

Part VIII – Cross Cutting Issues

Administration and Operations

Boundaries

Community Outreach

Ecosystem Monitoring

Maritime Heritage Resources



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SANCTUARIES™

MONTEREY BAY

Administration and Operations Action Plan

Goal Statement

The goals of cross-cutting administration and operations for the joint management plan review are to 1) improve coordination and cooperation across the three sanctuaries to better and more efficiently manage and protect sanctuary resources, and 2) start working and functioning as an integrated team. Fulfilling these goals for the three sanctuaries requires enhancing communication and collaboration among and between managers and program staff.

This Action Plan was developed by an internal NMSP staff team.

NMSP Staff Contact

Brady Phillips JMPR Coordinator

Introduction

Cordell Bank, Gulf of the Farallones and Monterey Bay 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 each other. The three sanctuaries have separate administrative staffs, Sanctuary Advisory Councils, and independent education, research and resource protection programs. As a result, opportunities to maximize collaborations and share resources have not fully been realized.

During scoping meetings held in 2001, 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 sanctuaries' 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

This cross-cutting action plan was developed to build upon existing coordination efforts and identify those activities that must be done so that these three sites operate as three integrated and complementary sites in order to better protect the resources and be responsive to the public.

Note: Education/outreach and research/monitoring issues are addressed in the cross-cutting community outreach and ecosystem monitoring working groups.

Strategy XAO-1: Internal Communication

Strategy Description

Successful collaboration and coordination are directly related to the amount and intensity of communication. Though individual sanctuary staff may communicate on an as needed basis through e-mail, telephone or meetings, there is no established mechanism to bring together the managers 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 SACs to learn what is happening at each of the three sites and jointly plan regional programs and activities when appropriate.

Activity 1.1: Improve Communications Between the Sanctuary Managers

- A. Engage in more informal (randomly pick up the phone and call) and formal communications (regularly scheduled calls and meetings)
- B. Meet once per quarter to: 1) improve communication, 2) conduct Annual Operating Plan (AOP) planning; and 3) assess the implementation of AOPs and the JMPR Action Plans.

Activity 1.2: Improve Communication Between Sanctuary Staff at the Three Sites

- A. Schedule one regional sanctuary update and team building activity per year. Provide updates on activities at each site and identify how staff can help support the other site's programs and staff.
- B. Create a new employee orientation program that includes information from the other sites and the NMSP. The program should include travel to the other sites to meet staff and learn about their programs. Explore ways to integrate efforts with the NMSP's Communication Branch.
- C. Coordinate the planning and implementation of programs and products, where appropriate, across all three sites according to program area (research/monitoring, education/outreach, resource protection). The program coordinators will meet (separately by program area or together) at least once per year to share information and plan joint activities.

Activity 1.3: Improve Coordination and Communication Between the Sanctuary Advisory Councils (SACs)

- A. Revise the SAC Charters, as necessary, so that the sanctuary managers participate in each other's SACs as non-voting members.
- B. Schedule one joint SAC meeting, where all three SACs meet in the first year. At that meeting, the SACs will determine the necessity and frequency of future joint meetings.
- C. Encourage and provide opportunities for site staff to give presentations at each other's Sanctuary Advisory Council meetings.

Strategy XAO-2: Program Operations Improvements

Strategy Description

Each of the three sanctuaries have been designated for over 10 years and during this time have accumulated an inventory of equipment, vessels (ranging from two motorized boats to several kayaks), and resources to support their own research/monitoring, education/outreach, and resource protection programs. This strategy recognizes that 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 will inventory their existing resources and jointly develop a needs assessment to document what is required to implement these management plans. This strategy also calls for the sites to coordinate and provide opportunities to conduct field operations and to conduct an assessment in order to better cooperate and share facilities, signage and exhibits.

Activity 2.1: Maximize Opportunities to Share Equipment and Vessels

- A. Develop a list of existing equipment, vessels and resources based on the revised management plans that could be shared between sites.
- B. Develop a list of needed equipment, vessels and resources based on the revised management plans that could be shared between sites.

Activity 2.2: Coordinate Field Operations

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.

Activity 2.3: Maximize Opportunities to Share Facilities, Signage and Exhibits

- A. Develop a NMSP North-Central California Regional Facilities Plan to coordinate sanctuary facilities (including offices, visitor centers, research facilities), signage, and exhibits.
- B. Implement specific projects and activities identified in the NMSP North-Central California Regional Facilities Plan (see 2.3.1). This phase should fund the development, construction and placement of facilities (offices, visitor centers, research facilities), signs, exhibits, or kiosks.

Strategy XAO-3 – Program Administration Improvements

Strategy Description

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 these tasks. The goal of this strategy is to evaluate the staffing plans at the sites, 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: Maximize Opportunities to Share Personnel

- A. 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 FTEs to participate.
- B. Based on the review above and as opportunities arise, encourage short-term opportunities for staff exchanges, rotations, details and informal staff loans for specific projects.
- C. Based on the review, and as opportunities arise, create or use shared position(s) to fulfill on-going need(s) across all three sites.
- D. Participate in each other's interview panels to review candidates for new and vacant positions, where possible.

Activity 3.2: Implement Methods to Make Routine Administrative Functions More Efficient

- A. Assess the need and feasibility of sharing staff and/or reassigning administrative work to improve efficiency (i.e., procurements, contracting and grant management, time and attendance, and/or travel order/voucher functions).
- B. Depending upon the results of the assessment, hire or dedicate an existing staff person to perform duties identified above.

Activity 3.3: Build Upon Existing Efforts to Share Information Technology (IT) Resources

- A. Share a Geographic Information System (GIS) specialist position to support site-specific and regional database and mapping needs. As GIS becomes more integrated with site management, this arrangement will be evaluated to determine if it is effective.
- B. Share a Webmaster to meet site-specific and regional web needs and coordinate with headquarters IT/Web personnel.
- C. Assess the different types of existing databases and determine how the sites can best develop compatible formats where appropriate. Also explore how best to store, manage, and share common and compatible databases.

Strategy XAO-4: Resource Protection Program Coordination

Strategy Description

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 and programs 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. 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 and Permits

- A. 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.
- B. Inform the other sites of any new permit applications or other activities that could impact any of the sanctuaries.

Activity 4.2: Coordinate on Emerging Issues

- A. As the sites identify an emerging issue, determine its significance and potential to impact another site, and communicate this to the potentially affected site(s).
- B. 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.

Activity 4.3: Develop a coordinated sanctuary emergency response plan

- A. Develop a coordinated Sanctuary emergency plan that describes how the three sanctuaries will internally coordinate and respond to emergencies including: oil spills, hazardous material spills, vessel groundings, plane crashes, and natural disasters. 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's Area Contingency Plan (ACP).
- B. Coordinate with the NMSP National Programs Resource Protection Team on populating and making SHIELDS (Sanctuary Hazardous Incident Emergency Logistics Database System) functional and operative for the north-central California sanctuaries.

Activity 4.4: Coordinate efforts to more effectively and efficiently enforce regulations that affect Sanctuary resources.

- A. Develop a comprehensive enforcement plan for the three-sanctuary area that evaluates enforcement needs to implement these management plans and integrates existing formal and informal enforcement networks across the region. The plan should also include a consistent enforcement penalty schedule and an internal communication strategy.
- B. Implement the comprehensive enforcement plan developed above.

Boundary Issues Action Plan

Goal Statement

To bring together key NMSP staff and work through a process designed by the group that will generate a supportable and logical resolution to two boundary issues using clear and concise analytical thinking and teamwork.

NMSP Staff Contact

Mitchell Tartt Ecologist

Objectives

- To develop and implement an analytical process designed to determine a set of boundary alternatives relative to the MBNMS/GFNMS shared boundary using the best available information and resources.
- To prepare an appropriate set of boundary alternatives (including a preferred alternative), evaluations of each alternative, and recommendations for action to be presented to the Sanctuary Advisory Councils of the MBNMS and GFNMS for their review and comment.
- To develop and implement an analytical process designed to evaluate the inclusion of the existing San Francisco/Pacifica exemption area in NMSP jurisdiction using the best available information and resources.

Team Products

- A set of criteria to evaluate boundary issues. (It is anticipated that this set could be used in other boundary development processes as reference/starting point.)
- A framework to guide development and selection of boundary alternatives.
- A set of boundary, administrative, and/or regulatory alternatives that address the shared boundary of the GFNMS and MBNMS, including a preferred alternative, and explanation for each.
- A set of boundary, administrative, and/or regulatory alternatives that address the San Francisco/Pacifica exemption area, including a preferred alternative, and explanation for each; or an Action Plan that documents an extended evaluation and review of this issue.
- A Findings Report from the Team for the SAC of each site that documents all work and recommendations of the Internal Team regarding each boundary issue.
- A Final Boundary Evaluation Report for presentation to the NMSP Director. This report will include the Findings Report prepared by the Team and comments/recommendations from each of the site SACs

Introduction

As a component of the Joint California Management Plan Review Process (JMPR), the National Marine Sanctuary Program (NMSP) has assembled a crosscutting internal team (Team) to address two boundary issues relating to the Gulf of the Farallones and Monterey Bay National Marine Sanctuaries (GFNMS and MBNMS, respectively). These issues will be addressed and action plans created during the JMPR. Further, a Team Findings Report will be prepared and presented to each Sanctuary Advisory Council (SAC), and a Final Boundary Evaluation Report will be prepared and presented to the NMSP Director for review and action. The Final

Evaluation Report will include detailed information on the data and information considered in the evaluation, information on the process and methodologies used in the evaluation, and recommendations of the Team on actions relating to the two issues before the Team, as well as review comments and information from each SAC.

Further information on the two boundary issues, the general process for this work, and information on the Team is described below.

