify and partner with external programs to incorporate Sanctuary-related messages.					
Cross-cutting Education					
Strategy XCO-2: Enhance and Coordinate Ocean and Coastal Education					
Activity 2.1: Collaborate on existing site-specific education programs and products as a means to enhance and expand educational offerings.					
Activity 2.2: Increase multicultural/multilingual efforts based on needs assessments to determine other multicultural,					

COMMUNITY OUTREACH PLAN	Year 1	Year 2	Year 3	Year 4	Year 5
socioeconomic, or multilingual communities (Latino, Vietnamese, Chinese, Portuguese, Italian, etc.) and their interests.					
Activity 2.3: Identify and implement new education programs that can be developed jointly.	.....	.....	.....	.....	.....
Cross-cutting Stewardship					
Strategy XCO-3: Enhance Ocean and Coastal Stewardship					
Activity 3.1: Create, maintain, and promote sanctuary and partner volunteer programs to provide opportunities for stewardship as well as expanding resource protection, education, and outreach capabilities of the three sanctuaries.	———	———	———	———	———
Activity 3.2: Create new ways to inspire coastal and ocean stewardship in local communities.			———	———	———
Activity 3.3: Identify partners to incorporate stewardship messages.	———	———	———	———	———

Legend:

——— Planned Activity

..... Proposed Activity, based on internal assessment

TABLE XCO-3: ESTIMATED COSTS TO IMPLEMENT THE CROSS-CUTTING COMMUNITY OUTREACH ACTION PLAN

Strategy	Estimated Annual Cost (1000's)*					Total Est. 5-Year Cost (1000's)
	YR 1	YR 2	YR 3	YR 4	YR 5	
Strategy XCO-1: Build Upon and Expand Existing Ocean and Coastal Outreach	$34.50	$46.50	$46.50	$46.50	$58.50	$232.50
Strategy XCO-2: Enhance and Coordinate Ocean and Coastal Education	$57.00	$69.00	$69.00	$69.00	$81.00	$345.00
Strategy XCO-3: Enhance Ocean and Coastal Stewardship	$52.50	$64.50	$64.50	$64.50	$76.50	$322.50
Total Estimated Annual Cost	$144.00	$180.00	$180.00	$180.00	$216.00	$900.00
*** Cost estimates are for both "programmatic" and "base" (salaries and overhead) expenses.**						
**** Contributions from outside funding sources also anticipated.**						
For management planning purposes, the individual site cost to implement cross-cutting strategies can be calculated by dividing the estimated annual cost by three (equal cost). The actual cost to each site may vary according to strategy but will be further refined when sites prepare annual operating plans.						

ECOSYSTEM MONITORING ACTION PLAN

GOALS

The goals of ecosystem monitoring for the northern-central California sanctuaries are to (1) determine the current and anticipate the future status of sanctuary resources; (2) understand the limits of variation in resources; (3) detect temporal and spatial changes in resources; (4) identify potential agents of change; and (5) provide scientific information that can guide management decisions on priority issues.

INTRODUCTION

One of the express purposes and policies of the National Marine Sanctuaries Act is that long-term monitoring of sanctuary resources be supported, promoted, and coordinated (16 U.S.C. 1431). Sanctuaries also promote data collection to assess resource or environmental change with respect to implemented management actions. The suite of monitoring information required by sanctuary management includes data from within the sanctuary and from areas outside the boundaries that influence sanctuary waters.

For the most part, individual sanctuaries work independently to develop monitoring programs and partnerships to inform their management concerns. These programs typically rely on substantial support from other government, private, and academic institutions at the federal, state, and local levels. The program designs are often only indirectly influenced by sanctuary management responsibilities.

Undertaking ecosystem monitoring requires long-term comprehensive assessments and broad scale integration of data collected in a wide variety of habitats (e.g., coastal interface, subtidal, continental shelf, shelf break, and deep water) and in areas that directly influence them (e.g., watershed, estuaries, coastal currents). Such assessments and integration can only be achieved through coordination with multiple partners focused on a variety of resources and geographic scales. Because the three sanctuaries of Cordell Bank, Gulf of the Farallones, and Monterey Bay have contiguous boundaries, they protect and manage many of the same habitats types and living resources, some of which range throughout the combined area. As such, the sanctuaries should consider each other as primary partners in monitoring efforts to evaluate the status and trends of these shared resources. Coordination among the three sanctuaries to promote, conduct, integrate, and synthesize data from ecosystem monitoring activities is the most effective and efficient means to improve availability of information for resource conservation and management across the region.

The combined areas of the Cordell Bank National Marine Sanctuary (CBNMS), Gulf of the Farallones National Marine Sanctuary (GFNMS) and Monterey Bay National Marine Sanctuary (MBNMS) also represent a substantial portion of California coastal waters. Regional sanctuary monitoring coordination across this extensive area will help promote sanctuary management concerns as a driver for large-scale monitoring initiatives and partnerships. The data collected from coordinated efforts will be useful at the local and regional scale, with the potential for influencing resource management actions throughout a substantial portion of the West Coast.

ADDRESSING THE ISSUE

With the exception of Cordell Bank, most of the monitoring data that informs sanctuary management are not financed, collected, or analyzed by the sanctuaries. Instead, sanctuaries support and promote these activities indirectly by providing vessel time, staff support, and equipment, and coordinating the interests and information of outside agencies and partners. They also assist to secure outside funding that can be directed toward projects that address sanctuary information needs such as the Sanctuary Integrated Monitoring Network (SIMoN).

Such indirect support is appropriate to the mandate and capacities of the sanctuary program. Sanctuaries do not have the expertise or the personnel resources to collect and analyze the variety of information required for all of their management needs. Such expertise is accessible through partnerships with various research institutions. However, effective resource management requires a holistic view, which sanctuaries are uniquely positioned to achieve. To meet their resource management mandate, sanctuaries must synthesize and integrate information from disparate research and monitoring projects. They have the further responsibility of interpreting and applying available scientific knowledge for resource managers and the public. Thus, coordination of ecosystem monitoring efforts requires strategic action on various sanctuary-specific programmatic levels.

Recommended strategies focus on coordinating existing activities, identifying opportunities for additional coordination, and establishing the administrative infrastructure, advisory panels, and oversight mechanisms required to support, direct, and evaluate coordinated monitoring across the three sanctuaries. Because many of the monitoring requirements common to the three sanctuaries undergoing the Joint Management Plan Review (JMPR) overlap with the interests of Channel Islands National Marine Sanctuary (CINMS) and the Olympic Coast National Marine Sanctuary (OCNMS), the strategies recommended in this proposed action plan should serve as a model for expanded coordination of appropriate monitoring activities across all five of the West Coast sanctuaries. The strategies are also consistent with efforts of the System Wide Monitoring Program (SWiM) to improve collection, evaluation, and interpretation of monitoring information throughout the sanctuaries. Thus, these activities promote system and regional integration across the program as well as improving ecosystem conservation and management in the combined area of the three sanctuaries.