Issues

Issue 1: GFNMS and MBNMS Co-terminus Boundary

Since designation in 1992, the northern portion of the Monterey Bay National Marine Sanctuary has been under co-management with the Gulf of the Farallones National Marine Sanctuary. Despite continued efforts to implement a shared management structure, this arrangement has resulted in confusion with some communities as to which site is ultimately responsible for managing and protecting the resources in this area. The NMSP received many comments throughout the public scoping period and the SAC prioritization workshops requesting that the program resolve the ongoing northern MBNMS/southern GFNMS boundary issue in the joint management plan review (JMPR).

Issue 2: The San Francisco/Pacifica Exemption Area

In conjunction with the GF/MB boundary issue, the Team will review the existing San Francisco/Pacifica exemption area in the northern region of the MBNMS. NOAA excluded this area as part of the original MBNMS Sanctuary designation in 1992 due to concerns regarding contamination from the San Francisco Municipal combined sewer overflow discharge plume. The Team will provide an evaluation of the issue and determine whether the area should be included for NMSP protection.

Process - Phase 1

The NMSP will assemble the Team to evaluate administrative, ecological, physical, biogeographic, and socioeconomic factors and determine whether there is a need to modify the existing sanctuary boundaries. A Sanctuary Advisory Council (SAC) representative from each site (GFNMS and MBNMS) will attend all meetings as observers. See Boundary Team Participants/Observers for further information on SAC involvement in this phase of the process.

This phase will include three steps: 1) an evaluation of existing data and information from a wide range of categories 2) considerations of administrative and regulatory changes that may be warranted to increase the NMSP's ability to effectively manage these marine areas; 3) a final assessment of boundary alternatives should the first two steps of the process indicate that a shift in the location of a boundary is warranted. The evaluation will provide a basis for determining optimal boundary, administrative, and/or regulatory scenarios that will promote maximum efficiency in engaging local communities and protecting sanctuary resources.

Process - Phase 2

Upon the completion of the Team's evaluation, the Team will present a Findings Report to each SAC. Each SAC will be given the opportunity to provide input on the range of recommendations and actions discussed in the Findings Report. All SAC comments will be submitted back to the

Team, and a Final Evaluation Report will be produced that includes the complete Findings Report, all SAC comments, and any necessary supportive information. This Final Evaluation Report will be presented to the NMSP Director for review, and action.

Project Status

The Findings Report will be presented to the MBNMS Advisory Council at their June meetings in Monterey.

Community Outreach Action Plan

Goal Statement

A coordinated, collaborative regional community outreach strategy will build awareness throughout north-central California, and beyond, about: the existence and purpose of the three Sanctuaries and the national program; why their existence is relevant to people; the economic and intrinsic value of the three Sanctuaries to coastal and inland communities beyond such direct industries as fishing and ecotourism; how these three Sanctuaries are working with constituent groups; and how individuals and groups can be engaged in helping the Sanctuaries accomplish their resource protection, research, and education goals.

NMSP Staff Contact

Julie Barrow Education and Outreach Specialist

NMSP Staff

Dawn Hayes	MBNMS
Sarah Marquis	NMSP
Rachel Saunders	MBNMS
Jennifer Stock	CBNMS
Dawn Hayes	MBNMS

Working Group Members

Susan Andres	Farallones Marine Sanctuary Association
Bob Breen	GFNMS Advisory Council, Education
Susan Danielson	Save Our Shores
Frank Degnan	MBNMS Advisory Council, Diving
Brenda Donald	GFNMS Advisory Council, Research
Mark Dowie	GFNMS Advisory Council, At Large
Dennis Long	Monterey Bay Sanctuary Foundation
Milos Radakovich	BAY NET
Dave Schaechtele	California State Parks, Monterey District
Joe Smith	CBNMS Advisory Council, At-Large
Deborah Streeter	MBNMS Advisory Council, At-Large
Amity Wood	Farallones Marine Sanctuary Association

Introduction

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 that a well-informed local, regional, and national constituency greatly enhances the ability of the sanctuaries to protect their cultural and natural 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.

The current education/outreach programs at Cordell Bank, Gulf of the Farallones, and Monterey Bay National Marine Sanctuaries are very different in terms of their involvement with the public and the staff resources to carry out those activities. Each site develops an annual plan, with varying emphasis on schools, constituent groups and/or specific resource issues, community events and fairs, publications, and volunteer efforts. Key messages include: the purpose of the National Marine Sanctuary Program; the benefits of having sanctuary status; regulations and programs associated with each sanctuary; and emergency response contacts. Each site also uses a mix of staff, volunteers, constituent groups, and friends groups to develop and implement these programs.

Problem Statement

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 and/or confusion 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 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 complement each site-specific program and to be flexible enough to incorporate new strategies and topics over time.

Evolutionary Nature of This Plan

Over time, the messages included in the appendix of this plan may change; new issues may arise while others fall away. Each of the individual action plans in this management plan will also generate its own set of messages to be communicated to various audiences. Therefore, the strategies and activities serve as protocols, or methodologies, for how NMSP staff will develop and deliver those messages as well for how audiences and their needs will be identified.

The Stewardship Circle

The Stewardship Circle represents the continuous cycle of ocean and coastal outreach, education, and stewardship. The Circle expands awareness, knowledge, changed attitudes, and ultimately changed behaviors, rippling further and further throughout the community as more people become involved. By providing information on ocean and coastal resources, and stewardship opportunities, the Circle sparks the imagination and encourages people to have a personal, heart-felt relationship with the sea, regardless of their geographic location. The Circle is the basis of three strategies that may be 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 that promote ocean and coastal stewardship, personal safety, and a healthy, sustainable economy.
- Education provides a 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: Ocean and Coastal Outreach

Strategy Description

Outreach provides audiences with sanctuary-related information and materials based on NOAA’s science, products, and services that promote ocean and coastal stewardship, personal safety, and a healthy, sustainable economy. 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.

Outcome

To raise general awareness of marine ecosystems, individual sanctuaries and the Sanctuary Program, and to inspire stewardship of ocean and coastal resources.

Potential story lines

- What are national marine sanctuaries? The north-central California area is one marine protected region, within three of the nation’s 13 national marine sanctuaries.
- How do they relate to, support, and differ from other programs and marine organizations?
- What are their special characteristics and benefits?
- What is the biological, historic and cultural significance?
- What have we done successfully and what challenges still confront us in these Sanctuaries?
- Why should I care? How do I benefit from the Sanctuary?
- What can I do? How can I help or get involved? How can all users become involved in protecting and promoting the health of Sanctuary resources?

Activity 1.1: Develop or strengthen coordinated outreach programs and opportunities

Each site conducts outreach programs and activities based on the needs of the site. There are often times when all three sites could consolidate staff or financial resources to develop joint outreach efforts, 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. Additionally, the three sites can increase their “reach” on messages by partnering with their non-profit “friends groups”. A coordinated outreach effort will:

- A. Compile and prioritize outreach needs from all three management plans, including site-specific and cross-cutting action plans
- B. Assess existing site programs for shared implementation or expansion based on priorities
- C. Provide information on existing volunteer opportunities, factoring in cultural differences (assess ways of reaching different cultures)
- D. Provide timely background/context regarding priority issues on website(s)
- E. Develop shared outreach materials/products/programs based on established priorities that inspire stewardship by supporting and acknowledging behaviors that protect ocean/coastal resources (e.g., “A Guide to Your National Marine Sanctuaries” field guide)

with wildlife viewing with information on all three Sanctuaries, broad public service announcements on why these three Sanctuaries are here?)

- F. Coordinate and collaborate on Sanctuary-sponsored signage, visitor center displays, etc.
- G. Explore non-traditional forms of outreach (e.g., “product recognition” in films that are shot at the Sanctuaries, hotel table-top cards or lobby kiosks)
- H. Share community outreach approaches, goals, etc., between the three sites, with interested SAC members, and between the sites and non-profit partners
- I. Conduct annual retreats/meetings as a coordinated group to evaluate effectiveness of previous outreach programs, identify new issues, programs and products (brochures, exhibits, signs, etc), opportunities, and joint implementation

Timeline:

- Assess other action plans and existing programs: Begin in Summer 2003
- Evaluate ability of existing programs for delivering messages: Winter 2003/2004
- Product development: Initiate in Winter 2003/2004 based on assessment of action plans and existing programs; on-going thereafter
- Annual retreat: Each spring (in preparation for annual operating plans)
- Develop new collaborative approaches: On-going

Potential Partners: SAC members from all three Sanctuaries/working groups, Farallones Marine Sanctuary Association, Monterey Bay Sanctuary Foundation, National Marine Sanctuary Foundation, Channel Islands National Marine Sanctuary, Channel Islands Sanctuary Foundation/Association, NOAA Enforcement

Possible Measurement Elements:

- Identify the “target” audience(s) for measurement results – NOAA management, state and local elected officials, Congress, etc.
- Use the NOS “tracking” website to provide information on website usage
- Changes in number of: volunteers, foundation memberships, website “hits”
- Survey key contacts for “opinion poll” regarding Sanctuaries’ relationship with communities
- Partner with the American Marketing Association and marketing graduate schools to conduct a “market” survey (this could also be used as a volunteer opportunity)

Activity 1.2: Develop and Implement a Joint Media (print, radio, TV, internet, etc.)

The media can be an effective means of delivering information if staff is trained in how to provide that information to them. Each medium has a preferred way of receiving information for stories, so the appropriate mechanism and amount of information must be provided. This can be aided by periodic briefings with individual reporters with whom a relationship has been established, meeting with “editorial boards” of reporters and editorial staff at larger newspapers, and by keeping website background and context material current and relevant. The joint media plan will address how the sites will:

- A. Designate a media/public affairs point of contact for each site
- B. Consult with each other to identify and develop goals and key messages for joint media efforts based on the three management plans

- C. Collaboratively establish relationships with key local reporters whose territories overlap more than one Sanctuary
- D. Conduct periodic joint briefings for reporters/editors on cross-cutting issues
- E. Provide specific information on the three sanctuaries for the context of specific issues
- F. Assess the effectiveness of joint and site-specific media coverage in presenting information

Timeline:

- Designate media/public affairs contacts at each site: Spring 2003
- Media training for staff: Spring/Summer 2003 and annually thereafter
- Develop and implement joint media plan: Within 6 months of the first training and semi-annually thereafter

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

Activity 1.3: Identify and Partner with External Programs to Incorporate Message

There are many existing outreach programs targeting various groups that may value, influence, or impact the resources of the three sites. Public agencies like water pollution control and solid waste agencies, local parks and recreation departments, as well as local Chambers of Commerce and others often have limited funding and staff available to carry out these efforts.