STRATEGY XEM-1: ***Coordinate Existing Targeted Monitoring Activities to Promote Greater Efficiency and Effectiveness.***

Priority activities for initiation of joint ecosystem monitoring within the region should be focused on the coordination of existing sanctuary-specific monitoring programs that assess similar ecosystems in at least two of the three sanctuaries. This includes coordinating targeted programs that monitor conditions in the coastal interface and the pelagic/offshore systems.

These priorities are based on the need to establish common ecological monitoring efforts throughout the region and the priority issue areas identified in the management plan review that could best be addressed through a coordinated approach among the sanctuaries. Some of the priority habitats that have been identified for joint monitoring include: rocky intertidal, benthic, and pelagic/open ocean. The coordination channels and activities established to support these targeted efforts could serve as a model for additional monitoring coordination in the future. Other existing or newly emerging monitoring activities, not identified in this action plan, represent potential opportunities for additional coordination. Assessment of such opportunities is addressed in Strategies XEM-2 and XEM-3.

Activity 1.1 Coordinate individual sanctuary rocky intertidal monitoring programs and investigate opportunities to collaborate with other large-scale rocky intertidal monitoring efforts.

Products: Regional sanctuary rocky intertidal monitoring plan.

Partners: MBNMS, GFNMS, Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), Multi-Agency Rocky Intertidal Network (MARINE), National Park Service (NPS), Southern California Coastal Water Research Project Authority (SCCWRP), Bodega Marine Laboratory (BML), Tenera Inc., Minerals Management Service (MMS), Kinetic Labs, Inc.

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
GF	**WD-2, IS-3**

Activity 1.2 Conduct a workshop to coordinate data collection protocols for Beach Coastal/Marine Bird Education Research Surveys (Beach COMBERS) and Beach Watch Programs that indirectly assess the health of the pelagic/offshore ecosystem.

Partners: CBNMS, GFNMS, MBNMS, SIMoN, NMSP, Coastal Observation and Seabird Survey Team (COASST)

Products: Coordination document for joint reporting; volunteer training, coordination, and enrichment opportunities; data collection, management and metadata standards; coordinated revision and reprinting of the field guide; plan for shared study skin collection.

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
GF	**CS-1**

Activity 1.3 Develop an integrated sanctuary marine mammal, seabird and sea turtle survey monitoring plan for the three sanctuaries to coordinate and supplement the National Oceanic and Atmospheric Administration (NOAA) Fisheries five-year surveys.

Products: Plan to coordinate and supplement ongoing NOAA Fisheries five-year sanctuary marine mammal/seabird monitoring surveys (per recommendations developed during the Marine Mammal/Seabird Workshop in December 2002). Joint ship-time requests or contracts to ensure consistent availability of appropriate survey platforms. Joint NOAA ship McArthur II cruises.

Partners: NOAA Fisheries, CBNMS, GFNMS, MBNMS, CINMS, Olympic Coast National Marine Sanctuary (OCNMS), Center for Integrated Marine Technology (CIMT), NPS, Point Reyes Bird Observatory (PRBO), SIMoN

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CB	**CS-7**
GF	**FA-1**

Activity 1.4 Explore the potential for the expansion of existing fish surveys, such as the California Cooperative Oceanic Fisheries Investigations (CalCOFI) transect lines through Gulf of the Farallones and Cordell Bank, and continuation in Monterey Bay.

Products: Assessment for expansion of CalCOFI transects in Cordell Bank and Gulf of the Farallones.

Partners: CBNMS, GFNMS, MBNMS, California Cooperative Oceanic Fisheries Investigations (CalCOFI), Monterey Bay Aquarium Research Institute (MBARI), NOAA Fisheries, Alliance for California Current Ecosystem Observation (ACCEO), NOAA-National Centers for Coastal Ocean Service (NCCOS), SIMoN, University of California-Santa Cruz (UCSC)

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CB	**CS-8**

Activity 1.5 Jointly developed research cruise plans and standards for sampling and reporting results for benthic habitat survey work.

Products: Research plans such as that developed for the Delta submarine that detail the annual survey work, and a report that summarizes the annual findings and results.

Partners: CBNMS, GFNMS, MBNMS, NOAA Fisheries, California Department of Fish and Game (CDFG), U.S. Geological Survey (USGS)

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CB	**CS-2, CS-3, CS-4**

Activity 1.6 Augment the benthic habitat survey work with new technologies such as ROV surveys.

Products: Additional research cruises that use remotely operated vehicles (ROVs) and other technologies. Cruise reports that summarize the mission's findings and results.

Partners: CBNMS, MBNMS, NOAA Fisheries, CDFG, USGS

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**CB**	**CS-2, CS-3, CS-4**

STRATEGY XEM-2: ***Coordinate and Implement Existing Regional Ecosystem Monitoring Activities.***

Over the last decade, many federal and state agencies have actively participated in collaborative efforts to develop and implement integrated coastal and ocean observing and data management systems. To further these efforts, the NMSP, and many individual sanctuaries, has been working closely with its partners to build upon and integrate existing site monitoring programs into regional ecosystem monitoring programs. The following activities have been identified as pilot programs within the NMSP to test the concept of integrating observation data and making it available to resource managers and the public.

Activity 2.1 Implement the West Coast Observation Project at CBNMS, GFNMS and MBNMS.

The West Coast Observation Project (also known as Sanctuary Ecosystem Assessment Stations) integrates ocean observation data collected at OCNMS, CBNMS, GFNMS, MBNMS, and CINMS. The project will focus on data streams collected at numerous new instrument moorings that will be installed at specific locations within each of the five sanctuaries. Some of these instrument moorings will be maintained and operated by PISCO in the MBNMS and CINMS. The project intends to make the monitoring data accessible via the Internet in an Integrated Ocean Observing System (IOOS) compatible format. The data from this project will be shared with managers and the public through the Sanctuary Integrated Monitoring Network (SIMoN) website.

Products: Data buoys deployed, data management system, on-line access to data.

Partners: CBNMS, GFNMS, MBNMS, CINMS, OCNMS, SIMoN, NMSP, PISCO, NCCOS, NOAA-National Coastal Data Development Center (NCDDC), NOAA-National Oceanographic Data Center (NODC), National Data Buoy Center (NDBC), NOAA National Environmental Satellite Data Information Service (NESDIS), NOAA Fisheries, Central California Ocean Observing System (CenCOOS)

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 2.2 Develop and implement an integrated NMSP's System-Wide Monitoring (SWiM) program for CBNMS, GFNMS and MBNMS.

The primary purpose of the System-Wide Monitoring (SWiM) program is to monitor specific ecological parameters of the sanctuary and ensure the timely flow of data and information to those responsible for managing and protecting resources in the ocean and coastal zone, and to those that use, depend on, and study the ecosystems encompassed by the sanctuaries. It does this by enabling marine sanctuaries to develop effective ecosystem-based monitoring programs that address management information needs. SWiM provides a design process to decide what parameters to sample and how to sample them in a way that can be applied consistently at multiple spatial scales and to multiple resource types. It also provides a reporting strategy to enable the evaluation of status and trends in protected resources and activities that affect them. Finally, SWiM provides a method to share information for broader issues and scales, and contribute to multi-site, regional and national research and monitoring activities. These efforts will be integrated with SIMoN, which implements the monitoring, coordinates with partners, and provides geographic information systems (GIS), Web and other products that allow for local and regional information sharing.

Products: Integrated and tailored SWiM program developed at CBNMS, GFNMS & MBNMS.

Partners: CBNMS, GFNMS, MBNMS, SIMoN, NMSP, PISCO, NCCOS, NDBC, NESDIS, NOAA Fisheries, NOAA National Estuarine Research Reserve System (NERRS), U.S. Environmental Protection Agency (EPA), NPS, U.S. Fish and Wildlife Service (USFWS), Mineral Management Service (MMS), USGS, Ocean-US, State of California

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CB	**CS-7, CS-9**
GF	**WD-2, IS-3, IS-4, IS-5**

Activity 2.3 Conduct a needs assessment and develop a site implementation plan for expanding the Sanctuary Integrated Monitoring Network (SIMoN) to GFNMS and CBNMS.

As part of the process to establish SIMoN, the MBNMS completed a comprehensive assessment of monitoring activities and priorities. Similar assessments have been conducted for CBNMS and GFNMS as part of the management plan review. Collectively, these assessments have identified priority research and monitoring needs for each site based on the issues addressed in the management plan. Some of the common research and monitoring needs include baseline ecosystem characterization and observation; invasive species; water quality; and assessing the various types of human disturbance and impacts from such activities as sound, light, physical disturbance, and fishing. The next step is to compare the assessments, develop a list of shared priorities and data gaps, integrate the existing information into a common database, and implement joint monitoring activities. SIMoN will be the primary mechanism to coordinate data and information among the sites. This network will be expanded from MBNMS to both CBNMS and GFNMS.

Products: CBNMS and GFNMS SIMoN needs assessment and implementation plan(s) that compares research and monitoring needs identified in the management plans.

Partners: NMSP, SIMoN, MBNMS, GFNMS, and CBNMS

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 2.4 Explore opportunities to integrate SIMoN with other regional monitoring efforts such as West Coast Observations and other IOOS projects.

Products: Updated SIMoN database consistent with IOOS protocols and standards.

Partners: NMSP, SIMoN, MBNMS, GFNMS, CBNMS, National Oceanographic Data Center (NODC), Southeast Area Monitoring and Assessment Program (SEAMAP), IOOS

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**CB**	**CS-7**

Activity 2.5 Evaluate and identify ongoing funding opportunities to support regional and larger scale ongoing monitoring activities.

Products: Identification of new partnerships and funding mechanisms to support regional monitoring efforts.

Partners: CBNMS, GFNMS, MBNMS, SIMoN, NMSP, NCCOS, NMFS, Farallones Marine Sanctuary Association (FMSA), Monterey Bay Sanctuary Foundation (MBSF)

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

STRATEGY XEM-3: ***Establish a Joint Internal Monitoring Coordination Team.***

Coordination of monitoring activities among the sanctuaries requires an administrative infrastructure to identify and act on cross-boundary opportunities, collaborate with large-scale initiatives, and interpret the results for resource managers and public audiences across the region.

Activity 3.1 Establish a monitoring coordination team.

The internal monitoring coordination team could be composed of the entire science staff of the three sanctuaries or, at a minimum, the research coordinators.

Products: Integrated Ecosystem Monitoring Team, biannual meetings to develop integrated monitoring plans and proposals, joint reports.

Partners: CBNMS, GFNMS, MBNMS, NMSP, SIMoN

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 3.2 Develop a research and monitoring communication plan to improve coordination among the sanctuaries' research staffs and partners.

Products: Research a communication plan, sanctuary list serve, and development of joint projects, research plans and proposals.

Partners: CBNMS, GFNMS, MBNMS, SIMoN

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 3.3 Evaluate and provide recommendations on the reporting of monitoring activities through periodic "state of the sanctuaries" reports for cross-cutting monitoring activities among the three sanctuaries.

Products: State of the sanctuaries report.

Partners: SIMoN, SWiM, NMSP, NODC

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 3.4 Develop annual ecosystem-based research and monitoring operating plans in collaboration with each other to meet site, regional, and national monitoring needs.

Products: Development and implementation of site-specific monitoring programs for each site that integrate regional ecosystem monitoring requirements and needs.

Partners: CBNMS, GFNMS, MBNMS, NMSP, SIMoN

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

STRATEGY XEM-4: ***Consider Establishing a Joint Research Activities Panel to Enhance Research and Monitoring Collaborations.***

Research staff and interests at all three sites should discuss the need to establish a formal or informal joint research advisory panel (JRAP) consisting of representatives from the site research activity panels (RAPs) to assist with ongoing coordination of existing activities and identification of emerging opportunities.

Activity 4.1 Evaluate the need and feasibility of establishing a CBNMS RAP or a GFNMS RAP as a permanent sanctuary advisory council (SAC) working group and the need to create an ad-hoc or standing JRAP to advise and identify opportunities for coordinated monitoring activities.

Products: Evaluation on need to establish a CBNMS RAP, GFNMS RAP and a JRAP.

Partners: CBNMS, GFNMS, MBNMS, NMSP, advisory councils

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 4.2 Based upon the evaluation in 4.1, establish a JRAP.

Products: CBNMS RAP; GFNMS RAP, JRAP formed by advisory councils.

Partners: CBNMS, GFNMS, MBNMS, NMSP, advisory councils, MBNMS RAP

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 4.3 Establish communication protocols among the RAPs for posting agendas and minutes for sanctuary-specific and joint meetings.

Products: RAP list serve.

Partners: CBNMS, GFNMS, MBNMS, SIMoN, advisory councils, MBNMS RAP

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 4.4 Institute annual meetings for a subgroup of (~10) representatives from all three sanctuary RAPs (or research partners if a RAP does not exist) to coordinate research and monitoring activities in the region.

This meeting could be conducted in coordination with an existing annual or biennial science symposium or information transfer meeting. The meeting would be planned and organized by the monitoring coordination team members.

Products: Meeting summaries, recommendations, joint proposals and research plans.