User groups whose members are widely dispersed may also be effective partners

Trade associations for shipping and commercial/recreational fishing, dive clubs, boating groups etc., may have magazines, newsletters, websites where Sanctuary-related messages can be delivered. Local school districts and area colleges offer marine sciences curricula or may have community service requirements.

Through partnerships, this broad network can be accessed to incorporate sanctuary-related messages into other outreach programs. In return, the Sanctuaries may be able to provide “seed” funding, make available images and other graphics, and integrate appropriate coastal messages from other organizations.

- A. Identify and prioritize messages and audiences (e.g. groups that impact Sanctuary resources), based on the three management plans, that may be appropriate for delivery by partners; previous communications plans may be helpful (i.e., Year of the Oceans)
- B. Determine Potential Partners with existing outreach programs and create a database of contacts and the type(s) of outreach tools and messages they have
- C. Identify non-traditional outreach efforts (faith-based groups, service groups, chambers of commerce, etc.) and explore partnership opportunities
- D. Prioritize Potential Partners, aligning similar groups, based on their “reach” and the context of messages
- E. Create joint outreach tools that deliver integrated messages with partners, including museum exhibits, visitor center displays, maps in visitor guides, roving docent programs

- F. Develop issue-specific outreach to groups already involved with Sanctuary issues (such as user groups, non-governmental organizations, etc), coordinate on new opportunities to integrate and facilitate outreach in their programs, and maintain ongoing relationships
- G. Identify and share information on appropriate funding opportunities for the three Sanctuaries, our non-profit partners/friends groups and for other partners in outreach from: other federal/state/local agencies (EPA, NPS, state and local resource agencies, etc); private industry and foundations; and venture capitalists that fund environmental philanthropy

Timeline:

- Create database of outreach partners and programs: Summer 2003
- Identify audiences and messages: On-going
- Develop joint outreach tools: On-going

Potential Partners: USGC, NPS, other federal agencies, California State Parks, other state agencies Cities, local parks/recreation departments, Local agencies with pollution prevention programs (Water pollution control, solid waste control), 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)

Activity 1.4: Create and Implement an Interactive “Electronic Clearinghouse”

This clearinghouse could be integrated into the existing websites for the three Sanctuaries, or be a shared site similar to the “joint plan” website, and would include different levels of information (e.g. current issues, success stories, stewardship guides, list of personal actions, scientific/policy reports, etc.). It would be marketed to a wide range of individuals, groups, entities with a medium and a proven ability to affect opinion (e.g. media, educational & research institutions, advisory councils, volunteers, advocacy organizations, faith-based groups, governmental organizations, etc). The key underlying message would be that the protection and long-term health of our ocean sanctuaries depends on how we conduct our everyday activities.

- A. Assess information needs by working with community leaders and decision makers to create framework and content
- B. Identify and develop clearinghouse web concept and plan, including whether a shared website or existing websites will be used
- C. Identify and pursue funding (staff, design, maintenance, etc)
- D. Identify appropriate related sites and create links
- E. Develop and implement a promotional strategy

Timeline: Assess existing websites vs. shared website for suitability: Begin in year one, Develop clearinghouse plan: Begin in year two

Potential Partners: NMSP Communications Branch, California Coastal Commission, Those partners identified throughout this action plan

Strategy XCO-2: Ocean/Coastal Education

Strategy Description

Our joint ocean and coastal education efforts provide a fundamental scientific understanding, knowledge, training, or professional development to a particular audience on topics relevant to the world's atmosphere, climate, oceans and coastal ecosystems, and resource protection. 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.

Outcome

To build knowledge and support caring actions and attitudes regarding marine ecosystems and the Sanctuaries.

Activity 2.1: Collaborate on Existing Site-specific Education Programs and Products

Currently, GFNMS/FMSA and MBNMS/MBSF have a wide variety of site-specific education programs being implemented; CBNMS is exploring how best to establish its education program and already coordinates with GFNMS/FMSA on some outreach. There are many opportunities to share development, implementation, and marketing of these as well as expanding certain programs and materials to reflect all three Sanctuaries. The upcoming action plans from other working groups may also identify education efforts that could be shared or expanded, and opportunities regularly arise that can be discussed for how they can be coordinated, co-developed, and promoted across the sites.

- A. Compile and prioritize education needs from all three management plans, including site-specific and cross-cutting action plans
- B. Assess existing site programs for shared implementation or expansion based on priorities
- C. Conduct annual planning discussions/retreats to select priority education efforts to jointly pursue and evaluate previous efforts, along with quarterly “check-ins” to explore emerging opportunities
- D. Create an online database for the three contiguous sanctuaries to access teacher mailing/email information to advertise for upcoming educational opportunities
- E. Select a region-wide lecture series theme each year, from management plan priorities, upon which each site’s program can be based, market jointly, co-sponsor as appropriate
- F. Explore the expansion of symposia beyond research presenters and audience to include teachers/students and student presenters; coordinate selection of topics based on management plan priorities
- G. Create a “branded” look, using NMSP templates, and “boiler-plate” language for brochures to educate users (divers including abalone divers, kayakers, boaters, wildlife watching, etc) so that the look is similar across all three sites, with appropriate differences added
- H. Identify, develop and conduct coordinated trainings among NMSP and partner volunteer programs
- I. Provide volunteer exchange opportunities

- J. Identify and promote internships with marine-related businesses (i.e., resource assessment firms, whale watching and related businesses)

Timeline:

- Assess other action plans and existing programs: Begin in Summer 2003
- Product “branding”: Initiate in Winter 2003/2004 based on assessment of action plans and existing programs; on-going thereafter
- Annual retreat: Each spring (in preparation for annual operating plans)
- Lecture series: Beginning of each fiscal year starting in year one, select series theme
- Symposia: MBNMS/AMBAG Symposium is held each March; GFNMS/CBNMS Symposium bi-annually
- Team OCEAN: By the end of year three, evaluate which programs are appropriate for inclusion in this framework.

Potential 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 (esp. for funding), Local NGO’s/non-profits, Association of Monterey Bay Area Governments, Association of (SF) Bay Area Governments

Activity 2.2: Increase Multicultural/Multi-lingual Efforts

The MERITO Program at MBNMS is experiencing significant success within the Hispanic community. Starting with one school, it is now expanding to include adults and to train teachers to replicate the curriculum in their own classrooms and soon may be self-sustaining. The Channel Islands National Marine Sanctuary (CINMS) is currently working with MBNMS to evaluate the possible expansion of MERITO to the south. There is a large Hispanic community throughout the entire area of the three Sanctuaries, so expansion of MERITO to GFNMS and CBNMS will be explored. Needs assessments to determine other multi-cultural, socio-economic, or multi-lingual communities (Vietnamese, Chinese, Portuguese, Italian, etc.) and their interests will be beneficial in designing new education efforts.

Timeline: Needs Assessments: Conduct during first three years to determine appropriate communities to partner with, what topics to address, and develop implementation plans accordingly

Potential Partners: Multi-cultural community leaders, Bilingual school programs, Local NGO’s/non-profits

Activity 2.3: Identify New Education Programs

In addition to expanding current programs, new educational opportunities exist for collaboration and cooperation. As noted above, the upcoming action plans from other working groups may identify new education efforts that could be developed jointly, and area-wide programs may tie into national ones.

- A. Identify and prioritize education needs and audiences (e.g. groups that impact Sanctuary resources), based on the three management plans, that may be appropriate for collaboration and shared implementation
- B. Explore the possibility of jointly implementing such efforts as:

- Teacher workshops: The 2003 LiMPETS West Coast Workshop for teachers is a good model upon which to pattern future workshops designed for high school and college level science teachers. Possible topics may include the annual remote operating vehicle (ROV) competition (partnering with MATE and the national competition) and how to incorporate it into the classroom; a regional approach to the Teacher-at-Sea program, providing a link with local research cruises; or preparing teachers (and their students) to participate and present in symposia.
- Partnering on Teacher Workshops: Many marine organizations also provide teacher trainings: Moss Landing Marine Lab, MATE, MBARI, etc. It may be appropriate for the Sanctuaries to develop partnerships with these groups to organize, promote, or expand existing efforts.
- Volunteer Naturalist Corps program, similar to CINMS (Channel Islands), that could educate volunteers to interpret the Sanctuaries at various venues; community events, school fairs/oceans weeks, on the water (may need to conduct a feasibility study especially for this), etc., as part of Team OCEAN
- Certification Training program for professional naturalists, similar to SBNMS (Stellwagen Bank). This program would provide different levels of certification to paid naturalist staff working on private whale watching boats, recreational fishing boats, etc., based on levels of training and years of experience. Specific training on Sanctuary-related issues could be provided as well, perhaps using highly experienced researchers and naturalists as instructors. This would be an effective marketing tool for businesses to attract customers, supporting the Sanctuaries while promoting a sustainable economy.
- Natural history guides on the birds, mega-fauna of the Sanctuaries may evolve from these and other programs

Timeline:

- Teacher Workshops (expanding the success of the LiMPETS Teachers' Workshop): Summer 2004, conduct needs assessment with teachers to identify regional and/or West Coast workshop topic for FY 2005. If appropriate, within 6 months, develop and implement workshop. Evaluate effectiveness and scheduling interval for future joint workshops.
- Volunteer Naturalist Corps: During year two, explore options as well as feasibility across the three sites for implementing such a program. During year three, select preferred option and implement.
- Certification Program: By the end of year four, evaluate the feasibility and options for such a program. During year five, develop and implement if appropriate.