Partners: CBNMS, GFNMS, MBNMS, NMSP, advisory councils, NCCOS

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

TABLE XEM-1: MEASURING PERFORMANCE OF THE CROSS-CUTTING ECOSYSTEM MONITORING ACTION PLAN

Desired Outcome(s) For This Action Plan:	
Increased collaboration among, capacity of, and productivity of the three sanctuary monitoring programs in order to enhance our understanding of the ecosystem(s) in this region and those natural and human factors affecting them.	
Performance Measures	**Explanation**
1. Increase the number of cooperative research and monitoring activities from two in Year 1 to six in Year 5.	1. Research staff from the three sanctuaries currently engage in limited joint research and monitoring activities. However, to improve our knowledge and understanding about the broader ecosystem in this region, the three sites need to coordinate and systematically plan and implement joint research and monitoring activities with each other and other partners. These new joint research and monitoring activities will be reflected in each sites' Annual Operating Plan (AOP).
2. Extend the geographic range of SIMoN to include Cordell Bank and Gulf of the Farallones and expand its infrastructure so that it can be integrated with other coastal and ocean observation systems along the West Coast by Year 5.	2. SIMoN is rapidly evolving into a system-wide tool for organizing and displaying research and monitoring related information. SIMoN was developed as a prototype at the MBNMS and could be expanded to include the neighboring CBNMS and GFNMS. In addition, SIMoN should evolve so that other regional coastal and ocean observation systems could be integrated within SIMoN.
3. Design and implement coordinated monitoring programs consistent with the NMSP System Wide Monitoring Framework (SWiM) at each site by 2010.	3. The NMSP has been working for several years to develop a System Wide Monitoring (SWiM) Program Framework. The prototype of the program is underway, and once evaluated, will be ready to implement at other sites, including the three JMPR sanctuaries.

TABLE XEM-2: CROSS-CUTTING ECOSYSTEM MONITORING ACTION PLAN TIMELINE

ECOSYSTEM MONITORING ACTION PLAN	Year 1	Year 2	Year 3	Year 4	Year 5
Strategy XEM-1: Coordinate Existing Targeted Monitoring Activities to Promote Greater Efficiency and Effectiveness					
Activity 1.1: Coordinate individual sanctuary rocky intertidal monitoring programs and investigate opportunities to collaborate with other large-scale rocky intertidal monitoring efforts.	→	→	→	→	→
Activity 1.2: Conduct a workshop coordinate data collection protocols for Beach COMBERS and Beach Watch Programs that indirectly assess the health of the pelagic/offshore ecosystem.	→				
Activity 1.3: Develop an integrated sanctuary marine mammal and seabird survey monitoring plan for the three sanctuaries to coordinate and supplement the NOAA Fisheries 5-year surveys.		→			
Activity 1.4: Explore the potential for the expansion of existing fish surveys, such as the CalCOFI transect lines through Gulf of the Farallones and Cordell Bank, and continuation in Monterey Bay.		→			
Activity 1.5: Jointly developed research cruise plans and standards for sampling and reporting results for benthic habitat survey work.	→	→	→	→	→
Activity 1.6: Augment the benthic habitat survey work with new technologies such as ROV surveys.	→	→	→	→	→
Strategy XEM-2: Coordinate and Implement Existing Regional Ecosystem Monitoring Activities					
Activity 2.1: Implement the West Coast Observation Project at CBNMS, GFNMS and MBNMS.	→	→	→	→	→
Activity 2.2: Develop and implement an integrated NMSP's System-Wide Monitoring (SWiM) program for CBNMS, GFNMS and MBNMS.		→	→	→	→
Activity 2.3: Conduct a needs assessment and develop a site implementation plan for expanding SIMoN to the Gulf of the Farallones and Cordell Bank sanctuaries.	→				
Activity 2.4: Explore opportunities to integrate SIMoN with other regional monitoring efforts such as West Coast Observations and other IOOS projects.	→	→	→	→	→
Activity 2.5: Evaluate and identify ongoing funding opportunities to support regional and larger scale ongoing monitoring activities.	→	→	→	→	→
Strategy XEM-3: Establish a Joint Internal Monitoring Coordination Team					
Activity 3.1: Establish a Monitoring Coordination Team.	→				
Activity 3.2: Develop a research and monitoring communication plan to improve coordination among the sanctuaries' research staffs and partners.	→				
Activity 3.3: Evaluate and provide recommendations on the joint reporting of monitoring activities through periodic "state of the sanctuaries" reports for cross-cutting monitoring activities among the three sanctuaries.			→	→	→
Activity 3.4: Develop annual ecosystem-based research and monitoring operating plans in collaboration with each other to	→	→	→	→	→

ECOSYSTEM MONITORING ACTION PLAN	Year 1	Year 2	Year 3	Year 4	Year 5
meet site, regional, and national monitoring needs.					
Strategy XEM-4: Consider Establishing Additional Site-Specific or a Joint Research Activities Panel to Enhance Research and Monitoring Collaborations					
Activity 4.1: Evaluate the need and feasibility of establishing a CBNMS Research Activity Panel (RAP) or a GFNMS RAP as a permanent SAC working group and the need to create an ad-hoc or standing joint research activities panel (JRAP) to advise and identify opportunities for coordinated monitoring activities.		→	⇢	⇢	⇢
Activity 4.2: Based upon the evaluation in 5.1, establish a Cordell Bank RAP, Gulf of the Farallones RAP and/or a Joint RAP.			→		
Activity 4.3: Establish communication protocols among the RAPs for posting agendas and minutes for sanctuary-specific and joint meetings.			→		
Activity 4.4: Institute annual meetings for a subgroup of (~10) representatives from all three sanctuary RAPs (or research partners if a RAP does not exist) to coordinate research and monitoring activities in the region.				→	→

Legend:

→ Planned Activity

⇢ Proposed Activity, based on internal assessment

TABLE XEM-3: ESTIMATED COSTS TO IMPLEMENT THE CROSS-CUTTING ECOSYSTEM MONITORING ACTION PLAN

Strategy	Estimated Annual Cost (1000's)*					Total Est. 5-Year Cost (1000's)
	YR 1	YR 2	YR 3	YR 4	YR 5	
Strategy XEM-1: Coordinate Existing Targeted Monitoring Activities to Promote Greater Efficiency and Effectiveness	$183	$183	$183	$183	$183	$915.00
Strategy XEM-2: Coordinate and Implement Existing Regional Ecosystem Monitoring Activities	$172	$258	$294	$282	$246	$1252.00
Strategy XEM-3: Establish a Joint Internal Monitoring Coordination Team	$24	$72	$78	$51	$27	$252.00
Strategy XEM-4: Consider Establishing a Joint Research Activities Panel to Enhance Research and Monitoring Collaborations	$0	$12	$12	$15	$15	$54.00
Total Estimated Annual Cost	$381	$525	$567	$531	$471	$2473.00

*** Cost estimates are for both "programmatic" and "base" (salaries and overhead) expenses.**

**** Contributions from outside funding sources also anticipated.**

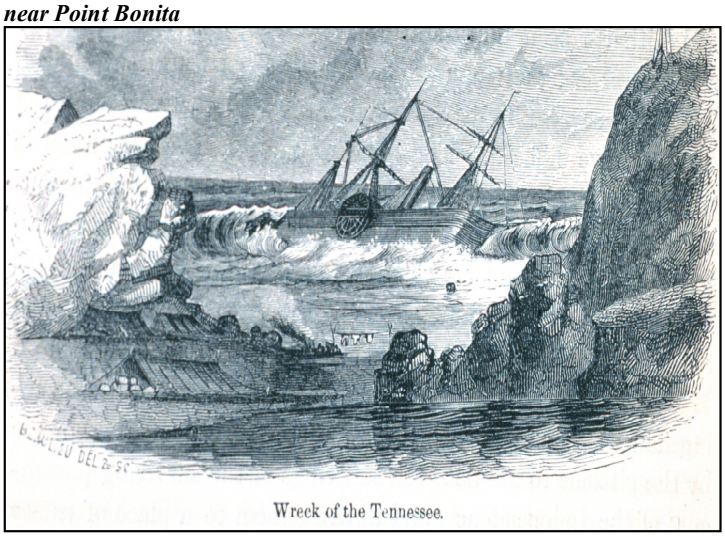
For management planning purposes, the individual site cost to implement cross-cutting strategies can be calculated by dividing the estimated annual cost by three (equal cost). The actual cost to each site may vary according to strategy but will be further refined when sites prepare annual operating plans.

MARITIME HERITAGE ACTION PLAN

GOALS

The National Marine Sanctuary Program (NMSP) is developing a new program aimed to identify, protect and raise awareness of the cultural and historical resources in the three sanctuaries. Program efforts include conducting paleo-ecological and archaeological studies; inventorying, locating, and monitoring both historic shipwrecks and those that pose an environmental threat to sanctuary marine resources; and characterizing and protecting maritime heritage resources.

Figure MH-1: The passenger-cargo steamer Tennessee runs aground near Point Bonita



This plan provides the framework for a Maritime Heritage Resources Program that addresses historic and cultural underwater sites, as well as traditional heritage resources such as Native American and fishing communities, commercial marine transport of passengers and cargo, and recreational activities like diving, surfing, and boating. Although the NMSP only has authority to protect sanctuary cultural and historic resources, the program recognizes that traditional user and ocean-dependent groups are interconnected with the sanctuaries and are an integral part of their history.

ISSUE DESCRIPTION

The National Marine Sanctuaries Act (NMSA) and site regulations mandate the management and protection of sanctuary cultural and historical resources. Cultural resources are defined as any historical or cultural feature, including archaeological sites, historic structures, shipwrecks, and artifacts. *Historical resources* are defined as any resources possessing historical, cultural, archaeological or paleontological significance, including sites, contextual information, structures, districts, and objects significantly associated with or representative of earlier people, cultures, maritime heritage, and human activities and events. Historical resources include "submerged cultural resources," and also include "historical properties," as defined in the National Historic Preservation Act (NHPA), as amended, and its implementing regulations, as amended.

The area encompassed by Cordell Bank National Marine Sanctuary (CBNMS), Gulf of the Farallones National Marine Sanctuary (GFNMS), and Monterey Bay National Marine Sanctuary (MBNMS) is rich in cultural and historical resources, and has a long and interesting maritime history. The sea floor preserves remnants of the sites where people lived and of the vessels in which they conducted trade and fought wars. Ships, boats, wharves, lighthouses, lifesaving stations, whaling stations, prehistoric sites, and a myriad of other heritage treasures lie covered by water, sand, and time.

The history of California's central coast is predominantly a maritime one. From the days of the early Ohlone inhabitants to the exploration and settlement of California to the present, coastal waterways remain a main route of travel, subsistence, and supply. Ocean-based commerce and industries (e.g., fisheries, shipping, military, recreation, tourism, extractive industries, exploration, research, and aesthetics) are important to the maritime history, the modern economy, and the social character of this region. These constantly changing human uses define the maritime heritage of these sanctuaries and help interpret our evolving relationship with the sanctuary resources. Ports such as San Francisco and Monterey, and smaller coastal harbor towns, developed through fishing, shipping, and economic exchange. Today these have become major urban areas, bringing millions of people in proximity to national marine sanctuaries. Many of these people are connected to the sanctuaries through commercial and recreational activities such as surfing, boating, and diving.

Records indicate that 430 vessel and aircraft losses were documented between 1595 and 1950 along California's central coast from Cambria north to Bodega Head, including the Farallones Islands. Specifically, 173 in the GFNMS, 257 in the MBNMS, and none documented within the CBNMS. Some sites have been located and inventoried by the National Oceanic and Atmospheric Administration (NOAA) and the National Park Service (NPS) in the GFNMS region. GFNMS and MBNMS have also collaborated with state and federal agencies, and the private sector to gather resource documentation and to create opportunities to locate and record submerged archaeological resources. MBNMS recently completed a shipwreck inventory from established shipwreck databases, and review of primary and secondary source documentation. These studies provide a foundation for an inventory of the historic resources in the sanctuaries.

GFNMS and MBNMS, and possibly CBNMS, are also faced with the challenge of identifying and monitoring historic and non-historic shipwrecks posing environmental threats to sanctuary marine resources. Lurking in the deep are the hazardous cargoes, abandoned fuel, and unexploded ordnance inside sunken vessels that are slowly deteriorating in a corrosive marine environment. Shipwrecks already identified as a concern are the oil tanker USS *Montebello* (near the MBNMS) that may retain over three million gallons of unrefined crude oil and the C-3 freighter *Jacob Luckenbach* (GFNMS), containing Bunker-C fuel oil. In 2002, the U.S. Coast Guard contracted the removal of 85,000 gallons of Bunker-C fuel from the *Jacob Luckenbach*.

Submerged Site Inventory and Assessment Initiative

NMSP regulations mandate that archaeological resources are managed consistently with the Federal Archaeological Program. The NMSP's Marine Heritage Program (MHP) and NOAA Maritime Archeological Center (MAC) were established in 2002 and 2004 respectively to emphasize the need for research, education, outreach, and protection of maritime heritage

resources. Issues to be addressed regarding the protection of submerged archaeological resources include site protection, permitting, and shipwrecks as environmental threats. GFNMS and MBNMS will partner with the Channel Island National Marine Sanctuary (CINMS) on its Shipwreck Reconnaissance Program (SRP) in California waters to record submerged sites using vocational archaeologists, remotely operated vehicles (ROV), and manned submersibles. The SRP develops underwater site maps and archaeological reports, conducts annual site monitoring, and recommends appropriate sites for inclusion in the National Register of Historic Places.

Shipwrecks as Environmental Threats

GFNMS and MBNMS both coordinate with the Damage Assessment Restoration Fund and other relevant agencies. GFNMS and MBNMS will work with CINMS to expand their efforts to identify shipwrecks that may pose environmental threats and will provide pertinent information to NOAA's Hazardous Materials (HAZMAT) division and the NMSP for development of the Sanctuaries Hazardous Incident Emergency Logistics Database System (SHIELDS) and the Resources and Under Sea Threats (RUST) Geographic Information Systems (GIS) database systems.

Site Protection

As submerged shipwreck sites are inventoried in CBNMS, GFNMS, and MBNMS and become more visible to the public, they are also more at risk from divers wishing to remove artifacts. CBNMS, GFNMS, and MBNMS will consider enhancing visitor usage while mitigating damage to heritage resources by providing the sport and commercial diving communities and visitors to shoreline sites with interpretive information about archaeological sites and their protection. Sanctuary and California state regulations prohibit the un-permitted disturbance of submerged archaeological and historical resources. The NMSP and California State Lands Commission (CSLC) have an archaeological resource recovery permit system in place. Protection and monitoring of these sites will become a more pronounced responsibility in the sanctuaries' heritage resources management program. Partnerships will be established with local law enforcement agencies for site monitoring and compliance of public access to submerged sites. The sanctuaries will designate a contact person(s) to coordinate with the California State Historic Preservation Office (SHPO) to ensure that permit guidelines, under the Archaeological Resources Protection Act, are followed.