Potential Partners: Other National Marine Sanctuaries (esp. Channel Islands, Olympic Coast and Stellwagen Bank), Elkhorn Slough National Estuarine Research Reserve, State/local volunteer naturalist programs MATE, MBARI, Moss Landing Marine Lab, Universities, and Sea Grant institutions, Eco-tourism businesses such as dive and kayak shops, whale-watching companies, Local non-governmental organizations/non-profits

Strategy XCO-3: Ocean/Coastal Stewardship

Strategy Description

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.

Outcome

To facilitate active stewardship of our sanctuaries by individual citizens.

Activity 3.1: Create, Maintain and Promote Volunteer Programs

Formal volunteer programs provide opportunities for stewardship as well as expanding resource protection, education, and outreach capabilities of the Sanctuaries. These programs may be directly affiliated with a site, such as Beach Watch, Beach COMBERS, SEALS, and Team OCEAN Kayakers. They may be under the auspices of a non-profit partner, state/local agency, etc., like Save Our Shores, Bay Net, Friends of the Elephant Seals, Fitzgerald Marine Reserve, and California State Parks.

- A. Identify and prioritize opportunities for volunteer programs based on the three management plans, that may be appropriate for collaboration and shared implementation
- B. Using LiMPETS as a model, explore integrating NMSP-sponsored volunteer programs into a region-wide Team OCEAN program to share training, protocols, data management (e.g., through SIMoN), funding, promotion, etc. Links could also be made to programs managed by other organizations.
- C. Identify/provide funding to support and expand partner-run volunteer programs and training efforts throughout the north-central California coast
- D. Identify, develop and conduct coordinated trainings among NMSP and partner volunteer programs; include marine labs as instructors
- E. Provide volunteer exchange opportunities
- F. Use the media, both coastal and inland markets, to acknowledge volunteer efforts and promote involvement

Timeline: Begin in year two

Potential Partners: NOAA’s Team OCEAN, Elkhorn Slough National Estuarine Research Reserve, Farallones Marine Sanctuary Association, Monterey Bay Sanctuary Foundation, Bay Net, Save Our Shores, other non-governmental organizations, California State Parks, other state/local resource agencies, Friends of Fitzgerald Marine Reserve, High school service learning programs

Activity 3.2: Create Alternative Ways to Inspire Coastal and Ocean Stewardship

Many people have a personal connection with the ocean and coastal environment who may not be interested, or able, to participate in formal volunteer efforts. Cultural or language differences may also affect people’s perception of stewardship. For example, Native American populations, among others, have a spiritual connection with the ocean that respects the ocean’s life and health. The three Sanctuaries will work together to identify and implement alternative forms of stewardship.

- A. Inventory existing non-traditional stewardship activities and partners at these three sites and at sanctuaries throughout the NMSF
- B. Develop a pilot program, or stewardship campaign, based on inventory and management plan priorities
- C. Publicize non-traditional forms of stewardship as well as “volunteer of the year”

Timeline: Begin in year two

Potential Partners: Faith-based groups, Multi-cultural groups, Bilingual school programs, After-school programs, Art, dance and music programs, Service organizations

Activity 3.3: Identify and Partner with External Programs to Incorporate Message

There are many groups that may value, influence, or impact the resources of the three sites. User groups whose members are widely dispersed may also be effective partners: Trade associations for shipping and commercial/recreational fishing, dive clubs, boating groups etc., may have magazines, newsletters, websites where Sanctuary-related stewardship information can be delivered.

- A. Identify and prioritize messages and audiences (e.g. groups that impact Sanctuary resources), based on the three management plans, that may be appropriate for delivery by partners; previous communications plans may be helpful (i.e., Year of the Oceans)
- B. Determine Potential Partners and create a database of contacts
- C. Prioritize Potential Partners, aligning similar groups, based on their “reach” and the content of messages
- D. Develop issue-specific stewardship information to groups already involved with Sanctuary issues (such as user groups, non-governmental organizations, etc), coordinate on new opportunities, and maintain ongoing relationships
- E. Identify other stewardship groups (faith-based groups, service groups, chambers of commerce, etc.) and explore partnerships for ocean and coastal stewardship
- F. Identify and share information on appropriate funding opportunities for the three Sanctuaries, our non-profit partners/friends groups and for other partners from: other federal/state/local agencies (EPA, NPS, state and local resource agencies, etc); private

industry and foundations; and venture capitalists that fund environmental philanthropy

Timeline: Create database of outreach partners and programs: Summer 2003, Identify audiences and messages: On-going, Develop joint outreach tools: On-going

Potential Partners: USGC, NPS, other federal agencies, California State Parks, other state agencies, Cities, local parks/recreation departments, and 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

APPENDIX - Messages for the Stewardship Circle

The following are core messages about the NMSP that should form the backbone of all communication and outreach efforts:

Message: NOAA Manages a System of 13 National Marine Sanctuaries

- Sanctuaries are unique ocean and Great Lakes areas that have special ecological, cultural, scientific, esthetic, historical, or recreational qualities.
- Sanctuaries are specifically designed to maintain for future generations the animals, plants, cultural artifacts, and environmental quality of these underwater treasures.
- NOAA's National Marine Sanctuary Program is empowered by Congress through the National Marine Sanctuaries Act to serve as trustees for America's Ocean Treasures
- The National Marine Sanctuary Program seeks to facilitate all uses of sanctuary resources that are compatible with the primary objective of resource protection.
- The National Marine Sanctuaries Act calls for the establishment of areas of the marine environment which have special conservation, recreational, ecological, historical, cultural, archeological, scientific, educational, or aesthetic qualities.

Message: The National Marine Sanctuary Program Conducts Science and Education Activities and Works with the Public to Manage and Protect these Ocean Treasures

- Public participation, combined with the best science available, is important for effective sanctuary management.
- Sanctuaries are living classrooms where people can see, touch, and learn about the nation's ocean and Great Lakes environments.
- Science helps determine how different human and natural factors affect the health of marine ecosystems.
- Long-term monitoring programs help managers identify and respond to changes in marine ecosystems.
- Our economy and our enjoyment of the oceans' beauty depends on all of us learning more about the marine world than we know today.

Message: The National Marine Sanctuary Program Promotes Long-term Conservation While Allowing for Compatible Commercial and Recreational Activities

- The National Marine Sanctuary Program promotes the long-term conservation of America's natural heritage.
- The National Marine Sanctuary Program seeks to protect ecosystems and marine life. This helps to allow sustainable use of these resources over the long-term.
- Sanctuaries are places the public can participate in a wide variety of recreational and commercial activities, including swimming, wildlife watching, diving, boating, and fishing as long as the activities are compatible with resource protection.

Message: Sanctuaries Help Preserve Our Nation's Natural and Cultural Treasures for Future Generations

- Sanctuaries belong to all of us, their future is in our hands.
- We all own something precious, sanctuaries are part of our national heritage.

- Sanctuaries attempts to ensure that special places are left as undisturbed by human impacts as possible so that future generations can enjoy the environment in the same natural state we can today.
- Sanctuaries help to protect habitats that provide food, shelter, and nursery areas for over 1,500 fish species, marine mammals, birds, and other unique marine life.
- The National Marine Sanctuary Program enhances our understanding of our maritime heritage by partnering with native cultures and protecting historic shipwrecks and prehistoric sites.
- Studying and preserving shipwrecks helps us understand the history of our nation and of other cultures.

Message: Sanctuaries are an Investment in our Future

- The National Marine Sanctuary Program works with local communities to protect marine ecosystems that support their livelihoods
- Sanctuaries help contribute to healthy coastal economies.
- Our Nation’s economic security depends on wise stewardship of our marine resources.
- The National Marine Sanctuary Program seeks to balance the needs of today while ensuring healthy resources are available to support coastal communities in the future.
- Coastal tourism generated over \$1.4 trillion in economic Activity 9n 2001, making it one of the largest industries in the United States.
- Approximately 89 million Americans vacation and recreate along the U.S. coast annually
- Coastal economies depend on healthy marine ecosystems

Frequently Asked Questions

What is a national marine sanctuary?

Our national marine sanctuaries embrace part of our collective riches as a nation. Within their protected waters, giant humpback whales breed and calve their young, temperate reefs flourish, and shipwrecks tell stories of our maritime history. Sanctuary habitats include beautiful rocky reefs, lush kelp forests, whale migrations corridors, spectacular deep-sea canyons, and underwater archaeological sites. Our nation’s sanctuaries can provide a safe habitat for species close to extinction or protect historically significant shipwrecks. Ranging in size from less than one square mile to over 5,300 square miles, each sanctuary is a unique place needing special protections. Natural classrooms, cherished recreational spots, and valuable commercial industries—marine sanctuaries represent many things to many people.

What is the National Marine Sanctuary System?

A 13-site system of thirteen underwater protected areas, encompassing over 18,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys, and from Lake Huron to American Samoa. Sanctuaries were established for their national ecological, cultural, and/or recreational significance.

What is the National Marine Sanctuary Program?

The National Marine Sanctuary Program serves as the trustee for a system of thirteen underwater protected areas, encompassing 18,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys, and from Lake Huron to American Samoa. The National Oceanic and Atmospheric Administration’s (NOAA) Ocean Service has managed national

marine sanctuaries since passage of the National Marine Sanctuaries Act in 1972. Protecting sanctuary resources requires a great deal of planning, management, and cooperation between federal, state, and local officials, and the public. The National Marine Sanctuary Program works cooperatively with its partners and the public to balance enjoyment and use with long-term conservation. Increasing public awareness of our marine heritage, scientific research, monitoring, exploration, educational programs, and outreach are just a few of the ways the National Marine Sanctuary Program fulfills its mission to the American people. The Program's staff is ever mindful of their responsibility to protect America's ocean treasures for this and future generations.