Traditional User and Ocean-Dependent Groups

There is the potential to cultivate partnerships with local, state, and federal programs (e.g., American Folk Life Center, universities, Department of the Interior) and the identified communities. These partnerships could aid in the design and implementation of studies of living maritime heritage and folk life to help educate the public about traditional cultures and practices including Native Americans, other ethnic residents, fishermen and economic activities reflecting historic human interaction with the ocean.

Education and Outreach

CBNMS, GFNMS, and MBNMS have partnered with CINMS in the development of the West Coast Shipwreck Database online curriculum. The database serves to inform the public about the historical significance of shipwrecks, including those posing environmental threats to sanctuary marine resources, e.g., the *Jacob Luckenbach* story. The database is being expanded to include living journals assisting families searching for information about shipwrecked vessels their relatives may once have served on as crewmembers or passengers. Family members are encouraged to share with the public their living journals associated with the shipwreck histories for dissemination. CBNMS, GFNMS, and MBNMS will identify partners to explore exhibit development at maritime or regional museums and learning centers that focus on the areas' maritime heritage history; shipwrecks, exploration, fishing, and fisheries; vessel trades, routes and nationalities; and shoreline structures such as lighthouses, lifesaving stations, canneries, whaling facilities, surfing, and boating.

STRATEGY XMHR-1: ***Establish Maritime Heritage Resources Program.***

The NMSP is placing increasing emphasis on the development of maritime heritage resources programs to identify and protect submerged archaeological sites, and to increase public awareness about the maritime history associated with individual sanctuaries. A well-coordinated program will be required to identify and assess documented shipwrecks, some of which may pose significant environmental hazards; to protect sites from unauthorized disturbance; and to develop heritage partnerships and education programs.

Activity 1.1 Develop the foundation and infrastructure of a MHR Program.

Products: Maritime Heritage Resource (MHR) program plan and infrastructure to implement it.

Partners: CBNMS, GFNMS, MBNMS, NMSP-MHP, CINMS, Submerged Cultural Resources Program (SCRP)

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 1.2 Identify potential maritime heritage partners and sources of funding.

Products: Database of partners and funding sources.

Partners: CBNMS, GFNMS, MBNMS, CINMS

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

STRATEGY XMHR-2: ***Inventory and Assess Submerged Sites.***

CBNMS, GFNMS, and MBNMS, in conjunction with the West Coast Cultural Resources Coordinator, will collaborate with state and federal agencies and the private sector to gather resource documentation and to create opportunities to locate and record submerged archaeological resources. MBNMS recently completed such an inventory; GFNMS will pursue funding to update its previous inventory (done jointly with the NPS). This effort will also be coordinated with NOAA's MHP.

Activity 2.1 Establish external partnerships to inventory potential shipwreck sites with other federal, state, and local agencies as well as vocational archaeologists, commercial divers and fishermen, and recreational divers.

Products: Updated inventory of potential shipwreck sites in the three sanctuaries that includes site characterizations and shipwreck assessments.

Partners: CBNMS, GFNMS, MBNMS, CINMS, MHP, National Park Service (NPS), California State Historic Preservation Office (SHPO)

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 2.2 Conduct systematic research and survey methods for archaeological sites, including the remains of prehistoric, as well as historic sites, representing ship and aircraft losses.

This effort would be focused on geographic regions with a high probability of cultural and historic remains established by conducting remote sensing surveys and/or diver investigations of target sites as part of larger research cruises across the three sanctuaries. Such surveys would include the development of education materials and curriculum, a project website, a site assessment report, corrosion study, and a comparison with previous surveys.

Products: MBNMS survey of the USS Macon and continuing efforts to survey the Lukenbach and Montebello.

Partners: CBNMS, GFNMS, MBNMS, CINMS, MHP, NPS, SHPO

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 2.3 Establish a shipwreck reconnaissance and site monitoring program.

Use a model similar to CINMS to record and monitor submerged sites and to document new artifact discoveries and evaluation of human site disturbance. Record site positions in NOAA's ARCH geographic information systems (GIS) database.

Products: Expanded site information in NOAA's ARCH.

Partners: CBNMS, GFNMS, MBNMS, CINMS, MHP

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 2.4 Assess and Nominate Appropriate Submerged Archaeological Sites for Inclusion in the National Register of Historic Places.

Products: Applications for site inclusion in the National Register of Historic Places.

Partners: CBNMS, GFNMS, MBNMS, CINMS, MHP, NPS, SHPO

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

STRATEGY XMHR-3: ***Assess Shipwrecks and Submerged Structures for Hazards.***

GFNMS and MBNMS, and possibly CBNMS, are faced with the challenge of identifying and monitoring historic and non-historic shipwrecks that may pose environmental threats to sanctuary marine resources. Information pertaining to shipwrecks as environmental threats is provided to NOAA's HAZMAT division and the Office of National Marine Sanctuaries for the development of the SHIELDS and RUST database systems. The sanctuaries will develop a plan to address this issue since there are many shipwrecks that pose threats in the near future.

Activity 3.1 Establish an inventory of shipwrecks, inside and outside of sanctuary boundaries, posing environmental threats to sanctuary marine resources.

This inventory is based upon primary and secondary source documentation from established shipwreck databases, interviews with commercial divers and fishermen, and recreational divers who frequently visit submerged shipwrecks. The sanctuaries will also collaborate with other organizations doing similar research. As the sanctuaries compile information regarding sites that may pose environmental threats, this information will be coordinated with NOAA's HAZMAT division and the Office of National Marine Sanctuaries for the development of the SHIELDS and RUST database systems.

Products: Inventory of sites that may pose environmental threats, including a priority listing of shipwreck sites to be located via reconnaissance dives. Evaluation reports on sites submitted to federal and state trustee agencies for potential remediation.

Partners: CBNMS, GFNMS, MBNMS, CINMS, MHP, NOAA HAZMAT, NOAA Office of Response and Restoration (ORR), NPS, SHPO

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 3.2 Establish a monitoring program for shipwreck sites.

Develop protocols for site evaluation, including timelines for long-term monitoring. Direct efforts to monitor sites that have been located and are considered a threat to sanctuary marine resources based on the monitoring work at such sites as the *Jacob Luckenbach* and the *Montebello*.

Products: A shipwreck monitoring plan.

Partners: CBNMS, GFNMS, MBNMS, CINMS, MHP, NPS, SHPO

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 3.3 Coordinate with partners to reduce threats from shipwrecks.

GFNMS and MBNMS will work with NMSP to expand efforts to identify shipwrecks that may pose environmental threats and will provide pertinent information to NOAA's HAZMAT division and the NMSP for the development of the SHIELDS and RUST GIS database systems. Shipwrecks identified as a potential threat to leak or spill hazardous waste will be regularly monitored, and NMSP will work with other trustee agencies to develop a plan to prevent, reduce, and respond to environmental threats from these vessels.

Products: A threat mitigation plan.

Partners: CBNMS, GFNMS, MBNMS, CINMS, MHP, NOAA HAZMAT, NOAA ORR, NPS, SHPO

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 3.4 For historic shipwrecks, ensure compliance under Section 106 of the National Historic Preservation Act (NHPA) and the National Marine Sanctuary Act (NMSA).

Products: Final Reports of Post Site Disturbance Documentation and/or Archaeological Site Reports submitted to the SHPO.

Partners: CBNMS, GFNMS, MBNMS, CINMS, MAC, NOAA HAZMAT, NOAA ORR, NPS, SHPO

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

STRATEGY XMHR-4: ***Protect and Manage Submerged Archaeological Resources.***

The NMSP regulations mandate that archaeological resources be managed consistent with the Federal Archaeological Program. The NMSP's MHP and MAC were established in 2002 and 2004 respectively to emphasize the need for research, education, outreach, and protection of

heritage resources. Issues to be addressed by GFNMS, MBNMS, and possibly CBNMS, regarding the protection of submerged archaeological resources include:

- Permitting
- Site protection through enforcement and education
- Shipwrecks as environmental threats

Activity 4.1 Jointly develop uniform protocol to manage, monitor, and protect submerged sites within the three sanctuaries in partnership with appropriate local law enforcement agencies.

Products: Monitoring and permitting protocols, enforcement surveillance and inspection program as appropriate, mooring system plan if needed at dive sites.

Partners: CBNMS, GFNMS, MBNMS, CINMS, MAC, NPS, SHPO, NOAA Office of Law Enforcement (OLE)

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 4.2 Provide training to sanctuary staff and facilitate training for partners.

The training will focus on the importance of submerged archaeological resources and the need and tools to manage and protect them.

Products: A comprehensive training program.

Partners: CBNMS, GFNMS, MBNMS, CINMS, MHP, NPS, SHPO, NOAA Office of Law Enforcement (OLE)

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

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.

Explore the appropriateness, feasibility and need to (1) consider expanding existing boundaries to protect site(s) as maritime heritage resources or (2) work with the state to establish a state marine cultural preservation area (e.g., the USS *Montebello*, 1.6 nautical miles south of the MBNMS near Cambria, others to be determined).

Products: Site assessments and recommendations for preservation and/or protection.

Partners: CBNMS, GFNMS, MBNMS, MHP, NPS, SHPO

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

STRATEGY XMHR-5: ***Conduct Public Outreach with Traditional User and Ocean-Dependent Groups and Communities.***

A key aspect of the CBNMS, GFNMS, and MBNMS maritime heritage program will be to educate the public about traditional maritime cultures and practices including Native Americans; exploration; settlement; ethnic groups; whalers; historic and present-day fishermen; recreational uses; and traditional shipping, shipbuilding, canneries, and other economic activities reflecting historic human interaction with the ocean. Although sanctuary protection status is given only to cultural and historical resources, the program recognizes that traditional user and ocean-dependent groups are interconnected with the sanctuaries and are an integral part of their history. Therefore, this program will also acknowledge those traditional maritime heritage activities and practices consistent with the NMSA's primary goal of resource protection.

Activity 5.1 Identify traditional user and ocean-dependent groups.

Solicit and document the range of traditional user and ocean-dependent groups' ideas, values, etc. Conduct a literature search to gather resource documentation on traditional users and ocean-dependent groups and communities. Use this information to prioritize appropriate aspects of their maritime heritage.

Products: Sanctuary user groups and community historic analysis.

Partners: CBNMS, GFNMS, MBNMS, CINMS, MHP

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
CB	**EP-6**
GF	**FA-2**

Activity 5.2 Develop collaborative programs and initiatives.

GFNMS will initiate a partnership with the fishing community at Pillar Point Harbor to enhance relationships and jointly develop ways to educate the public on the interconnections with the three sanctuaries.

Products: Pillar Point maritime heritage community demonstration initiative. Collaborative programs such as sustainable seafood events, adopt-a boat classroom programs (e.g., SEA Grant-Marine program), historic re-enactments at harbors, Native American village sites.

Partners: CBNMS, GFNMS, MBNMS, San Mateo County Harbor District – Pillar Point, Half Moon Bay Fishermen's Association, CA Sea Grant

Cross-Reference:

Sanctuary	Management Plan Strategy Reference
None	**None**

Activity 5.3 Create an inventory of historic and present maritime heritage communities.

Focus on traditionally associated people to support mapping and interpretive programs. Assess and nominate appropriate sites for the National Register of Historic Places.

Products: Database inventory of maritime heritage communities and sites; nominations for the National Register of Historic Places.

Partners: CBNMS, GFNMS, MBNMS, MHP, NPS, SHPO

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**CB**	**EP-6**
	GF	**FA-2**

Activity 5.4 Map and document traditional communities and sites.

These communities and sites may include fishing and whaling sites; shipping/commercial marine transport of passengers and cargo; lighthouses and life-saving stations; tribes (coastal); and recreational uses such as surfing and diving.

Products: Tri-sanctuary map of traditional communities and sites.

Partners: CBNMS, GFNMS, MBNMS, MHP, NPS, SHPO

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**GF**	**FA-2**

STRATEGY XMHR-6: ***Establish Maritime Heritage Focused Education and Outreach Programs.***

Maritime Heritage provides a unifying theme to educate and inform people along the California coast and throughout the country about the historic human interaction with the ocean. Through websites, museum exhibits, and other tools, the sanctuaries will provide information on:

- Programs by and about traditional cultures and practices including Native Americans, ethnic groups, fishermen, and economic activities
- Shipwrecks, exploration, fishing and fisheries; trade vessels, routes and nationalities
- Shoreline structures such as lighthouses, life-saving stations, canneries, whaling facilities
- Traditional recreational activities such as diving, surfing, and boating
- Stewardship of our cultural and historic maritime resources

Activity 6.1 Improve information sharing and dialogue.

Hold an annual maritime heritage event to highlight specific cultural and historic resources that the sites are mandated to protect, such as archeological sites, shipwrecks, etc., and link to adjacent communities and human uses.

Products: Annual community event focusing on maritime heritage resources.

Partners: CBNMS, GFNMS, MBNMS, MHP, NPS, SHPO, local maritime museums and historic parks

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 6.2 Create, expand and populate individual sanctuary websites and/or the West Coast Shipwreck Database.

The websites should include specific information about maritime heritage resources, such as living journals of traditional users and ocean-dependent groups as well as shipwreck survivors, archaeological project updates, potential environmental threats, and maps.

Products: Expanded maritime heritage Web-based information.

Partners: CBNMS, GFNMS, MBNMS

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 6.3 Develop and implement education and outreach programs and materials for the MHP.