How does a sanctuary get established?

Under the 1972 Marine Protection, Research and Sanctuaries Act, the Secretary of the Department of Commerce is authorized to designate discrete areas of the marine environment as national marine sanctuaries to promote comprehensive management of their special conservation, recreational, ecological, historical, research, educational, or aesthetic resources. The U.S. Congress can also designate national marine sanctuaries.

How did these three sanctuaries get established (these three sanctuaries protect x number of endangered species, cultural resources-diversity of habitats, wildlife etc.)?

Cordell Bank NMS, designated in 1989, encompasses 526 square miles of open ocean off Point Reyes. Cordell Bank is a submerged island that reaches within 120 feet of the ocean surface. The upwelling of nutrient rich ocean waters and the bank's topography create one of the most biologically productive areas in North America – a lush feeding ground for fish, marine mammals, and seabirds. Its depth, currents, and distance from the mainland have kept this remote and productive part of the California sea floor a mystery to most of the public.

Gulf of the Farallones NMS is located adjacent to 138 miles of the California coast west of the San Francisco Bay area. It was designated in 1981 and encompasses 1,255 square miles. The Gulf of the Farallones is rich in marine resources, including spawning grounds and nursery areas for commercially valuable species, at least 36 species of marine mammals, and 15 species of breeding seabirds. One-fifth of California's harbor seals breed within the Sanctuary, and the Farallon Islands are home to the largest concentration of breeding seabirds in the contiguous United States. The Sanctuary also includes the coastline up to the mean high tide, protecting a number of accessible lagoons, estuaries, bays, and beaches.

Monterey Bay NMS stretches along 276 miles of the central California coast and encompasses 5,328 square miles of coastal and ocean waters. It was designated in 1992 and contains many diverse biological communities, including sandy bottom and rocky outcrop habitats, the nation's largest expanse of kelp forests, one of the deepest underwater canyons in North America, and a vast open ocean habitat. Nutrients from two upwelling centers fuel an abundance of life, from tiny plankton to huge blue whales. This diversity of habitats and marine life has made the Sanctuary a national focus for marine research and educational programs.

Why is it important to have a sanctuary? Why are sanctuaries important to coastal communities?

The primary role of a sanctuary is to protect its ecosystem's natural and cultural features while allowing people to use and enjoy the ocean in a sustainable way. Sanctuary waters provide a

secure habitat for species close to extinction and protect historically significant shipwrecks and artifacts. Sanctuaries serve as natural classrooms and laboratories for schoolchildren and researchers alike to promote understanding and stewardship of our oceans. They often are cherished recreational spots for sport fishing and diving and support commercial industries such as tourism, fishing and kelp harvesting.

What is an ecosystem?

An ecosystem is the community of animals and plants and the environment with which it is interrelated. Within a sanctuary, the ecosystem includes all the living organisms, the ocean and its currents, the sea floor and shoreline, and the air and wind above. It may also include the freshwater watersheds that flow into the Sanctuary and that are the spawning grounds for salmon and other fish species.

What are marine resources and why must they be protected? (Living and cultural)

The term “marine resources” broadly defines the living marine resources (plants and animals), the water and currents, and the ocean floor and shoreline with a sanctuary. It also includes the historical and cultural resources within a sanctuary, from shipwrecks and lighthouses to archaeological sites and the cultural history of native communities. Sanctuaries are established to protect areas that encompass unique or significant natural and cultural features.

How does a sanctuary protect marine life?

Sanctuary managers rely on a variety of mechanisms to understand and protect the sanctuary’s living and historical resources. The National Marine Sanctuaries Act, along with site-specific legislation and regulations, provides the legal framework outlining the activities that are allowed or prohibited. The sanctuaries implement a permit system to regulate and oversee potentially harmful activities in sanctuaries. This may be enhanced by the adoption of state and other federal laws and regulations. Another important tool is “interpretive enforcement”, emphasizing education about responsible behavior as a proactive method to prevent harmful resource impacts from occurring in the first place.

Don’t other federal/state/local agencies already do this?

Local, state and federal agencies may have overlapping regulations or other management authorities aimed at protecting specific marine resources. However, no other federal agency is directly mandated to comprehensively conserve and manage special areas of the marine environment like the National Marine Sanctuary Program. Each agency may focus on different aspects or different resources, but generally their goals are consistent with protection and sustainable development of these marine areas. Coordination and cooperation among the responsible government agencies are key to successful SFSU sanctuary management.

Ecosystem Monitoring Action Plan

NMSP Staff Contact

Kimberly Benson NPB Science Team

NMSP Staff

Julie Barrow Education and Outreach Specialist, NMSP
Andrew Research Coordinator, MBNMS
DeVogelaere,
Steve Lonhart MBNMS/SIMoN Scientist
Dale Roberts Scientist, CBNMS
Jan Roletto Research Coordinator, GFNMS
Paul Orlando NPB Science Team

Working Group Members

Ben Becker Pt. Reyes National Seashore
Lydia Bergen University of California, PISCO
Mark Carr University of California, PISCO
Don Croll University of California, Center for Integrated Marine Technology
Gwen Heistand Gulf of the Farallones SAC
Carol Keiper Cordell Bank SAC
Shannon Lyday Farallones Marine Sanctuary Association
Bill McMillon Bank SAC
Steven Morgan Bodega Marine Laboratory
Bill Sydemann Point Reyes Bird Observatory

Goals of Ecosystem Monitoring

The ecosystem monitoring for the California joint sanctuary management plan review is defined as activities 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; and 4) identify potential agents of change. 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 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.

Introduction

The legislation establishing the National Marine Sanctuary System requires 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. For example, since 1999, the MBNMS has been developing the Sanctuary Integrated Monitoring Network (SIMoN) program. This effort has received millions of dollars in non-government support and has built extensive regional collaboration. It is synthesizing existing monitoring, historical data, and funding new monitoring projects. The goal of SIMoN is to make comprehensive monitoring information easily accessible to resource managers, scientists, educators and the general public. As cross-Sanctuary collaborations grow, SIMoN and the site-specific research programs at the GFNMS and CBNMS will continue to develop to address individual site needs.

The three California sanctuaries of Cordell Bank, Gulf of the Farallones, and Monterey Bay are unique in the sanctuary system because they share contiguous boundaries. Each sanctuary was designated as a distinct management entity, but the established boundaries between the three are political constructs that do not coincide necessarily with ecological transitions. As such, the three sanctuaries share many common resources, ecosystems, and management concerns. Through the joint management plan process, the three sanctuaries have the opportunity to form an integral partnership to improve monitoring of shared and similar interests. Coordination of monitoring activities across the three sanctuaries allows for integrated monitoring at scales that are more appropriate ecologically. Such coordinated programs will be beneficial to assess shared ecosystems, large-scale processes, and migratory species, where data from a single sanctuary could be spatially insufficient and potentially misleading.

The combined areas of Cordell Bank, Gulf of the Farallones, and Monterey Bay NMSs 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

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 issuing required sanctuary permits; 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 (e.g., 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 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 inform 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 overlap with the interests of Channel Islands and Olympic Coast National Marine Sanctuaries, 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 system of 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. The order of presentation for these recommendations generally reflects a chronological sequence, which establishes a logical priority of activities.

It should be noted that the tasks outlined in this action plan represent a considerable amount of additional effort for the sanctuaries concerned. Staffing at the three sanctuaries currently varies considerably. With the inclusion of SIMoN personnel, Monterey Bay has seven individuals supporting research and monitoring activities. The other two sanctuaries do not have separate research coordinators; the research coordinator at Gulf of the Farallones also acts in that capacity for Cordell Bank, which has only one part-time research staff focused on its resources. Since cross-cutting activities build on the activities and capacities of the individual sanctuaries, success of this cross-cutting plan is contingent on additional staffing. Some increased staffing may be warranted to fulfill sanctuary-specific research and monitoring needs; however, those additions are most appropriately addressed in the site-specific research and monitoring action plans. The increased staffing recommended in the strategies of this action plan represent personnel needs and technical expertise required to fulfill the goal of coordinated ecosystem monitoring.

Strategy XEM-1: Existing Monitoring Activity Coordination

Strategy Description

Priority activities for initiating coordinated monitoring within the region should be centered on existing sanctuary specific monitoring programs that address similar habitats in at least two of the three sanctuaries. The recommendations below center on the coordination of targeted programs that monitor the coastal interface and pelagic/offshore areas. Surveys of beachcast marine mammals and seabirds monitor offshore mortality events and are, thus, included in pelagic/offshore activities.

These priorities are not based on an inventory of common monitoring programs, but represent quick successes that were identified by the group as key opportunities to promote coordinated efforts. The coordination channels and activities established to support these targeted efforts will serve as a model for additional monitoring coordination. 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 Strategy XEM-2 and XEM-3.

Activity 1.1: Coordination Targeted Existing Monitoring Activities

- A. Investigate opportunities and initiate coordination of joint sanctuary rocky intertidal monitoring programs with other large-scale rocky intertidal monitoring efforts.
- B. Develop regional sanctuary education/outreach monitoring event(s) to promote the importance of monitoring, disseminate monitoring data, and improve understanding of marine conservation and management. Events should focus on collection and use of data from volunteer monitoring efforts in sandy beach, rocky intertidal, and estuarine systems.

Status: Phase 1

Potential Partners: Community Outreach Working Group, SNAPSHOT, LiMPETS, Beach Watch, Beach COMBERS, FMSA, GLOBE, Jason Foundation for Education. PISCO, MARINE, NPS, SCCWRP, BML, Tenera Inc., MMS, Kinetic Labs

Activity 1.2: Coordinate Pelagic/Offshore Monitoring Activities.