Incorporate traditional users/ocean-dependent groups and submerged archaeological resources into existing and new education/outreach programs.

Products: Maritime heritage programs, brochures, posters, etc.

Partners: CBNMS, GFNMS, MBNMS, MHP, NPS, SHPO, local maritime museums and historic parks.

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**None**	**None**

Activity 6.4 Collaborate on maritime heritage resource exhibits and signage.

GFNMS and MBNMS are currently collaborating on a joint interpretive exhibit at Pigeon Point Lighthouse in San Mateo County. The three sites will incorporate maritime heritage themes and messages as part of the California Statewide Signage, Exhibits, and Facilities plan.

Products: Joint interpretive exhibits at Pigeon Point Lighthouse and other locations, joint signage, and joint public lecture series.

Partners: CBNMS, GFNMS, MBNMS, MHP, NPS, SHPO, local maritime museums and historic parks

	Sanctuary	Management Plan Strategy Reference
Cross-Reference:	**GF**	**ED-9, ED-12, ED-13**

TABLE XMHR-1: MEASURING PERFORMANCE OF THE CROSS-CUTTING MARITIME HERITAGE RESOURCES ACTION PLAN

Desired Outcome(s) For This Action Plan:	
Establish a well-coordinated joint maritime heritage program that identifies and assesses documented shipwrecks and associated environmental hazards; protects sites from unauthorized disturbance; and develops heritage partnerships and education programs.	
Performance Measures	**Explanation**
By Year 5, the Maritime Heritage program will identify and characterize all historical and cultural resources in these three sanctuaries in a Web database and, when appropriate, develop plans to protect these resources from threats. In the case of ships that pose a threat from oil spills, plans will be developed to mitigate harmful effects on natural resources.	The specific maritime heritage activities identified in this plan build upon existing site efforts and collectively establish a new joint maritime heritage program for this region. The program will allow these sites to be responsive to the NMSA mandate to identify and protect cultural and historic resources. Implementation of these strategies will better streamline and coordinate overall NMSP efforts to protect maritime heritage resources and expand awareness of the importance of these resources to the public.

TABLE XMHR-2: CROSS-CUTTING MARITIME HERITAGE RESOURCES ACTION PLAN TIMELINE

MARITIME HERITAGE RESOURCES	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Program Establishment					
Strategy XMHR-1: Establish Maritime Heritage Resources Program					
Activity 1.1: Develop the foundation and infrastructure of a MHR program.	.....	→			
Activity 1.2: Identify and assist partners doing maritime heritage related work to obtain funding and resources.		→	→	→	→
Resources Assessment and Protection					
Strategy XMHR-2: Inventory and Assess Submerged Sites					
Activity 2.1: Establish external partnerships to inventory potential shipwreck sites with other federal, state, and local agencies as well as vocational archaeologists, commercial divers and fishermen, and recreational divers.			→	→	→
Activity 2.2: Conduct systematic research and survey for archaeological sites, including the remains of prehistoric sites, as well as historic sites that represent ship and aircraft losses.	.....	→	→	→	→
Activity 2.3: Establish a Shipwreck Reconnaissance and Site-Monitoring Program.			→	→	→
Activity 2.4: Assess and nominate appropriate submerged archaeological sites for inclusion in the National Register of				→	→

MARITIME HERITAGE RESOURCES	Year 1	Year 2	Year 3	Year 4	Year 5
Historic Places.					
Strategy XMHR-3: Assess Shipwrecks and Submerged Structures for Hazards					
Activity 3.1: Establish an inventory of shipwrecks, inside and outside of sanctuary boundaries, that may pose environmental threats to sanctuary marine resources.			→	→	
Activity 3.2: Establish a monitoring program for shipwreck sites.			→	→	→
Activity 3.3: Coordinate with partners to reduce threats.			→	→	→
Activity 3.4: For historic shipwrecks, ensure compliance under Section 106 of the National Historic Preservation Act (NHPA) and the National Marine Sanctuary Act (NMSA).			→	→	→
Strategy XMHR-4: Protect and Manage Submerged Archaeological Resources					
Activity 4.1: Jointly develop uniform protocol to manage, monitor, and protect submerged sites within the three sanctuaries in partnership with appropriate local law enforcement agencies.				→	→
Activity 4.2: Provide training to sanctuary staff and facilitate training for partners.				→	→
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.				→	→
Partnerships, Education and Outreach					
Strategy XMHR-5: Conduct Public Outreach with Traditional User and Ocean-Dependent Groups and Communities					
Activity 5.1: Identify traditional user and ocean-dependent groups.		→	→	→	→
Activity 5.2: Develop collaborative programs and initiatives.		→	→	→	→
Activity 5.3: Create an inventory of historic and present maritime heritage communities.		→	→	→	→
Activity 5.4: Map and document traditional communities and sites.			→	→	→
Strategy XMHR-6: Establish Maritime Heritage Focused Education and Outreach Programs					
Activity 6.1: Improve information sharing and dialogue.	.....	→	→	→	→
Activity 6.2: Create, expand and populate individual sanctuary websites and/or the West Coast Shipwreck Database.		.....	→	→	→
Activity 6.3: Develop and implement education and outreach programs and materials for the Maritime Heritage Program.	.....	→	→	→	→
Activity 6.4: Collaborate on maritime heritage resource exhibits and signage.	.....	→	→	→	→

Legend:

→ Planned Activity

..... → Proposed Activity, based on internal assessment

TABLE XMHR-3: ESTIMATED COSTS TO IMPLEMENT THE CROSS-CUTTING MARITIME HERITAGE RESOURCES ACTION PLAN

Strategy	Estimated Annual Cost (1000's)*					Total Est. 5-Year Cost (1000's)
	YR 1	YR 2	YR 3	YR 4	YR 5	
Strategy XMHR-1: Establish Maritime Heritage Resources Program	$55.5	$55.5	$0	$0	$0	$111
Strategy XMHR-2: Inventory and Assess Submerged Sites	$81	$81	$72	$72	$72	$378
Strategy XMHR-3: Assess Shipwrecks and Submerged Structures for Hazards	$0	$0	$51	$51	$51	$153
Strategy XMHR-4: Protect and Manage Submerged Archaeological Resources	$0	$0	$0	$24	$24	$48
Strategy XMHR-5: Conduct Public Outreach with Traditional User and Ocean-Dependent Groups and Communities	$39	$39	$58.5	$58.5	$58.5	$253.5
Strategy XMHR-6: Establish Maritime Heritage Focused Education and Outreach Programs	$61.5	$61.5	$64.5	$64.5	$64.5	$316.5
Total Estimated Annual Cost	$237	$237	$246	$270	$270	$1,260
*** Cost estimates are for both "programmatic" and "base" (salaries and overhead) expenses.**						
**** Contributions from outside funding sources also anticipated.**						
For management planning purposes, the individual site cost to implement cross-cutting strategies can be calculated by dividing the estimated annual cost by three (equal cost). The actual cost to each site may vary according to strategy but will be further refined when sites prepare annual operating plans.						