- A. Conduct a coordination workshop for Beach COMBERS and Beach Watch Programs that indirectly assess the pelagic/offshore environment.
- B. Conduct a workshop to develop a coordinated plan for sanctuary marine mammal and seabird survey activities to supplement the National Marine Fisheries Service 5-year surveys (per recommendations developed during the Marine Mammal/Seabird Workshop in December 2002).
- C. Workshop to develop a plan for expanding appropriate methodologies for monthly and annual marine mammal, seabird, and trophic structure surveys across all three sanctuaries.
- D. Facilitate expansion of CalCOFI transect lines through Gulf of the Farallones and Cordell Bank and continuation in Monterey Bay.

Status: Phase 1

Potential Partners: CIMT, PRBO, NMFS, CINMS, OCNMS, NCCOS (circulation pattern assessments), COASST NPS, CalCOFI, MBARI, NMFS, ACCEO (aka PaCOS), UCSC

Strategy XEM-2: Joint Internal Monitoring Coordination Team

Strategy Background

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. Adequate science staff must exist at each of the sanctuaries to support sanctuary specific and initiate cross-boundary activities. A research coordinator at each sanctuary is recommended as the minimum research staff required to support cross-boundary activities. The need for additional support to fulfill the tasks outlined in this action plan should be evaluated and could be achieved by sharing personnel resources among the three sanctuaries. The combined science staff of the three sanctuaries would constitute an internal monitoring coordination team responsible for facilitating monitoring coordination by participating in biannual meetings, establishing a communications system, assessing common platform and equipment needs, producing joint reports, and integrating with regional education and outreach activities.

Activity 2.1: Establish Joint Internal Monitoring Coordination Team

The program will establish a joint internal team comprised of science staff at each of the sanctuaries to coordinate monitoring activities and administration among the three sanctuaries. The team should serve as a model, which could be expanded to include the participation of all West Coast sanctuaries.

- A. Review the monitoring recommendations set forth by the sanctuary specific working groups during the joint management plan review process. Priority common monitoring recommendation should be developed as cross-boundary monitoring activities. Lower priority activities and sanctuary specific recommendation should be used to inform the assessment of monitoring needs activities outlined in Strategy XEM-3.
- B. Establish avenues to improve communications among the sanctuaries and sanctuary partners.
- C. Identify common needs for monitoring platforms and equipment and evaluate opportunities for shared ownership and joint contracting.
- D. Institute joint reporting of monitoring activities through an annual “state of the sanctuaries” report for cross-cutting monitoring activities among the three sanctuaries based on the SIMoN report.
- E. Establish biannual meetings of the research coordinators to facilitate communication, interactions, and planning coordination. Topics should include, but not be limited to, research and monitoring schedules, ship time requests, and annual operating plans. One meeting should be arranged to coincide with the annual national research coordinators meeting to encourage the participation of research coordinators from Channel Islands, Olympic Coast, and Hawaiian Island Humpback Whale NMSs and the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve.
- F. The research coordinator at Gulf of the Farallones currently has joint responsibility for coordinating research activities at Cordell Bank NMS. To ensure that the research needs of each of these sanctuaries are properly address and fully represented in cross-cutting ecosystem monitoring activities, a full time research coordinator should be in place at

each of the sanctuaries. Therefore, a research coordinator should be hired for Cordell Bank NMS.

- G. Evaluate cross boundary utilization of existing staff and need for additional staff or shared staff to provide support for research, monitoring, information management, GIS, reporting, and education/outreach connections across the three sanctuaries. The evaluation should consider all staffing requirements to fulfill the tasks outlined in this action plan, and make recommendations for additional sanctuary specific staff or shared staffing resources where appropriate. Priority consideration should be given to data management and GIS support for Cordell Bank and Gulf of the Farallones to address tasks outlined in XEM-3.

Status: Phase 1

Potential Partners: West Coast Sanctuaries, West Coast Regional Manager, NMAO Small Vessel Support Staff, SWiM, NCCOS, NODC

Strategy XEM-3: Shared Monitoring Needs Assessment

Strategy Description

In addition to coordination of existing monitoring programs, cross boundary ecosystem monitoring activities should identify shared monitoring needs throughout the region and facilitate the development or expansion of appropriate monitoring activities. Because each sanctuary is an independent management entity responsible for evaluating the condition of its resources, cross-boundary ecosystem monitoring activities should be based on a comparison of the individual needs of each sanctuary.

In 2000, Monterey Bay NMS conducted a workshop to define priorities for a Sanctuary Integrated Monitoring Network (SIMoN). This resulted in a comprehensive assessment of monitoring activities and priorities in the Monterey Bay sanctuary. Similar assessments must be conducted for Cordell Bank and Gulf of Farallones NMSs to provide the foundation for further cross-boundary initiatives. The SIMoN workshop, materials, and information management infrastructure will serve as a model to facilitate assessments in the other two sanctuaries.

The benefits that can be achieved by coordination should be used to determine the appropriate level of coordination and establish priorities among common monitoring efforts.

Activity 3.1: Assess Monitoring Needs

The science staff will assess monitoring needs with respect to management concerns and responsibilities at each of the sanctuaries.

- A. Translate the activities and results for the 2000 SIMoN workshop into a process to identify monitoring requirements for Cordell Bank and Gulf of the Farallones. (Phase 1)
- B. Conduct monitoring needs assessment workshops for Cordell Bank and Gulf of the Farallones. (Phase 2)
- C. Evaluate and identify ongoing funding opportunities to support regional and larger scale ongoing monitoring activities. (Phase 2)
- D. Combine and merge monitoring needs across all three sanctuaries and recommend evaluation of monitoring needs across all West Coast sanctuaries. (Phase 3)
- E. Establish and populate “SIMoN style” databases at Cordell Bank and Gulf of the Farallones for cataloguing, accessing, and visualizing monitoring activities. SIMoN staff at Monterey Bay is currently producing an operational cataloguing, access, and visualization system for monitoring projects at MBNMS. NODC is assisting SIMoN in system development and with efforts to translate the system into a transferable model for development of similar information management systems at other sanctuaries. (Phase 2)
- F. The transferable “SIMoN model” will provide a general framework, knowledge, and advice, but implementation of the model at Cordell Bank and Gulf of the Farallones will require additional technical expertise to adapt the model to sanctuary-specific needs and develop fully operational systems. Therefore, staffing should be expanded to support GIS and data management requirements at the two sanctuaries. Hiring should be phased with system development, with a GIS specialist and data manager initially sharing responsibility for the early activities at both sanctuaries. If full implementation warrants, dedicated staff should be hired for each sanctuary. (Phase 2)

Potential Partners: NODC, SeaMAP, IOOS, NCCOS, FMSA, NPS, USFWS, USGS, CDF&G, UC Davis, UC Berkeley, SFSU, BLM, California Academy of Science

Strategy XEM-4: Joint Research Activities Panel

Strategy Description

To assist the joint internal team with ongoing coordination of existing activities and identification of emerging opportunities, a joint research advisory panel (JRAP) should be established consisting of representatives from permanent RAP working groups of each of the sanctuary advisory councils (SACs). Two of the sanctuaries SACs do not currently have RAPs, and it is not within the authority of the sanctuaries to establish SAC working groups. However, sanctuaries should encourage the SACs to establish RAPs to advise and inform the management activities of the individual sanctuaries and participate in cross-boundary monitoring coordination.

Activity 4.1: Establish a Joint Research Activities Panel (JRAP)

The science staff will establish a Joint Research Activities Panel that would meet twice a year to advise and identify opportunities for coordinated monitoring activities.

- A. Work with the SACs to expand research representation and recommend that sanctuary specific RAPs be established as a permanent working group of the SACs at Cordell Bank and Gulf of the Farallones. (Phase 1)
- B. Establish avenues for communications among the RAPs for posting agendas and minutes for sanctuary-specific and joint meetings. (Phase 2)
- C. Institute biannual meetings of a subgroup of (~10) representatives from all three sanctuary specific RAPs. (Phase 2)

Potential Partners: RAPs, NCCOS

Strategy XEM-5: External Review Panel

Strategy Description

Independent and objective experts in the fields of monitoring and information management must review the program periodically to ensure efficiency, effectiveness, and credibility of cross-boundary ecosystem monitoring activities. An external peer review panel should be established to conduct a review of the cross-boundary ecosystem monitoring activities prior to the next management plan review.

Activity 5.1: Establish a Standing External Monitoring Review Panel (ERP)

The program will establish a standing External Monitoring Review Panel to advise the sanctuaries and joint RAP and evaluate the efficiency and effectiveness of the ecosystem monitoring activities.

- A. Work with the joint RAP to define the purpose and secure members of the ERP.
- B. Establish avenues for communications among the sanctuaries, RAPs, and ERP.
- C. Convene a formal review meeting of the Joint RAP and ERP every five years to complete a program review and identify priority opportunities for program coordination, expansion, and development based on a review monitoring needs and current activities.

Status: Phase 3

Potential Partners: SWiM Panel, RAPs

Strategy XEM-6: Regional West Coast Technical Assistance Center

Strategy Description

The technical requirements to support long-term monitoring coordination across the region exceed the collective resources of the three sanctuaries. However, the common needs to support integrated activities can serve as a justification for regional coordination and technical support personnel. Personnel could be located at individual sanctuaries or other appropriate institutions but would constitute a sanctuary technical assistance center to support individual sanctuaries and facilitate cross-boundary activities. Support should logically extend to encompass the technical needs of all the West Coast sanctuaries. Establishment of such a center would create a regional monitoring infrastructure that could to serve as a model for large-scale coordination within the sanctuary system.

Activity 6.1: Develop of a Regional West Coast Technical Assistance Center

- A. Develop a technical assistance center for west coast monitoring efforts to provide support for the sanctuaries (e.g., large-scale coordination, data archiving, metadata, statistical analysis, and information management).
- B. Evaluate technical staff support needs common to all West Coast sanctuaries.

Status: Phase 1

Potential Partners: West Coast Sanctuaries, West Coast Regional Manager, NMAO Small Vessel Support Staff, SwiM, NCCOS, NODC, CIMT, IOOS, PISCO, MMUG, UCSC, UC Davis, SFSU, BLM, NURP, ACT

Strategy XEM-7: Site Specific Monitoring Program for CBNMS

Strategy Description

CBNMS has site specific monitoring needs, some of which are also a critical to understanding broader geographic phenomena (e.g., whale feeding and migration along the West Coast). Particular strengths of the CBNMS monitoring program are the increasingly effective efforts to characterize habitats on the Cordell Bank, and assessing the trophic links in this productive environment.

Activity 7.1: Implement site specific monitoring at the CBNMS

Activities are being determined specifically by a CBNMS working group addressing research and monitoring.

Status: Phase 1

Strategy XEM- 8. Site Specific Monitoring Program for GFNMS

Strategy Description

GFNMS has a long history of monitoring within and adjacent to its boundaries. One of the long-term studies assesses beaches for human activity as well as the density of live and dead animals (Beach Watch). Beach Watch has been critical in addressing many resource management needs, including oil spills. Site specific monitoring projects at the GFNMS will continue to develop to address needs identified in the JMPR review process.

Activity 8.1: Implement site specific monitoring at the GFNMS

Activities will be determined specifically at a later date, in part, through a workshop in Sausalito on July 2 – 3, 2003. Workshop participants will review JMPR action plan components and address how research can best address the management needs of the following issues: fishing activities; education and outreach information exchange; water quality; invasive (introduced) species; wildlife disturbance; maritime industry and oil pollution; boundaries; policy and regulatory changes; mariculture; habitat characterization; and regional ecosystem monitoring.

Status: Phase 1

Strategy XEM-9: Sanctuary Integrated Monitoring Network (SIMoN)

Strategy Description

Comprehensive, long-term monitoring is a fundamental element of resource management and conservation. The Sanctuary Integrated Monitoring Network (SIMoN) has been designed in partnership with the regional science and management community to identify natural and human induced changes to the Monterey Bay National Marine Sanctuary (MBNMS). The integration of high quality scientific research and long-term monitoring data sets through this program will furnish the information needed for effective management and provide a greater basic understanding of the Sanctuary, its resources and its processes.

The principal goals of SIMoN are to (1) Integrate existing monitoring conducted in the MBNMS; (2) Initiate basic surveys or characterizations of all habitats and regions of the MBNMS, and specific, hypothesis-driven monitoring efforts of fixed duration; (3) Establish and maintain a series of essential long-term monitoring efforts that will continue into the future; and (4) Disseminate timely and pertinent information to resource managers and decision makers, the research community, educators, and the general public.

This program was developed over a 4 year period with staff support from MBARI; a workshop with 80 scientists; support from the MBNMS SAC and Monterey Bay Crescent Ocean Research Consortium; a grant from the Packard Foundation; collaborative agreements with the Monterey Bay Sanctuary Foundation and Monterey Bay Aquarium; a multi institution SIMoN Science Committee; and support from the sanctuary headquarters and other sanctuaries.

Activity 9.1: Implement the MBNMS Sanctuary Integrated Monitoring Network (SIMoN)

- A. Ongoing support of monitoring components throughout the JMPR action plans
- B. Support the SIMoN Science Committee
- C. Initiate sanctuary-led field projects determined in SIMoN plans addressing MBNMS management needs
- D. Initiate and complete monitoring projects, through contracts, with funds obtained from recent grants
- E. Participate in collaborative monitoring initiatives
- F. Cultivate funding sources for future monitoring needs
- G. Implement a comprehensive website with information on monitoring projects and trends detected; including map development capabilities using ArcIMS
- H. Share monitoring information through an annual symposium and reports
- I. Support monitoring development at other sanctuaries and through the national system wide monitoring (SWiM) program

Status: Phase 1

Maritime Heritage Action Plan

Goal Statement

The National Marine Sanctuary Act mandates the management and protection of submerged archaeological sites. Therefore, the National Marine Sanctuary Program (NMSP) is identifying submerged heritage resources and developing education and preservation plans regarding these resources. 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 heritage resources.

This plan provides the framework for a Maritime Heritage Resources Program that addresses such 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 protection status is given only to archaeological resources, traditional user and ocean dependent groups are interconnected with the sanctuaries.

NMSP Staff Contact

Robert Schwemmer Cultural Resources Coordinator, CINMS

NMSP Staff

Julie Barrow	Education and Outreach Specialist, NMSP
Erica Burton	Sanctuary Research Assistant, MBNMS
Brad Damitz	Assistant Management Plan Specialist, MBNMS
Bruce Terrell	Archaeologist and Historian, NMSP

Working Group Members

Barbara Emley	GFNMS Advisory Council, Fishing
Jacquie Hilterman	Farallones Marine Sanctuary Association
Dede Marx	California State Parks, Sacramento
Bill Shook	Point Reyes National Seashore
Tim Thomas	Monterey History & Art Association
Gordon White	Point Reyes National Seashore

Introduction

The area encompassed by the Cordell Bank National Marine Sanctuary (CBNMS), the Gulf of the Farallones National Marine Sanctuary (GFNMS), and the Monterey Bay National Marine Sanctuary (MBNMS) is rich in cultural and archaeological resources, and has a long and interesting maritime history.

The history of California's Central Coast is predominantly a maritime one. From the days of the early Ohlone inhabitants to the present, coastal waterways remain a main route of travel and supply. Ocean-based commerce and industries (e.g., fisheries, extractive industries, export and import, and coastal shipping) are important to the maritime history, the modern economy, and

the social character of this region. For example, regional fishing communities dating back to the middle of the 19th century are distinctive for their rugged, individualistic culture born of a hard and sometime dangerous life at sea harvesting fish. The fishing boats, fish houses, and other parts of the fishery infrastructure lend to the character of the West Coast sanctuaries as does the knowledge possessed by working men and women of the ocean waters they ply for their livelihoods.

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 large numbers 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.

During public scoping meetings the need for CBNMS, GFNMS, and MBNMS to protect and to better educate the public about maritime heritage resources was identified.

Problem Statement

Modern researchers could illuminate many aspects of our predecessors' lives through careful excavation and analysis of submerged remains located in the CBNMS, GFNMS, and MBNMS. Archaeological sites are sealed time capsules that provide windows to the past, allowing us to glimpse earlier peoples and the ways they lived, worked, played, and died. Sanctuary waters, likewise, hold remains of our ancestor's past lives. 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 other heritage treasures lie covered by water, sand, and time.

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 Farallon Islands: 173 in the GFNMS, 257 in the MBNMS; and to date none documented within the CBNMS. Some sites have been located and inventoried by NOAA and the National Park Service in the GFNMS region. The 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 has recently contracted services to complete 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.

The GFNMS and MBNMS, and possibly CBNMS, are now faced with a new challenge of identifying and monitoring historic and non-historic shipwrecks that may pose 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*.

Action Plan Implementation

CBNMS, GFNMS, and MBNMS are just beginning to design efforts to ensure public awareness, understanding, appreciation, and wise and sustainable use of the historical, cultural, and archaeological resources. 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.

Submerged Site Inventory and Assessment Initiative

NMSP regulations mandate that archaeological resources be managed consistent with the Federal Archaeological Program. The NMSP's Submerged Cultural Resources Program (SCRCP) was established in 2002 to emphasize the need for research, education, outreach, and protection of 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 avocational 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 to the National Register for Historic Places. NOAA Maritime Heritage Resources staff at NMSP, and in various sanctuaries, can provide a resource that the sanctuaries can draw from in planning maritime heritage programs and in mitigating impacts to resources.

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 HAZMAT division and the National Marine Sanctuary Program for the development of SHIELDS (Sanctuaries Hazardous Incident Emergency Logistics Database System) and RUST (Resources and Under Sea Threats) 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 loot 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 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 that pose environmental threats to sanctuary marine resources, i.e. *Jacob Luckenbach* story. The database is being expanded to include living journals that assist families searching for information about shipwrecked vessels that their relatives may once have served on as crewmember or passenger. 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; shoreline structures such as lighthouses, lifesaving stations, canneries, whaling facilities, surfing, and boating.

Strategy XMHR-1: Maritime Heritage Resources Program Establishment

The National Marine Sanctuary Program 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. CBNMS, GFNMS, and MBNMS are just beginning to design efforts to ensure public awareness, understanding, appreciation, and wise and sustainable use of the historical, cultural, and archaeological resources.

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

Work with sanctuary managers on whether this program and its staffing will be a site-specific or a shared endeavor, among the sanctuaries.

Status: Phase 1

Activity 1.2: Incorporate Maritime Heritage Resources Program and Action Plan Strategies Into the Annual Operating Plans (AOP) of GFNMS, MBNMS, and CBNMS for Implementation

Status: Phase 1

Activity 1.3: Identify and Pursue Additional Sources of Funding (beyond NMSP)

This funding should support sanctuary, and other, maritime heritage resource efforts, such as:

- Exhibits
- Research
- Archaeological field work, survey
- Outreach and education

Status: Phase 2

Activity 1.4: Identify and Assist Partners Doing Maritime Heritage Related Work to Obtain Funding and Resources

Status: Phase I-Identify program coordinator(s) and develop infrastructure: Within 6 months of final plan. Phase 2-Identify appropriate strategies for AOP: Spring 2004 (for FY2005) and annually thereafter.

Strategy XMHR-2: Submerged Site Inventory and Assessment Initiative

With the passage of the National Historical Preservation Act (NHPA) in 1966, federal agencies are responsible for protecting the heritage resources on public lands and within their aegis. NHPA directs federal land management agencies to inventory historic and archaeological resources and to assess them for eligibility to the National Register of Historic Places.

The CBNMS, GFNMS, and MBNMS 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. This effort will also be coordinated with NOAA's Maritime Archaeology Center (MAC).

Activity 2.1: Establish External Partnerships to Inventory Potential Shipwreck Sites

Establish partnerships with other federal, state, and local agencies as well as avocational archaeologists, commercial divers and fishermen, and recreational divers to identify and inventory potential shipwreck sites.

- A. Review primary and secondary source documentation including established shipwreck databases
- B. Interview commercial divers and fishermen, recreational divers and avocational archaeologists
- C. Review and update existing site characterizations and shipwreck assessments

Status: Phase 1

Activity 2.2: Conduct Systematic Research and Survey for Archaeological Sites

Archaeological sites include the remains of prehistoric-as well as historic sites that represent ship and aircraft losses.

Status: Phase 2

Activity 2.3: Establish Geographic Regions for High Probability of Cultural and Historic Remains

Conduct remote sensing surveys and/or diver investigations of target sites.

Status: Phase 2

Activity 2.4: Develop Underwater Site Maps and Archaeological Reports

Status: Phase 2

Activity 2.5: Establish Site Monitoring Program

Document new artifact discoveries and evaluation of human site disturbance.

Status: Phase 2

Activity 2.6: Record Site Positions in GFNMS/MBNMS/NOAA’s ARCH Geographic Information Systems (GIS)

Status: Phase 2

Activity 2.7: Establish a Shipwreck Reconnaissance Program

Use a model similar to CINMS, to record and monitor submerged sites.

Status: Phase 2

Activity 2.8: Assess and Nominate Appropriate Submerged Archaeological Sites for Inclusion to the National Register of Historic Places

Status: Phase 3

Strategy XMHR-3: Shipwrecks and Submerged Structures Hazard Assessment

Strategy Description

The GFNMS and MBNMS, and possibly CBNMS, are now faced with a new 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 SHIELDS (Sanctuaries Hazardous Incident Emergency Logistics Database System) and RUST (Resources and Under Sea Threats) 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

Document shipwrecks inside and outside of Sanctuary boundaries, which may pose environmental threats to Sanctuary marine resources.

Status: Phase 1

Activity 3.2: Review Primary and Secondary Source Documentation from Established Shipwreck Databases

Status: Phase 1

Activity 3.3: Interview Commercial Divers and Fishermen, and Recreational Divers Who Frequently Visit Submerged Shipwrecks

Status: Phase 1

Activity 3.4: Integrate, Collaborate with Others Doing Similar Research on Hazard Assessments

Status: Phase 1

Activity 3.5: Coordinate Exchange of Information Pertaining to Shipwrecks as Environmental Threats

Coordinate activities between NOAA's HAZMAT division and the Office of National Marine Sanctuaries for the development of SHIELDS (Sanctuaries Hazardous Incident Emergency Logistics Database System) and RUST (Resources and Under Sea Threats) database systems.

Status: Phase 1

Activity 3.6: Recommend Target Shipwreck Sites to be Located

Conduct reconnaissance dives and report findings to federal and state trustees.

Status: Phase 2

Activity 3.7: Establish a Monitoring Program for Shipwreck Sites

Direct efforts to monitor sites that have been located and are considered a threat to sanctuary marine resources.

Status: Phase 2

Activity 3.8: Develop Protocols for Site Evaluation

Include a timeline for future site monitoring.

Status: Phase 2

Activity 3.9: Coordinate with Partners to Reduce Threats

Coordinate with partners to develop a plan to prevent, reduce, and respond to environmental threats from these vessels.

Status: Phase 2

Activity 3.10: For Historic Shipwrecks, Ensure Compliance Under Section 106 of the National Historic Preservation Act (NHPA) and the National Marine Sanctuary Act (NMSA)

- A. Compile and Review Final Reports of Post Site Disturbance Documentation and/or Archaeological Site Reports
- B. Provide California State Historic Preservation Office with Final Report

Status: Phase 2

Strategy XMHR-4: Submerged Archaeological Resources Protection and Management

Strategy Description

The National Marine Sanctuary Program regulations mandate that archaeological resources be managed consistent with the Federal Archaeological Program. The NMSP's Submerged Cultural Resources Program (SCRCP) was established in 2002 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: Develop Protocol to Manage, Monitor, and Protect Submerged Sites

Status: Phase 1

Activity 4.2: Provide Training to Sanctuary Staff and Facilitate Training Partners

Focus on the importance of submerged archaeological resources and the need and tools to manage and protect them.

Status: Phase 1

Activity 4.3: Identify Partnerships with Local Law Enforcement Agencies

Site monitoring and compliance of public access to submerged sites.

Status: Phase 1

Activity 4.4: Develop and Implement an Interpretive Enforcement Program

Status: Phase 2

Activity 4.5: Identify Archaeological and Historic Resources Currently Outside Sanctuary Boundaries

Explore appropriateness of expanding boundaries to protect site(s) as maritime heritage resources (e.g., the USS *Montebello*, sunk by a Japanese submarine in 1941, 1.6nm south of the MBNMS near Cambria, others TBD).

Status: Phase 2

Activity 4.6: Investigate Potential for Mooring System

Collaborated with affected parties (e.g. USCG, fishing communities)

Status: Phase 3

Strategy XMHR-5: Maritime Heritage of Traditional User and Ocean Dependent Groups

Strategy Description

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; 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 protection status is given only to archaeological resources, traditional user and ocean dependent groups are interconnected with the sanctuaries. Therefore, this program will also acknowledge those traditional heritage activities and practices that are consistent with the National Marine Sanctuary Act, such as sustainable fishing methods and recreational uses.

Activity 5.1: Identify Traditional User and Ocean Dependent Groups

Status: Phase 1

Activity 5.2: Solicit Traditional User and Ocean Dependent Groups' Ideas, Values, etc.

Use this information to prioritize appropriate aspects of their maritime heritage.

Status: Phase 1

Activity 5.3: Promote Historical, Anthropological, and Ethnographic Research

Focus on traditionally associated people to support mapping and interpretive programs.

Status: Phase 1

Activity 5.4: Create an Inventory of Historic and Present Maritime Heritage Communities

Assess and nominate appropriate sites for the National Register of Historic Places.

Status: Phase 1

Activity 5.5: Conduct a Literature Search and Gather Resource Documentation

Status: Phase 1

Activity 5.6: Map and Document Traditional Communities and Sites

These may include:

- Fishing and whaling
- Shipping/commercial marine transport of passengers and cargo
- Lighthouses, life-saving stations
- Tribal (coastal)
- Recreational uses such as surfing and diving

Status: Phase 1

Activity 5.7: Develop Collaborative Programs and Initiatives

These may include:

- Sustainable seafood events
- Adopt-A-Boat-classrooms are paired up with active fishermen to learn about maritime heritage (SEA-Grant in Maine does this now)
- Historic re-enactments at harbors, Native American village sites

Status: Phase 2

Strategy XMHR-6: Education and Outreach Programs

Strategy Description

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

Improve the dialog between CBNMS, GFNMS, MBNMS and traditional users/ocean dependent groups regarding issues that may impact them as “living maritime heritage communities.”

Status: Phase 1

Activity 6.2: Create, Expand and Populate Individual Sanctuary Websites

Include specific information about maritime heritage resources, such as:

- Shipwreck Database
- Living journals of traditional users and ocean dependent groups as well as shipwreck survivors
- Archaeological project updates
- Potential environmental threats
- Maps

Status: Phase 1

Activity 6.3: Develop and Implement Education and Outreach Programs for the Maritime Heritage Program

Status: Phase 2

Activity 6.4: Incorporate Traditional Users/Ocean Dependent Groups and Submerged Archaeological Resources Throughout Existing and New Sanctuary Education/Outreach Programs (e.g., lectures, brochures, exhibits, posters)

Status: Phase 2

Activity 6.5: Collaborate on Potential Maritime Heritage Resource Exhibits

Status: Phase 2

Activity 6.6: Investigate and Develop Opportunities with Partners to Interpret Maritime Heritage Sites to the Public

Examples include:

- Exhibits, kiosks and displays at museums, visitor and learning centers, other attractions
- Trails, signage, videos, etc.
- Public lectures

Status: Phase 2

Potential Partners (all strategies):

Federal agencies

- Other National Marine Sanctuaries - Olympic Coast, Channel Islands, Thunder Bay, Hawaiian Islands
- NOAA National Marine Fisheries Service
- NOAA Maritime Archaeology Center (MAC)
- NOAA Office of Exploration
- NOAA Hazardous Materials Response Division (HAZMAT)
- NOAA Office of Response and Restoration
- U.S. Coast Guard
- U.S. Geological Survey
- U.S. Environmental Protection Agency
- U.S. Navy
- National Park Service - Point Reyes National Seashore, Golden Gate National Recreational Area,
- San Francisco Maritime National Historic Park, Advisory Council For Historic Preservation
- Minerals Management Service

State agencies

- California Department of Parks and Recreation (State Parks)
- California State Lands Commission
- California Department of Transportation (Caltrans)
- California Department of Fish and Game, Office of Spill Prevention and Response (OSPR)
- California State Historic Preservation Office (SHPO)

Non-governmental organizations

- Nautical Archaeology Society (NAS)
- American Folklife Center
- Native American groups - Rumsian, Ohlone, Federated Indians of Graton Rancheria, etc.
- Multi-cultural historical societies
- Universities and research institutions – graduate projects, internships etc.
- Maritime Museum of Monterey
- Other maritime museums, natural history museums and historical societies
- San Mateo Coast Natural History Association (SMCNHA)
- Coastal Maritime Archaeology Resources (CMAR)
- Pacific Coast Federation of Fishermen’s Associations (PCFFA)
- Half Moon Bay Fisherman’s Marketing Association (HFBFMA)
- Alliance of Communities For Sustainable Fisheries
- Farallones Marine Sanctuary Association (FMSA)
- Monterey Bay Sanctuary Foundation (MBSF)
- Recreational user group associations, local dive groups in central California